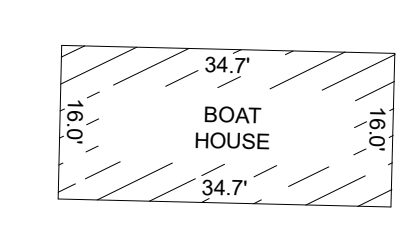
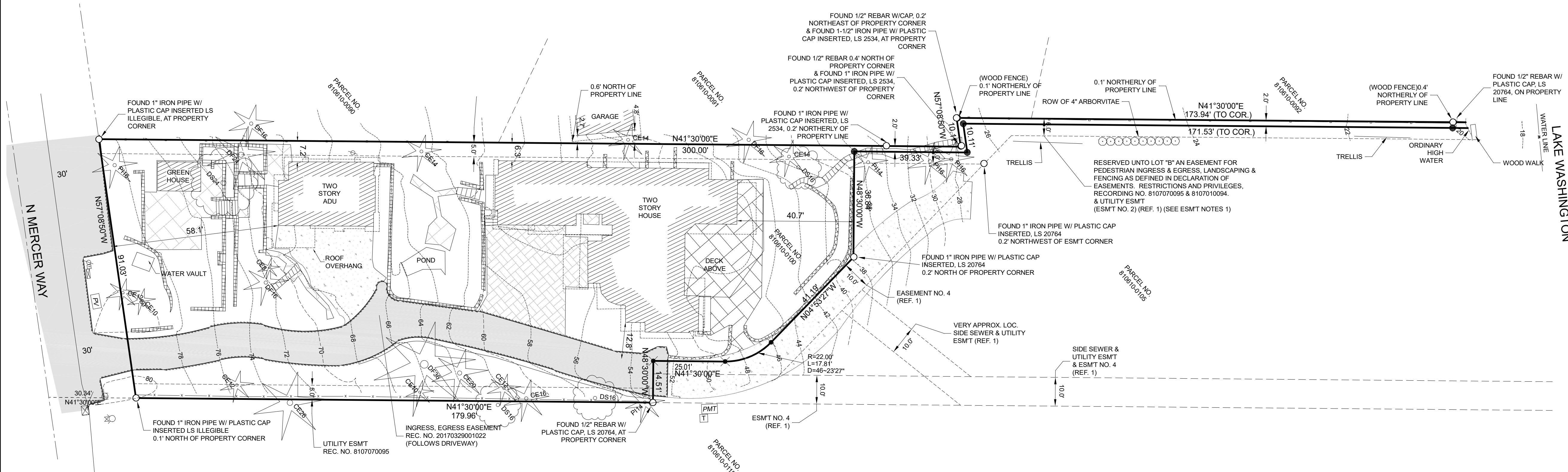


**LEGEND**

- FOUND MONUMENT AS DESCRIBED
- FOUND REBAR AS DESCRIBED
- ⊗ TACK IN LEAD FOUND
- SET 5/8" X 24" IRON ROD W/ 1" YELLOW PLASTIC CAP
- ⊗ POWER METER
- ⊗ UTILITY POLE
- ⊗ GAS METER
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- ⊗ WATER VALVE
- ⊗ FIRE HYDRANT
- ⊗ WATER METER
- ⊗ SIGN
- SS— APPROXIMATE LOCATION SANITARY SEWER LINE
- SD— APPROXIMATE LOCATION STORM DRAIN LINE
- OHP— OVERHEAD POWER
- OHU— OVERHEAD UTILITIES
- X— CHAINLINK FENCE
- WOOD FENCE
- ▨ CONCRETE WALL
- ▨ ROCKERY
- ▨ ASPHALT SURFACE
- ▨ CONCRETE SURFACE
- ▨ GRAVEL SURFACE
- CE CEDAR
- DS DECIDUOUS
- DF DOUGLAS FIR
- MP MAPLE
- PI PINE
- \* INDICATES MULTI-TRUNK



VICINITY MAP  
NTS



**GENERAL NOTES**

- THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
- INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND NIKON NIV0 5.C TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.
- THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN MAY 2015 & MARCH 2023 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
- UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
- ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

**REFERENCES**

- MERCER ISLAND BOUNDARY LINE REVISION FILE NO. MI-83-05-17, PREPARED BY JONES BASSI & ASSOCIATES, RECORDED SEPTEMBER 15, 1983, IN VOLUME 37 OF SURVEYS, PAGE 137, UNDER RECORDING NO. 8309159010, RECORDS OF KING COUNTY, WASHINGTON.

**EASEMENT NOTES**

- DECLARATION RECORDED UNDER RECORDING NO. 8107070095 DESCRIBES THE EASEMENT FOR PEDESTRIAN INGRESS & EGRESS, LANDSCAPING AND FENCING AS DEFINED IN DECLARATION OF EASEMENT RESTRICTIONS AND PRIVILEGES, UNDER RECORDING NOS. 8107070095 & 8107010094, AS BEING THE NORTH 6.00 FEET OF LOT B PER REFERENCE NO. 1, HOWEVER, ALL RECORDED DOCUMENTS INDICATE THAT THE EASEMENT IS 6.00 FEET FROM THE NORTH LINE OF LOT A PER REFERENCE NO. 1.

**LEGAL DESCRIPTION**

REAL PROPERTY IN THE COUNTY OF KING, STATE OF WASHINGTON, DESCRIBED AS FOLLOWS:  
 LOT A OF MERCER ISLAND SHORT PLAT RECORDED UNDER KING COUNTY RECORDING NUMBER 7812180972, AND REVISED UNDER KING COUNTY RECORDING NUMBERS 7911309020 AND 8309159010, BEING A SUBDIVISION OF TRACT 10, SUNNYBANK, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 29 OF PLATS, PAGE 31, IN KING COUNTY, WASHINGTON;  
 EXCEPT THE NORTHEASTERLY 10 FEET IN WIDTH OF THE SOUTHWESTERLY 300 FEET, AS MEASURED ALONG THE NORTHWESTERLY LINE THEREOF;  
 TOGETHER WITH THE SHORELANDS OF THE SECOND CLASS ADJOINING AND LYING BETWEEN THE NORTHEASTERLY PROJECTION OF THE SIDELINES OF SAID TRACT, SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

**BASIS OF BEARINGS**

ACCEPTED A BEARING OF N 41°30'00"E FOR THE SOUTHEASTERLY BOUNDARY OF LOT A OF MERCER ISLAND SHORT PLAT, AS RECORDED UNDER RECORDING NUMBER 7812180972, BASED ON FOUND MONUMENTS.

