GENERAL STRUCTURAL NOTES

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR AND SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND ENGINEERS.
2. DETAILS SHOWN IN ANY SECTION APPLY TO ALL SIMILAR SECTIONS AND CONDITIONS UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT ALL WORK IN PROGRESS UNTIL THE BUILDING IS COMPLETED.
4. ALL STRUCTURAL ITEMS FOR THIS PROJECT HAVE BEEN DESIGNED IN ACCORDANCE WITH APPROPRIATE PROVISIONS OF EACH OF THE FOLLOWING:
   A. THE FLORIDA BUILDING CODE, (SIXTH EDITION) 2017.
   B. ACI STANDARD 318-14 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
   C. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13/ASCE 5-13/TMS 402-16).
   D. AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" 360-10.
   E. ASCE 7-10 (WITH ERRATA DATED JANUARY11, 2011) "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES".
5. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND THE ARCHITECTURAL AND MECHANICAL DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT PRIOR TO PERFORMING WORK. IN CASE OF CONFLICT THE MOST STRINGENT CONDITION SHALL APPLY.
6. ALL DIMENSIONS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND WITH EQUIPMENT MANUFACTURER (I.E. WINDOW, DOOR, AIR HANDLER, ETC.). CONTRACTOR MUST OBTAIN AN ARCHITECTURAL DIRECTIVE IN CASE OF ANY CONFLICT. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN IN STRUCTURAL DRAWINGS.
7. ROOFTOP EQUIPMENT ANCHORAGE & OUTDOOR RACK MOUNTED EQUIPMENT ANCHORAGE. ALL ROOF TOP EQUIPMENT CURBS, ROOF TOP MECHANICAL EQUIPMENT, EQUIPMENT TIE DOWNS, AND CONNECTIONS OF ALL EQUIPMENT TO OUTDOOR RACKS OR BUILDING STRUCTURE FOR WIND LOADING ARE TO BE DESIGNED AND ENGINEERED BY A REGISTERED SPECIALTY ENGINEER RETAINED BY THE MECHANICAL EQUIPMENT SUPPLIER. SIGNED AND SEALED DRAWINGS AND CALCULATIONS ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL. THE EQUIPMENT MANUFACTURER SHALL PROVIDE THE ATTACHMENT OF THE UNIT TO THE STRUCTURE AND SUBMIT TO THE ENGINEER LOADS, LOCATIONS, AND METHODS OF ATTACHMENT. THE STRUCTURAL ENGINEER WILL MAKE PROVISIONS IN THE DESIGN OF THE PRIMARY STRUCTURAL FRAME TO ACCOMMODATE THE LOADS AND ATTACHMENTS SUBMITTED BY THE MANUFACTURER.

CONCRETE AND REINFORCING:

1. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI-318".
2. ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTHS AS INDICATED BELOW:

CONCRETE STRENGTH	MAX WATER CEMENT RATIO	TYPE AGGREGATE	LOCATION USED
4000 PSI	0.45	STONE	CONCRETE U.N.O.
3000 PSI	0.52	STONE	FOUNDATION

3. ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE, NEW BILLET STEEL, DEFORMED BARS, CONFORMING TO ASTM A-615, GRADE 60. ALL BARS SHALL BE SECURELY SUPPORTED AND WIRED IN PLACE. PRIOR TO POURING CONCRETE. ALL REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A-706.
4. ALL WELDED WIRE FABRIC (W.W.F.) IN FLAT SHEETS ONLY AND SHALL CONFORM TO ASTM A-185.
5. UNLESS NOTED, ALL BARS MARKED CONTINUOUS SHALL BE SPLICED AT ALL LAP POINTS AND CORNERS AND DEVELOPED AT NON-CONTINUOUS ENDS AS PER TYPICAL DETAILS. SPLICE CONTINUOUS TOP BARS AT CENTER BETWEEN SUPPORTS AND SPLICE CONTINUOUS BOTTOM BARS AT SUPPORTS.
6. CONCRETE COVER FOR REINFORCING BARS SHOWN IN TYPICAL DETAILS.
7. UNLESS NOTED, TEMPERATURE REINFORCING (ASTM A-615-60) TO BE 0.0018 X CONCRETE AREA.
10. WHERE PIPE SLEEVES (UP TO 2" IN DIAMETER) PASS THROUGH CONCRETE BEAMS, PROVIDE ADDITIONAL STIRRUP EACH SIDE OF SLEEVE, SLEEVES FOR PIPES 2" IN DIAMETER OR LARGER MUST BE STEEL OR CAST IRON, AND THE LOCATION MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
11. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED JUST BEFORE PLACING NEW CONCRETE IN ACCORDANCE WITH THE BUILDING CODE.
12. FOR CHAMFER OF EXPOSED CORNERS OF BEAMS AND/OR COLUMNS, SEE ARCHITECTURAL DRAWINGS.
13. CONTRACTOR SHALL COORDINATE PLACEMENT OF, OR BOX OUT FOR, ALL PIPE SLEEVES, OPENINGS, ETC, REQUIRED FOR VARIOUS TRADES.
14. CONTRACTOR SHALL COORDINATE AND NOTIFY OTHER TRADES IN SUFFICIENT TIME TO ALLOW THEM TO SET ANCHORS, INSERTS, BOLTS, HANGERS, ETC., AS REQUIRED FOR THEIR USE.
15. SEE ARCHITECTURAL DRAWINGS FOR DETAILS OF FLASHING REGLETS, FASCIA DETAILS, ETC.
16. ALUMINUM PIPES. CONCRETE SHALL NOT BE PLACED IN CONTACT WITH ALUMINUM, ALUMINUM MIXING DRUMS, TRUCK MIXERS, BUGGIES, CHUTES, CONVEYORS, TREMIE PIPES, AND OTHER EQUIPMENT MADE OF ALUMINUM SHALL NOT BE USED ON THIS PROJECT.
17. SLUMPS OF OVER 4 INCHES WILL NOT BE PERMITTED UNLESS THE HRWR ADMIXTURE (SUPER PLASTICIZER) IS USED. MAXIMUM SLUMP IS THEN 8 INCHES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
18. NO ADMIXTURE SHALL BE USED IN CONCRETE EXCEPT WITH THE PERMISSION OF THE ENGINEERS AND AFTER LABORATORY DESIGN MIX APPROVAL. ALL ADMIXTURES SHALL CONTAIN NO MORE CHLORIDE IONS THAN ARE PRESENT IN MUNICIPAL DRINKING WATER.
19. WATER REDUCING ADMIXTURE SHALL CONFORM TO THE ASTM C-494 TYPE A, AND SHALL BE USED IN ALL CONCRETE.
20. AIR ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260. AIR CONTENT OF CONCRETE SHALL BE USED AS FOLLOWS:
    A. FOR CONCRETE EXPOSED TO SOIL AND/OR WEATHER, 5%.
    B. FOR INTERIOR WALLS, COLUMNS AND SLABS, 3%.
21. FLY ASH - ASTMC618, TYPE C OR TYPE F SHOULD BE USED BUT NOT TO EXCEED 20% CEMENTITIOUS CONTENT.
22. ALL EXPOSED CONCRETE SLABS SHALL RECEIVE A CURING COMPOUND. THE CURING COMPOUND SHALL CONFORM TO ASTM C309 AND SHALL HAVE 30% SOLIDS MINIMUM. WATER/BLANKET CURING AS PER ACI RECOMMENDATION MAY BE USED AS ALTERNATE.

FOUNDATION NOTES:

1. SITE SOIL FOR THIS PROJECT HAS BEEN INVESTIGATED BY THE FIRM OF MORTENSEN ENGINEERING INC. AND FOUND, AS PRESENTED IN THEIR REPORT DATED OCTOBER 24, 2017, SUITABLE TO SUPPORT 2.5 KSF SPREAD FOOTINGS. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE ABOVE STATED CRITERIA.
2. FILL AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER RECOMMENDATION AS CONTAINED IN THEIR REPORT STATED IN ITEM 1.
3. ALL COLUMN FOOTINGS SHALL BE CENTERED UNDER COLUMN CENTERLINES UNLESS OTHERWISE NOTED.
4. BACKFILLING AGAINST FOUNDATION WALLS SHALL BE DONE CAREFULLY WITH SMALL COMPACTION EQUIPMENT, AFTER SLABS ON GROUND ARE IN PLACE AND CONCRETE HAS SET. NO TRUCKS, BULLDOZERS, ETC. SHALL BE ALLOWED CLOSER THAN 6'-0" TO ANY FOUNDATION WALL. ANY WALL 3'-0" OR HIGHER MUST BE BRACED DURING THE CONSTRUCTION PROCESS.
5. NO FOUNDATIONS SHALL BE PLACED ABOVE 1 VERTICAL ON 2 HORIZONTAL SLOPES EXTENDED FROM THE CLOSEST EDGE OF ANY UNDISTURBED SOIL OR OTHER FOUNDATION STRUCTURE. BOTTOM OF FOOTINGS SHALL NOT BE LESS THAN 1'-0" BELOW EXISTING GRADE (U.N.O.).
6. FOR FOUNDATIONS SIZE AND REINFORCING SEE SCHEDULE.
7. ELEVATOR PIT DIMENSIONS = VERIFY WITH ELEVATOR MANUFACTURERS APPROVED SHOP DRAWINGS.
8. WATER PROOFING MATERIALS SHALL BE PROVIDED ON ALL SIDES AND BOTTOM OF ELEVATOR CORE.
9. CONTRACTOR SHALL TREAT SOIL BENEATH BUILDING FOR TERMITES.

