

GENERAL STRUCTURAL NOTES

- 100 DESIGN CRITERIA
- 100.1 DESIGN BUILDING CODE: 2004 FLORIDA BUILDING CODE
 - a. 2007 FLORIDA BUILDING CODE WITH 2009 SUPPLEMENT
 - b. ASCE 7-05 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"
- 100.2 GRAVITY LOADS:
 - DEAD LOADS
 - a. 8" CMU WALL (ASSUMED) 55 PSF
- 100.3 WIND LOADS:
 - a. BASIC WIND SPEED: 119 MPH
 - b. EXPOSURE CATEGORY: B
 - c. ENCLOSURE CLASSIFICATION: ENCLOSED
 - d. BUILDING CATEGORY: II
 - e. IMPORTANCE FACTOR: 1.00
 - f. INTERNAL PRESSURE COEFFICIENT: ±0.18
 - g. COMPONENTS AND CLADDING WIND PRESSURE TABLES: SEE SHEET S5.1
- 110 GENERAL
- 110.1 THE STRUCTURAL DRAWINGS SHALL GOVERN THE WORK FOR ALL STRUCTURAL FEATURES, UNLESS NOTED OTHERWISE. THE ARCHITECTURAL DRAWINGS SHALL GOVERN THE WORK FOR ALL DIMENSIONS. ALL DETAILS AND SECTIONS ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT UNLESS NOTED OTHERWISE.
- 110.2 THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, MEMBER SIZES, SPACING, ETC., AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY AND ALL DISCREPANCIES. THE ARCHITECT, CONTRACTOR AND OWNER SHALL ANTICIPATE REVISIONS TO THE STRUCTURAL REQUIREMENTS DUE TO ANY DEVIATIONS FROM THE AVAILABLE INFORMATION OF THE EXISTING STRUCTURE.
- 110.3 THE CONTRACTOR SHALL USE EXTREME CAUTION DURING DEMOLITION TO AVOID DAMAGING EXISTING PORTIONS OF THE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, SHORING OR OTHER MEANS NECESSARY TO SUPPORT THE STRUCTURAL ELEMENTS DURING THE CONSTRUCTION AND DEMOLITION OPERATIONS.
- 110.4 ALL STRUCTURAL WORK SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND THE APPLICABLE BUILDING CODES. THE OWNER SHALL ENGAGE A QUALIFIED INSPECTION AND/OR TESTING AGENCY, SUBJECT TO THE REVIEW OF THE ARCHITECT, TO PERFORM ALL REQUIRED INSPECTIONS AND TESTING SERVICES.
- 110.5 COORDINATE ROUGH OPENING DIMENSIONS WITH ARCHITECT AND WINDOW/DOOR MANUFACTURER. WINDOWS AND DOORS SHALL BE CERTIFIED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS TO WITHSTAND THE COMPONENTS AND CLADDING WIND PRESSURES.
- 110.6 LATITUDE 30 ENGINEERING SHALL NOT HAVE CONTROL OR BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, OR SEQUENCES; FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, OR ANY OTHER PERSONS PERFORMING THE WORK OR THE FAILURE OF ANY OF THEM TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
- 120 SHOP DRAWINGS
- 120.1 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW BY LATITUDE 30 ENGINEERING AND THE PROJECT ARCHITECT. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL COMPONENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
 - a. PLACEMENT DRAWINGS FOR CONCRETE AND MASONRY STEEL REINFORCEMENT INCLUDING BAR SIZES, BENDS & LENGTHS
 - b. CONCRETE AND/OR MASONRY POST-INSTALLED ANCHORS
 - c. FABRICATED STRUCTURAL STEEL
- 120.2 THE CONTRACTOR SHALL SUBMIT AT LEAST TWO (2) PRINTED COPIES OF SHOP DRAWINGS FOR REVIEW BY LATITUDE 30 ENGINEERING. UPON THE COMPLETION OF THE SHOP DRAWING REVIEW, ONE (1) PRINT WILL BE RETAINED BY THE STRUCTURAL ENGINEER.
- 120.3 THE REVIEW OF SHOP DRAWINGS AND OTHER SUBMITTALS FOR THIS PROJECT IS FOR CONFORMANCE WITH THE DESIGN CONCEPT AND FOR GENERAL COMPLIANCE WITH THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS. COMMENTS REGARDING THESE SUBMITTALS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.
- 300 REINFORCED CONCRETE
- 300.1 ALL REINFORCED CONCRETE WORK SHALL BE IN CONFORMANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318, LATEST EDITION) AND SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301, LATEST EDITION) OF THE AMERICAN CONCRETE INSTITUTE.
- 300.2 CONCRETE COMPRESSIVE STRENGTH REQUIRED AT 28 DAYS SHALL BE 3000 PSI.
- 300.3 ALL CONCRETE FOR ELEVATED SLABS ON METAL DECK SHALL BE LIGHTWEIGHT CONCRETE (110 PCF + 115 PCF MAXIMUM) WITH ALL CEMENT CONFORMING TO ASTM C150, TYPE I OR TYPE II. MAXIMUM AGGREGATE SHALL BE 3/4" AND CONFORM TO ASTM C330.
- 300.4 REINFORCEMENT
 - a. DEFORMED BARS: ASTM A615, GRADE 60
 - b. WELDED WIRE MESH: ASTM A185
- 300.5 PRIOR TO CONCRETE PLACEMENT, THE CONTRACTOR SHALL SUBMIT A CONCRETE MIX DESIGN FOR REVIEW BY LATITUDE 30 ENGINEERING. THE INFORMATION SHALL INCLUDE:
 - a. INTENDED USAGE AND LOCATION FOR EACH TYPE
 - b. MIX DESIGN INCLUDING MATERIAL TYPES AND AMOUNTS
 - c. WATER CEMENT RATIO BY WEIGHT
 - d. SLUMP RANGE
 - e. AIR CONTENT
 - f. STRENGTH TEST DATA REQUIRED TO ESTABLISH MIX DESIGN

