### GENERAL STRUCTURAL NOTES

(The following apply unless shown otherwise on the plans)

#### <u>CRITERIA</u>

- I. <u>ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION</u> SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), AND THE MERCER ISLAND BUILDING CODE MODIFICATIONS TO THE IBC.
- 2. <u>DESIGN LOADING CRITERIA</u>

ROOF SNOW	N LOAD .		 	 25 PSF
				5 PSF
FLOOR LIVE	ELOAD	(RESIDENTIAL)	 	 40 PSF

WIND. . . . ANALYSIS PROCEDURE: ASCE 7-10 CHAPTER 27 "PART II - ENCLOSED SIMPLE DIAPHRAGM

NISK OATLOOKT II	$\cdot  \cdot  \cdot  \cdot  \cdot$	 	 	 		 		 			
EXPOSURE "C"		 	 		 	 					
TOPOGRAPHIC FACTOR Kzt = 1.0		 	 		 	 					
BASE SHEAR, NORTH/SOUTH VW = 4.64 K	MIND BA	 	 		 	 					
ID BACE CHEAD EACT/WEST VIII - 2 dd V											

EARTHQUAKE

ANALYSIS PROCEDURE: IBC "EQUIVALENT LATERAL FORCE PROCEDURE"

SEISMIC DESIGN CATEGORY (SDC) = D

RISK CATEGORY = II

SEISMIC SITE CLASS = D

IMPORTANCE FACTOR Ie = I.O

MAPPED MCE Ss = I.46; SI = 0.5I

DESIGN ACCELERATION Sds = 0.97; SdI = 0.5I

SEISMIC RESISTING SYSTEM: WOOD PANEL BEARING SHEAR WALL, R = 6.5

SEISMIC BASE SHEAR Vs = 0.52 K

- 3. <u>LATERAL LOADS</u> ARE TRANSFERRED BY THE ROOF AND FLOOR DIAPHRAGMS TO THE SHEAR WALLS. FORCES ARE BASED ON THE TRIBUTARY AREA FOR EACH SHEAR WALL AND ARE CARRIED BY THE SHEAR WALLS TO THE FOUNDATION.
- 4. <u>STRUCTURAL DRAWINGS</u> SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- 5. <u>CONTRACTOR</u> SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
- 6. <u>CONTRACTOR</u> SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
- 7. <u>CONTRACTOR</u> SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THEIR WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES OF THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.
- 8. <u>CONTRACTOR-INITIATED CHANGES</u> SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.
- 9. <u>DRAWINGS</u> INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. WHERE INFORMATION ON THE DRAWINGS IS IN CONFLICT WITH THE SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER. DO NOT SCALE THE DRAWINGS.

#### GEOTECHNICAL

IO. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER. FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND GEOTECHNICAL ENGINEER. UNLESS OTHERWISE NOTED, FOOTINGS SHALL BE CENTERED UNDER COLUMNS OR WALLS ABOVE.

BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE GEOTECHNICAL REPORT.

THE STRUCTURAL DESIGN IS BASED ON THE FOLLOWING VALUES FROM THE REFERENCED GEOTECHNICAL REPORT:
PILE CAPACITY (COMPRESSION)

GEOTECHNICAL REPORT REFERENCE: P-5115 BY PANGEO, INC. DATED MAY 8, 2019.

- II. <u>PIPE PILES SHALL BE GALVANIZED</u> SCHEDULE-80 (X-STR.) ASTM A53 (TYPE E OR S, GRADE B) 2
  INCH NOMINAL PIPE DRIVEN TO REFUSAL PER THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER. THE
  ALLOWABLE AXIAL COMPRESSION CAPACITY SHALL BE 6 KIPS. SECTIONS OF PIPE SHALL BE
  CONNECTED TOGETHER WITH COMPRESSION FITTED SLEEVE COUPLERS. PILESSHALL BE DRIVEN TO
  REFUSALWITH A MINIMUM 90-LB JACKHAMMER. REFUSAL IS DEFINED AS NO MORE THAN I INCH OF
  PENETRATION FOR I MINUTE OF CONTINUOUS DRIVING.
- 12. PIPE PILING INSPECTION SHALL BE CONTINUOUSLY PERFORMED BY THE GEOTECHNICAL ENGINEER DURING PLACEMENT TO CONFIRM THAT THE PILES ARE INSTALLED IN ACCORDANCE WITH THE PLANS AND GEOTECHNICAL REPORT. MAXIMUM PILE MIS-LOCATION SHALL BE 2" LATERALLY. PILE LENGTH INDICATED ON DRAWINGS IS ESTIMATED. ACTUAL LENGTH SHALL BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

#### RENOVATION

- 13. <u>DEMOLITION</u>: VERIFY ALL EXISTING CONDITIONS BEFORE COMMENCING ANY DEMOLITION.

  SHORING SHALL BE INSTALLED TO SUPPORT EXISTING CONSTRUCTION AS REQUIRED AND IN A MANNER SUITABLE TO THE WORK SEQUENCES. EXISTING REINFORCING SHALL BE SAVED WHERE AND AS NOTED ON THE PLANS. SAW CUTTING, IF AND WHERE USED, SHALL NOT CUT EXISTING REINFORCING THAT IS TO BE SAVED. DEMOLITION DEBRIS SHALL NOT BE ALLOWED TO DAMAGE OR OVERLOAD THE EXISTING STRUCTURE. LIMIT CONSTRUCTION LOADING (INCLUDING DEMOLITION DEBRIS) ON EXISTING FLOOR SYSTEMS TO 40 PSF.
  - A. ALL NEW OPENINGS THROUGH EXISTING WALLS, SLABS AND BEAMS SHALL BE ACCOMPLISHED BY SAW CUTTING WHEREVER POSSIBLE.
  - B. VERIFY ALL EXISTING CONDITIONS AND LOCATION OF MEMBERS PRIOR TO CUTTING ANY OPENINGS.
  - C. SMALL ROUND OPENINGS SHALL BE ACCOMPLISHED BY CORE DRILLING, IF POSSIBLE.

