DESIGN

BUILDING CODE
2012 INTERNATIONAL BUILDING CODE WITH GEORGIA AMENDMENTS

DEAD LOAD — SEE PLAN
LIVE LOAD — SEE PLAN

SNOW LOAD
GROUND SNOW (Pg) = 5.0 PSF
FLAT ROOF SNOW LOAD (Pf) = 3.5 PSF
SNOW EXPOSURE FACTOR (Ce) = 1.0
SNOW IMPORTANCE FACTOR (Is) = 1.0
SNOW THERMAL FACTOR (Ct) = 1.0

WIND LOAD
ULTIMATE WIND SPEED (3-SECOND GUST) = 115 MPH
ALLOWABLE WIND SPEED (3-SECOND GUST) = 90 MPH
WIND EXPOSURE CATEGORY = C
INTERNAL PRESSURE COEFFICIENT = +/- 0.18
COMPONENTS AND CLADDING PRESSURE:

	ZONE	ULTIMATE EFFECTIVE AREA (SF)					NOMINAL EFFECTIVE AREA (SF)				
		10	20	50	100	500	10	20	50	100	500
ROOF	1	36.7	35.8	34.6	33.6	-	22.0	21.5	20.7	20.2	-
ROOF	2	61.7	55.1	46.4	39.9	-	37.0	33.1	27.8	23.9	-
ROOF	3	61.7	55.1	46.4	39.9	-	37.0	33.1	27.8	23.9	-
WALL	4	36.4	34.9	33.0	31.5	28.0	21.9	21.0	19.8	18.9	16.8
WALL	5	44.8	41.9	37.9	34.9	28.0	26.9	25.1	22.8	21.0	16.8

NOTE: COMPONENTS AND CLADDING ELEMENTS NOT SPECIFICALLY DESIGNED ON THESE DRAWINGS SHALL BE DESIGNED TO THE WIND PRESSURES STIPULATED BY ASCE7-10 FOR THE TRIBUTARY AREA OF THE SPECIFIC COMPONENT.

SEISMIC LOAD
SEISMIC IMPORTANCE FACTOR (Ie) = 1.0
OCCUPANCY CATEGORY = II
Ss = 0.213 S1 = 0.090
SITE CLASS = D (PER GEOTECH REPORT)
Sds = 0.227 Sd1 = 0.144
SEISMIC DESIGN CATEGORY = C
SEISMIC ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

LATERAL FORCE RESISTING SYSTEM
X-DIRECTION (PLAN E-W):
LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS
R = 6.5 Cs = 0.035
Y-DIRECTION (PLAN N-S):
LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS & STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
R = 3.0 Cs = 0.076

X-DIRECTION BASE SHEAR = 99.5 KIPS (WIND CONTROLS)
Y-DIRECTION BASE SHEAR = 390.2 KIPS (WIND CONTROLS)

