

2. GLUE-LAMINATED MEMBERS SHOWN ON THESE PLANS ARE FOR DRY SERVICE CONDITIONS OF USE, DEFINED BY MOISTURE CONTENT OF MEMBER REMAINING BELOW 16% IN SERVICE, EXCEPT WHERE EXPOSED. THE EXPOSED GLULAM MEMBERS SHALL HAVE NET-USE ADHESIVES AND BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVATIVES ASSOCIATION (AWPA) STANDARD C28.

3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE SIZE, LENGTH, CAMBER AND LOCATIONS OF THE GLUE-LAM BEAMS TO THE STRUCTURAL ENGINEER FOR APPROVAL. NO CUTTING OR NOTCHING OF GLUE-LAM BEAMS IS ALLOWED.

4. PRIOR TO INSTALLATION, SUPPLIER SHALL PROVIDE AN AITC CERTIFICATE OF COMPLIANCE FOR GLUE-LAMINATED WOOD MEMBERS TO THE BUILDING OFFICIAL.

5. LUMBER SHALL BE DOUGLAS FIR, KCLIB GRADING AND DRESSING RULES AND KCLIA SPECIFICATIONS FOR STRUCTURAL LAMINATED DOUGLAS FIR TIMBER. STRUCTURAL GLUE-LAMINATED TIMBER SHALL CONFORM TO AITC STANDARD A 190.1 AND ASTM D 3737, DESIGN AND MANUFACTURE OF STRUCTURAL GLUE-LAMINATED TIMBER, AND SHALL BE OF INDUSTRIAL GRADE WHERE HIDDEN FROM VIEW AND ARCHITECTURAL GRADE WHERE VISIBLE, WITH ENDS SEALED UNLESS OTHERWISE NOTED.

6. GLUE-LAM BEAMS SHALL BE OF DF/DF INDUSTRIAL GRADE 24F-1X AT SIMPLE SPAN MEMBERS, AND 24F-V8 AT CONTINUOUS AND CANTILEVERED MEMBERS, (Fb=2400 psi, Fc=1050 psi, Fv=265 psi, AND E=1.05E+06 psi FOR FLEXURAL), U.O.N. ON THE DRAWINGS. TENSION LAMINATION REQUIRED AT TOP AND BOTTOM OF ALL CANTILEVERED GLU-LAM BEAMS.

#### Q. PREFABRICATED WOOD JOISTS (PWJ)

1. PREFABRICATED JOISTS SHALL BE RED JOISTS (ICC ESR-1174), FABRICATED BY REDBUILT CORPORATION, OR APPROVED EQUAL. TOP CHORD SHALL BE MICRO-LAM, U.O.N.

2. SHOP DRAWINGS AND CALCULATIONS SHALL INCLUDE THE FOLLOWING MINIMUM INFORMATION:  
A. PROJECT NAME AND LOCATION.  
B. DESIGN LOADS AND LOAD CONFIGURATIONS.  
C. MEMBER STRESSES, DEFLECTIONS AND ALLOWABLE DESIGN VALUES.  
D. TYPE, SIZE, AND LOCATION OF HANGERS TO BE USED TO SUPPORT THE TRUSSES. HANGERS SHALL CARRY AN EVALUATION APPROVAL.  
E. LOCATIONS OF FACTORY-CUT OPENINGS IN THE JOIST WEB.

3. JOISTS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST LOCAL APPROVED BUILDING CODES AND ORDINANCES FOR ALL LOADS IMPOSED, INCLUDING LATERAL, MECHANICAL EQUIPMENT, AND FIRE SUPPRESSION SYSTEM LOADS. FABRICATOR SHALL REVIEW ALL DRAWINGS AND MEET PROFILES AS INDICATED.

4. JOIST DESIGN LOADS:

FLOOR PARTITION	DEAD LOAD 17 PSF	LIVE LOAD 65 PSF
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5. CROSS BRIDGING AND/OR BRACING SHALL BE PROVIDED FOR, AND DETAILED BY, THE MANUFACTURER AS REQUIRED TO ADEQUATELY BRACE JOISTS.

6. MAXIMUM FLOOR AND ROOF DEFLECTIONS:

FLOOR	LIVE LOAD L/360	TOTAL LOAD L/240
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\*NEED NOT INCLUDE DEFLECTION DUE TO MOVEABLE PARTITION LOADING.

