

STRUCTURAL NOTES

1. GENERAL:

- A. UNLESS OTHERWISE SPECIFIED, ALL WORK AND MATERIALS SHALL CONFORM TO "FLORIDA BUILDING CODE" (FBC) REQUIREMENTS, 2007 ED.
- B. ALL ELEVATIONS ON STRUCTURAL SHEETS ARE RELATIVE TO (STRUCTURAL DATUM) FINISHED FLOOR ELEVATION OF 0.00'.
- C. DO NOT SCALE DRAWINGS. USE DIMENSIONS AND DETAILS.
- D. THE GENERAL CONTRACTOR SHALL VERIFY THE DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO PROCEEDING WITH WORK. FOR DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
- E. THE CONTRACTOR SHALL NOTIFY IN WRITING THE ARCHITECT CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THESE STRUCTURAL CONTRACT DOCUMENTS.
- F. THE STRUCTURE SHOWN ON THESE DRAWINGS IS SELF-SUPPORTING ONLY IN ITS COMPLETED FORM. THE DESIGN, ADEQUACY, SAFETY AND STABILITY OF ERECTION BRACING, FORMWORK, SHORING, AND TEMPORARY SUPPORTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- G. FOUNDATIONS HAVE NOT BEEN DESIGNED FOR ANY CONDITION OF LOADING OTHER THAN THAT OF THE COMPLETED STRUCTURE. VERIFICATION OF ADEQUACY OF FOUNDATIONS TO RESIST ERECTION INDUCED FORCES IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- H. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND FOR CONFORMANCE WITH THE HEALTH AND SAFETY PROVISIONS REQUIRED BY ANY REGULATORY AGENCIES. THE STRUCTURAL ENGINEER OF RECORD HAS NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR, OR THEIR EMPLOYEES WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS.
- I. STRUCTURAL SUBMITTALS:
- (1) REPRODUCTION OF CONTRACT DOCUMENTS FOR ERECTION AND/OR SHOP DRAWINGS WILL NOT BE PERMITTED.
- (2) REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER OF RECORD DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND THE DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHOD, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION. SEE SPECIFIC PROVISION.

2. DESIGN LOADS:

- A. LIVE LOADS
- (1) ROOF LOAD 20 PSF
- B. BUILDING CATEGORY (OCCUPANCY): II
- C. WIND LOAD
- (1) WIND VELOCITY = 110 MPH
- (2) WIND IMPORTANCE FACTOR, Iw: 1.00
- (3) WIND EXPOSURE CATEGORY = B
- (4) ENCLOSURE CLASSIFICATION = ENCLOSED
- (5) INTERNAL PRESSURE, GCpi = ±0.18
- (6) CLADDING EDGE WIDTH = 3'-0"
- (7) MIN. ROOF CLADDING SUCTION/PRESSURE (PSF):
- a. ZONE 1 = (-23/+15)
- b. ZONE 2 = (-49/+15)
- c. ZONE 3 = (-49/+15)
- (8) MIN. WALL CLADDING SUCTION/PRESSURE (PSF):
- a. ZONE 4 = (-28/+26)
- b. ZONE 5 = (-34/+26)

3. MATERIALS AND CONSTRUCTION:

- A. SOIL:
- (1) ALLOWABLE SOIL BEARING CAPACITY TO BE 2,500 PSF ON UNDISTURBED SOILS OR STRUCTURAL FILLS.
- (2) ALL CAPILLARY WATER BARRIER (CWB) MATERIAL BELOW INTERIOR SLABS SHALL CONSIST OF CLEAN SAND WITH A FINENESS MODULUS OF 1.6 TO 3.1 AND CONTAIN NO MORE THAN 10% BY WEIGHT FINER THAN NO. 200 U.S. STANDARD SIEVE.
- (3) THE UPPER THREE FEET OF ALL SOIL WITHIN FIVE FEET OF THE BUILDING PAD SHALL BE OVEREXCAVATED AND RECOMPACTED AT OPTIMUM MOISTURE CONTENT TO 95% OF MODIFIED PROCTOR, ASTM D1557.
- (4) FILL, DE-WATERING AND COMPACTION FOR THE BUILDING PAD SHALL BE INCLUDED IN THE G.C.'S BID PRICE
- (5) THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT FILE NO. 09-00436-01, DATED NOVEMBER 6, 2009 BY CAL-TECH TESTING, INC.
- B. CONCRETE:
- (1) ALL CONCRETE WORK SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE'S "STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (A.C.I. 318-05). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3,000.
- (2) CHAMFER ALL CONCRETE EXPOSED EDGES ¾" UNLESS INDICATED OTHERWISE.
- (3) ALL SLABS-ON-GRADE CONSTRUCTION SHALL BE 4" THICK CONCRETE REINFORCED WITH 6X6-W1.4XW1.4 WELDED WIRE FABRIC.