MISCELLANEOUS

1. THE FOLLOWING NOTES APPLY TO ALL PROJECT RELATED STRUCTURAL DOCUMENTS, INCLUDING THIS SET OF DRAWINGS, FIELD SKETCHES, AND RESPONSES TO REQUESTS FOR INFORMATION (RFI'S), UNLESS OTHERWISE INDICATED. THEY ARE INTENDED TO SUPPLEMENT THE PROJECT SPECIFICATION'S MANUAL. IN CASE OF CONFLICT, THE MOST STRINGENT REQUIREMENT/CONDITION SHALL APPLY.
2. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES.
3. THE CONTRACTOR SHALL VERIFY ALL CONTRACT DOCUMENTS, SITE ELEVATIONS, DIMENSIONS, AND CONDITIONS PRIOR TO START OF WORK, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.
4. THE CONTRACT STRUCTURAL DOCUMENTS, INCLUDING DRAWINGS AND SPECIFICATIONS, REPRESENT THE FINAL CONDITION OF THE COMPLETED STRUCTURE. THE STRUCTURE IS CONSIDERED UNSTABLE UNTIL ALL FRAMING MEMBERS AND THEIR CONNECTIONS ARE INSTALLED. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE DESIGN, SAFETY, ADEQUACY, AND STABILITY OF ANY TEMPORARY SHORING AND BRACING THAT MAY BE REQUIRED FOR THE CONSTRUCTION OF THE STRUCTURE. MEANS AND/OR METHODS OF CONSTRUCTION ARE NOT THE RESPONSIBILITY OF THE ENGINEER, AND ARE TO BE PROVIDED BY THE CONTRACTOR FOR ALL PHASES OF CONSTRUCTION.
5. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE ENGINEER, REVIEW OF SHOP DRAWINGS, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
6. CONSTRUCTION LOADS APPLIED TO THE STRUCTURAL FRAMING SHALL NOT EXCEED THE FINAL DESIGN CRITERIA INDICATED HEREIN FOR ANY OF THE BUILDING MEMBER ELEMENTS.
7. SCALES NOTED ON THE DRAWINGS ARE FOR GENERAL INFORMATION ONLY. NO DIMENSIONS SHALL BE OBTAINED FROM DIRECT SCALING OF THE DRAWINGS.
8. THE CONTRACTOR SHALL COMPARE STRUCTURAL AND ARCHITECTURAL SECTIONS PRIOR TO FABRICATION AND/OR INSTALLATION OF STRUCTURAL MEMBERS. REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER.
9. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR LOCATION AND SIZES OF OPENINGS AND EQUIPMENT NOT SHOWN ON THE STRUCTURAL DOCUMENTS. THE CONTRACTOR SHALL CONFIRM SIZES AND LOCATIONS PRIOR TO FABRICATION/INSTALLATION OF STRUCTURAL FRAMING.
10. MODIFICATIONS AND/OR ALTERATIONS TO STRUCTURAL MEMBERS, INCLUDING CHANGES IN SIZES AND DIMENSIONS, SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

SPECIFICATIONS

1. THE CONTRACTOR SHALL REFER TO PROTOTYPICAL TENANT DRAWINGS AND SPECIFICATIONS TO SUPPLEMENT LANDLORD DOCUMENTS REGARDING SPECIFIC TENANT ITEMS. IN CASE OF CONFLICT WITH STRUCTURAL DOCUMENTS, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.
2. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES BETWEEN THE LANDLORD DOCUMENTS AND THE TENANT CRITERIA.

SUBMITTALS

1. THE STRUCTURAL DRAWINGS PROVIDE REPRESENTATIVE DETAILS OF THE FRAMING, AND ARE NOT INTENDED TO SHOW EVERY POSSIBLE CONDITION. SHOP DRAWINGS SHALL DETAIL ALL CONDITIONS IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS AS INDICATED IN THE PROJECT DOCUMENTS.
2. SHOP DRAWINGS PREPARED SHALL BE COORDINATED, REVIEWED, ANDIGNED/STAMPED BY THE CONTRACTOR PRIOR TO SUBMITTING TO THE ENGINEER FOR APPROVAL.
3. THERE SHALL BE NO DEVIATION FROM THE STRUCTURAL DOCUMENTS. IF ANY CHANGES ARE PROPOSED BY THE CONTRACTOR OR THE PROVIDER OF THE SHOP DRAWINGS, THEY WILL ONLY BE CONSIDERED IF THE FOLLOWING CRITERIA IS MET:
   A. COST SAVINGS TO THE OWNER
   B. PRODUCT OR MATERIAL IS AN APPROVED EQUIVALENT WITH THE PROPER CERTIFICATIONS SUBMITTALS NOT MEETING THIS CRITERIA WILL NOT BE CONSIDERED.
4. STRUCTURAL CONTRACT DOCUMENTS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.

SUBMITTALS (cont.)