7. PROVIDE WEB STIFFENERS AT ALL BEARING POINTS.

8. WHERE JOIST BLOCKING IS CALLED OUT, THE BLOCKING PIECE SHALL BE THE SAME DEPTH AS THE ADJOINING MEMBERS.

9. PROVIDE DOUBLE JOISTS AT SUPPORT OF ALL NON-BEARING PERMANENT PARTITIONS PARALLEL TO FLOOR JOISTS..

6. ANCHORS SHALL BE OF THE TYPE, DIAMETER, AND MINIMUM DIMENSIONAL REQUIREMENTS (EMBEDMENT, SPACING AND EDGE DISTANCE) AS INDICATED ON THE DRAWINGS.

7. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH DRILLING EQUIPMENT OF THE TYPE REQUIRED IN THE MANUFACTURER'S PUBLISHED EVALUATION REPORT. HOLES SHALL BE CLEANED IN CONFORMANCE WITH THE ANCHOR MANUFACTURER'S INSTRUCTIONS.

8. WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

#### N. ROUGH CARPENTRY:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE 'STATEMENT OF SPECIAL INSPECTIONS' ON THESE CONSTRUCTION DOCUMENTS.

2. FRAMING LUMBER SHALL BE DOUGLAS FIR LARCH, GRADE-MARKED BY THE KCLIB OR NWFA AS FOLLOWS, U.O.N.:

BEAMS & HEADERS WIDER THAN 4X	SELECT STRUCTURAL
4X BEAMS & HEADERS	NO. 1
FURLINS	NO. 1
SUBFURLINS	NO. 2
2X JOISTS & RAFTERS	NO. 2
PLATES & SILLS	NO. 2
LEDGERS & NAILERS	NO. 2
BLOCKING	NO. 2

POSTS  
STUDS (EXTERIOR & BEARINGS)

3. THE MOISTURE CONTENT OF DIMENSION LUMBER SHALL NOT EXCEED 19 PERCENT AT THE TIME OF INSTALLATION, U.O.N.

4. THE MOISTURE CONTENT OF DIMENSION LUMBER THAT SUPPORTS MORE THAN TWO LEVELS ABOVE SHALL NOT EXCEED 15 PERCENT AT THE TIME OF INSTALLATION.

5. SILLS, PLATES AND OTHER MEMBERS IN DIRECT CONTACT WITH CONCRETE OR MASONRY THAT IS INDIRECT CONTACT WITH EARTH SHALL BE PRESURE TREATED.

6. SHEATHING SHALL BE APA-RATED STRUCTURAL USE PANELS CONFORMING TO PRODUCT STANDARD PS-1 FOR PLYWOOD OR PS-2 FOR ORIENTED STRAND BOARD (OSB).

7. FRAMING HARDWARE IS INDICATED AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY. ALTERNATIVELY, USE STRUCTURAL CONNECTORS BY MITEX BUILDING PRODUCTS MAY BE SUBSTITUTED WHEN APPROVED IN WRITING BY THE ENGINEER PRIOR TO DELIVERY TO THE JOBSITE. REQUEST FOR APPROVAL OF ALTERNATE MANUFACTURERS PRODUCTS SHALL INCLUDE AN ITEM-BY-ITEM COMPARISON OF LOAD-CARRYING CAPACITIES BETWEEN THE PROPOSED SUBSTITUTE PRODUCTS AND THE SPECIFIED PRODUCTS.

8. NAILS SHALL BE COMMON NIRE CONFORMING TO THE FOLLOWING PROPERTIES. NAILS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED, U.O.N.

DRAWING DESIGNATION	SHANK DIAMETER	MIN. PENETRATION
6d	0.113 IN	1-3/8 IN
8d	0.131 IN	1-5/8 IN
10d	0.149 IN	1-13/16 IN
16d	0.162 IN	2 IN

9. NAILING SHALL CONFORM TO TABLE 2304.10.1 OF THE BUILDING CODE, U.O.N.

10. NAIL HOLES SHALL BE PRE-DRILLED WHERE NECESSARY TO PREVENT SPLITTING.

11. BOLTS AND LAG SCREWS SHALL HAVE 2 DIA. MIN. DISTANCE TO THE END OF THE MEMBER AND 4 DIA. MIN. DISTANCE TO THE EDGE OF THE MEMBER, U.O.N.

