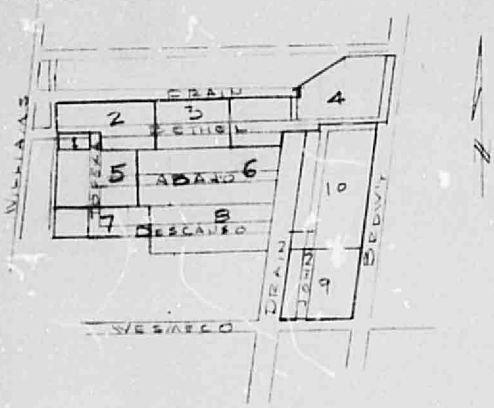
HYDROLOGY M14/D1 NO PLANS

M 14/D1

No Plans

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

BY: R.T. DATE 8-23-70 SUBJECT FLATON - SCANLON SHEET NO. 1 OF
CHKD. BY DATE BETHEL SURD PAVING JOB NO. 8-CA12
STORM SEWER



BETHEL DRIVE

AREA 1 = $\frac{100(200)}{43,560}$ = .46 AC.

t_c < 10 min C = .65

Q_{10} = .46 (.65)(3.52) = 1.05 c.f.s.

Q_{25} = .46 (.65)(4.15) = 1.24 c.f.s.

Q_{100} = .46 (.65)(5.8) = 1.73 c.f.s

USE SINGLE D.I.'s 15" R.C.P.

AREA 2 = $\frac{100(375) + (180)(240) + (180)(350)}{43,560}$ = 3.18

t_c < 10 min C = .65

Q_{10} = 3.64 (.65)(3.52) = 8.33 c.f.s.

Q_{25} = 3.64 (.65)(4.15) = 9.82 c.f.s.

Q_{100} = 3.64 (.65)(5.80) = 13.72 c.f.s.

USE 2 DOUBLE D.I.'s & 24" ø R.C.P. w/ S = .003

AREA 3 = $\frac{450(300)}{43,560}$ = 3.10 AC. (SAME AS ABOVE)

A_T = 6.74 AC.
l = 800'
H = 47.1 - 36.7 = 5.4'
t_c ≅ .14 = 8.4 min

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BY ..... DATE ..... SUBJECT FLATOW - SCAULON ETHEL SUBD PAVING STORM SEWER SHEET NO. 2 OF
CHKD. BY ..... DATE ..... JOB NO. 80A

AREA 3

$Q_{10} = 6.74(.65)(3.52) = 15.42$ c.f.s

$Q_{25} = 6.74(.65)(4.15) = 18.18$ c.f.s.

$Q_{100} = 6.74(.65)(5.80) = 25.41$ c.f.s

USE 2 DOUBLE D.I.'s 36" ϕ R.C.P. W/S = .003

AREA 4 = 6.59 AC. A_T = 13.63

H = 60.7 − 36.8 = 23.9

L = 1200'

t_c = .14 (60) = 8.4 min

$Q_{10} = 13.63(.65)(3.52) = 31.18$ c.f.s

$Q_{25} = 13.63(.65)(4.15) = 36.77$ c.f.s

$Q_{100} = 13.63(.65)(5.80) = 51.38$ c.f.s.

USE 3 DOUBLE D.I.'s 45" ϕ R.C.P. W/S = .003

ABAJO RD.

AREA 5 = $\frac{350(480)}{43,560}$ = 3.86 AC.

t_c < 10 min.

$Q_{10} = 3.86(.65)(3.52) = 8.83$ c.f.s.

$Q_{25} = 3.86(.65)(4.15) = 10.41$

$Q_{100} = 3.86(.65)(5.8) = 14.55$ c.f.s.

USE 30" ϕ R.C.P. / 2 DOUBLE D.I.'s S = .0018

AREA 6 = $\frac{840(340)}{43,560}$ = 6.56 AC.

$Q_{100} = 6.56(.65)(5.8) = 24.73$ c.f.s.

A_T = 10.36 AC.

L = 1000'

H = 3'

t_c = .25 = 15 min.

$Q_{10} = 10.36(.65)(3.15) = 21.21$ c.f.s

$Q_{25} = 10.36(.65)(3.7) = 24.91$ c.f.s

$Q_{100} = 10.36(.65)(5.13) = 34.54$ c.f.s

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BY R.T. DATE
CHKD. BY DATE

SUBJECT FLATOW - SCANLON
BETHEL SUBD PAVING
STORM SEWER

SHEET NO. 3 OF
JOB NO. 80A1

USE 36" ϕ R.C.P. S=.0025 W/ 2 DOUBLE INLETS

DESIGN 20

$A_7 = \frac{570(180)}{43560} = 2.36$ AC.

$t < 10$ min.

$Q_{10} = 2.36(.65)(3.52) = 5.40$ c.f.s.

$Q_{25} = 2.36(.65)(4.15) = 6.36$ c.f.s.

$Q_{100} = 2.36(.65)(5.8) = 8.90$ c.f.s.

USE 24" ϕ W/ 2 SINGLE D.I.'S

$A_8 = \frac{280(770)}{43,560} = 4.63$ A.

$A_T = 7.0$ AC.

$t < 10$ min.

$Q_{10} = 7.0(.65)(3.52) = 16.02$ c.f.s

$Q_{25} = 7.0(.65)(4.15) = 18.98$ c.f.s

$Q_{100} = 7.0(.65)(5.8) = 26.39$ c.f.s.

