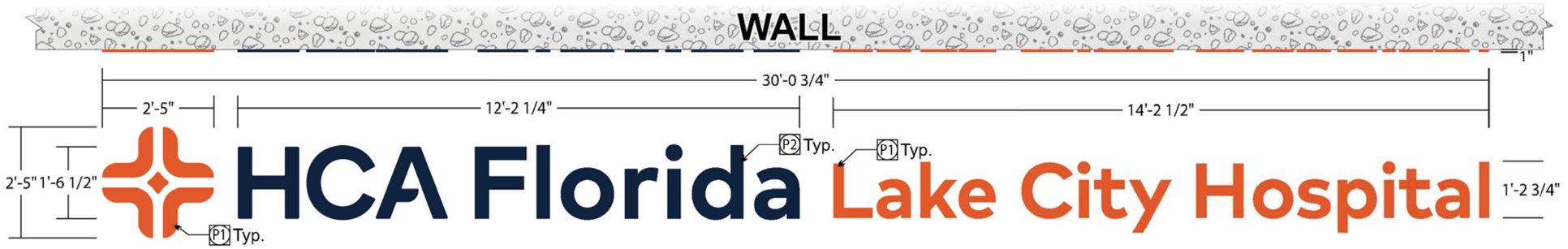
HCA Florida Lake City Hospital
Lake City, FL

Celebrating 52 Years of Quality Manufacturing and Service 52

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

SIGN LOCATION - 25



New Wall Sign - N/I Rev. Channel Letters

SCALE: 3/8" = 1'-0"

TOTAL SQFT = 72.65 ⍝

PART # TFCL30&7REVFCOM

ESTIMATE # 183222

MATERIAL FOR LED CHN. LETTERS

BACKS:	N/A	
RETURNS:	.063" ALUMINUM	DEPTH: 1"
FACES:	.125" ALUMINUM	
CL FASTENERS:	STUD MOUNTED AS DETAILED	
GRAPHICS:	NOTED	

FONTS USED

1) CUSTOMER ART

PAINT COLOR

1) PAINT TO MATCH PANTONE 289 C BURNT ORANGE / UV RESISTANT GLOSS TOPCOAT
2) PAINT TO MATCH PANTONE 7579 C NAVY BLUE / UV RESISTANT GLOSS TOPCOAT

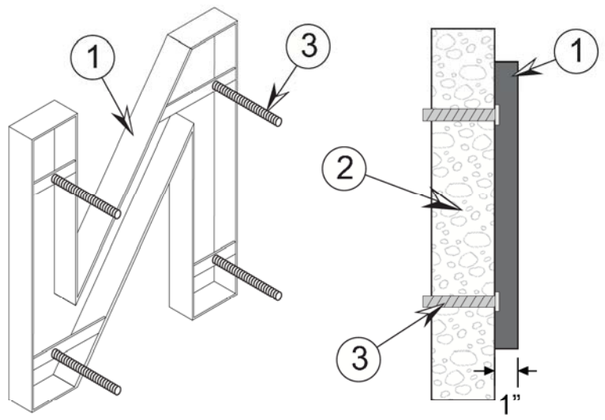
Design Loads

PER FL BLDG CODE, 7TH ED (2020)

BASIC WIND SPEED, V	136 MPH
RISK CATEGORY	IV
EXPOSURE CATEGORY	B
DESIGN WIND PRESSURE	32.8 PSF
FL CERTIFICATE OF AUTHORIZATION NO 31751	

