Project SUM-18-09.75 Calc By MA Date 8/21/23
Desc _____ Chk By _____ Date _____
_____ PID/PROJ _____

SUM-18-1063

Pressure relief joint wearing course removed = 4' wide x 68.6' long x 2 x $\frac{SY}{9\,SF}$ ≈ 61 SY

OHIO DEPARTMENT OF TRANSPORTATION

PLANNING & ENGINEERING DEPARTMENT, DISTRICT 4

Project SUM-18-09.75 Calc By MA Date 8/21/23

Desc Sealing of Concrete Surfaces (Non-Epoxy) Chk By _____ Date _____

PID/PROJ _____

SUM-18-1027 sidewalks

$(9.17' + 0.67') \times 2$ sides $\times$ 152.53 feet long $\times \frac{SY}{9\,SF} = 333.53 \approx$ **334 SY**

(same quantity for removal of existing sealant too)

SUM-18-1063 sidewalks

$(8' + 0.67') \times 2$ sides $\times$ 189.15' long $\times \frac{SY}{9\,SF} = 364.43 \approx$ **365 SY**

(same quantity for removal of existing sealant too)

SUM-18-1179 sidewalks

$(5.83' + 0.83') \times 2$ sides $\times$ 128.79' long $\times \frac{SY}{9\,SF} = 190.61 \approx$ **191 SY**

Project SUM-18-09.75 Calc By MA Date 8/23/23
Desc Sealing (epoxy-urethane) Chk By ____ Date ____
PID/PROJ ____

SUM-18-1027

Abutments = 124 m^2 ≈ 149 SY

Quantities taken from existing plans

Piers = 365 m^2 ≈ 437 SY

Superstructure = 443 m^2 ≈ 530 SY ⇒ 344 SY is non-epoxy for sidewalks ∴ superstructure = 186 SY

SUM-18-1063

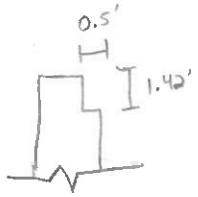
Quantities taken from existing plans

Abutments = 302 SY

Piers = 153 SY

Superstructure = 477 SY

SUM-18-1179



Rear Abutment:

L = 69.34' + 8' + 74.18' = 151.52'

H ≈ 23'

A = 151.52' × (23' + 1.42' + 0.5') ≈ 3,776. SF

Forward Abutment:

L = 71' + 3.19' + 76.76' = 150.95'

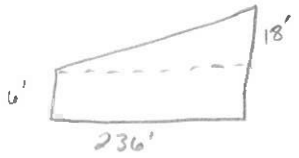
H ≈ 24'

A = 150.95' × (24' + 1.42' + 0.5') ≈ 3,913 SF

Project SUM-18-09.75 Calc By MA Date 8/23/23
Desc Sealing (epoxy-urethane) Chk By ____ Date ____
PID/PROJ ____

SUM-18-1179 (cont.)

SW retaining wall:

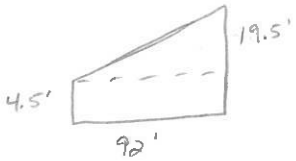


assume 6" on backside
thickness = 1'

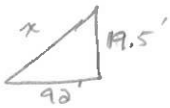
$x = \sqrt{236^2 + 18^2}$
$= 236.69'$

$A = (236' \times 6') + \frac{1}{2}(18' \times 236') + [(236.69' + 6') \times 1'] + (0.5' \times 236.69')$
$= 3,902$ SF

SE retaining wall:



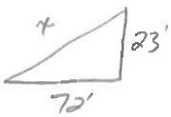
assume 6" on backside
thickness = 1'



$x = \sqrt{92^2 + 19.5^2} = 94.04$

$A = (92' \times 4.5') + \frac{1}{2}(92' \times 18.5') + [(94.04' + 4.5') \times 1'] + (0.5' \times 94.04')$
$= 1,457$ SF

NW retaining wall:

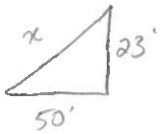


assume 6" on backside
thickness = 1'

$x = \sqrt{23^2 + 72^2} = 75.58'$

$A = \frac{1}{2}(23' \times 72') + (75.58' \times 1') + (78.58' \times 0.5') = 942$ SF

NE retaining wall:



assume 6" on backside
thickness = 1'

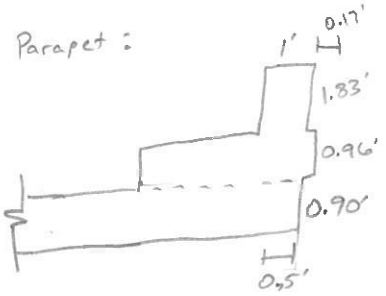
$x = \sqrt{23^2 + 50^2} = 55.04'$

$A = \frac{1}{2}(23' \times 50') + (55.04' \times 1') + (55.04 \times 0.5') = 658$ SF

Project SUM-18-09.75 Calc By MA Date 8/23/23
Desc Sealing (epoxy-urethane) Chk By ____ Date ____
PID/PROJ ____

SUM-18-1179 (cont.)

Parapet :



L = 128.79'

$A = (1.83' + 1' + 1.83' + 0.17' + 0.96' + 0.17' + 0.90' + 0.5') \times 2 \text{ sides} \times 128.79'$

$= 1,896 \text{ SF}$

$\Sigma = 3,776 + 3,913 + 3,902 + 1,457 + 942 + 658 + 1,896 = 16,544 \text{ SF} = \boxed{1,839 \text{ SY}}$

SUM-18-0975

Rear Abutment :

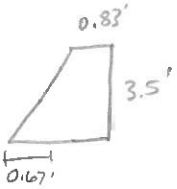
$L = 58.77' + 57.20' = 115.97'$

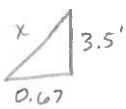
$H_{avg.} = 931.24 - 903.58 = 27.66'$

$A = (115.97' \times 27.66') \times \frac{SY}{9 SF} \approx \boxed{357 \text{ SY}}$

SUM-18-1304

Parapet :





$x = \sqrt{3.5^2 + 0.67^2} = 3.56'$

$A = (0.83' + 3.56') \times 2 \text{ sides} \times 109.65' = 962.73 \text{ SF} \approx \boxed{107 \text{ SY}}$

L = 109.65'