OVERBROOK 2ND ADDN.
DRAINAGE PLAN 10-4-79

DA # 1

135 x 465 =	62775
(390 + 325) ÷ 2 x 100 =	35750
245 x 63 =	15435
100 x 80 ÷ 2 =	4000
250 + 130 ÷ 2 x 125 =	23750

141710 ÷ 43560 = 3.25 AC

L = 550' = 0.10 MI. F = 36 - 28 = 8'

$T_c = \left(\frac{11.9 \times 0.10^3}{8}\right)^{0.385}$ = .08 HRS = 4.9 MIN. USE 15 MIN.

TRY $T_c = \frac{1.8\,(1.1 - C)\sqrt{L}}{\sqrt[3]{S}}$ $S = \frac{8}{550} \times 100 = 1.45\%$

$T_c = \frac{1.8\,(1.1 - .5)\sqrt{550}}{\sqrt[3]{1.45}}$ = 22.4 MIN. / 2/MIN

I_2 = 4.06 I_{100} = 8.98

$Q_2 = 3.25 \times 0.5 \times 4.06 = 6.6$ cfs
$Q_{100} = 3.25 \times 0.5 \times 8.98 = 14.6$ cfs

USE 18" RCP @ 0.45% Q = 7 cfs V = 4.0 fps

REMAINING 8 cfs FOR Q100 TO BE CARRIED IN SWALE

DA #2

210 x 375 − 80 x 75 ÷ 2 = 75750 ÷ 43560 = 1.74 Ac

T_c = 15 min. i_2 = 4.06 i_{100} = 8.98

Q_2 = 1.74 x 0.5 x 4.06 = 3.5 cfs

Q_{100} = 1.74 x 0.5 x 8.98 = 7.8 cfs

DA #3

80 x 75 ÷ 2 = 3000

205 + 135 ÷ 2 x 225 = 36225

235 ÷ 2 x 80 = 9400

325 x 75 ÷ 2 = 12187.5

355 x 80 ÷ 2 = 13400

260 x 45 ÷ 2 = 5850

190 x 36 ÷ 2 = 3420

45507.5 ÷ 43560 = 1.96 Ac

Q_2 = 1.96 x 0.5 x 4.06 = 4.0 cfs

Q_{100} = 1.96 x 0.5 x 8.98 = 8.8 cfs

DA #4

125 x 58 ÷ 2 = 3625

280 x 225 ÷ 2 = 31500

190 x 116 ÷ 2 = 11210

46335 ÷ 43560 = 1.06 Ac

$Q_2 = 1.06 \times 0.5 \times 4.06 = 2.15$ cfs
$Q_{100} = 1.06 \times 0.5 \times 8.98 = 4.76$ cfs

DA #5

175 x 90 ÷ 2 =	7875
150 x 70 ÷ 2 =	5250
170 + 205 ÷ 2 x 202 =	37675
58 x 10 ÷ 2 =	290

51290 ÷ 43560 = 1.18 Ac

$Q_2 = 1.18 \times 0.5 \times 4.06 = 2.40$ cfs
$Q_{100} = 1.18 \times 0.5 \times 8.98 = 5.30$ cfs

1-24-78

OVERBROOK ADDN. DRAINAGE THRU RESERVE A

D.A. = 186 Ac. L = 8850 F = 1382 - 1314 = 68'

$T_c = \left(\frac{11.9 \times 1.66^3}{68}\right)^{0.385}$ = 0.93 HRS × 56 MIN. i_{10} = 3.7

Q = 186 × 0.5 × 3.7 = 344 cfs

CROSS SECTION AT FLATEST POINT

Q = 100 S.F. R = 1 1328 - 1314 = 14 L = 1750 IN RESERVE

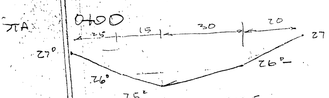
$S = \frac{14}{1750} = .008$ FT/FT

$Q = 100 \frac{1.486}{.030} (1)^{2/3} .008^{1/2} = 443$ cfs

USE 100' WIDE FLOODWAY THRU RESERVE A WITH EXISTING DRAINAGE & AS ℄ OF FLOODWAY

10-4-79

OVERBROOK 2ND
DRAINAGE THRU RESERVE A
Q_{100} = 344 cfs

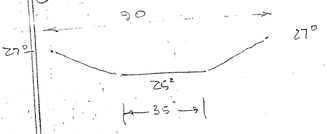


AVE. SLOPE STA 0+00 TO 3+30
.006

$a = 85.5$ $R = \frac{85.5}{90} = .95$ $S = .006$

$Q = 85.5 \quad \frac{1.486}{.035} \quad .95^{2/3} \quad .006^{1/2} = 271.7$ cfs

CHANNEL EXIST X-SEC.