D. CONCRETE MASONRY UNIT (CMU) CONSTRUCTION:

- (1) MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'M) OF 1,500 PSI.
- (2) ALL CMU SHALL CONFORM TO ASTM C90, TYPE N-II.
- (3) MORTAR SHALL BE TYPE M OR S.
- (4) GROUT SHALL CONFORM TO ASTM C476 WITH THE FOLLOWING PROPERTIES:
- a. COMPRESSIVE STRENGTH @ 28 DAYS = 2,000 PSI.
- b. SLUMP = 8" TO 11"
- c. TYPE OF GROUT = FINE OR COURSE IN CONFORMANCE WITH TABLE 5 OF ACI 530.1 FOR DIMENSIONS OF GROUT SPACES & POUR HEIGHT.
- (5) ALL CMU WALLS SHOWN ON FOOTINGS AND OTHERS (WERE INDICATED) SHALL BE REINFORCED CMU WALLS.
- (6) EACH DOT IN CMU WALLS ON PLANS DENOTES ONE #5 (#6 FOR 12" WALLS) VERTICAL BAR IN GROUTED CELL EXTENDING FROM THE FOOTING TO THE BOND BEAM AT THE TOP OF WALL EXCEPT WERE INTERRUPTED BY AN OPENING.
- (7) AS A MINIMUM, ALL LOAD BEARING WALLS AND OTHER WALLS INDICATED SHALL BE REINFORCED WITH #5 (#6 FOR 12" WALLS) VERTICAL REINFORCING AS FOLLOWS, EXCEPT WHERE CLOSER SPACING IS INDICATED (SEE REINFORCEMENT LAYOUT ON THE PLANS):
- a. ALL EXTERIOR WALLS - 4'-0"o.c.
- b. AT EACH LINTEL BEARING
- c. AT CORNERS AND TURNS - 3 BARS @ 8"o.c.
- d. AT STEEL BEAM BRG. - 2 BARS @ 8"o.c. (U.N.O)
- (8) ALL NON-LOAD BEARING, INTERIOR CMU WALLS SHALL BE REINFORCED AS FOLLOWS: UNLESS NOTED OTHERWISE.
- a. 0'-0" TO 12'-0" HIGH - UNREINFORCED
- b. 12'-8" TO 16'-0" HIGH - #5 @ 72"o.c.
- c. 16'-8" TO 20'-0" HIGH - #5 @ 48"o.c.
- d. 20'-8" TO 28'-0" HIGH - #5 @ 32"o.c.
- (9) ALL VERTICAL REINFORCEMENT SPLICES SHALL BE TIED AT THE TOP AND BOTTOM OF ALL SPLICES. APPROVED BAR POSITIONERS MAY BE USED IN LIEU OF TIES.
- (10) ALL VERTICAL REINFORCEMENT SHALL REMAIN IN THE CENTER OF CELL, UNLESS NOTED OTHERWISE.
- (11) GROUT LIFTS SHALL NOT EXCEED 5' DEEP. GROUT POURS SHALL NOT EXCEED THOSE INDICATED IN ACI 530.1
- (12) PROVIDE CLEANOUTS @ 32"o.c. MAXIMUM SPACING FOR GROUT POURS THAT EXCEED 5' HEIGHT PER ACI 530.1.
- (13) LINTELS SHALL BE CAST SOLID FOR THE FULL LENGTH (TO END OF BRG) AND HEIGHT OF LINTEL IN THE SAME POUR.
- (14) PROVIDE CORNER BARS BETWEEN BOND BEAMS AT ALL WALL INTERSECTIONS, LAP MINIMUM 40 BAR DIAMETERS IN EACH DIRECTION.

E. STRUCTURAL STEEL:

- (1) ALL STRUCTURAL STEEL WORK SHALL CONFORM TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S (AISC) "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", (2005 EDITION).
- (2) STRUCTURAL STEEL SHAPES SHALL BE FABRICATED FROM THE FOLLOWING MATERIALS:
- a. ROLLED W AND WT SHAPES: ASTM A992, Fy=50 KSI.
- b. ALL OTHER ROLLED SHAPES: ASTM A36/A572, GRADE 50 CONFORMING TO THE REQUIREMENTS OF AISC TECHNICAL BULLETIN 3.
- c. HOLLOW TUBE (HSS): ASTM A500, GRADE B, Fy=46 KSI.
- (3) ALL STEEL CONNECTIONS SHALL CONFORM TO AISC MANUAL (2005 EDITION) "STANDARD FRAMED BEAM CONNECTIONS" UNLESS SHOWN OTHERWISE. HIGH STRENGTH BOLTS SHALL BE ASTM A325-N BEARING TYPE, THREAD INCLUDED IN SHEAR PLANE.
- (4) ANCHOR BOLTS AND ALL OTHERS SHALL BE ASTM F1554.
- (5) ALL WELDING WORK SHALL BE PERFORMED AS PER THE AMERICAN SOCIETY'S RECOMMENDATIONS BY CERTIFIED WELDERS.
- (6) NONSHRINK GROUT SHALL BE NONMETALLIC SHRINKAGE-RESISTANT GROUT CONFORMING TO ASTM C 1107

