

Date:	7/22/25	City, State:	Cameron, NC	SHEET:	1 OF 4
Client:	Lauretano Sign Group	Overall Height:	12'-0"	Sean M. McFarland, P.E.	
Sign:	Scooters Coffee #33843	Wind Speed	120 mph	McFarland Engineering	

Sign Description	130 Brandywood Ct	Table of Contents
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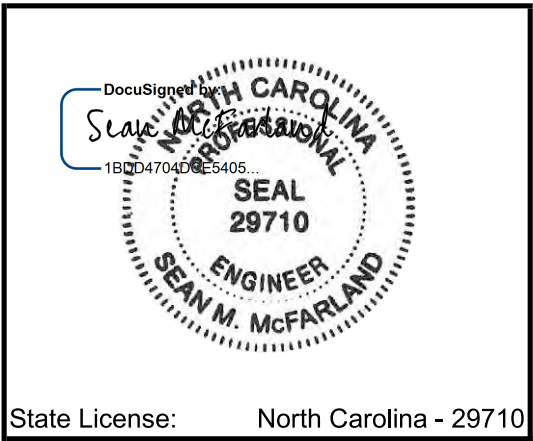
# Columns: 1		Content:	Page
ME Job: 71756	BASE PLATE / ANCHOR BOLTS	Design Loads. . . . .	1
	ULTIMATE LOADS	Support Design. . . . .	1-2
Height: 12'-0"		Foundation Design / General Notes . . . . .	3
Width: 6'-10"			

Structural Variables and Code Loading Specifications

Cabinet Type:	Miscellaneous	Code:	2015 IBC / 2018 NC State
Structural Section:	Tube Steel - 46000psi	Wind Speed:	120
Number of Zones:	7	Wind Exposure:	C
		Wind Loads Per ASCE 7-10	

Sign Sections:

Zone	Cabinet Wt. Per Sq. Ft.	Weight	Transition (Y or N)
1	20	19.0 #/FT	
2	0	19.0 #/FT	
3	20	19.0 #/FT	
4	0	19.0 #/FT	
5	15	19.0 #/FT	
6	0	19.0 #/FT	
7	35	19.0 #/FT	y
8	0		



Geometry:

Zone	Top Elevation	Height	* Approx. Width	Pressure	Force	Approx. Weight
1	12.00 FT	6.00 FT	5.36 FT *	28.74 PSF	0.93 K	758 #
2	6.00 FT	0.17 FT	14.00 FT *	21.56 PSF	0.05 K	3 #
3	5.83 FT	2.00 FT	4.67 FT *	27.84 PSF	0.26 K	225 #
4	3.83 FT	0.17 FT	14.00 FT *	21.56 PSF	0.05 K	3 #
5	3.66 FT	0.91 FT	2.33 FT *	26.94 PSF	0.06 K	49 #
6	2.75 FT	0.17 FT	1.00 FT *	21.56 PSF	0.00 K	3 #
7	2.58 FT	2.58 FT	6.18 FT *	26.05 PSF	0.41 K	607 #

Total Wind Force = 1.76 K 1,648 #

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130 Brandywood Ct

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Moments at Transitions:

Zone	Lateral Force	7 Mom. Arm
1	0.93 K	9.00 FT
2	0.05 K	5.92 FT
3	0.26 K	4.83 FT
4	0.05 K	3.75 FT
5	0.06 K	3.21 FT
6	0.00 K	2.67 FT
7	0.41 K	1.29 FT

10.81 K-FT

Section Properties:	4.27 IN^3	00 IN^3	00 IN^3	00 IN^3	00 IN^3	00 IN^3
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Structural Sections to be used:

Zone	Option	Tube Dim.	Wall t.	Weight	Sxx	d/t	Sxx Req'd
7	Tube	6.00 IN	0.250 IN	19 #/FT	9.49 IN^3	24.00	4.27 IN^3

Structure Required

# Req'd	Size	Wall Thickness
1	6.00 IN	0.250 IN

Date: 7/22/25	City, State: Cameron, NC	SHEET: 3 OF 4
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130 Brandywood Ct

Baseplate Design - A36 Steel      Fy= 36ksi  
D = 6.00 IN      E70 Electrodes Fw= 928 #/in/16th  
e = 1.50 IN      A307 A.B.'s      Ft=20 ksi  
b = 6.00 IN      # of Bolts = 4      Dia. Bolt      0.875  
d = 6.00 IN      Column Mom = 10,805 #-FT  
Baseplate t = 1.00 IN

P Bolt =	$\frac{M * 12 \text{ (in/ft)}}{2 \text{ bolts (D + e + t)}}$	7,627 #	<	12,000 #
t req'd =	$[(6 * P * e * 2 \text{ bolts}) / (.75 * F_y (D + 2 * t))]^{1/2}$	.797 IN	<	1.00 IN
Weld =	$\frac{M * 12 \text{ (in/ft)}}{F_w (b * d + D^{2/3})}$	2.91 16th's	< (2)	3.00 16th's

USE: (4) 7/8" Dia. Bolts w/ 1" Baseplate. Weld to Support with (2) 3/16" Fillet Welds.