**EASEMENTS/RESTRICTIONS PER TITLE REPORT**

- THIS SITE IS SUBJECT TO THE TERMS AND CONDITIONS OF A SEWER LINE EASEMENT, RECORDED UNDER A.F.N. 5028702, RECORDS OF KING COUNTY, WASHINGTON, (ACROSS SHORELANDS - NOT SHOWN)
- THIS SITE IS SUBJECT TO THE TERMS AND CONDITIONS OF AN ELECTRIC TRANSMISSION EASEMENT, RECORDED UNDER A.F.N. 7905230792, RECORDS OF KING COUNTY, WASHINGTON. (NOT SHOWN - OVER EXISTING UNDERGROUND UTILITIES)
- THIS SITE IS SUBJECT TO THE TERMS AND CONDITIONS OF AN SEWER LINE EASEMENT, RECORDED UNDER A.F.N. 8007100624, RECORDS OF KING COUNTY, WASHINGTON. (SHOWN HEREON)
- THIS SITE IS SUBJECT TO THE TERMS AND CONDITIONS OF AN AERIAL TELEVISION LINE EASEMENT, RECORDED UNDER A.F.N. 8610100612, RECORDS OF KING COUNTY, WASHINGTON. (NOT SHOWN - UNABLE TO OBTAIN DOCUMENT)
- THIS SITE IS SUBJECT TO RESERVATIONS CONTAINED IN DEED FROM THE STATE OF WASHINGTON RECORDED UNDER RECORDING NO. 454094, RESERVING ALL OIL, GASES, COAL, ORES, MINERALS, FOSSILS, ETC., AND THE RIGHT OF ENTRY FOR OPENING, DEVELOPING AND WORKING THE SAME. (NO PLOTTABLE DATA)
- THE SITE IS SUBJECT TO ANY AND ALL OFFERS OF DEDICATION, CONDITIONS, RESTRICTIONS, EASEMENTS, FENCE LINE BOUNDARY DISCREPANCIES, NOTES AND/OR PROVISIONS SHOWN OR DISCLOSED BY SHORT PLAT NO. MI-83-05-17 RECORDED UNDER RECORDING NUMBER 8309159010. SAID SHORT PLAT IS A REVISION OF SHORT PLATS RECORDED UNDER RECORDING NOS. 7812180972 AND 7911309020. (SHOWN HEREON)

**VERTICAL DATUM & CONTOUR INTERVAL**

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY CITY OF MERCER ISLAND SURVEY CONTROL DATABASE.  
 POINT ID NO. 9609 - FOUND 2.5" DIAMETER CONCRETE FILLED IRON PIPE WITH BRASS TACK DOWN 0.4' AT THE CENTERLINE OF N MERCER WAY AT THE WEST END MERCER PARK LANE IN THE 8500 BLOCK.  
 ELEVATION: 75.681 FEET (23.068 METERS) NAVD88  
 2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.

SE 1/4, NE 1/4, SEC 25, TWP 26N, RNG 4E, W.M.