MASONRY:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13 / ASCE 5-13) / TMS 402-16 AND SPECIFICATIONS FOR MASONRY STRUCTURES ACI 530.1-13 / ASCE 6-13 (WITH ERRATA DATED JANUARY 10, 2011 / TMS 602-16).
2. MINIMUM NET COMPRESSIVE STRENGTH OF BLOCK ASSEMBLY SHALL BE 2000 P.S.I. (f'm) MORTAR FOR MASONRY SHALL BE TYPE "S" OR "M".
3. FOR ALL EXTERIOR AND INTERIOR BEARING, BED JOINTS ARE TO COVER 100% OF THE MASONRY SURFACES AND ALL HEAD JOINTS ARE TO COVER 100% OF THE PROJECTED AREA OF THE FACE SHELLS.
4. FILL ALL CELLS AS REQUIRED WITH 3000 P.S.I. GROUT. SLUMP SHALL BE 8 TO 11 INCHES. SUBMIT DESIGN MIX FOR APPROVAL.
5. MINIMUM HORIZONTAL JOINT REINFORCING SHALL BE 9 GAGE HOT DIP GALVANIZED TRUSS OR LADDER TYPE JOINT REINFORCING AT 16" O.C., PROVIDE MANUFACTURE "T" AND "L" SHAPES FOR INTERSECTIONS AND CORNERS, (MINIMUM LAP 8").
6. MINIMUM VERTICAL REINFORCING SHALL BE (1)-#5 @ 48" OR (1)-#4 @ 32" O.C., (U.N.O.).
7. PROVIDE ADDITIONAL VERTICAL REINFORCING BAR AT EVERY CORNER, INTERSECTION, CONTROL JOINT, AND OPENING EDGES (U.N.O.).
8. MINIMUM SPLICE FOR VERTICAL REINFORCING IS SHOWN IN DETAIL 4-023, SPLICE FOR HORIZONTAL JOINT REINFORCING = 12".
9. WALLS ARE DESIGNED TO BE BRACED BY FLOOR OR ROOF MEMBERS, CONTRACTOR SHALL PROVIDE TEMPORARY BRACING DURING CONSTRUCTION.
10. ALL CELLS BELOW FIRST FLOOR FINISHED ELEVATION MUST BE FULLY GROUT FILLED.
11. ALL KNOCK OUT BLOCK HORIZONTAL BARS SHALL HAVE CORNER BARS AT ALL CORNERS AND WALL INTERSECTIONS. SIZE AND NUMBER OF CORNER BARS SHALL BE SAME AS HORIZONTAL BARS.
12. ALL INTERSECTING WALLS AND CORNER WALLS SHALL BE LAID IN AN OVERLAPPING MASONRY BONDING PATTERN, WITH ALTERNATE UNITS HAVING A BEARING OF NOT LESS THAN 3 INCHES ON UNIT BELOW.

COMPOSITE METAL FLOOR DECK:

1. STEEL FLOOR DECK SHALL BE AS SPECIFIED IN THE FLOOR FRAMING NOTES ON THE FLOOR PLAN.
2. ALL STEEL FLOOR DECK SHALL BE GALVANIZED G90.
3. ALL STEEL FLOOR DECK SHALL BE CAPABLE OF SUPPORTING ALL CONSTRUCTION LOADS.
4. ALL STEEL FLOOR DECK SHALL BE CONTINUOUS OVER FOUR OR MORE STRUCTURAL SUPPORTS (I.E. DECK SHOULD BE DETAILED FOR A THREE SPAN CONDITION).
5. STEEL FLOOR DECK SHALL HAVE NESTING SIDE LAPS (ATTACHED BY MECHANICAL MEANS) AT THE CENTER OF EACH SPAN OR 30" O/C, WHICHEVER IS LEAST DIMENSION.
6. IF DECK IS CUT IN SINGLE SPAN CONDITION, EACH END OF SUCH SECTIONS SHALL BE WELDED TO ITS SUPPORT THROUGH WELDING WASHERS IN THE BOTTOM OF EACH RIB.
7. IN AREAS WHERE THE DECK IS CUT AS PER NOTE 6, THE GAGE OF THE SINGLE SPAN DECK SHALL BE ADJUSTED UPWARDS AS REQUIRED BY THE ENGINEER TO SUPPORT THE LOADS.
8. ANY ELECTRICAL WORK WEIGHING MORE THAN 5 PSF SHALL BE HUNG FROM STEEL BEAMS ONLY. FOR HANGERS, SEE SPECIFICATIONS. ALL MECHANICAL WORK AND PIPING SHALL BE HUNG FROM STEEL BEAMS. SEE STRUCTURAL STEEL NOTE 12 (OF STRUCTURAL STEEL NOTES) FOR ADDITIONAL STEEL REQUIRED BY MECHANICAL/ELECTRICAL TRADES TO SUPPORT THEIR EQUIPMENT.
9. METAL DECK CONTRACTOR TO PROVIDE 18 GAGE RIDGE PLATE, VALLEY PLATE, EDGE STRIP, ETC. AS REQUIRED.
10. STEEL FLOOR DECK SHALL BE WELDED AT ENDS AND ALL INTERMEDIATE SUPPORTING MEMBERS WITH 5/8" DIAMETER PUDDLE WELDS OR ELONGATED WELDS OF EQUAL STRENGTH SPACED PER SPECIFICATIONS IN THE BOTTOM OF THE RIB ACROSS THE WIDTH OF THE DECK UNIT.
11. CUT OUT METAL DECK WHERE BOLT PROJECTIONS INTERFERE WITH METAL DECK.
12. ANY SINGLE SPAN FLOOR DECK SHALL BE SHORED AT MIDSPAN DURING CONCRETE PLACEMENT. SHORES SHALL REMAIN UNTIL CONCRETE HAS REACHED ITS 28-DAY STRENGTH.
13. DIRECTION OF METAL DECK SHOWN THUS ⟷ ON PLAN.

STEEL JOIST:

1. STEEL JOIST CONSTRUCTION SHALL CONFORM TO THE LATEST SPECIFICATIONS OF, AND THE JOISTS SHALL BE APPROVED BY, THE STEEL JOIST INSTITUTE.
2. UNLESS OTHERWISE NOTED, BEAR SHORT SPAN JOISTS MINIMUM OF 2-1/2" ON STEEL BEAMS AND BEAR LONG SPAN JOIST MINIMUM OF 4" ON STEEL SUPPORTS. IN CASES WHERE JOISTS BEAR ON BEAMS FROM ONE SIDE ONLY, JOIST SEATS SHALL EXTEND A MINIMUM OF 1" PAST THE CENTERLINE OF SUPPORTING BEAM.
3. ALL JOISTS BEARING ON BEAMS SHALL BE WELDED OR BOLTED TO THOSE BEAMS.
4. PROVIDE BRIDGING FOR ALL JOISTS AS SHOWN ON PLAN BUT NOT LESS THAN WHAT IS REQUIRED BY THE STEEL JOIST INSTITUTE OR THE STEEL JOIST DESIGNER. BRIDGING SHALL CONSIST OF MINIMUM 1-1/4" X 1-1/4" X 7/64" ANGLES, (U.N.O.).
5. ALL BRIDGING SHALL BE PROVIDED AND INSTALLED BY JOIST SUPPLIER.
6. ALL CLIPS AND CONNECTIONS SHALL BE SHOP WELDED.
7. NO FIELD WELDING TO BAR JOISTS EXCEPT ITEMS SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS SHALL BE ALLOWED WITHOUT SPECIFIC PERMISSION FROM THE ENGINEER.
8. NO JOIST SHALL BE FIELD SPLICED.
9. MAXIMUM DEFLECTION OF STEEL JOISTS = L/240.
10. FOR PAINTING OF STEEL JOIST, SEE SPECIFICATIONS.
11. JOIST MANUFACTURER SHALL SUBMIT WITH THE SHOP DRAWINGS HIS CATALOG USED FOR THE MANUFACTURE OF JOISTS, INDICATING THE LOAD TABLES AND SIZES OF ALL MEMBERS USED.
12. NO LOADS EXCEEDING 40 POUNDS MAY BE HUNG FROM JOISTS WITHOUT SPECIFIC PERMISSION FROM THE STRUCTURAL ENGINEER. LOADS LESS THAN 40 POUNDS MAY BE HUNG AT PANEL POINTS ONLY. ANY COST INVOLVED IN REINFORCING OF JOISTS SHALL BE BORNE BY THE PRIME CONTRACTOR REQUIRING ADDED LOADS.
13. ALL SHORT SPAN JOISTS, AND DEEP LONG SPAN JOISTS SHALL HAVE UNIFORM CROSS SECTION, WITH STANDARD DEAD LOAD CAMBER. ROOF PITCH IS ACCOMPLISHED BY SLOPED JOISTS AND SUPPORT BEAMS. ADJUST JOIST SEATS AS SHOWN ON DRAWINGS.
14. FOR SPECIFIC JOIST ENDS, SEE ROOF SECTIONS.
15. RIGID CONNECTIONS OF BOTTOM CHORDS OF JOISTS TO COLUMNS SHALL BE MADE ONLY AFTER THE APPLICATION OF ALL THE DEAD LOADS. PROVIDE LOOSE BOLTED CONNECTION OF THESE BOTTOM CHORDS DURING ERECTION.

