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Area Listing (all nodes)

Area	CN	Description
(sq-ft)		(subcatchment-numbers)
1,168,090	74	>75% Grass cover, Good, HSG C (DA-1, DA-10, DA-11, DA-12, DA-13, DA-2,
		DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8, DA-9)
211,953	98	Paved parking, HSG C (DA-1, DA-10, DA-11, DA-12, DA-13, DA-14, DA-15,
		DA-16, DA-17, DA-2, DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6,
		DA-6a, DA-7, DA-8, DA-9)
482,430	72	Woods/grass comb., Good, HSG C (DA-1, DA-12, DA-13, DA-2, DA-2a, DA-2b,
		DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8, DA-9)
1,862,473	76	TOTAL AREA

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Soil Listing (all nodes)

Area	Soil	Subcatchment
(sq-ft)	Group	Numbers
0	HSG A	
0	HSG B	
1,862,473	HSG C	DA-1, DA-10, DA-11, DA-12, DA-13, DA-14, DA-15, DA-16, DA-17, DA-2,
		DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8,
		DA-9
0	HSG D	
0	Other	
1,862,473		TOTAL AREA

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			`	,			
HSG-A	HSG-B	HSG-C	HSG-D	Other	Total	Ground	Su
 (sq-ft)	(sq-ft)	(sq-ft)	(sq-ft)	(sq-ft)	(sq-ft)	Cover	Nu
0	0	1,168,090	0	0	1,168,090	>75% Grass	
						cover, Good	
0	0	211,953	0	0	211,953	Paved parking	
0	0	482,430	0	0	482,430	Woods/grass	
						comb., Good	
0	0	1,862,473	0	0	1,862,473	TOTAL AREA	

Ground Covers (all nodes)

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Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	53.00	46.00	46.0	0.1522	0.013	6.0	0.0	0.0
2	2P	60.75	55.00	30.0	0.1917	0.013	6.0	0.0	0.0
3	3P	66.40	62.00	50.0	0.0880	0.013	6.0	0.0	0.0
4	4P	28.30	27.30	100.0	0.0100	0.012	24.0	0.0	0.0
5	CB-1	26.90	26.50	33.0	0.0121	0.012	15.0	0.0	0.0
6	CB-10	35.20	35.20	91.0	0.0000	0.025	18.0	0.0	0.0
7	CB-11	35.50	35.10	26.0	0.0154	0.012	18.0	0.0	0.0
8	CB-12	39.70	35.20	95.0	0.0474	0.012	18.0	0.0	0.0
9	CB-13	43.30	39.80	63.0	0.0556	0.025	18.0	0.0	0.0
10	CB-14	49.50	43.40	117.0	0.0521	0.012	18.0	0.0	0.0
11	CB-15	54.10	49.60	83.0	0.0542	0.012	18.0	0.0	0.0
12	CB-16	63.90	54.10	183.0	0.0536	0.012	18.0	0.0	0.0
13	CB-17	69.40	64.00	206.0	0.0262	0.012	18.0	0.0	0.0
14	CB-2	26.40	26.20	78.0	0.0026	0.025	18.0	0.0	0.0
15	CB-3	28.20	26.20	39.0	0.0513	0.012	15.0	0.0	0.0
16	CB-4	26.00	25.30	227.0	0.0031	0.012	24.0	0.0	0.0
17	CB-5	29.50	26.30	89.0	0.0360	0.025	15.0	0.0	0.0
18	CB-6	27.10	26.50	36.0	0.0167	0.013	24.0	0.0	0.0
19	CB-7	25.10	22.70	117.0	0.0205	0.012	30.0	0.0	0.0
20	CB-8	29.50	26.30	193.0	0.0166	0.025	18.0	0.0	0.0
21	CB-9	35.40	31.00	190.0	0.0232	0.025	18.0	0.0	0.0

Pipe Listing (all nodes)

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA-1: DA-1	Runoff Area=110,937 sf 8.04% Impervious Runoff Depth=1.29" Flow Length=1,029' Tc=17.6 min CN=75 Runoff=3.81 cfs 11,969 cf
Subcatchment DA-10: DA-10	Runoff Area=29,242 sf 8.57% Impervious Runoff Depth=1.36" Flow Length=447' Tc=11.3 min CN=76 Runoff=1.31 cfs 3,309 cf
Subcatchment DA-11: DA-11	Runoff Area=60,828 sf 5.01% Impervious Runoff Depth=1.29" Flow Length=496' Tc=12.2 min CN=75 Runoff=2.51 cfs 6,563 cf
Subcatchment DA-12: DA-12	Runoff Area=145,643 sf 10.79% Impervious Runoff Depth=1.36" Flow Length=863' Tc=12.7 min CN=76 Runoff=6.23 cfs 16,483 cf
Subcatchment DA-13: DA-13	Runoff Area=391,463 sf 8.69% Impervious Runoff Depth=1.29" Flow Length=655' Tc=24.6 min CN=75 Runoff=10.99 cfs 42,237 cf
Subcatchment DA-14: DA-14	Runoff Area=6,316 sf 100.00% Impervious Runoff Depth=3.26" Tc=5.0 min CN=98 Runoff=0.72 cfs 1,714 cf
Subcatchment DA-15: DA-15	Runoff Area=2,159 sf 100.00% Impervious Runoff Depth=3.26" Tc=5.0 min CN=98 Runoff=0.25 cfs 586 cf
Subcatchment DA-16: DA-16	Runoff Area=1,630 sf 100.00% Impervious Runoff Depth=3.26" Tc=5.0 min CN=98 Runoff=0.19 cfs 442 cf
Subcatchment DA-17: DA-17	Runoff Area=2,107 sf 100.00% Impervious Runoff Depth=3.26" Tc=5.0 min CN=98 Runoff=0.24 cfs 572 cf
Subcatchment DA-2: DA-2 Flow Length=28	Runoff Area=29,175 sf 27.00% Impervious Runoff Depth=1.63" 4' Slope=0.0493 '/' Tc=22.0 min CN=80 Runoff=1.14 cfs 3,959 cf
Subcatchment DA-2a: DA-2a	Runoff Area=141,895 sf 10.12% Impervious Runoff Depth=1.36" Flow Length=739' Tc=18.3 min CN=76 Runoff=5.04 cfs 16,059 cf
Subcatchment DA-2b: DA-2b	Runoff Area=81,523 sf 12.99% Impervious Runoff Depth=1.42" Flow Length=965' Tc=20.6 min CN=77 Runoff=2.84 cfs 9,668 cf
Subcatchment DA-3: DA-3 Flow Length=19	Runoff Area=15,976 sf 5.12% Impervious Runoff Depth=1.29" 2' Slope=0.1562 '/' Tc=10.1 min CN=75 Runoff=0.71 cfs 1,724 cf
Subcatchment DA-4: DA-4 Flow Length=2	Runoff Area=56,004 sf 24.76% Impervious Runoff Depth=1.63" 50' Slope=0.1120 '/' Tc=9.8 min CN=80 Runoff=3.20 cfs 7,600 cf
Subcatchment DA-4a: DA-4a	Runoff Area=105,870 sf 4.11% Impervious Runoff Depth=1.29" Flow Length=708' Tc=15.7 min CN=75 Runoff=3.86 cfs 11,423 cf
Subcatchment DA-5: DA-5 Flow Length=22	Runoff Area=58,273 sf 16.11% Impervious Runoff Depth=1.49" 8' Slope=0.0702 '/' Tc=16.0 min CN=78 Runoff=2.46 cfs 7,234 cf

Subcatchment DA-5a: DA-5a	Runoff Area=194,700 sf 9.54% Impervious Runoff Depth=1.36" Flow Length=764' Tc=19.4 min CN=76 Runoff=6.67 cfs 22,035 cf
Subcatchment DA-6: DA-6	Runoff Area=53,023 sf 11.71% Impervious Runoff Depth=1.36" Flow Length=378' Tc=19.0 min CN=76 Runoff=1.84 cfs 6,001 cf
Subcatchment DA-6a: DA-6a	Runoff Area=90,060 sf 10.50% Impervious Runoff Depth=1.36" Flow Length=809' Tc=19.3 min CN=76 Runoff=3.09 cfs 10,192 cf
Subcatchment DA-7: DA-7	Runoff Area=39,515 sf 14.15% Impervious Runoff Depth=1.42" Flow Length=589' Tc=25.2 min CN=77 Runoff=1.22 cfs 4,686 cf
Subcatchment DA-8: DA-8	Runoff Area=21,184 sf 14.41% Impervious Runoff Depth=1.42" Flow Length=545' Tc=23.6 min CN=77 Runoff=0.68 cfs 2,512 cf
Subcatchment DA-9: DA-9	Runoff Area=224,950 sf 13.96% Impervious Runoff Depth=1.42" Flow Length=927' Tc=26.2 min CN=77 Runoff=6.77 cfs 26,677 cf
Reach 7R: OUTLET	Inflow=40.81 cfs 198,201 cf Outflow=40.81 cfs 198,201 cf
Pond 1P: DETENTION POND 3	Peak Elev=54.57' Storage=7,055 cf Inflow=5.04 cfs 46,413 cf
Primary=1.09 of	cfs 42,286 cf Secondary=0.35 cfs 1,979 cf Outflow=1.44 cfs 44,265 cf
Pond 2P: DETENTION POND 2	Peak Elev=61.35' Storage=10,785 cf Inflow=3.86 cfs 37,561 cf
Primary=0.56 of	cfs 22,611 cf Secondary=0.63 cfs 7,744 cf Outflow=1.19 cfs 30,355 cf
Pond 3P: DETENTION POND 1	Peak Elev=67.77' Storage=15,535 cf Inflow=9.76 cfs 32,227 cf
Primary=1	.00 cfs 26,138 cf Secondary=0.00 cfs 0 cf Outflow=1.00 cfs 26,138 cf
Pond 4P: PR-CB-1 24.0" Ro	Peak Elev=29.09' Inflow=3.52 cfs 53,932 cf und Culvert n=0.012 L=100.0' S=0.0100 '/' Outflow=3.52 cfs 53,932 cf
Pond CB-1: CB-1	Peak Elev=27.97' Inflow=3.81 cfs 11,969 cf
15.0" R	ound Culvert n=0.012 L=33.0' S=0.0121 '/' Outflow=3.81 cfs 11,969 cf
Pond CB-10: CB-10	Peak Elev=63.28' Inflow=25.77 cfs 104,181 cf
18.0" Rou	nd Culvert n=0.025 L=91.0' S=0.0000 '/' Outflow=25.77 cfs 104,181 cf
Pond CB-11: CB-11	Peak Elev=35.88' Inflow=0.72 cfs 1,714 cf
18.0"	Round Culvert n=0.012 L=26.0' S=0.0154 '/' Outflow=0.72 cfs 1,714 cf
Pond CB-12: CB-12	Peak Elev=48.82' Inflow=24.64 cfs 97,781 cf
18.0" Ro	und Culvert n=0.012 L=95.0' S=0.0474 '/' Outflow=24.64 cfs 97,781 cf
Pond CB-13: CB-13	Peak Elev=58.92' Inflow=23.99 cfs 95,268 cf
18.0" Ro	und Culvert n=0.025 L=63.0' S=0.0556 '/' Outflow=23.99 cfs 95,268 cf
Pond CB-14: CB-14	Peak Elev=54.86' Inflow=18.26 cfs 68,592 cf
18.0" Rou	nd Culvert n=0.012 L=117.0' S=0.0521 '/' Outflow=18.26 cfs 68,592 cf
Pond CB-15: CB-15	Peak Elev=58.93' Inflow=17.20 cfs 65,282 cf
18.0" Ro	und Culvert n=0.012 L=83.0' S=0.0542 '/' Outflow=17.20 cfs 65,282 cf

20-2624 KINGS HIGHWAY NORTH HAVEN - POST WI Type II 24-hr 2-YEAR Rainfall=3.49" Printed 11/12/2020

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Pond CB-16: CB-16

Pond CB-17: CB-17

Pond CB-2: CB-2

Pond CB-3: CB-3

Pond CB-4: CB-4

Pond CB-5: CB-5

HydroCAD® 10.00-19 s/n 02009 © 2016 HydroCAD Software Solutions LLC Page 8 Peak Elev=67.81' Inflow=15.12 cfs 58,719 cf 18.0" Round Culvert n=0.012 L=183.0' S=0.0536 '/' Outflow=15.12 cfs 58,719 cf Peak Elev=71.82' Inflow=10.99 cfs 42,237 cf 18.0" Round Culvert n=0.012 L=206.0' S=0.0262 '/' Outflow=10.99 cfs 42,237 cf Peak Elev=28.00' Inflow=3.86 cfs 12,541 cf 18.0" Round Culvert n=0.025 L=78.0' S=0.0026 '/' Outflow=3.86 cfs 12,541 cf Peak Elev=28.71' Inflow=1.14 cfs 3,959 cf 15.0" Round Culvert n=0.012 L=39.0' S=0.0513 '/' Outflow=1.14 cfs 3.959 cf Peak Elev=27.15' Inflow=4.98 cfs 16,943 cf 24.0" Round Culvert n=0.012 L=227.0' S=0.0031 '/' Outflow=4.98 cfs 16,943 cf Peak Elev=29.95' Inflow=0.71 cfs 1,724 cf 15.0" Round Culvert n=0.025 L=89.0' S=0.0360 '/' Outflow=0.71 cfs 1,724 cf

Peak Elev=33.70' Inflow=35.79 cfs 180,672 cf Pond CB-6: CB-6 24.0" Round Culvert n=0.013 L=36.0' S=0.0167 '/' Outflow=35.79 cfs 180,672 cf

Peak Elev=29.33' Inflow=40.81 cfs 198,201 cf Pond CB-7: CB-7 30.0" Round Culvert n=0.012 L=117.0' S=0.0205 '/' Outflow=40.81 cfs 198,201 cf

Peak Elev=93.17' Inflow=30.07 cfs 117,416 cf Pond CB-8: CB-8 18.0" Round Culvert n=0.025 L=193.0' S=0.0166 '/' Outflow=30.07 cfs 117,416 cf

Peak Elev=88.36' Inflow=27.60 cfs 110,181 cf Pond CB-9: CB-9 18.0" Round Culvert n=0.025 L=190.0' S=0.0232 '/' Outflow=27.60 cfs 110,181 cf

