

DAMMON ENGINEERING, INC.

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ARCHITECTS

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EXPERT WITNESS

554 Old Spanish Trail
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Project: PNK Casino, Casey Civil Roof cladding design

ASCE 7-0F

$V = 110$ mph

Per Ch.6 6A.2.2

$$p_{net} = \lambda K_{zt} I p_{net30}$$

$$\lambda = 1.29 \text{ (Fig 6-2)}$$

MRH ~ 20'

$$K_{zt} = 1.0$$

$$I = 1.0 \text{ (Tbl 6-1)}$$

Wind pressure

Zone 1:

Eff. wind area: Per 6.2 $A_{eff} = A_{trib}$ for fastener

$$A_{eff} = 5sf \text{ Interpolate from fig 6-3}$$

$$p_{net30} = 22.1 psf$$

$$p_{net} = 28.5 psf$$

Zone 2:

$$p_{net30} = 38.45 psf$$

$$p_{net} = 49.6 psf$$

Zone 3:

$$p_{net30} = 60.5 psf$$

$$p_{net} = 78 psf$$

Screw patterns:

Zone 1:

$$P = 28.5 (5) = 142.5 lb$$

$$142.5 lb < 662 lb \text{ OK}$$

Zone 2:

$$P = 38.45 (5) = 192.25 lb$$

$$192.25 lb < 662 lb \text{ OK}$$

Zone 3:

$$P = 78 (5) = 390 lb$$

$$390 lb < 662 lb \text{ OK}$$