TOPOGRAPHIC SURVEY  
 KAN CUI & LIU YAN  
 8636 N MERCER WAY  
 MERCER ISLAND, WA 98040

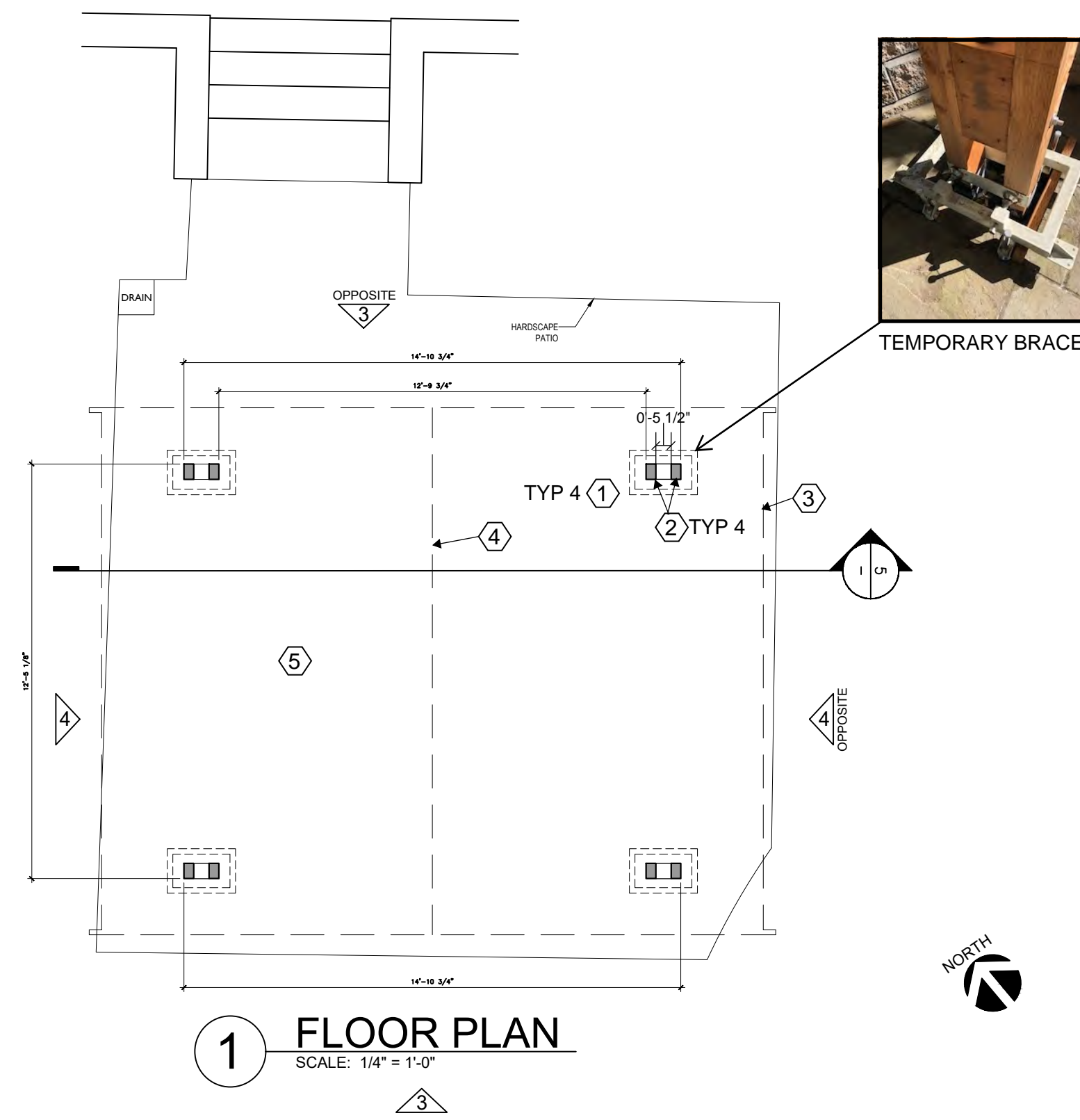
DATE	REVISION	DRN

PROJECT NO. 23-154  
 DRAWN BY: EFJ  
 CHECKED BY: TNW  
 DATE: 9/11/25  