STEEL ROOF DECK:

1. STEEL ROOF DECK SHALL BE A MINIMUM OF 1-1/2" - 20 GAUGE WIDE RIB FOR SPANS UP TO 6'-0" OR 3" TYPE N - 20 GAUGE FOR SPANS UP TO 12'-0" . THE SIZE, TYPE AND GAUGE INDICATED ABOVE SHOULD BE USED UNLESS A DIFFERENT ONE IS INDICATED IN THE ROOF FRAMING NOTES OF THE ROOF PLAN DRAWING.
2. ALL STEEL ROOF DECK SHALL BE GALVANIZED G90 AS PER ASTM SPECIFICATIONS.
3. ALL STEEL ROOF DECK SHALL BE CAPABLE OF SUPPORTING ALL CONSTRUCTION LOADS.
4. ALL STEEL ROOF DECK SHALL BE CONTINUOUS OVER FOUR OR MORE STRUCTURAL SUPPORTS (I.E. DECK SHOULD BE DETAILED FOR A THREE SPAN CONDITION.)
5. STEEL ROOF DECK SHALL HAVE NESTING SIDE LAPS (ATTACHED BY MECHANICAL MEANS). PROVIDE FASTENER LAYOUT AS PER TYPICAL DETAIL 5-305.
6. IF DECK IS CUT IN SINGLE SPAN CONDITION, EACH END OF SUCH SECTIONS SHALL BE WELDED TO ITS SUPPORT THROUGH WELDING WASHERS IN THE BOTTOM OF EACH RIB.
7. IN AREAS WHERE THE DECK IS CUT AS PER NOTE 6, THE GAUGE OF THE SINGLE SPAN DECK SHALL BE ADJUSTED UPWARDS AS REQUIRED BY THE ENGINEER TO SUPPORT THE LOADS.
8. ANY ELECTRICAL WORK WEIGHING MORE THAN 5 PSF OR 50 LBS CONCENTRATED SHALL BE HUNG FROM STEEL BEAMS ONLY. FOR HANGERS, SEE SPECIFICATIONS. ALL MECHANICAL WORK AND PIPING SHALL BE HUNG FROM STEEL BEAMS. SEE STRUCTURAL STEEL NOTE 12 (OF STRUCTURAL STEEL NOTES) FOR ADDITIONAL STEEL REQUIRED BY MECHANICAL/ELECTRICAL TRADES TO SUPPORT THEIR EQUIPMENT.
9. METAL DECK CONTRACTOR TO PROVIDE 18 GAUGE RIDGE PLATE, VALLEY PLATE, EDGE STRIP, ETC. AS REQUIRED.
10. STEEL ROOF DECK SHALL BE WELDED AT ENDS AND ALL INTERMEDIATE SUPPORTING MEMBERS WITH 5/8" DIAMETER PUDDLE WELDS OR ELONGATED WELDS OF EQUAL STRENGTH SPACED PER SPECIFICATIONS IN THE BOTTOM OF THE RIB ACROSS THE WIDTH OF THE DECK UNIT.
11. CUT OUT METAL DECK WHERE BOLT PROJECTIONS INTERFERE WITH METAL DECK.
12. DIRECTION OF METAL DECK SHOWN THUS ⟷ ON PLAN.