    D. WHERE NEW REINFORCING TERMINATES AT EXISTING CONCRETE, REBAR DOWELS EPOXIED INTO THE EXISTING CONCRETE SHALL BE PROVIDED TO MATCH HORIZONTAL REINFORCING, UNLESS OTHERWISE NOTED ON PLANS.
- 14. <u>CHECK FOR DRYROT</u> AT ALL EXTERIOR WALLS, EXISTING TOILET ROOM FLOORS AND WALLS, AREAS SHOWING WATER STAINS, AND ALL WOOD MEMBERS IN BASEMENT AND CRAWL SPACES. ALL ROT SHALL BE REMOVED AND DAMAGED MEMBERS SHALL BE REPLACED OR REPAIRED AS DIRECTED BY THE STRUCTURAL ENGINEER OR ARCHITECT.

#### CONCRETE

15. <u>CONCRETE</u> SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 301. CONSTRUCTION TOLERANCES SHALL NOT EXCEED THOSE LISTED IN ACI 117. CONCRETE SHALL ATTAIN A 28 DAY STRENGTH OF f'c = 2,500 PSI AND MIX SHALL CONTAIN NOT LESS THAN 5-1/2 SACKS OF CEMENT PER CUBIC YARD AND SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS (BEFORE THE ADDITION OF ADMIXTURES). THE WATER/CEMENT RATIO SHALL NOT EXCEED 0.55 FOR FOOTINGS AND 0.45 FOR ALL SLABS AND EXPOSED CONCRETE UNLESS OTHERWISE NOTED. EXCEPT FOR FOOTINGS AND SLAB ON GRADE, AGGREGATE SIZE SHALL NOT EXCEED 3/4".

THE MINIMUM AMOUNT OF CEMENT AND THE MAXIMUM SLUMP MAY BE CHANGED IF A CONCRETE PERFORMANCE MIX IS SUBMITTED TO THE STRUCTURAL ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. (THE W/C RATIO LIMITS STILL APPLY). THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, CEMENTITIOUS MATERIAL, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 301. CHEMICAL ADMIXTURES AND FLY ASH SHALL CONFORM TO ASTM C494 AND C618 RESPECTIVELY. FLY ASH PERCENTAGE OF TOTAL CEMENTITIOUS MATERIAL SHALL NOT EXCEED 20%. THE USE OF A PERFORMANCE MIX REQUIRES BATCH PLANT INSPECTION, THE COST OF WHICH SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY TO CONTRACT DOCUMENTS. CONTRACTOR MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR ENTRAINED WITH AN AIR ENTRAINING AGENT CONFORMING TO ASTM C260. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14 TABLE 19.3.3.1. ALL CONCRETE EXPOSED TO THE WEATHER AND ALL GARAGE SLABS-ON-GRADE SHALL OBTAIN A 28-DAY STRENGTH I'C OF 3,000 PSI IN ACCORDANCE WITH ACI 318 TABLE 19.3.2.1 AND IBC SECTION 1904.1. THIS INCREASE IN REQUIRED STRENGTH IS FOR DURABILITY ONLY (SPECIAL INSPECTION IS NOT REQUIRED). ALL CONCRETE TO RECEIVE A STEEL TROWELED FINISH SHALL NOT BE AIR-ENTRAINED.

16. <u>REINFORCING STEEL</u> SHALL CONSIST OF #4 BARS CONFORMING TO ASTM A615, GRADE 40, fy = 40,000 PSI AND SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315 AND 318. LAP ALL CONTINUOUS REINFORCEMENT 48 BAR DIAMETERS, 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS, LAP 2'-0" MINIMUM. PROVIDE (2) #4 MIN. U.N.O. TRIM BARS AROUND ALL OPENINGS IN CONCRETE WALLS OR SLABS EXTENDING 2'-0" PAST CORNERS, TYPICAL.

NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. NO REINFORCING BARS SHALL BE "WET-SET" INTO THE CONCRETE.

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

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . 3"
FORMED SURFACES EXPOSED TO EARTH (i.e. WALLS BELOW GROUND) OR WEATHER . 2"
COLUMN TIES OR SPIRALS AND BEAM STIRRUPS . I-I/2"
SLABS AND WALLS (INTERIOR FACE)

18. <u>CONCRETE WALL REINFORCING</u>--PROVIDE THE FOLLOWING UNLESS DETAILED OTHERWISE: WALL THICKNESS VERTICAL BARS HORIZONTAL BARS
6" WALLS #4 @ 18" | CURTAIN #4 @ 12" | CURTAIN

8" WALLS #4 @ 16" | CURTAIN #4 @ 10" | CURTAIN | 10" WALLS #4 @ 18" 2 CURTAINS #4 @ 16" 2 CURTAINS

AND PRECAST.

12" WALLS #4 @ 18" 2 CURTAINS #4 @ 12" 2 CURTAINS

- 19. <u>CAST-IN-PLACE CONCRETE</u>: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES, BOTH CAST IN PLACE
- 20. NON-SHRINK GROUT SHALL BE NON-METALLIC CONFORMING TO ASTM CIIOT AND BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (5000 PSI MINIMUM).

#### <u>ANCHORAGE</u>

- 21. EXPANSION BOLTS INTO CONCRETE SHALL BE "STRONG-BOLT 2 WEDGE ANCHOR", AS MANUFACTURED BY SIMPSON STRONG-TIE ANCHOR SYSTEMS. INSTALL IN STRICT ACCORDANCE WITH I.C.C. REPORT NO. ESR-3037 INCLUDING STANDARD EMBEDMENT REQUIREMENTS U.O.N. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW WITH I.C.C. OR IAPMO UES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION IS REQUIRED FOR ALL EXPANSION BOLT INSTALLATION.
- 22. <u>SCREW ANCHORS</u> INTO CONCRETE SHALL BE "TITEN HD", AS MANUFACTURED BY SIMPSON STRONG-TIE ANCHOR SYSTEMS. INSTALL IN STRICT ACCORDANCE WITH I.C.C. REPORT NO. ESR-2713 INCLUDING STANDARD EMBEDMENT REQUIREMENTS U.O.N. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW WITH I.C.C. OR IAPMO UES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION IS REQUIRED FOR ALL SCREW ANCHOR INSTALLATION.
- 23. <u>EPOXY-GROUTED ITEMS</u> (THREADED RODS OR REINFORCING BAR) INTO CONCRETE SHALL BE INSTALLED USING "SET-3G" ADHESIVE ANCHOR AS MANUFACTURED BY SIMPSON STRONG-TIE ANCHOR SYSTEMS. INSTALL IN STRICT ACCORDANCE WITH I.C.C. REPORT NO. ESR-4057, INCLUDING STANDARD EMBEDMENT REQUIREMENTS U.O.N. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW WITH I.C.C. OR IAPMO UES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