 SHEET 1 OF 1

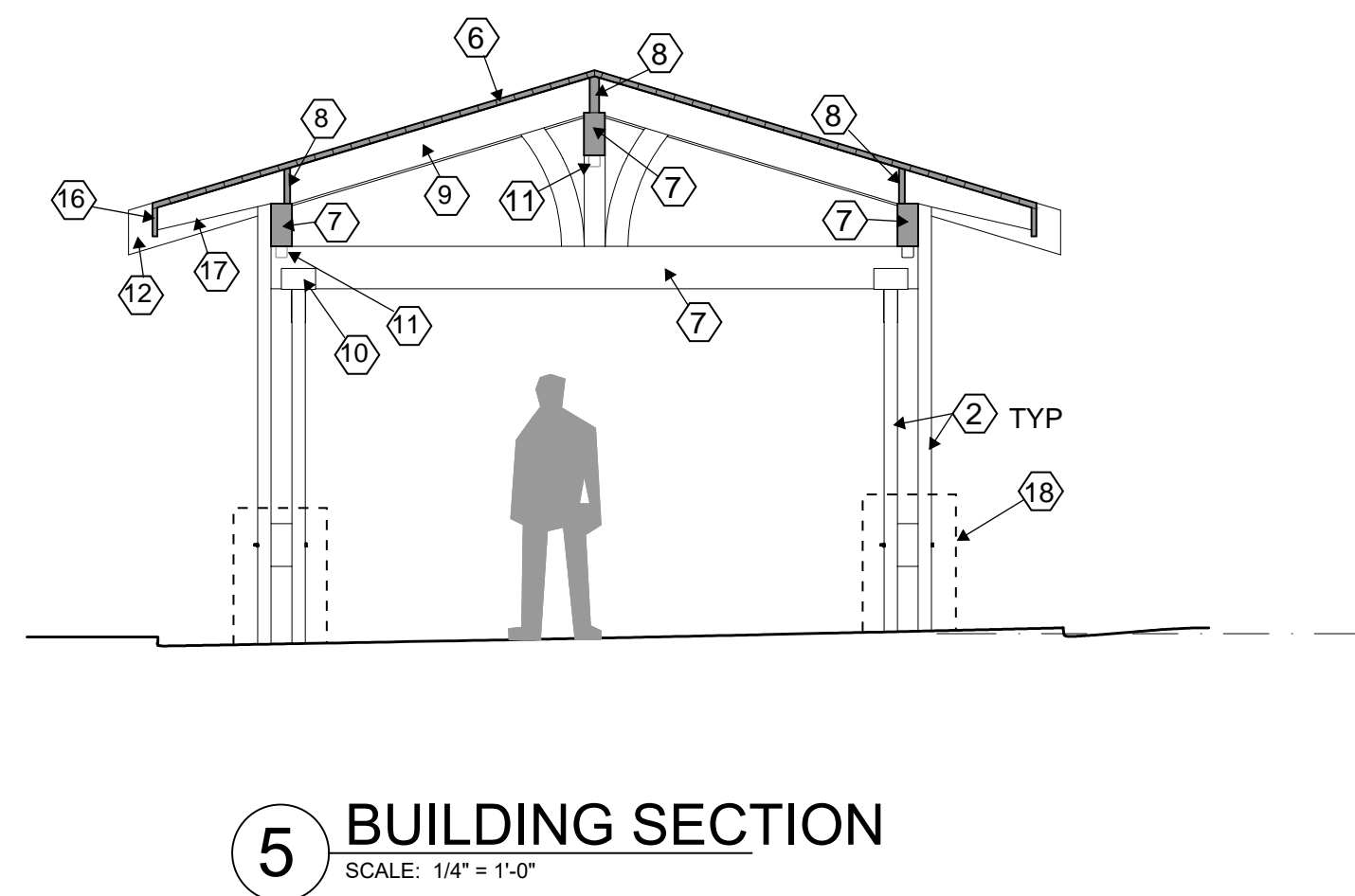
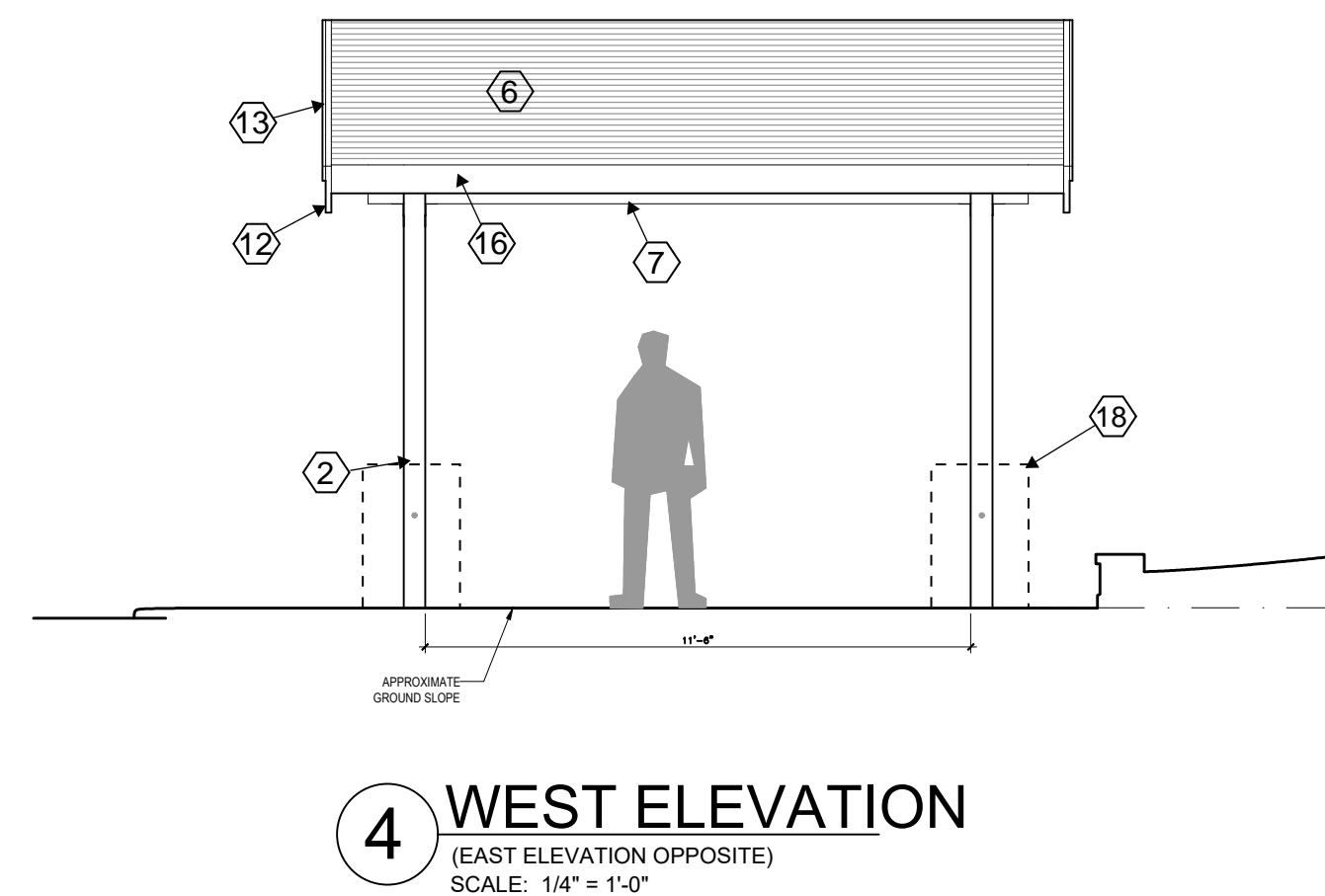
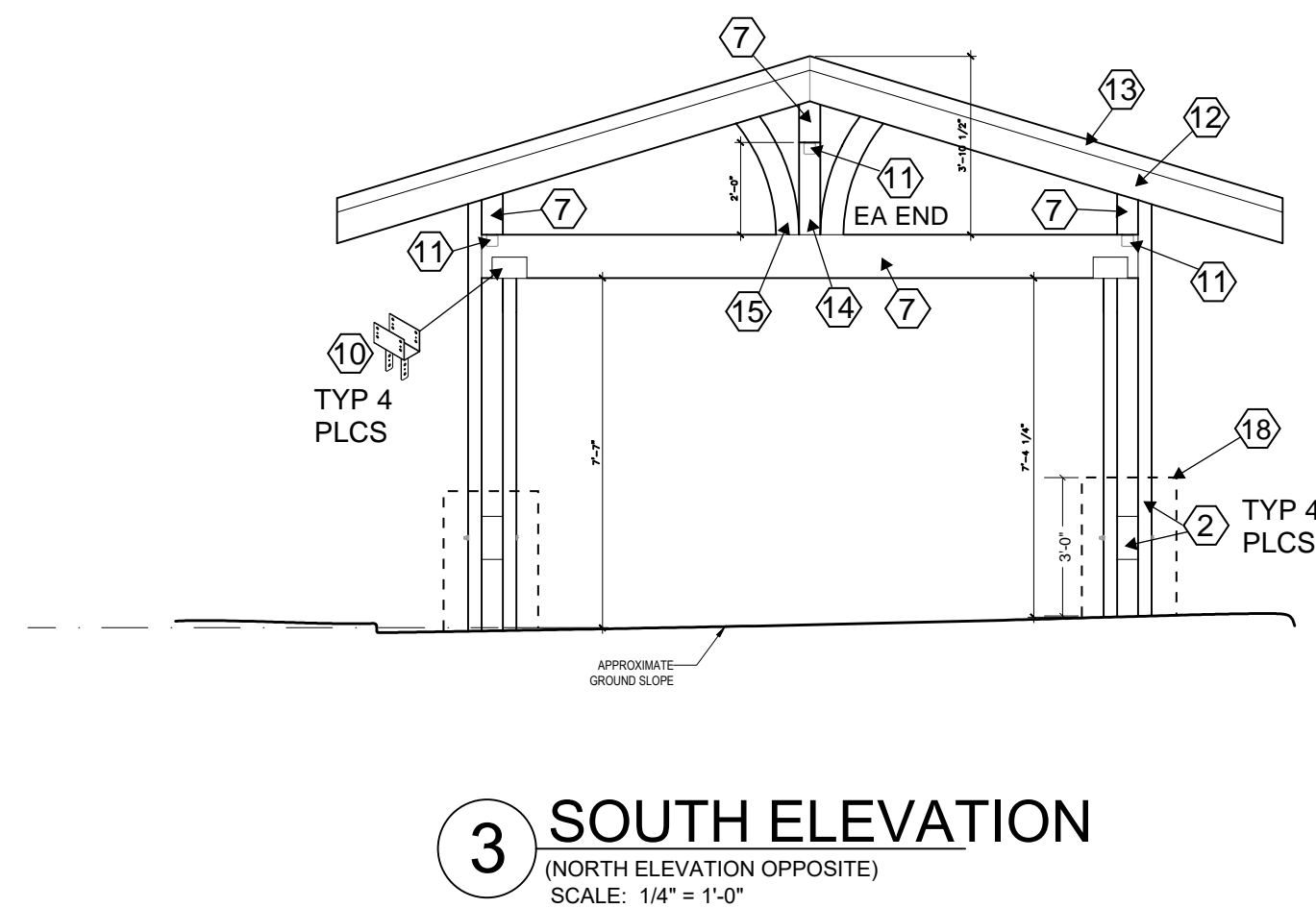
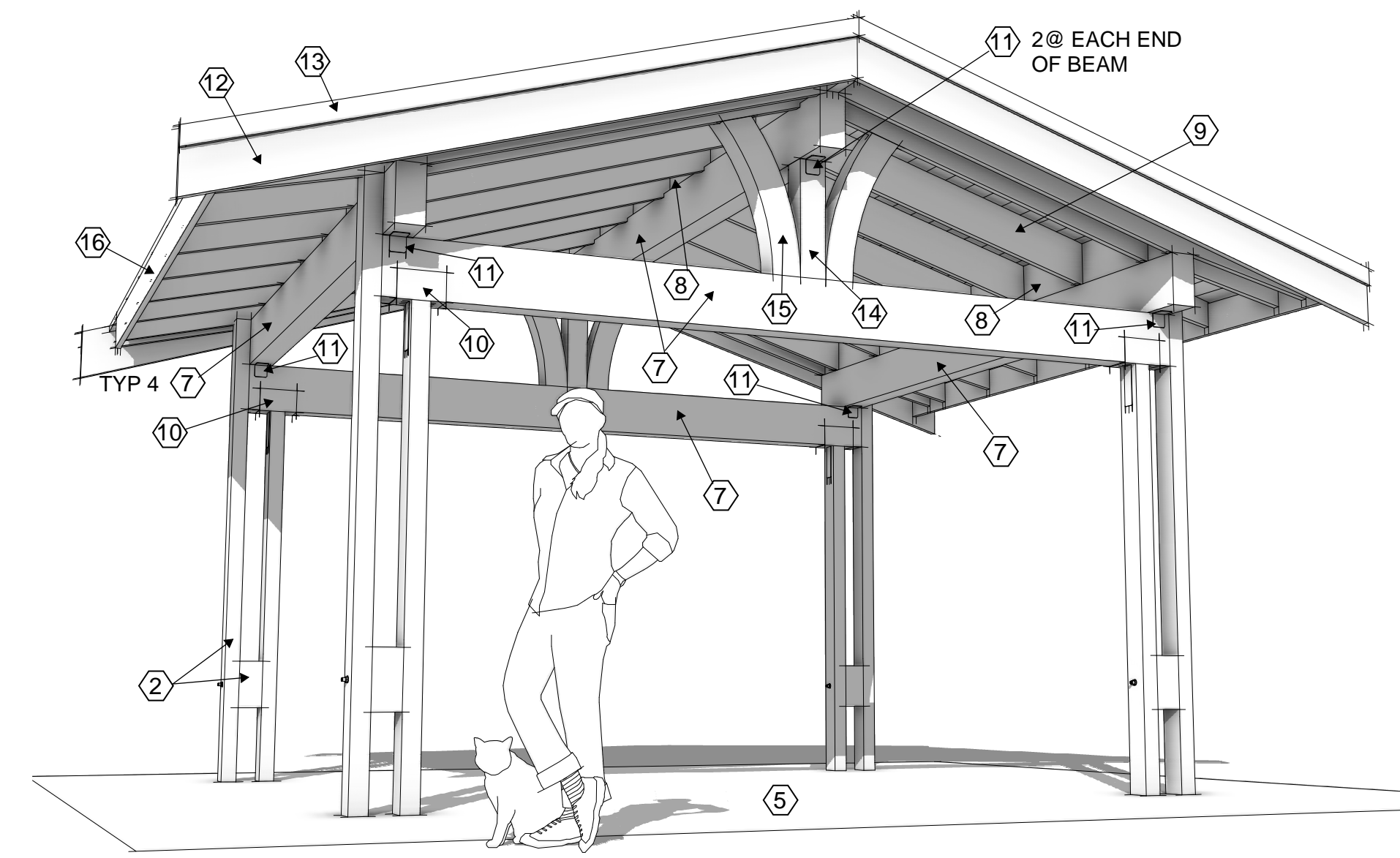
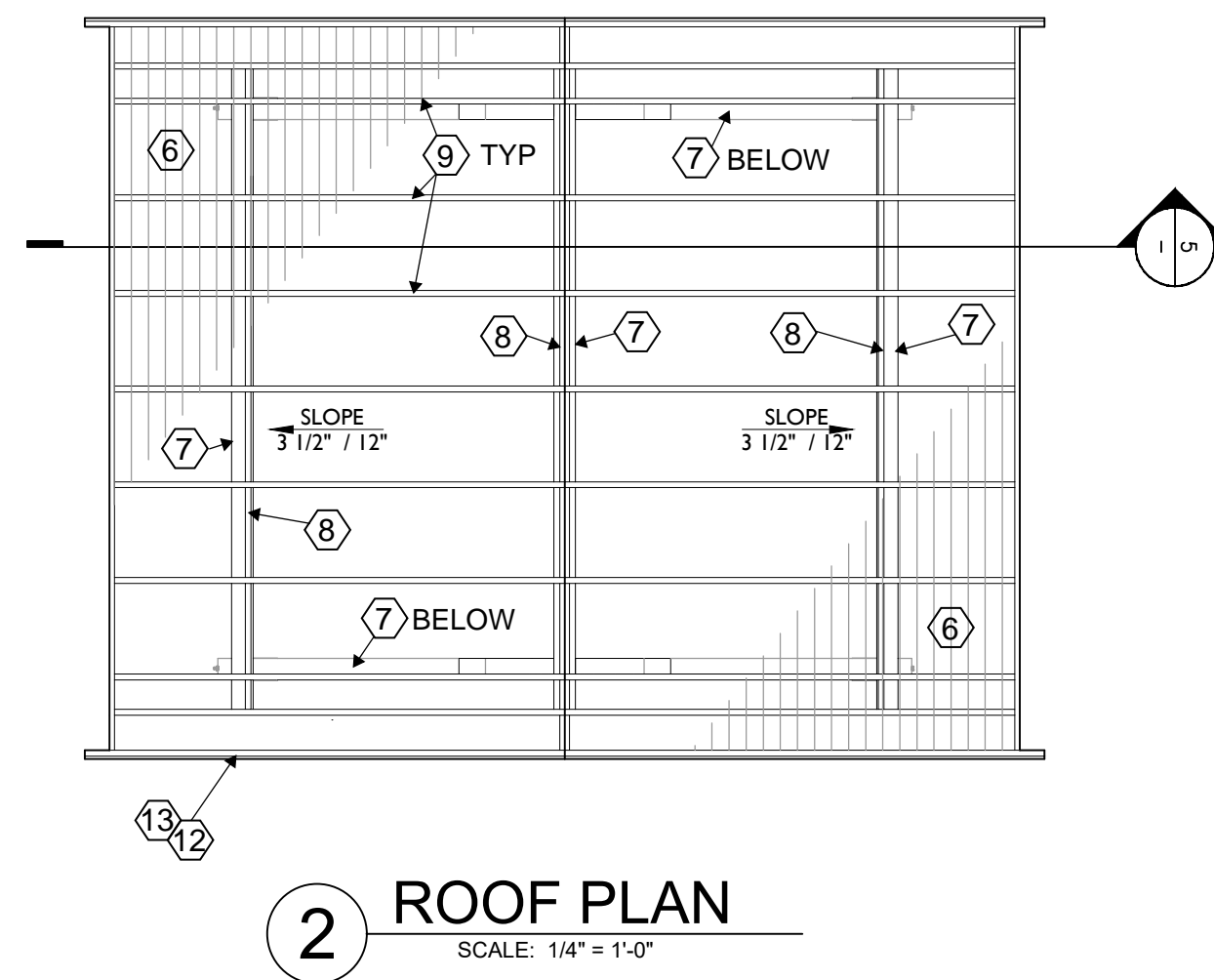




