## APPENDIX B - STORM WATER ANALYSIS

## **DYMAR**

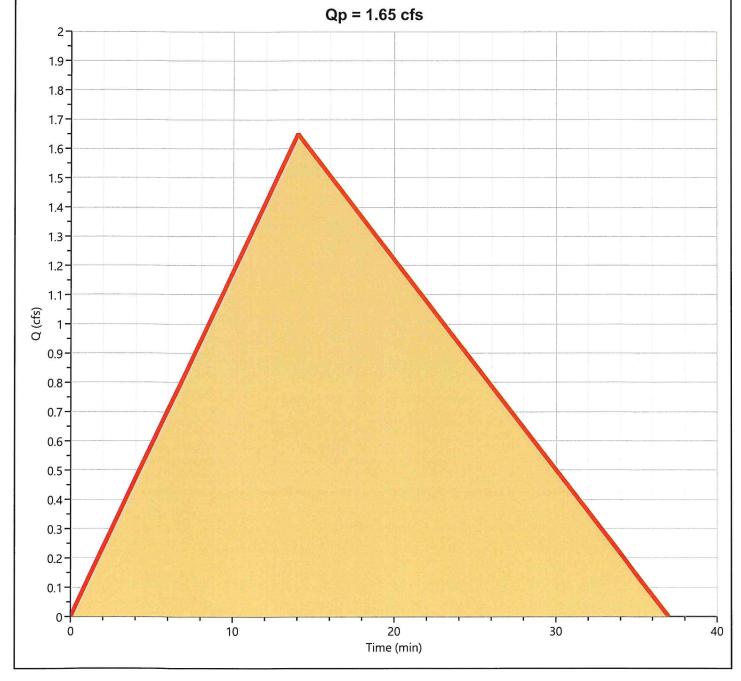
2 YEAR STORM

## Hydrograph 2-yr Summary

Rational Rational Rational Rational Pond Route	Pre DA A @ AP 1 Pre DA B @ AP 2 Post DA A1	1.650 0.705	0.23			(ft)	(cuft)
Rational		0.705		1,851			
Rational	Post DA A1		0.38	1,298			
		1.578	0.23	1,770			
Pond Route	Post DA A2 (Roof& Drivewa	0.959	0.08	384			_
	Route DA A2	0.786	0.10	340	4	958.56	70.8
Junction	Post Flow @ AP 1	1.640	0.23	2,092	3, 5		_
Rational	Post DA B1	0.571	0.38	1,052			
Rational	Post DA B2	0.822	0.08	329	< 2	-	· -
Pond Route	Route DA B2	0.328	0.15	258	8	958.78	153
Rational	Post DA B3	1.598	0.08	640		= v = v = -	-
Pond Route	Route DA B3	0.000	3.92	0.000	10	965.19	591
Junction	Post Flow @ AP2	0.615	0.25	1,302	7, 9, 11		- =
	Rational Pond Route Rational Pond Route	Rational Post DA B2 Pond Route Route DA B2 Rational Post DA B3 Pond Route Route DA B3	Rational         Post DA B2         0.822           Pond Route         Route DA B2         0.328           Rational         Post DA B3         1.598           Pond Route         Route DA B3         0.000	Rational         Post DA B2         0.822         0.08           Pond Route         Route DA B2         0.328         0.15           Rational         Post DA B3         1.598         0.08           Pond Route         Route DA B3         0.000         3.92	Rational         Post DA B2         0.822         0.08         329           Pond Route         Route DA B2         0.328         0.15         258           Rational         Post DA B3         1.598         0.08         640           Pond Route         Route DA B3         0.000         3.92         0.000	Rational         Post DA B2         0.822         0.08         329            Pond Route         Route DA B2         0.328         0.15         258         8           Rational         Post DA B3         1.598         0.08         640            Pond Route         Route DA B3         0.000         3.92         0.000         10	Rational         Post DA B2         0.822         0.08         329            Pond Route         Route DA B2         0.328         0.15         258         8         958.78           Rational         Post DA B3         1.598         0.08         640          Pond Route         Route DA B3         0.000         3.92         0.000         10         965.19

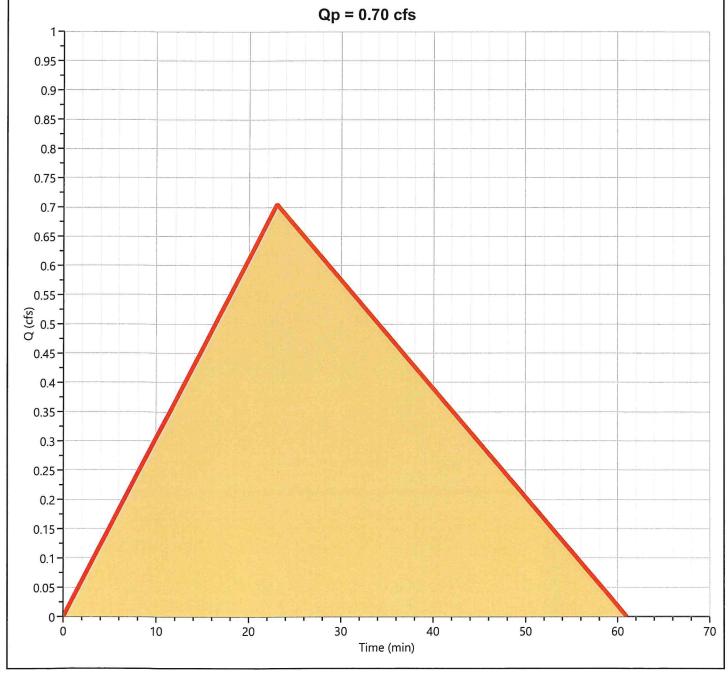
## Pre DA A @ AP 1

Hydrograph Type	= Rational	Peak Flow	= 1.650 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.23 hrs
Time Interval	= 1 min	Runoff Volume	= 1,851 cuft
Drainage Area	= 2.46 ac	Runoff Coeff.	= 0.22
Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.05 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factor	s = 1/1.67



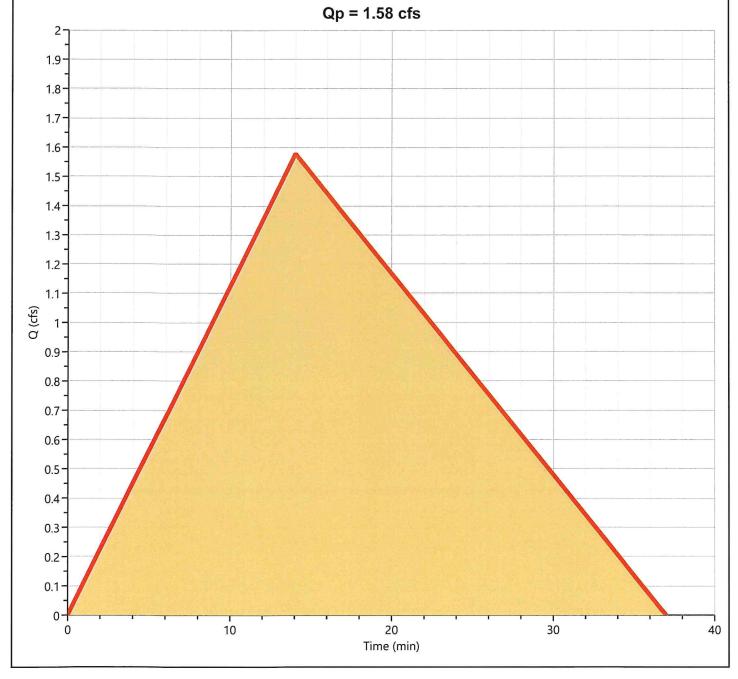
#### Pre DA B @ AP 2

Hydrograph Type	= Rational	Peak Flow	= 0.705 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.38 hrs
Time Interval	= 1 min	Runoff Volume	= 1,298 cuft
Drainage Area	= 1.29 ac	Runoff Coeff.	= 0.24
Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
IDF Curve	= Project0996.idf	Intensity	= 2.28 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factor	s = 1/1.67



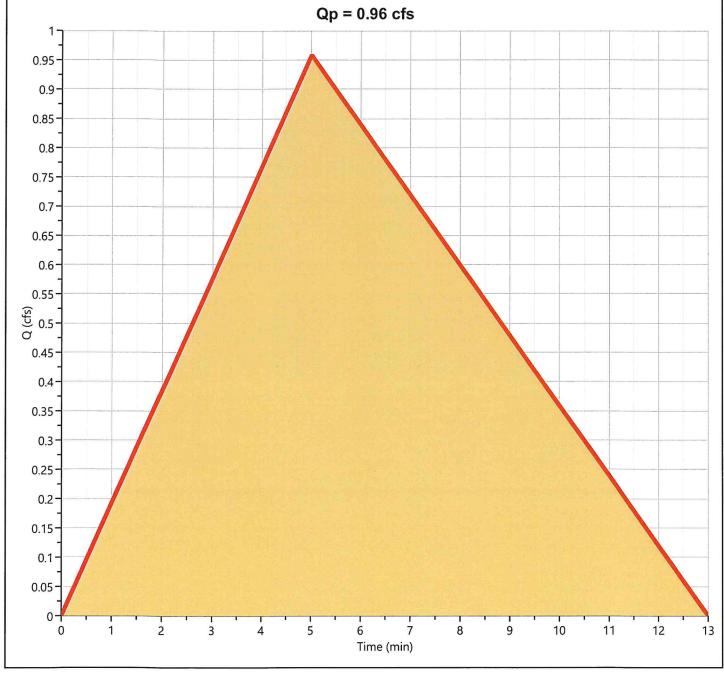
## Post DA A1 Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 1.578 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.23 hrs
Time Interval	= 1 min	Runoff Volume	= 1,770 cuft
Drainage Area	= 2.25 ac	Runoff Coeff.	= 0.23
Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.05 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factor	rs = 1/1.67



#### Post DA A2 (Roof& Drivewa

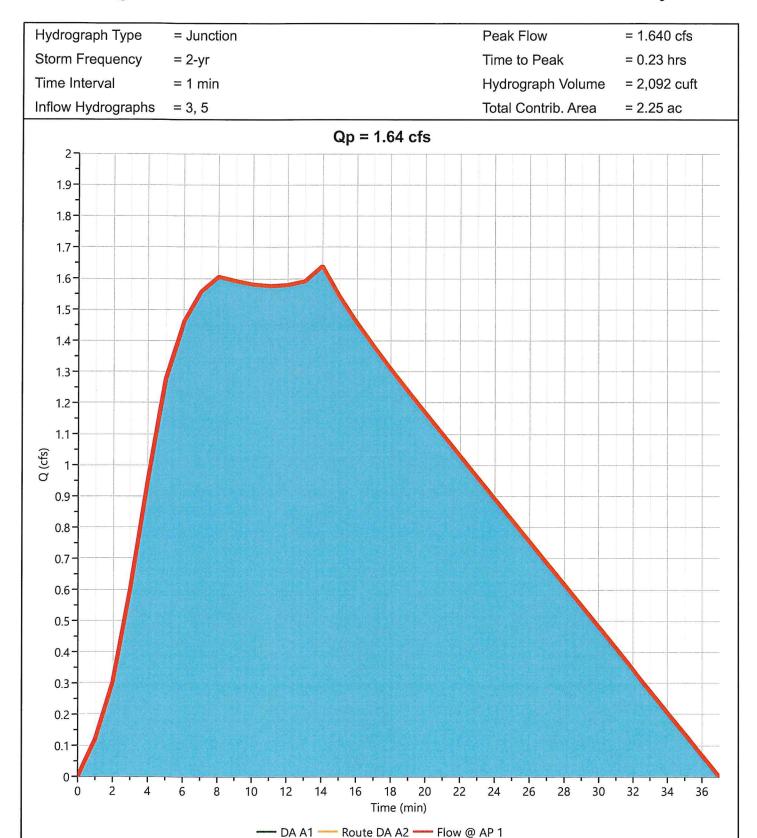
	Hydrograph Type	= Rational	Peak Flow	= 0.959 cfs
	Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
	Time Interval	= 1 min	Runoff Volume	= 384 cuft
	Drainage Area	= 0.21 ac	Runoff Coeff.	= 0.9
	Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
	IDF Curve	= Project0996.idf	Intensity	= 5.07 in/hr
	Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	s = 1/1.67
- 1				



## Route DA A2 Hyd. No. 5

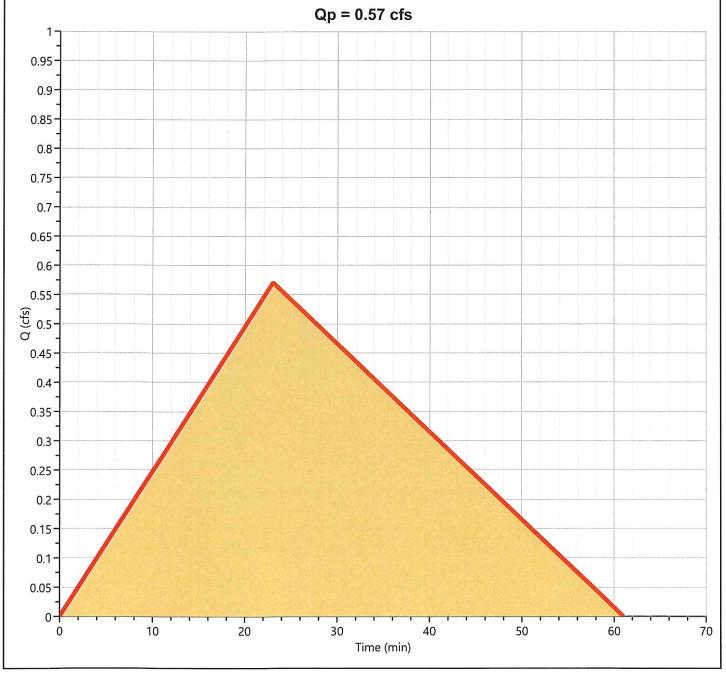
Hydrograph Type	= Pond Route	Peak Flow	= 0.786 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 340 cuft
Inflow Hydrograph	= 4 - DA A2 (Roof& Drivewa	Max. Elevation	= 958.56 ft
Pond Name	= UGDB1	Max. Storage	= 70.8 cuft
Pond Routing by Storage In	dication Method	Center of ma	ass detention time = 1 min
	Qp = 0.79 c	fs	
1			
0.95			
0.9			
4			
0.85			
0.8			
0.75			
0.7			
-			
0.65			
0.6			
0.55			
ti ar l			
(§) 0.5 = 0.5			
0.5 - 0.45 -			
0.45			
0.45			
0.45			
0.45			
0.45 - 0.4 - 0.35 - 0.3 - 0.25 - 0.25 - 0.25 - 0.3 - 0.25 - 0.3 - 0.25 - 0.3 - 0.25 - 0.3 - 0.25 - 0.3 - 0.3 - 0.25 - 0.3 - 0.			
0.45 - 0.4 - 0.35 - 0.3 - 0.25 - 0.2			
0.45 0.4 0.35 0.3 0.25 0.2 0.15			
0.45 - 0.4 - 0.35 - 0.3 - 0.25 - 0.2			
0.45 - 0.4 - 0.35 - 0.3 - 0.25 - 0.2 - 0.15			
0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1 0.05		9 10 11 12 13 17	4 15 16 1
0.45 0.4 0.35 0.3 0.25 0.2 0.15 0.1	3 4 5 6 7 8 Time (m	9 10 11 12 13 14 in)	4 15 16 17