#### MOOD

24. <u>FRAMING LUMBER</u>: SHALL BE KILN DRIED OR MC-19 (MOISTURE CONTENT LESS THAN 19%), AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD NO. 17 GRADING RULES FOR WEST COAST LUMBER. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

POSTS AND TIMBERS: DOUGLAS FIR NO. I

STUDS, PLATES & MISCELLANEOUS LIGHT FRAMING: DOUGLAS FIR OR HEM-FIR NO. 2

(AS NOTED ON PLANS / DETAILS)

25. <u>MOOD SHEATHING</u> SHALL BE APA RATED, EXTERIOR GLUE; EXPOSURE I, IN CONFORMANCE WITH THE REQUIREMENTS FOR THEIR TYPE IN DOC PS-I OR PS-2. SEE PLANS FOR THICKNESS, PANEL IDENTIFICATION INDEX AND NAILING REQUIREMENTS.

UNLESS OTHERWISE NOTED ON THE PLANS, ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH FACE GRAIN PERPENDICULAR TO SUPPORTS. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE AND GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH (2) IOd-F NAILS AT EACH END, UNLESS OTHERWISE NOTED. AT BLOCKED FLOOR AND ROOF DIAPHRAGMS PROVIDE FLAT 2X BLOCKING AT ALL UNFRAMED PANEL EDGES AND NAIL WITH EDGE NAILING SPACED PER PLANS. WHERE NOT NOTED OTHERWISE, NAIL PANEL EDGES WITH 8d NAILS @ 6" O.C. EDGES, I2" O.C. IN THE FIELD.

- 26. ALL WOOD EXPOSED TO WEATHER, OR BEARING ON UNPROTECTED CONCRETE BELOW GRADE, OR BEARING ON UNPROTECTED CONCRETE LESS THAN 8" FROM EXPOSED EARTH SHALL BE PRESSURE TREATED, U.O.N. PRESSURE TREATMENT SHALL BE WITH AN APPROVED PRESERVATIVE AND BRANDED WITH A QUALITY CONTROL AGENCY MARK BY THE AMERICAN WOOD PRESERVERS BUREAU OR EQUAL. ALL METAL HARDWARE IN CONTACT WITH TREATED WOOD SHALL BE PROTECTED WITH A GI85 GALVANIZED COATING (ZMAX) OR BETTER. ALL NAILS IN TREATED WOOD SHALL BE HOT-DIP GALVANIZED OR BETTER. PROVIDE 2 LAYERS OF 30# ASPHALT IMPREGNATED BUILDING PAPER BETWEEN NON-PRESSURE-TREATED LEDGERS, BLOCKING, ETC., AND CONCRETE.
- 27. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NO. C-C-2019. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE I.C.C. OR IAPMO UES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. CONNECTORS SHALL BE SIZED TO MATCH THE SIZE OF THE FRAMING MEMBERS BEING CONNECTED. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE, ALL NAILS SHALL BE COMMON. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED. ALL BOLTS TIGHTENED TO SNUG

#### 28. WOOD FASTENERS:

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

<u>DRAMING ID</u>	<u>NAIL NAME</u>	NAIL DIAMETER	NAIL LENG
"6d"	6d Common	0.113"	2"
"8d Box"	8d Box	0.113"	2-1/2"
"8d"	8d Common	0.131"	2-1/2"
"IOd-F"	10d Framer	O.131"	3"
"l0d"	10d Shear	0.148"	2-1/4"
"l6d"	16d Sinker	0.148"	3-1/4"

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

- B. <u>NAILS</u> SHEATHING FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.
- C. <u>SCREMS</u> SHALL BE MOOD SCREMS OF THE DIAMETER AND LENGTH NOTED ON THE DRAWINGS. SDS FASTENERS ARE SIMPSON STRONG DRIVE SCREMS.
- D. HOT DIPPED GALVANIZED NAILS, BOLTS AND METAL PLATES ALL NAILS, BOLTS AND METAL PLATES IN CONTACT WITH PRESSURE TREATED (INCLUDING FIRE-RETARDANT TREATED) LUMBER SHALL BE HOT DIPPED GALVANIZED.



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SEAL:



DRO JECT

### KAHN RESIDENCE

18 BROOK BAY ROAD MERCER ISLAND, WA 98040

6/12/19

SHEET NOTES:

PERMIT SET

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### GENERAL STRUCTURAL NOTES

SHEET TITLE:

SHEET NO.

**S1.0** 

# GENERAL STRUCTURAL NOTES

(The following apply unless shown otherwise on the plans)

- 29. MOOD FRAMING NOTES: THE FOLLOWING APPLY UNLESS OTHERWISE SHOWN ON THE PLANS:
  - A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE IBC. MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO IBC TABLE 2304.10.1. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREMS BEARING ON MOOD. TIGHTEN BOLTS AND LAG SCREMS SNUGLY AGAINST MOOD FRAMING AFTER WOOD HAS REACHED SPECIFIED MOISTURE CONTENT.
  - B. <u>WALL FRAMING</u>: ALL BEARING AND SHEAR WALLS SHOWN AND NOT OTHERWISE NOTED SHALL BE 2  $\times$  4 STUDS @ 16" O.C. AT INTERIOR WALLS AND 2  $\times$  6 @ 16" O.C. AT EXTERIOR WALLS. TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL BEARING AND SHEAR WALLS AND AT EACH SIDE OF ALL OPENINGS. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW.
  - ALL BEARING STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS AT 8" O.C. STAGGERED OR BOLTED TO CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS WITH 3"x3"x1/4" PLATE WASHERS @ 4'-O" O.C., UNLESS INDICATED OTHERWISE. INDIVIDUAL MEMBERS OF BUILT UP POSTS SHALL BE NAILED TO EACH OTHER WITH IOd-F NAILS @ 8" O.C. STAGGERED. REFER TO THE PLANS AND SHEAR WALL SCHEDULE FOR REQUIRED SHEATHING AND NAILING. WHEN NOT OTHERWISE NOTED, PROVIDE GYPSUM WALLBOARD ON INTERIOR SURFACES AND GYPSUM SHEATHING ON EXTERIOR SURFACES ATTACHED TO ALL STUDS, TOP AND BOTTOM PLATES AND BLOCKING WITH SCREWS AT 8" O.C. USE 1-1/4 " W #6 SCREWS FOR 1/2" GMB AND 5/8" GMB WHERE OCCURS. USE 1-1/4" M #6 GALVANIZED SCREWS FOR 1/2" GWB AND 5/8" EXTERIOR GYPSUM SHEATHING, WHERE OCCURS. VERIFY THE FIRE ASSEMBLY REQUIREMENTS WHERE APPLICABLE WITH THE ARCHITECT.
  - C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. NAIL ALL MULTI JOIST BEAMS TOGETHER WITH IOd-F NAILS @ 8" O.C. STAGGERED UNLESS OTHERWISE NOTED.
  - D. <u>POSITIVE CONNECTIONS</u>: PROVIDE THE FOLLOWING SIMPSON CONNECTORS AT TYPICAL FRAMING UNLESS OTHERWISE NOTED ON PLAN OR DETAIL. PROVIDE CCQ/ECCQ CAPS AND PBS BASES AT POSTS. PROVIDE BC BASE WHERE POST BEARS ON WOOD FRAMING BELOW. PROVIDE LUS SERIES HANGERS FOR 2X FLOOR AND ROOF JOISTS. CONNECTORS SHALL BE SIZED TO MATCH THE SIZE OF THE FRAMING MEMBERS BEING CONNECTED.