5. REVIEW OF SUBMITTALS OR SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK THEM BEFORE SUBMITTAL FOR APPROVAL. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DIMENSIONS, AND DETAILS INDICATED IN THE CONTRACT DOCUMENTS.
6. SHOP DRAWINGS FOR MANUFACTURER-PRODUCED AND SPECIALTY BUILDING COMPONENTS INCLUDING, BUT NOT LIMITED TO, PRECAST CONCRETE, COLD-FORMED METAL FRAMING, OPEN-WEB WOOD TRUSSES, CANOPIES, AND STAIRS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. THESE SUBMITTALS ARE TO BE SIGNED AND SEALED BY A LICENSED ENGINEER IN THE PROJECT STATE.
7. REVIEWED AND APPROVED SHOP DRAWINGS AND SUBMITTALS SHOWING ENGINEER'S COMMENTS, ACCOMPANIED WITH FINAL RECORD SETS, SHALL BE AVAILABLE FOR REFERENCE AT THE CONSTRUCTION SITE.

FOUNDATIONS

1. THE FOUNDATION SYSTEM HAS BEEN DESIGNED FOR A MAXIMUM NET ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF UNDER FULL SERVICE LOADS.
2. FOUNDATION DESIGN COMPLIES WITH THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT DATE 10/23/2018 BY UNIVERSAL ENGINEERING SERVICES (PROJECT # 1630.1800056.0000). THE CONTRACTOR SHALL PERFORM EXCAVATIONS, SUBGRADE PREPARATION, AND FOOTING CONSTRUCTION IN ACCORDANCE WITH THESE RECOMMENDATIONS, AS WELL AS CIVIL DRAWINGS AND PROJECTSPECIFICATIONS.
3. FOOTINGS SHALL BEAR ON NATURAL UNDISTURBED SOIL OR ENGINEERED FILL. ALL SOIL BELOW SLABS AND FOOTINGS SHALL BE PROPERLY COMPACTED AND SUBGRADE BROUGHT TO A REASONABLE TRUE AND LEVEL PLANE BEFORE CONCRETE PLACEMENT.
4. EXISTING ORGANIC MATERIALS, UNSUITABLE SOILS, ABANDONED FOOTINGS, OR ANY OTHER UNSUITABLE MATERIALS ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH NEW FILL MATERIAL OF SIMILAR TYPE SOIL AS PRESENT AT SITE AND APPROVED BY GEOTECHNICAL ENGINEER. NEW FILL SHALL BE COMPACTED TO A MINIMUM 98% MAXIMUM DRY DENSITY OR AS REQUIRED BY GEOTECHNICAL REPORT. ADEQUATE FIELD DENSITY AND MOISTURE CONTENT TESTS SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY TO ENSURE COMPLIANCE. ALL BEARING SOILS SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF FOOTINGS.
5. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 1'-6" BELOW FINAL GRADE FOR FROST PROTECTION.
6. ELEVATIONS SHOWN ON PLAN INDICATE TOP OF FOOTINGS, BASED ON INFORMATION AVAILABLE AT TIME OF DESIGN. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED TO SUIT FIELD CONDITIONS.
7. FOOTINGS MAY BE EARTH-FORMED IF EXCAVATION CAN BE KEPT VERTICAL, CLEAN, AND STABLE. OTHERWISE, FORMS MUST BE USED.
8. FOOTING EXCAVATIONS SHALL HAVE THE SIDES AND BOTTOM TEMPORARILY LINED WITH A PROTECTIVE PLASTIC MEMBRANE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HOURS OF THE EXCAVATION OF THE FOOTING. IF THE FOOTING BEARING SURFACE IS ALLOWED TO BECOME DISTURBED IN ANY WAY, IT SHALL BE REWORKED TO THE SATISFACTION OF AN INDEPENDENT TESTING AGENCY PRIOR TO CASTING OF THE CONCRETE.
9. HORIZONTAL CONSTRUCTION JOINTS ARE NOT PERMITTED. FOR VERTICAL CONSTRUCTION JOINTS, PROVIDE LOCATIONS FOR ENGINEER APPROVAL.
10. COLUMN FOOTINGS AND WALL FOOTINGS SHALL BE POURED MONOLITHIC WITH TOPS OF ADJACENT FOOTINGS AT THE SAME ELEVATION (UNO).