#### Post Flow @ AP 1



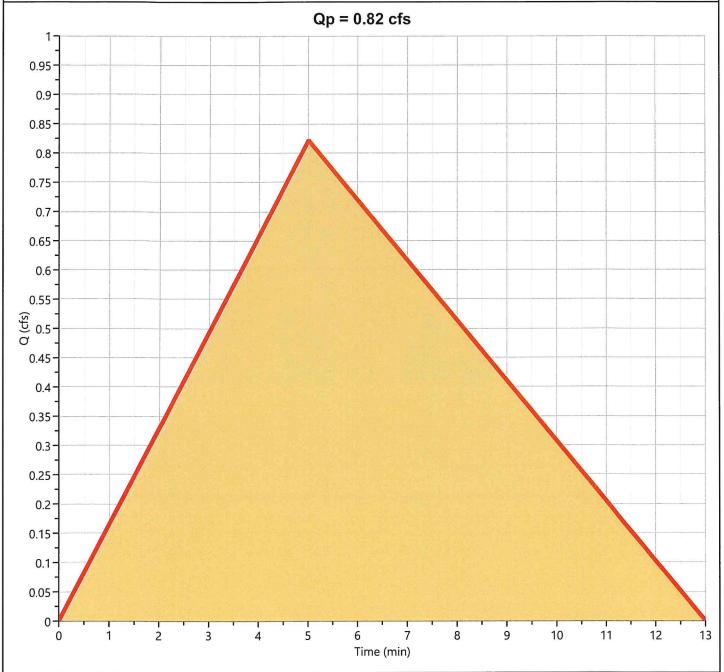
## Post DA B1 Hyd. No. 7

- 1				
	Hydrograph Type	= Rational	Peak Flow	= 0.571 cfs
	Storm Frequency	= 2-yr	Time to Peak	= 0.38 hrs
	Time Interval	= 1 min	Runoff Volume	= 1,052 cuft
	Drainage Area	= 0.76 ac	Runoff Coeff.	= 0.33
	Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
	IDF Curve	= Project0996.idf	Intensity	= 2.28 in/hr
	Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	s = 1/1.67
- 1				



## Post DA B2 Hyd. No. 8

75				
	Hydrograph Type	= Rational	Peak Flow	= 0.822 cfs
	Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
	Time Interval	= 1 min	Runoff Volume	= 329 cuft
	Drainage Area	= 0.18 ac	Runoff Coeff.	= 0.9
	Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
	IDF Curve	= Project0996.idf	Intensity	= 5.07 in/hr
	Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	s = 1/1.67
- 1				

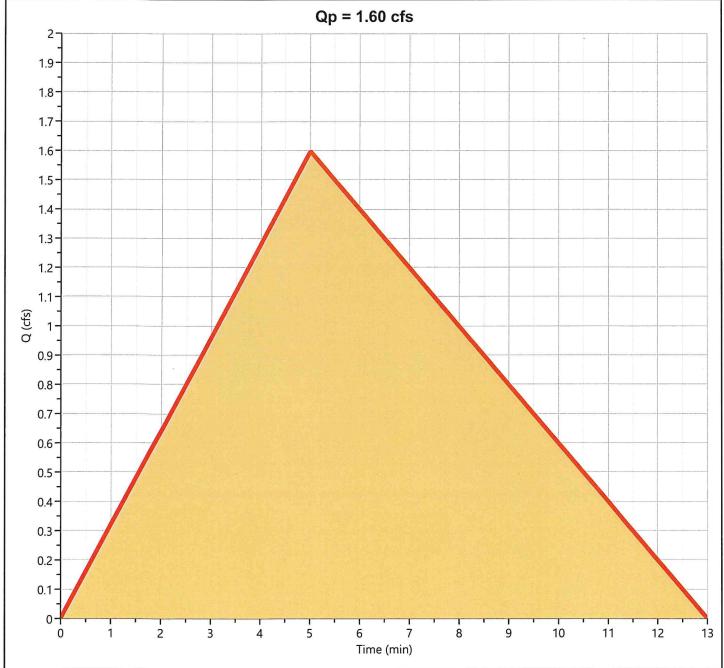


#### Route DA B2

Hydrograph Type	= Pond Route	Peak Flow	= 0.328 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Hydrograph Volume	= 258 cuft
Inflow Hydrograph	= 8 - DA B2	Max. Elevation	= 958.78 ft
Pond Name	= UGB2	Max. Storage	= 153 cuft
Pond Routing by Storage Inc	dication Method	Center of m	ass detention time = 5 min
	Qp = 0.33 cfs		
17			
0.95			
0.9			
0.85			
0.8			
4			
0.75			
0.7			
0.65			
0.6			
0.55			
( <del>f</del> y) 0.5			
0.45			
-       //			
0.4			
0.35			
0.3			
0.25			
0.2			
0.15			
0.1			
-			
0.05			
0 1 2 3	4 5 6 7 8 9 10 11 12 13 14 Time (min)	15 16 17 18 19 20	21 22 23 24 2
	Req'd Stor DA B2 Rou	ute DA B2	

## Post DA B3 Hyd. No. 10

27	Qp = 1.60 cf	s	
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Facto	rs = 1/1.67
IDF Curve	= Project0996.idf	Intensity	= 5.07 in/hr
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
Drainage Area	= 0.35 ac	Runoff Coeff.	= 0.9
Time Interval	= 1 min	Runoff Volume	= 640 cuft
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Hydrograph Type	= Rational	Peak Flow	= 1.598 cfs

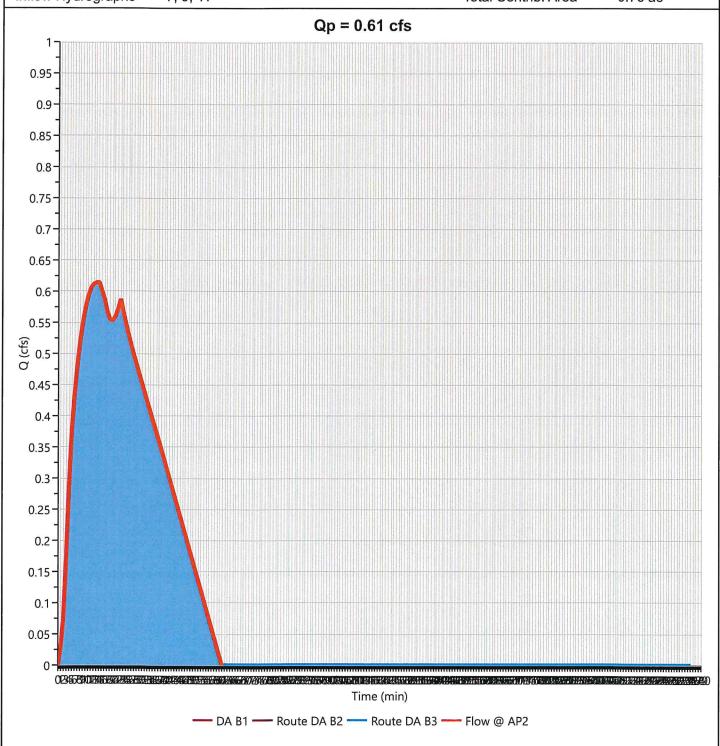


## Route DA B3 Hyd. No. 11

Hydrograph Type	= Pond Route		Peak Flow	= 0.000  cfs
Storm Frequency	= 2-yr		Time to Peak	= 3.92 hrs
Time Interval	= 1 min		Hydrograph Volume	= 0.000 cuft
nflow Hydrograph	= 10 - DA B3		Max. Elevation	= 965.19 ft
Pond Name	= Rain Garden		Max. Storage	= 591 cuft
Pond Routing by Storage Inc	dication Method		Center of mass	detention time = 3.82 hrs
		Qp = 0.00 cfs		
2				
1.9				
1.8				
1.7				
1.6				
1.5				
4				
1.4				
1.3				
1.2				
1.1				
(Sb) 1-				
0.9				
0.8				
0.7				
0.6				
0.5				
0.4				
0.3				
0.2				
0.1				
0	<del></del>	2	3	<del>-                                    </del>
-	·	Time (hrs)	J	

#### Post Flow @ AP2

Hydrograph Type	= Junction	Peak Flow	= 0.615 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.25 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,302 cuft
Inflow Hydrographs	= 7, 9, 11	Total Contrib. Area	= 0.76 ac



## **DYMAR**

5 YEAR STORM

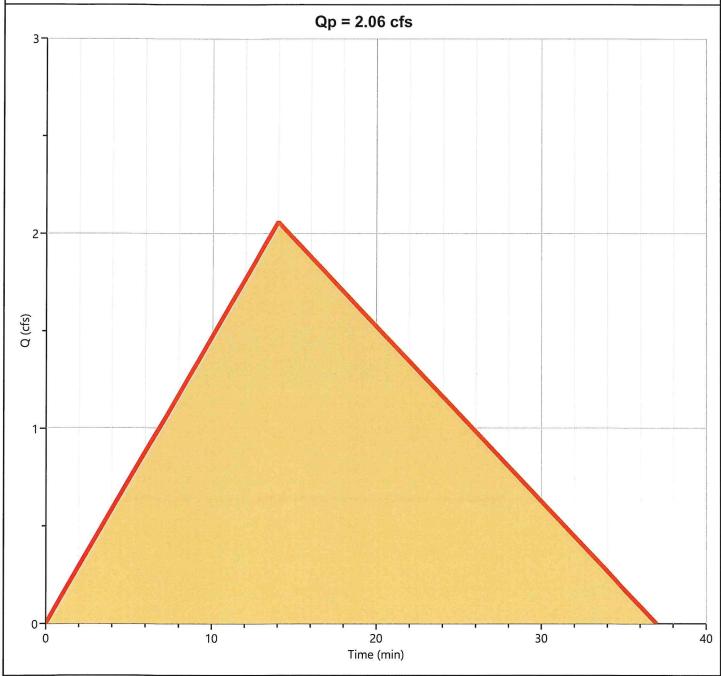
# Hydrograph 5-yr Summary

04-08-2021

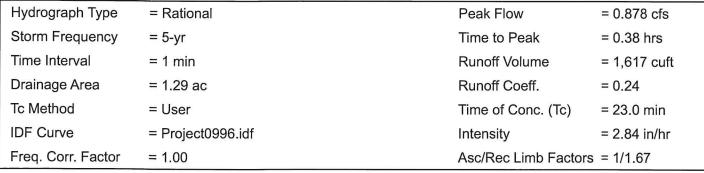
Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	Pre DA A @ AP 1	2.060	0.23	2,310			
2	Rational	Pre DA B @ AP 2	0.878	0.38	1,617			
3	Rational	Post DA A1	1.969	0.23	2,208			
4	Rational	Post DA A2 (Roof& Drivewa	1.194	0.08	478			
5	Pond Route	Route DA A2	0.942	0.10	431	4	958.65	88.7
6	Junction	Post Flow @ AP 1	2.042	0.15	2,617	3, 5		
7	Rational	Post DA B1	0.711	0.38	1,310			
8	Rational	Post DA B2	1.023	0.08	410	<del>-</del>	-,	
9	Pond Route	Route DA B2	0.377	0.17	330	8	958.98	205
10	Rational	Post DA B3	1.989	0.08	797	1 <u></u>	1 to 1 to 1	artik
11	Pond Route	Route DA B3	0.000	5.82	0.000	10	965.39	741
12	Junction	Post Flow @ AP2	0.777	0.28	1,631	7, 9, 11		

