

**CAVCO - ERWIN NC**  
**72" x 90" ID Sign w/ Reader Board**

2785 US Hwy 301 N, Dunn, NC 28334  
 Ph: 910-892-5900 Fax: 910-892-2140 www.SignandAwning.com

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 All artwork must be approved by the customer before we move forward with the order. It is the customer's responsibility to ensure that the proof is correct in all areas. Please be sure to double-check Spelling, Grammar, Layout, and Design Content. If the proof containing errors is approved, the customer is liable for all costs, including corrections and reprints. Proofs may not represent exact colors. All colors displayed may look different in person than on your computer screen due to the individual monitor or screen color settings.

<b>Customer / Landlord Approval:</b>	<b>Date:</b>
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**HONEYCUTT ENGINEERING**

16127 Spiveys Corner Hwy  
Dunn, NC 28334  
910-237-0734

Job: Cavco Home Center -- Harnett County

Sheet: 1 of 2

Calculated By: Jason M. Honeycutt

Date: 1/16/24

**Sign Foundation Design For:**

Location =	Harnett County	Height of Sign Face, ft =	6
Design Wind Velocity (V), mph =	120	Width of Sign Face, ft =	8
Height of Structure (Z), ft =	16	Height of Flashing Face, ft =	10
Kz =	0.42	Width of Flashing Face, ft =	2
Exposure =	B	Length of Pole, ft =	0
Structural Classification =	I	Width of Pole, ft =	0
Importance Factor (I) =	1	Area of Sign Face, ft <sup>2</sup> =	48
Gust Response Factor (Gh & Gz) =	1.59	Area of Flashing Face, ft <sup>2</sup> =	20
Geometry Force Coefficient (Cf) =		Area of Pole, ft <sup>2</sup> =	0
Round = 0.75, Square/Rect = 1.2	1.2	Moment Arm of Sign Face, ft =	13
Max Allow. Stress, ksi =	23	Moment Arm of Flashing Face, ft =	5
Number of Poles =	1	Moment Arm of Pole, ft =	0

**Determine Velocity Pressure:**

$Qz = 0.00256 * Kz * (I * V)^2$        $Qz = 15.5$

**Determine Wind Force:**

$F = Qz * (Gh + Gz) * Cf * A$

Sign:	Fs =	1.42
Flashing:	Ff =	0.59
Pole:	Fp =	0.00
	Ftotal (kips) =	2.01

**Moment Calculations:**

$M = F * \text{Moment Arm}$

Sign:	Ms =	18.43
Flashing:	Mf =	2.95
Pole:	Mp =	0.00
	Mtotal (kips-ft)	21.39

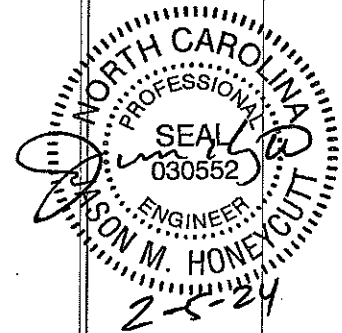
**Section Requirement Calculation:**

$Sreq = Mtotal / \text{max allowable stress}$        $Sreq (in^3) = 11.159$

**Embedment Depth Required:**

USE: 7" x 7" x 1/4" Steel Tubing

Force on Pole (P), lbs =	2009
Height Above Ground the Load Is Applied (H), ft =	10.65
Diameter of Foundation or Pole (B), ft =	2.5
Passive Soil Allowable Pressure (p), psi =	
Ranges from 100 - 400	400
Assumed depth (d), ft =	6.33
Soil pressure, (psi)	2000
Steel Specification:	A500 Grade B, 50 ksi
Concrete pressure, (psi)	3000
$Si = p * d / 3$	Si = 844.00
$A = 2.34 * P / (Si * B)$	A = 2.23
$d = (A / 2) * (1 + (1 + (4.36 * H / A)))^{0.5}$	d = 6.32