EXCAVATION & BACKFILL

1. EXCAVATION, BACKFILLING, AND COMPACTION OPERATIONS SHALL BE EXECUTED IN ACCORDANCE WITH INDUSTRY STANDARDS.
2. FOOTING EXCAVATIONS SHALL BE MADE TO THE PROPER LINE AND LEVEL TO ENSURE ADEQUATE CONCRETE COVER FOR REINFORCEMENT.
3. NO EXCAVATION SHALL BE CLOSER THAN AT A SLOPE OF 2:1 (2 HORIZONTAL TO 1 VERTICAL) TO A FOOTING. PROVIDE TEMPORARY SHORING AND PROTECTION FOR EXCAVATION BANKS AS NECESSARY TO PRESERVE SAFETY AND PREVENT CAVING.
4. BACKFILL SHALL BE PLACED AND COMPACTED, UTILIZING ACCEPTABLE COMPACTION EQUIPMENT, WITH APPROVAL BY A LICENSED GEOTECHNICAL ENGINEER.
5. WALLS ARE NOT DESIGNED TO SUPPORT HYDROSTATIC PRESSURE. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE DRAINAGE SYSTEM FOR ALL BACKFILL CONDITIONS. REFER TO CIVIL AND ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR MINIMUM REQUIREMENTS.
6. BACKFILL SHALL NOT BE PLACED AGAINST RETAINING FOUNDATION WALLS UNLESS TOP AND BOTTOM OF WALLS ARE ADEQUATELY BRACED. AT TOP, STRUCTURE MUST BE SET OR INSTALLED TO BE ADEQUATELY BRACED. IF THESE ELEMENTS WILL NOT BE IN PLACE AT TIME OF BACKFILLING OPERATIONS, CONTRACTOR SHALL PROVIDE A TEMPORARY BRACING SYSTEM ENGINEERED AND SEALED BY A REGISTERED ENGINEER IN THE PROJECT STATE. BRACING PLANS AND DETAILS ARE TO BE SUBMITTED TO ARCHITECT AND ENGINEER FOR APPROVAL PRIOR TO BACKFILLING.
7. RETAINING WALLS ARE NOT DESIGNED TO CANTILEVER AT ANY TIME, UNLESS EXPLICITLY NOTED ON THE DRAWINGS.

CONCRETE

1. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318-14 AND ACI 301-10.
2. CEMENT USED SHALL BE TYPE I OR III CONFORMING TO ASTM C-150. CONCRETE SHALL DEVELOP A MINIMUM 28 DAY STRENGTH AND DENSITY AS FOLLOWS:

	STRENGTH (PSI)	DENSITY (PCF)	W/C RATIO
FOOTINGS, PIERS, WALLS	3000	145 - 150	0.5
INTERIOR SLAB ON GRADE	3000	145 - 150	0.5

3. AGGREGATE SHALL BE WELL GRADATED AND SHALL CONFORM TO THE FOLLOWING:

FOOTINGS, PIERS, WALLS, SLAB ON GRADE (DENSITY 145 - 150 PCF)	1" COARSE AGGREGATE (ASTM C-33)

4. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR REVIEW IN ADVANCE OF CONCRETE PLACEMENT. CONCRETE MIX DESIGN SHALL INCLUDE ALL STRENGTH DATA NECESSARY TO SHOW COMPLIANCE WITH THE PROJECT SPECIFICATIONS BY EITHER THE TRIAL BATCH OR FIELD EXPERIENCE METHOD AND SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE. RESULTS OF ALL COMPRESSIVE STRENGTH TESTS SHALL BE MADE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE INSPECTOR.
5. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE.
6. NO ADDITIONAL WATER SHALL BE ADDED TO CONCRETE AT THE JOB SITE.

CONCRETE (cont.)