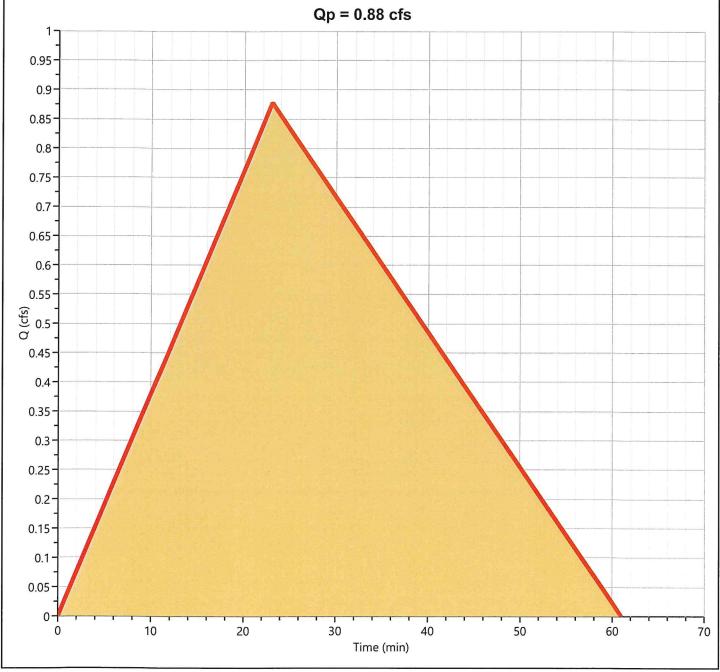
#### Pre DA A @ AP 1





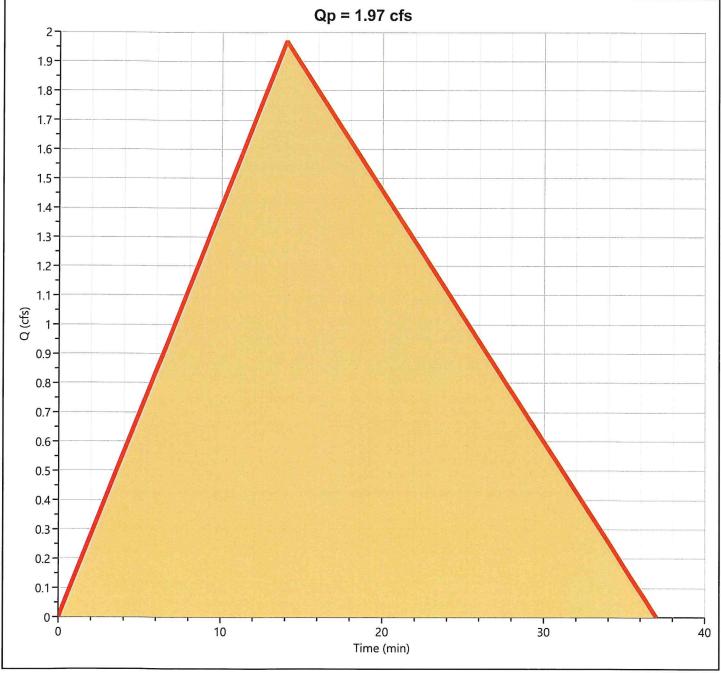
#### Pre DA B @ AP 2





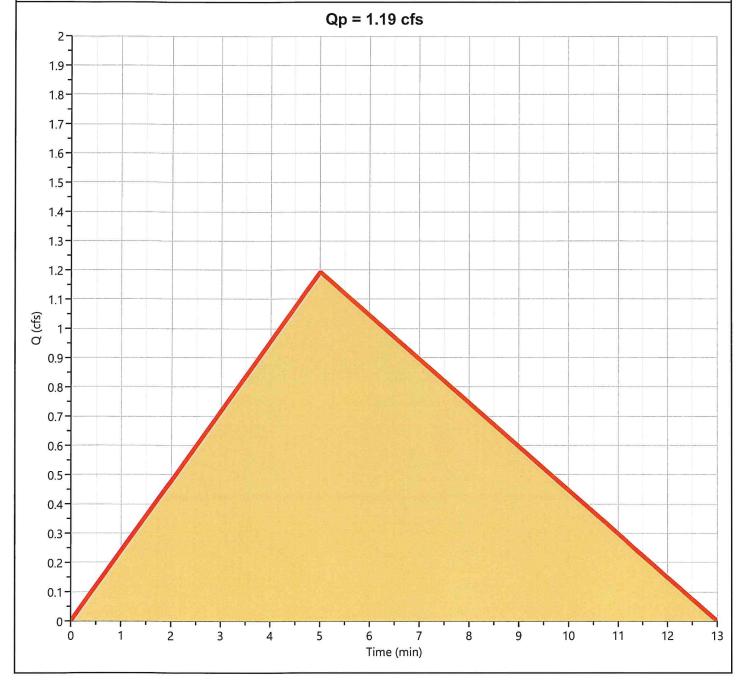
## Post DA A1 Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 1.969 cfs
Storm Frequency	= 5-yr	Time to Peak	= 0.23 hrs
Time Interval	= 1 min	Runoff Volume	= 2,208 cuft
Drainage Area	= 2.25 ac	Runoff Coeff.	= 0.23
Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.81 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	



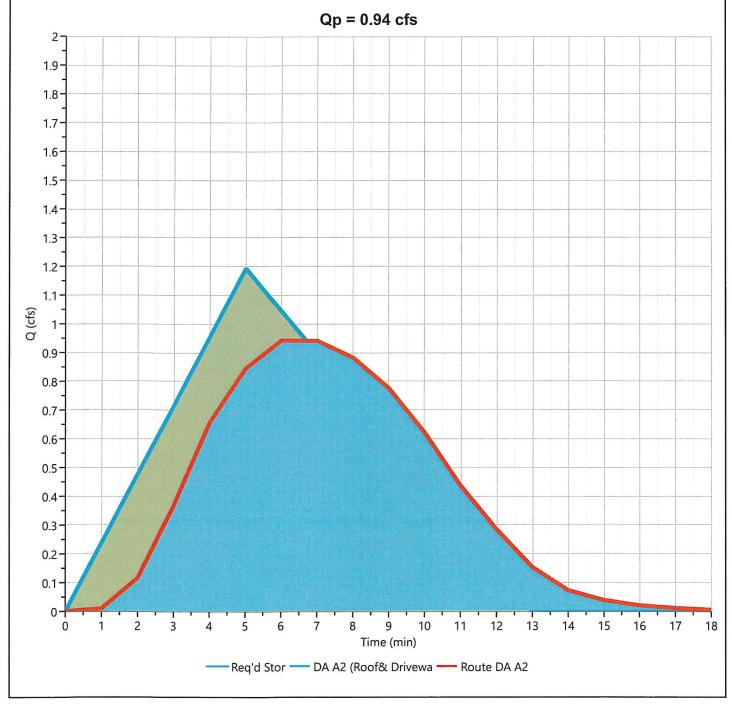
## Post DA A2 (Roof& Drivewa

Hydrograph Type	= Rational	Peak Flow	= 1.194 cfs
Storm Frequency	= 5-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 478 cuft
Drainage Area	= 0.21 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= Project0996.idf	Intensity	= 6.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	

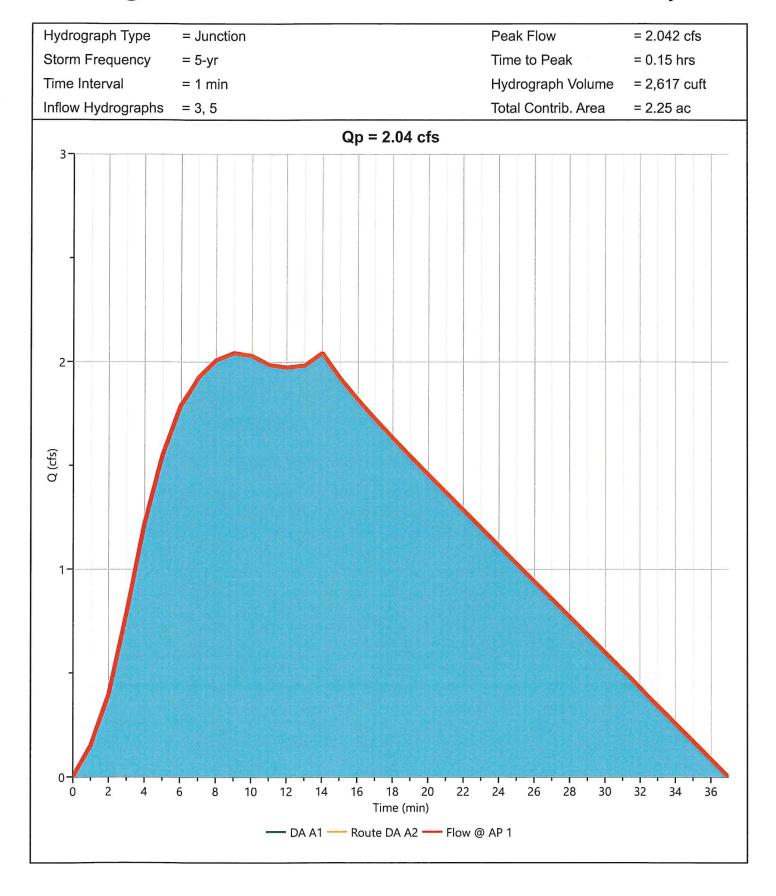


#### Hyd. No. 5 **Route DA A2**

Hydrograph Type	= Pond Route	Peak Flow	= 0.942 cfs
Storm Frequency	= 5-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 431 cuft
Inflow Hydrograph	= 4 - DA A2 (Roof& Drivewa	Max. Elevation	= 958.65 ft
Pond Name	= UGDB1	Max. Storage	= 88.7 cuft
Pond Routing by Storage Indication Method		Center of m	ass detention time = 1 min

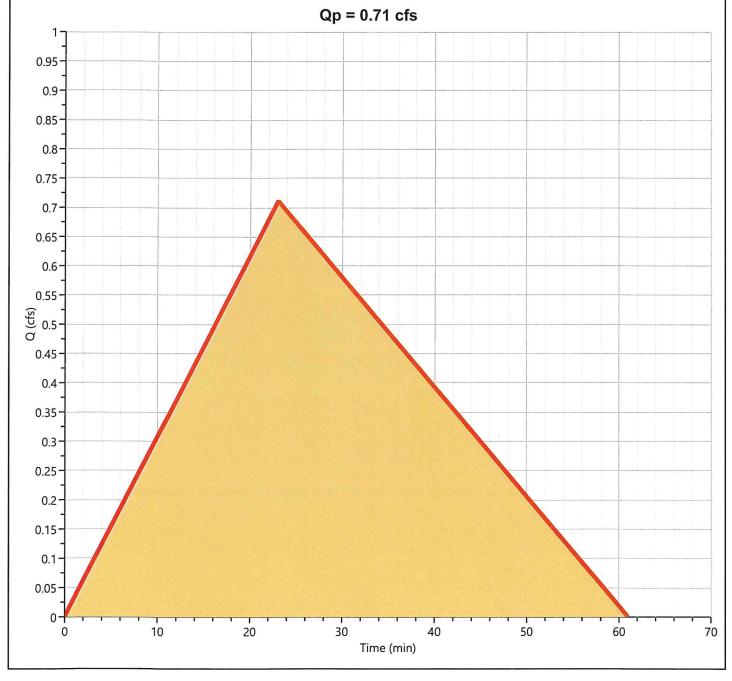


#### Post Flow @ AP 1



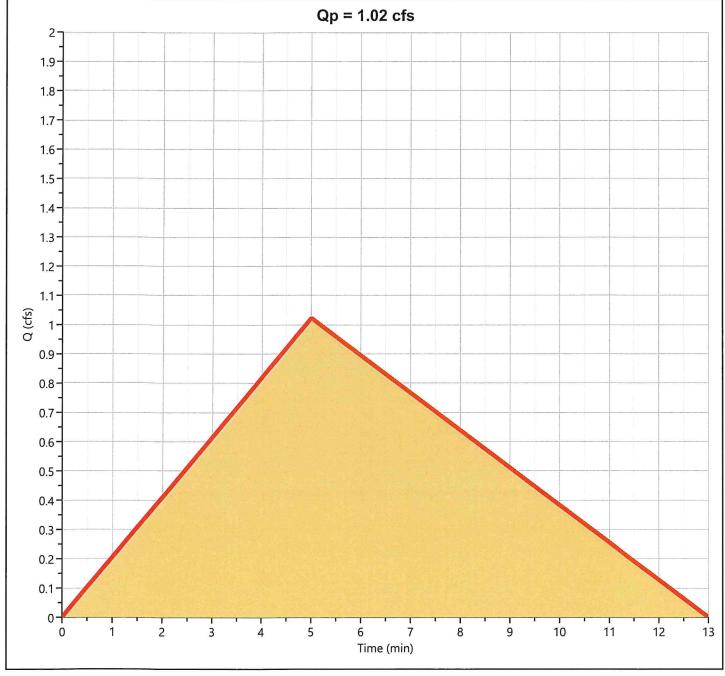
## Post DA B1 Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 0.711 cfs
Storm Frequency	= 5-yr	Time to Peak	= 0.38 hrs
Time Interval	= 1 min	Runoff Volume	= 1,310 cuft
Drainage Area	= 0.76 ac	Runoff Coeff.	= 0.33
Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
IDF Curve	= Project0996.idf	Intensity	= 2.84 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	



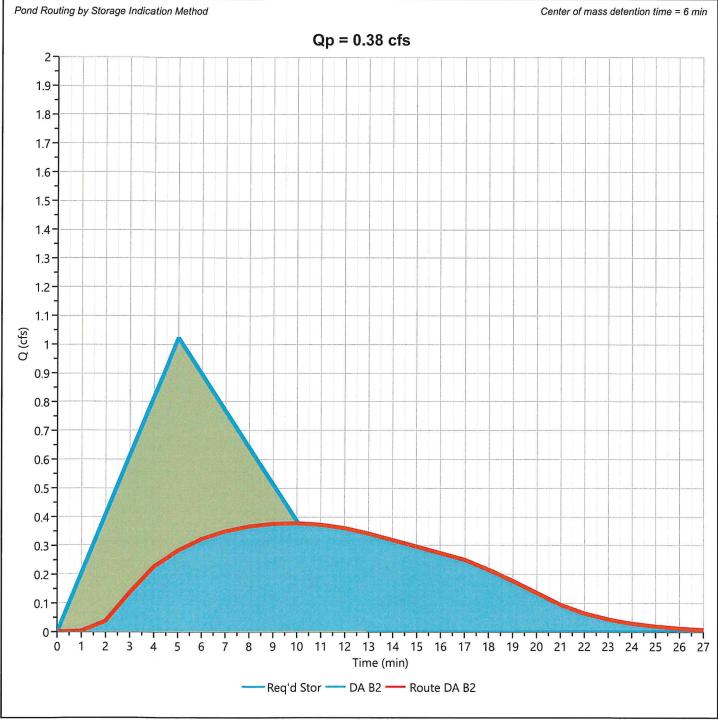
## Post DA B2 Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 1.023 cfs
Storm Frequency	= 5-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 410 cuft
Drainage Area	= 0.18 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= Project0996.idf	Intensity	= 6.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	

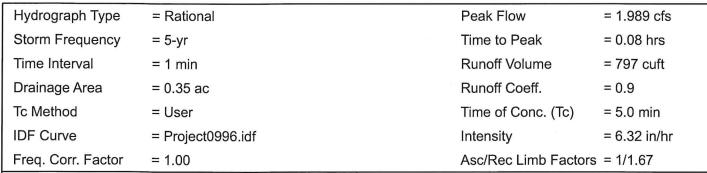


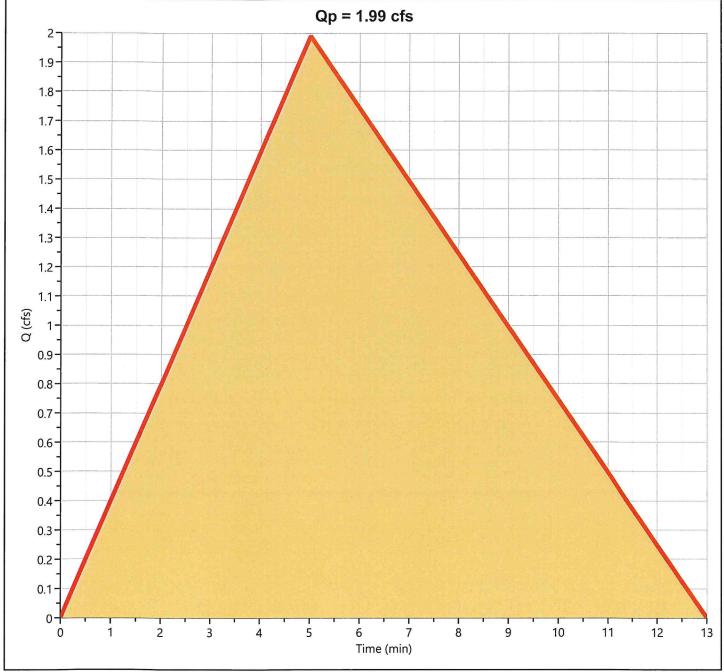
#### **Route DA B2**

			20 20 0000 200 20 10
Pond Name	= UGB2	Max. Storage	= 205 cuft
Inflow Hydrograph	= 8 - DA B2	Max. Elevation	= 958.98 ft
Time Interval	= 1 min	Hydrograph Volume	= 330 cuft
Storm Frequency	= 5-yr	Time to Peak	= 0.17 hrs
Hydrograph Type	= Pond Route	Peak Flow	= 0.377 cfs