12. BOLT HOLES IN WOOD SHALL BE DRILLED 1/32" IN DIAMETER LARGER THAN THE NOMINAL BOLT DIAMETER. RETIGHTEN ALL NUTS PRIOR TO CLOSING IN.

13. LAG SCREWS SHALL BE PRE-DRILLED TO A DIAMETER OF 60 TO 75 PERCENT OF THE SHANK DIAMETER. LAG SCREWS SHALL BE INSTALLED BY TURNING WITH A WRENCH. DRIVING OF LAG SCREWS IS PROHIBITED.

14. BOLT AND LAG SCREW HEADS AND NUTS AGAINST WOOD SHALL BE INSTALLED WITH STANDARD CUT WASHERS AGAINST THE WOOD, U.O.N.

15. BEAMS, JOISTS, RAFTERS, ETC. SHALL BE INSTALLED WITH THE CROWN SIDE UP.

16. JOISTS, HEADERS, BEAMS, AND RAFTERS SHALL HAVE A MINIMUM SOLID LEVEL BEARING OF 1/5 INCHES AT EACH END, U.O.N.

17. FULL-HEIGHT BRIDGING FOR JOISTS SHALL COMPLY WITH SECTION 2303.4.2.3 OF THE BUILDING CODE, U.O.N.

18. DOUBLE FLOOR JOISTS SHALL BE LOCATED UNDER PARALLEL PARTITIONS, U.O.N.

19. CUTTING, NOTCHING OR DRILLING OF JOISTS OR RAFTERS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED IN WRITING BY THE ENGINEER AND SHALL COMPLY WITH SECTION 2303.4.2.4 OF THE BUILDING CODE, U.O.N.

20. CUTTING, NOTCHING OR DRILLING OF BEAMS OR FURLINS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

21. DOUBLE TOP PLATES OF STRUCTURAL STUD WALLS SHALL BE TWO PIECES, SAME SIZE AS STUDS, LAPPED 4'-0" MINIMUM WITH NOT LESS THAN 10-16d NAILS AT EACH LAP, SPACED AT 4" OC MAXIMUM, U.O.N.

22. NOT LESS THAN THREE (3) STUDS SHALL BE INSTALLED AT EVERY CORNER OF AN EXTERIOR OR INTERIOR BEARING WALL.

23. STUDS SHALL HAVE FULL BEARING ON SILL AND TOP PLATES.

24. FULL-DEPTH BLOCKING FOR STUDS SHALL COMPLY WITH SECTION 2303.5.7.

25. CUTTING, NOTCHING OR DRILLING OF STUDS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED IN WRITING BY THE ENGINEER AND SHALL COMPLY WITH 2303.5.9 AND 2303.5.10 OF THE BUILDING CODE, U.O.N.

26. CUTS AND HOLES IN PRESURE TREATED LUMBER SHALL BE TREATED PER AWPA M 84.

#### O. MACHINE APPLIED NAILING:

1. THE USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL OF THE PROJECT ENGINEER. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE.

2. NAIL HEADS SHALL NOT PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER.

3. EDGE DISTANCES SHALL BE MAINTAINED. SHINERS SHALL BE REPLACED. IF NAIL HEADS 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.

4. MACHINE NAILING IS NOT PERMITTED FOR PLYWOOD 5/16" OR LESS IN THICKNESS.

#### P. GLUE-LAMINATED WOOD MEMBERS:

1. THE MANUFACTURE OF STRUCTURAL GLUE-LAMINATED TIMBER SHALL COMPLY WITH SECTION 2303.1.3 OF THE BUILDING CODE. WORKMANSHIP SHALL BE IN CONFORMANCE WITH ANSI/AITC STANDARD A 190.1 AND ASTM D 3737. ALL BEAMS SHALL BEAR THE APA/ENR OR AITC TRADEMARK INDICATING CONFORMANCE.

7. REINFORCING BAR LAP SPLICES SHALL NOT BE PERMITTED IN MOMENT FRAMES OR SHEAR WALLS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER IN WRITING.