7. AT LOCATIONS WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, ROUGHEN AND CLEAN INTERFACE AND APPLY BONDING AGENT (SIKADUR 32 HI-MOD OR APPROVED EQUAL).
8. MINIMUM CONCRETE COVER UNLESS NOTED OTHERWISE:
   A. INTERIOR CONCRETE NOT EXPOSED TO EARTH OR Weather
      #11 BARS AND SMALLER: 3/4 INCHES
   B. UNFORMED SURFACE IN CONTACT WITH THE GROUND: 3 INCHES
   C. BASEMENT WALLS: 2 INCHES EXT, 3/4 INCHES INT
   D. FORMED SURFACES EXPOSED TO EARTH OR WEATHER:
      #6 BARS AND LARGER: 2 INCHES
      #5 BARS AND SMALLER: 1 1/2 INCHES
   E. FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:
      BEAMS, GIRDERS AND COLUMNS: 1 1/2 INCHES
      SLABS, WALLS, AND JOISTS: 3/4 INCHES
9. SLAB-ON-GRADE SHALL BE SAW CUT IMMEDIATELY AFTER CONCRETE HARDENS. CONTRACTOR TO SUBMIT LAYOUT AND CONSTRUCTION SCHEDULE ("SOFT-CUT" INTERNATIONAL OR SIM.)
10. PROVIDE TEMPORARY SHORING AND BRACING OF ALL STRUCTURAL AND MISCELLANEOUS ELEMENTS UNTIL CONCRETE HAS OBTAINED 80% OF DESIGN STRENGTH AND ALL PERMANENT BRACING ELEMENTS ARE INSTALLED.
11. PLACEMENT OF CONCRETE, COLD WEATHER AND HOT WEATHER PRECAUTIONS, MATERIAL, AND PROPORTIONING REQUIREMENTS, REBAR COVER AND DETAILING SHALL CONFORM TO REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318-11.
12. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS FOR SLAB FINISHES, SLAB DEPRESSIONS, ELEVATIONS AND ENCASED OR EMBEDDED ITEMS.
13. PIPES AND CONDUITS EMBEDDED IN CONCRETE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. PIPES AND CONDUITS EMBEDDED IN CONCRETE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
      NO MATERIAL HARMFUL TO CONCRETE (SUCH AS, BUT NOT LIMITED TO, ALUMINUM) IS PERMITTED.
   B. NO EMBEDMENT OR PENETRATION WHICH IMPAIRS THE STRUCTURAL STRENGTH OR INTEGRITY IS PERMITTED.
   C. CONDUITS AND PIPES SHALL NOT HAVE A DIAMETER THAT EXCEEDS 1/3 THE OVERALL THICKNESS OF THE STRUCTURAL ELEMENT IN WHICH THEY ARE EMBEDDED.
   D. MINIMUM CENTER TO CENTER SPACING SHALL NOT BE CLOSER THAN 3 DIAMETERS OR WIDTHS.
   E. PLACEMENT SHALL OCCUR ABOVE BOTTOM LAYER OF REINFORCEMENT AND BELOW TOP LAYER OF REINFORCEMENT AND SHALL NOT CAUSE REINFORCEMENT TO BE CUT, BENT, OR DISPLACED IN ANY MANNER.
   F. PLACEMENT SHALL MAINTAIN A MINIMUM CLEARANCE FROM REINFORCEMENT OF 3 REINFORCING BAR DIAMETERS OR 3/4" FROM WELDED WIRE FABRIC REINFORCEMENT.
   G. PLUMBING AND ELECTRICAL CONDUITS SHALL BE PLACED BELOW SLAB ON GRADE.
14. UNLESS NOTED OTHERWISE, PROVIDE CONSTRUCTION JOINTS IN SLABS ON GRADE AT APPROXIMATELY 50 FEET IN EACH DIRECTION. PROVIDE CONTROL JOINTS IN SLABS ON GRADE NOT TO EXCEED 15 FEET ON CENTER IN EACH DIRECTION, UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.