#### Post DA B3



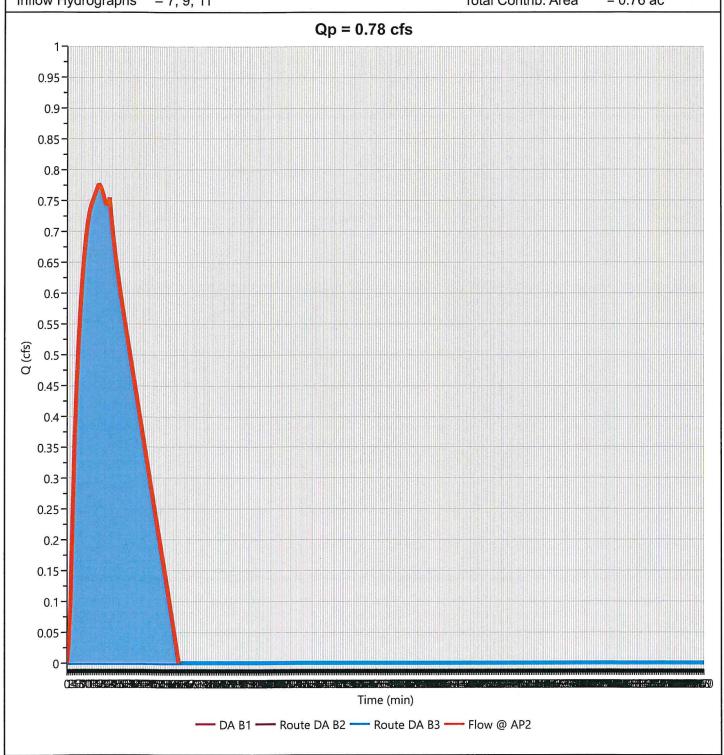


## Route DA B3 Hyd. No. 11

Hydrograph Type	= Pond Route			Peak Flow	= 0.000 cfs
Storm Frequency	= 5-yr			Time to Peak	= 5.82 hrs
Time Interval	= 1 min			Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 10 - DA B3			Max. Elevation	= 965.39 ft
Pond Name	= Rain Garden			Max. Storage	= 741 cuft
Pond Routing by Storage Inc	dication Method			Center of mas	s detention time = 5.75 hrs
		Qp =	0.00 cfs		
2					
1.9					
1.8					
1.7					
1.6					
1.5					
1.4					
1.3					
1.2					
1.1					
0 (cts)					
0.9					
0.8					
0.7					
0.6					
0.5					
0.4					
-					
0.3					
0.2					
0.1					
0	1	2	2	4	5 6
U	ı	۷	3 Time (hrs)	4	5 6
		— DA B3 –	Route DA B3		

#### Post Flow @ AP2

Hydrograph Type	= Junction	Peak Flow	= 0.777 cfs
Storm Frequency	= 5-yr	Time to Peak	= 0.28 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,631 cuft
Inflow Hydrographs	= 7, 9, 11	Total Contrib. Area	= 0.76 ac



## **DYMAR**

10 YEAR STORM

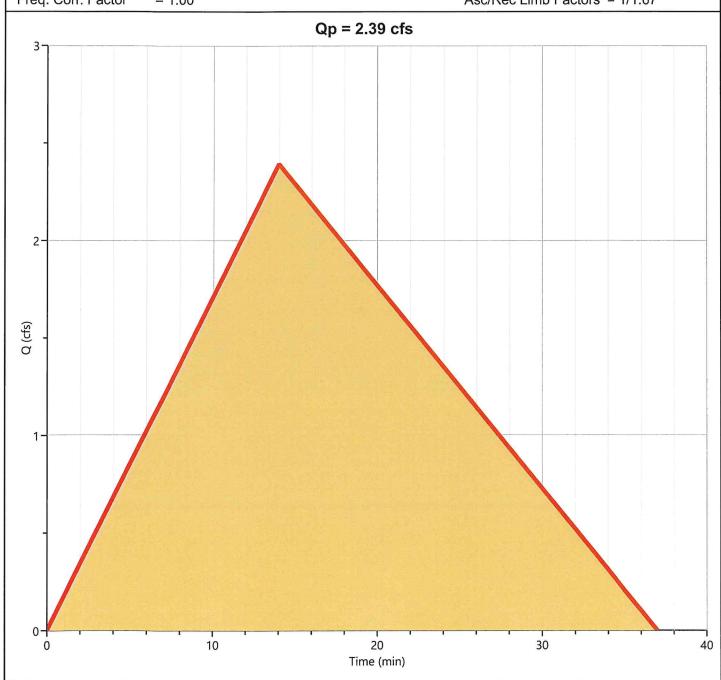
# Hydrograph 10-yr Summary

04-08-2021

lydrology Sti	udio v 3.0.0.18		/drology Studio v 3.0.0.18 04-08-2021							
Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)		
1	Rational	Pre DA A @ AP 1	2.393	0.23	2,683					
2	Rational	Pre DA B @ AP 2	1.020	0.38	1,880		A 15			
3	Rational	Post DA A1	2.288	0.23	2,566					
4	Rational	Post DA A2 (Roof& Drivewa	1.388	0.08	556			64		
5	Pond Route	Route DA A2	1.069	0.12	506	4	958.75	108		
6	Junction	Post Flow @ AP 1	2.414	0.17	3,046	3, 5				
7	Rational	Post DA B1	0.827	0.38	1,523					
8	Rational	Post DA B2	1.190	0.08	477	-				
9	Pond Route	Route DA B2	0.416	0.17	390	8	959.15	249		
10	Rational	Post DA B3	2.314	0.08	927					
11	Pond Route	Route DA B3	0.000	5.68	0.000	10	965.56	865		
12	Junction	Post Flow @ AP2	0.929	0.32	1,902	7, 9, 11				

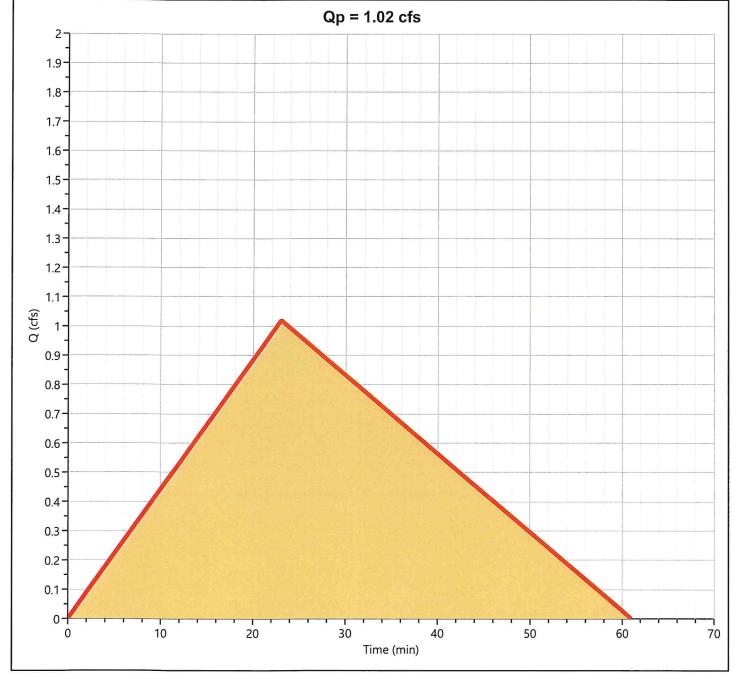
#### Pre DA A @ AP 1

Hydrograph Type	= Rational	Peak Flow	= 2.393 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.23 hrs
Time Interval	= 1 min	Runoff Volume	= 2,683 cuft
Drainage Area	= 2.46 ac	Runoff Coeff.	= 0.22
Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
IDF Curve	= Project0996.idf	Intensity	= 4.42 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	



#### Pre DA B @ AP 2

Hydrograph Type	= Rational	Peak Flow	= 1.020 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.38 hrs
Time Interval	= 1 min	Runoff Volume	= 1,880 cuft
Drainage Area	= 1.29 ac	Runoff Coeff.	= 0.24
Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.30 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	

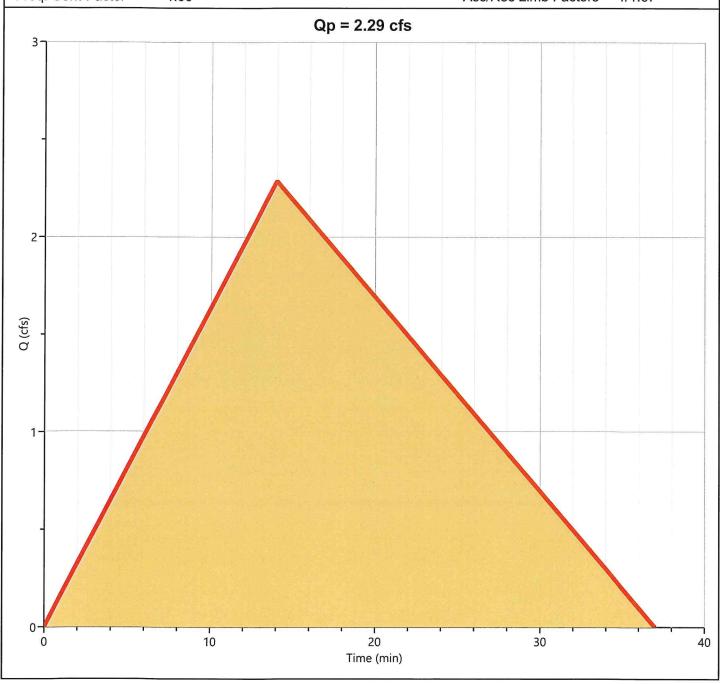


Hydrology Studio v 3.0.0.18

04-08-2021

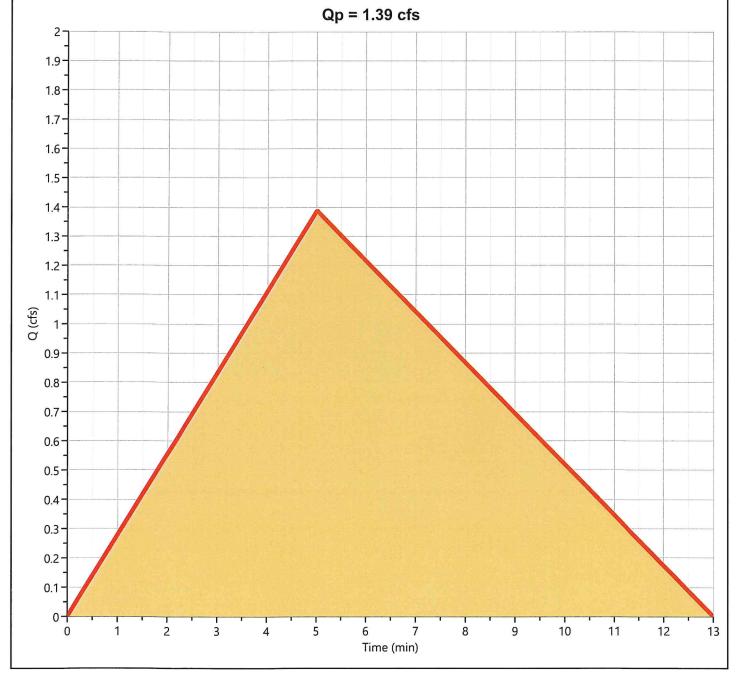
#### Post DA A1

	Hydrograph Type	= Rational	Peak Flow	= 2.288 cfs
	Storm Frequency	= 10-yr	Time to Peak	= 0.23 hrs
	Time Interval	= 1 min	Runoff Volume	= 2,566 cuft
	Drainage Area	= 2.25 ac	Runoff Coeff.	= 0.23
	Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
	IDF Curve	= Project0996.idf	Intensity	= 4.42 in/hr
	Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	



#### Post DA A2 (Roof& Drivewa

Hydrograph Type	= Rational	Peak Flow	= 1.388 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 556 cuft
Drainage Area	= 0.21 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= Project0996.idf	Intensity	= 7.34 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors = 1/1.67	