USE 36" ϕ W/ 2 DOUBLE D.I.'S

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BY R.T. DATE 8-27-70 SUBJECT FLATON - SCHULON SHEET NO. 4 OF
CHKD. BY DATE BETTER SUED. PARKING JOB NO. 8041
STORM SEWER

JOHN ST

$A_9 = \frac{420(420)}{43,560} = 4.05$ AC.

$t_c < 10$ min

$Q_{10} = 4.05(.65)(3.52) = 9.27$ c.f.s.

$Q_{25} = 4.05(.65)(4.15) = 10.92$ c.f.s.

$Q_{100} = 4.05(.65)(5.8) = 15.27$ c.f.s.

USE 30" ϕ R.C.P. W/ 2 DOUBLE D.I.'s S = .002

$A_{10} = \frac{420(760)}{43,560} = 7.33$ AC.

$t_c < 10$ min.

$Q_{100} = 7.33(.65)(5.8) = 27.63$ c.f.s.

$A_T = 11.4$ AC.

$t_c < 10$ min.

$Q_{10} = 11.4(.65)(3.52) = 26.08$ c.f.s.

$Q_{25} = 11.4(.65)(4.15) = 30.75$ c.f.s.

$Q_{100} = 11.4(.65)(5.8) = 42.98$ c.f.s.

USE 42" ϕ R.C.P. W/ 2 DOUBLE D.I.'S LOW PT. & 25 INLETS W.H.
S = .002

JOHN ST. TO S.J. DRAIN

SEE BRDW'Y COMP'S ABOVE

USE 42" ϕ R.C.P.

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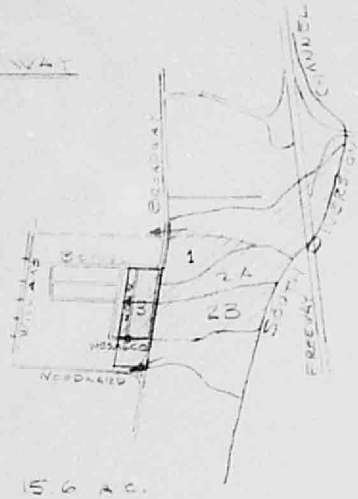
BY ..... DATE ..... SUBJECT FLATIRON SCANLON SHEET NO. 5 OF
CHKD. BY ..... DATE ..... BETTER FUTURE PAVING JOB NO. 80 A
STORM SEWER

BROADWAY



$A_1 = 15.6$ AC.
$L = 1950'$
$H = 5000 - 4943 = 57$
$t_c = .17(60) = 10.2$ min.
$Q_{10} = 15.6(.65)3.5 = 35.5$ c.f.s.
$Q_{25} = 15.6(.65)4.15 = 42.1$ c.f.s.
$Q_{100} = 15.6(.65)5.8 = 58.8$ c.f.s.

$A_2 = 50$ AC.
$A_T = 65.6$ AC.
$L = 3000'$
$H = 5030 - 4943 = 87'$
$t_c = .24(60) = 14.4$ min.
$Q_{10} = 65.6(.65)(3.19) = 136$ c.f.s.
$Q_{25} = 65.6(.65)(3.73) = 159$ c.f.s.
$Q_{100} = 65.6(.65)(5.2) = 222$ c.f.s.

$A_3 = 16$ AC
$A_T = 85.8$ AC
$L = 3350$
$H = 87'$
$t_c = .28(60) = 16.8$ min.
$Q_{10} = 85.8(.65)(3.0) = 167.3$ c.f.s.
$Q_{25} = 85.8(.65)(3.55) = 198$ c.f.s.
$Q_{100} = 85.8(.65)(4.11) = 229.5$ c.f.s.

USING PRESENT INVERT AT SAN JOSE DRAIN CULVERTS - 1' AS FUTURE FLOW LINE, THERE IS NOT SUFFICIENT HEADWORK TO TAKE A 10 YR. STORM FROM THIS AREA DOWN JOSHECO.

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BY ..... DATE ..... SUBJECT FLATOW - SEAGLON SHEET NO. 6 OF
CHKD. BY ..... DATE ..... BOINE - SUED PLAINS JOB NO. 80 A 1
STORM SEWER

BROADWAY ALT.

$A_{2A} = 22$ AC.

$A_T = 22 + 15.6 = 37.6$ AC

$l = 2300'$

$H = 5032 - 4947 = 85'$

$t_c = .18(60) = 10.8$ min

$Q_{10} = 37.6(.65)(3.5) = 85.5$

$Q_{25} = 37.6(.65)(4.1) = 100.2$

$Q_{100} = 37.6(.65)(5.11) = 139.5$

$A_3 = 11.4$ AC.

$A_T = 37.6 + 11.4 = 49.0$

$l = 2600$

$H = 85'$

$t_c = .2 = 12$ min.

$Q_{10} = 49(.65)(3.38) = 107.7$

$Q_{25} = 49(.65)(3.95) = 125.8$

$Q_{100} = 49(.65)(5.5) = 175.2$

USE 42 ΦRCP S = .003 FROM NOW TO DITCH Q = 54 cfs

$A_{2B} = 29$ AC.

$l = 800'$

$H = 73'$

$t_c = < 10$ min

$Q_{10} = 29(.65)(3.52) = 66.3$ cfs.

$Q_{25} = 29(.65)(4.15) = 78.2$ cfs.

$Q_{100} = 29(.65)(5.5) = 103.3$ cfs