

CE#9685 Detention Basin

Type II 6-hr 2-YR 6-HR Rainfall=2.53"

Prepared by Microsoft

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Summary for Pond BASIN: Stormwater Basin

Inflow Area = 12.454 ac, 0.00% Impervious, Inflow Depth = 1.02" for 2-YR 6-HR event
 Inflow = 26.41 cfs @ 3.04 hrs, Volume= 1.059 af
 Outflow = 0.42 cfs @ 6.18 hrs, Volume= 1.059 af, Atten= 98%, Lag= 188.1 min
 Primary = 0.42 cfs @ 6.18 hrs, Volume= 1.059 af
 Tertiary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.01 hrs
 Peak Elev= 601.30' @ 6.18 hrs Surf.Area= 18,802 sf Storage= 41,345 cf

Plug-Flow detention time= 1,038.9 min calculated for 1.059 af (100% of inflow)
 Center-of-Mass det. time= 1,039.2 min (1,254.6 - 215.4)

Volume	Invert	Avail.Storage	Storage Description
#1	598.00'	99,116 cf	Custom Stage Data (Prismatic) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
598.00	0	0	0
599.00	10,137	5,069	5,069
600.00	16,379	13,258	18,327
601.00	18,233	17,306	35,633
602.00	20,144	19,189	54,821
603.00	22,223	21,184	76,005
604.00	24,000	23,112	99,116

Device	Routing	Invert	Outlet Devices
#1	Primary	598.00'	36.0" Round outlet pipe L= 102.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 598.00' / 597.00' S= 0.0098 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished
#2	Device 1	598.00'	3.0" Vert. low flow orifice C= 0.600
#3	Device 1	601.50'	30.0" W x 9.6" H Vert. Weir 1 X 4.00 C= 0.600
#4	Device 1	602.80'	30.0" W x 20.4" H Vert. Top Weir 2 X 4.00 C= 0.600
#5	Tertiary	604.64'	10.0' long x 10.0' breadth Top of Dam Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.42 cfs @ 6.18 hrs HW=601.30' (Free Discharge)

1=outlet pipe (Passes 0.42 cfs of 45.63 cfs potential flow)
 2=low flow orifice (Orifice Controls 0.42 cfs @ 8.58 fps)
 3=Weir 1 (Controls 0.00 cfs)
 4=Top Weir 2 (Controls 0.00 cfs)

Tertiary OutFlow Max=0.00 cfs @ 0.00 hrs HW=598.00' (Free Discharge)

5=Top of Dam (Controls 0.00 cfs)