8. REINFORCING BARS FOR CONCRETE SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM COVER:

CONC. CAST AGAINST EARTH FORMED CONC. EXPOSED TO EARTH / WEATHER	3"
#5 OR SMALLER	1-1/2"
#6 OR LARGER	2"
SLABS (#11 AND SMALLER)	3/4"
BEAMS & GIRDERS	1-1/2"
PRECAST PANELS	3/4"
C.I.P. WALLS	1-1/2"
COLUMN TIES	1-1/2"

9. #3 SPACER TIES SHALL BE INSTALLED AT 30" ON CENTER IN BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.O.N.

10. REINFORCEMENT SUPPORTS SHALL BE MANUFACTURED OF NONCORROBIVE MATERIAL.

#### J. CONCRETE MIX REQUIREMENTS:

1. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94.

2. CEMENT SHALL CONFORM TO ASTM C 150 TYPE II/V, LOW ALKALI.

3. FLYASH SHALL CONFORM TO ASTM C 618, CLASS F. FLYASH SHALL BE LIMITED TO NO MORE THAN 20% OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS IN THE CONCRETE, U.O.N.

4. CEMENT FOR SHRINKAGE-COMPENSATING CONCRETE SHALL CONFORM TO ASTM C 945. ALTERNATIVELY, WHEN APPROVED IN WRITING BY THE ENGINEER, SHRINKAGE COMPENSATING CONCRETE MAY BE ACHIEVED BY USE OF A SHRINKAGE-REDUCING CHEMICAL ADMIXTURE.

5. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33.

6. NORMAL WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 150 pcf.

7. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE ENGINEER. MIX DESIGN IN ACCORDANCE WITH ACI 301, ARTICLE 4.2.3 SHALL BE USED TO PROPORTION CONCRETE.

8. MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS, MAXIMUM SLUMPS, AND MAXIMUM WATER/CEMENT RATIOS SHALL BE AS FOLLOWS:

DESCRIPTION	MIN 28 DAY F'c	SLUMP	MAX.W/C RATIO
CAPS AT DRIVEN DEEP FOUNDATIONS	3.5 KSI	4" +/- 1"	0.57
CAST-IN-PLACE DEEP FOUNDATIONS	4.0 KSI	4" +/- 1"	0.52
SHALLOW FOUNDATIONS AND GRADE BEAMS	4.0 KSI	4" +/- 1"	0.52
SLAB ON GRADE	3.5 KSI	4" +/- 1"	0.45
OTHER CONCRETE	3.5 KSI	4" +/- 1"	0.50

9. ADMIXTURES SHALL BE APPROVED IN ADVANCE. ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED EXCEPT WHERE APPROVED IN WRITING BY THE ENGINEER.

10. SLUMPS INDICATED ARE PRIOR TO PLASTICIZER ADDITIVES.

11. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED

#### K. STRUCTURAL STEEL:

1. STRUCTURAL STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 22 OF THE BUILDING CODE, AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC 305 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE 'STATEMENT OF SPECIAL INSPECTIONS' ON THESE CONSTRUCTION DOCUMENTS.

3. STRUCTURAL STEEL STRENGTHS AND GRADES SHALL BE AS FOLLOWS, U.O.N.

DESCRIPTION	YIELD FULLER	ASTM GRADE
WF AND WT SHAPES	50 ksi	A992, GR 50
OTHER ROLLED SHAPES	36 ksi	A36
RECTANGULAR HSS SECTIONS	46 ksi	A500, GR B
ROUND HSS SECTIONS	42 ksi	A500, GR B
STRUCTURAL PIPE SECTIONS	45.5 ksi	A53, GR B
PLATES IN FRAMES	50 ksi	A572, GR 50
OTHER PLATES	36 ksi	A36

4. HOLLOW STRUCTURAL STEEL (HSS) MEMBERS SHALL BE SEAL WELDED IN DRY CONDITION IN THE SHOP. PROVIDE WEEP HOLES AT THE LOW END OF ALL HOLLOW MEMBERS IN EXTERIOR CONDITIONS, AND SEAL WELLS AROUND ALL MATING SURFACES IN EXTERIOR CONDITIONS WHETHER COVERED OR OPEN. CONCEAL WELD SEAM FROM VIEW WHERE PRACTICAL.

5. ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 55, UNLESS OTHERWISE NOTED. NUTS FOR ANCHOR RODS SHALL CONFORM TO ASTM A 563, GRADE A HEX (HEAVY HEX WHERE ANCHOR ROD DIAMETER IS GREATER THAN 1 1/2").

6. MAIN MEMBERS SHALL HAVE HIGH STRENGTH BOLTS CONFORMING TO AISC SPEC FOR ASTM A 325N BOLTS, U.O.N. OTHER BOLTS SHALL CONFORM TO ASTM A 307. NUTS FOR HIGH STRENGTH BOLTS SHALL BE HEAVY HEX GRADE C CONFORMING TO ASTM A 563.

7. TIGHTEN ASTM A 325N BOLTS TO "SNUG-TIGHT" CONDITION PER AISC SPECIFICATION FOR STRUCTURAL JOINTS. TEST ASTM A 325SC BOLTS WITH A CALIBRATED WRENCH UNLESS LOAD INDICATOR BOLTS ARE USED.

#### L. DRYPACK / NON-SHRINK GROUT:

1. NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 6,000 psi IN ACCORDANCE WITH ASTM C 109.

2. NON-SHRINK GROUT SHALL BE INSTALLED UNDER A COLUMN BASE PLATE AFTER THE COLUMN HAS BEEN SETTED AND PRIOR TO PLACING CONCRETE FILL ON THE STRUCTURE.

#### M. POST-INSTALLED ADHESIVE ANCHORS:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE 'STATEMENT OF SPECIAL INSPECTIONS' ON THESE CONSTRUCTION DOCUMENTS.

2. ADHESIVE ANCHOR INSTALLERS SHALL BE TRAINED BY A QUALIFIED REPRESENTATIVE OF THE ADHESIVE MANUFACTURER ON THE PROPER PROCEDURES AND TECHNIQUES FOR INSTALLATION.

3. ADHESIVE SHALL BE STORED ON THE JOBSITE IN A COOL, DRY LOCATION IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS.

4. ADHESIVE ANCHORS FOR INSTALLATION IN SOLID NORMAL-WEIGHT CONCRETE SHALL BE HILTI HIT HY200 (ICC ESR-3187). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC08 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.

5. ADHESIVE ANCHORS FOR INSTALLATION IN CONCRETE MASONRY SHALL BE HILTI HIT HY210 (ICC ESR-4143). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC08 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.

#### E. TEMPORARY WORK AND SITE SAFETY:

1. THE STRUCTURAL DRAWINGS SHOW THE REQUIREMENTS FOR THE COMPLETED STRUCTURE. TEMPORARY WORKS REQUIRED TO COMPLETE THE CONSTRUCTION PROCESS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE DESIGN OR FIELD VERIFICATION OF TEMPORARY AND AUXILIARY WORK.

2. THE RESPONSIBILITY FOR SAFETY IN AND AROUND THE JOBSITE SHALL BEAR ON THE CONTRACTOR. PROPER AND SAFE METHODS OF CONSTRUCTION SHALL BE EMPLOYED AT ALL TIMES INCLUDING THE STABILIZING OF INCOMPLETE STRUCTURES, FORMWORK, SHORING, RESHORING, FALSEWORK, PLATFORMS, SCAFFOLDING, BARRIERS, WALKWAYS, ETC. AND INCLUDING CONTROL OF THE INTENSITY, DURATION AND LOCATION OF CONSTRUCTION LOADS.

3. THE RESPONSIBILITY FOR THE DESIGN AND INSTALLATION OF ALL GRIBBING, SHEATHING, UNDERPINNING, AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES AND STRUCTURES SHALL BEAR ON THE CONTRACTOR.

4. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON A STRUCTURE. LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD INDICATED THERE. THE STRUCTURE SHALL ATTAINED FINAL DESIGN STRENGTH, ADEQUATE SHORING AND OR BRACING SHALL BE INSTALLED.

#### F. DEMOLITION:

1. THE RESPONSIBILITY FOR NECESSARY SHORING OR BRACING OF THE EXISTING STRUCTURE DURING DEMOLITION PROCEDURES SHALL BEAR ON THE CONTRACTOR.

2. DEVIATIONS FROM EXISTING CONDITIONS AS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE RESOLVED WITH THE ENGINEER PRIOR TO PROCEEDING WITH DEMOLITION WORK.

