

LUMBER NOTES:

- ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR AND GRADED BY W.C.L.A OR W.W.P.A.
- ALL WOOD BEARING ON CONCRETE OR MASONRY W/IN 4'-0" FROM GRADE SHALL BE PRESSURE TREATED DOUGLAS FIR.
- ALL BOLT HOLES SHALL BE DRILLED 1/32" TO 1/16" OVERSIZED (12.1.3.2, 2018 NDS). A STANDARD CUT WASHER OR METAL PLATE/STRAP OR EQUAL OR GREATER DIMENSIONS SHALL BE PROVIDED BETWEEN THE WOOD AND NUT.
- STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED OR DETAILED.
- PROVIDE CONTINUOUS 2X SOLID BLOCKING BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS, EXCEPT AT SUPPORT W/ LEDGER W/ HANGER.
- PROVIDE SOLID BLOCKING OR CROSS-BRIDGING AT 8'-0" O.C. MAX. FOR ALL SOLID LUMBER FLOOR JOISTS OVER (4") DEEP & AT 10'-0" O.C. MAX. FOR ALL SOLID LUMBER RAFTERS OVER (8") DEEP. LOCATE FIRST BLOCK AT MID-SPAN.
- ALL STRUCTURAL PLYWOOD SHALL BE STRUCTURAL GRADE W/ EXTERIOR GLUE CONFORMING TO PS 1-09.
- AT HORIZ. PLYWOOD SHEATHING, NO PANEL SHALL BE LESS THAN 24" WIDE. AT VERTICAL PLYWOOD SHEATHING, NO PANEL SHALL BE LESS THAN 12" WIDE.
- ALL BOLTS BEARING ON WOOD SHALL HAVE STANDARD CUT WASHERS UNDER HEAD & NUT, UNLESS NOTED OTHERWISE.
- ALL JOIST HANGERS SHALL BE "SIMPSON" OR APPROVED EQUAL & SHALL MATCH SUPPORTED MEMBER SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS. THEY SHALL BE INSTALLED FOR MAX. RATED LOADS.
- PROVIDE 2X FIRE STOPS AT ALL INTERSECTIONS OF STUD WALLS AND/OR STUD PARTITIONS AT FLOOR, CEILING & ROOF. FIRE STOPS AT A MAX. SPACING OF 8'-0" O.C. IN THE VERTICAL DIRECTION, PROVIDE 2X FIRE STOPS IN ALL FURRED SPACES, VERTICAL & HORIZONTAL.
- ALL STRUCTURAL LUMBER SHALL BE DOUGLAS FIR-LARCH OF THE FOLLOWING GRADES UNLESS OTHERWISE NOTED:
 - STUD, PLATES AND BLOCKING: NO. 2 & BETTER
 - BEAMS AND STRINGERS: SEL STRUCT
 - POSTS AND MULLIONS: SEL STRUCT
 - JOISTS AND RAFTERS (2X6 AND LARGER): NO. 1 & BETTER
 - (2X4 AND 3X4): NO. 1 & BETTER
 - BEAMS (LESS THAN 4" IN WIDTH): NO. 1 & BETTER
 - SILL PLATES: PRESSURE TREATED NO.1 OR BETTER
- NAILING FOR PLYWOOD SHEATHING SHALL BE 10d PLYWOOD NAILS, 2-1/2" X #9 GAGE x 9/32" DIAMETER HEAD BARBED SHANK, EQUIVALENT.
- MACHINE APPLIED NAILING: USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" PLY. IF NAILHEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
- ALL NAILS SHALL BE COMMON WIRE NAILS PER NDS TABLE 11N, 11P & SHALL COMPLY TO ASTM F1667.
- ALL NAILING SHALL COMPLY WITH 2019 CBC TABLE 2304.10.1. & SECTION 2303.6.
- ALL LUMBER SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% (DRY) LUMBER.
- WHERE JOISTS ARE SUPPORTING MECHANICAL EQUIPMENT AND ARCHITECTURAL FEATURES, CONSULT MECHANICAL AND ARCHITECTURAL DRAWINGS FOR EQUIPMENT AND FEATURE LOADS.
- PRE-DRILL HOLES AS NEEDED FOR ANY SIZE NAIL TO AVOID SPLITTING WOOD FRAMING MEMBERS.
- NO SHOT PIN IS ALLOWED AT CURBS & EDGE OF SLABS.
- RETIGHTEN BOLTS (HAND TIGHTENING IS NOT ALLOWED) BEFORE CLOSING IN.
- EXTERIOR USE NAILS SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, MECHANICALLY DEPOSIT ZINC-COATED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
- ALL FASTENERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD & FIRE RETARDANT TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
- LAMINATED VENEER LUMBER (VERSA LAM 3100) AS MANUFACTURED BY BOISE CASCADE SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
 - $F_x = 3100$ PSI, $F_y = 285$ PSI, $F_z = 2100$ PSI, $F_w = 3000$, $E = 2000$ KSI
- WOOD-I JOIST SHALL BE PER RED-BUILT (ESR 2994) AND SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
 - WEB: OSB CONFORMING TO DOC VOLUNTARY PRODUCT STANDARD PS2, EXPOSURE 1
 - FLANGE: REDLAM LVL PER ESR-2993
- ALL COUNTERSUNK INTO SAWN LUMBER FOR BOLT & LAG BOLT SHALL NOT BE MORE THAN THE HEIGHT OF BOLT NUT PLUS THICKNESS OF PLATE WASHER