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	ABBR	EVIATIONS	
@	At	L	Angle
d	Penny (Nails)	LL	Live Load
Φ	Diameter	LLH	Long Leg Horizontal
		LLV	Long Leg Vertical
A.B.	Anchor Bolt	LONGIT.	Longitudinal
ADD'L	Additional	LT. MT.	Lightweight
ALT.	Alternate		
APPROX		MATL.	Material
ARCH.	Architect	MAX.	Maximum
		MECH.	Mechanical
B.U.	Built-up	MEZZ	Mezzanine
В/	Bottom of	MF	Moment Frame
BF	Braced Frame	MFR.	Manufacturer
BLKG.	Blocking	MIN.	Minimum
BLDG.	Building	MISC.	Miscellaneous
BM.	Beam	MK.	Mark
ВОТ.	Bottom	M.	Mark
BRG.		N.	North
BTWN.	Bearing		
DIMN.	Between	N.S.	Near Side
•	Controlino	NIC	Not in Contract
9 U	Centerline	NO.	Number
	Camber	NOM.	Nominal
CTOC	Center to Center	NTS	Not to Scale
CIP	Cast In Place	0.6	
C.J.	Construction Joint or Control Joint	0.0.	On Center
CLG.	Ceiling	0.D.	Outside Diameter
CLR.	Clear	0.F.	Outside Face
CMU	Concrete Masonry Unit	O.H.	Opposite Hand
CNTR.	Center	OPNG.	Opening
COL.	Column	OPP.	Opposite
CONC.	Concrete	<u> </u>	<b>_</b>
CONN.	Connections	PAF	Powder Actuated Fastener
CONST.	Construction	PC	Precast
CONT.	Continuous	PERM.	Permanent
CJP	Complete Joint Penetration	PERP.	Perpendicular
CSK.	Countersink	PL or PL	Plate
		PLF	Pounds per linear Foot
DBA.	Deformed Bar Anchor	PLYMD	Plymood
DBL.	Double	PJP	Partial Joint Penetration
DEG.	Degree	PREFAB.	Prefabricated
DET.	Detail	PROJ.	Project
DF	Doug Fir-Larch	PSF	Pounds per Square Foot
DIA.	Diameter	PSI	Pounds per Square Inch
DIAG.	Diagonal	P.T.	Post-Tensioning
DIAPH.	Diaphragm	P/T	Pressure-Treated
DIM.	Dimension		
DN.	Down	RAD.	Radius
DO	Ditto	REF.	Reference
DWG.	Drawing	REINF.	Reinforce or Reinforcement
	,	REQD.	Required
(E)	Existing	REV.	Revise
Ē.	East	R.O.	Rough Opening
EA.	Each		
E.F.	Each Face	S.	South
EL.	Elevation	SCH. or SCHE	
ELEV.	Elevator	SECT.	Section
EMBED.	Embedment Length	SHT.	Sheet
ENGR.	Engineer	SIM.	Similar
E.M.	Each Way	506	Slab On Grade
EXP.	Expansion	SPEC.	Specification
EXT.	Exterior	5Q.	Square
		SQ. FT.	Square Feet
FDN.	Foundation	5Q. IN.	Square Inch (inches)
FIN.	Finish	STD.	Standard
FLR.	Floor	STIFF.	Stiffener Stiffener
FRP	Fiber Reinforced Polymer	STL.	Steel
F.S.	Far Side	STR.	Structural
FT.	Foot or Feet	SUB.	Substitute
FTG.	Footing	SYM.	Symmetrical
, 1 <b>.</b>	1 John G	J 1 11.	Symmetrical
GA.	Gauge	T/	Top of
GALV.	Galyanized	T\$B	Top and Bottom
GALV. GL	Gaivanizea Glue Laminated	T\$6	
GRD.	Grade	THRU	Tongue & Groove Through
GND. GNB		TEMP.	Through Temporary
	Gypsum Wall Board	T.O.C.	Temporary Top of Concrete
HF	Hom Ein		I
HGR.	Hem Fir Hanger	T.O.S. T.O.W.	Top of Steel
HORIZ.	Hanger Horizontal	TRANS.	Top of Wall Transverse
HSS UT	Hollow Structural Section	TS TYP	Tube Steel
HT.	Height	TYP.	Typical
I.D.	Inside Diameter	UON or UNO	Unless Otherwise Noted
1.D. 1.F.	Inside Dameter Inside Face	JOH OF UNO	SHOUS CHIEF MISE MULEU
I.I . IN.	Inch	VERT.	Vertical
IN. INFO.	Inch Information	VERT. VIF	
INT.	Interior	Y II	Verify in Field
11311.	interior	M.	IALaak
JT.	المندا		West
J .	Joint	W/ or w/ WD	With Wood
KSF	King non Gaussa Fact		
KSI	Kips per Square Foot	M.H.S.	Welded Headed Stud
トン	Kips per Square Inch	W/O W₽	Mithout Wask Raint
		WP M T G	Work Point
		W.T.S.	Welded Threaded Stud
			- تعامل مماها الممام الماها
		MME	Welded Wire Fabric
		MME	
			Welded Wire Fabric Cross Section Extra Strong