15. FORMING SHALL BE OF WOOD, STEEL, OR FIBERGLASS OF GOOD FACTORY QUALITY AND CONDITION.
16. NO ADMIXTURES SHALL BE ADDED TO THE CONCRETE UNLESS APPROVED BY THE ENGINEER.
17. REINFORCING SHALL CONFORM TO ASTM A615, GR60 UNLESS NOTED OTHERWISE.
18. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 GRADE 60.
19. REINFORCING STEEL AND ACCESSORIES SHALL BEDETAILED IN ACCORDANCE WITH ACI 315-99 (MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES) AND CRSI MSP-1 "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
20. ALL CONTINUOUS REINFORCEMENT SHALL HAVE MINIMUM LAP OF "B" TYPE (ACI 318-11, SECTION 12.15.1) AT SPLICES UNLESS NOTED OTHERWISE.
21. PROVIDE REINFORCING CHAIRS FOR ALL SLAB-ON-GRADE REINFORCING. WELDED WIRE FABRIC REINFORCING SHALL NOT BE "PULLED UP" DURING PLACEMENT.
22. SUBMIT REINFORCING PLACEMENT AND DETAIL (SHOP) DRAWINGS FOR REVIEW. NO REINFORCING BARS SHALL BE INSTALLED UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND RETURNED.
23. ALL REINFORCING SHALL BE SUPPORTED IN FORMS SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER IN ACCORDANCE WITH CRSI "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
24. WHERE WELDED WIRE FABRIC REINFORCEMENT IS SPECIFIED IN SLABS ON GRADE PLACEMENT SHALL BE 1" BELOW TOP OF SLAB FOR 4" THICK SLABS OR 2" BELOW TOP OF SLAB FOR 6" THICK SLABS. OVERLAP EACH REINFORCING SHEET TWO FULL PANELS AND TIE CROSS WIRES ON EACH SIDE.
25. SCHEDULED OR DETAILED REINFORCING STEEL SHALL NOT BE TACK WELDED FOR ANY REASON. WELDED REINFORCING STEEL AND/OR SPLICES ARE PERMITTED ONLY WHERE SHOWN ON DRAWINGS. WHERE WELDING IS PERMITTED IT SHALL CONFORM TO AWS D1.4, STRUCTURAL WELDING CODE - REINFORCING STEEL.
26 BASE PLATES, ANCHOR RODS, SUPPORT ANGLES, ETC. BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 4" OF CONCRETE.
27 WHERE FOOTINGS, WALLS, OR OTHER STRUCTURAL ELEMENTS INTERSECT, CORNER OR TEE, PROVIDE CORNER BARS WITH REQUIRED LAP LENGTHS TO PROVIDE CONTINUITY OF HORIZONTAL STEEL REINFORCING UNLESS NOTED OTHERWISE.
28. WHERE DOWELS, BOLTS OR INSERTS ARE CALLED TO BE ANCHORED TO CAST IN PLACE OR PRECAST CONCRETE ELEMENTS USING EPOXY ADHESIVES, USE ANCHORAGE SYSTEM EQUAL TO HILTI HIT DOWELING (HY-200 MAX). FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS. ALTERNATE ANCHORAGE SYSTEMS MAY BE PERMITTED WITH STRUCTURAL ENGINEER'S APPROVAL.
29. CONTRACTOR SHALL INCLUDE IN THE BID XX CU YARDS OF UNSCHEDULED CONCRETE (3,000 PSI) TO BE POURED AS DIRECTED BY THE ENGINEER.