1 INCH



**PROJECT DESCRIPTION**  
MOVE EXISTING, NON-PERMITTED TIMBER FRAME PERGOLA APPROXIMATELY 7'-8" NE TO COMPLY WITH MIN. 20'-0" FRONT YARD SETBACK, PER BUILDING INSPECTOR'S DIRECTION. EXISTING CONSTRUCTION HAS BEEN ACCURATELY MEASURED REVIEWED BY A STRUCTURAL ENGINEER (REF: STRUCTURAL SHEETS) TO FULLY COMPLY WITH CURRENT STRUCTURAL CODE. REFERENCE SITE PLAN FOR EXACT LOCATION ON PROPERTY. NOTE THAT THE RELOCATION WILL CONFLICT WITH THE EXISTING LANDSCAPE STAIRS WHICH WILL NEED TO BE REDESIGNED & RELOCATED ALSO.



**KEYNOTES**

- ① TEMPORARY POST BRACKET. RELOCATE STRUCTURE PER SITE PLAN. REMOVE BRACKET AND MOUNT POSTS PER STRUCTURAL (4 PLACES).
- ② DOUBLE 4X6 WOOD COLUMNS SPACED 5 1/2" APART (4 PLACES). NOTE ON N-S ELEVATIONS THAT THE COLUMNS ARE CONNECTED WITH A 6X6X11 1/4" WOOD BLOCK AT THE BOTTOM. (TEMPORARY CONNECTION - REF: STRUCTURAL)
- ③ EDGE OF ROOF - REF: ROOF PLAN.
- ④ ROOF RIDGE - REF: ROOF PLAN.
- ⑤ EXISTING STONE PATIO.
- ⑥ 1 1/2"X5" T&G DECKING.
- ⑦ 6X12 BEAM
- ⑧ 2X BLOCKING BETWEEN JOISTS
- ⑨ 2X10 JOISTS @ 24" OC
- ⑩ SIMPSON CC64 POST CAP (4 PLACES)
- ⑪ SIMPSON OHA33 ORNAMENTAL ANGLE (12 PLACES)
- ⑫ 2X10 GABLE END TRIM
- ⑬ 1X4 TRIM
- ⑭ 6X6 KING POST
- ⑮ CURVED DECORATIVE BRACE - 5 1/2" THICK
- ⑯ 2X8 TRIM AT RAFTER ENDS
- ⑰ ANGLE CUTS ON END OF RAFTERS
- ⑱ NOTE: COLUMN BASE TO BE COVERED W/STONE VENEER PLINTH.

MICHAEL L. JONES  
ARCHITECT/CONSULTANT, LLC

**Mercer Island Pergola**

8636 N Mercer Way  
Mercer Isl, WA 98040



PERMIT SUBMIT

JURISDICTION STAMP

GENERAL STRUCTURAL NOTES

(The following apply unless shown otherwise on the plans)

CRITERIA

1. ALL MATERIALS, WORKMANSHIP, DESIGN AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2021 EDITION).

DESIGN LOADING CRITERIA

ROOF LIVE LOAD (SNOW IRREDUCIBLE, NOT INCLUDING DRIFT) 75 PSF

DESIGN LOADING CRITERIA - LATERAL LOADS

WIND V100 = 100 MPH (3-SECOND GUST) V100 + 11 MPH (3-SECOND GUST) ENCLOSED BUILDING, EXPOSURE 'C', Kz1.0 DIRECTIONAL PROCEDURE PER ASCE 7-16 CH21

EARTHQUAKE RISK CATEGORY 2, IE +10 Ss = 0.18, Si = 0.484, SITE CLASS = D (ASSUMED), Fa = 1.2, Fv = 1.15, SDS = 0.33, SD1 = 0.5, SDC = D, BSFRS = CANTILEVERED TIMBER COLUMNS R = 15, CS = 0.14, RAD = 13, DESIGN BASE SHEAR V = 4.86K, EQUIVALENT LATERAL FORCE PROCEDURE

DESIGN LOADING CRITERIA - DEAD LOADS

ROOF DEAD LOAD 14 PSF

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL AND ALL OTHER DISCIPLINES' DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

DISCREPANCIES: THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING, DURING THE BIDDING PERIOD, OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS OR OF ANY VARIATIONS NEEDED IN ORDER TO CONFORM TO CODES, RULES AND REGULATIONS. UPON RECEIPT OF SUCH INFORMATION, THE ENGINEER WILL SEND WRITTEN INSTRUCTIONS TO ALL CONCERNED. ANY SUCH DISCREPANCY, OMISSION, OR VARIATION NOT REPORTED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND WORK SHALL BE PERFORMED IN A MANNER AS DIRECTED BY THE ENGINEER.

4. CONTRACTOR 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 FIELD VERIFIED BY THE CONTRACTOR OR THE CONTRACTOR'S SUBCONTRACTOR.

5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

ERECTOR PLANS AND DETAILS OF SHORING SYSTEMS SHALL BE PROVIDED BY THE CONTRACTOR. DESIGN CALCULATIONS AND DRAWINGS ARE TO BE STAMPED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF WASHINGTON. TWO SETS OF CALCULATIONS AND DRAWINGS ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. THIS CIRCULAR REVIEW WILL CHECK WHETHER THE CONTRACTOR'S ENGINEER HAS COMPLETED THE LOAD PATH TRANSFERRING ALL THE BUILDING'S DEAD LOADS AND CONSTRUCTION LIVE LOADS DOWN TO NATIVE SOILS. THE SHORING SHALL NOT BE SUPPORTING ON THE EXISTING STRUCTURE.

