

Boyle Engineering Corporation

BY: FDL DATE: 6-5-81
 CH'D. BY: JAV DATE: 6-5-81

SUBJECT: Pandaresa Bldg.

SHEET NO. 1 OF 2
 JOB NO. B02-118-50

I. Area No. 1 - North of Building.

Area = 27,991 #

Q: Positive discharge.

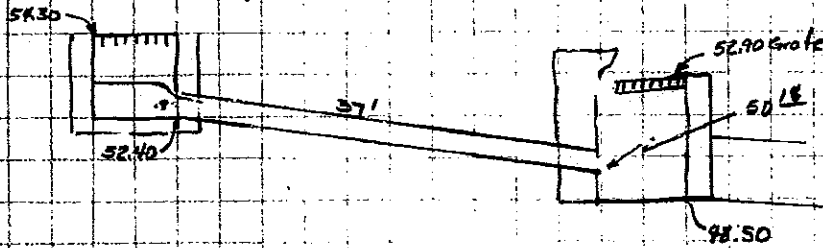
C = 0.9 Developed

L = 2.1' / sec. @ Tc = 10 min (Minimum Tc)

Q = CIA

$$= 0.9 \times 2.1 \times \frac{27,991}{43,540} = 1.21 \text{ CFS}$$

Check if pipe discharge $\leq 1.21 \text{ CFS}$



Try 6" Dia PVC 0.8 depth @ 6%

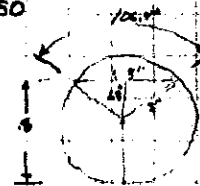
$$A = \pi r^2 = \pi \left(\frac{6}{12}\right)^2 = 0.1963 \text{ # (Full)}$$

$$= 24.24 \div 144 = 0.1683 \text{ #}$$

$$P = \pi d = \pi \frac{6}{12} = 1.57 \frac{360 - 106.7}{360} = 1.106$$

$$R = \frac{A}{P} = \frac{0.1683}{1.106} = 0.1522$$

$$Q = AV = 0.1683 \frac{1.487}{0.015} (0.1522)^{2/3} (0.06)^{1/2} = 1.16 \text{ cfs} < 1.21 \text{ cfs OK.}$$



28.27 Total A
 8.55 # of
 4.32 # of
 4.03 Seg.
 24.24 Area less
 segment.

CHECK FOR INLET CONTROL:

$$Q = C \sqrt{2gh} \quad C = 0.65; h = (54.30 - 52.40 + 0.25 + 0.70) \text{ HW}$$

$$= 2.35 \text{ FT.}$$

$$Q = 0.65(0.1963) \sqrt{2(32.2)(2.35)}$$

$$Q = 1.57 \text{ CFS} \approx 1.21 \text{ CFS OK.}$$

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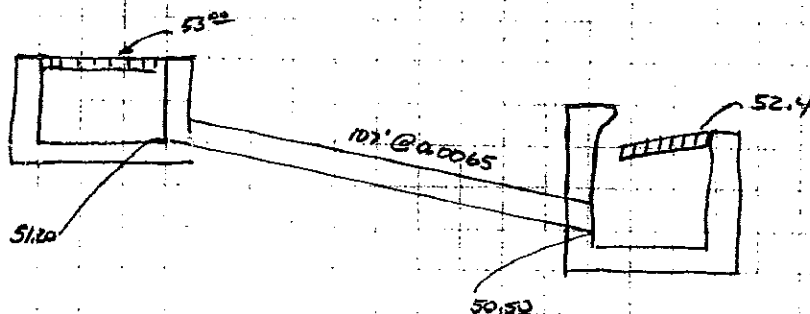
SUBJECT Panchrasa Bldg

SHEET NO. 2 OF 2
JOB NO. D 02-118-50

II Area No 2 - South of Building
Area = 63.622 FT²
C = 0.9 Developed
i = 2.1 In/Hr @ T_c = 10 min. (Min T_c)

$$Q = CIA = 0.9 \times 2.1 \times \frac{63.622}{43.540} = 2.76 \text{ cfs}$$

Check if pipe discharge $\leq 2.76 \text{ cfs}$.



Try 12" Dia RCP 0.8 depth @ 0.65%.

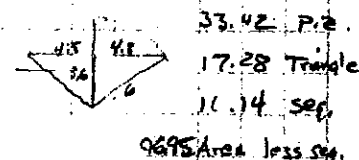
$$A = 96.95 \div 144 = 0.6733$$

$$P = \pi d \frac{360 - 104.4}{360} = 2.21$$

$$R = \frac{A}{P} = \frac{0.6733}{2.21} = 0.3047$$

$$Q = AV = 0.6733 \frac{1.486}{0.013} (0.3047)^{2/3} (0.0065)^{1/2} = 2.8086 \text{ CFS} \approx 2.76 \text{ CFS OK}$$

Total Area = 11309 sq ft.



CHECK FOR INLET CONTROL:

$$Q = C_v \sqrt{2gh}$$

$$C = 0.65, h = 53.00 - 51.20 = 0.5 + 0.70 = 2.0$$

$$Q = (0.65)(0.6733) \sqrt{2(32.2)(2.0)} = 4.97 \text{ CFS}$$

THEREFORE OUTLET CONTROLS.