Total Runoff Area = 1,862,473 sf Runoff Volume = 213,644 cf Average Runoff Depth = 1.38" 88.62% Pervious = 1,650,520 sf 11.38% Impervious = 211,953 sf

Summary for Subcatchment DA-1: DA-1

Runoff = 3.81 cfs @ 12.11 hrs, Volume= 11,969 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

_	A	rea (sf)	CN E	Description							
		59,666	72 V	72 Woods/grass comb., Good, HSG C							
		42,347	74 >	75% Gras	s cover, Go	ood, HSG C					
_		8,924	98 F	Paved park	ing, HSG C						
	1	10,937	75 V	Veighted A	verage						
	1	02,013	ç	1.96% Per	vious Area						
		8,924	8	.04% Impe	ervious Area	а					
	_										
	Тс	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	9.9	153	0.1050	0.26		Sheet Flow,					
						Grass: Dense n= 0.240 P2= 3.49"					
	2.0	189	0.0950	1.54		Shallow Concentrated Flow,					
						Woodland Kv= 5.0 fps					
	5.7	687	0.0820	2.00		Shallow Concentrated Flow,					
_						Short Grass Pasture Kv= 7.0 fps					

17.6 1,029 Total

Subcatchment DA-1: DA-1



Summary for Subcatchment DA-10: DA-10

Runoff = 1.31 cfs @ 12.04 hrs, Volume= 3,309 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN [Description							
	26,737	74 >	74 >75% Grass cover, Good, HSG C							
	2,505	98 F	98 Paved parking, HSG C							
	29,242	76 \	Veighted A	verage						
	26,737	ę	01.43% Per	vious Area						
	2,505	8	3.57% Impe	ervious Area	a					
_										
Тс	Length	Slope	Velocity	Capacity	Description					
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)						
9.7	250	0.1160	0.43		Sheet Flow,					
					Grass: Short n= 0.150 P2= 3.49"					
1.6	197	0.0812	1.99		Shallow Concentrated Flow,					
					Short Grass Pasture Kv= 7.0 fps					
11.3	447	Total								

Subcatchment DA-10: DA-10



Summary for Subcatchment DA-11: DA-11

Runoff = 2.51 cfs @ 12.05 hrs, Volume= 6,563 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN [N Description							
	57,780	74 >	4 >75% Grass cover, Good, HSG C							
	3,048	98 F	Paved parking, HSG C							
	60,828	75 \	Veighted A	verage						
	57,780	ę	94.99% Per	vious Area						
	3,048	Ę	5.01% Impe	ervious Area	a					
_										
Tc	Length	Slope	Velocity	Capacity	Description					
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
9.8	250	0.1120	0.43		Sheet Flow,					
					Grass: Short n= 0.150 P2= 3.49"					
2.4	246	0.0610	1.73		Shallow Concentrated Flow,					
					Short Grass Pasture Kv= 7.0 fps					
12.2	496	Total								

Subcatchment DA-11: DA-11



Summary for Subcatchment DA-12: DA-12

Runoff = 6.23 cfs @ 12.05 hrs, Volume= 16,483 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

_	Ai	rea (sf)	CN E	Description							
		33,394	72 Woods/grass comb., Good, HSG C								
		96,537	74 >	4 >75% Grass cover, Good, HSG C							
_		15,712	98 F	Paved park	ing, HSG C						
	1	45,643	76 V	Veighted A	verage						
	1	29,931	8	9.21% Per	vious Area						
		15,712	1	0.79% Imp	pervious Ar	ea					
	Тс	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	6.2	147	0.1220	0.40		Sheet Flow,					
						Grass: Short n= 0.150 P2= 3.49"					
	3.1	395	0.0911	2.11		Shallow Concentrated Flow,					
						Short Grass Pasture Kv= 7.0 fps					
	3.4	321	0.0500	1.57		Shallow Concentrated Flow,					
_						Short Grass Pasture Kv= 7.0 fps					
	40 7	000	T · ·								

12.7 863 Total

Subcatchment DA-12: DA-12



Summary for Subcatchment DA-13: DA-13

Runoff = 10.99 cfs @ 12.19 hrs, Volume= 42,237 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

	A	rea (sf)	CN	Description							
	1	92,024	72	72 Woods/grass comb., Good, HSG C							
	1	65,425	74	>75% Gras	s cover, Go	ood, HSG C					
_		34,014	98	Paved park	ing, HSG C						
	3	91,463	75	Weighted A	verage						
	3	57,449	1	91.31% Per	vious Area						
		34,014		8.69% Impe	ervious Are	a					
	Тс	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	21.5	250	0.1120	0.19		Sheet Flow,					
						Woods: Light underbrush n= 0.400 P2= 3.49"					
	3.1	405	0.0938	2.14		Shallow Concentrated Flow,					
_						Short Grass Pasture Kv= 7.0 fps					
	04.0	055	Tatal								

24.6 655 Total

Subcatchment DA-13: DA-13



Summary for Subcatchment DA-14: DA-14

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.72 cfs @ 11.95 hrs, Volume= 1,714 cf, Depth= 3.26"



Summary for Subcatchment DA-15: DA-15

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.25 cfs @ 11.95 hrs, Volume= 586 cf, Depth= 3.26"



Summary for Subcatchment DA-16: DA-16

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.19 cfs @ 11.95 hrs, Volume= 442 cf, Depth= 3.26"



Summary for Subcatchment DA-17: DA-17

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.24 cfs @ 11.95 hrs, Volume= 572 cf, Depth= 3.26"



Summary for Subcatchment DA-2: DA-2

Runoff = 1.14 cfs @ 12.16 hrs, Volume= 3,959 cf, Depth= 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN	Description					
	6,390	72	Woods/gras	ss comb., G	Good, HSG C			
	14,909	74	>75% Gras	s cover, Go	ood, HSG C			
	7,876	98	Paved park	ing, HSG C				
	29,175	80	Weighted A	verage				
21.299 73.00% Pervious Area								
	7,876		27.00% Imp	pervious Ar	ea			
Тс	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)				
22.0	284	0.0493	3 0.22		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

Subcatchment DA-2: DA-2



Summary for Subcatchment DA-2a: DA-2a

Runoff = 5.04 cfs @ 12.12 hrs, Volume= 16,059 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN I	Description						
	14,360	98 I	Paved parking, HSG C						
	20,313	72 \	Noods/gras	ss comb., G	Good, HSG C				
1	07,222	74 >	>75% Gras	s cover, Go	ood, HSG C				
1	41,895	76 \	76 Weighted Average						
1	27,535	8	39.88% Per	vious Area					
	14,360		10.12% Imp	pervious Are	ea				
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
14.1	244	0.1107	0.29		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 3.49"				
1.7	164	0.1037	1.61		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
2.5	331	0.1027	2.24		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
18.3	739	Total							

Subcatchment DA-2a: DA-2a



Summary for Subcatchment DA-2b: DA-2b

Runoff = 2.84 cfs @ 12.14 hrs, Volume= 9,668 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN [Description						
	10,589	98 F	98 Paved parking, HSG C						
	12,269	72 \	Noods/gras	ss comb., G	Good, HSG C				
	58,665	74 >	>75% Gras	s cover, Go	ood, HSG C				
	81,523	77 \	Neighted A	verage					
	70,934	8	37.01% Pei	vious Area					
	10,589		12.99% Imp	pervious Ar	ea				
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
14.7	250	0.1040	0.28		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 3.49"				
1.0	94	0.1060	1.63		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
4.9	621	0.0902	2.10		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
20.6	965	Total							

Subcatchment DA-2b: DA-2b



Summary for Subcatchment DA-3: DA-3

Runoff = 0.71 cfs @ 12.02 hrs, Volume= 1,724 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN	Description					
	2,108	72	Woods/gras	ss comb., G	Good, HSG C			
	13,050	74	>75% Gras	s cover, Go	ood, HSG C			
	818	98	Paved parking, HSG C					
	15,976	75	Weighted Average					
	15,158		94.88% Pervious Area					
	818		5.12% Impervious Area					
Тс	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)				
10.1	192	0.1562	2 0.32		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

Subcatchment DA-3: DA-3



Summary for Subcatchment DA-4: DA-4

Runoff = 3.20 cfs @ 12.02 hrs, Volume= 7,600 cf, Depth= 1.63"

A	rea (sf)	CN	Description					
	2,602	72	Woods/gras	ss comb., G	Good, HSG C			
	39,535	74	>75% Gras	s cover, Go	ood, HSG C			
	13,867	98	Paved park	ing, HSG C)			
	56,004	80	Weighted Average					
42,137 75.24% Pervious Area								
13,867 24.76% Impervious Are					ea			
Tc	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)				
9.8	250	0.1120	0.43		Sheet Flow,			
					Grass: Short	n= 0.150	P2= 3.49"	





Summary for Subcatchment DA-4a: DA-4a

Runoff = 3.86 cfs @ 12.09 hrs, Volume= 11,423 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

	Area (sf)	CN	Description						
	13,963	72	2 Woods/grass comb., Good, HSG C						
	4,349	98	Paved park	ing, HSG C	<u>}</u>				
	87,558	74 :	>75% Ġras	s cover, Go	ood, HSG C				
	105,870	75	Weighted A	verage					
	101,521	9	95.89% Pei	rvious Area					
	4,349	4	4.11% Impe	ervious Are	а				
To	: Length	Slope	Velocity	Capacity	Description				
(min)) (feet)	(ft/ft)	(ft/sec)	(cfs)					
10.2	284	0.1303	0.46		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.49"				
3.4	· 146	0.0822	0.72		Shallow Concentrated Flow,				
					Forest w/Heavy Litter Kv= 2.5 fps				
2.1	278	0.0993	2.21		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
15.7	708	Total							

Subcatchment DA-4a: DA-4a



Summary for Subcatchment DA-5: DA-5

Runoff = 2.46 cfs @ 12.09 hrs, Volume= 7,234 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN	Description					
	6,817	72	Woods/gras	ss comb., G	Good, HSG C			
	42,069	74	>75% Grass cover, Good, HSG C					
	9,387	98	Paved parking, HSG C					
	58,273	78	Weighted A	verage				
	48,886		83.89% Pervious Area					
	9,387		16.11% Impervious Area					
Тс	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)				
16.0	228	0.0702	0.24		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

Subcatchment DA-5: DA-5



Summary for Subcatchment DA-5a: DA-5a

Runoff = 6.67 cfs @ 12.13 hrs, Volume= 22,035 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

	A	rea (sf)	CN	Description						
		24,732	72	2 Woods/grass comb., Good, HSG C						
		18,582	98	Paved park	ing, HSG C					
	1	51,386	74	>75% Ġras	s cover, Go	bod, HSG C				
	1	94,700	76	Weighted A	verage					
	1	76,118		90.46% Pei	vious Area					
		18,582		9.54% Impe	ervious Are	a				
	Тс	Length	Slope	Velocity	Capacity	Description				
(m	in)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
14	1.3	250	0.1120	0.29		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 3.49"				
2	2.7	384	0.1150	2.37		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
2	2.4	130	0.1270	0.89		Shallow Concentrated Flow,				
						Forest w/Heavy Litter Kv= 2.5 fps				
19	9.4	764	Total							

Subcatchment DA-5a: DA-5a



Summary for Subcatchment DA-6: DA-6

Runoff = 1.84 cfs @ 12.12 hrs, Volume= 6,001 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

Α	rea (sf)	CN I	Description					
	25,517	72	Noods/gras	ss comb., G	Good, HSG C			
	21,299	74 :	>75% Gras	s cover, Go	bod, HSG C			
	6,207	98	Paved park	ing, HSG C				
	53,023	76	Neighted A	verage				
	46,816	8	38.29% Pei	vious Area				
	6,207		11.71% Impervious Area					
Тс	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
17.5	185	0.1027	0.18		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.49"			
1.5	193	0.0984	2.20		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
19.0	378	Total						

Subcatchment DA-6: DA-6



Summary for Subcatchment DA-6a: DA-6a

Runoff = 3.09 cfs @ 12.13 hrs, Volume= 10,192 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN	Description					
	2,659	72	72 Woods/grass comb., Good, HSG C					
	77,944	74 :	>75% Gras	s cover, Go	bod, HSG C			
	9,457	98	Paved park	ing, HSG C				
	90,060	76	Neighted A	verage				
	80,603	1	39.50% Pei	rvious Area				
	9,457		10.50% Impervious Area					
Тс	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
14.7	250	0.1040	0.28		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 3.49"			
4.6	559	0.0823	2.01		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
19.3	809	Total						

Subcatchment DA-6a: DA-6a



Summary for Subcatchment DA-7: DA-7

Runoff = 1.22 cfs @ 12.20 hrs, Volume= 4,686 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	rea (sf)	CN I	Description						
	16,249	72	72 Woods/grass comb., Good, HSG C						
	17,675	74 :	>75% Gras	s cover, Go	ood, HSG C				
	5,591	98 I	Paved park	ing, HSG C					
	39,515	77 \	Neighted A	verage					
	33,924	8	35.85% Pei	vious Area					
	5,591		14.15% Imp	pervious Ar	ea				
Tc	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
21.5	250	0.1120	0.19		Sheet Flow,				
					Woods: Light underbrush n= 0.400 P2= 3.49"				
1.8	90	0.1111	0.83		Shallow Concentrated Flow,				
					Forest w/Heavy Litter Kv= 2.5 fps				
1.9	249	0.1004	2.22		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
05.0	500	Tatal							

25.2 589 Total

Subcatchment DA-7: DA-7



Summary for Subcatchment DA-8: DA-8

Runoff = 0.68 cfs @ 12.18 hrs, Volume= 2,512 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 2-YEAR Rainfall=3.49"