STRUCTURAL STEEL

DESIGN CODE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION "STEEL CONSTRUCTION MANUAL, FOURTEENTH EDITION - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC)

1. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:

STRUCTURAL W-SHAPES	ASTM A992 (Fy=50ksi)
ALL CHANNELS, ANGLES, PLATES, ETC. (UNO)	ASTM A36 (Fy=36ksi)
STRUCTURAL TUBES	ASTM A500 GRADE B (Fy=46ksi)
STEEL PIPE	ASTM A501 (Fy=36ksi)
ANCHOR RODS	ASTM F1554 (Fy=36ksi)
HIGH STRENGTH BOLTS	ASTM A325
HEX NUTS - GRADE A	ASTM A563
WELDING ELECTRODES	E70xx HARDENED STEEL
WASHERS - TYPE I	ASTM F436

2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (2010) EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
3. THE STEEL STRUCTURE IS A NON-SELF-SUPPORTING STEEL FRAME AND IS DEPENDENT UPON DIAPHRAGM ACTION OF THE METAL ROOF DECK AND ATTACHMENT TO THE MASONRY WALLS FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. PROVIDE ALL TEMPORARY SUPPORTS REQUIRED FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES UNTIL THESE ELEMENTS ARE COMPLETE AND ARE CAPABLE OF PROVIDING THIS SUPPORT.
4. THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS. CONNECTIONS SHOWN ARE SCHEMATIC AND ARE ONLY INTENDED TO SHOW THE RELATIONSHIP OF MEMBERS CONNECTED. CONNECTION DETAILS INDICATED ON THE DRAWINGS SHALL BE INCORPORATED INTO FABRICATOR'S CONNECTION DESIGN ONLY AS THEY ARE DEEMED APPROPRIATE AND ADEQUATE. BOLTED CONNECTIONS SHALL BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC-2009 "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS".
5. SPLICING OF STEEL MEMBERS UNLESS SHOWN ON THE DRAWINGS IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
6. NO HOLES SHALL BE CUT IN ANY STEEL ELEMENT UNLESS THEY ARE DETAILED ON THE DRAWINGS.
7. UNLESS NOTED OTHERWISE, BEAMS SHALL BE [illegible]" MINIMUM ON CONCRETE OR MASONRY. ANCHOR BEAMS TO MASONRY WITH 5/8" DIAMETER ANCHOR RODS WITH 1'-0" EMBEDMENT IN GROUT FILLED MASONRY.
8. WHERE BEAMS INTERSECT AT THE TERMINATING ELEVATION OF A COLUMN, THE BEAM WITH THE GREATEST REACTION SHALL BEAM ON TOP OF THE COLUMN. WHERE BEAMS INTERSECT AT AN INTERMEDIATE ELEVATION OF A COLUMN, THE FRAMING BEAMS SHALL BE CONNECTED TO THE COLUMNS WITH SEAT WT CONNECTIONS. PLATE CONNECTIONS ARE NOT PERMITTED.
9. CONNECTIONS FOR NON-STANDARD BEAMS WHICH CANNOT CONFORM TO AISC TYPICAL CONNECTION DETAILS SHALL BE DETAILED IN ACCORDANCE WITH THE FOLLOWING:
   A. WHERE BEAM REACTIONS ARE NOT SHOWN ON THE DRAWINGS, CONNECTIONS SHALL BE DESIGNED FOR 1/2 THE MAXIMUM UNIFORM LOAD WHICH THE BEAM WILL SUPPORT (AS SIMPLE SPAN) FOR THE SPAN SHOWN ON THE DRAWINGS.
   B. WHERE CONNECTIONS ARE SUBJECT TO ECCENTRICITY, SUCH ECCENTRICITY SHALL BE TAKEN INTO ACCOUNT WHEN DESIGNING THE CONNECTION.
   C. WHERE CONNECTIONS SUPPORT BEAMS WHICH ARE SUBJECT TO CONCENTRATED LOADS, SUCH CONCENTRATED LOADS SHALL BE TAKEN INTO ACCOUNT WHEN DESIGNING THE CONNECTION.
   D. BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH A325 BOLTS. MINIMUM DIAMETER OF BOLTS SHALL BE 3/4", MAXIMUM DIAMETER OF BOLTS SHALL BE 1 1/8". PROVIDE AT LEAST (2) BOLTS PER CONNECTION. TIGHTENED "SNUG TIGHT".
