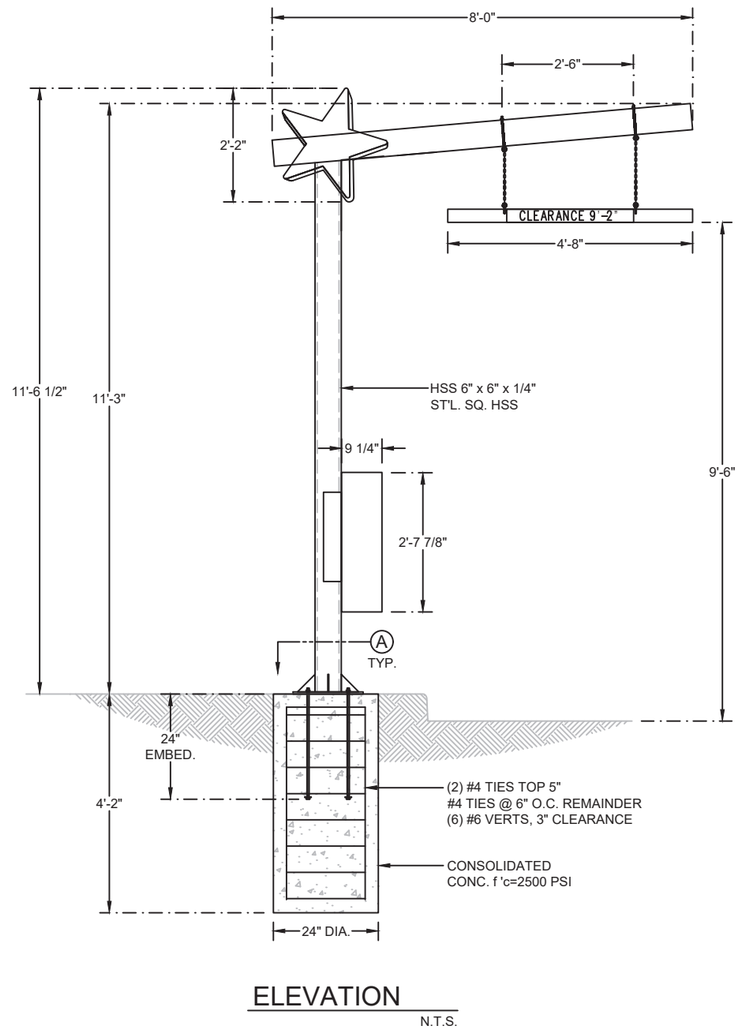
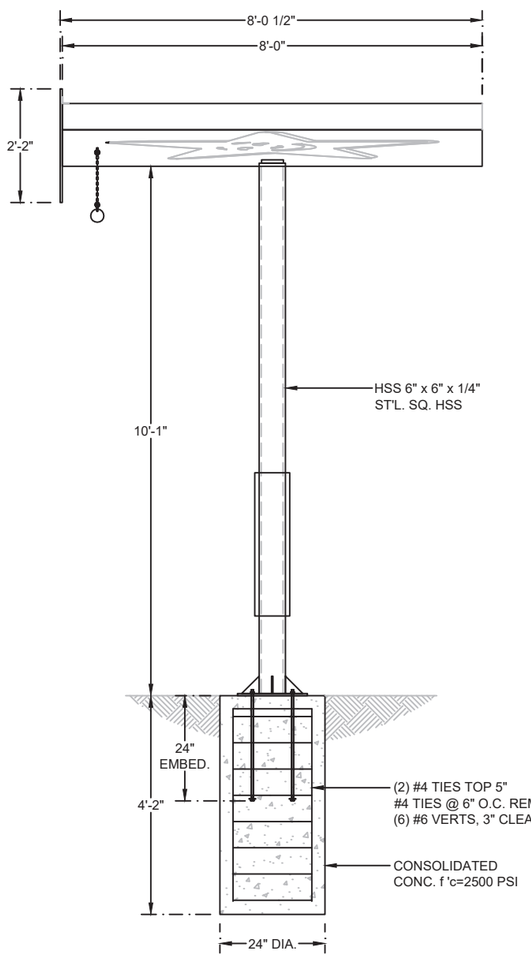


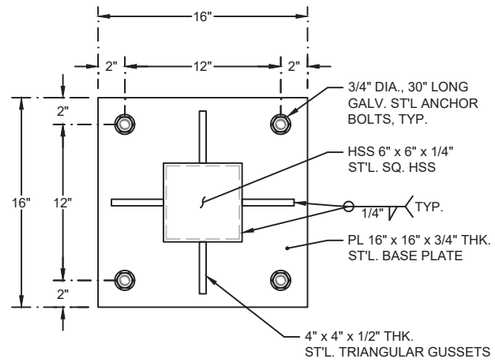
ELEVATION

N.T.S.



SIDE ELEVATION

N.T.S.



A BASE PLATE

t=3/4" N.T.S.

WIND LOADS BASED ON FBC 7TH EDITION 2020		
PARAMETER		VALUE
EXPOSURE CATAGORY B,C or D		C
RISK CATEGORY		II
ULTIMATE DESIGN WIND SPEED (3 sec. gust wind)	V_{ult}	130 mph
NOMINAL DESIGN WIND SPEED	V_{asd}	101 mph
MAX. HORIZONTAL WIND PRESSURE FACTORED	P=	29.49 psf
LIVE LOAD	L=	15 psf

This item has been electronically signed and sealed by Tony Jacob using a digital signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Tony Jacob
Digitally signed by Tony Jacob
Date: 2022.07.07 10:35:40 -07'00'

TONY JACOB LICENSE No. 85008 Exp: 02/28/2023 STATE OF FLORIDA PROFESSIONAL ENGINEER

07/07/2022

NOTES :

GENERAL :
- SIGN DESIGN IS BASED ON ADEQUATE EXISTING SUPPORT ELEMENTS.
- PROVIDE ISOLATION OF DISSIMILAR MATERIALS.
- COAT ALUMINUM IN CONTACT WITH CONCRETE WITH ZINC RICH PAINT.
- THERE IS NO PROTECTION ZONE AS DEFINED IN AISC 341-16.
- PROVIDE FULLY WELDED END CAPS AT EXPOSED OPEN ENDS OF STEEL / ALUM. TUBES, MATCH THICKNESS LIKE FOR LIKE. SLOPE TOP OF EXPOSED FOOTING AWAY FROM DIRECT BURIAL POSTS
- ALL EXPOSED STEEL TO BE PRIMED & PAINTED (POWDER COAT AS AN OPTION) OR ALTERNATIVELY USE GALVANIZED STEEL.

ANCHORS :
- BRAND NAME APPROVED POST INSTALLED ANCHORS SPECIFIED ON PLANS MAY BE SUBSTITUTED BY APPROVED EQUAL.

STEEL :

DESIGN AND FABRICATION ACCORDING TO FBC 7TH EDITION 2020,
- PLATE, ANGLE, CHANNEL TEE: ASTM A36
- WIDE FLANGE: ASTM A992
- ROUND PIPE: ASTM A53 GRADE B OR EQUIVALENT.
- HSS ROUND, SQUARE, AND RECTANGULAR TUBE: ASTM A500 GRADE B OR EQUIVALENT.
- ALL ANCHORS BOLTS SHOULD BE: ASTM F1554
- ALL STEEL MACHINED BOLTS SHOULD BE: ASTM A307 OR ASTM A449
- ALL STAINLESS STEEL MACHINED BOLTS SHOULD BE: ASTM A276
- ALL BOLTS TO BE ZINC COATED: ASTM B633
- DEFORMED REINFORCING REBAR: ASTM A615 GRADE 60.

ALUMINUM :

DESIGN AND FABRICATION ACCORDING TO 2015 ALUM. DESIGN MANUAL PLATES, ANGLES, CHANNELS, TEE, AND SQUARE TUBING: ALUMINUM
- ALLOY 6061 - T6 WITH 0.098 LBS PER CUBIC INCH.

WELDING :

STEEL

DESIGN AND FABRICATION ACCORDING TO AWS D1.1. / D1.3
- AWS CERTIFICATION REQUIRED FOR ALL STRUCTURAL WELDERS.
- E70 XX ELECTRODE FOR SMAW PROCESS.
- E70S XX ELECTRODE FOR GMAW PROCESS.
- ER7 XX ELECTRODE FOR GTAW PROCESS.
- E70T XX ELECTRODE FOR FCAW PROCESS.

ALL WELDS SHALL BE MADE WITH A FILLER METAL THAT CAN PRODUCE WELDS THAT HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20FT-LB AT ZERO 0° AS DETERMINED BY THE APPROPRIATE AWS A5 CLASSIFICATION TEST METHOD OR MFG'S. CERTIFICATION.

ALUMINUM

DESIGN AND FABRICATION ACCORDING TO AWS D1.2. ALL WELDING IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS A.5.10. FILLER ALLOYS PER TABLES M.9.1 & M.9.2 OF 2015 ALUMINUM DESIGN MANUAL.

CONCRETE :

DESIGN AND CONSTRUCTION ACCORDING TO ACI 318-14
- COMPRESSIVE STRENGTH AT 28 DAYS, f 'c= 2500 PSI MINIMUM.
- CEMENT TYPE II OR IV. W/C RATIO 0.45 BY WEIGHT FOR PIER AND CAISSON
- FOOTINGS CONCRETE MUST BE POURED AGAINST UNDISTURBED EARTH.
- MAINTAIN A MINIMUM 3" CONCRETE COVER OVER ALL EMBEDDED STEEL.

SOIL:

LATERAL SOIL BEARING PER IBC CLASS 4 TABLE 1806.2 (150 PSF/FT). MODIFIED PER SECTION 1806.3.4.

www.yjinc.com
P.O. BOX 802050
SANTA CLARITA, CA. 91380
TEL. (661)259-0700 FAX. (661)259-0900

SHEET TITLE:

HARDEE'S #CKE-H-F.41
DT CANOPY

DRN BY: J.O.	DATE LAST REVISED: Jul 07, 2022	REV. NO.	REV. DATE	REVISED BY	PROJECT JOB # : JTS_131322_Hardee's #CKE-H-F.41_W Duval Street_Lake City_FL.dwg
CHK BY: T.J.	PROJ. START DATE: JULY 06, 2022	1	--/--/--	---	PROJECT LOCATION : HARDEE'S #CKE-H-F.41, 279 W DUVAL ST, LAKE CITY, FL
REV BY: T.J.	SCALE: AS SHOWN	2	--/--/--	---	SHEET # 1 OF 1
PLOTTED BY: Sara Boykin	ON 7/7/2022 10:16:03 AM	3	--/--/--	---	

Y.J. INC.

P. O. Box 802050
Santa Clarita, CA 91380

TEL: (661) 259-0700
FAX: (661) 259-0900

Sign Design Based On FBC 7th Edition 2020 HVHZ 1620 with Wind Loads Per ASCE 7-16

Job #	JTS_131322
Project	Hardee's #CKE-H-F.41 - DT Canopy
Job Location	279 W Duval St
	Lake City, FL

INPUT DATA

Exposure category (B, C or D)		=	C	
Risk Category		=	II	
Ultimate Design Windspeed	V_{ULT}	=	130	MPH
Topographic factor	K_{zt}	=	1	Flat
Height of the sign	h	=	12.04	FT
Average Vertical dimension (for wall, s = h)	s	=	1.92	FT
Horizontal dimension	B	=	8.00	FT
Dimension of return corner	L_r	=	0.50	FT

ANALYSIS

Velocity pressure

$q_z = 0.00256\ K_z\ K_{zt}\ K_d\ V^2\ K_e$ = **31.26** PSF

where:

q_z = velocity pressure at height h. (Eq. 26.10-1 page. 268)

K_z = velocity pressure exposure coefficient	=	**0.85**	
evaluated at height above gRnd. level, h (Tab. 26.10-1, page 268)			
K_d = wind directionality factor. (Tab. 26.6-1, page 266)	=	**0.85**	
K_e = ground elevation factor, see (Tab. 26.9-1, page 268)	=	**1.00**	

Wind Force Case A: resultant force through geometric center

	Max horizontal wind pressure = $p = q_z\ G\ C_f$ =	=	49	PSF
where:	G = gust effect factor. (Sec. 26.11-1, page 269).	=	0.85	
	C_f = net force coefficient. (Fig. 29.3-1, page 323)		1.85	
	A_s = B s = the gross area	=	15.33	FT^2
	Estimated sign cabinet weight	=	93	LBS.

DESIGN SUMMARY

Allowable Stress Design Wind Factor =		0.60	
Design Wind Pressure =	**0.6 x p =**	29.49	PSF
Design Windforce, F =	**29.49 x As =**	0.45	KIPS
Moment Arm =		8.50	FT
Design Moment =	**F x Moment Arm =**	3.84	KIP-FT
Top Area = 64.00 FT^2			
Top Moment Arm =		2.94	FT
Dead Load Moment =	**DL x Top Moment Arm =**	2.82	KIP-FT
Top Wind Load Moment =	**p x Top Area x Top Moment Arm =**	5.55	KIP-FT
Total Moment =		12.21	KIP-FT

Footing Design (Nonconstrained)

Diameter =	2.00	FT
Soil Pressure =	150.00	PSF/FT
S_1 =	413.00	PSF
A =	1.28	FT
EMBED. =	4.14	FT

24" DIA. DEPTH = 4' - 2"

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LICENSE
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Exp: 02/28/2023
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Sign Design Based On FBC 7th Edition 2020 HVHZ 1620 with Wind Loads Per ASCE 7-16

Job #	JTS_131322
Project	Hardee's #CKE-H-F.41 - DT Canopy
Job Location	279 W Duval St Lake City, FL

Pole Design

ST'L. SQ. HSS

Sec.Mod. Req'd. — USE A500 GR. B — Fy= 46000 PSI

S = 5.34 | HSS 6" x 6" x 1/4" | S = 9.54 IN^3

Torsion Shear | Torsion = 358 LB-FT | t = 0.23 IN^4

τ = 277 | b = 6.00 IN

Shear Stress | A = 5.24 IN^2

V = 194.1

Total V Stress= 471 allow fv = 18400

Unity = (5.34 / 9.54) + (471 / 18400) = 0.59 **< 1 (OK)**

Base Plate

ST'L. PLATE

Thickness Req'd. — USE A36

t = 0.73 | PL 16" x 16" x 3/4" | t = 0.75 **(OK)**

Anchor Design

GALV. ST'L. ANCHOR BOLT

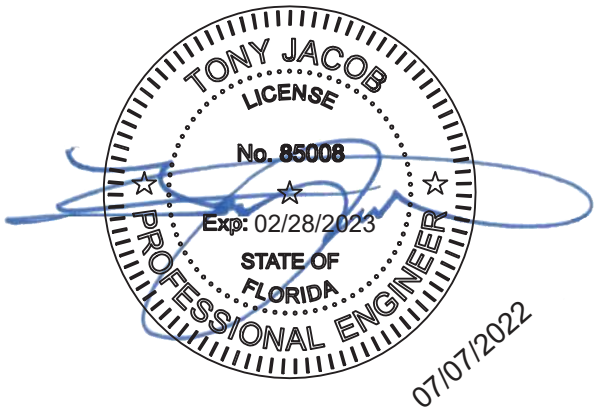
Tension Req'd. — USE F 1554 GR. 36

T = 6107 | 3/4" DIA., x 30" LONG | T = 9610

Shear Req'd.

V = 136 | V = 5130

Unity = (6107 / 9610) + (136 / 5130) = 0.66 **< 1 (OK)**



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