ABBREVIATIONS:

AFF – ABOVE FINISHED FLOOR
ARCH – ARCHITECTURAL
BC – BOTTOM CHORD
BCX – BOTTOM CHORD EXTENSION
BFF – BELOW FINISHED FLOOR
BLDG – BUILDING
BOS – BOTTOM OF STEEL
BP – BASE PLATE
BRG – BEARING
BTM – BOTTOM
BTWN – BETWEEN
CC – CENTER TO CENTER
CLR – CLEAR COVER
COL – COLUMN
CONT – CONTINUOUS
DBA – DEFORMED BAR ANCHOR
DET – DETAIL
DWG – DRAWING
EA – EACH
EF – EACH FACE
ELEV – ELEVATION
EQ – EQUAL
EW – EACH WAY
EXIST – EXISTING
EXP ANCH – EXPANSION ANCHOR
EXP. JT. – EXPANSION JOINT
FFE – FINISHED FLOOR ELEVATION
FNDN – FOUNDATION
FOC – FACE OF CONCRETE
FOM – FACE OF MASONRY
FOS – FACE OF STUD
FTG – FOOTING
GALV – GALVANIZED
HDG – HOT DIPPED GALVANIZED
HORIZ – HORIZONTAL
HSA – HEADED STUD ANCHOR
HSB – HIGH STRENGTH BOLT
JST – JOIST
LG – LONG
LLH – LONG LEG HORIZONTAL
LLV – LONG LEG VERTICAL
LLBB – LONG LEG BACK TO BACK
MAT'L – MATERIAL
MAX – MAXIMUM
MECH – MECHANICAL
MCJ – MASONRY CONTROL JOINT
MEJ – MASONRY EXPANSION JOINT
MO – MASONRY OPENINGS
MRA – MASONRY RIGID ANCHOR
MIN – MINIMUM
NIC – NOT IN CONTRACT
NTS – NOT TO SCALE
o.c. – ON CENTER
O/O – OUT TO OUT
PAF – POWER ACTIVATED FASTENER
REF – REFERENCE
REIN – REINFORCE
REQ'D – REQUIRED
SEC – SECTION
SHT – SHEET
SPC'S – SPACES
STD – STANDARD
STL – STEEL
TCX – TOP CHORD EXTENSION
TOF – TOP OF FOOTINGS
TOM – TOP OF MASONRY
TOS – TOP OF STEEL
TOW – TOP OF WALL
TYP – TYPICAL
UNO – UNLESS NOTED OTHERWISE
VERT – VERTICAL
W/ – WITH
WP – WORKING POINT
WWR – WELDED WIRE REINFORCEMENT

STRUCTURAL SITE VISITS

SITE VISITS DURING CONSTRUCTION WILL BE MADE BY THE STRUCTURAL ENGINEER IN ACCORDANCE WITH THE SCHEDULE STATED BELOW AND AT OTHER TIMES AS DEEMED APPROPRIATE. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER WHEN THE PROJECT HAS PROGRESSED TO THE POINT WHERE THE ITEMS TO BE INSPECTED ARE IN PLACE AND COMPLETE. FAILURE TO NOTIFY MAY REQUIRE REMOVAL OF COMPLETE CONSTRUCTION IN ORDER FOR THE SCHEDULED INSPECTIONS.

SCHEDULE OF STRUCTURAL SITE VISITS:

1. JUST PRIOR TO FIRST FOUNDATION POUR.
2. JUST PRIOR TO POURING STRUCTURAL WALL OR PORTION THEREOF.
3. JUST PRIOR TO POURING ELEVATED SLAB OR PORTION THEREOF
4. IMMEDIATELY FOLLOWING INSTALLATION OF METAL ROOF DECKING AND PRIOR TO INSTALLATION OF ANY INSULATION AND/OR ROOFING MATERIALS.
5. IMMEDIATELY FOLLOWING INSTALLATION OF COLD-FORMED METAL EXTERIOR WALL FRAMING AT FIRST FLOOR.