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### KAHN RESIDENCE

18 BROOK BAY ROAD MERCER ISLAND, WA 98040 SHEET NOTES:

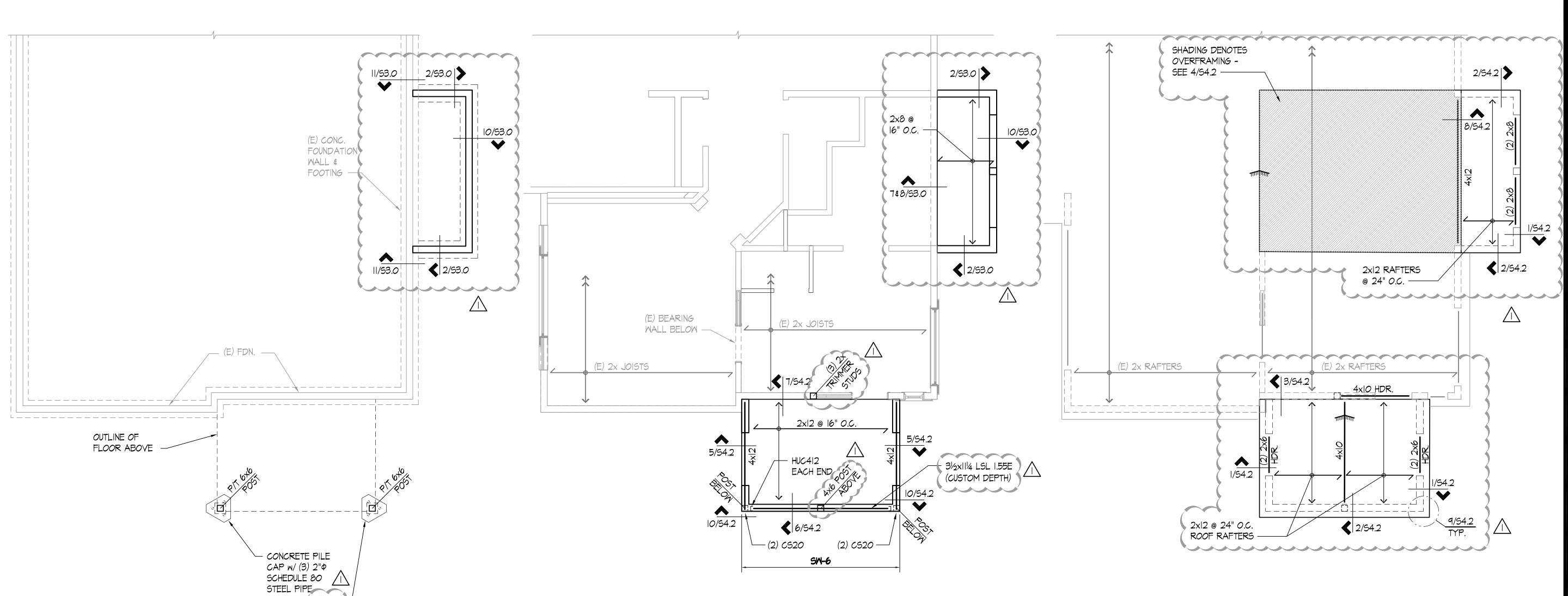
PERMIT SET 6/12/19 REVISIONS 10/21/19

DESCRIPTION DATE BY REVISIONS: / ISSUES: ( DPF DPF DRAWN BY: TA AS SHOWN 6/12/19 17527.01

**GENERAL** STRUCTURAL

SHEET TITLE:

SHEET NO.



#### FOUNDATION NOTES:

I. ALL DIMENSIONS AND ELEVATIONS ON THE STRUCTURAL PLANS ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR WITH THE ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.

PILES. SEE 3/S3.0 FOR TYP. INFO.

- 2. SEE SHEETS SI.O AND SI.I FOR GENERAL STRUCTURAL NOTES AND ABBREVIATIONS. SEE SHEET S3.0 FOR FOUNDATION DETAILS.
- 3. ALL WOOD BEARING ON UNPROTECTED CONCRETE OR MASONRY, EXPOSED TO WEATHER, OR WITHIN 8" OF FINISHED GRADE SHALL BE PRESSURE-TREATED, U.O.N.

#### MAIN FLOOR NOTES:

- I. ALL DIMENSIONS AND ELEVATIONS ON THE STRUCTURAL PLANS ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR WITH THE ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.
- 2. SEE SHEETS SI.O AND SI.I FOR GENERAL STRUCTURAL NOTES AND ABBREVIATIONS. SEE SHEETS S4.0, S4.1, \$ S4.2 FOR TYPICAL WOOD DETAILS.
- 3. ALL WOOD BEARING ON UNPROTECTED CONCRETE OR MASONRY, EXPOSED TO WEATHER, OR WITHIN 8" OF FINISHED GRADE SHALL BE PRESSURE-TREATED, U.O.N.
- 4. POSTS INDICATED ARE AT THIS LEVEL. ALL POSTS NOT SPECIFIED SHALL BE (2) 2x U.O.N. SOLID SAWN MEMBERS OF EQUIVALENT SIZE MAY BE SUBSTITUTED FOR BUILT-UP MEMBERS (SUCH AS A 4x6 FOR (3) 2x4).
- 5. TYPICAL FLOOR FRAMING CONSISTS OF 23/32" APA RATED T&G SHEATHING (INDEX 48/24) LAID FACE GRAIN PERPENDICULAR OVER 2x10 JOISTS @ 16" O.C. HANG 2x JOISTS WITH LUS FACE MOUNT HANGERS, TYPICAL AT FLUSH BEAMS, U.O.N.
- 6. NAIL FLOOR SHEATHING TO FRAMING WITH 8d NAILS (0.131"  $\phi \times 2.5$ " LONG) AT 6" O.C. AT ALL PANELS EDGES AND 8d NAILS AT 12" O.C. AT INTERMEDIATE FRAMING MEMBERS (UNBLOCKED). SEE DETAIL 6/S4.0.
- 7. REMOVE EXISTING SIDING TO EXPOSE EXISTING SHEATHING. VERIFY EXISTING SHEATHING IS 1/2" MIN. PLYWOOD. IF NOT, THEN REMOVE EXISTING SHEATHING & REPLACE WITH NEW PLYWOOD PER 8/54.0. IF EXISTING SHEATHING IS PLYWOOD RENAIL PER SW-6 CRITERIA.