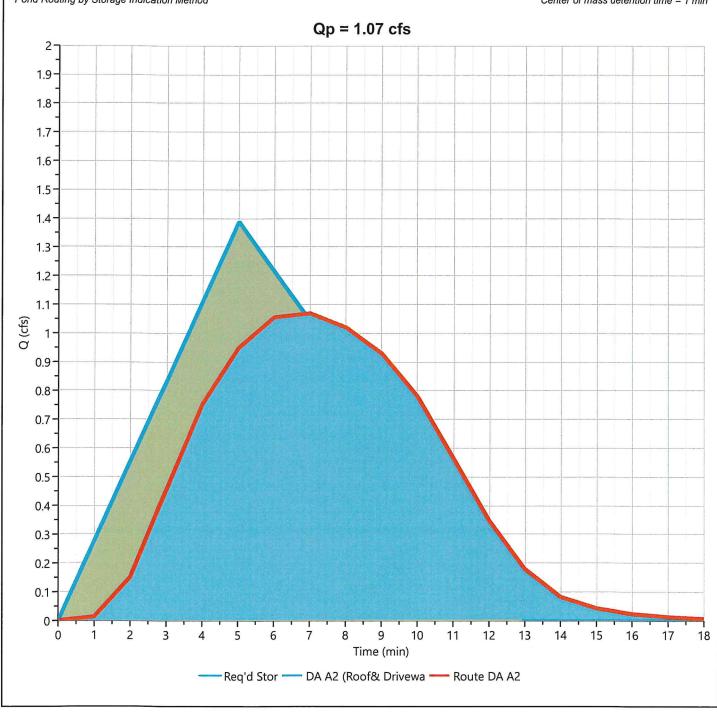
#### Route DA A2

Hyd. No. 5

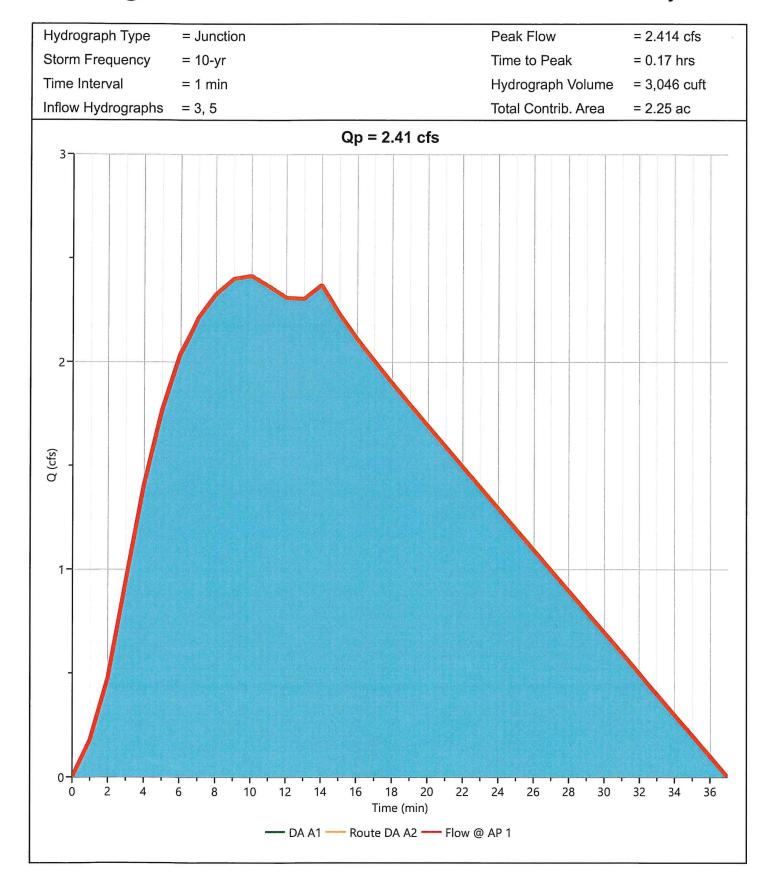
Hydrograph Type	= Pond Route	Peak Flow	= 1.069 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.12 hrs
Time Interval	= 1 min	Hydrograph Volume	= 506 cuft
Inflow Hydrograph	= 4 - DA A2 (Roof& Drivewa	Max. Elevation	= 958.75 ft
Pond Name	= UGDB1	Max. Storage	= 108 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 1 min

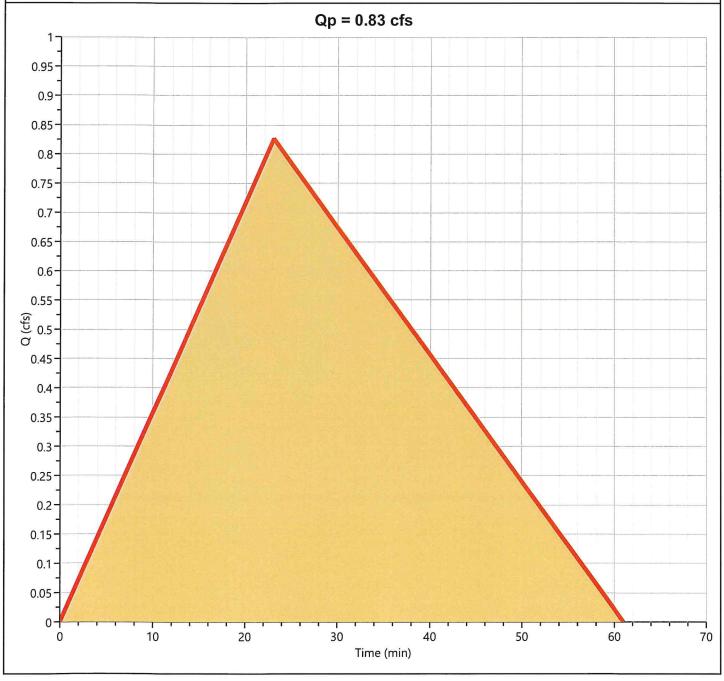


## Post Flow @ AP 1



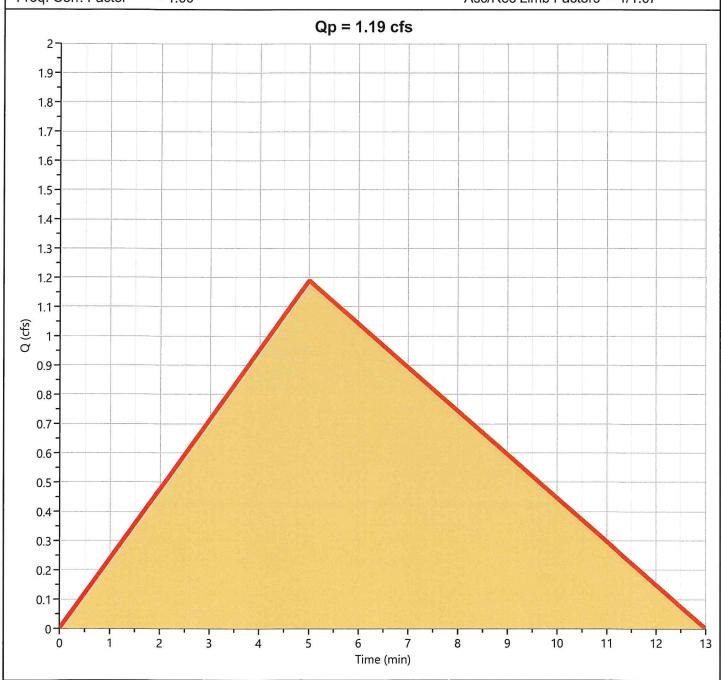
## Post DA B1

Hydrograph Type	= Rational	 Peak Flow	= 0.827 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.38 hrs
Time Interval	= 1 min	Runoff Volume	= 1,523 cuft
Drainage Area	= 0.76 ac	Runoff Coeff.	= 0.33
Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.30 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factor	s = 1/1.67



# Post DA B2 Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 1.190 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 477 cuft
Drainage Area	= 0.18 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= Project0996.idf	Intensity	= 7.34 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factor	rs = 1/1.67



04-08-2021

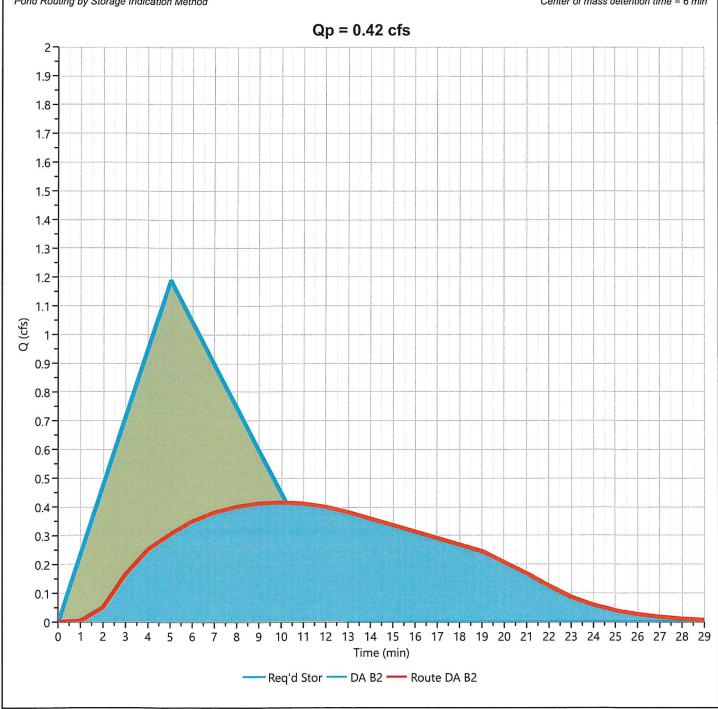
#### **Route DA B2**

Hyd. No. 9

Pond Name	= UGB2	Max. Storage	= 249 cuft
Inflow Hydrograph	= 8 - DA B2	Max. Elevation	= 959.15 ft
Time Interval	= 1 min	Hydrograph Volume	= 390 cuft
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Hydrograph Type	= Pond Route	Peak Flow	= 0.416 cfs

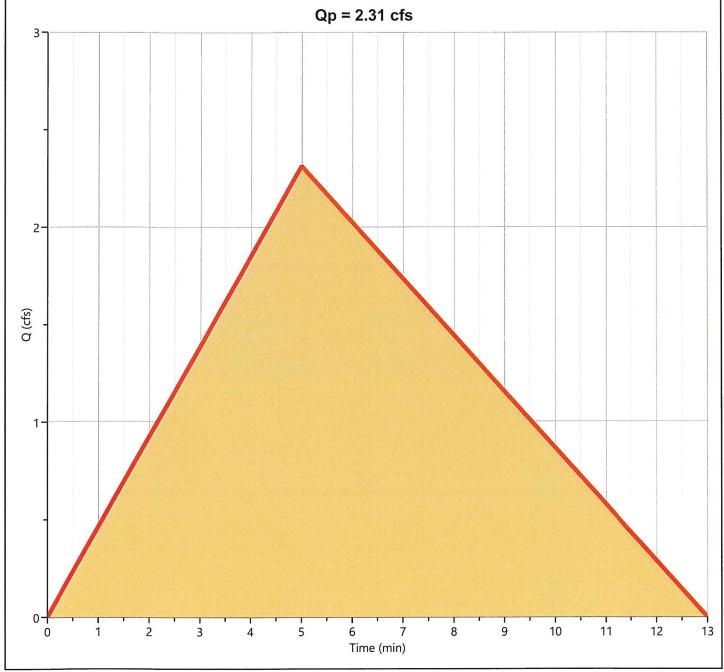
Pond Routing by Storage Indication Method

Center of mass detention time = 6 min



# Post DA B3 Hyd. No. 10

Hydrograph Type	= Rational	Peak Flow	= 2.314 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 927 cuft
Drainage Area	= 0.35 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= Project0996.idf	Intensity	= 7.34 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factor	s = 1/1.67

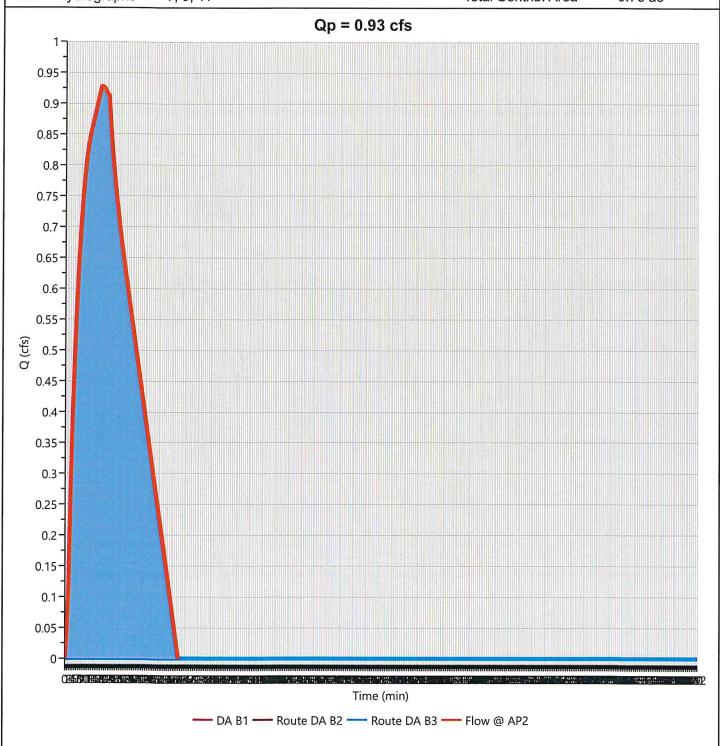


## Route DA B3

Hydrograph Type	= Pond Route		Peak Flow	= 0.000 cfs
Storm Frequency	= 10-yr		Time to Peak	= 5.68 hrs
Time Interval	= 1 min		Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 10 - DA B3		Max. Elevation	= 965.56 ft
Pond Name	= Rain Garden		Max. Storage	= 865 cuft
Pond Routing by Storage Inc	dication Method			
		Qp = 0.00 cfs		
37				
-				
2				
-				
( <del>cl</del> ) 1-				
α				
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0				
0				
1				
-1	<del></del>	<del></del>	<del></del>	<del>                                     </del>
0	1 2	3 Time (hrs)	4	5
		— DA B3 — Route DA B3		