A	Area (sf)	CN I	Description					
	8,852	72	72 Woods/grass comb., Good, HSG C					
	9,279	74 🗧	>75% Gras	s cover, Go	bod, HSG C			
	3,053	98 I	Paved park	ing, HSG C				
	21,184	77 \	Neighted A	verage				
	18,131	8	35.59% Pei	rvious Area				
	3,053		14.41% Imp	pervious Ar	ea			
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.5	250	0.1120	0.19		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.49"			
0.4	56	0.1070	2.29		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
1.7	239	0.1088	2.31		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
~~~~		<b>T</b> ( )						

23.6 545 Total

#### Subcatchment DA-8: DA-8



### Summary for Subcatchment DA-9: DA-9

Runoff = 6.77 cfs @ 12.21 hrs, Volume= 26,677 cf, Depth= 1.42"

A	rea (sf)	CN D	escription						
	54,875	72 V	72 Woods/grass comb., Good, HSG C						
1	138,673	74 >	75% Gras	s cover, Go	ood, HSG C				
	31,402	98 P	aved park	<u>ing, HSG C</u>					
2	224,950	77 V	Veighted A	verage					
1	193,548	8	6.04% Per	vious Area					
	31,402	1	3.96% Imp	pervious Ar	ea				
Tc	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
21.5	250	0.1120	0.19		Sheet Flow,				
					Woods: Light underbrush n= 0.400 P2= 3.49"				
0.3	50	0.1400	2.62		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
1.7	207	0.0870	2.06		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
0.3	100	0.7000	5.86		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
2.4	320	0.1000	2.21		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
26.2	927	Total							



#### Subcatchment DA-9: DA-9

### Summary for Reach 7R: OUTLET

[40] Hint: Not Described (Outflow=Inflow)

Inflow A	Area	=	1,862,473 sf,	11.38% Impervious,	Inflow Depth = 1.28"	for 2-YEAR event
Inflow		=	40.81 cfs @	12.11 hrs, Volume=	198,201 cf	
Outflow	V	=	40.81 cfs @	12.11 hrs, Volume=	198,201 cf, Atte	en= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



### Reach 7R: OUTLET

### Summary for Pond 1P: DETENTION POND 3

Inflow Area =	532,525 sf, 8.78% Impervious,	Inflow Depth > 1.05" for 2-YEAR event
Inflow =	5.04 cfs @ 12.12 hrs, Volume=	46,413 cf
Outflow =	1.44 cfs @ 14.39 hrs, Volume=	44,265 cf, Atten= 71%, Lag= 136.1 min
Primary =	1.09 cfs @ 14.39 hrs, Volume=	42,286 cf
Secondary =	0.35 cfs @ 14.39 hrs, Volume=	1,979 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 54.57' @ 14.39 hrs Surf.Area= 3,927 sf Storage= 7,055 cf

Plug-Flow detention time= 115.6 min calculated for 44,220 cf (95% of inflow) Center-of-Mass det. time= 77.2 min (1,107.5 - 1,030.2)

Volume	Inve	ert Avail.Sto	orage Storage	Storage Description				
#1	52.0	0' 16,5	27 cf Custon	n Stage Data (Pr	ismatic) Listed below (Recalc)			
Elevatio (fee	on et)	Surf.Area (sɑ-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)				
52.0 54.0 56.0 56.5	00 00 00 50	1,631 3,355 5,369 5,897	0 4,986 8,724 2,817	0 4,986 13,710 16,527				
Device	Routing	Invert	Outlet Device	es				
#1	Primary	53.00' ry 54.50'	6.0" Round L= 46.0' CP Inlet / Outlet n= 0.013 Co 6.0' long Sha	Culvert P, square edge l Invert= 53.00' / 4 rrugated PE, sm arp-Crested Rec	headwall, Ke= 0.500 6.00' S= 0.1522 '/' Cc= 0.900 ooth interior, Flow Area= 0.20 sf <b>tangular Weir</b> 2 End Contraction(s)			
<b>-</b> ·		1 1 00 0						

Primary OutFlow Max=1.09 cfs @ 14.39 hrs HW=54.57' (Free Discharge) -1=Culvert (Inlet Controls 1.09 cfs @ 5.53 fps)

Secondary OutFlow Max=0.35 cfs @ 14.39 hrs HW=54.57' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 0.35 cfs @ 0.85 fps)



### Pond 1P: DETENTION POND 3

### Summary for Pond 2P: DETENTION POND 2

Inflow Area =	390,630 sf,	8.29% Im	pervious,	Inflow Depth > 1	1.15"	for 2-Y	EAR event
Inflow =	3.86 cfs @	12.10 hrs, \	Volume=	37,561 cf			
Outflow =	1.19 cfs @	14.01 hrs, \	Volume=	30,355 cf,	Atten	= 69%,	Lag= 114.7 min
Primary =	0.56 cfs @	14.01 hrs, \	Volume=	22,611 cf			
Secondary =	0.63 cfs @	14.01 hrs, \	Volume=	7,744 cf			

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 61.35' @ 14.01 hrs Surf.Area= 6,669 sf Storage= 10,785 cf

Plug-Flow detention time= 237.3 min calculated for 30,324 cf (81% of inflow) Center-of-Mass det. time= 143.0 min (1,121.0 - 978.0)

Volume	Invert	Avail.Sto	rage Storage	e Description				
#1	59.00'	19,39	90 cf Custon	n Stage Data (Pr	ismatic) Listed below (Recalc)			
Elevation	S	urf.Area	Inc.Store	Cum.Store				
(feet)		(sq-ft)	(cubic-feet)	(cubic-feet)				
59.00		1,386	0	0				
60.00		4,751	3,069	3,069				
62.00		7,590	12,341	15,410				
62.50		8,330	3,980	19,390				
Device F	Routing	Invert	Outlet Device	es				
#1 Primary 60.75' <b>6.0''</b> L= 3 Inlet n= 0			6.0" Round L= 30.0' CP Inlet / Outlet n= 0.013 Co	<b>0" Round Culvert</b> = 30.0' CPP, square edge headwall, Ke= 0.500 Ilet / Outlet Invert= 60.75' / 55.00' S= 0.1917 '/' Cc= 0.900 = 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf				
#2 S	Secondary	61.25'	6.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)					

Primary OutFlow Max=0.56 cfs @ 14.01 hrs HW=61.35' (Free Discharge) -1=Culvert (Inlet Controls 0.56 cfs @ 2.85 fps)

Secondary OutFlow Max=0.63 cfs @ 14.01 hrs HW=61.35' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 0.63 cfs @ 1.04 fps)



### Pond 2P: DETENTION POND 2
# Summary for Pond 3P: DETENTION POND 1

Inflow Area	=	284,760 sf,	9.85% Impervious,	Inflow Depth = 1.	36" for 2-YEAR event
Inflow	=	9.76 cfs @	12.13 hrs, Volume=	32,227 cf	
Outflow	=	1.00 cfs @	13.15 hrs, Volume=	26,138 cf,	Atten= 90%, Lag= 61.4 min
Primary	=	1.00 cfs @	13.15 hrs, Volume=	26,138 cf	-
Secondary	=	0.00 cfs @	0.00 hrs, Volume=	0 cf	

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 67.77' @ 13.15 hrs Surf.Area= 8,279 sf Storage= 15,535 cf

Plug-Flow detention time= 251.7 min calculated for 26,112 cf (81% of inflow) Center-of-Mass det. time= 170.2 min (1,029.8 - 859.7)

Volume	Inver	t Avail.Stor	rage Storage	Description	
#1	65.00	43,33	35 cf Custom	Stage Data (Pri	ismatic) Listed below (Recalc)
Elevatio	on S	Surf.Area	Inc.Store	Cum.Store	
65.0	)0	3,065	0	0	
66.0 68.0	00	4,798 8 721	3,932 13 510	3,932 17 451	
70.0	0	11,226	19,947	37,398	
70.5	50	12,525	5,938	43,335	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	66.40'	6.0" Round ( L= 50.0' CPI Inlet / Outlet I n= 0.013 Cor	<b>Culvert</b> P, square edge h nvert= 66.40' / 6 rugated PE, smo	neadwall, Ke= 0.500 2.00' S= 0.0880 '/' Cc= 0.900 poth interior, Flow Area= 0.20 sf
#2	Secondary	/ 69.50'	6.0' long Sha	rp-Crested Rect	angular Weir 2 End Contraction(s)

**Primary OutFlow** Max=1.00 cfs @ 13.15 hrs HW=67.77' (Free Discharge) **1=Culvert** (Inlet Controls 1.00 cfs @ 5.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=65.00' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)



# Pond 3P: DETENTION POND 1

### Summary for Pond 4P: PR-CB-1

[57] Hint: Peaked at 29.09' (Flood elevation advised)

Inflow Area =		614,048 sf,	9.34% Impervious,	Inflow Depth > 1	.05" for 2-YEAR event
Inflow	=	3.52 cfs @	12.17 hrs, Volume=	53,932 cf	
Outflow	=	3.52 cfs @	12.17 hrs, Volume=	53,932 cf,	Atten= 0%, Lag= 0.0 min
Primary	=	3.52 cfs @	12.17 hrs, Volume=	53,932 cf	-

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 29.09' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	28.30'	<b>24.0" Round Culvert</b> L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.30' / 27.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=3.48 cfs @ 12.17 hrs HW=29.09' (Free Discharge) ←1=Culvert (Inlet Controls 3.48 cfs @ 3.02 fps)



Pond 4P: PR-CB-1

# Summary for Pond CB-1: CB-1

Inflow Area = 110,937 sf, 8.04% Impervious, Inflow Depth = 1.29" for 2-YEAR event 3.81 cfs @ 12.11 hrs, Volume= Inflow 11.969 cf = 3.81 cfs @ 12.11 hrs, Volume= Outflow = 11,969 cf, Atten= 0%, Lag= 0.0 min 3.81 cfs @ 12.11 hrs, Volume= Primary = 11,969 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 27.97' @ 12.11 hrs Flood Elev= 30.47'

 

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 26.90'
 **15.0" Round RCP_Round 15"** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.90' / 26.50' S= 0.0121 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=3.77 cfs @ 12.11 hrs HW=27.96' (Free Discharge) —1=RCP_Round 15" (Barrel Controls 3.77 cfs @ 4.57 fps)



#### Pond CB-1: CB-1

# Summary for Pond CB-10: CB-10

[58] Hint: Peaked 24.08' above defined flood level[81] Warning: Exceeded Pond CB-11 by 27.38' @ 12.15 hrs[81] Warning: Exceeded Pond CB-12 by 14.37' @ 12.15 hrs

 Inflow Area =
 919,141 sf, 11.06% Impervious, Inflow Depth =
 1.36" for 2-YEAR event

 Inflow =
 25.77 cfs @
 12.13 hrs, Volume=
 104,181 cf

 Outflow =
 25.77 cfs @
 12.13 hrs, Volume=
 104,181 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 25.77 cfs @
 12.13 hrs, Volume=
 104,181 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 63.28' @ 12.13 hrs Flood Elev= 39.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.20'	<b>18.0" Round CMP_Round 18"</b> L= 91.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.20' / 35.20' S= 0.0000 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=25.60 cfs @ 12.13 hrs HW=62.95' (Free Discharge) ←1=CMP_Round 18" (Barrel Controls 25.60 cfs @ 14.49 fps)



# Pond CB-10: CB-10

# Summary for Pond CB-11: CB-11

Inflow Area = 6,316 sf,100.00% Impervious, Inflow Depth = 3.26" for 2-YEAR event Inflow 0.72 cfs @ 11.95 hrs, Volume= 1.714 cf = 0.72 cfs @ 11.95 hrs, Volume= Outflow = 1,714 cf, Atten= 0%, Lag= 0.0 min 0.72 cfs @ 11.95 hrs, Volume= Primary = 1,714 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 35.88' @ 11.95 hrs Flood Elev= 39.13' Device Routing Invert Outlet Devices 18.0" Round RCP_Round 18" #1 Primary 35.50' L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.50' / 35.10' S= 0.0154 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=0.72 cfs @ 11.95 hrs HW=35.88' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 0.72 cfs @ 2.09 fps)

Hydrograph Inflow <u>0 72 cf</u>s Primarv 08 0.72 cfs Inflow Area=6,316 sf 0.75 0.7 Peak Elev=35.88' 0.65 0.6 18.0" 0.55 0.5 Round Culvert **ເ**ຊິ່ງ 0.45 n=0.012 Flow 0.4 0.35 L=26.0' 0.3 S=0.0154 '/' 0.25 0.2 0.15 0.1 0.05 0ż 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 4 6 8 0 Time (hours)

Pond CB-11: CB-11

# Summary for Pond CB-12: CB-12

[58] Hint: Peaked 6.02' above defined flood level [79] Warning: Submerged Pond CB-13 Primary device # 1 INLET by 5.36'

 Inflow Area =
 873,310 sf, 10.28% Impervious, Inflow Depth =
 1.34" for 2-YEAR event

 Inflow =
 24.64 cfs @
 12.12 hrs, Volume=
 97,781 cf

 Outflow =
 24.64 cfs @
 12.12 hrs, Volume=
 97,781 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 24.64 cfs @
 12.12 hrs, Volume=
 97,781 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 48.82' @ 12.12 hrs Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.70'	<b>18.0" Round CMP_Round 18"</b> L= 95.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.70' / 35.20' S= 0.0474 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=24.37 cfs @ 12.12 hrs HW=48.65' (Free Discharge) -1=CMP_Round 18" (Inlet Controls 24.37 cfs @ 13.79 fps)



Pond CB-12: CB-12

#### Summary for Pond CB-13: CB-13

[58] Hint: Peaked 12.89' above defined flood level [81] Warning: Exceeded Pond CB-14 by 4.11' @ 12.15 hrs

 Inflow Area =
 852,126 sf, 10.17% Impervious, Inflow Depth =
 1.34" for 2-YEAR event

 Inflow =
 23.99 cfs @
 12.12 hrs, Volume=
 95,268 cf

 Outflow =
 23.99 cfs @
 12.12 hrs, Volume=
 95,268 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 23.99 cfs @
 12.12 hrs, Volume=