# MAIN FLOOR FRAMING PLAN

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

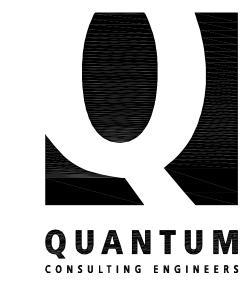
#### **ROOF FRAMING NOTES:**

- I. ALL DIMENSIONS AND ELEVATIONS ON THE STRUCTURAL PLANS ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR WITH THE ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.
- 2. SEE SHEETS SI.O AND SI.I FOR GENERAL STRUCTURAL NOTES AND ABBREVIATIONS. SEE SHEETS S4.0, S4.1 AND S4.2 FOR TYPICAL MOOD DETAILS.
- 3. TYPICAL ROOF FRAMING CONSISTS OF 15/32" APA RATED SHEATHING (INDEX 32/16), LAID FACE GRAIN PERPENDICULAR OVER 2x FRAMING @ 24" O.C., U.O.N.
- 4. NAIL ROOF SHEATHING TO FRAMING WITH 8d NAILS (0.131"  $\phi$  x 2.5" LONG) AT 6" O.C. AT ALL PANELS EDGES AND 8d NAILS AT 12" O.C. AT INTERMEDIATE FRAMING MEMBERS (UNBLOCKED). SEE DETAIL 6/54.0.
- 5. PROVIDE SOLID BLOCKING BETWEEN EACH ROOF JOIST AT SUPPORTS. PROVIDE AN HI CLIP AT EVERY MEMBER TO TOP PLATE.
- 6. ALL HEADERS NOT SHOWN ON PLAN SHALL BE (2) 2x10 FOR EXTERIOR BEARING WALLS AND (2) 2x10 FOR INTERIOR BEARING WALLS. SEE 10/S4.1 FOR HEADER DETAIL.



ROOF FRAMING PLAN

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



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PROJECT:

SHEET NOTES:

### KAHN RESIDENCE

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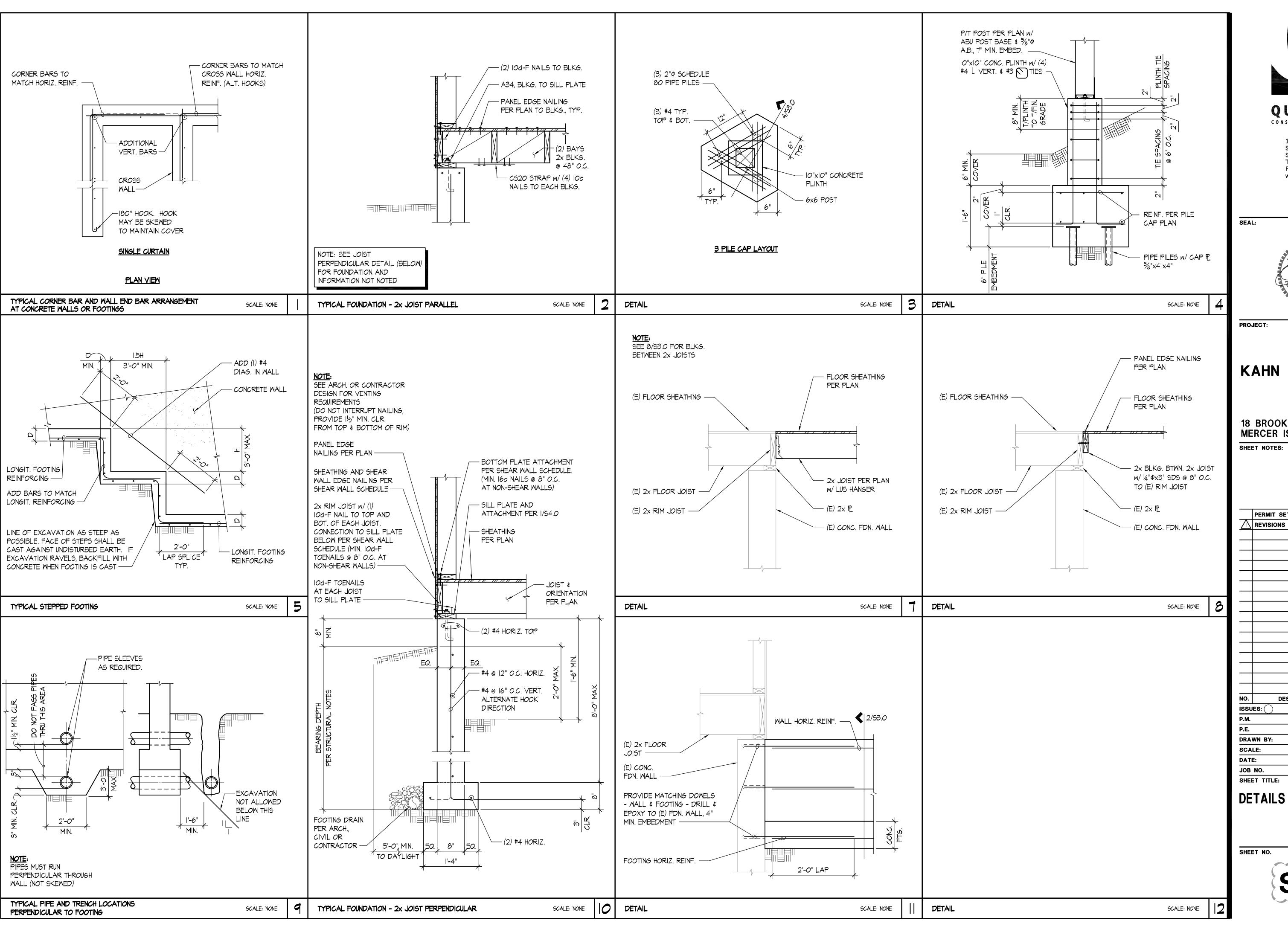
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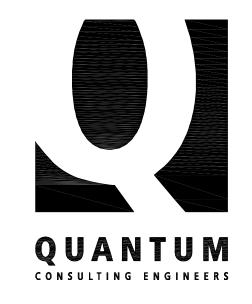
FOUNDATION, MAIN LEVEL AND ROOF FRAMING PLANS

SHEET NO.