STRUCTURAL TESTS & SPECIAL INSPECTIONS:

STRUCTURAL TESTS AND SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED TESTS AND INSPECTIONS WITH THE OWNERS DESIGNATED AGENT AND WITH THE SPECIAL INSPECTORS ASSIGNED TO THE PROJECT. THE EXTENT OF SPECIAL TESTS AND STRUCTURAL INSPECTIONS ARE IDENTIFIED IN THE SCHEDULE OF SPECIAL INSPECTION SERVICES AS CONTAINED IN THE PROJECT SPECIFICATIONS. FAILURE TO PERFORM THE REQUIRED INSPECTIONS AND TESTS MAY REQUIRE THE REMOVAL OF THE COMPLETED CONSTRUCTION SO THAT THE SPECIFIED TESTS AND INSPECTIONS CAN BE PERFORMED AS REQUIRED.

MEMBER DEPTH:
(EXAMPLE: 6" = 600x1/100) ALL MEMBER DEPTHS ARE TAKEN IN 1/100 INCHES. FOR ALL "T" SECTIONS MEMBER DEPTH IS THE INSIDE TO INSIDE DIMENSION.

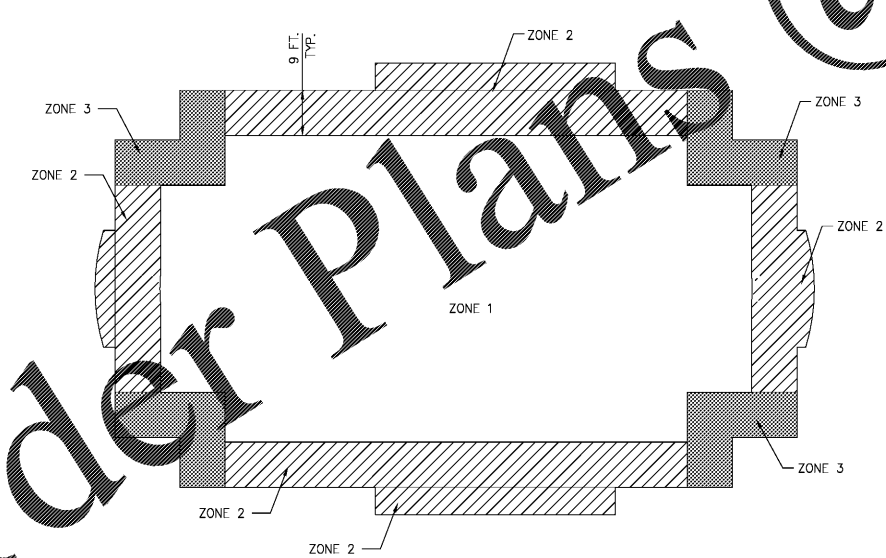
FLANGE WIDTH:
(EXAMPLE: 1 5/8" = 1625X1/100 INCHES) ALL FLANGE WIDTHS ARE TAKEN IN 1/100 INCHES

600 S 162 – 54

STYLE:
(EXAMPLE: STUD OR JOIST SECTION = S) THE FOUR ALPHA CHARACTERS UTILIZED BY THE DESIGNATOR SYSTEM ARE:
S = STUD OR JOIST SECTIONS
T = TRACK SECTIONS
U = CHANNEL SECTIONS
F = FURRING / HAT SECTIONS

MATERIAL THICKNESS:
(EXAMPLE: 0.054 IN. = 54 MILS; 1 MIL = 1/1000 IN.)
MATERIAL THICKNESS IS THE MINIMUM BASE METAL THICKNESS IN MILS. MINIMUM BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS.

TYPICAL COLD FORM METAL FRAMING DESIGNATION



ZONE 1
ZONE 2 / ZONE 4 (WALL)
ZONE 3 / ZONE 5 (WALL)

ROOF WIND PRESSURE DIAGRAM
DETAIL 1/S0.1
NOT TO SCALE

STRUCTURAL GENERAL NOTES

DESIGN CRITERIA:

APPLICABLE CODES

2015 INTERNATIONAL BUILDING CODE

ASCE 7–10 – MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES

AISC 14TH EDITION – STEEL CONSTRUCTION MANUAL.

ACI 318–14 – BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

ACI 530–13/ASCE 5–13/TMS402–13 – BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES

ICC 500–2014 – ICC/NSSA STANDARD FOR THE DESIGN AND CONSTRUCTION OF STORM SHELTERS (DESIGNATED ENCLOSED SHELTER AREA ONLY).

TABLE–1 MAIN BUILDING CLADDING ONLY

WIND LOADS (ASCE 7–10)

WIND VELOCITY: 165 MPH (HOST BUILDING)
RISK CATEGORY III
EXPOSURE CATEGORY – B
TERRAIN FACTOR = 1.0
INTERNAL PRESSURE COEFFICIENT = +/– 0.18

COMPONENTS AND CLADDING DESIGN PRESSURES – SEE TABLE 1 BELOW

MEAN ROOF HT. = 50 FT.

ZONE		TRIB. AREA	COMPONENT PRESSURE POSITIVE (+)	NEGATIVE (–)	PARAPET
ROOF	1	10	+23.1	–56.7	——
		20	+21.6	–55.2	——
		50	+19.7	–53.3	——
		100	+18.2	–51.9	——
	2	10	+23.1	–95.1	+131.4 / [illegible]
		20	+21.6	–85.0	+118.6 / [illegible]
		50	+19.7	–71.6	+102.0 / [illegible]
		100	+18.2	–61.5	+89.4 / [illegible]
	3	10	+23.1	[illegible]	+179.7 / [illegible]
		20	+21.6	–118.5	+152.5 / –97.9
		50	+19.7	–86.1	+116.6 / –88.7
		100	[illegible]	–61.5	+89.4 / –81.7
WALL	4	10	+51.9	–56.2	——
		20	+49.6	[illegible]	——
		50	[illegible]	[illegible]	——
		100	[illegible]	–48.6	——
		500	[illegible]	–43.2	——
	5	10	+51.9	–69.2	——
		20	+49.6	–64.6	——
		50	+46.5	–58.5	——
		100	+44.2	–53.9	——
		500	+38.9	–43.2	——

NOTE: SEE FIGURE THIS SHEET FOR INDICATED ZONES

NOTE:
1. LOADS SHOWN IN TABLE 1 ARE "ULTIMATE" WIND LOADS. WHEN ALLOWABLE STRESS DESIGN IS USED TO JUSTIFY THE COMPONENT OR ASSEMBLY, THEN THE TABULATED WIND LOADS MAY BE MULTIPLIED BY 0.60.

TABLE–2 TORNADO SHELTER & HOST BUILDING STRUCTURAL FRAME

WIND LOADS (ASCE 7–10) / ICC 500–14

DESIGN WIND–BORNE DEBRIS MISSILE:
VERTICAL SURFACES – 15–LB. 2x4 @ 90 MPH
HORIZONTAL SURFACES – 15–LB. 2x4 @ 60 MPH

WIND VELOCITY: 200 MPH per ICC 500, 2014
"PARTIALLY ENCLOSED" BUILDING
GCpi = +/– 0.55
EXPOSURE CATEGORY – C
WIND IMPORTANCE FACTOR – 1.00
DIRECTIONALITY FACTOR – 1.00

COMPONENTS AND CLADDING DESIGN PRESSURES – SEE TABLE 2 BELOW

MEAN ROOF HT. = 50 FT

ZONE		TRIB. AREA	COMPONENT PRESSURE POSITIVE (+)	NEGATIVE (–)	OVERHANG
ROOF	1	10	+95.2	–173.6	——
		20	+91.8	–170.2	——
		50	+87.4	–165.8	——
		100	+84.0	–162.4	——
	2	10	+95.2	–263.2	——
		20	+91.8	–239.6	——
		50	+87.4	–208.4	——
		100	+84.0	–184.8	——
	3	10	+95.2	–375.2	——
		20	+91.8	–317.9	——
		50	+87.4	–242.1	——
		100	+84.0	–184.8	——
WALL	4	10	+162.4	–172.5	——
		20	+157.0	–167.1	——
		50	+150.0	–160.0	——
		100	+144.6	–154.7	——
		500	+132.2	–142.2	——
	5	10	+162.4	–202.7	——
		20	+157.0	–192.0	——
		50	+150.0	–177.8	——
		100	+144.6	–167.1	——
		500	+132.2	–142.2	——

NOTE:
1. LOADS SHOWN IN TABLE 2 ARE "ULTIMATE" WIND LOADS. WHEN ALLOWABLE STRESS DESIGN IS USED TO JUSTIFY THE COMPONENT OR ASSEMBLY, THEN THE TABULATED WIND LOADS MAY BE MULTIPLIED BY 0.60.

WIND CRITERIA:

ALL PARTS AND COMPONENTS FORMING THE EXTERIOR ENVELOPE OF THE BUILDING SHALL BE DESIGNED TO RESIST THE COMPONENT AND CLADDING LOADS INDICATED. POSITIVE SIGN SIGNIFIES LOADS ACTING TOWARD THE SURFACE. NEGATIVE SIGN SIGNIFIES LOADS ACTING AWAY FROM THE SURFACE.