 95,268 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 58.92' @ 12.12 hrs Flood Elev= 46.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.30'	<b>18.0" Round CMP_Round 18"</b> L= 63.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 43.30' / 39.80' S= 0.0556 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=23.73 cfs @ 12.12 hrs HW=58.56' (Free Discharge) -1=CMP_Round 18" (Barrel Controls 23.73 cfs @ 13.43 fps)



Pond CB-13: CB-13

# Summary for Pond CB-14: CB-14

[58] Hint: Peaked 1.96' above defined flood level [79] Warning: Submerged Pond CB-15 Primary device # 1 INLET by 0.76'

 Inflow Area =
 627,176 sf,
 8.81% Impervious,
 Inflow Depth =
 1.31"
 for 2-YEAR event

 Inflow =
 18.26 cfs @
 12.10 hrs,
 Volume=
 68,592 cf

 Outflow =
 18.26 cfs @
 12.10 hrs,
 Volume=
 68,592 cf,

 Primary =
 18.26 cfs @
 12.10 hrs,
 Volume=
 68,592 cf,

 Atten= 0%,
 Lag= 0.0 min
 68,592 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 54.86' @ 12.10 hrs Flood Elev= 52.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	<b>18.0" Round RCP_Round 18"</b> L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.50' / 43.40' S= 0.0521 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=18.23 cfs @ 12.10 hrs HW=54.84' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 18.23 cfs @ 10.31 fps)



Pond CB-14: CB-14

# Summary for Pond CB-15: CB-15

[58] Hint: Peaked 0.87' above defined flood level [79] Warning: Submerged Pond CB-16 Primary device # 1 OUTLET by 4.83'

 Inflow Area =
 597,934 sf, 8.83% Impervious, Inflow Depth =
 1.31" for 2-YEAR event

 Inflow =
 17.20 cfs @
 12.11 hrs, Volume=
 65,282 cf

 Outflow =
 17.20 cfs @
 12.11 hrs, Volume=
 65,282 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 17.20 cfs @
 12.11 hrs, Volume=
 65,282 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 58.93' @ 12.11 hrs Flood Elev= 58.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	54.10'	<b>18.0"</b> Round RCP_Round <b>18"</b> L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= $54.10' / 49.60'$ S= $0.0542' / Cc= 0.900$ n= 0.012 Concrete pipe finished. Flow Area= 1.77 sf

Primary OutFlow Max=17.11 cfs @ 12.11 hrs HW=58.89' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 17.11 cfs @ 9.68 fps)



Pond CB-15: CB-15

# Summary for Pond CB-16: CB-16

[58] Hint: Peaked 0.07' above defined flood level [79] Warning: Submerged Pond CB-17 Primary device # 1 OUTLET by 3.75'

 Inflow Area =
 537,106 sf,
 9.26% Impervious, Inflow Depth =
 1.31" for 2-YEAR event

 Inflow =
 15.12 cfs @
 12.12 hrs, Volume=
 58,719 cf

 Outflow =
 15.12 cfs @
 12.12 hrs, Volume=
 58,719 cf,

 Primary =
 15.12 cfs @
 12.12 hrs, Volume=
 58,719 cf,

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 67.81' @ 12.12 hrs Flood Elev= 67.74'

#1 Primary 63.90' <b>18.0" Round RCP_Round 18"</b> L= 183.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 63.90' / 54.10' S= 0.0536 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf	

Primary OutFlow Max=14.95 cfs @ 12.12 hrs HW=67.74' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 14.95 cfs @ 8.46 fps)



#### Pond CB-16: CB-16

# Summary for Pond CB-17: CB-17

 Inflow Area =
 391,463 sf, 8.69% Impervious, Inflow Depth =
 1.29" for 2-YEAR event

 Inflow =
 10.99 cfs @
 12.19 hrs, Volume=
 42,237 cf

 Outflow =
 10.99 cfs @
 12.19 hrs, Volume=
 42,237 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 10.99 cfs @
 12.19 hrs, Volume=
 42,237 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 71.82' @ 12.19 hrs Flood Elev= 74.08'

Device Routing Invert	Outlet Devices
#1 Primary 69.40'	<b>18.0" Round RCP_Round 18"</b> L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 64.00' S= 0.0262 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

**Primary OutFlow** Max=10.94 cfs @ 12.19 hrs HW=71.80' (Free Discharge) **1=RCP_Round 18"** (Inlet Controls 10.94 cfs @ 6.19 fps)



Pond CB-17: CB-17

# Summary for Pond CB-2: CB-2

[81] Warning: Exceeded Pond CB-1 by 0.03' @ 12.10 hrs

Inflow Area =		113,044 sf,	9.76% In	npervious,	Inflow Depth =	1.33"	for 2-YEAR event	t
Inflow	=	3.86 cfs @	12.11 hrs,	Volume=	12,541 c	cf		
Outflow	=	3.86 cfs @	12.11 hrs,	Volume=	12,541 c	of, Atter	= 0%, Lag= 0.0 m	in
Primary	=	3.86 cfs @	12.11 hrs,	Volume=	12,541 c	cf		
Routing by Peak Elev= Flood Elev	Stor-Inc = 28.00' = 28.94'	l method, Tin @ 12.11 hrs	ne Span= 0	.00-50.00 ł	nrs, dt= 0.05 hrs			

Device	Routing	Invert	Outlet Devices	
#1	Primary	26.40'	<b>18.0" Round Culvert</b> L= 78.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 26.40' / 26.20' S= 0.0026 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf	

Primary OutFlow Max=3.83 cfs @ 12.11 hrs HW=27.99' (Free Discharge) ☐ 1=Culvert (Barrel Controls 3.83 cfs @ 2.54 fps)



#### Pond CB-2: CB-2

# Summary for Pond CB-3: CB-3

Inflow Area = 29,175 sf, 27.00% Impervious, Inflow Depth = 1.63" for 2-YEAR event Inflow 1.14 cfs @ 12.16 hrs, Volume= 3.959 cf = 1.14 cfs @ 12.16 hrs, Volume= Outflow 3,959 cf, Atten= 0%, Lag= 0.0 min = 1.14 cfs @ 12.16 hrs, Volume= Primary = 3,959 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 28.71' @ 12.16 hrs Flood Elev= 30.66' Device Routing Invert Outlet Devices 15.0" Round RCP_Round 15" #1 Primary 28.20' L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 26.20' S= 0.0513 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=1.13 cfs @ 12.16 hrs HW=28.71' (Free Discharge) -1=RCP_Round 15" (Inlet Controls 1.13 cfs @ 2.42 fps)



#### Pond CB-3: CB-3

### Summary for Pond CB-4: CB-4

[79] Warning: Submerged Pond CB-2 Primary device # 1 INLET by 0.74' [79] Warning: Submerged Pond CB-3 Primary device # 1 OUTLET by 0.94'

 Inflow Area =
 143,849 sf, 14.28% Impervious, Inflow Depth =
 1.41" for 2-YEAR event

 Inflow =
 4.98 cfs @
 12.11 hrs, Volume=
 16,943 cf

 Outflow =
 4.98 cfs @
 12.11 hrs, Volume=
 16,943 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 4.98 cfs @
 12.11 hrs, Volume=
 16,943 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 27.15' @ 12.11 hrs Flood Elev= 29.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	24.0" Round Culvert
			L= 227.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 26.00' / 25.30' S= 0.0031 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

**Primary OutFlow** Max=4.92 cfs @ 12.11 hrs HW=27.14' (Free Discharge) **1=Culvert** (Barrel Controls 4.92 cfs @ 3.85 fps)



Pond CB-4: CB-4

# Summary for Pond CB-5: CB-5

Inflow Area = 15,976 sf, 5.12% Impervious, Inflow Depth = 1.29" for 2-YEAR event Inflow 0.71 cfs @ 12.02 hrs, Volume= 1.724 cf = 0.71 cfs @ 12.02 hrs, Volume= Outflow 1,724 cf, Atten= 0%, Lag= 0.0 min = 0.71 cfs @ 12.02 hrs, Volume= Primary = 1,724 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 29.95' @ 12.02 hrs Flood Elev= 33.19' Device Routing Invert Outlet Devices

#1	Primary	29.50'	15.0" Round CMP_Round 15"
	-		L= 89.0' CMP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0360 '/' Cc= 0.900
			n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=0.69 cfs @ 12.02 hrs HW=29.94' (Free Discharge) -1=CMP_Round 15" (Inlet Controls 0.69 cfs @ 1.78 fps)



Pond CB-5: CB-5

# Summary for Pond CB-6: CB-6

[58] Hint: Peaked 1.92' above defined flood level

- [81] Warning: Exceeded Pond 4P by 4.62' @ 12.10 hrs
- [81] Warning: Exceeded Pond CB-5 by 3.79' @ 12.10 hrs
- [79] Warning: Submerged Pond CB-8 Primary device # 1 INLET by 4.17'

Inflow Area	a =	1,716,465 sf,	11.03% Impervious,	Inflow Depth > 1	.26" for 2-YEAR event
Inflow	=	35.79 cfs @	12.11 hrs, Volume=	180,672 cf	
Outflow	=	35.79 cfs @	12.11 hrs, Volume=	180,672 cf,	Atten= 0%, Lag= 0.0 min
Primary	=	35.79 cfs @	12.11 hrs, Volume=	180,672 cf	

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 33.70' @ 12.11 hrs Flood Elev= 31.78'

Device	Routing	Invert	Outlet Devices	
#1	Primary	27.10'	24.0" Round Culvert	
			L= 36.0' RCP, square edge headwall, Ke= 0.500	
			Inlet / Outlet Invert= 27.10' / 26.50' S= 0.0167 '/' Cc= 0.900	
			n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf	

**Primary OutFlow** Max=35.51 cfs @ 12.11 hrs HW=33.61' (Free Discharge) **1=Culvert** (Inlet Controls 35.51 cfs @ 11.30 fps)



# Pond CB-6: CB-6

#### Summary for Pond CB-7: CB-7

[81] Warning: Exceeded Pond CB-4 by 2.17' @ 12.10 hrs [79] Warning: Submerged Pond CB-6 Primary device # 1 INLET by 2.22'

 Inflow Area =
 1,862,473 sf, 11.38% Impervious, Inflow Depth =
 1.28" for 2-YEAR event

 Inflow =
 40.81 cfs @
 12.11 hrs, Volume=
 198,201 cf

 Outflow =
 40.81 cfs @
 12.11 hrs, Volume=
 198,201 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 40.81 cfs @
 12.11 hrs, Volume=
 198,201 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 29.33' @ 12.11 hrs Flood Elev= 30.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.10'	30.0" Round Culvert
	5		L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.10' / 22.70' S= 0.0205 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

**Primary OutFlow** Max=40.49 cfs @ 12.11 hrs HW=29.28' (Free Discharge) **1=Culvert** (Inlet Controls 40.49 cfs @ 8.25 fps)



Pond CB-7: CB-7

#### Summary for Pond CB-8: CB-8

[58] Hint: Peaked 58.74' above defined flood level [81] Warning: Exceeded Pond CB-9 by 4.70' @ 12.10 hrs

 Inflow Area =
 1,030,437 sf, 11.38% Impervious, Inflow Depth =
 1.37" for 2-YEAR event

 Inflow =
 30.07 cfs @
 12.12 hrs, Volume=
 117,416 cf

 Outflow =
 30.07 cfs @
 12.12 hrs, Volume=
 117,416 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 30.07 cfs @
 12.12 hrs, Volume=
 117,416 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 93.17' @ 12.12 hrs Flood Elev= 34.43'

#1 Primary 29 50' 18 0" Round RCP Round 18"	
L= 193.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0166 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf	

Primary OutFlow Max=29.74 cfs @ 12.12 hrs HW=91.80' (Free Discharge) ←1=RCP_Round 18" (Barrel Controls 29.74 cfs @ 16.83 fps)



Pond CB-8: CB-8

### Summary for Pond CB-9: CB-9

[58] Hint: Peaked 50.23' above defined flood level [81] Warning: Exceeded Pond CB-10 by 24.72' @ 12.15 hrs

 Inflow Area =
 972,164 sf, 11.09% Impervious, Inflow Depth =
 1.36" for 2-YEAR event

 Inflow =
 27.60 cfs @
 12.13 hrs, Volume=
 110,181 cf

 Outflow =
 27.60 cfs @
 12.13 hrs, Volume=
 110,181 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 27.60 cfs @
 12.13 hrs, Volume=
 110,181 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 88.36' @ 12.13 hrs Flood Elev= 38.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.40'	<b>18.0" Round CMP_Round 18"</b> L= 190.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.40' / 31.00' S= 0.0232 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=27.41 cfs @ 12.13 hrs HW=87.62' (Free Discharge) -1=CMP_Round 18" (Barrel Controls 27.41 cfs @ 15.51 fps)



Pond CB-9: CB-9

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA-1: DA-1	Runoff Area=110,937 sf 8.04% Impervious Runoff Depth=2.79" Flow Length=1,029' Tc=17.6 min CN=75 Runoff=8.42 cfs 25,753 cf
Subcatchment DA-10: DA-10	Runoff Area=29,242 sf 8.57% Impervious Runoff Depth=2.88" Flow Length=447' Tc=11.3 min CN=76 Runoff=2.80 cfs 7,011 cf
Subcatchment DA-11: DA-11	Runoff Area=60,828 sf 5.01% Impervious Runoff Depth=2.79" Flow Length=496' Tc=12.2 min CN=75 Runoff=5.49 cfs 14,121 cf
Subcatchment DA-12: DA-12	Runoff Area=145,643 sf 10.79% Impervious Runoff Depth=2.88" Flow Length=863' Tc=12.7 min CN=76 Runoff=13.35 cfs 34,919 cf
Subcatchment DA-13: DA-13	Runoff Area=391,463 sf 8.69% Impervious Runoff Depth=2.79" Flow Length=655' Tc=24.6 min CN=75 Runoff=24.47 cfs 90,875 cf
Subcatchment DA-14: DA-14	Runoff Area=6,316 sf 100.00% Impervious Runoff Depth=5.17" Tc=5.0 min CN=98 Runoff=1.13 cfs 2,722 cf