F. TIMBER FRAMING:

- (1) MISCELLANEOUS TIMBER FRAMING MEMBERS SHALL BE No. 2 SOUTHERN PINE, OR STRONGER, EXCEPT PROVIDE No. 1 SOUTHERN PINE FRAMING WHERE INDICATED
- (2) PROVIDE PRESERVATIVE TREATED MEMBERS WHERE P.T. IS INDICATED AND AT OTHER LOCATIONS WHERE IN CONTACT WITH MASONRY/CONCRETE OR WHERE EXPOSED TO WEATHER.
- (3) WINDOW AND DOOR HEADERS SHALL BE PER I.B.C. 2308.9.5.
- (4) BLOCKING FOR WALL STUDS SHALL BE THE SAME DIMENSION AS THE WALL STUDS AND SPACED NO MORE THEN 4'-0"o.c. BLOCKING SHALL ALIGN WITH JOINTS IN THE SHEATHING.
- (4) EXCEPT WHERE FASTENERS ARE SPECIFIED, PROVIDE NAILING PATTERNS PER THE IBC. PROVIDE GALVANIZED FASTENERS WHERE INDICATED.
- (5) PRE-DRILL HOLES FOR THRU BOLTS AT NOMINAL BOLT DIAMETER PLUS 1/16".
- (6) PRE-DRILL LEAD HOLES FOR LAG SCREWS AS FOLLOWS:
- 3/8"Ø LAG SCREWS - LEAD HOLE TO BE 15/64"Ø.
- 1/2"Ø LAG SCREWS - LEAD HOLE TO BE 5/16"Ø.
- (7) FULL DEPTH BLOCKING SHALL BE CUT TO FIT BETWEEN ADJACENT FRAMING MEMBERS NOT TO EXCEED ½"± DIFFERENCE.
- (8) ALL BLOCKING MEMBERS SHALL BE SECURELY FASTENED TO ADJACENT STRUCTURAL MEMEBERS WITH TWO 16d NAILS ON EACH END MINIMUM. FLOAT BLOCKING SHALL NOT BE PERMITTED.
- (9) SHEATHING AND FRAMING FASTENERS NOT FULLY PENETRATING ANY SOLID BLOCKING OR STRUCTURAL MEMBERS SHALL BE REMOVED. NO EXPOSED FASTENERS SHALL BE PERMITTED.
- (10) NOTCHING OF WOOD STRUCTURAL MEMBERS SHALL NOT BE PERMITTED

G. PRE-ENGINEERED WOOD TRUSSES:

- (1) ROOF TRUSSES SHALL BE PRE-ENGINEERED TRUSSES AS SPECIFIED AND DESIGNED FOR THE LOADS INDICATED. MINIMUM MEMBER PROPERTIES SHALL BE EQUAL TO, OR BETTER THAN, No. 2 SOUTHERN PINE. WOOD TRUSS DESIGN SHALL BE SIGNED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF KENTUCKY.
- (2) WOOD TRUSSES SHALL BE DESIGNED FOR A MINIMUM DEAD LOAD OF 20 PSf (10 PSF TOP CHORD & 10 PSF BOTTOM CHORD)
- (3) TRUSS TO TRUSS CONNECTIONS SHALL BE DESIGNED AND FURNISHED BY THE TRUSS MANUFACTURER'S REGISTERED PROFESSIONAL ENGINEER.
- (4) PROVIDE HURRICANE CLIPS AT ALL ROOF MEMBERS BEARING POINTS AND OTHER LOCATIONS AS INDICATED. ALL INDICATED TRUSS CLIPS SHALL BE RATED TO RESIST THE WORKING UPLIFT LOAD INDICATED IN TRUSS CALCULATIONS WITH NO REDUCTION FOR LOAD DURATION.
- (5) ALL REPAIRS OR MODIFICATIONS OF THE TRUSSES SHALL BE DESIGNED AND CERTIFIED BY THE TRUSS MANUFACTURER.
- (6) TRUSS SPACING SHALL BE NO GREATER THAN 24"o.c.
- (7) NO SPLICING OF TRUSS OR RAFTER TAILS SHALL BE PERMITTED.