POST-INSTALLED ANCHORS

1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. SPECIAL INSPECTIONS ARE REQUIRED PER THE PROVISIONS SET FORTH BELOW. CONTRACTOR TO CONTACT MANUFACTURER'S REPRESENTATIVE FOR PROPER PRODUCT INSTALLATION TRAINING ON INITIAL ANCHORS.
2. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.
3. EXPANSION ANCHORS SHALL BE STUD TYPE WITH A SINGLE PIECE OF THREE SECTION WEDGE AND ZINC PLATED IN ACCORDANCE WITH ASTM B633. THE ANCHORS SHALL MEET FEDERAL SPECIFCATION FF-S-325, GROUP II, TYPE 4, CLASS I FOR CONCRETE EXPANSION ANCHORS. ANCHORS SHALL BE HILTI KWIK BOLT 3 AS SUPPLIED BY HILTI INC. TULSA OKLAHOMA. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH HILTI CARBIDE TIPPED DRILL BITS OR MATCHED TOLERANCE DIAMOND CORE BITS. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
4. INJECTED ADHESIVE ANCHORS SHALL BE USED FOR INSTALLATION OF THREADED RODS. ADHESIVE SHALL BE FURNISHED IN A SIDE BY SIDE REFILL PACK WHICH KEEP COMPONENT A AND B SEPARATE. INJECTION ADHESIVE SHALL BE HILTI HIT HY 200 AS SUPPLIED BY HILTI INC. TULSA OKLAHOMA. ANCHOR RODS MEET ASTM F1554 (36 KSI). NUTS AND WASHERS SHALL BE FURNISHED TO MEET THE REQUIREMENTS OF AN ASTM F1554 (36 KSI) STEEL ROD.

DELEGATED DESIGN

1. SELECT SCOPE ITEMS IN THE PROJECT ARE CUSTOM DESIGNED AND ENGINEERED. THE ENGINEERING RESPONSIBILITY IS DELEGATED TO THE CONTRACTOR AND RELATED SUBCONTRACTORS.
2. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR SUCH ELEMENTS DESIGNATED TO BE DESIGNED BY A DELEGATED ENGINEER.
3. DELEGATED ENGINEERING WILL ADDRESS ALL LOADING REQUIREMENTS INCLUDING WIND PRESSURES IN ACCORDANCE WITH THE LATEST FLORIDA BUILDING CODE. REFER TO THE COMPONENTS AND CLADDING PRESSURES PROVIDED FOR DESIGN PRESSURES ELEMENTS SHALL BE IN CONFORMANCE WITH.
4. DELEGATED ENGINEERED DRAWINGS SHALL DEFINE MATERIAL THICKNESS, SIZING, CONNECTIONS, ETC. OF THE SUBMITTED SYSTEM.
5. DELEGATED ENGINEERED DRAWINGS WILL BE REVIEWED AS PART OF THE SUBMITTAL PROCESS.
6. BUILDING COMPONENTS THAT ARE NOT SPECIFIED AS DELEGATED TO OTHER ENGINEERS SHALL BE SUBMITTED WITH APPROPRIATE FLORIDA PRODUCT APPROVAL INFORMATION IN THE SUBMITTAL. WHERE A FLORIDA PRODUCT APPROVAL DOES NOT EXIST FOR A COMPONENT REQUIRING APPROVAL, THE DESIGN SHALL BE DELEGATED TO AN ENGINEER ON THE CONTRACTOR'S TEAM.

SHOP DRAWINGS:

1. NO STRUCTURAL DRAWINGS SHALL BE REPRODUCED FOR USE AS SHOP DRAWINGS.
2. ALL DIMENSIONAL COORDINATION SHALL BE DONE BY THE CONTRACTOR AND/OR HIS DETAILER.
3. DETAILER SHALL CHECK ALL ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL ATTACHMENTS, CLIPS, OPENINGS, OR DUCT WORK AFFECTING STRUCTURAL MEMBERS. ALL ITEMS SHALL BE SHOWN ON SHOP DRAWINGS.
4. ALL SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT. DISTRIBUTION AS PER ARCHITECT INSTRUCTIONS.
5. PROVIDE SUFFICIENT SPACE ON SHOP DRAWINGS NEAR TITLE BOX (ABOUT 40 SQUARE INCHES) FOR STAMPS AND ENGINEERS COMMENTS.
6. THE SHOP DRAWINGS SHALL BEAR INITIALS OF DETAILER'S CHECKER AND CONTRACTOR PRIOR TO SUBMISSION.
7. COMPLETED ERECTION PLANS SHALL BE SUBMITTED PRIOR TO OR IN CONJUNCTION WITH DETAIL DRAWINGS. BUT IN NO CASE SHALL DETAIL DRAWINGS BE SUBMITTED PRIOR TO ERECTION PLANS.
8. DETAILER SHALL SUBMIT AN INDEX OF THE DETAIL DRAWINGS WITH EACH SHOP DRAWING SUBMITTAL.
9. SHOP DRAWINGS NOT COMPLYING WITH ALL THE ABOVE ITEMS SHALL BE RETURNED FOR CORRECTIONS WITHOUT PROCESSING.
10. RESUBMITTED SHOP DRAWINGS SHALL HAVE THE FOLLOWING CHANGES INCORPORATED: FIRST RESUBMISSION TO HAVE LETTER "A" ADDED TO DRAWING
    A. NUMBER AND ANY CHANGES MARKED ON THE DRAWING MARKED 1 AT EACH ITEM CHANGED. ALL ITEMS TO BE NOTED IN REVISION BOX.
    B. SUBSEQUENT RESUBMISSION SHALL BEAR CHANGES "B" AND 2 AND 3 ETC. AS IN 11A.
11. CONTRACTOR SHALL HAVE SHOP DRAWINGS WHICH HAVE BEEN SATISFACTORILY REVIEWED BY THE ARCHITECT AND/OR ENGINEER AND CONFIRMED BY THE CONTRACTOR BEFORE PROCEEDING WITH ANY WORK.
12. DETAILER SHALL USE THE SAME STRUCTURAL ELEMENTS NUMBERS IN HIS DETAILS AS THOSE SHOWN ON CONTRACT DRAWINGS.
13. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOULD BE SUBMITTED TO MCE WITH A MINIMUM TIME TO BE REVIEWED OF 10 WORKING DAYS. IN CASE OF A LARGE SUBMITTAL OR MORE THAN ONE SUBMITTAL FOR THE SAME PROJECT, AN ADDITIONAL WORKING DAY IS REQUIRED FOR EVERY 5 DRAWINGS/SHEETS OVER 30 DRAWINGS/SHEETS. THE TIME INDICATED ABOVE IS FOR MCE REVIEW ONLY, CONTRACTOR MUST INCLUDE ENOUGH TIME FOR DELIVERY, ARCHITECTURAL REVIEW, AND OWNERS REVIEW AND WORK THIS TIME IN THE PROJECT SCHEDULE AS NEEDED.
14. THERE SHALL BE NO DEVIATION FROM THESE CONSTRUCTION DOCUMENTS. IF ANY CHANGES ARE PROPOSED BY THE CONTRACTOR OR THE PROVIDER OF THE SHOP DRAWINGS, THEY SHOULD BE CLEARLY INDICATED, SIGNED AND SEALED DRAWINGS AND CALCULATIONS BY A FLORIDA PROFESSIONAL ENGINEER MUST BE PROVIDED. ANY CHANGES WITHOUT PROPER DOCUMENTATION INDICATED ABOVE WILL RESULT IN SOME REVISIONS BY THE ENGINEER OF RECORD AND/OR ARCHITECT. THE COST FOR THESE REVISIONS INCLUDING ENGINEER AND ARCHITECTURAL FEES SHALL BE PAID BY THE CONTRACTOR.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL WORK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST A.I.S.C. SPECIFICATIONS.
2. STRUCTURAL STEEL SHALL CONFORM TO:

WIDE FLANGE (WF)	ASTM A992 (50 KSI)
SHAPES (L,T,C,PL)	ASTM A36
STRUCTURAL TUBE (HSS)	ASTM A500 (46 KSI)
STEEL PIPE (HSS)	ASTM A500 (42 KSI)
ANCHOR BOLTS	ASTM F1554 (36 KSI) U.N.O. IN PLANS, OR SECTIONS.
FRAMING BOLTS	ASTM A325 OR A490
SHEAR STUDS	ASTM A108
WELDING ELECTRODES	E70XX

3. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM SPECIFICATION A325 AND SHALL BE PROVIDED WITH HARDENED WASHERS UNDER THE TURNED ELEMENT (NUT OR BOLT HEAD).
4. INSTALLATION AND TIGHTENING OF ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
5. SHOP CONNECTIONS MAY BE WELDED OR HIGH STRENGTH BOLTED. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM. ALL CONNECTIONS SHALL CONFORM TO THE TYPICAL CONNECTION DETAILS SHOWN ON THE PLANS UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
6. ALL FIELD CONNECTIONS SHALL BE BOLTED WITH HIGH STRENGTH BOLTS, SLIP-CRITICAL (FRICTION) TYPE EXCEPT WHERE SLOTTED HOLES ARE SPECIFIED OR WHERE MOVEMENT OF THE CONNECTED MEMBERS IS EXPECTED. IN THESE CASES PROVIDE OVERSIZED WASHER, HAND TIGHTEN BOLTS, AND TACK WELD WASHER TO NUT TO VERIFY ASSEMBLY IS HELD TOGETHER.
7. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE, ANS01.1, ALL WELDING SHALL BE PERFORMED USING E7OXX U.N.O.
8. CUTS, HOLES, COPINGS, ETC. REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN IN THE STRUCTURAL STEEL SHOP DRAWINGS AND SHALL BE MADE IN THE SHOP. HOLES SHALL BE REINFORCED AS REQUIRED BY THE ENGINEER.
9. BURNING OF HOLES, CUTS, ETC. IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED, EXCEPT WITH THE SPECIFIC APPROVAL OF THE ENGINEER.
10. ALL STEEL MEMBERS EXPOSED TO WEATHER (SUCH AS LINTELS, DOOR JAMBS, ETC.) SHALL BE HOT DIPPED GALVANIZED.
11. FOR MISCELLANEOUS STEEL, SEE ARCHITECTURAL DRAWINGS.
12. ANY STEEL MEMBERS REQUIRED BY THE ELECTRICAL OR MECHANICAL TRADES FOR THE SUPPORT OF THEIR EQUIPMENT, WHICH ARE NOT SHOWN ON ARCHITECTURAL OR STRUCTURAL DRAWINGS, SHALL BE PROVIDED BY THE TRADE REQUIRING SUCH SUPPORT.
13. SEE SPECIFICATIONS FOR PAINTING OF STRUCTURAL STEEL. ALL FABRICATION AND ERECTION MARKS SHALL BE COVERED DURING FIELD TOUCH-UP PAINTING.
14. ALL CONNECTIONS TO BE DOUBLE ANGLE FRAMED BEAM CONNECTION PER AISC UNLESS NOTED OTHERWISE. ALL BOLTS TO BE 3/4" MINIMUM DIAMETER UNLESS NOTED OTHERWISE. SHOP CONNECTIONS MAY BE WELDED OR BOLTED. WELDS ARE TO BE EQUAL IN STRENGTH TO BOLTS.
15. DESIGN CONNECTIONS FOR HALF THE MAXIMUM SHEAR (V IN KIPS) LISTED IN THE TABLE 3-6 "MAXIMUM TOTAL UNIFORM LOAD" AT THE BOTTOM OF EACH PAGE IN THE "BEAM PROPERTIES" OF THE AISC 360-10" MANUAL OF STEEL CONSTRUCTION. "MINIMUM CONNECTION SHALL CONSIST OF TWO 3/4"Ø A325 BOLTS. REACTIONS SHOWN ARE BASED ON UNFACTORED LOADS. PROVIDE SIGNED AND SEALED DRAWINGS AND CALCULATIONS BY A PROFESSIONAL ENGINEER.
16. WHEN STEEL MEMBERS ARE WELDED TO EMBED PLATES IN CONCRETE, WELDING PROCESS SHOULD BE PERFORMED IN SUCH WAY THAT EMBED PLATE DOES NOT OVERHEAT AND EXPAND. SUCH EXPANSION WILL CRACK THE CONCRETE SURROUNDING THE EMBED PLATE AND MAY WEAKEN THE STRUCTURAL CAPACITY OF THE CONNECTION. WE RECOMMEND TO PROVIDE SEVERAL SINGLE PASSES TO BUILT UP THE WELD SIZE REQUIRE WITH COOLING OFF PERIODS TO AVOID THE EMBED PLATE EXPANSION. UNDER NO CIRCUMSTANCES PROVIDE MORE THAN 6" OF 1/4" WELD WITHOUT ALLOWING A COOLING OFF PERIOD.
17. EXPOSED ENDS OF STRUCTURAL TUBES OR PIPES SHALL BE CAPPED WITH A MINIMUM 1/4" PLATE U.N.O.

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TO THE BEST OF OUR KNOWLEDGE INFORMATION AND BELIEF, THESE STRUCTURAL PLANS CONFORM TO AND SATISFY, THE FLORIDA BUILDING CODE, SIXTH EDITION 2017, ACI 318-14 AND LOCAL CODES AS APPLICABLE

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FGA PROJECT NUMBER
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GENERAL STRUCTURAL NOTES

SHEET NUMBER
S1.1

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