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GENERAL STRUCTURAL NOTES

**1 BUILDING CODE:**  
 1.1 THE 2015 SOUTH CAROLINA STATE BUILDING CODE.  
 1.2 BASED ON THE 2015 INTERNATIONAL BUILDING CODE.

**2 DESIGN LOADS:**  
 2.1 DESIGN LOADS:  
 SNOW: GROUND.....10 PSF  
 LIVE.....20 PSF (REDUCIBLE)  
 WIND: BASIC WIND SPEED, V.....132 MPH (ULTIMATE)  
 EXPOSURE.....C  
 SEISMIC DATA: SITE CLASS.....D  
 RISK CATEGORY.....II  
 SEISMIC DESIGN CATEGORY.....D  
 S<sub>s</sub>.....0.938  
 S<sub>1</sub>.....0.298  
 S<sub>0.1</sub>.....0.703  
 S<sub>0.2</sub>.....0.359

**3 GENERAL NOTES:**  
 3.1 CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE SAFETY OF PERSONS AND PROPERTY. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.  
 3.2 THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. DURING ERECTION OF THE STRUCTURE, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR TEMPORARY GUYING, SHORING, BRACING, FORMING, ETC. TO HOLD THE STRUCTURE IN PROPER ALIGNMENT AND TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING LATERAL LOADS, TEMPERATURE DIFFERENTIALS, STOCKPILES OF MATERIAL AND EQUIPMENT. SUCH MEASURES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY AND UNTIL ALL FRAMING AND CONNECTIONS ARE IN PLACE. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF SUCH TEMPORARY MEASURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.  
 3.3 DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN. SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW BY THE ENGINEER.  
 3.4 ARCHITECTURAL DRAWINGS, MECHANICAL DRAWINGS, ELECTRICAL DRAWINGS, TELECOMMUNICATION DRAWINGS, FIRE PROTECTION DRAWINGS, EQUIPMENT DRAWINGS AND RELATED ITEMS ARE BY OTHERS.  
 3.5 CONTRACTOR AND SUBCONTRACTORS SHALL THOROUGHLY REVIEW ALL DRAWINGS AND SPECIFICATIONS PRIOR TO SUBMITTING BIDS. MISCELLANEOUS FASTENERS, CLIPS, ETC. THAT ARE NOT DETAILED ON THE DRAWINGS BUT ARE PART OF THE REQUIREMENTS FOR FULL INSTALLATION OF ALL STRUCTURAL SYSTEMS ARE TO BE PART OF THE BID. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT BID.  
 3.6 DURING THE BIDDING STAGE, CONTRACTOR SHALL REQUEST AN INTERPRETATION OF CONFLICTS PRIOR TO BIDDING. IF REQUEST IS MADE, BOTH PROVISIONS SHALL BE PRESUMED TO BE INCLUDED IN THE BID AND THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH PROVISION GOVERNS, AND THE CONTRACTOR SHALL PERFORM THE WORK AT NO ADDITIONAL COST TO THE OWNER.  
 3.7 ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONSTRUCTION DOCUMENTS AND/OR SPECIFICATIONS AND/OR EXISTING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.  
 3.8 THE CONTRACTOR SHALL COORDINATE STRUCTURAL WORK WITH ALL DISCIPLINES PRIOR TO INSTALLING STRUCTURAL COMPONENTS.  
 3.9 MECHANICAL UNITS SUPPORTED BY ROOF STRUCTURE ARE SUBJECT TO THE ACCEPTANCE OF THE STRUCTURAL ENGINEER.  
 3.10 DO NOT HANG ANYTHING FROM THE EXISTING ROOF DECK.

**4 EXISTING CONSTRUCTION:**  
 4.1 WHEREVER APPLICABLE, PRIOR TO FABRICATION AND CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS, DETAILS OF EXISTING STRUCTURAL CONNECTIONS AND OTHER CONDITIONS WHERE THEY AFFECT THIS CONSTRUCTION. NOTIFY THE ENGINEER IF THERE ARE ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS. CONSULT WITH THE STRUCTURAL ENGINEER BEFORE MAKING ANY MODIFICATIONS TO THE EXISTING STRUCTURE NOT INDICATED ON THE CONTRACT DOCUMENTS.  
 4.2 BEFORE PROCEEDING WITH ANY WORK WITHIN THE EXISTING FACILITY, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE EXISTING STRUCTURE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY BRACING, SHORING AND OTHER SAFETY MEASURES TO MAINTAIN ALL PARTS OF THE EXISTING WORK IN A SAFE CONDITION DURING THE PROCESS OF DEMOLITION AND CONSTRUCTION AND TO PROTECT FROM DAMAGE THOSE PORTIONS OF THE EXISTING WORK WHICH ARE TO REMAIN.  
 4.3 THE CONTRACTOR SHALL CONSIDER ALL HAZARDS DUE TO WELDING WITHIN THE EXISTING FACILITY, INCLUDING FIRE HAZARD, TOXIC AND CORROSIVE HAZARDS AND LIQUEFACTION OF MEMBERS UNDER LOAD. VERIFY THE PRESENCE OF ANY TOXIC MATERIALS PRIOR TO BEGINNING WORK OR SUBMITTAL OF FINAL PRICE.