**S2.0** 

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





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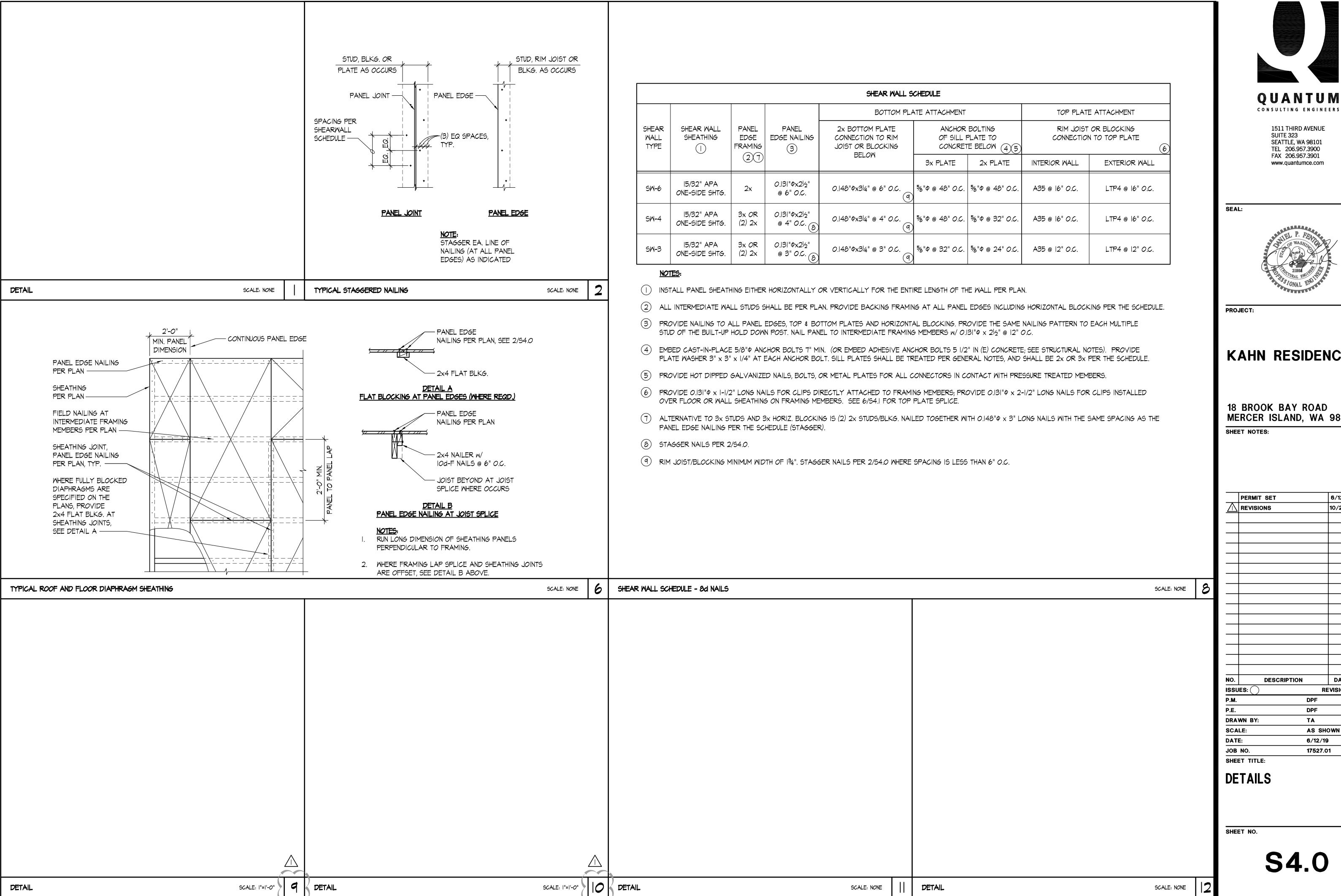
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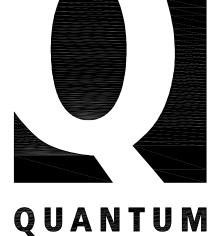
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**DETAILS** 

SHEET NO.







