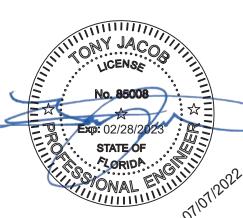




WIND LOADS BASED ON FBC 7TH EDITION 2020				
PARAMETER		VALUE		
EXPOSURE CATAGORY B,C or D		С		
RISK CATEGORY		II		
ULTIMATE DESIGN WIND SPEED (3 sec. gust wind)	V _{ult}	130 mph		
NOMINAL DESIGN WIND SPEED	V _{asd}	101 mph		
MAX. HORIZONTAL WIND PRESSURE FACTORED	P=	29.49 psf		
LIVE LOAD	L=	15 psf		

This item has been electronically signed and sealed by Tony Jacob using a digital #4 TIES @ 6" O.C. REMAINDER signature and date. Printed copies of this document are not considered signed (6) #6 VERTS, 3" CLEARANCE and sealed and the signature must be verified on any electronic copies.





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.

- 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

- 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.

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	
CHK BY: T.J.	PROJ. START DATE: JULY 06, 2022	1	//	_	
REV BY: T.J.	SCALE: AS SHOWN	2	//	-	
DI OTTEN DV: Q	oro Povikin ON 7/7/2022 10:16:03 At		1.1		_

REV. NO.	REV. DATE	REVISED BY	PROJECT_JOB#: JTS_131322_Hardee's #CKE-H-F.41_W Duval Street_Lake City_FL.dwg	J	
1	//		PROJECT LOCATION: HARDEE'S #CKE-H-F.41	SHEET#	
2	//		279 W DUVAL ST LAKE CITY FL	1	OF



P. 0. 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

Hardee's #CKE-H-F.41 - DT Canopy Project

279 W Duval St Job Location Lake City, FL

INPUT DATA

Exposure category (B, C or D)		=	С	
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	В	=	8.00	FT
Dimension of return corner	Lr	=	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** FT²

Top Moment Arm = 2.94 KIP-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 Total Moment = KIP-FT 12.21

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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Job# JTS_131322

Project Hardee's #CKE-H-F.41 - DT Canopy

Job Location 279 W Duval St Lake City, FL

Unity =

Dala Daalaa			0711 00 1	100			
<u>Pole Design</u>			ST'L. SQ. F				
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			allo	ow fv =	18400	
Unity =	(5.34 /	9.54) +	(471	/ 18400) = 0.	59	< 1 (OK)	
Base Plate			ST'L. PLAT	E			
Thickness Reg'd.			USE	A36			
t = 0.73	PL	16" x	16" x	3/4"	t =	0.75	(OK)
Anahar Dasien			CALV CTI	ANCHOD BOLT			
Anchor Design				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	

(6107 / 9610) + (136 / 5130) = 0.66

< 1 (OK)