FOUNDATION NOTES:

- THE NATIVE SOILS HAVE BEEN ASSUMED TO BE CLAY, SANDY-CLAY OR SILTY-CLAY. PRESUMPTIVE SOIL VALUES HAVE BEEN ASSUMED FOR THIS PROJECT, SEE CBC SECTION 1806.
- THE ALLOWABLE PASSIVE SOIL BEARING PRESSURE IS 1500psf BASED ON TABLE 1806.2. THE ALLOWABLE BEARING PRESSURES MAY BE INCREASED BY ONE THIRD WHEN CONSIDERING LOADINGS OF SHORT DURATION SUCH AS WIND OR SEISMIC FORCES WHEN USED IN CONJUNCTION WITH THE ALTERNATE BASIC LOAD CASES IN CBC 1605.3.2.
- FOOTINGS SHALL EXTEND TO A MINIMUM DEPTH OF 1'-6" BELOW LOWEST ADJACENT SOIL GRADE.
- WHERE THE BUILDING OFFICIAL HAS REASON TO DOUBT THE CLASSIFICATION, STRENGTH OF COMPRESSIBILITY OF THE SOIL, THE BUILDING OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A GEOTECHNICAL INVESTIGATION BE CONDUCTED.

REQUIRED SPECIAL INSPECTIONS AND TESTS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	CBC REFERENCE
1. NONE: POST INSTALLED ANCHORS ON PROJECT ARE LOADED IN SHEAR ONLY. WAIVE SPECIAL INSPECTION PER CBC 1704.2, EXCEPTION #1	--	--	--	1704.2

GENERAL NOTES:

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. DO NOT SCALE THE DRAWINGS, SCALED DIMENSIONS AND GRAPHICALLY SHOWN LOCATIONS ARE TO BE CONSIDERED ONLY APPROXIMATE. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES. IN CASE OF CONFLICT, MORE COSTLY REQUIREMENTS GOVERN FOR BIDDING. SUBMIT CLARIFICATION REQUEST PRIOR TO PROCEEDING WITH WORK.
- ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE REVISE AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY DEVIATION FROM THE APPROVED SET OF CONTRACT DOCUMENTS SHALL ONLY BE MADE AFTER WRITTEN APPROVAL BY THE ENGINEER OF RECORD. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS, WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK. UNLESS NOTED OTHERWISE, DETAILS IN STRUCTURAL DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES OR TITLES.
- NO PIPES, DUCTS, SLEEVES, CHASES, ETC. SHALL BE PLACED IN SLABS, BEAMS OR WALLS, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC. WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER OF RECORD.
- THE CONSTRUCTION STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE THE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.

STRUCTURAL DESIGN CRITERIA:

DESIGN CODE: 2019 CBC

DESIGN LOADS:
 ROOF: DL = 17 PSF RLL = 20 PSF

LIVE LOADS ARE REDUCIBLE U.O.N. PER CBC SECTION 1607 AND TABLE 1607.1. ADDITIONAL LOADS DUE TO MECHANICAL UNITS, PARTITIONS, ETC. SHALL BE CONSIDERED

WIND DESIGN CRITERIA:
 ULTIMATE WIND SPEED: 95 MPH (LRFD)
 RISK CATEGORY: II
 INTERNAL PRESSURE COEFFICIENT: 0.18
 WIND EXPOSURE: C
 COMPONENTS & CLADDING PRESSURE: Varies per ASCE 7-16

SEISMIC DESIGN CRITERIA:
 RISK CATEGORY: II
 IMPORTANCE FACTOR: 1.0
 SITE CLASS: D
 SEISMIC DESIGN CATEGORY: D

$S_s = 1.500$ $S_{s1} = 0.600$
 $S_{w1} = 1.800$ $S_{w11} = 0.900$
 $S_{w2} = 1.200$ $S_{w12} = 0.600$

$C_s = 0.1846$

BASIC FORCE RESISTING SYSTEM:
 LIGHT-FRAMED WOOD SHEARWALL (R = 6.5)

DESIGN PROCEDURE:
 EQUIVALENT LATERAL FORCE PROCEDURE (ASCE 7-16)

