# Appendix B
# Stormwater Calculations

TIME OF CONCENTRATION:

$t_{c_1}$: $L = 330'$
$S = 2.3\%$
$n = .40$ avg. grass

$t_{c_1} = 20$ min (19.90 min)

$t_{c_2}$: $L = 384'$
$S = 0.65\%$
$n = 0.40$

$t_{c_2} = 29$ min

$\therefore t_c = 49$ min

AREA:

$17.4\ in^2 \Rightarrow 17.4\ in^2 \cdot \frac{14400\ ft^2}{1\ in^2} = 250560\ ft^2$

$\therefore$ AREA = 5.8 acre

Runoff Coefficient:

$C = 0.95$ pavement $\Rightarrow 10\%$
$C = 0.25$ grass $\Rightarrow 90\%$

$\therefore C = 0.32$

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G:\Software\Manning\M.EXE
 ENTER CHANNEL TYPE - CIRCLE (C) OR TRAPEZOIDAL (T) : c
 ENTER DIAM : 1.25
 ENTER N : 0.009
 ENTER S : 0.0015
 ENTER Y : 1.25
Y1,Y,Y2      1.219      1.250      1.250
Q1,Q,Q2      3.623      3.623      3.623
A1,A,A2      1.227      1.227      1.227
 ANGLE =                  6.283
 FLOW RATE =              3.623
 AREA =                   1.227
 WETTED PERIMETER =       3.927
 HYDRAULIC RADIUS =       0.312
 TOP WIDTH =              0.000
 VELOCITY =               2.953

 ENTER Y (999 TO STOP) : _
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