Engineer Seal

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida

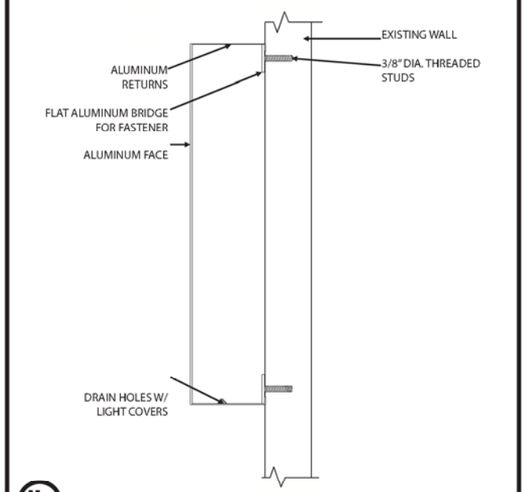


1. 1" Aluminum Formed Letter
2. Existing Wall / Surface
3. 3/8" threaded stud. Install w/ Hilti-HIT-HY10 Plus All Purpose Adhesive as follows:
   Provide 3 threaded studs in each logo quadrant.
   Provide 4 threaded studs in letter "H."
   Provide 2 threaded studs in letters "l" & "i."
   Provide 3 threaded studs in each other letter.

Typical Aluminum Formed Letter Detail

NON-ILLUMINATED REVERSE CHANNEL LETTERS

SECTION DETAIL / INSTALLATION INSTRUCTIONS



JOHN F. DOUGHERTY LICENSE No 80640 STATE OF FLORIDA PROFESSIONAL ENGINEER

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John F Dougherty
Digitally signed by John F Dougherty
Date: 2023.01.13 11:34:55 -06'00'

THOMAS SIGN & AWNING CO INC
4590 118TH Avenue North
Clearwater, Florida 33762
800-526-3325
www.thomassign.com

CLIENT
HCA Florida Lake City Hospital
Design Number: 97209
Installation Address: 3239 NW York DR Lake City, FL 32055
Project Identity Number: 96070

Sales Associate:	Project Team:
MT	BM
Designer:	**Date:**
JB	09.07.22

Project Updates:
09.12.22 JB - Revisions
09.19.22 JB - Revisions

3M™ MCS™ Warranty

Approval:
☐ Approved DATE:
☐ Approved as noted DATE:
☐ Revise & Re-Submit DATE:

Page	Sheet
1	1 of 1

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

THOMAS
Sign & Awning Company, Inc.
4590 118th Avenue North
Clearwater, Florida 33762
Florida Certificate of Authorization No. 31751

Structural Calculations
Client: HCA Florida Lake City Hospital
Project Identity No.: 96070
Design No.: 97209

Installation Location: 3239 NW York Dr, Lake City, FL
Description: Reverse Channel Letters Wall Sign 25

Engineering Calculations
Table of Contents

Structural Engineering Calculations — Pages 1 - 6
Prepared by: John F. Dougherty, P.E.
Florida P.E. No. 80640
Code: Florida Building Code, 7th Edition (2020) - Building

John F Dougherty

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THOMAS
Sign & Awning Company, Inc.
4590 118th Avenue North
Clearwater, Florida 33762
Florida Certificate of Authorization No. 31751

Structural Calculations
Client: HCA Florida Lake City Hospital
Project Identity No.: 96070
Design No.: 97209
Prepared by: John F. Dougherty
Florida P.E. License No 80640

Installation Location: 3239 NW York Dr, Lake City, FL

Building eave height or mean roof height, h =	18.8	feet above grade (h<= 60')
Installation height, z =	16.5	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	IV	
ASCE 7-16, Figure 26.5-1, Basic Wind Speed, V =	133	mph, interpolated
Use Basic Wind Speed, V =	136	mph
ASCE 7-16, Section 26.7; Surface Roughness	B	Suburban
Exposure Category	B	
ASCE 7-16, Section 26.8, Topographic Factor, Kzt	1.00	

Overall Size of sign	Height	2.42	feet
	Width	30.06	feet
	Effective Wind Area	72.65	sq. ft.
	ASCE 7-16, Fig 30.4-1, P_{NET30} =	29.8	psf
		-37.6	psf
	ASCE 7-16, Fig 30.4-1, γ =	0.87	
	ASCE 7-16, Eq. 30.4-1, Pnet= γ Kzt P_{net30} =	32.8	psf

Sign or Channel Letter Sizes

	Logo Quadrant	H	I, i	Other CLs	
Height	1.00	1.54	1.54	1.54	feet
Width	1.00	1.33	0.25	1.50	feet
Area	1.00	2.06	0.39	2.31	sq ft
Thickness	0.083	0.083	0.083	0.083	feet
Max Dimension	1.00	1.54	1.54	1.54	feet
Lateral Area	0.08	0.13	0.13	0.13	sq ft

Wind Force Normal to Sign Face

Face Area (sq ft)	1.0	2.1	0.4	2.3	
Pnet (psf)	32.8	32.8	32.8	32.8	
Design force (lb)	32.8	67.4	12.6	75.9	
No of anchors	3	4	2	3	
Force per anchor	10.9	16.9	6.3	25.3	lb tension
Tension in bolts is	100%	100%	100%	100%	comprised of wind load

Wind Force Applied to Side of Sign / Letter

LateralArea (sq ft)	0.08	0.13	0.13	0.13	
Pnet (psf)	32.8	32.8	32.8	32.8	
Design force (lb)	2.7	4.2	4.2	4.2	
No of anchors	3	4	2	3	
Fws per anchor	0.91	1.05	2.11	1.40	lb wind shear

Self Weight of Sign / Letter		Assumed unit weight of sign		5	psf
Sign area	1.00	2.06	0.39	2.31	sq ft
Weight of sign, say	5.0	10.3	1.9	11.6	lbs
No of anchors	3	4	2	3	
Fg per anchor (lb)	1.67	2.57	0.96	3.85	gravity shear
Shear force = Fws+ Fg =	2.58	3.62	3.07	5.26	lb total shear
Shear is	65%	71%	31%	73%	dead load
and	35%	29%	69%	27%	wind load

For load combination 1.0 DL + 0.6 Wind:

	Logo Quadrant	H	I, i	Other CLs	
	6.56	10.1	3.79	15.2	lb tension
	2.21	3.20	2.23	4.70	lb shear
Standoff Distance	0.0	0.0	0.0	0.0	inches
Moment	0.00	0.00	0.00	0.00	inch-lb

Shaded data above used for wall fastener selection

To be shown on construction documents:

BASIC WIND SPEED, V:	136	mph
RISK CATEGORY:	IV	
EXPOSURE CATEGORY:	B	
DESIGN WIND PRESSURE, Pnet:	32.8	psf

THOMAS
Sign & Awning Company, Inc.
4590 118th Avenue North
Clearwater, Florida 33762
Florida Certificate of Authorization No. 31751

Structural Calculations
Client: HCA Florida Lake City Hospital
Project Identity No.: 96070
Design No.: 97209
Prepared by: John F. Dougherty
Florida P.E. License No 80640

Select sizes of adhesive anchors suitable for each of a variety of types of exterior wall types/substrates, using Hilti HIT-HY 10 Plus adhesive. Modify dia and lengths of embedment for pin-mounted FCO letters and numerals.

Hilti publishes Allowable Strength load data:

Fastener Design Forces:	FCO's	
Tension, P_T:	15.2	lb
Shear, P_S:	4.70	lb
Moment, M:	0.0	inch-lb

Connection to Normal Weight Concrete

Anchor Dia (in)	Embedment Depth (in)	Allowable Tension (lb)	Allowable Shear (lb)
0.375	2.25	750	1325
0.375	3.375	1985	1360
0.375	4.5	2140	1360
0.5	3	1405	2420
0.5	4.5	3530	2420
0.5	6	4295	2420
0.625	3.75	1925	3780
0.625	5.625	4290	3780
0.625	7.5	5715	3780
0.75	4.5	2740	5445
0.75	7.5	5880	5445
0.75	9	7055	5445

	FCO's	
For	0.375	dia threaded rod
embedded	2.25	inches into cracked >2,500 psi concrete
Allowable tension =	750	lb
Allowable shear =	1325	lb

Assume O.D. of spacer sleeve = 2x fastener diameter

Spacer sleeve O.D. =	0.75	inch

Resolve moment M into force couple with distance = spacer sleeve radius

force in bolt due to M	0.00	lb
Total Tension, P'_T:	15	lb

	P'T<= PTallow; OK
	Ps<= PSallow; OK
Stress ratio = $P'_T/P_{Tallow} + P_S/P_{Sallow}$ =	0.024 <=1.00; OK

Proposed usage is 0.25 inch dia embedded 1 inch. Mfr doesn't rate its product for this
Ratio allowable tension and shear for proposed use.

Allowable tension= 222 lb
Allowable shear = 589 lb
Stress ratio = 0.076

Connection to Face of Grout-Filled CMU

Anchor Dia (in)	Embedment Depth (in)	Allowable Tension (lb)	Allowable Shear (lb)
0.375	3.375	950	675
0.5	4.5	1500	1125
0.625	5.625	2125	1950
0.75	6.75	2850	3000

FCO's
For 0.375 dia threaded rod
embedded 3.375 inches into cmu
Allowable tension = 950 lb
Allowable shear = 675 lb
Assume O.D. of spacer sleeve = 2x fastener diameter
Spacer sleeve O.D. = 0.75 inch
Resolve moment M into force couple with distance = spacer sleeve radius
force in bolt due to M 0.00 lb
Total Tension, P'_T: 15 lb

	P'T<= PTallow; OK
	Ps<= PSallow; OK
Stress ratio = $P'_T/P_{Tallow} + P_S/P_{Sallow}$ =	0.02 <=1.00; OK

Proposed usage is 0.25 inch dia embedded 1 inch. Mfr doesn't rate its product for this
Ratio allowable tension and shear for proposed use.

Allowable tension= 188 lb
Allowable shear = 300 lb
Stress ratio = 0.097

Connection to Face of Hollow Cell CMU

Anchor Dia (in)	Embedment Depth (in)	Allowable Tension (lb)	Allowable Shear (lb)
0.25	2	115	170
0.3125	2	185	250
0.375	2	260	395
0.5	2	260	615

FCO's

For 0.25 dia threaded rod

embedded 2 inches into cmu using mesh screen tubes

Allowable tension = 115 lb

Allowable shear = 170 lb

Assume O.D. of spacer sleeve = 2x fastener diameter

Spacer sleeve O.D. = 0.5 inch

Resolve moment M into force couple with distance = spacer sleeve radius

force in bolt due to M 0.00 lb

Total Tension, P'_T: 15 lb

	P'T<= PTallow; OK
	Ps<= PSallow; OK
Stress ratio = $P'_T/P_{Tallow} + P_S/P_{Sallow}$ =	0.16 <=1.00; OK

Proposed usage is 0.25 inch dia embedded 1 inch. Mfr doesn't rate its product for this

Ratio allowable tension and shear for proposed use.

Allowable tension= 58 lb

Allowable shear = 170 lb

Stress ratio = 0.292

Connection to Face of Hollow Clay Brick

Anchor Dia (in)	Embedment Depth (in)	Allowable Tension (lb)	Allowable Shear (lb)
0.25	3.25	275	230
0.3125	3.25	425	400
0.375	3.25	580	700
0.5	3.25	580	1030

FCO's

For 0.25 dia threaded rod

embedded 3.25 inches into brick using mesh screen tubes

Allowable tension = 275 lb

Allowable shear = 230 lb

Assume O.D. of spacer sleeve = 2x fastener diameter

Spacer sleeve O.D. = 0.5 inch

Resolve moment M into force couple with distance = spacer sleeve radius

force in bolt due to M 0.00 lb

Total Tension, P'_T: 15 lb

P'T<= PTallow;	OK
Ps<= PSallow;	OK
Stress ratio = $P'_T/P_{Tallow} + P_S/P_{Sallow}$ =	0.08 <=1.00; OK

Proposed usage is 0.25 inch dia embedded 1 inch. Mfr doesn't rate its product for this Ratio allowable tension and shear for proposed use.

Allowable tension= 85 lb

Allowable shear = 230 lb

Stress ratio = 0.200

HCA Florida Lake City Hospital
Lake City, FL

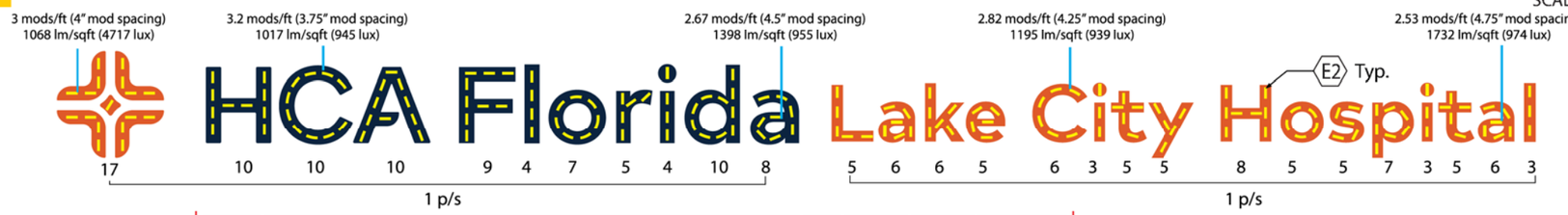
Celebrating 52 Years of Quality Manufacturing and Service 52

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

SIGN LOCATION - 28B

New Illuminated Wall Sign

SCALE: 3/8" = 1'-0"



BILL OF MATERIALS

Ref #	Part Number	Description	Qty	Unit	w/unit	Unit/PS
1	OTSR-X2-BW65	PRIME24V REBEL Bright White 6500K	177	mods	0.6	136
2	ASU-100-24U	96W-24V Power Supply	2	pcs	N/A	N/A

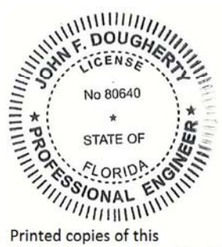
F5

LED Layout E3

NO ELECTRICAL AVAILABLE FOR SIGN, AS NO SIGN IS CURRENTLY PRESENT. PER NEC 2017 ARTICLE 600, A DEDICATED SIGN CIRCUIT MUST BE UTILIZE FOR THE SIGN. HCA TO COORDINATE WITH HOSPITAL AND ELECTRICIAN TO RUN NEW SIGN CIRCUIT TO WALL BEHIND SIGN AREA

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	3/8" DIA LAG SCREW X 1-1/2 INCH EMBEDMENT INTO WOOD
EIFS OVER 5/8" PLYWOOD	1/4" DIA DFS T-ANCHOR OR 3/8" DIA DFS LIBERTY ANCHOR (MALE TYPE ONLY) TOGGLE BOLT
HOLLOW CORE CONCRETE BLOCK	1) 1/4" DIA DFS T-ANCHOR OR 3/8" DIA DFS LIBERTY ANCHOR (MALE TYPE ONLY) TOGGLE BOLT 2) 3/8" DIA THREADED ROD EMBEDDED 2 INCHES 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, 1/4" DIA X 1-1/4 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
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 14 FASTENERS (7 PAIR) INSTALLED IN RACEWAY MOUNTING BARS.	



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John F Dougherty

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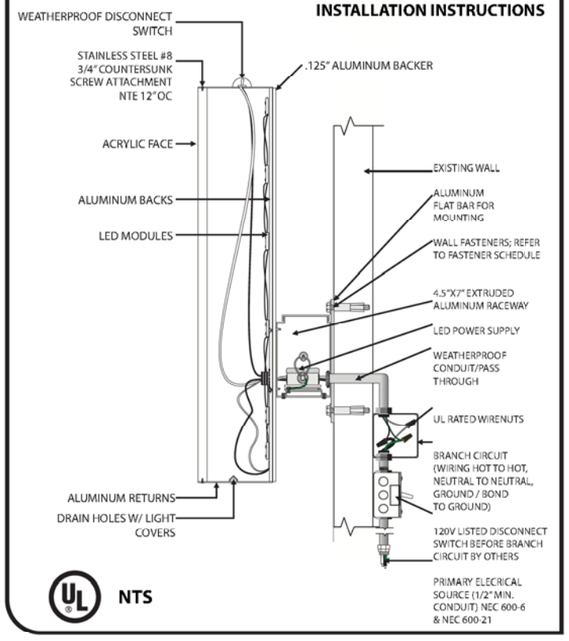
Date: 2023.01.13 11:36:20 -06'00'

TRIMLESS CHANNEL LETTER ON 4 1/2" x 7 1/2" RACEWAY AND ALUMINUM BACKER

SECTION DETAIL / INSTALLATION INSTRUCTIONS



TOTAL SQFT = 52.31 ø
PART # LCH-CS-X-28-1B
ESTIMATE # 190721

MATERIAL FOR LED CHN. LETTERS

BACKS:	.063 ALUMINUM
RETURNS:	.063" ALUMINUM DEPTH: 5"
FACES:	1/2" CLEAR ACRYLIC W/ ROUTED EDGES
L.E.D.:	BITRO 6500 OPTICS PRO
WALL FASTENERS:	REFER TO FASTENER SCHEDULE
GRAPHICS:	3M DIGITALLY PRINTED VINYL
RACEWAY:	4 1/2" X 4 1/2" EXTRUDED ALUMINUM

COLOR FOR LED CHN. LETTERS

FACES:	AS NOTED
RETURNS INT:	WHITE
RETURNS EXT:	NOTED, W/UV. CLEAR SATIN TOP COAT
L.E.D.:	WHITE
RACEWAY:	PAINTED TO MATCH FASCIA

VINYL COLOR

1)PERFORATED: DIGITALLY PRINTED ON 3M 3635-210 DUAL COLOR FILM COMPLETE WITH 3M SCOTCHCAL MATTE OVERLAMINATE TO MATCH PANTONE 7579 C / FIRST SURFACE
2)PERFORATED: DIGITALLY PRINTED ON 3M 3635-210 DUAL COLOR FILM COMPLETE WITH 3M SCOTCHCAL MATTE OVERLAMINATE TO MATCH PANTONE 289 C / FIRST SURFACE
3)3M ENVISION 3735-60 DIFFUSER FILM WHITE - 63% LIGHT TRANSMISSION / SECOND SURFACE

PAINT COLOR

1) PAINT TO MATCH TBD TO MATCH BUILDING COLOR / UV RESISTANT CLEAR SATIN TOP COAT.
2) PAINT TO MATCH PANTONE 289 C BURNT ORANGE / UV RESISTANT SATIN TOPCOAT
3) PAINT TO MATCH PANTONE 7579 C NAVY BLUE / UV RESISTANT SATIN TOPCOAT

ELECTRICAL NOTES

1) WEATHERPROOF DISCONNECT SWITCH
2) LEDs
3) SIGN IS WIRED AS IS ON SCHEMATIC FOR POWER SUPPLY
4) 10 FT MIN. WHIP / ELEC. PRIMARY
5) LED POWER SUPPLY

bitro Your Technology Partner

ELECTRICAL SPECIFICATIONS

LED MODULES= 268	110 VOLT INPUT		
BITRO TRANSFORMER	SECONDARY VOLTS	SECONDARY WATTS	AMP. INPUT
2 ASU-100-24U	24	96	0.9
TOTAL			1.8

(1) 20 AMP-120 VOLT CIRCUIT REQUIRED

GROUNDED ELECTRICAL CONNECTIONS

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 4505.4 AND DESIGNED TO UL 48. ALL SIGNS WILL BE GROUNDED 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	136 MPH
RISK CATEGORY	IV
EXPOSURE CATEGORY	B
DESIGN WIND PRESSURE	42.2 PSF
FL CERTIFICATE OF AUTHORIZATION NO 31751	

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CLIENT
HCA Florida Lake City Hospital
Design Number:
97209
Installation Address:
3239 NW York DR
Lake City, FL
32055
Project Identity Number:
96070

Sales Associate:	Project Team:
MT	BM
Designer:	**Date:**
JB	09.07.22

Project Updates:
09.12.22 JB - Revisions
09.19.22 JB - Revisions

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

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.