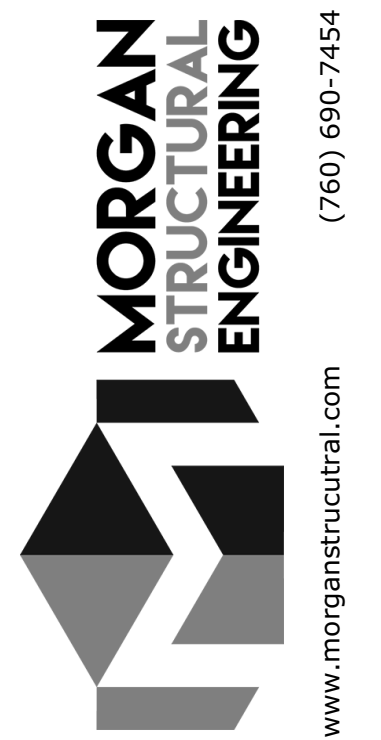
CONCRETE NOTES:

- ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, EXCEPT AS MODIFIED BY THESE NOTES AND THE 2016 CALIFORNIA BUILDING CODE.
- MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE AS FOLLOWS:

FOUNDATION	STRENGTH	W/C	S LUMP
	$f'_c = 2,500$ psi	0.45	4"
- CEMENT SHALL CONFORM TO ASTM (C-150) TYPE II/V (MAXIMUM 15% FLYASH REPLACEMENT MAY BE USED, ASTM C618 & CLASS N OR F).
- AGGREGATES SHALL CONFORM TO ASTM C-33 FOR NORMAL WEIGHT CONCRETE AND ASTM C-330 FOR LIGHTWEIGHT CONCRETE.
- DRYPACK SHALL BE COMPOSED OF ONE PART OF PORTLAND CEMENT TO NOT MORE THAN THREE PARTS OF SAND.
- ANCHOR BOLTS, DOWELS, INSERTS, ETC., SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
- CONCRETE SHALL BE CURED BY KEEPING CONTINUOUSLY WET FOR 10 DAYS OR BY AN APPROVED CURING COMPOUND.
- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE EXCEPT AS NOTED.
- STRUCTURAL LIGHTWEIGHT CONCRETE SHALL BE SAND LIGHTWEIGHT AND HAVE A DRY DENSITY RANGE OF 110 pcf TO 115 pcf.
- ADMIXTURES SHALL COMPLY WITH ASTM A494 AND SHALL NOT BE CONSIDERED TO REDUCE THE CEMENT CONTENT. (CALCIUM CHLORIDE SHALL NOT BE USED).
- WATER SHALL BE CLEAN AND FREE OF ACID, ALKALIS AND ORGANIC MATERIALS.
- CONCRETE SHALL BE PROPORTIONED SUCH THAT THE 7 DAY STRENGTHS ARE A MINIMUM OF 70% OF THE SPECIFIED 28 DAY STRENGTH FOR ANY CONCRETE CONSTRUCTION REQUIRING SHORING, BRACING OR TO RECEIVE CONSTRUCTION LOADS.
- REFER TO ARCHITECTURAL DRAWINGS FOR CURBS, DEPRESSIONS, SLOPES, AND GROOVES REQUIRED TO BE CAST INTO CONCRETE.
- SLEEVE PLUMBING OPENINGS IN CONCRETE SLABS BEFORE PLACING CONCRETE. NO SLEEVES OR CHASES SHALL BE PLACED IN FOOTING UNLESS SPECIFICALLY NOTED BY THE STRUCTURAL PLANS.

REINFORCING STEEL NOTES:

- ALL PORTION SO OF WORK PERTAINING TO FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL CONFORM TO TITLE 24, ART 2, CHAPTER 19
- REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60, EXCEPT THAT #3 BARS MAY BE GRADE 40. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO ASTM A-706, GRADE 60.
- WELDING OF REINFORCEMENT SHALL BE WITH LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO STRUCTURAL WELDING CODE - REINFORCING STEEL, SWS D1.4, BY THE AMERICAN WELDING SOCIETY AND SEC. 1903.8. WELDING RODS USED FOR THE WELDING OF REINFORCING SHALL BE E80XX. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
- ALL REINFORCING BAR BENDS SHALL BE MADE COLD. ALL #5 OR LARGER REINFORCING BARS SHALL NOT BE RE-BENT.
- FUSION WELDED REINFORCING STEEL ASSEMBLIES SHALL CONFORM TO SEC. 1903.8. TIES/STIRRUP BARS IN FUSION WELDED ASSEMBLIES SHALL CONFORM TO ASTM A-706, AND LONGITUDINAL HOLDING WIRES SHALL CONFORM TO ASTM A-1064.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185, AND SHALL BE LAPPED 1-1/2 SPACING AND 12" MINIMUM.
- DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE, SPACING AND NUMBER AS THE VERTICAL REINFORCEMENT, RESPECTIVELY.
- REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.



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Revisions:

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S-1.0

GENERAL NOTES

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