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**130 Brandywood Ct**

ME Job: 71756

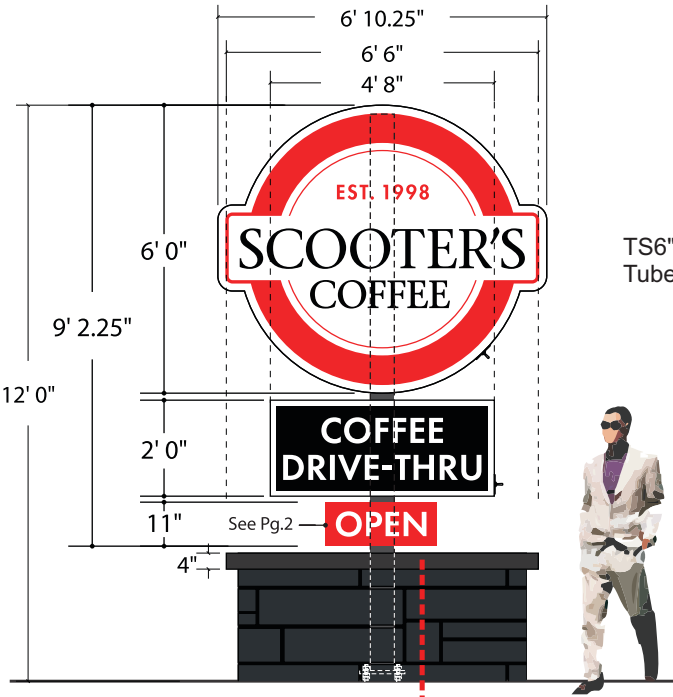
**SPREAD FOOTING DESIGN****One Spread Footing**

Loads:		P(DL) =	1,648 #	
		P(LL) =	0 #	
		M(WL) =	10,805 FT-#	
Footing:	CONCRETE	WIDTH =	7.00 FT	
		LENGTH =	5.00 FT	
		DEPTH =	2.00 FT	
		WEIGHT =	10,500 LBS	
	SURCHARGE	PEDESTAL =	7.00 FT	X
			5.00 FT	X
			0.00 FT	(Zero Soil Surcharge)
		WEIGHT =	0 LBS	
Overturning:		OTM =	10,805 FT-LBS	
		RM =	30,370 FT-LBS	
		FS =	2.811	>1.5 THEREFORE OK
Soil Pressure:		q(DL+LL) =	47.09 PSF	NET
		q(ALLOW) =	1500 PSF	OK
FOR DL+WL:				
		e=M/P =	0.89 FT	
		L/6 =	0.83 FT	(Resultant Outside Middle 3rd)
		q(DL+WL) =	418.36 PSF	NET
		q(ALLOW)=	2000 PSF	OK
Reinforcing:		M(DL+LL)=	147 FT-LBS/FT	
	0.75 * M(DL+WL)=	674 FT-LBS/FT		DL+WL CONTROLS
	DL+WL CONTROLS			
	ASSUME: f'c=3000 PSI, Fy=40000 PSI (minimal)			
		d=	20.63 IN	
		As(REQ'D)=	0.02 IN^2	
		As(PROV.)=	0.31 IN^2	
	USE #5's AT 12" O.C. T&B, EACH WAY			

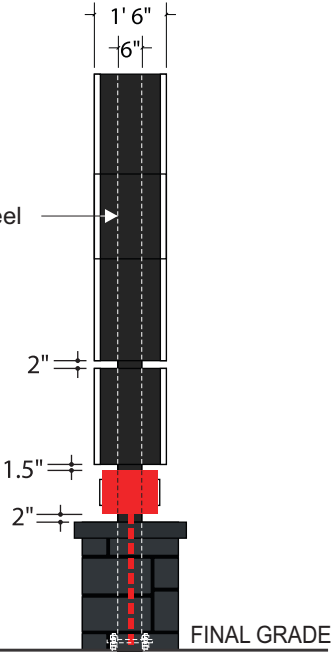
ME #: 71756

Option 1 - Red OPEN Cabinet

Description Illuminated D/S Pylon w/  
Lexan Faces & PSV Graphics



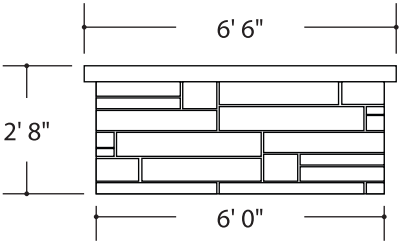
TS6"x6"x1/4" Steel  
Tube Support



FINAL GRADE

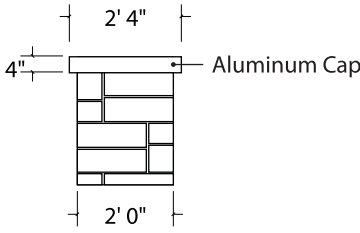
NO ENGINEERING PROVIDED  
OR IMPLIED FOR MASONRY SIGN  
BASE.

1" Conduit  
Parallel to  
6" Tube



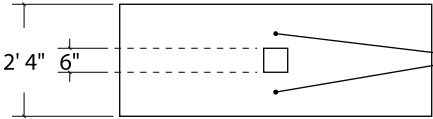
Scale: 1/4" = 1'

Base Face Details



Base Side Details

Aluminum Cap



Cap Plan View

Do Not Put Electrical Conduit  
on either of these sides.

MATERIALS

Upper Cabinet (Scooter's Coffee)

- 0.080" Thk. Aluminum X-Brace Returns
- 0.063" Thk. Aluminum Skins
- 0.040" Thk. Aluminum Retainers
- 1/8" Thk. Aluminum Internal Plate Structures
- 3/16" Thk. Lexan Faces
- 1st Surface PSV Graphics

Lower Cabinet (Coffee Drive Thru)

- 1" Aluminum Angle Frame
- .063" Thk. Aluminum Skins
- .040" Thk. Aluminum Retainers
- 3/16" Thk. Lexan Faces
- 1st Surface PSV Graphics

Illumination

- White LEDs
- Class II Power Supply

Retainer Size: 1 1/2"

Retainer: White ((COLOR))

COLORS

- Skins painted Black, Satin Finish.
- Retainers painted White, Satin Finish.
- Square Tube painted Black, Satin Finish.
- Translucent White Lexan.
- PSV to match:
- Black
- Translucent Tomato Red (230-43), PMS 1788C

NOTES

- Concrete Base & Aluminum Cap Provided by Others
- Stone Color: Sherwin Williams Inkwell 6992
- Electrical Conduit ran Parallel to 6" Tube.

POLE / FOOTING

- 6" Steel Sq. Tube

The electronic seal which appears on this document was authorized by: Sean M. McFarland, PE on July 22, 2025.



183 Edgewater Ct  
Mocksville, NC 27028

STRUCTURAL SIGN DESIGN  
&  
ENGINEERING SERVICES

Ph: (281) 813-7439  
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Web: www.signstructures.com

SCOOTERS COFFEE 33843

Address: 130 BRANDYWOOD CT

City/State: CAMERON, NC

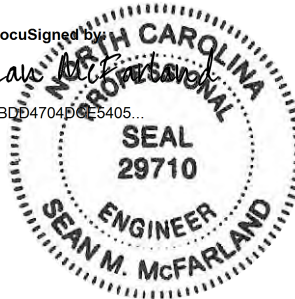
Client: LAURETANO SIGN GROUP

Initial Drawing: (71756) DS

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NC Firm Registration: F-1136  
North Carolina License Number: 29710  
North Carolina Expiration Date: 12/31/2025

Date: 7-22-2025  
Sheet #: 1 OF 4



ME #: 71756

**MATERIALS**

1" Aluminum Angle Frame  
 .063" Thk. Aluminum Skins  
 1/8" Thk. Aluminum CAD-CUT Faces.  
 3/4" Thk. Acrylic Push-Through Letters  
 1/8" Thk. Acrylic Backer

**Illumination**

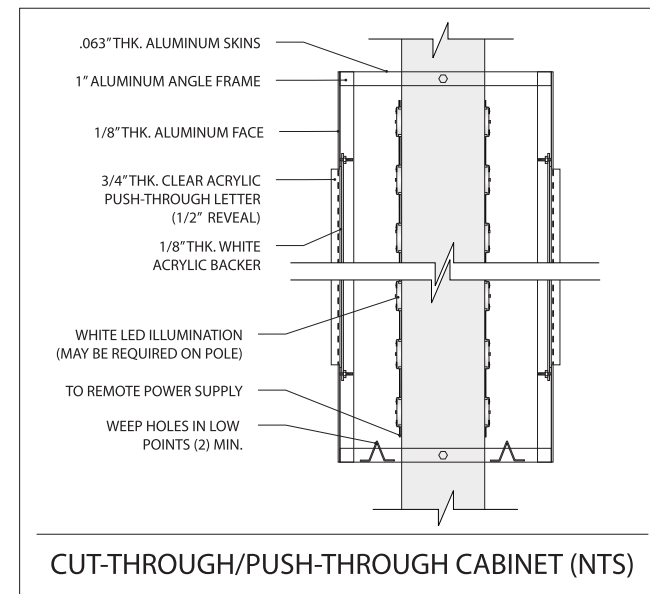
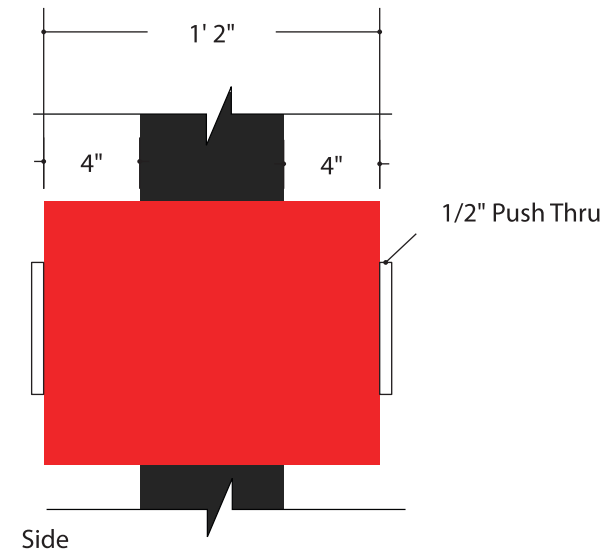
White LEDs  
 Class II Power Supply

**COLORS**

Skins & Faces painted to match Tomato Red (230-43), PMS 1788C  
 Clear Acrylic Push-Through Letters  
 White Acrylic Backer

**NOTES**

Sign will have it's own dedicated curcuit to be on when store is open



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**McFarland Engineering**

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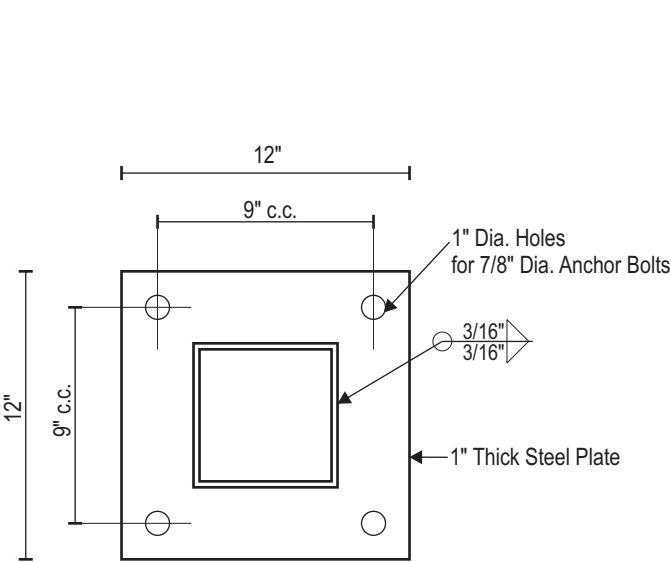
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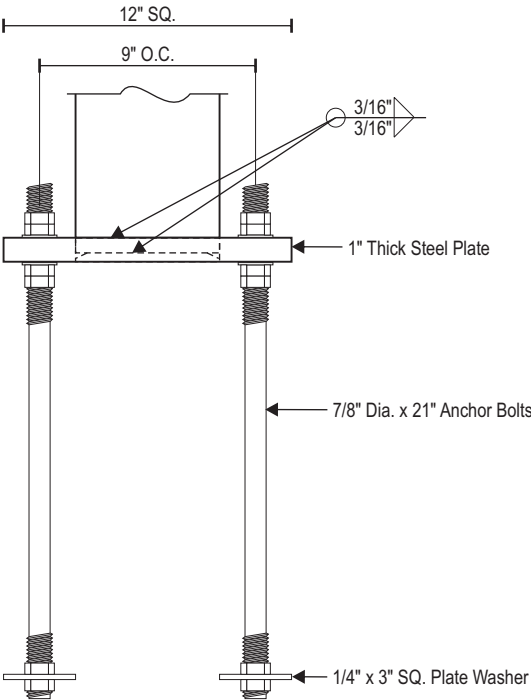
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**BASE PLATE DETAIL**  
1-1/2"=1'-0"  
A307 Anchor Bolts  
A36 Steel Plate