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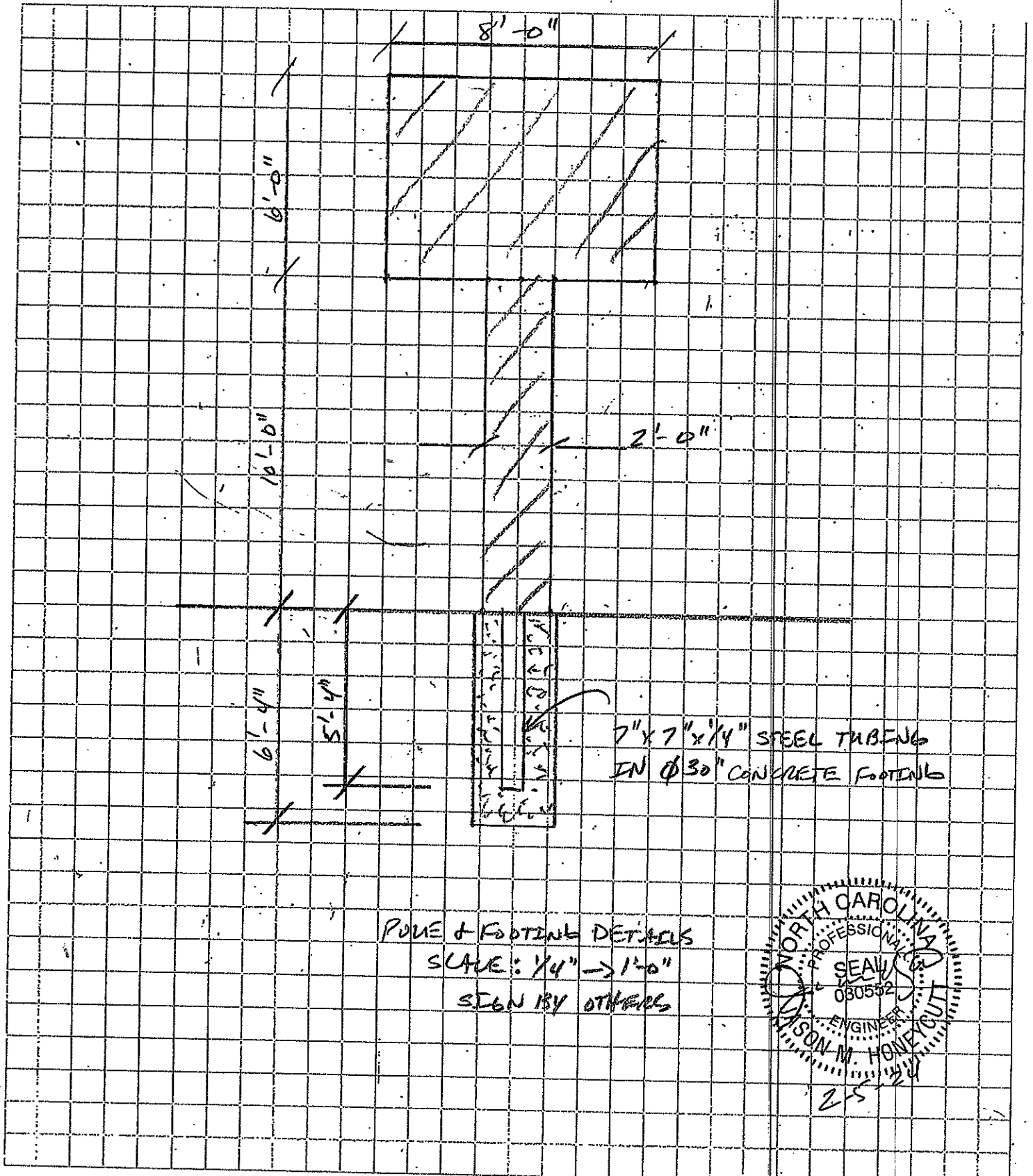
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Sheet: 2 of 2

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7" x 7" x 1/4" STEEL TUBING  
IN Ø30" CONCRETE FOOTING

POLE & FOOTING DETAILS  
SCALE: 1/4" → 1'-0"  
SIGN BY OTHERS