H. ROOF AND WALL SHEATHING:

- (1) ROOF SHEATHING SHALL BE 5/8" PLYWOOD (RATED STRUCTURAL I, STR. INDEX 24/16).
- (2) WALL SHEATHING SHALL BE 5/8" PLYWOOD (RATED STRUCTURAL I, STR. INDEX 24/16).
- (3) WALL AND ROOF SHEATHING SHALL HAVE A MINIMUM DIMENSION OF 24" ADN SHALL SPAN NOT LESS THAN TWO STRUCTURAL FRAMING MEMBERS.
- (4) ROOF SHEATHING SHALL BE CONTINUOUS FROM EAVE TO RIDGE OR VALLEY. SHEATHING SHALL BE INSTALLED WITH ⅛" EXPANSION JOINTS BETWEEN ADJACENT MEMBERS, BUT IN NO CASE SHALL GAPS EXCEED ¼", INCLUDING HOLES ENCOMPASSING FIXTURES, PIPES OR CONDUIT.
- (4) FASTENERS FOR SHEATHING SHALL BE AS FOLLOWS:
- a. ROOF SHEATHING - 8d NAILS @ 6" O.C. ALONG ALL PANEL EDGES AND 12" O.C. ALONG ALL PANEL INTERMEDIATE SUPPORTING MEMBERS. 8d NAILS @ 4" O.C. ALONG ALL SHEATHING EDGES AND PERIMETER CONDITIONS, INCLUDING RIDGES AND OPENINGS.
- b. WALL SHEATHING - 8d NAILS @ 6" O.C. ALONG ALL PANEL EDGES INCL. BLOCKING AND 12" O.C. ALONG ALL PANEL INTERMEDIATE SUPPORTING MEMBERS. 8d NAILS @ 4" O.C. ALONG THE TOP AND BOTTOM PLATES OF ALL EXTERIOR WALLS AND ALL SHEATHING EDGES AND PERIMETER CONDITIONS, INCLUDING CORNERS AND OPENINGS.

LEGEND

A.B. - ANCHOR BOLT	L.L.V. - LONG LEG VERTICAL
ADD'L - ADDITIONAL	MAT'L - MATERIAL
B.B. - BOND BREAKER(30# FELT)	MB - METAL BUILDING
B/L - BUILDING LINE	M.B. - MACHINE BOLT
BM. - BEAM	M.D. - METAL DECK
BRG. - BEARING	MAX. - MAXIMUM
B.S. - BOTTOM STEEL	MFR. - MANUFACTURER
C.J. - CONSTRUCTION JOINT	MIN. - MINIMUM
C.J.1 - CONSTRUCTION JOINT AT NON-LOAD BEARING WALL	O.D. - OUTSIDE DIAMETER
CL. - CLEAR	OP.HD. - OPPOSITE HAND
C.M.U. - CONCRETE MASONRY UNIT	R/C - REINFORCED CONCRETE
COL. - COLUMN	REINF. - REINFORCEMENT
CONT. - CONTINUOUS	REQ'R - REQUIREMENTS
C.W.B. - CAPILLARY WATER BARRIER	S.C.J. - SAW CUT CONSTRUCTION JOINT
DBL. - DOUBLE	SGL. - SINGLE
DN. - DOWN	S.L.V. - SHORT LEG VERTICAL
EL. - ELEVATION	SPA. - SPACES
E.O.C. - EDGE OF CONCRETE	S.S.T. - SIMPSON STRONG TIE
EQ. - EQUAL	STD. - STANDARD
E.J. - EXPANSION JOINT	T&B - TOP AND BOTTOM
FIN. - FINISH	T.C. - TOP OF CONCRETE
FL. - FLOOR	T.S. - THICKENED SLAB
F.S. - FIELD SPLICE	TS. - TOP STEEL
H.B. - HIGH BEAM	TYP. - TYPICAL
HORZ. - HORIZONTAL	U.N.O. - UNLESS NOTED OTHERWISE
H.S.B. - HIGH STRENGTH BOLT	V.B. - VAPOR BARRIER
I.D. - INSIDE DIAMETER	V.C.J. - VERTICAL CONTROL JOINT
L.B. - LOW BEAM	V.E.J. - VERTICAL EXPANSION JOINT
LG. - LONG	W.P. - WORKING POINT
	W.W.F. - WELDED WIRE FABRIC

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NOTES

SCALE:
AS SHOWN

SHEET NO.:
S0.1