3M™ MCS™ Warranty

Approval:

☐ Approved
DATE:

☐ Approved as noted
DATE:

☐ Revise & Re-Submit
DATE:

Page	Sheet
1	1 of 1

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

THOMAS
Sign & Awning Company, Inc.
4590 118th Avenue North
Clearwater, Florida 33762
Florida Certificate of Authorization No. 31751

Structural Calculations
Client: HCA Florida Lake City Hospital
Project Identity No.: 96070
Design No.: 97209

Installation Location: 3239 NW York Dr, Lake City, FL
Description: Raceway-Mounted Channel Letters Wall Sign 28B

Engineering Calculations
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Florida P.E. No. 80640
Code: Florida Building Code, 7th Edition (2020) - Building

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Design No.: 97209
Prepared by: John F. Dougherty
Florida P.E. License No 80640

Installation Location: 3239 NW York Dr, Lake City, FL

Building eave height or mean roof height, h =	31.5	feet above grade (h<= 60')
Installation height, z =	30.0	feet above grade
Roof Shape:	Flat	

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Use Basic Wind Speed, V =	136	mph
ASCE 7-16, Section 26.7; Surface Roughness	B	Suburban
Exposure Category	B	
ASCE 7-16, Section 26.8, Topographic Factor, Kzt	1.00	

Overall Size of sign	Height	1.94	feet
	Width	27.00	feet
	Effective Wind Area	52.31	sq. ft.
	ASCE 7-16, Fig 30.4-1, P_{NET30} =	31.8	psf
		-41.6	psf
	ASCE 7-16, Fig 30.4-1, γ =	1.02	
	ASCE 7-16, Eq. 30.4-1, Pnet= γ Kzt P_{net30} =	42.2	psf

Sign or Channel Letter Sizes

	RW CLs	
Height	1.94	feet
Width	27.00	feet
Area	52.31	sq ft
Thickness	0.792	feet
Max Dimension	27.00	feet
Lateral Area	21.38	sq ft

Wind Force Normal to Sign Face

Face Area (sq ft)	52.3	
Pnet (psf)	42.2	
Design force (lb)	2208.8	
No of anchors	14	
Force per anchor	157.8	lb tension
Tension in bolts is	100%	comprised of wind load

Wind Force Applied to Side of Sign / Letter

LateralArea (sq ft)	21.38	
Pnet (psf)	42.2	
Design force (lb)	902.5	
No of anchors	14	
Fws per anchor	64.47	lb wind shear

Self Weight of Sign / Letter — Assumed unit weight of sign: 5 psf

Sign area	52.31	sq ft
Weight of sign, say	261.6	lbs
No of anchors	14	
Fg per anchor (lb)	18.68	gravity shear
Shear force = Fws+ Fg =	67.12	lb total shear
Shear is	28%	dead load
and	96%	wind load

For load combination 1.0 DL + 0.6 Wind:

	RW CLs	
	94.7	lb tension
	57.4	lb shear
Standoff Distance	0.0	inches
Moment	0.00	inch-lb

To be shown on construction documents:

BASIC WIND SPEED, V:	136	mph
RISK CATEGORY:	IV	
EXPOSURE CATEGORY:	B	
DESIGN WIND PRESSURE, Pnet:	42.2	psf

THOMAS
Sign & Awning Company, Inc.
4590 118th Avenue North
Clearwater, Florida 33762
Florida Certificate of Authorization No. 31751

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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:

	RW CLs	
Tension, P_T:	94.7	lb
Shear, P_S:	57.4	lb
Moment, 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	0.38 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 0.375 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: 0.2500 IN X 1.25 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