## Post Flow @ AP2





# **DYMAR**

25 YEAR STORM

#### Project Name:

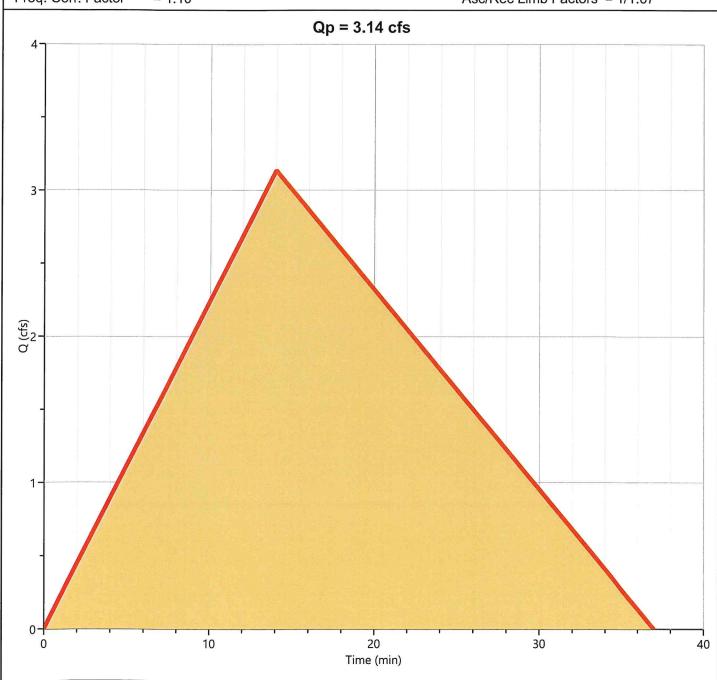
# Hydrograph 25-yr Summary

04-08-2021

Pre DA A @ AP 1 Pre DA B @ AP 2 Post DA A1	3.138 1.336	0.23	3,519			
	1.336	0.00				
Post DA A1		0.38	2,462			30 10 0 0 0
1 001 27 17 11	3.001	0.23	3,365			
Post DA A2 (Roof& Drivewa	1.821	0.08	729		- =	
Route DA A2	1.345	0.12	674	4	958.98	155
Post Flow @ AP 1	3.248	0.18	4,004	3, 5		
Post DA B1	1.083	0.38	1,995			
Post DA B2	1.561	0.08	625			
Route DA B2	0.496	0.17	524	8	959.56	352
Post DA B3	3.035	80.0	1,216		*	ese first.
Route DA B3	0.000	0.02	0.000	10	965.93	1,142
Post Flow @ AP2	1.313	0.38	2,505	7, 9, 11		Marine.
	Post Flow @ AP 1  Post DA B1  Post DA B2  Route DA B2  Post DA B3  Route DA B3	Post Flow @ AP 1       3.248         Post DA B1       1.083         Post DA B2       1.561         Route DA B2       0.496         Post DA B3       3.035         Route DA B3       0.000	Post Flow @ AP 1       3.248       0.18         Post DA B1       1.083       0.38         Post DA B2       1.561       0.08         Route DA B2       0.496       0.17         Post DA B3       3.035       0.08         Route DA B3       0.000       0.02	Post Flow @ AP 1       3.248       0.18       4,004         Post DA B1       1.083       0.38       1,995         Post DA B2       1.561       0.08       625         Route DA B2       0.496       0.17       524         Post DA B3       3.035       0.08       1,216         Route DA B3       0.000       0.02       0.000	Post Flow @ AP 1       3.248       0.18       4,004       3, 5         Post DA B1       1.083       0.38       1,995          Post DA B2       1.561       0.08       625          Route DA B2       0.496       0.17       524       8         Post DA B3       3.035       0.08       1,216          Route DA B3       0.000       0.02       0.000       10	Post Flow @ AP 1       3.248       0.18       4,004       3,5         Post DA B1       1.083       0.38       1,995          Post DA B2       1.561       0.08       625          Route DA B2       0.496       0.17       524       8       959.56         Post DA B3       3.035       0.08       1,216          Route DA B3       0.000       0.02       0.000       10       965.93

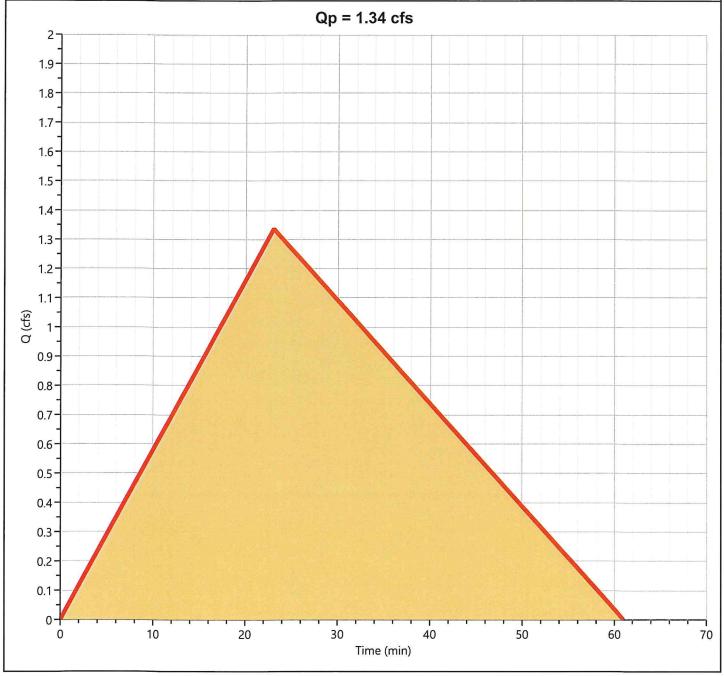
# Pre DA A @ AP 1

	Hydrograph Type	= Rational	Peak Flow	= 3.138 cfs
	Storm Frequency	= 25-yr	Time to Peak	= 0.23 hrs
	Time Interval	= 1 min	Runoff Volume	= 3,519 cuft
	Drainage Area	= 2.46 ac	Runoff Coeff.	= 0.22
	Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
	IDF Curve	= Project0996.idf	Intensity	= 5.27 in/hr
	Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factors = 1/1.67	
- 1				



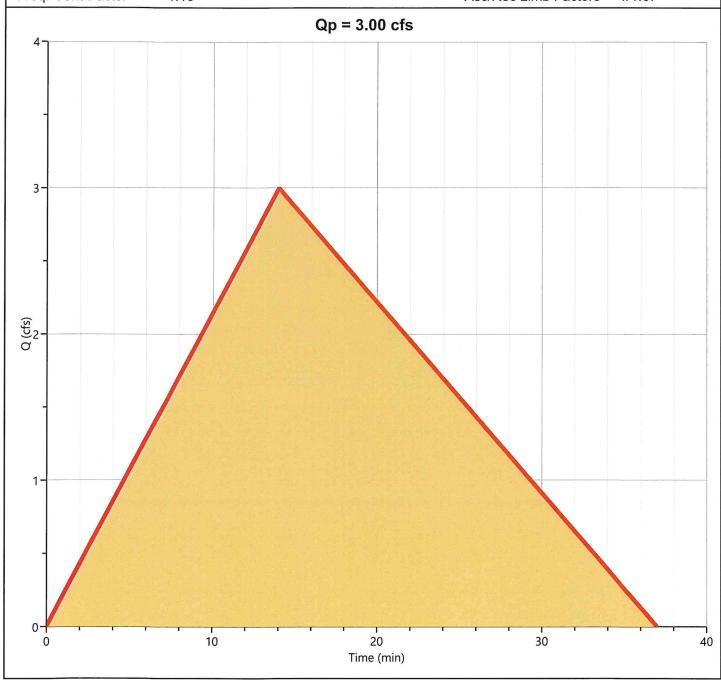
# Pre DA B @ AP 2

Hydrograph Type	= Rational	Peak Flow	= 1.336 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.38 hrs
Time Interval	= 1 min	Runoff Volume	= 2,462 cuft
Drainage Area	= 1.29 ac	Runoff Coeff.	= 0.24
Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.92 in/hr
Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factors = 1/1.67	



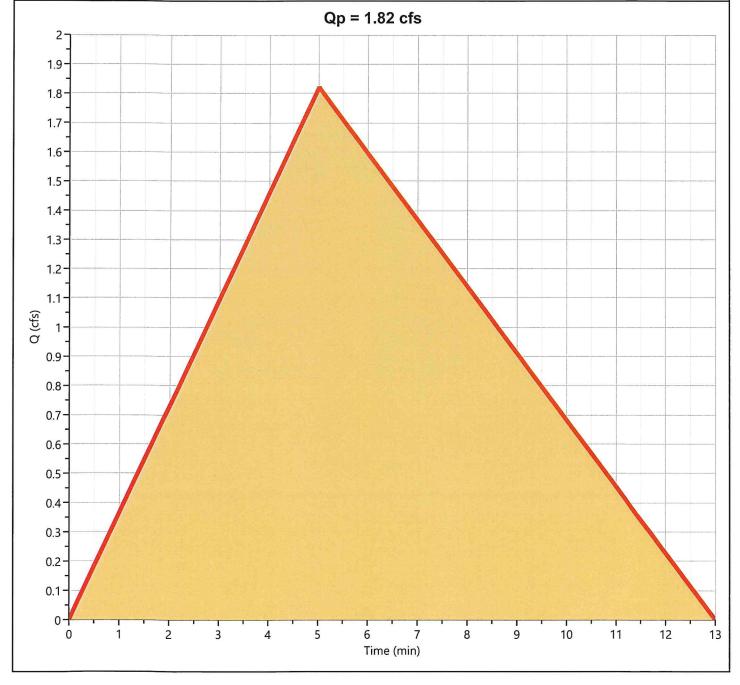
# Post DA A1 Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 3.001 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.23 hrs
Time Interval	= 1 min	Runoff Volume	= 3,365 cuft
Drainage Area	= 2.25 ac	Runoff Coeff.	= 0.23
Tc Method	= User	Time of Conc. (Tc)	= 14.0 min
IDF Curve	= Project0996.idf	Intensity	= 5.27 in/hr
Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factor	rs = 1/1.67



# Post DA A2 (Roof& Drivewa

22				
	Hydrograph Type	= Rational	Peak Flow	= 1.821 cfs
	Storm Frequency	= 25-yr	Time to Peak	= 0.08 hrs
	Time Interval	= 1 min	Runoff Volume	= 729 cuft
	Drainage Area	= 0.21 ac	Runoff Coeff.	= 0.9
	Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
	IDF Curve	= Project0996.idf	Intensity	= 8.76 in/hr
	Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factors	s = 1/1.67



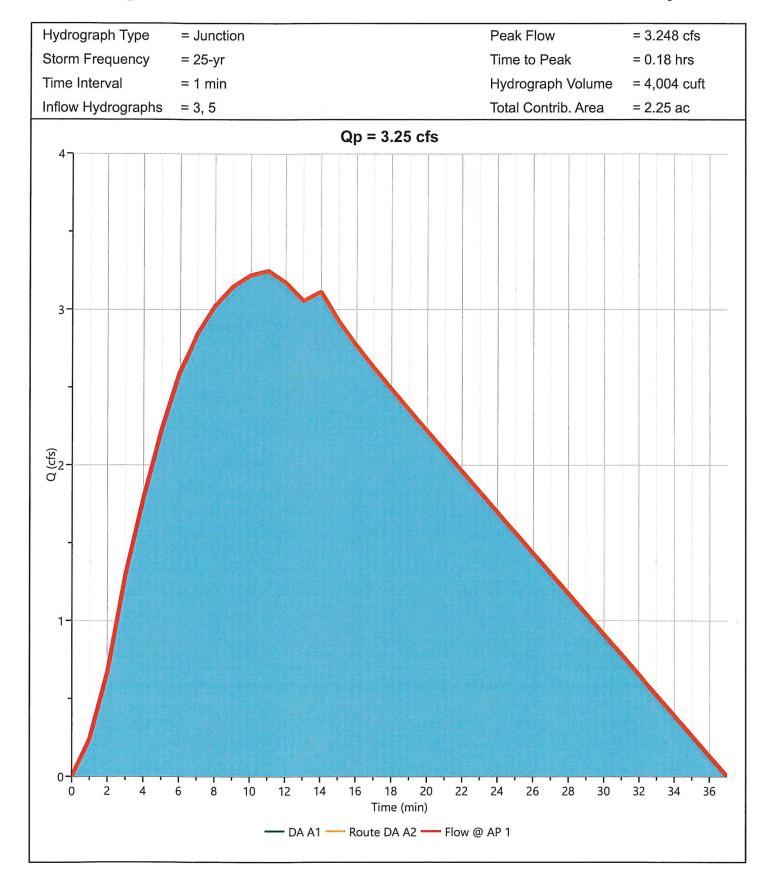
Hyd. No. 5

Hydrology Studio v 3.0.0.18 04-08-2021

## Route DA A2

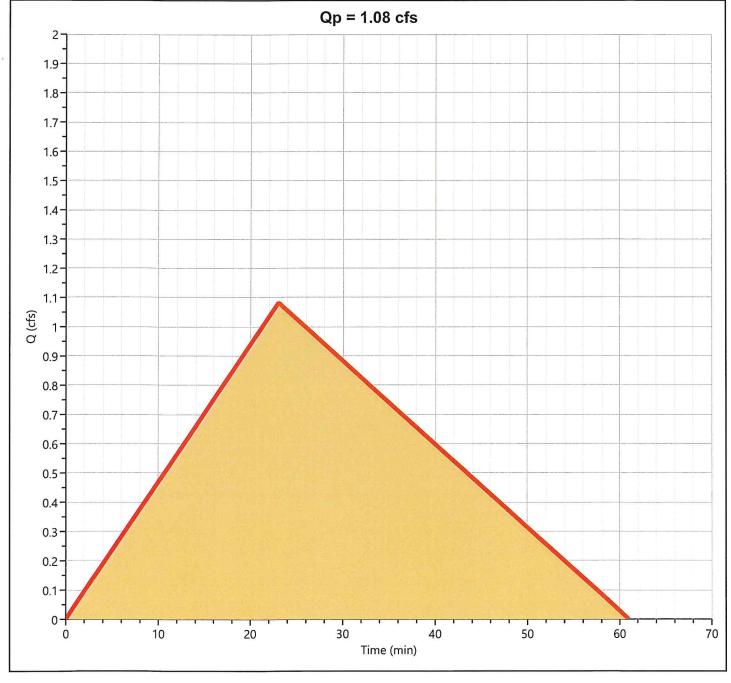
Hydrograph Type	= Pond Route	Peak Flow	= 1.345 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.12 hrs
Time Interval	= 1 min	Hydrograph Volume	= 674 cuft
Inflow Hydrograph	= 4 - DA A2 (Roof& Drivewa	Max. Elevation	= 958.98 ft
Pond Name	= UGDB1	Max. Storage	= 155 cuft
Pond Routing by Storage Inc	dication Method	Center of m	ass detention time = 2 min
	Qp = 1.34 cfs		
2			
1.9			
1.8			
1.7			
1.6			
-			
1.5			
1.4			
1.3			
1.2			
1.1			
O (cfs)			
0.9			
0.8-			
0.7			
0.6			
-			
0.5			
0.4			
0.3			
0.2			
0.1-			
-			
0 1 2	3 4 5 6 7 8 9 10 Time (min)	11 12 13 14 1	5 16 17 18
		Route DA A2	
		444	

## Post Flow @ AP 1



## Post DA B1

Hydrograph Type	= Rational	Peak Flow	= 1.083 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.38 hrs
Time Interval	= 1 min	Runoff Volume	= 1,995 cuft
Drainage Area	= 0.76 ac	Runoff Coeff.	= 0.33
Tc Method	= User	Time of Conc. (Tc)	= 23.0 min
IDF Curve	= Project0996.idf	Intensity	= 3.92 in/hr
Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factors	s = 1/1.67