3. RESPONSIBILITY FOR COORDINATION OF DEMOLITION WORK WITH THE BUILDING OFFICIAL AND OTHER GOVERNING AUTHORITIES SHALL BEAR ON THE CONTRACTOR. EXITS SHALL BE MAINTAINED AS REQUIRED FOR SAFE LEGAL OPERATION OF THE FACILITY.

4. ELEMENTS THAT WILL NOT BE DEMOLISHED SHALL BE PROTECTED FROM DAMAGE.

5. SAW CUT LINES SHALL BE TRUE AND NEAT. CORNERS SHALL NOT BE OVER CUT.

6. THESE STRUCTURAL DRAWINGS DO NOT INDICATE THE DESIGN OF DEMOLITION. THE RESPONSIBILITY FOR THE SCHEDULING AND COORDINATION OF THE WORK SHALL BEAR ON THE CONTRACTOR. WORK SHALL BE COORDINATED TO LEAST IMPACT THE OPERATION OF THE EXISTING FACILITY.

#### G. FOUNDATION:

1. THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL INVESTIGATION REPORT SHALL BE FOLLOWED.

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DATED: JAN. 4, 2017  
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2. DEVIATIONS IN GEOTECHNICAL CONDITIONS FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEERS IN A TIMELY MANNER.

3. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE 'STATEMENT OF SPECIAL INSPECTIONS' ON THESE CONSTRUCTION DOCUMENTS.

4. THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE SHALL BE 2500 psf. THE RESULTING ALLOWABLE BEARING VALUE MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOAD CASES.

5. THE EXPANSION INDEX HAS BEEN DETERMINED TO BE 50 OR LESS AND NO SPECIAL DESIGN RECOMMENDATIONS ARE REQUIRED.

6. FOOTING AND UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS SUBJECT TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING WILL NOT BE PERMITTED.

7. LOOSE SOIL AND FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE REQUIREMENTS OF THE SOILS REPORT.

8. COMPACTION TEST REPORTS FOR FILL BY A QUALIFIED TESTING LAB SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER, GEOTECHNICAL ENGINEER AND BUILDING OFFICIAL PRIOR TO REQUESTING FOUNDATION INSPECTION.

9. FOOTING DEPTHS INDICATED ON THE STRUCTURAL DRAWINGS ARE BELIEVED TO BE IN SUITABLE BEARING MATERIALS AND ARE INDICATED FOR COST ESTIMATING PURPOSES ONLY. THE GEOTECHNICAL ENGINEER MAY REQUIRE FOUNDATION DEPTHS TO BE INCREASED. THE RESPONSIBILITY FOR CONFORMING TO THE GEOTECHNICAL REPORT RECOMMENDATIONS REGARDING DEPTH OF FOOTINGS SHALL BEAR ON THE CONTRACTOR.

10. FOOTING ELEVATIONS SHALL BE LOCATED SUCH THAT THEIR BEARING IS A MINIMUM HORIZONTAL DISTANCE AS RECOMMENDED WITHIN THE GEOTECHNICAL REPORT.

11. ANCHOR BOLTS, DONNELS AND HOLD-DOWN ANCHORS SHALL BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.

12. SHORING SHALL BE INSTALLED AT THE TOP OF RESTRAINED RETAINING WALLS PRIOR TO BACKFILLING. SHORING SHALL REMAIN IN PLACE UNTIL THE PERMANENT STRUCTURAL SUPPORTING MEMBERS ARE IN PLACE. FOR CONCRETE SUPPORTING MEMBERS, SHORING TO REMAIN IN PLACE FOR A MINIMUM OF 7 DAYS AFTER CONCRETE PLACEMENT.

#### H. WELDING:

1. WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY (AWS) D1.1. THE FILLER MATERIAL SHALL BE A MINIMUM OF E70XX U.O.N.

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE 'STATEMENT OF SPECIAL INSPECTIONS' ON THESE CONSTRUCTION DOCUMENTS.

3. WELDING ELECTRODES FOR THE SHIELDED METAL-ARC WELDING (SMAW) PROCESS AND WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 "SPECIFICATION FOR CARBON STEEL ELECTRODES FOR SHIELDED METAL ARC WELDING."

