OHIO DEPARTMENT OF TRANSPORTATION

PLANNING & ENGINEERING DEPARTMENT, DISTRICT 4

Project ATB-193-8.280 Superstructure | Calc By JF | Date 1/28/25

Desc | Chk By | Date

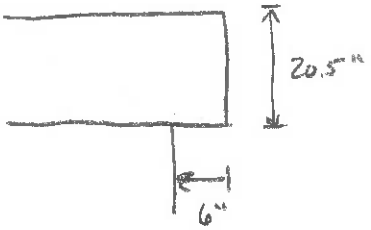
PID/PROJ 94141

Class QC2 Concrete (Deck Volume) = Length (bridge limits) × width × deck thickness

$$= \frac{27.84 \times 44 \times \left(\frac{20.5}{12}\right)}{27}$$

$$= 77.51 \text{ CY}$$

Sealing of Deck Edges $= \left(\left(\text{Bridge limits} - 2'\right) \times \left(\frac{26.5}{12}\right) + 2' \times \left(\frac{20.5}{12}\right)\right) \times 2$

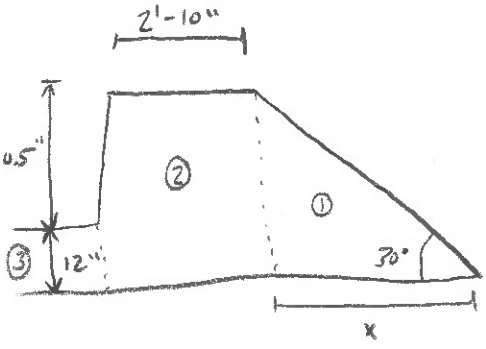


$$= \left(\left(27.84 - 2\right) \times \left(\frac{26.5}{12}\right) + 2' \times \left(\frac{20.5}{12}\right)\right) \times 2$$

$$= (57.06 + 3.42) \times 2$$

$$= \frac{120.96 \text{ SF}}{9} = 13.44 \text{ SY} \approx 14 \text{ SY}$$

Abut. Concrete



$$\tan 30^\circ = \left(\frac{20.5 + 12}{x}\right)$$

$$x = \frac{20.5 + 12}{\tan(30)} = 56.3"$$

① Area $= \frac{1}{2}bh = \frac{\frac{1}{2}(56.3)(32.5)}{144} = 6.36$ SF

② Area $= bh = \frac{34(32.5)}{144} = 7.67$ SF

③ Area $= bh = 1 \times 44 = 44$ SF

Total Area $= \left((6.36 \times 2) + (7.67 \times 2) + 44\right) \times 2$

$= 144$ SF

Volume = Area × thickness

$$\text{Volume} = \frac{144 \times 1.5}{27}$$

Volume = 8 CY