   E. END CONNECTIONS OF FLOOR MEMBERS SHALL ACCOMODATE END ROTATIONS OF SIMPLE, UNRESTRAINED BEAMS. FOR THIS PURPOSE, INELASTIC ACTION IN THE CONNECTION IS PERMITTED.
   F. COPED OR CUT ENDS OF MEMBERS SHALL BE REINFORCED WHERE REQUIRED TO SUSTAIN THE SPECIFIED REACTIONS.
10. TENSILE CONNECTIONS SHALL BE DESIGNED FOR A FORCE RESULTING FROM MULTIPLYING THE GROSS AREA BY 20 KSI.
11. FABRICATE AND ERECT MEMBERS WITH NATURAL CAMBER UP.
12. STRUCTURAL STEEL CONTRACTOR TO PROVIDE DECK SUPPORT ANGLES AS REQ'D (L3x3x3/16 MINIMUM, UNO). THE CONTINUOUS ANGLE AT THE ROOF PERIMETER SHALL BE SPLICED SUCH THAT THE FULL TENSION FORCE THAT CAN 13.BE DEVELOPED BY THE ANGLE WILL BE TRANSFERRED THROUGHOUT THE SPLICE.
13. UNLESS OTHERWISE SHOWN ON DRAWINGS, SIZE OF WELDS SHALL NOT BE SMALLER THAN 3/16". ALL WELDED JOINTS SHALL CONFORM TO THE PROVISIONS OF AWS D1.1, STRUCTURAL WELDING CODE BY AMERICAN WELDING SOCIETY. PROOF OF WELDER CERTIFICATION SHALL BE AVAILABLE AT THE JOB SITE.
14. THE CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST, ALL ADDITIONAL STEEL CONNECTIONS, GUYING, ETC. REQUIRED FOR ERECTION.
15. OBTAIN ALL FIELD MEASUREMENTS REQUIRED FOR PROPER FABRICATION AND INSTALLATION OF WORK PRIOR TO DETAILING. PRECISE MEASUREMENTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
16. PROVIDE STIFFENERS FINISHED TO BEAR UNDER ALL LOAD CONCENTRATIONS ON SUPPORTING MEMBERS, ON ALL MEMBERS FRAMING OVER COLUMNS, AT BEAM COLUMN JOINTS (AS REQUIRED BY THE AISC SPECIFICATIONS) AND WHERE SHOWN ON THE DRAWINGS.
17. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND ELEVATIONS OF LOOSE LINTELS.
18. THE FABRICATOR SHALL BE RESPONSIBLE FOR ALL ERRORS OF DETAILING ON THE SHOP DRAWINGS, ERRORS IN FABRICATION, AND FOR THE CORRECT FITTING OF STRUCTURAL STEEL MEMBERS.
19. WELDING INSPECTION SHALL MEET REQUIREMENTS AS STATED IN THE SCHEDULE OF SPECIAL INSPECTIONS.
20. ALL STRUCTURAL STEEL NOT RECEIVING FIRE PROOFING SHALL RECEIVE ONE SHOP COAT OF RUST INHIBITIVE PRIMER.
21. STEEL AND COLUMN BASE PLATES SHALL HAVE A MINIMUM 4" CONCRETE COVER PROTECTION.
22. PACK UNDER BASE PLATES WITH NON-SHRINK, HI-STRENGTH GROUT (MIN 6,000 PSI) AFTER SETTING AND LEVELING.
23. SEE ARCHITECTURAL CONTRACT DOCUMENTS FOR REQUIREMENTS REGARDING ARCHITECTURALLY EXPOSED STRUCTURAL STEEL. ALL EXPOSED WELDED CONNECTIONS SHALL BE GROUND SMOOTH AND SUBJECT TO APPROVAL BY ARCHITECT. FABRICATOR SHALL ALTER JOINT AS NECESSARY TO MAINTAIN MINIMUM REQUIRED EFFECTIVE THROAT.
24. CONTRACTOR SHALL INCLUDE IN THE BID XX TONS OF UNSCHEDULED A36 STRUCTURAL STEEL TO BE CUT AND PLACED AS DIRECTED BY THE EOR.

POST-INSTALLED ANCHORS

1. POST-INSTALLED ANCHORS SHALL INCLUDE ADHESIVE AND MECHANICAL ANCHORS.
2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
3. CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REBAR WHEN DRILLING HOLES. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS.
4. ANCHORS SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACINGS INDICATED IN THE MANUFACTURER'S LITERATURE.
5. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAY