



THOMAS

SIGN & AWNING CO INC
4590 118TH Avenue North
Clearwater, Florida 33762

800-526-3325

www.thomassign.com

CLIENT

Publix
Design Number:
24in P - 15in LIQ WW CL
Installation Address:
255 NW Commons Loop
Lake City, FL 32055

Project Identity Number:
97881

Sales Associate: Project Team:

TSA JanZ

Designer: Date:

SLD 04-17-23

Project Updates:
X



THIS ARTICLE IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.



3MTM MCSTM Warranty

Approval:

☐ Approved

DATE:

☐ Approved as noted

DATE:

☐ Revise & Re-Submit

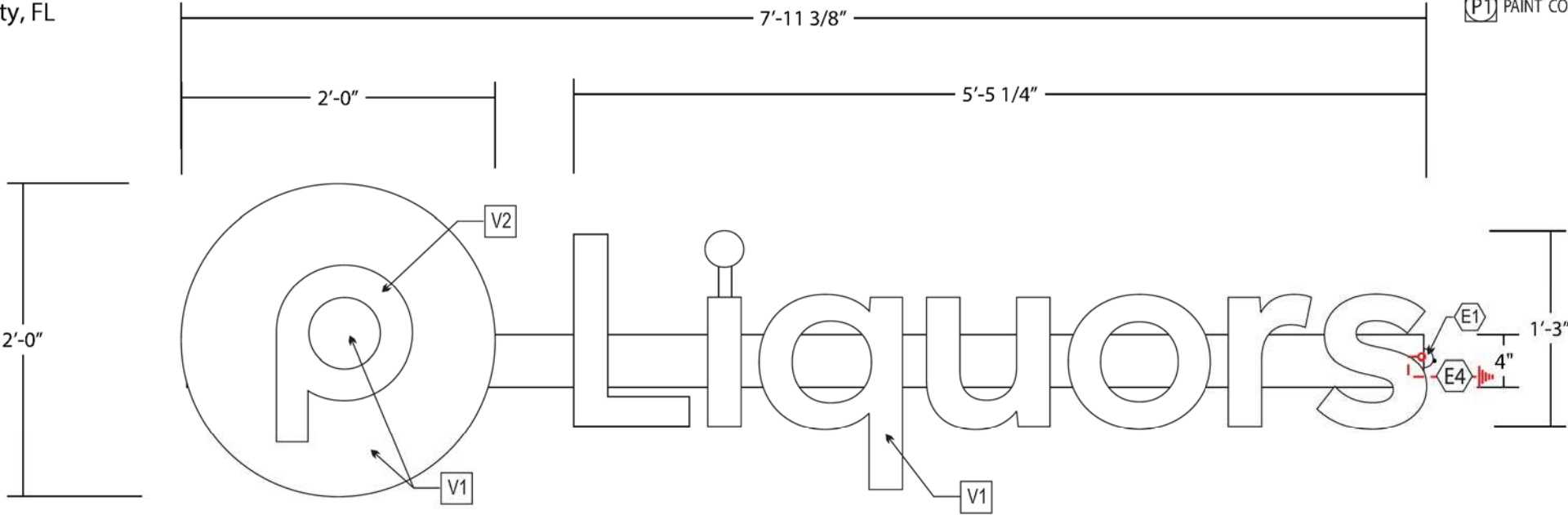
DATE:

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Local: 727-573-7757
Fax: 727-573-0328



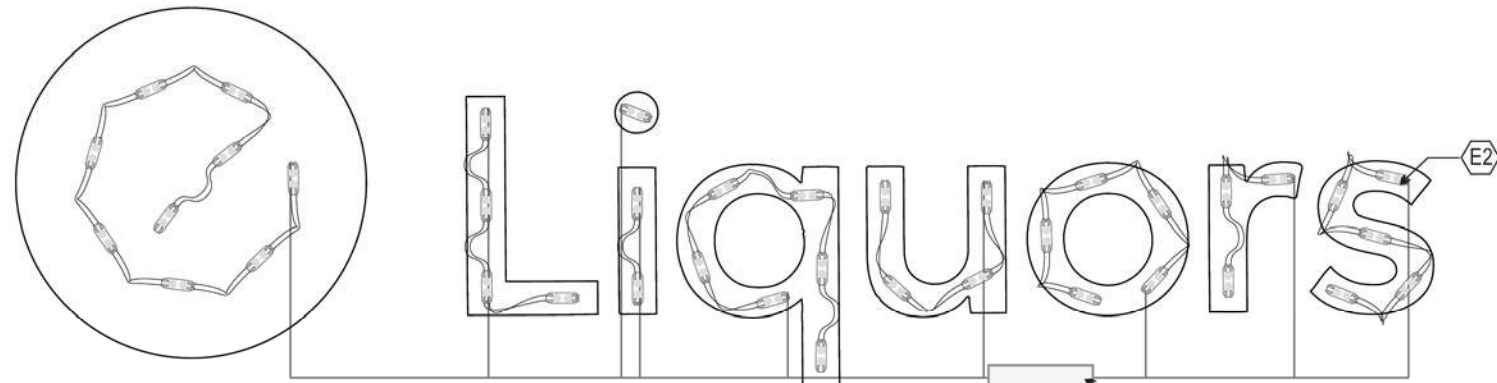
24" Flat "P" Logo & 15" "Liquors" Remote Channel Letter Wireway Mounted Layout

Scale: 1"=1'-0"



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John F. Dougherty
Digitally signed by John F. Dougherty
Date: 2023.06.01 15:15:46 -05'00'



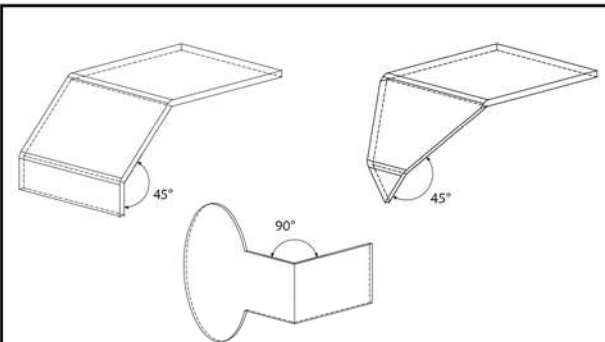
Load: 40.5
Modules: 39
Watts: 24.3 of 60.0
PS: HanleyLED 60w

LOGO	L	I	Q	U	O	R	S
9 mods	4 mods	3 mods	6 mods	4 mods	5 mods	3 mods	5 mods
5.6 w	2.5 w	1.9 w	3.7 w	2.5 w	3.1 w	1.9 w	3.1 w
2.9 mod/ft2	10.6 mod/ft2	13.4 mod/ft2	10.5 mod/ft2	9.6 mod/ft2	11.7 mod/ft2	12.5 mod/ft2	14.1 mod/ft2
3.141 sq ft	0.376 sq ft	0.224 sq ft	0.573 sq ft	0.415 sq ft	0.429 sq ft	0.240 sq ft	0.355 sq ft

39 Modules: Hanley LED - Phoenix NRG PE-2-HLED-PE2
24.3 Watts
1 Power Supply: Hanley LED - HanleyLED 60w
5.75 SqFt

24" Flat "P" Logo & 15" "Liquors" Remote LED Layout

- ELECTRICAL INSTALLATION KIT**
AN ELECTRICAL INSTALLATION KIT SHALL BE INCLUDED WITH ALL LETTER SETS SHIPPED. THESE SHALL INCLUDE:
1. MOUNTING PATTERN
 2. WEATHER PROOF CONDUIT PASS THROUGH CONNECTIONS
 3. ELECTRICAL FITTINGS
 4. TRANSFORMER BOXES WITH WHIPS/ELECTRICAL LEADS



ISO VIEW DETAILS BIRD CONTROL INSERTS - .150" CLEAR POLYCARBONATE

(P1) PAINT COLORS (E1) ELECTRICAL NOTES (V1) VINYL COLORS (F1) FABRICATION NOTES

TOTAL 15.89'

PART # PUB4-CL24-RW-L

ESTIMATE # 191404

MATERIAL FOR LED CHN. LETTERS & LOGO

BACKS: .063" PRE-FINISH ALUMINUM B/W
RETURNS: .050" PRE-FINISH ALUMINUM GREEN/WHITE DEPTH: 5"
COPY FACES: .177" ACRYLIC #2447 WHITE SG
LOGO (PI): .177" ACRYLIC #7328 WHITE SG
TRIM CAP: 1" JEWELITE ROWS: 1
LED: HANLEY NEW PHOENIX ENERGY
WALL FASTENERS: PER FASTENER SCHEDULE
RACEWAY: 4" X 4"
GRAPHICS: VINYL GRAPHICS

COLOR FOR LED CHN. LETTERS & LOGO

FACES: WHITE WITH NOTED VINYL
RETURNS INT: PRE-FINISH WHITE
RETURNS EXT: PRE-FINISH GREEN/WHITE
TRIM CAP: TO MATCH PMS 363C GREEN
LED: WHITE
RACEWAY: TO MATCH FASCIA (TRD)
GRAPHICS: NOTED

VINYL COLOR

1) 3M 3630-5801 Publix Green 1ST SURFACE
2) REVERSE WEDED WHITE

ELECTRICAL NOTES

1) WEATHERPROOF DISCONNECT SWITCH
2) HANLEY LED's
3) SIGN IS WIRED AS IS ON SCHEMATIC FOR POWER SUPPLY
4) PRIMARY ELEC. 6" WHIP
5) 60 WATT POWER SUPPLY



ELECTRICAL SPECIFICATIONS

LED MODULES = 39	110 VOLT INPUT		AMP. INPUT
	SECONDARY		
HANLEY TRANSFORMER	VOLTS	WATTS	
1 H60W-PPS277	12	60	0.9
TOTAL			0.9
(1) 20 AMP-120 VOLT CIRCUIT REQUIRED			

PER 2017 NATIONAL ELECTRIC CODE

ALL ELECTRICAL COMPONENTS WILL BE UL LISTED AND APPROVED AS PER 2017 NEC 600.3 AND MARKED AS PER NEC 600.4. THE INSTALLATION OF THE WIRING WILL BE DONE AS PER FBC 48.4 AND DESIGNED TO UL 48. ALL SIGNS WILL BE GROUNDING AND BONDED AS PER NEC 600.7 AND 250.122. A DISCONNECT WILL BE PROVIDED AS PER NEC 600.6. PRIMARY ELECTRICAL SOURCE WILL BE SUPPLIED BY CUSTOMER TO WITHIN 6 FEET OF SIGN LOCATION. THIS SIGN WILL BE BUILT AND INSTALLED IN COMPLIANCE WITH 2017 NEC ARTICLE 600, UL AND FBC. THIS SIGN IS A UL LISTED ASSEMBLY PER NEC 600.3

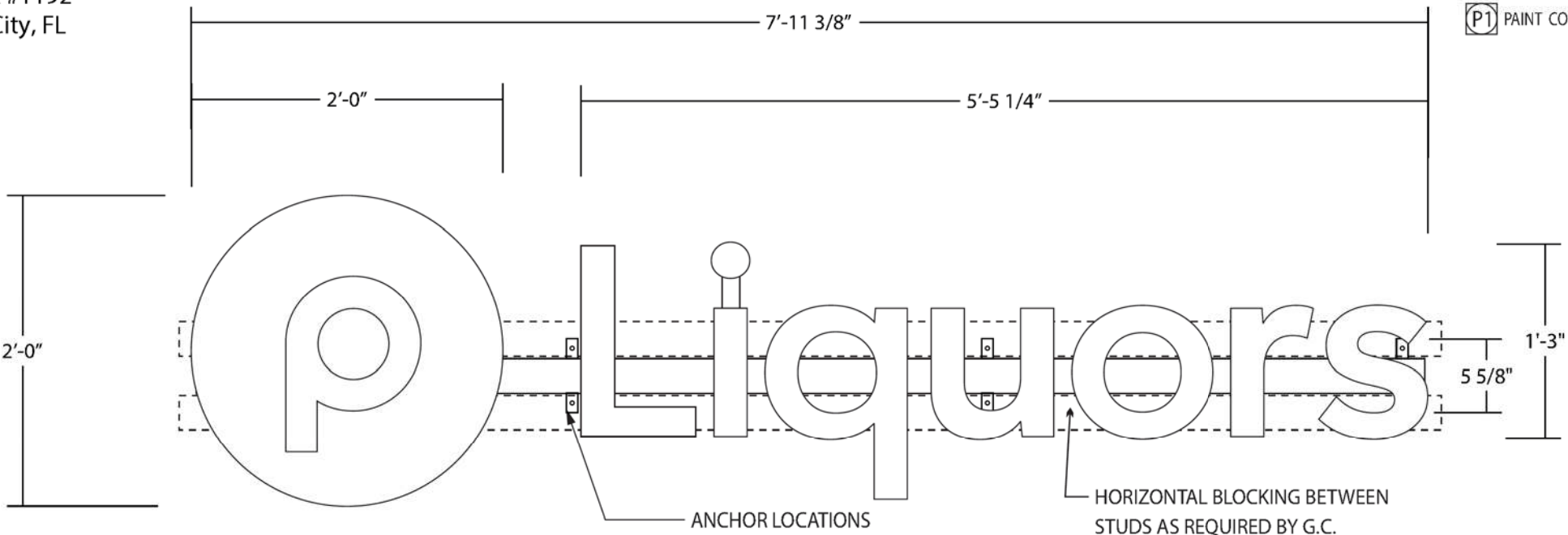
THE LOCATION OF THE DISCONNECT SWITCH AFTER INSTALLATION SHALL COMPLY WITH ARTICLE 600.6(A) (1) OF THE NATIONAL ELECTRICAL CODE.



Design Loads

PER FL BLDG CODE, 7TH ED (2020)

BASIC WIND SPEED, V	121 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	B
DESIGN WIND PRESSURE	32.6 PSF
FL CERTIFICATE OF AUTHORIZATION NO	31751



24" Flat "P" Logo & 15" "Liquors" Remote Channel Letter Installation & Engineering

Scale: 1"=1'-0"

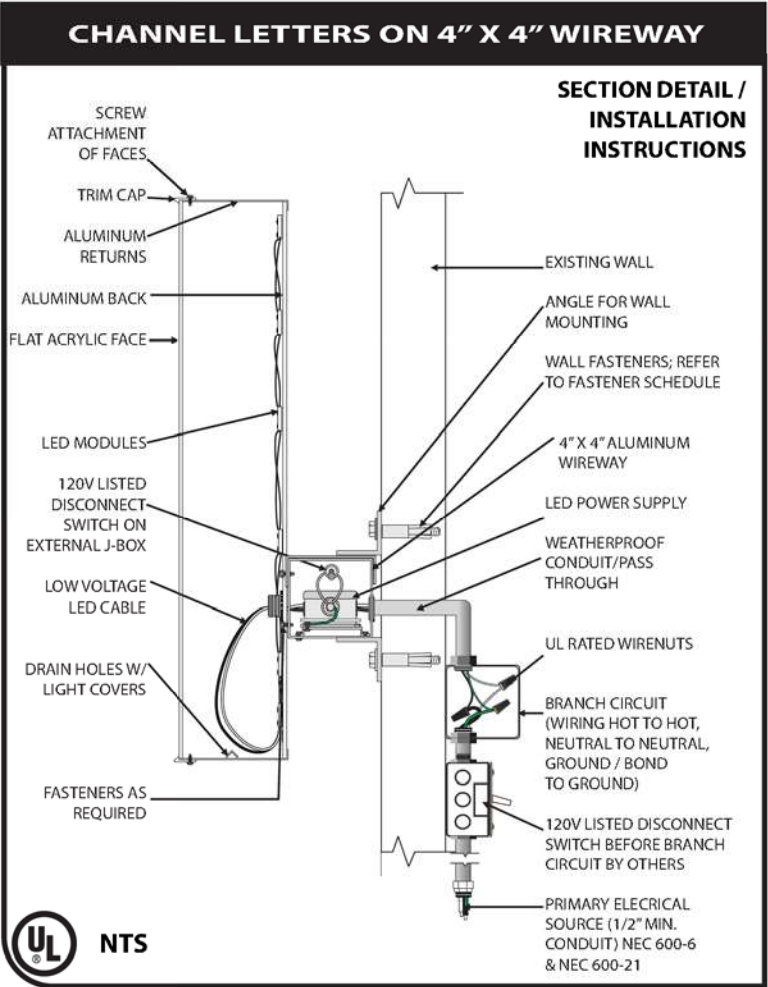
Design Loads	
PER FL BLDG CODE, 7TH ED (2020)	
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John F
Dougherty

Digitally signed by
John F Dougherty
Date: 2023.06.01
15:16:21 -05'00'



- GENERAL NOTES:**
1. CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND DIMENSIONS.
 2. EXISTING WALL CONSTRUCTION TYPE MUST BE DETERMINED AT THE ACTUAL PROPOSED LOCATION OF THE LETTERS BY THE CONTRACTOR.
 3. CONTRACTOR SHALL VERIFY THAT FASTENERS CHOSEN ARE SUITABLE WITH WALL CONDITION TO WITHSTAND THE STATED PULLOUT FORCE.
 4. THE BUILDING ENGINEER SHALL INCLUDE THE LOADS APPLIED BY THE SIGN STRUCTURE IN THE DESIGN OF THE WALL SYSTEM.
 5. INSTALLATION SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES.

- INSTALLATION NOTES:**
1. TSA TO PROVIDE MOUNTING PATTERN.
 2. INSTALLER TO DRILL HOLES THRU WALL. INSTALL CONDUITS AND WIRES ON BACK OF EACH LETTER TO PASS THRU WALL.
 3. ELECTRICIAN TO INSTALL JUNCTION BOXES ON THE INSIDE OF WALL AS REQUIRED.
 4. RUN CONDUIT AND CONNECTING WIRE BETWEEN EACH JUNCTION BOX.
 6. FASTENERS PER FASTENER SCHEDULE
 7. SEAL ALL PENETRATIONS WITH SILICONE.

FASTENER SCHEDULE	
WALL TYPE	FASTENER TYPE
ALL WALL TYPES	1/4" DIA GALVANIZED A307 THROUGH-BOLT WITH GALVANIZED NUT AND PLATE WASHERS TO PREVENT PULL-OUT
WOOD BLOCKING	1/4" DIA LAG SCREW X 1-1/2" INCH EMBEDMENT INTO WOOD
E/F'S OVER 5/8" PLYWOOD	1/4" DIA DFR T-ANCHOR OR 3/8" DIA DFR LIBERTY ANCHOR (MALE TYPE ONLY) TOGGLE BOLT
HOLLOW CORE CONCRETE BLOCK	1) 1/4" DIA DFR T-ANCHOR OR 3/8" DIA DFR LIBERTY ANCHOR (MALE TYPE ONLY) TOGGLE BOLT 2) 1/4" DIA THREADED ROD EMBEDDED 2" INTO DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE IN MESH SCREEN TUBE 3) HILTI HLC SLEEVE ANCHOR, 1/4" X 1" EMBEDMENT INTO SHELL OF HOLLOW CELL CMU
GROUT-FILLED CONCRETE BLOCK	1) HILTI HLC OR SIMPSON STRONG-TIE SLEEVE-ALL SLEEVE ANCHOR, 3/8" X 1-1/2" EMBEDMENT 2) 3/8" THREADED ROD EMBEDDED 3-3/8" INTO CONCRETE MASONRY IN DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE
SOLID CONCRETE	1) RED HEAD BRAND TAPCON ANCHORS, 3/16" DIA X 1" INCH EMBEDMENT 2) HILTI HLC OR SIMPSON STRONG-TIE SLEEVE-ALL SLEEVE ANCHOR, 1/4" X 1-1/8" EMBEDMENT 3) 3/8" THREADED ROD EMBEDDED 2-1/4" INTO CONCRETE IN DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE IN MESH SCREEN TUBE
BRICK MASONRY	1) HILTI HLC SLEEVE ANCHOR, 1/4" X 1" EMBEDMENT 2) 1/4" THREADED ROD EMBEDDED 3-1/4" INTO BRICK MASONRY IN DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE IN MESH SCREEN TUBE

SELECT FASTENER TYPE APPROPRIATE TO THE EXISTING WALL TYPE.
PROVIDE MINIMUM OF 6 FASTENERS (3 PAIR) IN RACEWAY MOUNTING ANGLES.

ANCHOR TO BE THRU BOLTS IF POSSIBLE, ALTERNATE ANCHORS PER WALL TYPE SHOWN ABOVE FOR USE IF THRU BOLTING IS NOT POSSIBLE

ALL ANCHORS SHALL BE CHOSEN AND PLACED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS

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CLIENT	
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Design Number: 24in P - 15in LIQ WW CL ENG	
Installation Address: 255 NW Commons Loop Lake City, FL 32055	
Project Identity Number: 97881	
Sales Associate:	Project Team:
TSA	JanZ
Designer:	Date:
SLD	04-17-23
Project Updates: X	

Underwriters Laboratories, Inc.
LISTING E89514
ELECTRIC SIGN
COMPLIES TO UL 48

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3M™ MCS™ Warranty

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Fax: 727-573-0328

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Sign & Awning Company, Inc.

4590 118th Avenue North

Clearwater, Florida 33762

Florida Certificate of Authorization No. 31751

Structural Calculations

Client: Publix Liquors #1192

Project Identity No.: 97881

Design No.: 98700

Installation Location: 255 NW Commons Loop, Lake City, FL

Description: Raceway-Mounted Channel Letters Wall Sign

Engineering Calculations

Table of Contents

Structural Engineering Calculations

Prepared by: John F. Dougherty, P.E.

Florida P.E. No. 80640

Code: Florida Building Code, 7th Edition (2020) - Building

Pages 1 - 5

John F
Dougherty
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Digitally signed
by John F
Dougherty
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Structural Calculations

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Project Identity No.: 97881

Design No.: 98700

Prepared by: John F. Dougherty

Florida P.E. License No 80640

Installation Location: 255 NW Commons Loop, Lake City, FL

Building eave height or mean roof height, h =	23.0	feet above grade ($h \leq 60'$)
Installation height, z =	19.6	feet above grade
Roof Shape:	Flat	

Florida Building Code 7th Edition (2020) Building

ASCE 7-16, "Minimum Design Loads and Associated Criteria for Buildings and Other Structures"

ASCE 7-16 Chapter 30, Section 30.4 "Part 2: Low-Rise Buildings (Simplified)"

(Enclosed, low-rise buildings)

ASCE 7-16, Table 1.5-1 (p. 4); Risk Category	II
ASCE 7-16, Figure 26.5-1, Basic Wind Speed, V =	118 mph (interpolated)
Use Basic Wind Speed, V =	121 mph
ASCE 7-16, Section 26.7; Surface Roughness	B
Exposure Category	B
ASCE 7-16, Section 26.8, Topographic Factor, K_{zt}	1.00

Overall Size of sign	Height	2.00	feet
	Width	7.95	feet
	Effective Wind Area	15.90	sq. ft.

ASCE 7-16, Fig 30.4-1, P_{NET30} =	26.4	psf
	-35.3	psf

ASCE 7-16, Fig 30.4-1, γ =	0.92
-----------------------------------	------

ASCE 7-16, Eq. 30.4-1, $P_{net} = \gamma K_{zt} P_{net30}$ =	32.6	psf
--	------	-----

Sign Size

	Sign	
Height	2.00	feet
Width	7.95	feet
Area	15.90	sq ft
Thickness	0.75	feet
Max Dimension	7.95	feet
Lateral Area	5.96	sq ft

Wind Force Normal to Sign Face

Face Area (sq ft)	15.9
Pnet (psf)	32.6
Design force (lb)	517.9
No of anchors	6

Force per anchor 86.3 lb tension

Tension in bolts is 100% comprised of wind load

Wind Force Applied to Side of Sign / Letter

LateralArea (sq ft)	5.96
Pnet (psf)	32.6
Design force (lb)	194.2
No of anchors	6
Fws per anchor	32.37 lb wind shear

Self Weight of Sign / Letter

Assumed unit weight of sign	5 psf
-----------------------------	-------

Sign area	15.90 sq ft
Weight of sign, say	79.5 lbs
No of anchors	6
Fg per anchor (lb)	13.25 gravity shear

Shear force lb total
 = Fws+ Fg = 34.98 shear
 Shear is 38% dead load
 and 93% wind load

For load combination 1.0 DL + 0.6 Wind:

	Sign	
	52	lb tension
	32.7	lb shear
Standoff Distance	0.0	inches
Moment	0.00	inch-lb

To be shown on construction documents:

BASIC WIND SPEED, V:	121 mph
RISK CATEGORY:	II
EXPOSURE CATEGORY:	B
DESIGN WIND PRESSURE, Pnet:	32.6 psf

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Select types and sizes of required mechanical fasteners suitable for each of a variety of types of exterior wall types/substrates.

Fastener Design Forces:

Tension, P_T : 52 lbShear, P_S : 32.7 lbMoment, M : 0.00 inch-lb

WALL TYPE	ANCHOR TYPE
ALL WALL TYPES	0.250 IN DIA GALVANIZED A307 THROUGH-BOLT WITH GALVANIZED NUT AND PLATE WASHERS TO PREVENT PULL-OUT
WOOD BLOCKING	0.25 INCH DIA LAG SCREW X 1.5 INCH EMBEDMENT INTO WOOD
EIFS OVER 5/8" PLYWOOD	0.2500 IN DIA DFS 'T-ANCHOR' OR 3/8" DIA MALE TYPE DFS 'LIBERTY ANCHOR'

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HOLLOW CORE CONCRETE BLOCK	0.2500 IN DIA DFS 'T-ANCHOR' OR 3/8" DIA MALE TYPE DFS 'LIBERTY ANCHOR' OR 0.250 INCH DIA THREADED ROD EMBEDDED 2 INCHES INTO DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE IN MESH SCREEN TUBE OR 0.250 INCH DIA. HILTI HLC SLEEVE ANCHOR EMBEDDED 1.00 INCHES INTO SHELL OF HOLLOW CELL CMU OR RED HEAD BRAND TAPCON ANCHORS- 0.25 IN DIA X 1 IN EMBEDMENT
GROUT-FILLED CONCRETE BLOCK	HILTI HLC OR SIMPSON STRONG-TIE SLEEVE- ALL SLEEVE ANCHOR, 0.3750 IN X 1.5000 IN EMBEDMENT OR 0.375 IN THREADED ROD EMBEDDED 3.375 IN INTO DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE

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SOLID CONCRETE	RED HEAD BRAND TAPCON ANCHORS: 0.1875 IN X 1.00 IN EMBEDMENT OR 'HILTI HLC' OR 'SIMPSON STRONG-TIE SLEEVE-ALL' SLEEVE ANCHOR, 0.2500 IN X 1.1250 IN EMBEDMENT OR 0.375 IN THREADED ROD EMBEDDED 2.250 IN INTO DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE
BRICK MASONRY	HILTI HLC SLEEVE ANCHOR, 0.25 IN X 1.00 IN EMBEDMENT OR 0.250 IN THREADED ROD EMBEDDED 3.250 IN INTO DRILLED HOLE FILLED WITH HILTI HIT-HY 10 PLUS ADHESIVE IN MESH SCREEN TUBE