



Structure ID: RP-04 - Roof Panel 4

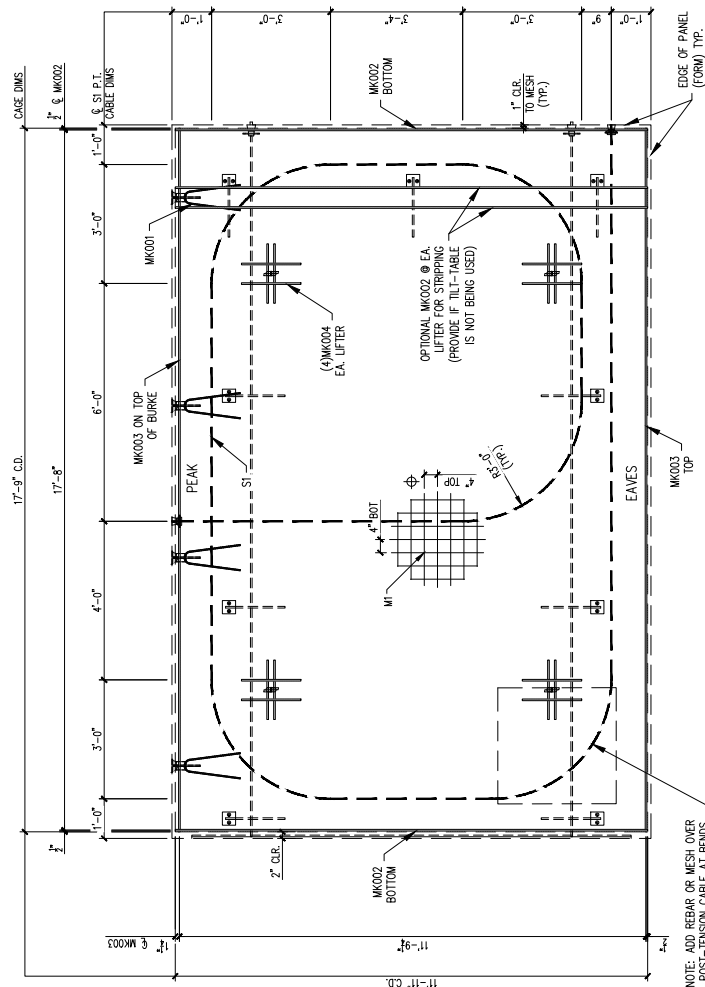
P1 **CVT**

ROOF - EASI-SET BUILDING - RP-04 - 145" x 216"

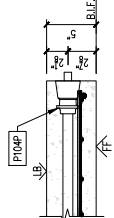
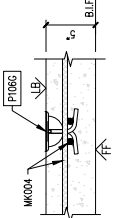
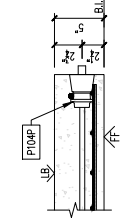
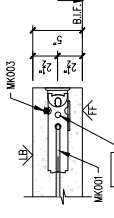
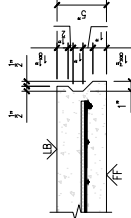
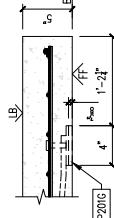
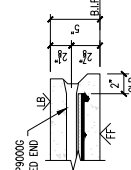
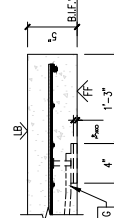
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ROOF - EASI-SET BUILDING - RP-04 - 145" x 216"

SHOP NOTE:
DIMENSIONS PROVIDED ARE PULLED FROM EDGE OF
CAGE TO CENTERLINE OF REBAR AND TO CENTER
OF REBAR TO CENTER OF REBAR (EXCEPT PT
CABLE LOCATION)



NOTE: ADD REBAR OR MESH OVER
POST-TENSION CABLE AT BENDS,
SANDWICHING BETWEEN REINFORCING
- USED AS CONFINEMENT STEEL



NOTES:

1. TRIM PLASTIC SHEATH AT BOTH ENDS OF THE PT CABLE TO FIT BETWEEN U-5 ANCHOR PLATES
2. CONSTRUCT REBAR-MESH CAGE ACCORDING TO THE DRAWINGS. SECURE LIFTING APPARATUS TO FORM AND ADD PROPER REINFORCEMENT. PLACE REBAR-MESH CAGE AND HAIRPINS AT SPACINGS WITH PROPER CLEARANCES (PER DRAWINGS).
3. PLACE AND SECURE PT CABLE AS INDICATED ON THE DRAWINGS (REINFORCING VIEW)

PROJECT: BASEBALL/SOFTBALL PRESSBOX
5185 FORT CAMPBELL BOULEVARD
HOPKINSVILLE, KY 42240
TRACTOR: CHRISTIAN COUNTY SCHOOLS

SCALE NTS	DRAWN BY FTL	CHECK BY WCR	ISSUE DATE 09.18.26	PIECE MARK RP-04
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PRODUCT	SALES ORDER NUMBER
BUILDING	—
SHEET NUMBER	NUMBER REQUIRED

Job Name: 25-3470P9 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

9/25/2026 2:35:30 PM

PC: E. Bradley



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P1 CVT

ROOF - EASI-SET BUILDING - RP-04 - 145" x 216"



PT Check for Roof Panels RP-03/RP-04 (PCI MNL)

Material Data

(7) Wire lo-lax Strand - ASTM A416

Φ_{ps} 0.500 in,

A= 0.153 in²

E= 28500000 psi

fpu= 270 ksi

Strand Length 784 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 = $\frac{(\text{Force required beyond initial tension}) (\text{Length of strand between anchorages})}{(\text{Area of strand}) (\text{Modulus of Elasticity})}$

= 4.66 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 $t = \frac{PD}{PS} = e^{-(kL + \mu\alpha)}$ $\alpha = \text{curvature} = \pi(2.5) = 7.85 \text{ radians}$

c) Friction losses

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

= 0.645

Avg. strand force = 0.823 17.75% 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

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

= 0.803

Avg. strand force over

half of tendon = 0.902 9.84% Loss

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

Elong. Adjustment = 0.459 in

Force Adjustment = 2846 lbs

Total Force Required = 32458 lbs **OK**

Elongation Summary:

Gross Theoretical Elongation	
Basic Elongation	4.66 in
Dead End Seating Loss	0.125 in
Live End Seating Loss	0.125 in
Friction Losses	0.459 in
Total Elongation	5.37 in
Rounded	5 6/16 in
Tolerance limits	-7.0% 4.99 in 5 in
	+7.0% 5.74 in 5 12/16 in