CHANGES IN FIELD CONDITIONS DURING CONSTRUCTION WILL REQUIRE RE-EVALUATION BY THE CONTRACTOR'S SHORING ENGINEER.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

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

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN. SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

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

INSPECTIONS

10. STATEMENT OF SPECIAL INSPECTIONS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1705 OF THE 2018 IBC AS FOLLOWS:

- A. THE FOLLOWING SYSTEMS WILL BE SUBJECT TO THE SEISMIC QUALITY ASSURANCE CONCRETE FOUNDATIONS
B. SPECIAL INSPECTION AND TESTING OF SPECIAL REINFORCED CONCRETE WALLS AND CONCRETE FOUNDATIONS SHALL CONFORM TO IBC SECTION 1708.
C. THE TYPE AND FREQUENCY OF TESTING REQUIRED SHALL BE PER IBC SECTION 1708 AND 1704.
D. THE TYPE AND FREQUENCY OF SPECIAL INSPECTIONS REQUIRED SHALL BE PER IBC SECTION 1706 AND 1704.
E. THE REQUIRED FREQUENCY AND DISTRIBUTION OF TESTING AND SPECIAL INSPECTION REPORTS SHALL BE THE RESPONSIBILITY OF THE INSPECTION/TESTING AGENCY. REPORTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD WITHIN 14 DAYS OF INSPECTION.
F. STRUCTURAL OBSERVATION OF THE LATERAL AND GRAVITY STRUCTURAL SYSTEMS SHALL OCCUR AT APPROPRIATE INTERVALS DURING CONSTRUCTION. THE STRUCTURAL ENGINEER SHALL OBSERVE THAT THE WORK IS PROGRESSING IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ACCORDING TO THE DESIGN INTENT.
G. A STRUCTURAL OBSERVATION REPORT SHALL BE SUBMITTED TO THE ARCHITECT OF RECORD AFTER EACH OBSERVATION.

GEOTECHNICAL

11. FOUNDATION AND SLAB NOTES: SUB-GRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN BY THE INDIVIDUAL TESTING AGENCY OR LOCAL BUILDING OFFICIAL AT THE TIME OF EXCAVATION.

FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH (CONTROLLED, COMPACTED STRUCTURAL FILL OR BOTH) AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTH/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 OR BUILDING INSPECTOR BACKLIFT BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE.

Table with 2 columns: Allowable Soil Pressure, Lateral Earth Pressure (Restrained/Unrestrained), Passive Earth Pressure, Seismic Earth Pressure, Coefficient of Friction. Values: 1500 PSF (ASSUMED), 6.0 PCF (ASSUMED), 250 PCF (ASSUMED), 84 (ASSUMED), 0.35 (ASSUMED)

RENOVATION

12. CONTRACTOR SHALL CHECK FOR DRY ROT AT ALL EXTERIOR TRIMBER COMPONENTS. CONTRACTOR SHALL NOTIFY ENGINEER & ARCHITECT OF ANY DRY ROT PARTICULARLY NEAR CONNECTION POINTS IN THE COLUMNS.

CONCRETE

13. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH IBC SECTION 1905 AND ACI 301. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF Fc + 2500 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.

THE MINIMUM AMOUNTS OF CEMENT AND MAXIMUM AMOUNTS OF WATER 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 CONCRETE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES AS WELL AS THE WATER CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTITUTING STRENGTH DATA IN ACCORDANCE WITH ACI 308 SECTION 9.3. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C660-06, C494M-05A, C618-05, C393-06, AND C607M-07. TOTAL AIR CONTENT SHALL BE IN ACCORDANCE WITH ACI 308 TABLE 4.41.

14. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1) GRADE 60, Fy = 60,000 PSI. EXCEPTION: ANY BARS SPECIFICALLY NOTED ON THE DRAWINGS AS GRADE 40, Fy = 40,000 PSI. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO ASTM A106, REINFORCING COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D14 ARE SUBMITTED.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

15. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 308-66 (04) DETAILING MANUAL AND THE LATEST EDITION OF ACI 308, LAP ALL CONTIGUOUS REINFORCEMENT 30 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS 30 BAR DIAMETERS OR 2'-0" MINIMUM. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8' AT SIDES AND ENDS.

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

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

Table with 2 columns: Footings and other unformed surfaces, Earth face, Formed surfaces exposed to earth, Column ties or spirals and beam stirrups, Slabs and walls (interior face). Values: 3", (% BARS OR LARGER) 2", (% BARS OR SMALLER) 1 1/2", 1 1/2", 3/4"

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

18. EMBEDDED ITEMS IN CAST-IN-PLACE CONCRETE: EMBEDDED ITEMS IN CAST-IN-PLACE CONCRETE SHALL NOT BE SET-SET UNLESS SPECIFICALLY APPROVED BY ENGINEER OF RECORD. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, REINFORCING STEEL, ANCHOR BOLTS, DEFORMED BAR ANCHORS, EMBED PLATES, OR OTHER MISC. STEEL SHAPES TO BE CAST INTO CONCRETE.

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

20. EPOXY-GROUTED ITEMS SPECIFIED ON THE DRAWINGS SHALL BE GROUTED WITH HIT HY-200 ADHESIVE ANCHOR SYSTEMS AS MANUFACTURED BY HILTI, INC. OR SET-3G HIGH STRENGTH ADHESIVE ANCHOR SYSTEM AS MANUFACTURED BY SIMPSON STRONG-TIE OR AN ENGINEER APPROVED ALTERNATE THAT HAS ICC TEST DATA FOR THEIR SPECIFIC PRODUCT AND APPLICATION. INSTALL IN STRICT ACCORDANCE WITH ICC REPORTS FOR SPECIFIC EPOXY UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS. HOLE SIZE SHALL BE 1/8" LARGER THAN BAR, ROD OR BOLT SIZE. NOTE: NO WELDING IS TO TAKE PLACE WITHIN 24" OF HARDENED EPOXY.

21. EXPANSION BOLTS INTO CONCRETE SHALL BE KWIK BOLT T2 WEDGE ANCHORS AND THREADED EXPANSION INSERTS INTO CONCRETE OR CONCRETE MASONRY UNIT SHALL BE KWIK BOLT 3 MASONRY ANCHORS AS MANUFACTURED BY HILTI, INC. OR APPROVED EQUAL. INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. INCLUDING MINIMUM EMBEDMENT REQUIREMENTS. INSERTS INTO CONCRETE MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION IS REQUIRED FOR ALL EXPANSION BOLT AND INSERT INSTALLATION. ANCHORS SHALL HAVE A CURRENT ICC REPORT.

STEEL

22. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON THE A.I.S.C. 'SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS', LATEST EDITION PLUS ALL REFERENCED CODES.

23. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992, Fy = 50 KSI, FOR WIDE FLANGE SHAPES AND TO ASTM A36, Fy = 36 KSI, FOR PLATES, MISCELLANEOUS ROLLED SHAPES AND ALL-THREAD RODS. STEEL PIPE SHALL CONFORM TO ASTM A-53, TYPE E OR S, GRADE B, Fy = 35 KSI. STRUCTURAL TUBING (866 ROUND, SQUARE OR RECTANGULAR TUBES) SHALL CONFORM TO ASTM A500, GRADE B, WITH Fy = 46 KSI FOR RECTANGULAR/SQUARE SECTIONS AND Fy = 42 KSI FOR ROUND SECTIONS. ANCHOR BOLTS SHALL CONFORM TO ASTM F854, GRADE 36 TYPICAL AND GRADE 105 FOR HIGH-STRENGTH ANCHOR BOLTS (WITH 3X3X3/8 PLATE WASHER AND DOUBLE NUT). HIGH-STRENGTH CONNECTION BOLTS SHALL CONFORM TO ASTM A325-X. COMMON BOLTS SHALL CONFORM TO ASTM A307, GRADE A. HIGH STRENGTH ALL-THREAD ROD SHALL CONFORM TO ASTM A193 GRADE B1.

