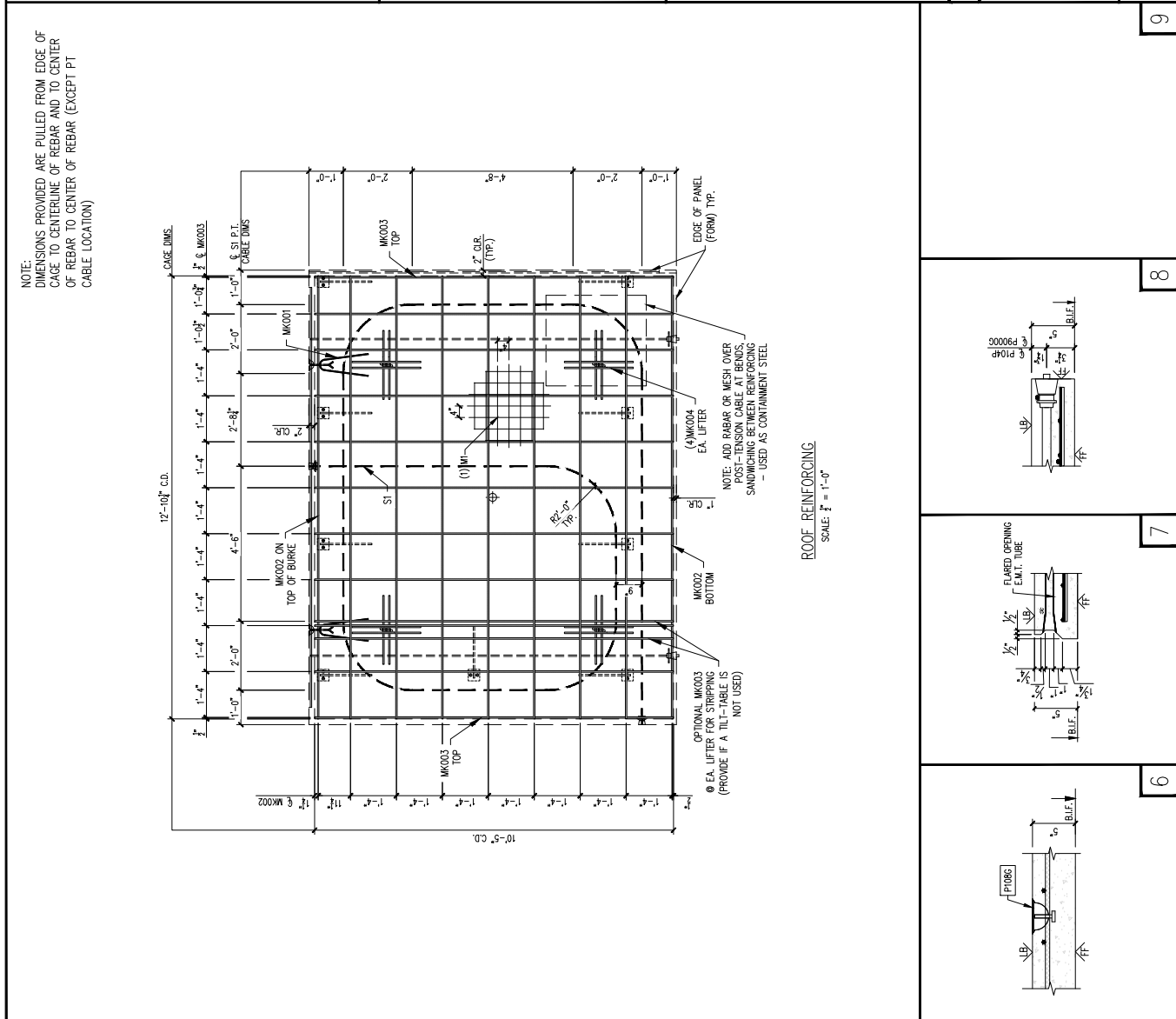
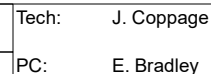


ROOF - EASI-SET BUILDING - RP-10 - 128" x 158"

[illegible]



Job Name: 25-3470P8 CCHS Precast Building
Job Location: 5185 Fort Campbell BLVD
Contractor: Christian County Board of Education C/O A&K Construction

Plant: Beaver Dam

Tech: J. Coppage

9/10/2026 9:57:19 AM

PC: E. Bradley



Structure ID: RP-10 - Roof Panel 10

P1 CVT

ROOF - EASI-SET BUILDING - RP-10 - 128" x 158"

EASI-SET WORLDWIDE

5119 Catlett Road • P.O. Box 400 • Midland, VA • www.EasiSet.com
info@easiset.com • 800-547-4045 • Fax 540-439-2541

EASI-SET BUILDINGS

PT Check for RP-09/10 (PCI MNL - 116)

Material Data

(7) Wire lo-lax Strand - ASTM A416

Φ_{ps} 0.500 in,

A_s 0.153 in²

E_s 28500000 psi

f_{pu} 270 ksi

Strand Length 613 in

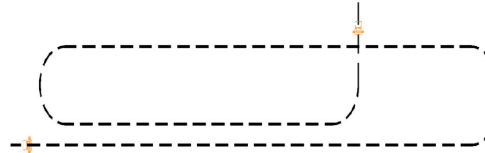
Assume (Info supplied by strand manufacturer)

k = 0.0007 Wobble Friction Coeff.

μ = 0.05 Curvature friction coeff. (Initial tension of 3,000 lbs)

Strand is to be stressed 70% of ultimate

= 28917 lbs



Cable Configuration

Adjustments to tensioning

1) Dead end anchor wedge seating loss

~ Expected to be 1/8 in

2) Live end anchor wedge seating loss

~ Expected to be 1/8 in, recommend over pull 1/8"

3) Elastic Shortening

Neglect for this pnl

4) Friction Loss

Additional force to overcome frictional forces between strand and sheathing

Tensioning Computations

Basic Elongation = $\frac{(\text{Force required beyond initial tension}) (\text{Length of strand between anchorages})}{(\text{Area of strand}) (\text{Modulus of Elasticity})}$

= 3.64 in

Adjustments

a) Dead end anchor wedge seating: Add 1/8" to elong. No force adjustment req'd

Add 1/8 in

b) Live end seating: over pull by 1/8"

1/8 in

Force adjustment $t = \frac{PD}{PS} = 889 \text{ lbs lbs}$ $\alpha = \text{curvature} = \pi(2.5) = 7.85 \text{ radians}$

c) Friction losses $\frac{PD}{PS} = e^{-\frac{(kL + \mu\alpha)}{2}}$

= 0.652

Avg. strand force = 0.826 17.42% Loss

Recommend sequential jacking at both ends of the tendon be used to reduce the overstressing the strand at the live end

Friction loss at mid-point of tendon

$\frac{PD}{PS} = e^{-\frac{(kL + \mu\alpha)}{2}}$

= 0.807

Avg. strand force over

half of tendon = 0.904 9.64% Loss

Total force and elongation at live end must be increased to compensate for friction losses

Elong. Adjustment = 0.351 in

Force Adjustment = 2788 lbs

Total Force Required = 32594 lbs OK

Elongation Summary:

Gross Theoretical Elongation			
Basic Elongation		3.64 in	
Dead End Seating Loss		0.125 in	
Live End Seating Loss		0.125 in	
Friction Losses		0.351 in	
Total Elongation		4.24 in	
Rounded		4 4/16 in	
Tolerance limits	-7.0%	3.95 in	3 15/16 in
	+7.0%	4.54 in	4 9/16 in