4. WELDING ELECTRODES FOR THE FLUX CORED ARC WELDING (FCAW) PROCESS AND WELDING ELECTRODES SHALL CONFORM TO AWS A5.20 "SPECIFICATION FOR CARBON STEEL ELECTRODES FOR FLUX CORED ARC WELDING."

5. WELDS SHALL HAVE A WELD CONTROLLED SEQUENCE AND TECHNIQUE IN ORDER TO MINIMIZE SHRINKAGE STRESSES AND DISTORTION.

#### I. REINFORCING STEEL:

1. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL BE PERFORMED IN ACCORDANCE WITH ACI 315, 'DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.'

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE 'STATEMENT OF SPECIAL INSPECTIONS' ON THESE CONSTRUCTION DOCUMENTS.

3. REINFORCING BARS SHALL CONFORM TO ASTM A 615, GRADE 60, U.O.N.

4. REINFORCING BAR LAP SPLICES SHALL BE: CLASS B, (18" MIN.) FOR CONCRETE, U.O.N. 65 BAR DIA. (24" MIN.) FOR MASONRY, U.O.N.

5. DETAILS OF REINFORCEMENT SHALL COMPLY WITH THE PROVISIONS OF ACI 310.

6. WHERE HOOKS ARE ILLUSTRATED AS 90-DEGREE HOOKS, 180-DEGREE HOOKS MAY BE USED IN LIEU OF 90-DEGREE HOOKS.

## STRUCTURAL NOTES

#### A. BASIS OF DESIGN:

1. THE STRUCTURAL DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE (CBC).

2. LIVE LOADS (MAY BE REDUCED IN ACCORDANCE WITH THE BUILDING CODE)

ROOF	20 psf
FLOOR	65 psf
CLASSROOM	65 psf
ASSEMBLY (FIRST FLOOR)	100 psf
COORDIOR	80 psf
PARTITION LOADING OTHER THAN AT GRADE LEVEL	15 psf

3. SEISMIC DESIGN DATA

RISK CATEGORY	III
SEISMIC IMPORTANCE FACTOR	Ie = 1.25
MAPPED SPECTRAL ACCELERATION	Sh = 1.500
MAPPED SPECTRAL ACCELERATION	S1 = 0.600
SEISMIC CLASS	D
SITE COEFFICIENT	Fa = 1.0
SITE COEFFICIENT	Fv = 1.5
DESIGN SPECTRAL ACCELERATION	Sds = 1.000
DESIGN SPECTRAL ACCELERATION	Sd1 = 0.600
SEISMIC DESIGN CATEGORY	D
PARTITION LOADING AT FLOORS	15 psf
PARTITION LOADING AT ROOFS	5 psf
ANALYSIS PROCEDURE USED	EQUVY LATERAL FORCE
SEISMIC FORCE RESISTING SYSTEM	WOOD SHEAR WALLS
RESPONSE MODIFICATION FACTOR	R = 6
SYSTEM OVERSTRENGTH FACTOR	Omega = 3
DIAPHRAGM AMPLIFICATION FACTOR	Cd = 4
REDUNDANCY FACTOR	Phi = 1.0
SEISMIC RESPONSE COEFFICIENT	Cs = 0.192

#### B. DEFERRED APPROVALS:

1. THE FOLLOWING COMPONENTS REQUIRE DEFERRED APPROVAL BY THE BUILDING OFFICIAL. STRUCTURAL CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A CALIFORNIA REGISTERED CIVIL ENGINEER SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND TO THE BUILDING OFFICIAL FOR PERMIT.

2. IN ADDITION TO THE SEAL OF THE RESPONSIBLE ENGINEER, DEFERRED SUBMITTAL PACKAGES SHALL BEAR THE SHOP DRAWING APPROVAL STAMPS OF THE ARCHITECT, ENGINEER AND THE GENERAL CONTRACTOR PRIOR TO BUILDING DEPARTMENT SUBMITTAL.

3. PLANS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT WILL ALLOW A MINIMUM OF 30 WORKING DAYS FOR INITIAL PLAN REVIEW BY THE BUILDING OFFICIAL. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECK DIVISION PRIOR TO PERMIT APPROVAL OF THE SUBMITTAL ITEMS.