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

25. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO, CERTIFIED WELDERS USING E70XX ELECTRODES, ONLY. PRE-QUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. WELDING OF GRADE 60 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING E70XX ELECTRODES. SEE REINFORCING NOTE FOR MATERIAL REQUIREMENTS OF WELDED BARS. NOTE: NO WELDING IS TO TAKE PLACE WITHIN 24" OF HARDENED EPOXY NOR WITHIN 4' OF COLD BENDS IN REINFORCING STEEL. FABRICATION AND WELDING OF STRUCTURAL STEEL TAKING PLACE IN THE FABRICATORS SHOP SHALL BE SPECIAL INSPECTED PER GENERAL NOTE # 13. CONTRACTOR SHALL SUBMIT INSPECTION REPORTS AND CERTIFICATE OF COMPLIANCE TO THE CITY FOR REVIEW.

ALL WELDS SHALL BE VISUALLY TESTED BY A QUALIFIED INSPECTOR. IN ADDITION ALL COMPLETE PENETRATION WELDS SHALL BE TESTED USING THE ULTRASONIC METHOD AT THE PLANT OR SITE BY A QUALIFIED INSPECTOR. VERIFY LOCATIONS WITH THE STRUCTURAL ENGINEER WHERE ULTRASONIC TESTING IS REQUIRED FOR PARTIAL PENETRATION WELDS.

WOOD

26. FRAMING LUMBER SHALL BE KILN DRIED, AND GRADED AND MARKED IN CONFORMANCE WITH U.S.D.A. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 16, LATEST EDITION FURNISH TO THE FOLLOWING MINIMUM STANDARDS, UNLESS OTHERWISE NOTED ON THE PLANS:

Table with 2 columns: Joists, Beams and Stringers, Posts and Timbers, Studs, Plates & Miscellaneous Light Framing, Bolted Framing, Studs, Ledgers, and Plates, Pressure Treated Framing, Ledgers, and Plates. Values: (2 X MEMBERS) DOUG FIR #2 MINIMUM BASIC DESIGN STRESS, FB = 900 PSI; (3 X AND 4 X MEMBERS) DOUG FIR #1 MINIMUM BASIC DESIGN STRESS, FB = 1000 PSI; (INCLUDING 6 X 10 AND LARGER MEMBERS) DOUG FIR #1 MINIMUM BASIC DESIGN STRESS, FB = 1000 PSI; (6 X 6 AND LARGER) DOUG FIR #2 MINIMUM BASIC DESIGN STRESS, FB = 900 PSI; DOUG FIR STANDARD GRADE MINIMUM BASIC DESIGN STRESS, FB = 575 PSI; DOUG FIR #2 MINIMUM BASIC DESIGN STRESS, FB = 900 PSI; HEM FIR #2 MINIMUM BASIC DESIGN STRESS, FB = 600 PSI

27. FLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PSI. SEE PLANS FOR THICKNESS, PANEL IDENTIFICATION INDEX AND NAILING REQUIREMENTS.

28. ALL WOOD MEMBERS EXPOSED TO WEATHER OR IN DIRECT CONTACT WITH SOIL SHALL BE PRESSURE-TREATED WITH ALKALINE COPPER QUATERNARY (ACQ). ALL WOOD MEMBERS (INCLUDING PLATES) IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH SODIUM BORATE (SEK).

ALL METAL CONNECTORS IN CONTACT WITH 'ACQ' PRESSURE-TREATED LUMBER SHALL BE TYPE 304 OR 316 STAINLESS STEEL. THIS INCLUDES WASHERS, SCREWS, NAILS, HANGERS, AND ANY OTHER MISCELLANEOUS LT. GAGE METAL CONNECTORS. WHERE ACQ LUMBER IS USED IN INTERIOR CONDITIONS, G285 ('HOT-DIP' GALVANIZED TO 185 OUNCES PER SQUARE FOOT) METAL CONNECTORS MAY BE USED IN LIEU OF STAINLESS STEEL. METAL CONNECTORS 1/2" THICK OR GREATER NEED NOT BE GALVANIZED FOR INTERIOR USE. METAL CONNECTORS 1/2" THICK PLUS ARE TO BE GALVANIZED FOR EXTERIOR USE, UNLESS SPECIFIED OTHERWISE BY THE ARCHITECT.

29. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE 'STRONG-TIE' BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NOC-2021. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICCO APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. 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 8dMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

ALL JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH '1' SERIES JOIST HANGERS. ALL DOUBLE OR TRIPPLE JOIST BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH '141' SERIES JOIST HANGERS.

30. HOLDDOWS CALLED OUT BY LETTERS 'HDV' ARE MANUFACTURED BY THE SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NOC-2021. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. EACH SIMPSON HOLD-DOWN SHALL BE BOLTED TO A MINIMUM OF (2) FULL HEIGHT STUDS. SEE SCHEDULE ON PLANS FOR FURTHER STUD REQUIREMENTS. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. ALL HOLDDOWS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE WASHERS UNDER THE HEADS AND LAG SCREWS BEARING ON WOOD.

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

A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE INTERNATIONAL BUILDING CODE. MINIMUM NAILING, UNLESS OTHERWISE NOTED, SHALL CONFORM TO TABLE 2304.1(2) OF THE INTERNATIONAL BUILDING CODE. UNLESS NOTED OTHERWISE, ALL NAILS SHALL BE COMMON. 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 SCREWS BEARING ON WOOD.

B. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND MORE THAN ONE-HALF OF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS UNLESS OTHERWISE NOTED. PROVIDE BRIDGING # 2" O.C. AND SOLID BLOCKING AT ALL BEARING POINTS. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

TORNAIL JOISTS TO SUPPORTS WITH 1/2" 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH 16d # 12" O.C. STAGGERED.

UNLESS OTHERWISE NOTED ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAN PERPENDICULAR TO SUPPORTS AND NAILED WITH 8d NAILS # 4" O.C. TO FRAMED PANEL EDGES AND OVER STUD WALLS AS SHOWN ON PLANS AND # 12" O.C. (18" O.C. AT FLOORS) TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES OR PROVIDE SOLID BLOCKING. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS AT UNBLOCKED EDGES OR SHALL BE SUPPORTED WITH SOLID BLOCKING. TORNAIL BLOCKING TO PLATE WITH 16d # 12" O.C. OR (2) 16d EACH END AT SUPPORTS UNLESS OTHERWISE NOTED. AT BLOCKED FLOOR AND ROOF DIAPHRAGMS, INSTALL FLAT 2X BLOCKING AT ALL UNFRAMED PANEL EDGES AND NAIL WITH EDGE NAILING SPECIFIED.

Table with 2 columns: Sheathing Nails, Framing Nails. Values: 8d, 10d, 16d; DIAMETER AND LENGTH: Ø1 1/2" X 2 1/2", Ø1 3/8" X 2 1/2", Ø1 3/8" X 2 1/2", Ø1 3/8" X 3", Ø1 3/8" X 3 1/2"

Mercer Island Pergola

8636 N Mercer Way Mercer Isl, WA 98040



07/2024



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GENERAL STRUCTURAL NOTES

AURISDICTION STAMP



1/4" INCH

**REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE**

(For Grade 60, Uncoated Bars, Normal Weight Concrete)

I MINIMUM STRAIGHT DEVELOPMENT LENGTH ( $l_d$ )\*

BAR SIZE	$f'_c = 2500$ PSI		$f'_c = 4000$ PSI	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	24"	18"	24"	19"
#4	32"	24"	33"	25"
#5	39"	30"	41"	31"
#6	47"	36"	49"	37"

\* "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM. IF CLEAR CONCRETE COVER IS NOT GREATER THAN THE DIAMETER OF THE BAR OR THE CENTER TO CENTER SPACING IS NOT GREATER THAN 3 BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 43%.