- 350 CONCRETE/MASONRY ANCHORS
- 350.1 ALL ADHESIVE STUD ANCHORS SHALL BE "HILTI HIT-HY 150 ADHESIVE CONCRETE ANCHORS" AS MANUFACTURED BY HILTI FASTENING SYSTEMS, INC. (OR APPROVED EQUAL).
- 350.2 THE "HAS ANCHOR ROD" SHALL CONFORM TO ASTM A36 STEEL, THE "HAS SUPER ANCHOR ROD" SHALL CONFORM TO ASTM A193 STEEL, THE "HAS STANDARD NUT" SHALL CONFORM TO ASTM A563, GRADE A, THE "HAS SUPER ANCHOR ROD NUT" SHALL CONFORM TO ASTM A 563, GRADE H.
- 350.3 THE INSTALLATION OF POST INSTALLED ANCHORS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES.
- 420 MASONRY
- 420.1 ALL MASONRY WORK SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530) AND THE "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1) OF THE AMERICAN CONCRETE INSTITUTE.
- 420.2 MORTAR SHALL CONFORM TO THE PROPORTION SPECIFICATION OF ASTM C270, TYPE M OR S.
- 420.3 GROUT PER ASTM C476
 - a. MINIMUM GROUT COMPRESSIVE STRENGTH: 3000 PSI
 - b. SLUMP OF GROUT SHALL BE 8 TO 11 INCHES PER ASTM C143.
 - c. MAX. AGGREGATE SIZE SHALL BE 3/8" (AGGREGATE GRADED TO PRODUCE FINE GROUT IN CONFORMANCE WITH ASTM C476 AND C404).
- 420.4 LIMIT CEMENTITIOUS MATERIALS IN MORTAR TO: PORTLAND CEMENT CONFORMING TO ASTM C150 TYPE I; LIME CONFORMING TO ASTM C207; AND MORTAR CEMENT CONFORMING TO ASTM C1329.
- 420.5 CONCRETE BLOCK UNITS
 - a. SOLID AND HOLLOW LOAD BEARING UNITS PER ASTM C90, TYPE N-II, AS REQUIRED TO PROVIDE 1500 PSI MINIMUM 28-DAY ULTIMATE COMPRESSIVE STRENGTH.
- 420.6 FULL BED AND HEAD JOINTS SHALL BE USED.
- 420.7 MASONRY UNITS CONTAINING REINFORCEMENT SHALL BE FILLED SOLID WITH 3000 PSI GROUT.
- 420.8 DEFORMED BAR REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60.
- 420.9 MASONRY COURSING SHOWN ON STRUCTURAL DRAWINGS IS APPROXIMATE AND SHOULD NOT BE USED IN LIEU OF DIMENSIONS SPECIFIED BY THE ARCHITECT. COORDINATE ACTUAL MASONRY COURSING WITH EXISTING CONDITIONS.
- 420.10 HORIZONTAL JOINT REINFORCING FOR ALL EXTERIOR AND LOAD BEARING WALLS SHALL BE GALVANIZED TRUSS OR LADDER TYPE DUR-O-WAL OR EQUAL APPROVED BY THE STRUCTURAL ENGINEER WITH 2-9 GAGE LONGITUDINAL WIRES AND A 9 GAGE CROSS WIRE, SPACED AT 16 INCHES ON CENTER, UNO. PROVIDE ADDITIONAL LAYERS OF JOINT REINFORCEMENT IN THE FIRST TWO COURSES ABOVE AND BELOW A MASONRY OPENING. PROVIDE LAP AS RECOMMENDED BY MANUFACTURER WITH A MINIMUM OF 6". PROVIDE "L" SHAPE AND "T" SHAPE DUR-O-WAL REINFORCING AT ALL CORNERS AND INTERSECTIONS WITH 8" MINIMUM LAP. DISCONTINUE JOINT REINFORCING AT VERTICAL CONTROL JOINTS.
- 510 STRUCTURAL STEEL
- 510.1 ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH THE "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" (1989 EDITION, AS REVISED) OF THE AISC.
- 510.2 GRADE OF STEEL
 - a. STRUCTURAL "W" SHAPES: ASTM A992
 - b. CHANNELS: ASTM A572, GRADE 50
 - c. STEEL TUBES (HSS SHAPES): ASTM A500, GRADE B
 - d. STEEL PIPE (ROUND HSS): ASTM A500, GRADE B
 - e. ANGLES AND PLATES: ASTM A36
- 510.3 ALL WELDING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE, AWS D1.1, LATEST EDITION, OF THE AMERICAN WELDING SOCIETY. ELECTRODES SHALL BE E70XX FOR MANUAL ARC WELDING AND F7X-EXXX FOR SUBMERGED ARC WELDING.
- 510.4 CUTS, HOLES AND COPING, ETC. REQUIRED FOR OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWING AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL IN THE FIELD WILL NOT BE PERMITTED. PROVIDE TEMPORARY SHORING WHEN WELDING TO EXISTING STEEL.
- 510.5 ALL STRUCTURAL STEEL WORK, EXCEPT PORTIONS OF MEMBERS TO BE WELDED, FIELD BOLTED OR FIREPROOFED, SHALL BE SHOP PAINTED WITH PAINT CONFORMING TO STEEL STRUCTURES PAINTING COUNCIL (SSPC) PAINT 25. APPLY PRIME PAINT ACCORDING TO SSPC PAINT SYSTEM GUIDE NO. 7.00. CLEAN STEEL FREE OF LOOSE SCALE, RUST, OIL AND GREASE. ADDITIONAL AREAS SHALL BE FIELD PAINTED AFTER WELDING.
- 510.6 BOLT AND WELD TESTING:
 - a. ALL SHOP AND FIELD BOLTS SHALL BE TESTED PER AISC REQUIREMENTS.
 - b. ALL WELDS SHOULD BE VISUALLY INSPECTED.
- 510.7 LEVELING GROUT SHALL BE NON-SHRINK, NON-METALLIC TYPE, FACTORY PRE-MIXED GROUT TESTED IN ACCORDANCE WITH CE-CRD-C621 OR ASTM C109, WITH f'c OF NOT LESS THAN 5000 PSI.
- 510.8 ALL ANCHOR, LEVELING AND THROUGH BOLTS SHALL BE ASTM A36.