**5 STRUCTURAL STEEL:**  
 5.1 DESIGN CODE: FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS (AISC 360), LATEST ADOPTION.  
 5.2 MATERIAL SPECIFICATIONS (UNLESS NOTED OTHERWISE):  
 STRUCTURAL STEEL WIDE FLANGE.....ASTM A992  
 OTHER STRUCTURAL STEEL ROLLED SHAPES, PLATES & BARS.....ASTM A36  
 HOLLOW STRUCTURAL SECTIONS.....ASTM A500, GR B  
 BREADED RODS.....ASTM A36  
 WELDS (E/XX ELECTRODES).....AWS D1.1  
 ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED ACCORDING TO THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), LATEST ADOPTION, PROVISION 4.4 AND APPENDIX A OF THE AISC CODE OF STANDARD PRACTICE ARE SPECIFICALLY DELETED FROM THE PROJECT CONTRACT DOCUMENTS. THE FABRICATOR SHALL PROVIDE ITS SCHEDULE FOR THE SUBMITTAL OF SHOP AND ERECTION DRAWINGS A MINIMUM OF 14 DAYS PRIOR TO FIRST SUBMITTAL.  
 5.4 ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1, UNLESS OTHERWISE NOTED, PROVIDE CONTINUOUS FILLET WELDS PER AISC REQUIREMENTS MEETING MINIMUM THICKNESSES ALLOWED PER THICKNESS OF MATERIAL WELDED. ALL FILLER MATERIAL SHALL HAVE A MINIMUM YIELD STRENGTH OF 58 KSI.  
 5.5 HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. ALL SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE ARE NOT PERMITTED.

**6 POST-INSTALLED FASTENING:**  
 6.1 POST-INSTALLED SYSTEMS ARE BASED ON THE FOLLOWING (UNLESS NOTED OTHERWISE):

DESCRIPTION	ANCHOR/ADHESIVE	APPLICATIONS
ADHESIVES	HILTI HIT-HY 200 OR POWERS AC 100+	CONCRETE (EXCLUDES PRECAST HOLLOW-CORE)
MECHANICAL ANCHOR	HILTI KWIK HUS-EZ OR SIMPSON TITEN HD	
POWDER-ACTUATED FASTENERS	HILTI X-J 32	COLD-FORMED STEEL FRAMING TO CONCRETE OR MASONRY

SUBSTITUTIONS WILL BE CONSIDERED PROVIDED THE CONTRACTOR SUPPLIES DOCUMENTATION OF EQUAL OR GREATER CAPACITY BASED ON ANCHOR SIZE, EMBEDMENT DEPTH, SPACING AND EDGE DISTANCE.

6.1.1 POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

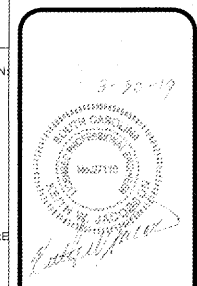
**7 COLD-FORMED STEEL FRAMING:**  
 7.1 DESIGN, FABRICATION AND ERECTION COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI S100), LATEST ADOPTION.  
 7.2 DETAILS SHOWN ON THE DRAWINGS ARE INTENDED TO EXPRESS A DESIGN MINIMUM PERFORMANCE.  
 7.2.1 FURNISH BRIDGING, BLOCKING, CLIP ANGLES, BRACING, REINFORCEMENTS, FASTENERS AND ALL OTHER ACCESSORIES FOR COMPLETE INSTALLATION AS RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION INDICATED. ALL BRIDGING (IF REQUIRED) SHALL BE INSTALLED PRIOR TO THE ADDITION OF ANY LOADING.  
 7.3 STUDS AND ACCESSORIES SHALL BE GALVANIZED WITH A G-60 COATING MEETING THE REQUIREMENTS OF ASTM A853.  
 7.4 ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER AWS STANDARDS, IN CONFORMANCE WITH AWS SPECIFICATION D1.3. CONSULT AWS D19.0 WELDING ZINC COATED STEEL.  
 7.5 ALL FIELD WELDS AND SURFACES ABRASSED DURING SHIPPING OR ERECTION SHALL BE TOUCHED UP WITH ZINC RICH PAINT IMMEDIATELY AFTER ERECTION.  
 7.6 NOTCHING OR COPING OF STUDS IS NOT ALLOWED, UNLESS NOTED OTHERWISE.  
 7.7 SPLICES IN AXIALLY LOADED STUDS ARE NOT PERMITTED.  
 7.8 END OF STUDS SHALL FIRMLY AND SQUARELY SEAT TO RUNNER TRACKS, TOP AND BOTTOM.  
 7.9 SECURELY ANCHOR ALL GIRTS AND PURLINS TO EACH OTHER AND TO THE SUPPORTING STRUCTURE.  
 7.10 RUNNER TRACK SHALL BEAR FULLY ON SUPPORTING STRUCTURE AND SHALL BE FASTENED TO CONCRETE WITH POWDER-ACTUATED FASTENERS PER THE POST-INSTALLED FASTENER SECTION AND SHALL MATCH SPACING OF EACH VERTICAL STUD, UNLESS NOTED OTHERWISE.  
 7.11 TOP TRACK CONNECTIONS OF NON-LOAD BEARING WALLS SHALL PROVIDE FOR A 1/2" MINIMUM VERTICAL DEFLECTION OF SPANDREL BEAMS, GIRDERS, ETC., UNLESS NOTED OTHERWISE.  
 7.12 PROVIDE DOUBLE JACK STUDS AT ALL BEAM AND TRUSS BEARINGS, UNLESS OTHERWISE NOTED.  
 7.13 PROVIDE WEB STIFFENERS AT JOIST AND RAFTER BEARINGS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.  
 7.14 THE GAUGE OF ALL CONNECTING ELEMENTS, INCLUDING TRACKS, SHALL BE NO LIGHTER THAN THE GAUGE OF THE MEMBER BEING CONNECTED.