Subcatchment DA-15: DA-15	Runoff Area=2,159 sf 100.00% Impervious Runoff Depth=5.17" Tc=5.0 min CN=98 Runoff=0.39 cfs 931 cf
Subcatchment DA-16: DA-16	Runoff Area=1,630 sf 100.00% Impervious Runoff Depth=5.17" Tc=5.0 min CN=98 Runoff=0.29 cfs 703 cf
Subcatchment DA-17: DA-17	Runoff Area=2,107 sf 100.00% Impervious Runoff Depth=5.17" Tc=5.0 min CN=98 Runoff=0.38 cfs 908 cf
Subcatchment DA-2: DA-2 Flow Length=2	Runoff Area=29,175 sf 27.00% Impervious Runoff Depth=3.25" 284' Slope=0.0493 '/' Tc=22.0 min CN=80 Runoff=2.28 cfs 7,910 cf
Subcatchment DA-2a: DA-2a	Runoff Area=141,895 sf 10.12% Impervious Runoff Depth=2.88" Flow Length=739' Tc=18.3 min CN=76 Runoff=10.90 cfs 34,020 cf
Subcatchment DA-2b: DA-2b	Runoff Area=81,523 sf 12.99% Impervious Runoff Depth=2.97" Flow Length=965' Tc=20.6 min CN=77 Runoff=6.05 cfs 20,174 cf
Subcatchment DA-3: DA-3 Flow Length=1	Runoff Area=15,976 sf 5.12% Impervious Runoff Depth=2.79" 92' Slope=0.1562 '/' Tc=10.1 min CN=75 Runoff=1.54 cfs 3,709 cf
Subcatchment DA-4: DA-4 Flow Length=2	Runoff Area=56,004 sf 24.76% Impervious Runoff Depth=3.25" 250' Slope=0.1120 '/' Tc=9.8 min CN=80 Runoff=6.33 cfs 15,184 cf
Subcatchment DA-4a: DA-4a	Runoff Area=105,870 sf 4.11% Impervious Runoff Depth=2.79" Flow Length=708' Tc=15.7 min CN=75 Runoff=8.50 cfs 24,577 cf
Subcatchment DA-5: DA-5 Flow Length=22	Runoff Area=58,273 sf 16.11% Impervious Runoff Depth=3.06" 28' Slope=0.0702 '/' Tc=16.0 min CN=78 Runoff=5.09 cfs 14,875 cf

Subcatchment DA-5a: D	A-5a Runoff Area=194,700 sf 9.54% Impervious Runoff Depth=2.88"
	Flow Length=764' I c=19.4 min CN=76 Runoff=14.48 cfs 46,680 cf
Subcatchment DA-6: DA	N-6         Runoff Area=53,023 sf         11.71% Impervious         Runoff Depth=2.88"           Flow Length=378'         Tc=19.0 min         CN=76         Runoff=3.99 cfs         12,713 cf
Subcatchment DA-6a: D	A-6a Runoff Area=90,060 sf 10.50% Impervious Runoff Depth=2.88" Flow Length=809' Tc=19.3 min CN=76 Runoff=6.72 cfs 21,592 cf
Subcatchment DA-7: DA	<ul> <li>Runoff Area=39,515 sf 14.15% Impervious Runoff Depth=2.97"</li> <li>Flow Length=589' Tc=25.2 min CN=77 Runoff=2.60 cfs 9,778 cf</li> </ul>
Subcatchment DA-8: DA	<b>8</b> Runoff Area=21,184 sf 14.41% Impervious Runoff Depth=2.97" Flow Length=545' Tc=23.6 min CN=77 Runoff=1.45 cfs 5,242 cf
Subcatchment DA-9: DA	A-9 Runoff Area=224,950 sf 13.96% Impervious Runoff Depth=2.97" Flow Length=927' Tc=26.2 min CN=77 Runoff=14.47 cfs 55,666 cf
Reach 7R: OUTLET	Inflow=93.68 cfs 434,595 cf Outflow=93.68 cfs 434,595 cf
Pond 1P: DETENTION P Prin	OND 3         Peak Elev=55.09' Storage=9,246 cf         Inflow=11.06 cfs         113,554 cf           nary=1.28 cfs         60,631 cf         Secondary=8.74 cfs         50,771 cf         Outflow=10.03 cfs         111,403 cf
Pond 2P: DETENTION P	OND 2         Peak Elev=61.59'         Storage=12,430 cf         Inflow=9.53 cfs         86,752 cf           Primary=0.73 cfs         32,385 cf         Secondary=3.88 cfs         47,149 cf         Outflow=4.60 cfs         79,534 cf
Pond 3P: DETENTION P	OND 1         Peak Elev=69.72'         Storage=34,268 cf         Inflow=21.20 cfs         68,273 cf           Primary=1.66 cfs         57,418 cf         Secondary=1.97 cfs         4,757 cf         Outflow=3.63 cfs         62,175 cf
Pond 4P: PR-CB-1	Peak Elev=30.32' Inflow=15.31 cfs 131,576 cf 24.0" Round Culvert n=0.012 L=100.0' S=0.0100 '/' Outflow=15.31 cfs 131,576 cf
Pond CB-1: CB-1	Peak Elev=29.55' Inflow=8.42 cfs 25,753 cf 15.0" Round Culvert n=0.012 L=33.0' S=0.0121 '/' Outflow=8.42 cfs 25,753 cf
Pond CB-10: CB-10	Peak Elev=166.04' Inflow=56.84 cfs 220,335 cf 18.0" Round Culvert n=0.025 L=91.0' S=0.0000 '/' Outflow=56.84 cfs 220,335 cf
Pond CB-11: CB-11	Peak Elev=35.98' Inflow=1.13 cfs 2,722 cf 18.0" Round Culvert n=0.012 L=26.0' S=0.0154 '/' Outflow=1.13 cfs 2,722 cf
Pond CB-12: CB-12	Peak Elev=81.10' Inflow=54.26 cfs 207,834 cf 18.0" Round Culvert n=0.012 L=95.0' S=0.0474 '/' Outflow=54.26 cfs 207,834 cf
Pond CB-13: CB-13	Peak Elev=126.97' Inflow=52.89 cfs 202,592 cf 18.0" Round Culvert n=0.025 L=63.0' S=0.0556 '/' Outflow=52.89 cfs 202,592 cf
Pond CB-14: CB-14	Peak Elev=72.90' Inflow=40.50 cfs 146,925 cf 18.0" Round Culvert n=0.012 L=117.0' S=0.0521 '/' Outflow=40.50 cfs 146,925 cf
Pond CB-15: CB-15	Peak Elev=75.00' Inflow=38.19 cfs 139,914 cf 18.0" Round Culvert n=0.012 L=83.0' S=0.0542 '/' Outflow=38.19 cfs 139,914 cf

**20-2624 KINGS HIGHWAY NORTH HAVEN - POST W** *Type II 24-hr 10-YEAR Rainfall=5.41"* Prepared by LRC Group Printed 11/12/2020

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Pond CB-16: CB-16	Peak Elev=80.25' Inflow=33.62 cfs 125,794 cf 18.0" Round Culvert n=0.012 L=183.0' S=0.0536 '/' Outflow=33.62 cfs 125,794 cf
Pond CB-17: CB-17	Peak Elev=79.52' Inflow=24.47 cfs 90,875 cf 18.0" Round Culvert n=0.012 L=206.0' S=0.0262 '/' Outflow=24.47 cfs 90,875 cf
Pond CB-2: CB-2	Peak Elev=30.28' Inflow=8.50 cfs 26,661 cf 18.0" Round Culvert n=0.025 L=78.0' S=0.0026 '/' Outflow=8.50 cfs 26,661 cf
Pond CB-3: CB-3	Peak Elev=28.95' Inflow=2.28 cfs 7,910 cf 15.0" Round Culvert n=0.012 L=39.0' S=0.0513 '/' Outflow=2.28 cfs 7,910 cf
Pond CB-4: CB-4	Peak Elev=27.84' Inflow=10.75 cfs 35,274 cf 24.0" Round Culvert n=0.012 L=227.0' S=0.0031 '/' Outflow=10.75 cfs 35,274 cf
Pond CB-5: CB-5	Peak Elev=30.19' Inflow=1.54 cfs 3,709 cf 15.0" Round Culvert n=0.025 L=89.0' S=0.0360 '/' Outflow=1.54 cfs 3,709 cf
Pond CB-6: CB-6	Peak Elev=57.99' Inflow=82.72 cfs 398,391 cf 24.0" Round Culvert n=0.013 L=36.0' S=0.0167 '/' Outflow=82.72 cfs 398,391 cf
Pond CB-7: CB-7	Peak Elev=42.04' Inflow=93.68 cfs 434,595 cf 30.0" Round Culvert n=0.012 L=117.0' S=0.0205 '/' Outflow=93.68 cfs 434,595 cf
Pond CB-8: CB-8	Peak Elev=340.70' Inflow=65.77 cfs 247,922 cf 18.0" Round Culvert n=0.025 L=193.0' S=0.0166 '/' Outflow=65.77 cfs 247,922 cf
Pond CB-9: CB-9	Peak Elev=303.78' Inflow=60.83 cfs 233,047 cf 18.0" Round Culvert n=0.025 L=190.0' S=0.0232 '/' Outflow=60.83 cfs 233,047 cf

Total Runoff Area = 1,862,473 sf Runoff Volume = 450,062 cf Average Runoff Depth = 2.90" 88.62% Pervious = 1,650,520 sf 11.38% Impervious = 211,953 sf

### Summary for Subcatchment DA-1: DA-1

Runoff = 8.42 cfs @ 12.10 hrs, Volume= 25,753 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

_	A	rea (sf)	CN [	Description				
		59,666	72 V	72 Woods/grass comb., Good, HSG C				
		42,347	74 >	>75% Grass cover, Good, HSG C				
_		8,924	98 F	Paved park	ing, HSG C			
	1	10,937	75 V	Veighted A	verage			
	1	02,013	ç	01.96% Per	vious Area			
		8,924	8	8.04% Impe	ervious Area	a		
	Тс	Length	Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	9.9	153	0.1050	0.26		Sheet Flow,		
						Grass: Dense n= 0.240 P2= 3.49"		
	2.0	189	0.0950	1.54		Shallow Concentrated Flow,		
						Woodland Kv= 5.0 fps		
	5.7	687	0.0820	2.00		Shallow Concentrated Flow,		
_						Short Grass Pasture Kv= 7.0 fps		
			<b>—</b> / ·					

17.6 1,029 Total

#### Subcatchment DA-1: DA-1



# Summary for Subcatchment DA-10: DA-10

Runoff = 2.80 cfs @ 12.03 hrs, Volume= 7,011 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN	Description								
	26,737	74	74 >75% Grass cover, Good, HSG C								
	2,505	98	98 Paved parking, HSG C								
	29,242	76	Neighted A	verage							
	26,737	9	91.43% Pei	rvious Area							
	2,505	i	3.57% Impe	ervious Area	a						
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description						
9.7	250	0.1160	0.43		Sheet Flow,						
					Grass: Short n= 0.150 P2= 3.49"						
1.6	197	0.0812	1.99		Shallow Concentrated Flow,						
					Short Grass Pasture Kv= 7.0 fps						
11.3	447	Total									

#### Subcatchment DA-10: DA-10



# Summary for Subcatchment DA-11: DA-11

Runoff = 5.49 cfs @ 12.04 hrs, Volume= 14,121 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN [	Description								
	57,780	74 >	74 >75% Grass cover, Good, HSG C								
	3,048	98 F	98 Paved parking, HSG C								
	60,828 75 Weighted Average										
	57,780	ę	94.99% Per	vious Area							
	3,048	Ę	5.01% Impe	ervious Area	а						
_											
Tc	Length	Slope	Velocity	Capacity	Description						
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)							
9.8	250	0.1120	0.43		Sheet Flow,						
					Grass: Short n= 0.150 P2= 3.49"						
2.4	246	0.0610	1.73		Shallow Concentrated Flow,						
					Short Grass Pasture Kv= 7.0 fps						
12.2	496	Total									

#### Subcatchment DA-11: DA-11



### Summary for Subcatchment DA-12: DA-12

Runoff = 13.35 cfs @ 12.05 hrs, Volume= 34,919 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

	A	rea (sf)	CN E	Description					
		33,394 72 Woods/grass comb., Good, HSG C							
	96,537 74 >75% Grass cover, Good, HSG C								
_		15,712	98 F	Paved park	ing, HSG C				
	1	45,643	76 V	Veighted A	verage				
129,931 89.21% P					vious Area				
		15,712	1	0.79% Imp	pervious Ar	ea			
	Тс	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	6.2	147	0.1220	0.40		Sheet Flow,			
						Grass: Short n= 0.150 P2= 3.49"			
	3.1	395	0.0911	2.11		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	3.4	321	0.0500	1.57		Shallow Concentrated Flow,			
_						Short Grass Pasture Kv= 7.0 fps			
	40 7	000	<b>T</b> ( )						

12.7 863 Total

#### Subcatchment DA-12: DA-12



### Summary for Subcatchment DA-13: DA-13

Runoff = 24.47 cfs @ 12.18 hrs, Volume= 90,875 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

_	A	rea (sf)	CN	Description						
	1	192,024 72 Woods/grass comb., Good, HSG C								
	1	65,425	74	>75% Gras	s cover, Go	ood, HSG C				
_		34,014	98	Paved park	ing, HSG C					
_	3	91,463	75	Weighted A	verage					
	3	57,449		91.31% Pe	rvious Area					
	34,014 8.69% Impervious Area					a				
	Тс	Length	Slope	e Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	) (ft/sec)	(cfs)					
	21.5	250	0.1120	0.19		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.49"				
	3.1	405	0.0938	3 2.14		Shallow Concentrated Flow,				
_						Short Grass Pasture Kv= 7.0 fps				
	04.0	000	Tatal							

24.6 655 Total

#### Subcatchment DA-13: DA-13



# Summary for Subcatchment DA-14: DA-14

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.13 cfs @ 11.95 hrs, Volume= 2,722 cf, Depth= 5.17"



# Summary for Subcatchment DA-15: DA-15

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.39 cfs @ 11.95 hrs, Volume= 931 cf, Depth= 5.17"



# Summary for Subcatchment DA-16: DA-16

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.29 cfs @ 11.95 hrs, Volume= 703 cf, Depth= 5.17"



# Summary for Subcatchment DA-17: DA-17

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.38 cfs @ 11.95 hrs, Volume= 908 cf, Depth= 5.17"



# Summary for Subcatchment DA-2: DA-2

Runoff = 2.28 cfs @ 12.15 hrs, Volume= 7,910 cf, Depth= 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN	Description							
	6,390	72	Woods/gras	Noods/grass comb., Good, HSG C						
	14,909	74	>75% Gras	s cover, Go	ood, HSG C					
	7,876	98	Paved park	Paved parking, HSG C						
	29,175	80	Weighted A	verage						
	21,299		73.00% Per	rvious Area						
	7,876 27.00% Impervious Area									
Tc	Length	Slope	e Velocity	Capacity	Description					
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)						
22.0	284	0.0493	3 0.22		Sheet Flow,					
					Grass: Dense	n= 0.240	P2= 3.49"			

#### Subcatchment DA-2: DA-2



### Summary for Subcatchment DA-2a: DA-2a

Runoff = 10.90 cfs @ 12.11 hrs, Volume= 34,020 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

	Area (sf)	CN [	Description								
	14,360	50 98 Paved parking, HSG C									
	20,313	72 \	Woods/grass comb., Good, HSG C								
	107,222 74 >75% Grass cover, Good, HSG C										