# Post DA B2 Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 1.561 cfs		
Storm Frequency	= 25-yr	Time to Peak	= 0.08 hrs		
Time Interval	= 1 min	Runoff Volume	= 625 cuft		
Drainage Area	= 0.18 ac	Runoff Coeff.	= 0.9		
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min		
IDF Curve	= Project0996.idf	Intensity	= 8.76 in/hr		
Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factor	rs = 1/1.67		
	Qp = 1.5	6 cfs			
2]					
1.9					
1.8					
1.7					
1.6					
1.5					
1.4					
1.3					
1.2					
4					
1.1					
(§) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
0.9					
0.8					
0.7					
0.6					
0.5					
0.4					
0.3					
0.2					
0.1					

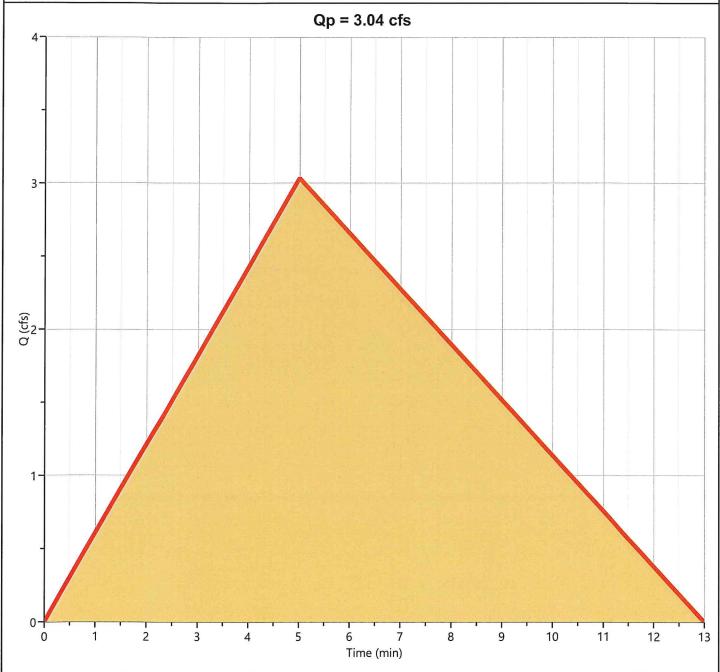
Time (min)

# Route DA B2 Hyd. No. 9

Hydrograph Type = Pond Route		Peak Flow	= 0.496 cfs		
Storm Frequency = 25-yr		Time to Peak	= 0.17 hrs		
Time Interval = 1 min		Hydrograph Volume	e = 524 cuft		
nflow Hydrograph = 8 - DA B2		Max. Elevation	= 959.56 ft		
Pond Name = UGB2		Max. Storage	= 352 cuft		
Pond Routing by Storage Indication Method		Center of ma	ass detention time = 7 min		
	Qp = 0.50 cfs				
2			1		
1.9					
1.8					
1.7					
1.6					
-					
1.5 -					
1.4					
1.3					
1.2					
1.1					
(St) 1-					
0.9					
0.8					
0.7					
0.6					
0.5					
0.4					
0.3					
0.2					
0.1					
0 10	20	30			
3	Time (min)	30	7		
	Req'd Stor — DA B2 — Route D				

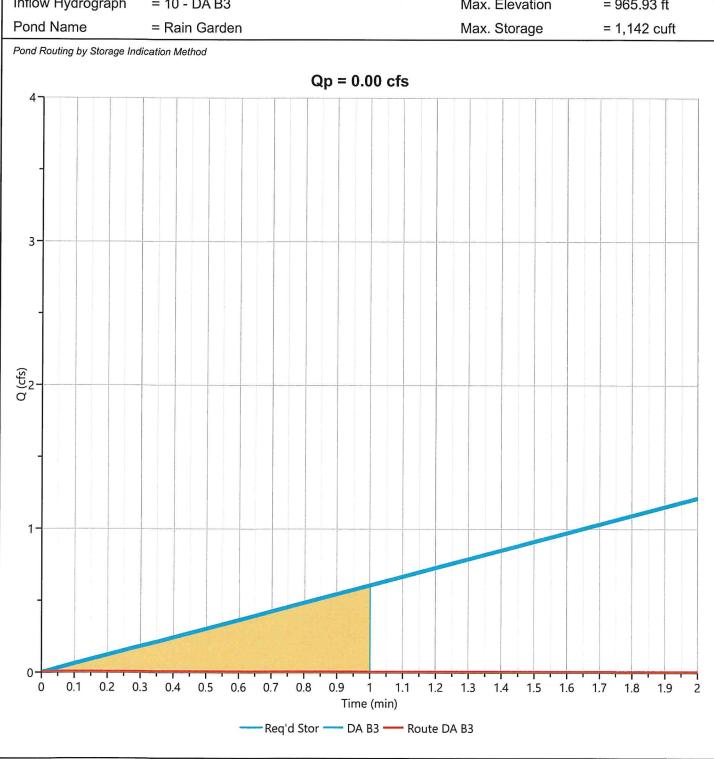
# Post DA B3 Hyd. No. 10

Hydrograph Type	= Rational	Peak Flow	= 3.035 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 1,216 cuft
Drainage Area	= 0.35 ac	Runoff Coeff.	= 0.9
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= Project0996.idf	Intensity	= 8.76 in/hr
Freq. Corr. Factor	= 1.10	Asc/Rec Limb Factors	s = 1/1.67



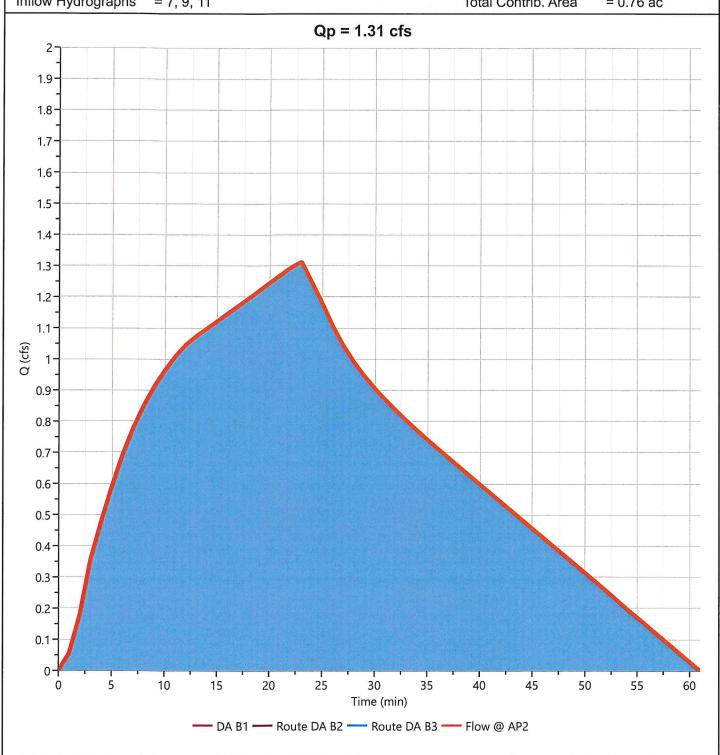
#### Route DA B3

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.02 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 10 - DA B3	Max. Elevation	= 965.93 ft
Pond Name	= Rain Garden	Max. Storage	= 1,142 cuft



## Post Flow @ AP2





# **DYMAR**

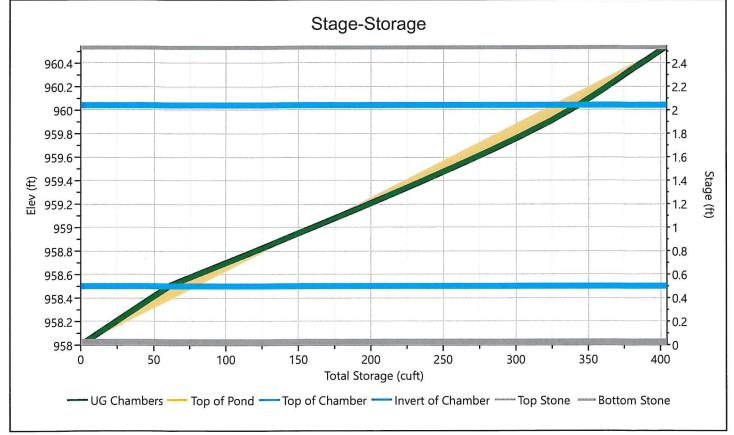
**POND REPORT** 

04-08-2021

## **UGDB1**

## Stage-Storage

Cultec Recharger® 150XLHD	Chamber			Stage / Stora	ge Table	
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage
Chamber Height, in	18.5	· ·				
Chamber Shape	Arch	0.0	958.00	302	0.000	0.000
Chamber Shape	AIGH	1.5	958.13	302	15.3	15.3
Chamber Width, in	33	3.1	958.25	302	15.3	30.7
Installed Length, ft	10.25	4.6	958.38	302	15.3	46.0
mstalled Length, it	10.25	6.1	958.51	302	15.6	61.6
No. Chambers	6	7.6	958.64	302	25.5	87.2
Bare Chamber Stor, cuft	163	9.2	958.76	302	25.5	113
Bare Chamber Stor, cuit	103	10.7	958.89	302	25.3	138
No. Rows	1	12.2	959.02	302	25.1	163
Space Between Rows, in	6	13.7	959.14	302	24.8	188
Space between Rows, III	O	15.3	959.27	302	24.4	212
Stone Above, in	6	16.8	959.40	302	23.9	236
Stone Below in	6	18.3	959.53	302	23.3	260
Stone Below, in	6	19.8	959.65	302	22.6	282
Stone Sides, in	12	21.4	959.78	302	21.6	304
Ctons Fude in	40	22.9	959.91	302	20.3	324
Stone Ends, in	12	24.4	960.03	302	18.3	342
Encasement Voids, %	40.00	25.9	960.16	302	16.1	358
Engagement Battom Flourities #	050.00	27.5	960.29	302	15.3	374
Encasement Bottom Elevation, ft	958.00	29.0	960.41	302	15.3	389
		30.5	960.54	302	15.3	404

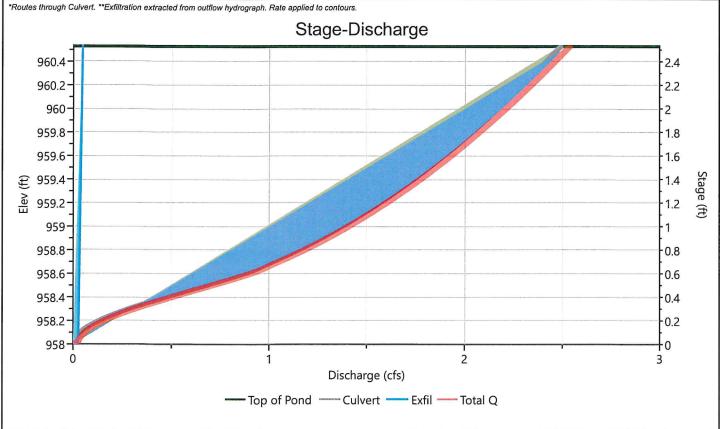


04-08-2021

#### **UGDB1**

## Stage-Discharge

Culvert / Orifices	Outroot		Orifices		Dowforeted Die	+ ,1
Culvert / Orifices	Culvert	1	2	3	Perforated Ris	er
Rise, in	8				Hole Diameter, in	
Span, in	8				No. holes	
No. Barrels	1				Invert Elevation, ft	
Invert Elevation, ft	958.00				Height, ft	
Orifice Coefficient, Co	0.60				Orifice Coefficient, Co	
Length, ft	40					
Barrel Slope, %	8					
N-Value, n	0.012					
Weirs	Riser*	Weirs			A : 11	
VVEIIS	Riser	1	2	3	Ancillary	
Shape / Type					Exfiltration, in/hr	3.75*
Crest Elevation, ft						
Crest Length, ft					a pro-sino a la companya ya y	
Angle, deg						
Weir Coefficient, Cw						



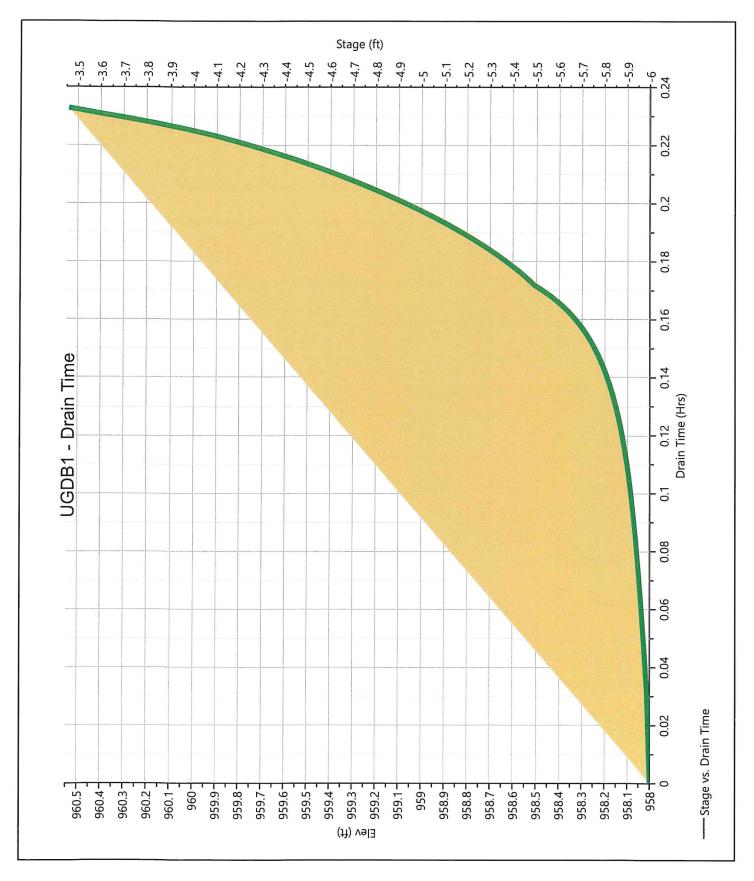
04-08-2021

#### **UGDB1**

# Stage-Storage-Discharge Summary

Stage	Elev.	Storage	Culvert	(	Orifices, c	fs	Riser		Weirs, cfs	0	Pf Riser	Exfil	User	Total
(ft)	(ft)	(cuft)	(cfs)	1	2	3	(cfs)	1	2	3	(cfs)	(cfs)	(cfs)	(cfs)
0.00	958.00	0.000	0.000									0.000		0.000
0.13	958.13	15.3	0.056 ic	3 1				1 1 3 7				0.027	100	0.084
0.25	958.25	30.7	0.210 ic									0.028		0.238
0.38	958.38	46.0	0.434 ic	1				5-0182	100		14.5	0.029		0.463
0.51	958.51	61.6	0.693 ic									0.030		0.724
0.64	958.64	87.2	0.931 ic				إديائرا	I' #43	100			0.031		0.963
0.76	958.76	113	1.101 ic		_							0.032		1.133
0.89	958.89	138	1.253 ic	N			2003			nd to said	The state of	0.033	18.00	1.287
1.02	959.02	163	1.389 ic									0.034		1.423
1.14	959.14	188	1.513 ic	** # **		4454			10 AND	W. 765		0.035	- 1:459	1.548
1.27	959.27	212	1.627 ic									0.036		1.663
1.40	959.40	236	1.734 ic	Thinks		1.546				Fred L	4470	0.037	140.00	1.771
1.53	959.53	260	1.835 ic	-			1317 Amedican			100		0.038		1.873
1.65	959.65	282	1.930 ic	1-1-	-4.65%		South !		100			0.039		1.969
1.78	959.78	304	2.021 ic		× 157. E							0.040		2.061
1.91	959.91	324	2.108 ic			184 83		重新基	1			0.041		2.149
2.03	960.03	342	2.191 ic									0.042		2.233
2.16	960.16	358	2.272 ic		1000	***	17000		<b>7</b> 13 8		1000	0.043		2.315
2.29	960.29	374	2.349 ic		6 "							0.044		2.393
2.41	960.41	389	2.424 ic	1133	9, 3,4	k-USA	let a trail		50 Po 150		data	0.045		2.470
2.54	960.54	404	2.497 ic								- 1	0.046	F. 172.0	2.544
									,					