II MINIMUM LAP SPLICE LENGTHS ( $l_s$ )\*

BAR SIZE	$f'_c = 2500$ PSI	
	TOP BARS	OTHER BARS
#3	31"	24"
#4	41"	32"
#5	51"	39"
#6	61"	47"

SPLICING IN HORIZONTAL REINFORCING SHALL NOT OCCUR IN BOTH CURTAINS OF REINFORCING AT THE SAME LOCATION.

III MINIMUM EMBEDMENT LENGTHS ( $l_{dh}$ ) FOR STANDARD END HOOKS

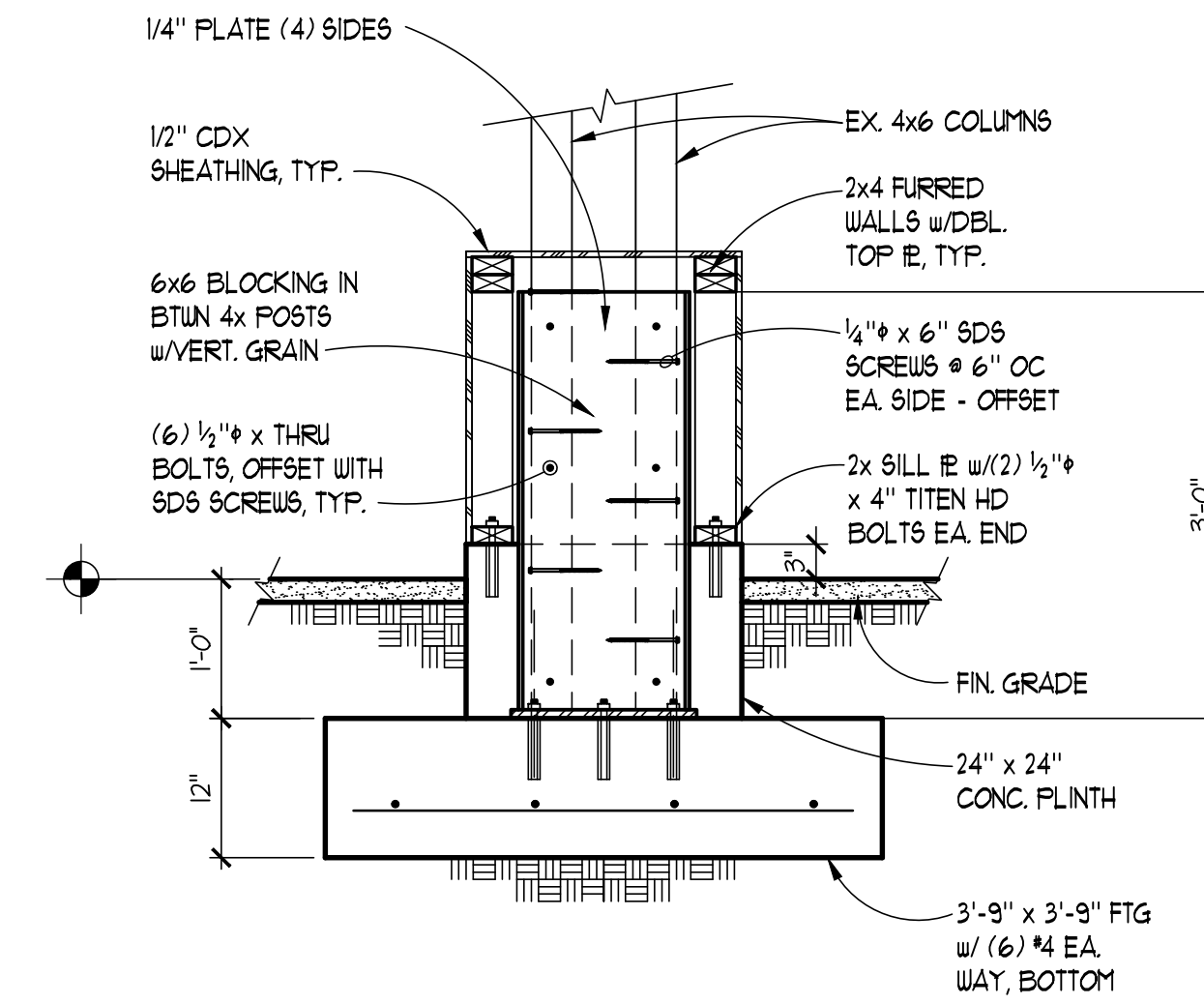
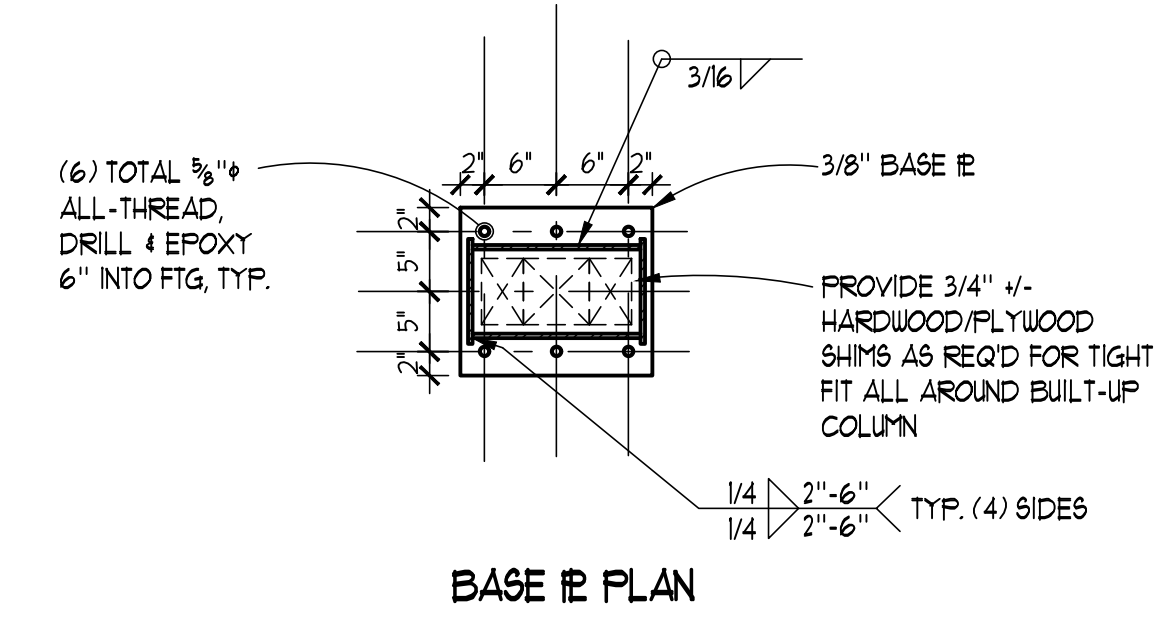
A. for general uses:

BAR SIZE	$f'_c = 2500$ PSI
#3	9"
#4	12"
#5	15"
#6	18"

- SIDE COVER MUST BE EQUAL TO OR GREATER THAN  $2\frac{1}{2}$ ".
- END COVER FOR 90° HOOKS MUST BE EQUAL TO OR GREATER THAN 2".
- 90° HOOKS ONLY

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MICHAEL L. JONES  
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FRAMING  
DETAILS

JURISDICTION STAMP

S3.0