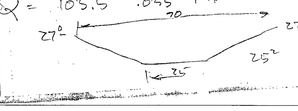


$a = 112.5$ $R = \frac{112.5}{90} = 1.25$

$Q = 112.5 \quad \frac{1.486}{.035} \quad 1.25^{2/3} \quad .006^{1/2} = 429.3$ cfs

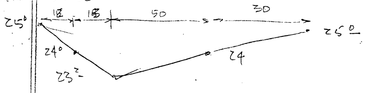
TRY 25 BOT.
$a = 103.5$ $R = \frac{103.5}{90} = 1.15$

$Q = 103.5 \quad \frac{1.486}{.035} \quad 1.15^{2/3} \quad .006^{1/2} = 373.6$ cfs



X-SEC OK
W.S. 1327.0

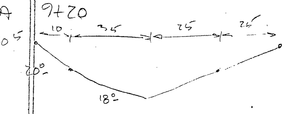
STA 3+30



$a = 109.2 \quad R = \frac{109.2}{105} = 1.04 \quad S = .006$

$Q = 109.2 \quad \frac{1.486}{.035} \quad 1.04^{2/3} \quad .006^{1/2} = 369.6 \text{ cfs}$

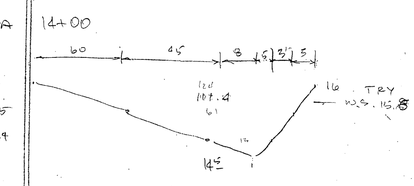
STA 9+20



$a = 98.8 \quad R = \frac{98.8}{95} = 1 \quad$ AVE S 3+30 TO 9+20 .0046

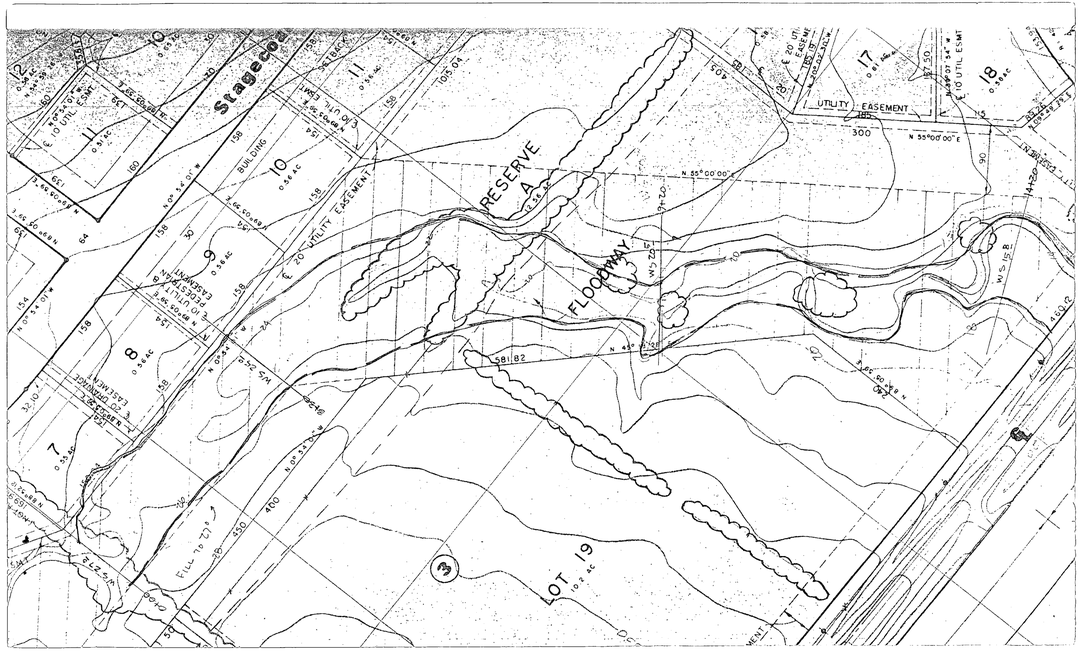
$Q = 98.8 \quad \frac{1.486}{035} \quad 1^{2/3} \quad .0088^{1/2} = 393.5 \text{ cfs}$

STA 14+00



S = .0073

$a = 109 \quad R = \frac{109}{111.4} = .1 \quad Q = 109 \quad \frac{1.486}{035} \quad .0073^{1/2} = 395.8 \text{ cfs}$


Stagecoach
RESERVE A
FLOODWAY
UTILITY EASEMENT
LOT 19
BUILDING
FILL TO 21'
N 55°00'00" E
581.82
300
400
10
11
12
17
18
9
8
7