	141,895	76 \	Veighted A	verage							
	127,535	8	89.88% Per	vious Area							
	14,360	1	0.12% Imp	pervious Ar	ea						
To	: Length	Slope	Velocity	Capacity	Description						
(min)	) (feet)	(ft/ft)	(ft/sec)	(cfs)							
14.1	244	0.1107	0.29		Sheet Flow,						
					Grass: Dense n= 0.240 P2= 3.49"						
1.7	' 164	0.1037	1.61		Shallow Concentrated Flow,						
					Woodland Kv= 5.0 fps						
2.5	5 331	0.1027	2.24		Shallow Concentrated Flow,						
					Short Grass Pasture Kv= 7.0 fps						
10.0	720	Tatal									

18.3 739 Total

#### Subcatchment DA-2a: DA-2a



# Summary for Subcatchment DA-2b: DA-2b

Runoff = 6.05 cfs @ 12.14 hrs, Volume= 20,174 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN E	Description								
	10,589	98 F	98 Paved parking, HSG C								
	12,269	72 V	Woods/grass comb., Good, HSG C								
	58,665	74 >	75% Gras	s cover, Go	bod, HSG C						
	81,523	77 V	Veighted A	verage							
	70,934	8	87.01% Per	vious Area							
	10,589	1	2.99% Imp	pervious Ar	ea						
Тс	Length	Slope	Velocity	Capacity	Description						
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)							
14.7	250	0.1040	0.28		Sheet Flow,						
					Grass: Dense n= 0.240 P2= 3.49"						
1.0	94	0.1060	1.63		Shallow Concentrated Flow,						
					Woodland Kv= 5.0 fps						
4.9	621	0.0902	2.10		Shallow Concentrated Flow,						
					Short Grass Pasture Kv= 7.0 fps						
20.6	065	Total									

20.6 965 Total

#### Subcatchment DA-2b: DA-2b



# Summary for Subcatchment DA-3: DA-3

Runoff = 1.54 cfs @ 12.02 hrs, Volume= 3,709 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN	Description							
	2,108	72	Woods/gras	Woods/grass comb., Good, HSG C						
	13,050	74	>75% Gras	s cover, Go	ood, HSG C					
	818	98	Paved park	Paved parking, HSG C						
	15,976	75	Weighted A	verage						
	15,158		94.88% Per	vious Area						
	818 5.12% Impervious Area									
Тс	Length	Slope	e Velocity	Capacity	Description					
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)						
10.1	192	0.1562	2 0.32		Sheet Flow,					
					Grass: Dense	n= 0.240	P2= 3.49"			

#### Subcatchment DA-3: DA-3


### Summary for Subcatchment DA-4: DA-4

Runoff = 6.33 cfs @ 12.01 hrs, Volume= 15,184 cf, Depth= 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN	Description					
	2,602	72	Woods/grass comb., Good, HSG C					
	39,535	74	>75% Gras	s cover, Go	ood, HSG C			
	13,867	98	Paved park	ing, HSG C	)			
	56,004	80	Weighted A	verage				
42,137 75.24% Pervious Area								
13,867 24.76% Impervious Area					ea			
Tc	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
9.8	250	0.1120	0.43		Sheet Flow,			
					Grass: Short	n= 0.150	P2= 3.49"	

#### Subcatchment DA-4: DA-4



#### Summary for Subcatchment DA-4a: DA-4a

Runoff = 8.50 cfs @ 12.08 hrs, Volume= 24,577 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

	A	rea (sf)	CN [	Description						
		13,963	72 \	72 Woods/grass comb., Good, HSG C						
		4,349	98 F	Paved parking, HSG C						
		87,558	74 >	>75% Grass cover, Good, HSG C						
	1	05,870	75 Weighted Average							
	1	01,521	ç	95.89% Per	vious Area					
		4,349	2	1.11% Impe	ervious Are	а				
	Тс	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	10.2	284	0.1303	0.46		Sheet Flow,				
						Grass: Short n= 0.150 P2= 3.49"				
	3.4	146	0.0822	0.72		Shallow Concentrated Flow,				
						Forest w/Heavy Litter Kv= 2.5 fps				
	2.1	278	0.0993	2.21		Shallow Concentrated Flow,				
_						Short Grass Pasture Kv= 7.0 fps				
	45 7	700	T - 4 - 1							

15.7 708 Total

#### Subcatchment DA-4a: DA-4a



#### Summary for Subcatchment DA-5: DA-5

Runoff = 5.09 cfs @ 12.08 hrs, Volume= 14,875 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	vrea (sf)	CN	Description					
	6,817	72	Woods/grass comb., Good, HSG C					
	42,069	74	>75% Grass cover, Good, HSG C					
	9,387	98	Paved parking, HSG C					
	58,273	78	Weighted A	verage				
	48,886		83.89% Pervious Area					
	9,387		16.11% Impervious Area					
Tc	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
16.0	228	0.0702	0.24		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

#### Subcatchment DA-5: DA-5



#### Summary for Subcatchment DA-5a: DA-5a

Runoff = 14.48 cfs @ 12.12 hrs, Volume= 46,680 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

	A	rea (sf)	CN	Description						
		24,732	72	2 Woods/grass comb., Good, HSG C						
		18,582	98	Paved park	ing, HSG C					
	1	51,386	74	>75% Ġras	s cover, Go	bod, HSG C				
	1	94,700	76	Weighted A	verage					
	1	76,118		90.46% Pei	vious Area					
		18,582		9.54% Impe	ervious Are	a				
	Тс	Length	Slope	Velocity	Capacity	Description				
<u>(m</u>	in)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
14	1.3	250	0.1120	0.29		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 3.49"				
2	2.7	384	0.1150	2.37		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
2	2.4	130	0.1270	0.89		Shallow Concentrated Flow,				
						Forest w/Heavy Litter Kv= 2.5 fps				
19	9.4	764	Total							

## Subcatchment DA-5a: DA-5a



#### Summary for Subcatchment DA-6: DA-6

Runoff = 3.99 cfs @ 12.12 hrs, Volume= 12,713 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN	Description						
	25,517	72	72 Woods/grass comb., Good, HSG C						
	21,299	74 :	>75% Gras	s cover, Go	bod, HSG C				
	6,207	98	Paved park	ing, HSG C					
	53,023	76	Neighted A	verage					
	46,816	1	38.29% Pei	vious Area					
	6,207 11.71% Impervious Area								
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
17.5	185	0.1027	0.18		Sheet Flow,				
					Woods: Light underbrush n= 0.400 P2= 3.49"				
1.5	193	0.0984	2.20		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
19.0	378	Total							

#### Subcatchment DA-6: DA-6



#### Summary for Subcatchment DA-6a: DA-6a

Runoff = 6.72 cfs @ 12.12 hrs, Volume= 21,592 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

Α	rea (sf)	CN	Description						
	2,659	72	2 Woods/grass comb., Good, HSG C						
	77,944	74 :	>75% Gras	s cover, Go	bod, HSG C				
	9,457	98	Paved park	ing, HSG C					
	90,060	76	Weighted A	verage					
	80,603	1	39.50% Pei	vious Area					
	9,457	10.50% Impervious Area							
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
14.7	250	0.1040	0.28		Sheet Flow,				
					Grass: Dense n= 0.240 P2= 3.49"				
4.6	559	0.0823	2.01		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
19.3	809	Total							

#### Subcatchment DA-6a: DA-6a



#### Summary for Subcatchment DA-7: DA-7

Runoff = 2.60 cfs @ 12.19 hrs, Volume= 9,778 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN	Description						
	16,249	72	72 Woods/grass comb., Good, HSG C						
	17,675	74 :	>75% Grass cover, Good, HSG C						
	5,591	98	Paved parking, HSG C						
39,515 77 Weighted Average									
	33,924	1	35.85% Pei	vious Area					
	5,591		14.15% Imp	pervious Ar	ea				
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
21.5	250	0.1120	0.19		Sheet Flow,				
					Woods: Light underbrush n= 0.400 P2= 3.49"				
1.8	90	0.1111	0.83		Shallow Concentrated Flow,				
					Forest w/Heavy Litter Kv= 2.5 fps				
1.9	249	0.1004	2.22		Shallow Concentrated Flow,				
					Short Grass Pasture Kv= 7.0 fps				
25.2	589	Total							

Subcatchment DA-7: DA-7



#### Summary for Subcatchment DA-8: DA-8

Runoff = 1.45 cfs @ 12.17 hrs, Volume= 5,242 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

Α	rea (sf)	CN I	Description					
	8,852	72 \	Noods/gras	s comb., G	Good, HSG C			
	9,279	74 >	>75% Gras	s cover, Go	bod, HSG C			
	3,053	98 I	Paved parking, HSG C					
	21,184 77 Weighted Average							
	18,131 85.59% Pervious Area							
	3,053		14.41% Imp	pervious Ar	ea			
Тс	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.5	250	0.1120	0.19		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.49"			
0.4	56	0.1070	2.29		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
1.7	239	0.1088	2.31		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
23.6	545	Total						

Subcatchment DA-8: DA-8



## Summary for Subcatchment DA-9: DA-9

Runoff = 14.47 cfs @ 12.20 hrs, Volume= 55,666 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 10-YEAR Rainfall=5.41"

A	rea (sf)	CN D	escription					
4	54,875	72 V	72 Woods/grass comb., Good, HSG C					
I	38,673	98 P	aved nark	ing HSG C	2000, HSG C			
224.950 77 Weighted Average								
1	93,548	8	6.04% Per	vious Area				
	31,402	1	3.96% Imp	pervious Ar	ea			
Тс	l enath	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.5	250	0.1120	0.19		Sheet Flow,			
0.0	50	0.4.400	0.00		Woods: Light underbrush n= 0.400 P2= 3.49"			
0.3	50	0.1400	2.62		Shallow Concentrated Flow, Short Grass Pasture Ky= 7.0 fps			
1.7	207	0.0870	2.06		Shallow Concentrated Flow.			
					Short Grass Pasture Kv= 7.0 fps			
0.3	100	0.7000	5.86		Shallow Concentrated Flow,			
2.4	220	0 1000	2.21		Short Grass Pasture Kv= 7.0 fps			
۲.4	520	0.1000	۲.۷۱		Short Grass Pasture Kv= 7.0 fps			
26.2	927	Total						



### Subcatchment DA-9: DA-9

## Summary for Reach 7R: OUTLET

[40] Hint: Not Described (Outflow=Inflow)

Inflow A	Area =	:	1,862,473 sf,	11.38% Im	pervious,	Inflow Depth =	2.80"	for 10	-YEAR event
Inflow	=		93.68 cfs @	12.12 hrs, \	/olume=	434,595 c	f		
Outflow	/ =		93.68 cfs @	12.12 hrs, \	/olume=	434,595 c	f, Atter	n= 0%,	Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



## Reach 7R: OUTLET

## Summary for Pond 1P: DETENTION POND 3

[79] Warning: Submerged Pond 2P Primary device # 1 OUTLET by 0.09'

Inflow Area =	532,525 sf,	8.78% Impervious,	Inflow Depth > 2.56"	for 10-YEAR event
Inflow =	11.06 cfs @	12.12 hrs, Volume=	113,554 cf	
Outflow =	10.03 cfs @	12.25 hrs, Volume=	111,403 cf, Atte	n= 9%, Lag= 7.8 min
Primary =	1.28 cfs @	12.25 hrs, Volume=	60,631 cf	
Secondary =	8.74 cfs @	12.25 hrs, Volume=	50,771 cf	

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 55.09' @ 12.25 hrs Surf.Area= 4,454 sf Storage= 9,246 cf

Plug-Flow detention time= 63.7 min calculated for 111,291 cf (98% of inflow) Center-of-Mass det. time= 46.6 min (1,039.6 - 992.9)

Volume	Inve	rt Avail.Sto	orage Stora	ge Description	
#1	52.0	D' 16,5	27 cf Custo	om Stage Data (Pr	ismatic) Listed below (Recalc)
Elevatio (feet	n s t)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
52.0 54.0 56.0 56.5	0 0 0 0	1,631 3,355 5,369 5,897	0 4,986 8,724 2,817	0 4,986 13,710 16,527	
Device	Routing	Invert	Outlet Devi	ces	
#1	Primary	53.00' v 54.50'	6.0" Roun L= 46.0' C Inlet / Outle n= 0.013 C 6.0' Iong S	<b>d Culvert</b> CPP, square edge I et Invert= 53.00' / 4 Corrugated PE, sm harp-Crested Rec	headwall, Ke= 0.500 6.00' S= 0.1522 '/' Cc= 0.900 ooth interior, Flow Area= 0.20 sf tangular Weir 2 End Contraction(s)
		,		· •	<b>J</b>

**Primary OutFlow** Max=1.28 cfs @ 12.25 hrs HW=55.09' (Free Discharge) **1=Culvert** (Inlet Controls 1.28 cfs @ 6.53 fps)

Secondary OutFlow Max=8.74 cfs @ 12.25 hrs HW=55.09' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 8.74 cfs @ 2.51 fps)



## Pond 1P: DETENTION POND 3

## Summary for Pond 2P: DETENTION POND 2

Inflow Area	=	390,630 sf,	8.29% Imper	rvious, Inflow	/ Depth >	2.66"	for 10-`	YEAR ev	/ent
Inflow	=	9.53 cfs @	12.09 hrs, Vol	ume=	86,752 c	f			
Outflow	=	4.60 cfs @	12.71 hrs, Vol	ume=	79,534 c	f, Atten=	= 52%,	Lag= 37	.4 min
Primary	=	0.73 cfs @	12.71 hrs, Vol	ume=	32,385 c	f		-	
Secondary	=	3.88 cfs @	12.71 hrs, Vol	ume=	47,149 c	f			

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 61.59' @ 12.71 hrs Surf.Area= 7,011 sf Storage= 12,430 cf

Plug-Flow detention time= 119.5 min calculated for 79,534 cf (92% of inflow) Center-of-Mass det. time= 71.5 min (1,059.7 - 988.2)

Volume	Inve	rt Avail.Sto	orage Storage	e Description	