**8 SUBMITTALS:**  
 8.1 GENERAL SUBMITTAL REQUIREMENTS  
 8.1.1 CONTRACTOR SHALL REVIEW, STAMP, SIGN AND DATE ALL SUBMITTALS PRIOR TO FORWARDING TO ARCHITECT/ENGINEER. THE ENGINEER'S REVIEW IS FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SUBMITTALS. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS IN THE SUBMITTALS.  
 8.1.2 SHOP DRAWINGS SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. DRAWINGS LISTED BELOW AS "CERTIFIED" SHALL BEAR THE SIGNED AND DATED SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. IN NO CASE SHALL REPRODUCTIONS OF THE CONTRACT DRAWINGS BE USED AS SHOP DRAWINGS. DRAWINGS SHALL SHOW ERECTION PLANS, DIMENSIONS, BRACING AND BRIDGING REQUIREMENTS, DETAILS, SUPPORTED MECHANICAL EQUIPMENT AND PIPING. SUBMITTALS ARE REQUIRED.  
 8.1.3 SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED PRIOR TO FABRICATION.  
 8.2 STRUCTURAL STEEL  
 8.2.1 SHOP DRAWINGS

**9 SPECIAL INSPECTION:**  
 9.1 SPECIAL INSPECTION IS REQUIRED IN ACCORDANCE WITH IBC SECTION 1701 THE FOLLOWING PORTIONS OF CONSTRUCTION:  
 9.2 STRUCTURAL WELDING;  
 9.2.1 ONLY APPROVED FABRICATORS IN ACCORDANCE WITH IBC 1704.2.2 SHALL BE USED.  
 9.2.2 FULL TIME INSPECTION IN ACCORDANCE WITH AISC 341 SHALL BE REQUIRED EXCEPT FOR THE FOLLOWING ITEMS WHICH REQUIRE PERIODIC INSPECTION, INCLUDING 100% VISUAL INSPECTION:  
 9.2.3 SINGLE-PASS FIELD-PERFORMED FILLET WELDS NOT EXCEEDING 5/16"  
 9.2.4 VERIFICATION OF WELDER QUALIFICATIONS, WELDING PROCEDURES AND MATERIALS.  
 9.2.5 PERIODIC INSPECTION, INCLUDING RANDOM VERIFICATION OF PROPER TIGHTENING.  
 9.3 POST-INSTALLED ANCHORS;  
 9.3.1 INSTALLATION OF ADHESIVE AND MECHANICAL ANCHORS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED BY THE BUILDING OFFICIAL.  
 9.4 REPORTS FOR THE ABOVE SHALL BE SUBMITTED TO THE ENGINEER. ALL REPORTS SHALL CLEARLY INDICATE COMPLIANCE OR NON-COMPLIANCE.  
 9.5 THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR AT LEAST 48 HOURS IN ADVANCE FOR WORK THAT WILL REQUIRE INSPECTION OR TESTING.  
 9.6 UPON COMPLETION OF EACH PHASE OF THE WORK, THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER STATING COMPLIANCE WITH AND VARIANCES FROM THE PROJECT REQUIREMENTS (IF ANY).  
 9.7 UPON COMPLETION OF THE PROJECT, THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER STATING COMPLIANCE WITH THE PROJECT REQUIREMENTS INCLUDING MEASURES TAKEN TO CORRECT PREVIOUSLY IDENTIFIED NON-COMPLYING ITEMS.

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	AWS	AMERICAN WELDING SOCIETY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
AISI	AMERICAN IRON AND STEEL INSTITUTE	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS



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**PROJECT:**  
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**GENERAL STRUCTURAL NOTES**

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DESIGNED BY: AAD TJM/MSN  
 DATE: 03/29/2019  
 REVISION: BID SET  
 PROJECT NUMBER: 19035-HLL  
 SHEET NUMBER: 50