**PLATE DETAIL**  
1 1/2"=1'-0"  
A307 Anchor Bolts  
A36 Steel Plate

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M

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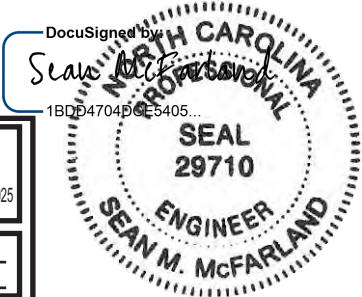
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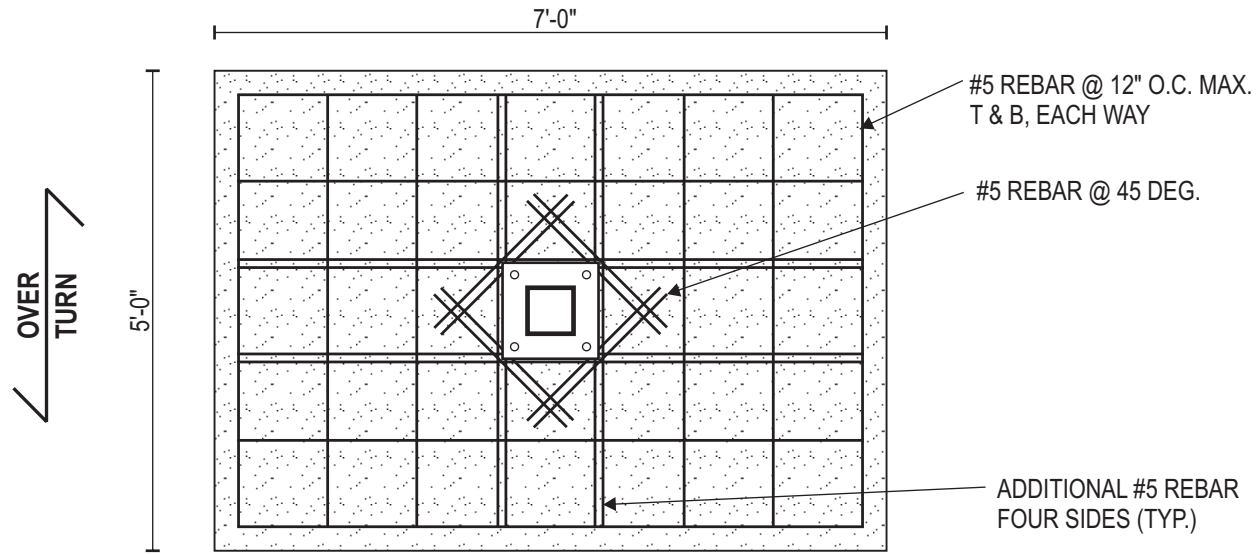
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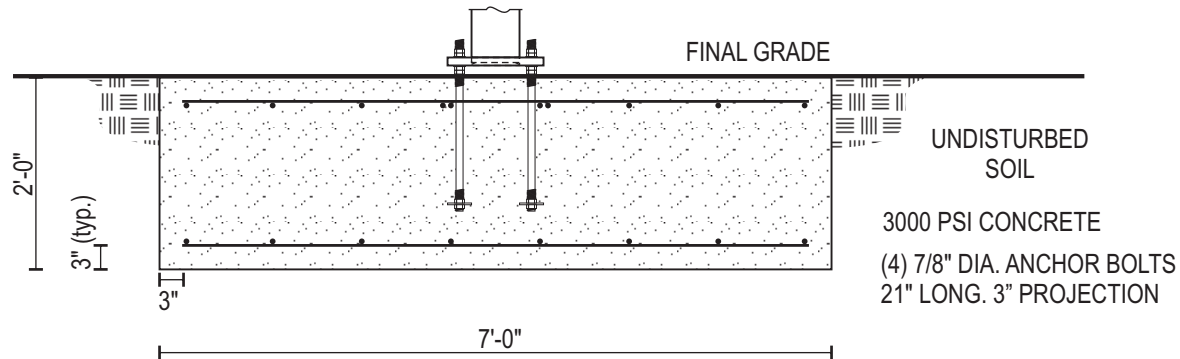


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FOUNDATION PLAN VIEW

SCALE: 1/2"=1'



FOUNDATION SECTION

SCALE: 1/2"=1'

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Sean M. McFarland

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