WALL COMPONENTS AND CLADDING WIND PRESSURES			
ZONE	EFFECTIVE AREA (FT ²)	WIND PRESSURES (PSF)	
		POSITIVE	SUCTION
INTERIOR	10.0	25.9	-28.1
INTERIOR	20.0	24.7	-26.9
INTERIOR	50.0	23.2	-25.4
INTERIOR	100.0	22.0	-24.2
END	10.0	25.9	-34.7
END	20.0	24.7	-32.4
END	50.0	23.2	-29.3
END	100.0	22.0	-26.9

- NOTES:**
- FOR EFFECTIVE AREAS BETWEEN THOSE GIVEN ABOVE THE LOAD MAY BE INTERPOLATED, OTHERWISE USE THE LOAD ASSOCIATED WITH THE LOWER EFFECTIVE AREA.
 - PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE BUILDING SURFACES.
 - END ZONE LOCATED 10'-0" FROM EACH CORNER OF THE BUILDING.
 - WINDOWS AND DOORS SHALL BE CERTIFIED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS TO WITHSTAND THE COMPONENTS AND CLADDING DESIGN PRESSURES.

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DATE	ISSUE
22 SEPT 2009	CONCEPT
30 OCT 2009	PERMIT

TENANT IMPROVEMENTS FOR
CRC INSTITUTE GREEN TRAINING CENTER
 PEARL PLAZA SHOPPING CENTER, SUITE 08
 5308 NORTH PEARL PLAZA
 JACKSONVILLE, FLORIDA 32208

GENERAL STRUCTURAL NOTES AND WIND PRESSURES

PROJECT NO: 09088
 DRAWN BY: BRS
 CHECKED BY: BRS
 SHEET NO:
S5.1
 SHEET

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