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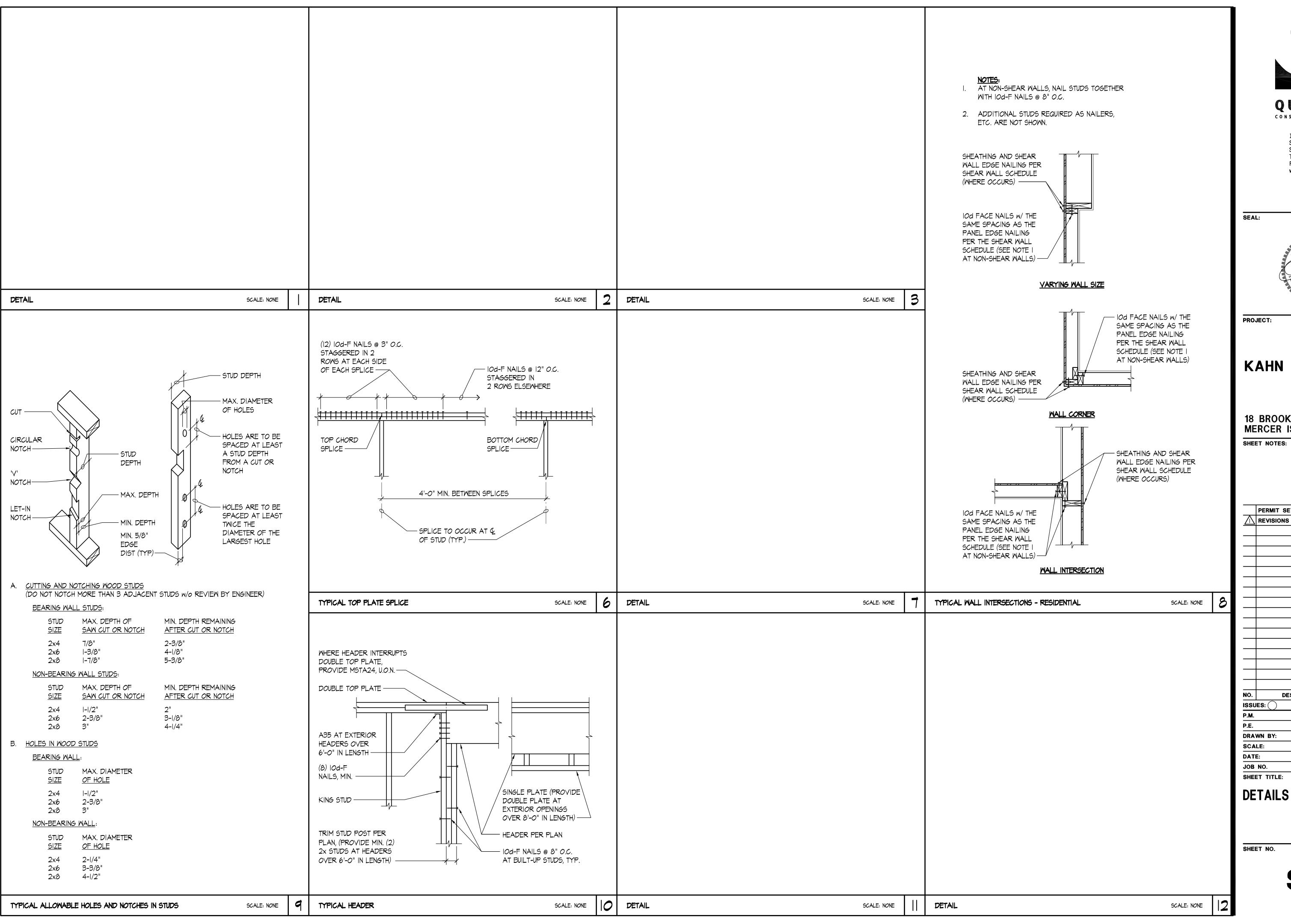
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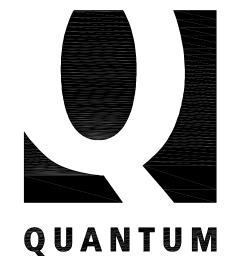
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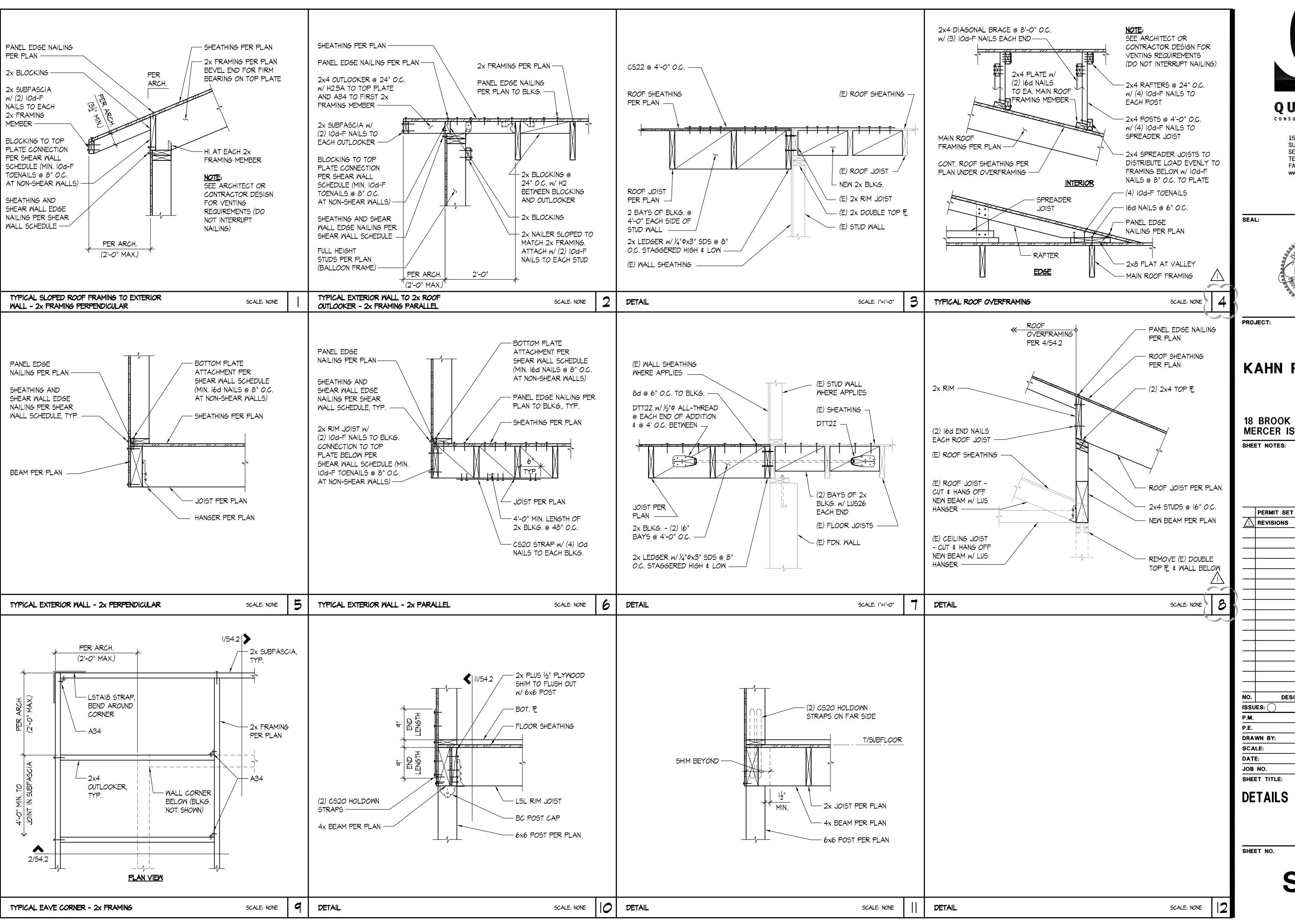
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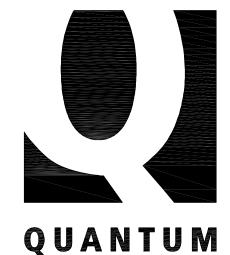
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