DESIGN GRAVITY LOADS

ROOF DL= 20 PSF
ROOF LL= 100 PSF (REDUCIBLE)

ELEVATED FLOOR:
DL= SLAB & STRUCTURE WEIGHT + 10 PSF
LL= 100 PSF TYPICAL
LL= 125 PSF (MECHANICAL ROOMS / STORAGE ROOMS)

SEISMIC LOADS:

SEISMIC IMPORTANCE FACTOR= 1.25

MAPPED SPECTRAL RESPONSE ACCELERATIONS
S_s=0.095 , S_1=0.060

SITE CLASS = D

SPECTRAL RESPONSE COEFFICIENTS
S_{DS}=0.101 , S_{D1}=0.097

SEISMIC DESIGN CATEGORY: B

BASIC SEISMIC–FORCE–RESISTING SYSTEM:
ORDINARY REINFORCED CONCRETE SHEAR WALLS

DESIGN BASE SHEAR: 125 kip

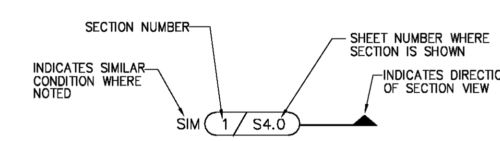
SEISMIC RESPONSE COEFFICIENT(S) Cs= 0.025

RESPONSE MODIFICATION FACTOR(S) R= 5

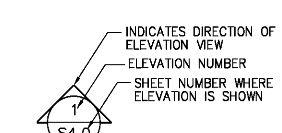
ANALYSIS PROCEDURE: EQUIVALENT LATERAL–FORCE ANALYSIS

SCHEDULE OF STRUCTURAL DRAWINGS

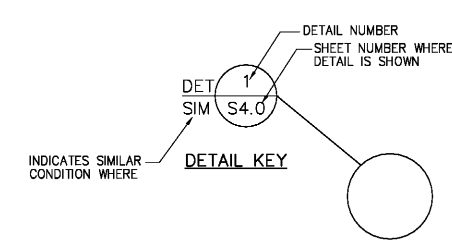
S0.1 GENERAL NOTES
S0.2 GENERAL NOTES
S0.3 GENERAL NOTES
S1.0 GEOMETRY CONTROL PLAN
S1.1 FOUNDATION PLAN
S1.2 2ND FLOOR FRAMING PLAN
S1.3 3RD FLOOR FRAMING PLAN
S1.4 ROOF FRAMING PLAN
S1.5 DISASTER TRAINING AREA FOUNDATION PLAN (BID ALTERNATES)
S2.1 CONCRETE WALL – ENLARGED PLANS AND ELEVATIONS
S2.2 CONCRETE WALL – ENLARGED PLANS AND ELEVATIONS
S2.3 CONCRETE WALL – ENLARGED PLANS AND ELEVATIONS
S2.4 TYPICAL SECTIONS AND DETAILS – CONCRETE WALLS
S2.5 NORTH AND SOUTH ENTRY – ENLARGED PLANS
S3.1 TYPICAL SECTIONS AND DETAILS – FOUNDATION
S3.2 FOUNDATION SECTIONS AND DETAILS
S3.3 FOUNDATION SECTIONS AND DETAILS
S3.4 FOUNDATION SECTIONS AND DETAILS
S4.1 SCHEDULES AND TYPICAL DETAILS – ELEVATED FLOOR
S4.2 FRAMING SECTIONS AND DETAILS
S4.3 FRAMING SECTIONS AND DETAILS
S5.1 TYPICAL SECTIONS AND DETAILS – ROOF
S5.2 ROOF SECTIONS AND DETAILS



SECTION KEY



ELEVATION KEY



DETAIL KEY

BARTER & ASSOCIATES, INC.
Structural Engineers
1614 GOVERNMENT ST.
MOBILE, AL 36604-1102
PH. 251-473-8354
FAX 251-473-8356

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2701 1st Avenue S
Birmingham, AL 35233
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ALABAMA REGISTERED PROFESSIONAL ENGINEER NO. 20131 JAMES A. RUSSELL
05/ 24 / 2018

ISSUE	DATE
100%	2018.04.18
Issue for Bid	2018.05.25

DRAWN BY: SGM
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GENERAL NOTES

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