

1156 PARKWOOD ROAD

LOTS 59 &amp; 60, WOODBRIDGE SUBDIVISION

DRAINAGE CHANNEL WEST OF PROPERTY

WATERSHED AREA - SEE ATTACHED MAP - FIELD CONFIRMED VISUAL

$$Q_{100} = CIA$$

$$A = 10.16 \text{ ACRES}$$

$$C = 0.6(9.71 \text{ AC}) + 0.8(0.45 \text{ AC}) / 10.16 \text{ AC} = 0.61$$

↳ SINGLE-FAMILY
↳ MULTI-UNIT

$$t_c = 0.0078 \left[ \frac{L}{\sqrt{S}} \right]^{0.77} \quad L \approx 1300'$$

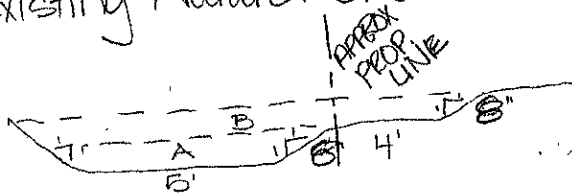
$$S \approx \frac{190'}{1300'} = 0.146$$

$$0.0078 \left[ \frac{1300}{\sqrt{0.146}} \right] = 4.09 \text{ min} \quad \text{5 minute minimum}$$

$$I = 9.48 \text{ in/hr} \quad 100 \text{ yr.} \quad \text{Fig. 2.2 pg. 2-36}$$

$$Q_{100} = 0.61 (9.48) (10.16) = 58.75 \text{ cfs}$$

Existing Natural Channel



MOST CONSERVATIVE POINT

A CAPACITY

$$S = 2/25 = 0.08 \text{ to } 0.04$$

$$\text{AREA} : \approx 3.8 \text{ SF}$$

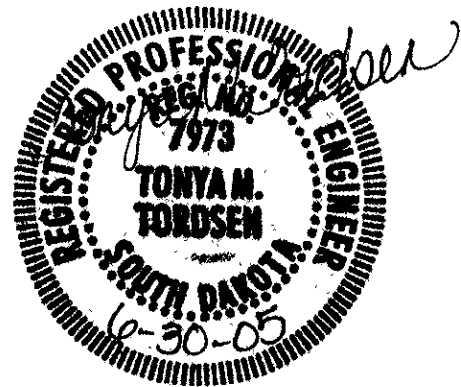
$$WP = P = 6.9'$$

$$R = \frac{A}{P} = \frac{3.8}{6.9} = 0.55$$

$$Q = \frac{1.49}{0.04} (3.8) (0.55)^{2/3} (0.04)^{1/2} \approx 19 \text{ cfs}$$

$$Q = \frac{1.49 A R^{2/3} S^{1/2}}{n}$$

$n = 0.035 - 0.04$  pg. 7-14  
 ROCK BOTTOM / JAGGED  
 CROSS-SECTION  
 CHANGING / ALIGNMENT  
 CHANGING



B CAPACITY

$$S = 0.04$$

$$A = 6.9 + 3.8 = 10.7 \text{ sf}$$

$$P = 12.8$$

$$R = \frac{10.7}{12.8} = 0.84$$

$$Q_{100} = \frac{1.49}{0.04} (10.7)(0.84)^{2/3} (0.04)^{1/2} \approx 70.9 \text{ cfs} > 58.8 \text{ cfs}$$

OK

CROSS-SECTION W/ ~~EASEMENT~~ &  
PROPOSED RETAINING WALL