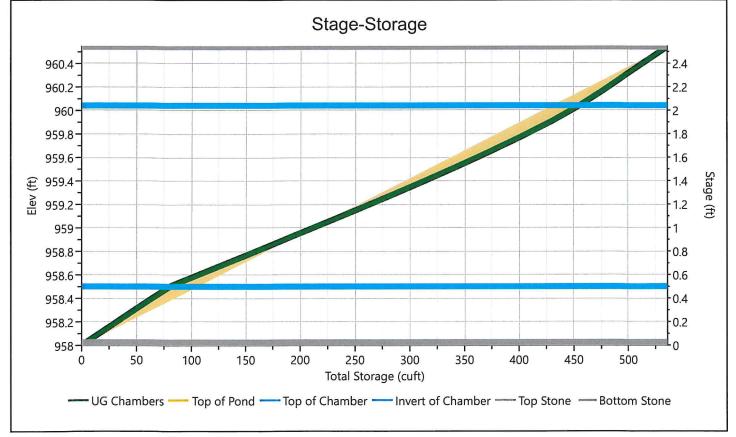
## UGDB1 Pond Drawdown



#### UGB2

## Stage-Storage

Cultec Recharger® 150XLHD	Chamber			Stage / Stora	ige Table	
Description	Input	Stage (in)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage
Chamber Height, in	18.5		050.00	200	0.000	0.000
Chamber Shape	Arch	0.0 1.5	958.00 958.13	399 399	0.000 20.3	0.000 20.3
		3.1	958.13 958.25	399	20.3	40.6
Chamber Width, in	33	4.6	958.38	399	20.3	60.8
Installed Length, ft	10.25	6.1	958.51	399	20.7	81.5
		7.6	958.64	399	33.9	115
No. Chambers	8	9.2	958.76	399	33.8	149
Bare Chamber Stor, cuft	217	10.7	958.89	399	33.6	183
No. Rows	1	12.2	959.02	399	33.3	216
		13.7	959.14	399	32.9	249
Space Between Rows, in	6	15.3	959.27	399	32.4	281
Stone Above, in	6	16.8	959.40	399	31.7	313
Otara D. I.	0	18.3	959.53	399	30.9	344
Stone Below, in	6	19.8	959.65	399	29.9	374
Stone Sides, in	12	21.4	959.78	399	28.6	403
Stone Finds in	40	22.9	959.91	399	26.9	430
Stone Ends, in	12	24.4	960.03	399	24.2	454
Encasement Voids, %	40.00	25.9	960.16	399	21.3	475
Encasement Bottom Elevation, ft	958.00	27.5	960.29	399	20.3	495
Endagement Dottom Elevation, it	930.00	29.0	960.41	399	20.3	516
		30.5	960.54	399	20.3	536



0.1

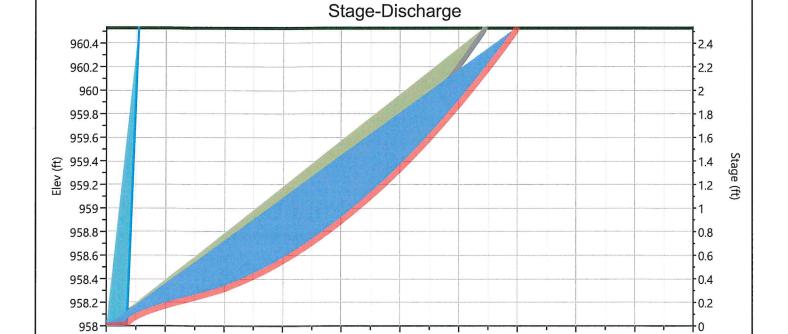
0.2

Hydrology Studio v 3.0.0.18 04-08-2021

#### UGB2

## Stage-Discharge

Culvest / Ovilless			Orifices		Doufount d Dio	
Culvert / Orifices	Culvert	1	2	3	Perforated Rise	er
Rise, in	4				Hole Diameter, in	
Span, in	4				No. holes	
No. Barrels	1				Invert Elevation, ft	
Invert Elevation, ft	958.00				Height, ft	
Orifice Coefficient, Co	0.60				Orifice Coefficient, Co	
Length, ft	20					
Barrel Slope, %	5				7 m	
N-Value, n	0.012					
Weirs		Weirs			Anaillana	
vvens	Riser*	1	2	3	Ancillary	
Shape / Type					Exfiltration, in/hr	3.75*
Crest Elevation, ft						
Crest Length, ft						
Angle, deg						
Weir Coefficient, Cw						



0.5 Discharge (cfs) Top of Pond — Culvert — Exfil — Total Q

0.7

0.6

0.8

0.9

0.4

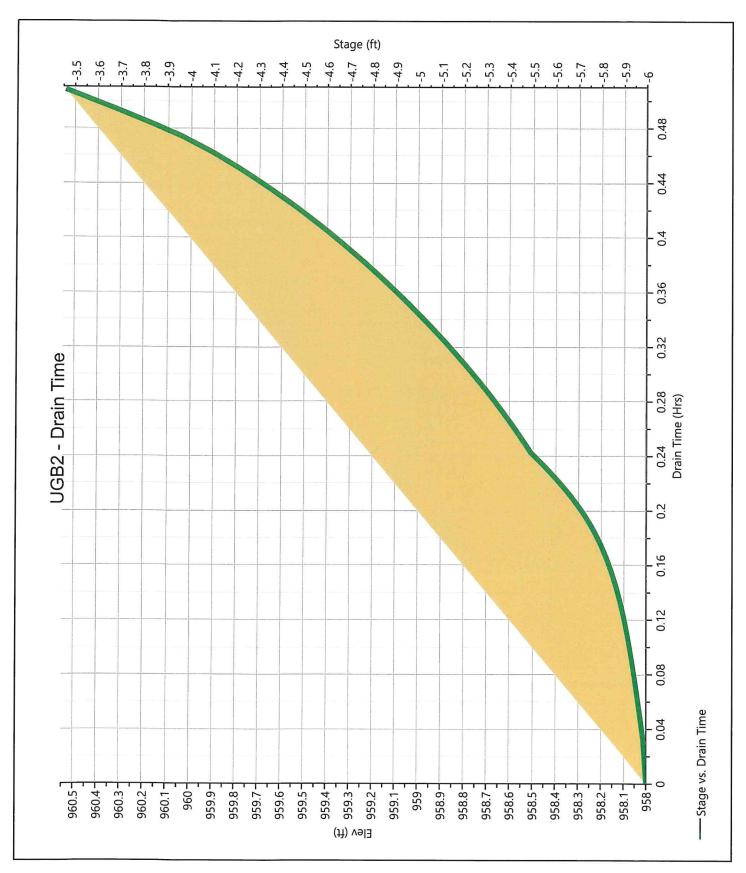
0.3

## UGB2

## **Stage-Storage-Discharge Summary**

Stage Elev. Storag	Storage	Culvert	C	Prifices, cfs	;	Riser		Weirs, cfs	;	Pf Riser	Exfil	User	Total	
(ft)	(ft)	(cuft)	(cfs)	1	2	3	(cfs)	1	2	3	(cfs)	(cfs)	(cfs)	(cfs)
0.00	958.00	0.000	0.000									0.000		0.000
0.13	958.13	20.3	0.037 ic	+515			- , >	1.0		100		0.036		0.073
0.25	958.25	40.6	0.123 ic									0.037		0.159
0.38	958.38	60.8	0.195 ic		73							0.038	F-1 5 B	0.232
0.51	958.51	81.5	0.246 ic									0.039		0.284
0.64	958.64	115	0.288 ic	A-23	30 Te-1							0.040		0.327
0.76	958.76	149	0.324 ic									0.041		0.365
0.89	958.89	183	0.357 ic									0.042		0.399
1.02	959.02	216	0.387 ic									0.043		0.430
1.14	959.14	249	0.415 ic		14 15					100		0.044		0.459
1.27	959.27	281	0.441 ic									0.045		0.486
1.40	959.40	313	0.466 ic									0.046	16.04	0.512
1.53	959.53	344	0.490 ic									0.047		0.536
1.65	959.65	374	0.512 ic		de la di		Sitt.				100	0.048	N 183	0.560
1.78	959.78	403	0.534 ic									0.049		0.582
1.91	959.91	430	0.554 ic	No. Garage						Al more		0.050		0.604
2.03	960.03	454	0.574 ic									0.051		0.625
2.16	960.16	475	0.593 ic		ANT		46				Maria	0.052		0.645
2.29	960.29	495	0.612 ic									0.053		0.664
2.41	960.41	516	0.630 ic					17.15			12.00	0.054		0.684
2.54	960.54	536	0.645 oc									0.055		0.700
								<						
				- 1										
				- 1										
				1										

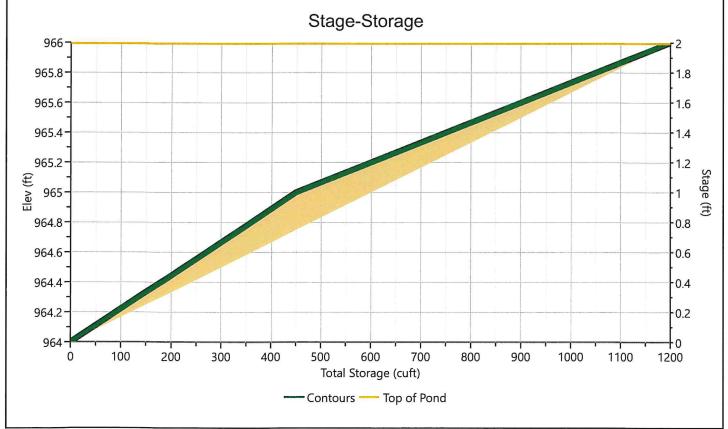
# UGB2 Pond Drawdown



## Rain Garden

## Stage-Storage

User Defined Contour	'S			Stage / Stora	ge Table	
Description	Input	Stage (ft)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
Bottom Elevation, ft	964.00					
Voids (%)	100.00	0.00 1.00	964.00 965.00	300 600	0.000 450	0.000 450
Volume Calc	None	2.00	966.00	900	750	1,200
					N	
			=		=	
					-	
				- ,	- ,	,
			. , , .		= -	
			· ·	- ·		=
				<u> </u>	1	
			11	*		77, 77
		l- 72'			* 4, * = 1	1.70



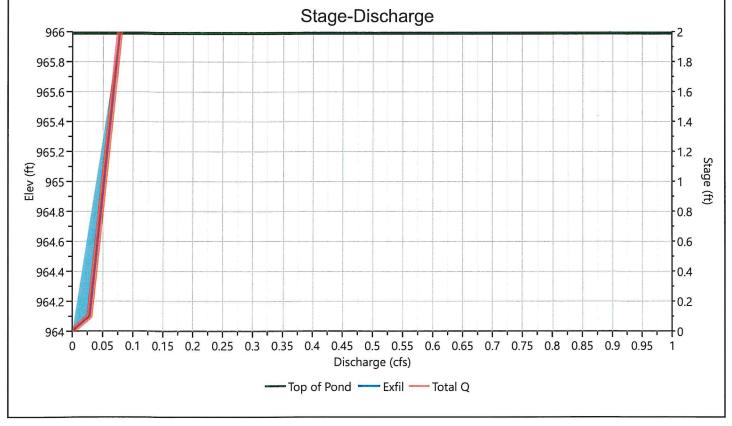
04-08-2021

#### Rain Garden

## Stage-Discharge

Culvert / Orifice			Orifices		Orifica Diata	
Culvert / Orifices	Culvert	1	2	3	Orifice Plate	
Rise, in					Orifice Dia, in	
Span, in					No. Orifices	
No. Barrels					Invert Elevation, ft	
Invert Elevation, ft					Height, ft	
Orifice Coefficient, Co					Orifice Coefficient, Co	
Length, ft						
Barrel Slope, %						
N-Value, n	0.000					
Weirs	Discut		Weirs		Ancilland	
vveiis	Riser*	1	2	3	Ancillary	
Shape / Type	Circular				Exfiltration, in/hr	3.75*
Crest Elevation, ft	965.5					
Crest Length, ft	1					
Angle, deg						
Weir Coefficient, Cw	3.3					

\*Routes through Culvert. \*\*Exfiltration extracted from outflow hydrograph. Rate applied to contours.



## Rain Garden

## **Stage-Storage-Discharge Summary**

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser	Weirs, cfs			Pf Riser	Exfil	User	Total
				1	2	3	(cfs)	1	2	3	(cfs)	(cfs)	(cfs)	(cfs)
0.00	964.00	0.000					0.000					0.000		0.000
1.00	965.00	450				-,	0.000	- W. A.				0.052		0.052
2.00	966.00	1,200					0.000	1		1		0.078		0.078
										1				
								Į						
						l								
														=

04-08-2021

#### Rain Garden

## **Pond Drawdown**

