Solutions #9

Dear CVG 2171 students,

Below are the solutions to the last assignment. You may contact your TA, if anymore explanation is needed.

1-

290.3 yd^3 = 7839 ft^3

x	y	−	+
−7.5	0		0
−2.4	10.8	−81	0
0	3	−7.2	40.2
13.4	3.1	0	23.25
7.5	0	0	0
−7.5	0	0	
		−88.2	63.45

x	y	−	+
−7.5	0		0
−14.2	3.1	−23.25	0
0	3.8	−54.0	54.0
14.2	4.1	0	30.75
7.5	0	0	0
−7.5	0	0	
		−77.2	84.7

End areas: 52 + 00 = 75.8 ft^2 and 53 + 00 = 81.0 ft^2

2-

V_e = 509.9 yd^3; V_p = 505.4 yd^3

12 + 90

x	y	−	+
0	3.6		146.9
40.8	5.7	0	85.5
15	0	0	0.0
−15	0	0	0.0
−43.6	6.4	−96	0.0
0	3.6	−157	
		−253	232.4

Area = 242.7 ft^2;

12 + 30

x	y	−	+
0	4.9		172.5
35.2	4.3	0.0	64.5
15	0	0.0	0.0
−15	0	0.0	0.0
−30.4	3.1	−46.5	0.0
0	4.9	−149.0	
		−195.5	237.0

Area = 216.2 ft^2

$V_e = 13{,}766.7 \text{ ft}^3 = 509.9 \text{ yd}^3$

$$C_P = \frac{60}{12(27)}(4.9-3.6)(65.6-84.4) = -4.5 \text{ yd}^3$$

Good luck,