#1	59.0	0' 19,3	90 cf Custor	n Stage Data (Pr	ismatic) Listed below (Recalc)
Elevatio	on (14	Surf.Area	Inc.Store	Cum.Store	
59.0 60.0 62.0 62.5	)0 )0 )0 50	1,386 4,751 7,590 8,330	0 3,069 12,341 3,980	0 3,069 15,410 19,390	
Device	Routing	Invert	Outlet Devic	es	
#1	Primary	60.75'	6.0" Round L= 30.0' CF Inlet / Outlet n= 0.013 Cc	Culvert PP, square edge I Invert= 60.75' / 5 prrugated PE, sm	headwall, Ke= 0.500 5.00' S= 0.1917 '/' Cc= 0.900 ooth interior, Flow Area= 0.20 sf
#2	Seconda	iy 01.25			

Primary OutFlow Max=0.73 cfs @ 12.71 hrs HW=61.59' (Free Discharge) -1=Culvert (Inlet Controls 0.73 cfs @ 3.70 fps)

Secondary OutFlow Max=3.87 cfs @ 12.71 hrs HW=61.59' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 3.87 cfs @ 1.91 fps)



## Pond 2P: DETENTION POND 2

## Summary for Pond 3P: DETENTION POND 1

Inflow Area	ı =	284,760 sf,	, 9.85% Impervious,	Inflow Depth = 2.8	88" for 10-YEAR event
Inflow	=	21.20 cfs @	12.12 hrs, Volume=	68,273 cf	
Outflow	=	3.63 cfs @	12.67 hrs, Volume=	62,175 cf, A	Atten= 83%, Lag= 32.9 min
Primary	=	1.66 cfs @	12.67 hrs, Volume=	57,418 cf	-
Secondary	=	1.97 cfs @	12.67 hrs, Volume=	4,757 cf	

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 69.72' @ 12.67 hrs Surf.Area= 10,871 sf Storage= 34,268 cf

Plug-Flow detention time= 255.4 min calculated for 62,113 cf (91% of inflow) Center-of-Mass det. time= 210.0 min (1,048.0 - 837.9)

Volume	Inver	t Avail.Stor	rage Storage	e Description	
#1	65.00	43,33	35 cf Custom	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevatio (fee	n S t)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
65.0 66.0 68.0 70.0 70.5	0 0 0 0 0	3,065 4,798 8,721 11,226 12,525	0 3,932 13,519 19,947 5,938	0 3,932 17,451 37,398 43,335	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	66.40' / 69.50'	6.0" Round L= 50.0' CP Inlet / Outlet I n= 0.013 Co 6.0' long Sha	Culvert P, square edge h Invert= 66.40' / 6 rrugated PE, smo arp-Crested Rect	neadwall, Ke= 0.500 2.00' S= 0.0880 '/' Cc= 0.900 both interior, Flow Area= 0.20 sf t <b>angular Weir</b> 2 End Contraction(s)

**Primary OutFlow** Max=1.66 cfs @ 12.67 hrs HW=69.72' (Free Discharge) **1=Culvert** (Inlet Controls 1.66 cfs @ 8.43 fps)

Secondary OutFlow Max=1.95 cfs @ 12.67 hrs HW=69.72' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 1.95 cfs @ 1.52 fps)



## Pond 3P: DETENTION POND 1

#### Summary for Pond 4P: PR-CB-1

[57] Hint: Peaked at 30.32' (Flood elevation advised)

Inflow Area	a =	614,048 sf,	9.34% Impervious,	Inflow Depth > 2	.57" for 10-YEAR event
Inflow	=	15.31 cfs @	12.20 hrs, Volume=	131,576 cf	
Outflow	=	15.31 cfs @	12.20 hrs, Volume=	131,576 cf,	Atten= 0%, Lag= 0.0 min
Primary	=	15.31 cfs @	12.20 hrs, Volume=	131,576 cf	-

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 30.32' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	28.30'	<b>24.0" Round Culvert</b> L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.30' / 27.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=15.26 cfs @ 12.20 hrs HW=30.32' (Free Discharge) ←1=Culvert (Inlet Controls 15.26 cfs @ 4.86 fps)



Pond 4P: PR-CB-1

## Summary for Pond CB-1: CB-1

Inflow Area =110,937 sf, 8.04% Impervious, Inflow Depth = 2.79" for 10-YEAR eventInflow =8.42 cfs @12.10 hrs, Volume=25,753 cfOutflow =8.42 cfs @12.10 hrs, Volume=25,753 cf, Atten= 0%, Lag= 0.0 minPrimary =8.42 cfs @12.10 hrs, Volume=25,753 cfDesting her 0 ten bod worthead. Times 0 constant 0

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 29.55' @ 12.10 hrs Flood Elev= 30.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.90'	<b>15.0"</b> Round RCP_Round <b>15"</b> L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= $26.90' / 26.50'$ S= 0.0121 '/' Cc= 0.900 n= 0.012 Concrete pipe finished Flow Area= 1.23 sf

**Primary OutFlow** Max=8.39 cfs @ 12.10 hrs HW=29.54' (Free Discharge) **1=RCP_Round 15''** (Inlet Controls 8.39 cfs @ 6.84 fps)



Pond CB-1: CB-1

## Summary for Pond CB-10: CB-10

[58] Hint: Peaked 126.84' above defined flood level[81] Warning: Exceeded Pond CB-11 by 129.09' @ 12.10 hrs[81] Warning: Exceeded Pond CB-12 by 84.02' @ 12.10 hrs

 Inflow Area =
 919,141 sf, 11.06% Impervious, Inflow Depth = 2.88" for 10-YEAR event

 Inflow =
 56.84 cfs @ 12.12 hrs, Volume=
 220,335 cf

 Outflow =
 56.84 cfs @ 12.12 hrs, Volume=
 220,335 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 56.84 cfs @ 12.12 hrs, Volume=
 220,335 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 166.04' @ 12.12 hrs Flood Elev= 39.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.20'	<b>18.0" Round CMP_Round 18"</b> L= 91.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.20' / 35.20' S= 0.0000 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=56.33 cfs @ 12.12 hrs HW=163.79' (Free Discharge) -1=CMP_Round 18" (Barrel Controls 56.33 cfs @ 31.88 fps)



## Pond CB-10: CB-10

## Summary for Pond CB-11: CB-11

Inflow Area = 6,316 sf,100.00% Impervious, Inflow Depth = 5.17" for 10-YEAR event Inflow 1.13 cfs @ 11.95 hrs, Volume= 2.722 cf = 1.13 cfs @ 11.95 hrs, Volume= Outflow 2,722 cf, Atten= 0%, Lag= 0.0 min = 1.13 cfs @ 11.95 hrs, Volume= Primary = 2,722 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 35.98' @ 11.95 hrs Flood Elev= 39.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	18.0" Round RCP_Round 18"
			L= 26.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 35.50' / 35.10' S= 0.0154 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.13 cfs @ 11.95 hrs HW=35.98' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 1.13 cfs @ 2.35 fps)



Pond CB-11: CB-11

## Summary for Pond CB-12: CB-12

[58] Hint: Peaked 38.30' above defined flood level [79] Warning: Submerged Pond CB-13 Primary device # 1 INLET by 37.48'

 Inflow Area =
 873,310 sf, 10.28% Impervious, Inflow Depth =
 2.86" for 10-YEAR event

 Inflow =
 54.26 cfs @
 12.12 hrs, Volume=
 207,834 cf

 Outflow =
 54.26 cfs @
 12.12 hrs, Volume=
 207,834 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 54.26 cfs @
 12.12 hrs, Volume=
 207,834 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 81.10' @ 12.12 hrs Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.70'	<b>18.0" Round CMP_Round 18"</b> L= 95.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.70' / 35.20' S= 0.0474 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=53.78 cfs @ 12.12 hrs HW=80.40' (Free Discharge) —1=CMP_Round 18" (Inlet Controls 53.78 cfs @ 30.43 fps)



Pond CB-12: CB-12

### Summary for Pond CB-13: CB-13

[58] Hint: Peaked 80.94' above defined flood level [81] Warning: Exceeded Pond CB-14 by 53.59' @ 12.10 hrs

 Inflow Area =
 852,126 sf, 10.17% Impervious, Inflow Depth =
 2.85" for 10-YEAR event

 Inflow =
 52.89 cfs @
 12.11 hrs, Volume=
 202,592 cf

 Outflow =
 52.89 cfs @
 12.11 hrs, Volume=
 202,592 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 52.89 cfs @
 12.11 hrs, Volume=
 202,592 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 126.97' @ 12.11 hrs Flood Elev= 46.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.30'	<b>18.0" Round CMP_Round 18"</b> L= 63.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 43.30' / 39.80' S= 0.0556 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=52.44 cfs @ 12.11 hrs HW=125.56' (Free Discharge) -1=CMP_Round 18" (Barrel Controls 52.44 cfs @ 29.68 fps)



Pond CB-13: CB-13

## Summary for Pond CB-14: CB-14

[58] Hint: Peaked 20.00' above defined flood level [79] Warning: Submerged Pond CB-15 Primary device # 1 INLET by 18.72'

 Inflow Area =
 627,176 sf,
 8.81% Impervious,
 Inflow Depth =
 2.81"
 for
 10-YEAR event

 Inflow =
 40.50 cfs @
 12.09 hrs,
 Volume=
 146,925 cf

 Outflow =
 40.50 cfs @
 12.09 hrs,
 Volume=
 146,925 cf,

 Primary =
 40.50 cfs @
 12.09 hrs,
 Volume=
 146,925 cf,

 Atten= 0%,
 Lag= 0.0 min
 146,925 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 72.90' @ 12.09 hrs Flood Elev= 52.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	<b>18.0" Round RCP_Round 18"</b> L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.50' / 43.40' S= 0.0521 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=40.21 cfs @ 12.09 hrs HW=72.58' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 40.21 cfs @ 22.75 fps)



Pond CB-14: CB-14

## Summary for Pond CB-15: CB-15

[58] Hint: Peaked 16.94' above defined flood level [79] Warning: Submerged Pond CB-16 Primary device # 1 INLET by 11.09'

 Inflow Area =
 597,934 sf,
 8.83% Impervious,
 Inflow Depth =
 2.81"
 for
 10-YEAR event

 Inflow =
 38.19 cfs @
 12.10 hrs,
 Volume=
 139,914 cf

 Outflow =
 38.19 cfs @
 12.10 hrs,
 Volume=
 139,914 cf,

 Primary =
 38.19 cfs @
 12.10 hrs,
 Volume=
 139,914 cf,

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 75.00' @ 12.10 hrs Flood Elev= 58.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	54.10'	<b>18.0" Round RCP_Round 18"</b> L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.10' / 49.60' S= 0.0542 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=38.14 cfs @ 12.10 hrs HW=74.94' (Free Discharge) ←1=RCP_Round 18" (Inlet Controls 38.14 cfs @ 21.58 fps)



Pond CB-15: CB-15

#### Summary for Pond CB-16: CB-16

[58] Hint: Peaked 12.51' above defined flood level [81] Warning: Exceeded Pond CB-17 by 3.49' @ 12.10 hrs

 Inflow Area =
 537,106 sf, 9.26% Impervious, Inflow Depth = 2.81" for 10-YEAR event

 Inflow =
 33.62 cfs @ 12.12 hrs, Volume=
 125,794 cf

 Outflow =
 33.62 cfs @ 12.12 hrs, Volume=
 125,794 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 33.62 cfs @ 12.12 hrs, Volume=
 125,794 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 80.25' @ 12.11 hrs Flood Elev= 67.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.90'	<b>18.0" Round RCP_Round 18"</b> L= 183.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 63.90' / 54.10' S= 0.0536 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=33.30 cfs @ 12.12 hrs HW=79.97' (Free Discharge) ←1=RCP_Round 18" (Inlet Controls 33.30 cfs @ 18.84 fps)



Pond CB-16: CB-16

## Summary for Pond CB-17: CB-17

[58] Hint: Peaked 5.44' above defined flood level

Inflow Area =	391,463 sf, 8.69% Impervio	us, Inflow Depth = 2.79" for 10-YEAR event
Inflow =	24.47 cfs @ 12.18 hrs, Volum	e= 90,875 cf
Outflow =	24.47 cfs @ 12.18 hrs, Volum	e= 90,875 cf, Atten= 0%, Lag= 0.0 min
Primary =	24.47 cfs @ 12.18 hrs, Volum	e= 90,875 cf
Routing by Stor- Peak Elev= 79.5	Ind method, Time Span= 0.00-50.052' @ 12.18 hrs	)0 hrs, dt= 0.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.40'	18.0" Round RCP_Round 18"
			L= 206.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 69.40' / 64.00' S= 0.0262 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=24.26 cfs @ 12.18 hrs HW=79.29' (Free Discharge) ☐ 1=RCP_Round 18" (Barrel Controls 24.26 cfs @ 13.73 fps)



### Pond CB-17: CB-17

## Summary for Pond CB-2: CB-2

[58] Hint: Peaked 1.34' above defined flood level [81] Warning: Exceeded Pond CB-1 by 0.72' @ 12.10 hrs

 Inflow Area =
 113,044 sf, 9.76% Impervious, Inflow Depth = 2.83" for 10-YEAR event

 Inflow =
 8.50 cfs @ 12.10 hrs, Volume=
 26,661 cf

 Outflow =
 8.50 cfs @ 12.10 hrs, Volume=
 26,661 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 8.50 cfs @ 12.10 hrs, Volume=
 26,661 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 30.28' @ 12.10 hrs Flood Elev= 28.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.40'	<b>18.0" Round Culvert</b> L= 78.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 26.40' / 26.20' S= 0.0026 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf
			-

**Primary OutFlow** Max=8.50 cfs @ 12.10 hrs HW=30.28' (Free Discharge) **1=Culvert** (Barrel Controls 8.50 cfs @ 4.81 fps)



Pond CB-2: CB-2

## Summary for Pond CB-3: CB-3

 Inflow Area =
 29,175 sf, 27.00% Impervious, Inflow Depth =
 3.25" for 10-YEAR event

 Inflow =
 2.28 cfs @
 12.15 hrs, Volume=
 7,910 cf

 Outflow =
 2.28 cfs @
 12.15 hrs, Volume=
 7,910 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 2.28 cfs @
 12.15 hrs, Volume=
 7,910 cf

 Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

Peak Elev= 28.95' @ 12.15 hrs Flood Elev= 30.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.20'	<b>15.0" Round RCP_Round 15"</b> L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 26.20' S= 0.0513 '/' Cc= 0.900 n= 0.012 Concrete pipe finished. Flow Area= 1.23 sf
			The 0.012 Concrete pipe, infished, Thow Area - 1.20 Si

Primary OutFlow Max=2.28 cfs @ 12.15 hrs HW=28.95' (Free Discharge) ←1=RCP_Round 15" (Inlet Controls 2.28 cfs @ 2.95 fps)



#### Pond CB-3: CB-3

## Summary for Pond CB-4: CB-4

[79] Warning: Submerged Pond CB-2 Primary device # 1 INLET by 1.43' [79] Warning: Submerged Pond CB-3 Primary device # 1 OUTLET by 1.63'

 Inflow Area =
 143,849 sf, 14.28% Impervious, Inflow Depth = 2.94" for 10-YEAR event

 Inflow =
 10.75 cfs @ 12.11 hrs, Volume=
 35,274 cf

 Outflow =
 10.75 cfs @ 12.11 hrs, Volume=
 35,274 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 10.75 cfs @ 12.11 hrs, Volume=
 35,274 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 27.84' @ 12.11 hrs Flood Elev= 29.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	<b>24.0" Round Culvert</b> L= 227.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.00' / 25.30' S= 0.0031 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

**Primary OutFlow** Max=10.67 cfs @ 12.11 hrs HW=27.83' (Free Discharge) **1=Culvert** (Barrel Controls 10.67 cfs @ 4.65 fps)



Pond CB-4: CB-4

## Summary for Pond CB-5: CB-5

Inflow Area = 15,976 sf, 5.12% Impervious, Inflow Depth = 2.79" for 10-YEAR event Inflow 1.54 cfs @ 12.02 hrs, Volume= = 3.709 cf 1.54 cfs @ 12.02 hrs, Volume= Outflow 3,709 cf, Atten= 0%, Lag= 0.0 min = 1.54 cfs @ 12.02 hrs, Volume= Primary = 3,709 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 30.19' @ 12.02 hrs Flood Elev= 33.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	<b>15.0"</b> Round CMP_Round 15" L= 89.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0360 '/' Cc= 0.900 n= 0.025 Corrugated metal. Flow Area= 1.23 sf
			· · · · · · · · · · · · · · · · · · ·

Primary OutFlow Max=1.50 cfs @ 12.02 hrs HW=30.18' (Free Discharge) -1=CMP_Round 15" (Inlet Controls 1.50 cfs @ 2.21 fps)



#### Pond CB-5: CB-5

## Summary for Pond CB-6: CB-6

[58] Hint: Peaked 26.21' above defined flood level

- [81] Warning: Exceeded Pond 4P by 27.64' @ 12.10 hrs
- [81] Warning: Exceeded Pond CB-5 by 27.63' @ 12.15 hrs
- [79] Warning: Submerged Pond CB-8 Primary device # 1 INLET by 28.08'

Inflow Area	a =	1,716,465 sf,	11.03% Impervious,	Inflow Depth = 2.7	79" for 10-YEAR event
Inflow	=	82.72 cfs @	12.13 hrs, Volume=	398,391 cf	
Outflow	=	82.72 cfs @	12.13 hrs, Volume=	398,391 cf, A	Atten= 0%, Lag= 0.0 min
Primary	=	82.72 cfs @	12.13 hrs, Volume=	398,391 cf	-

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 57.99' @ 12.13 hrs Flood Elev= 31.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	24.0" Round Culvert
			L= 36.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 27.10' / 26.50' S= 0.0167 '/' Cc= 0.900
			n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

**Primary OutFlow** Max=82.07 cfs @ 12.13 hrs HW=57.54' (Free Discharge) **1=Culvert** (Inlet Controls 82.07 cfs @ 26.12 fps)



## Pond CB-6: CB-6

## Summary for Pond CB-7: CB-7

[58] Hint: Peaked 11.24' above defined flood level[81] Warning: Exceeded Pond CB-4 by 13.94' @ 12.10 hrs[79] Warning: Submerged Pond CB-6 Primary device # 1 INLET by 14.68'

 Inflow Area =
 1,862,473 sf, 11.38% Impervious, Inflow Depth = 2.80" for 10-YEAR event

 Inflow =
 93.68 cfs @
 12.12 hrs, Volume=
 434,595 cf

 Outflow =
 93.68 cfs @
 12.12 hrs, Volume=
 434,595 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 93.68 cfs @
 12.12 hrs, Volume=
 434,595 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 42.04' @ 12.12 hrs Flood Elev= 30.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.10'	<b>30.0" Round Culvert</b> L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.10' / 22.70' S= 0.0205 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=92.66 cfs @ 12.12 hrs HW=41.72' (Free Discharge) —1=Culvert (Inlet Controls 92.66 cfs @ 18.88 fps)



Pond CB-7: CB-7

## Summary for Pond CB-8: CB-8

[58] Hint: Peaked 306.27' above defined flood level [81] Warning: Exceeded Pond CB-9 by 37.78' @ 12.10 hrs

 Inflow Area =
 1,030,437 sf, 11.38% Impervious, Inflow Depth =
 2.89" for 10-YEAR event

 Inflow =
 65.77 cfs @
 12.11 hrs, Volume=
 247,922 cf

 Outflow =
 65.77 cfs @
 12.11 hrs, Volume=
 247,922 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 65.77 cfs @
 12.11 hrs, Volume=
 247,922 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 340.70' @ 12.11 hrs Flood Elev= 34.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	<b>18.0" Round RCP_Round 18"</b> L= 193.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0166 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=65.22 cfs @ 12.11 hrs HW=335.57' (Free Discharge) -1=RCP_Round 18" (Barrel Controls 65.22 cfs @ 36.90 fps)



Pond CB-8: CB-8

### Summary for Pond CB-9: CB-9

[58] Hint: Peaked 265.65' above defined flood level [81] Warning: Exceeded Pond CB-10 by 136.32' @ 12.10 hrs

 Inflow Area =
 972,164 sf, 11.09% Impervious, Inflow Depth =
 2.88" for 10-YEAR event

 Inflow =
 60.83 cfs @
 12.12 hrs, Volume=
 233,047 cf

 Outflow =
 60.83 cfs @
 12.12 hrs, Volume=
 233,047 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 60.83 cfs @
 12.12 hrs, Volume=
 233,047 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 303.78' @ 12.12 hrs Flood Elev= 38.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.40'	<b>18.0" Round CMP_Round 18"</b> L= 190.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.40' / 31.00' S= 0.0232 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=60.27 cfs @ 12.12 hrs HW=298.88' (Free Discharge) —1=CMP_Round 18" (Barrel Controls 60.27 cfs @ 34.10 fps)



Pond CB-9: CB-9

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA-1: DA-1	Runoff Area=110,937 sf 8.04% Impervious Runoff Depth=3.81" Flow Length=1,029' Tc=17.6 min CN=75 Runoff=11.50 cfs 35,202 cf
Subcatchment DA-10: DA-10	Runoff Area=29,242 sf 8.57% Impervious Runoff Depth=3.91" Flow Length=447' Tc=11.3 min CN=76 Runoff=3.79 cfs 9,533 cf
Subcatchment DA-11: DA-11	Runoff Area=60,828 sf 5.01% Impervious Runoff Depth=3.81" Flow Length=496' Tc=12.2 min CN=75 Runoff=7.47 cfs 19,301 cf
Subcatchment DA-12: DA-12	Runoff Area=145,643 sf 10.79% Impervious Runoff Depth=3.91" Flow Length=863' Tc=12.7 min CN=76 Runoff=18.07 cfs 47,480 cf
Subcatchment DA-13: DA-13	Runoff Area=391,463 sf 8.69% Impervious Runoff Depth=3.81" Flow Length=655' Tc=24.6 min CN=75 Runoff=33.54 cfs 124,216 cf
Subcatchment DA-14: DA-14	Runoff Area=6,316 sf 100.00% Impervious Runoff Depth=6.37" Tc=5.0 min CN=98 Runoff=1.38 cfs 3,353 cf
Subcatchment DA-15: DA-15	Runoff Area=2,159 sf 100.00% Impervious Runoff Depth=6.37" Tc=5.0 min CN=98 Runoff=0.47 cfs 1,146 cf
Subcatchment DA-16: DA-16	Runoff Area=1,630 sf 100.00% Impervious Runoff Depth=6.37" Tc=5.0 min CN=98 Runoff=0.36 cfs 865 cf
Subcatchment DA-17: DA-17	Runoff Area=2,107 sf 100.00% Impervious Runoff Depth=6.37" Tc=5.0 min CN=98 Runoff=0.46 cfs 1,119 cf
Subcatchment DA-2: DA-2 Flow Length=28	Runoff Area=29,175 sf 27.00% Impervious Runoff Depth=4.34" 34' Slope=0.0493 '/' Tc=22.0 min CN=80 Runoff=3.03 cfs 10,542 cf
Subcatchment DA-2a: DA-2a	Runoff Area=141,895 sf 10.12% Impervious Runoff Depth=3.91" Flow Length=739' Tc=18.3 min CN=76 Runoff=14.81 cfs 46,258 cf
Subcatchment DA-2b: DA-2b	Runoff Area=81,523 sf 12.99% Impervious Runoff Depth=4.02" Flow Length=965' Tc=20.6 min CN=77 Runoff=8.17 cfs 27,290 cf
Subcatchment DA-3: DA-3 Flow Length=1	Runoff Area=15,976 sf 5.12% Impervious Runoff Depth=3.81" 92' Slope=0.1562 '/' Tc=10.1 min CN=75 Runoff=2.10 cfs 5,069 cf
Subcatchment DA-4: DA-4 Flow Length=2	Runoff Area=56,004 sf 24.76% Impervious Runoff Depth=4.34" 250' Slope=0.1120 '/' Tc=9.8 min CN=80 Runoff=8.36 cfs 20,236 cf
Subcatchment DA-4a: DA-4a	Runoff Area=105,870 sf 4.11% Impervious Runoff Depth=3.81" Flow Length=708' Tc=15.7 min CN=75 Runoff=11.60 cfs 33,594 cf
Subcatchment DA-5: DA-5 Flow Length=22	Runoff Area=58,273 sf 16.11% Impervious Runoff Depth=4.12" 28' Slope=0.0702 '/' Tc=16.0 min CN=78 Runoff=6.82 cfs 20,020 cf
Subcatchment DA-	a: DA-5a Runoff Area=194,700 sf 9.54% Impervious Runoff Depth=3.91" Flow Length=764' Tc=19.4 min CN=76 Runoff=19.68 cfs 63,473 cf
-------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
Subcatchment DA-	DA-6Runoff Area=53,023 sf11.71% ImperviousRunoff Depth=3.91"Flow Length=378'Tc=19.0 minCN=76Runoff=5.42 cfs17,286 cf
Subcatchment DA-	a: DA-6a Runoff Area=90,060 sf 10.50% Impervious Runoff Depth=3.91" Flow Length=809' Tc=19.3 min CN=76 Runoff=9.13 cfs 29,360 cf
Subcatchment DA-	DA-7         Runoff Area=39,515 sf         14.15% Impervious         Runoff Depth=4.02"           Flow Length=589'         Tc=25.2 min         CN=77         Runoff=3.52 cfs         13,228 cf
Subcatchment DA-	DA-8 Runoff Area=21,184 sf 14.41% Impervious Runoff Depth=4.02" Flow Length=545' Tc=23.6 min CN=77 Runoff=1.96 cfs 7,091 cf
Subcatchment DA-	DA-9         Runoff Area=224,950 sf         13.96% Impervious         Runoff Depth=4.02"           Flow Length=927'         Tc=26.2 min         CN=77         Runoff=19.58 cfs         75,302 cf
Reach 7R: OUTLET	Inflow=133.26 cfs 595,483 cf Outflow=133.26 cfs 595,483 cf
Pond 1P: DETENTI	N POND 3         Peak Elev=55.50'         Storage=11,130 cf         Inflow=21.20 cfs         159,358 cf           Primary=1.42 cfs         65,119 cf         Secondary=18.85 cfs         92,085 cf         Outflow=20.27 cfs         157,205 cf
Pond 2P: DETENTI	N POND 2         Peak Elev=62.05'         Storage=15,812 cf         Inflow=15.90 cfs         120,324 cf           Primary=0.97 cfs         35,330 cf         Secondary=13.73 cfs         77,770 cf         Outflow=14.70 cfs         113,100 cf
Pond 3P: DETENTI	N POND 1         Peak Elev=70.17' Storage=39,377 cf         Inflow=28.81 cfs         92,832 cf           Primary=1.77 cfs         64,715 cf         Secondary=10.59 cfs         22,015 cf         Outflow=12.36 cfs         86,730 cf
Pond 4P: PR-CB-1	Peak Elev=32.55' Inflow=27.26 cfs 184,495 cf 24.0" Round Culvert n=0.012 L=100.0' S=0.0100 '/' Outflow=27.26 cfs 184,495 cf
Pond CB-1: CB-1	Peak Elev=31.32' Inflow=11.50 cfs 35,202 cf 15.0" Round Culvert n=0.012 L=33.0' S=0.0121 '/' Outflow=11.50 cfs 35,202 cf
Pond CB-10: CB-10	Peak Elev=277.77' Inflow=77.60 cfs 299,505 cf 18.0" Round Culvert n=0.025 L=91.0' S=0.0000 '/' Outflow=77.60 cfs 299,505 cf
Pond CB-11: CB-11	Peak Elev=36.03' Inflow=1.38 cfs  3,353 cf 18.0" Round Culvert  n=0.012  L=26.0'  S=0.0154 '/'  Outflow=1.38 cfs  3,353 cf
Pond CB-12: CB-12	Peak Elev=118.09' Inflow=74.12 cfs 282,924 cf 18.0" Round Culvert n=0.012 L=95.0' S=0.0474 '/' Outflow=74.12 cfs 282,924 cf
Pond CB-13: CB-13	Peak Elev=201.23' Inflow=72.26 cfs 275,832 cf 18.0" Round Culvert n=0.025 L=63.0' S=0.0556 '/' Outflow=72.26 cfs 275,832 cf
Pond CB-14: CB-14	Peak Elev=95.65' Inflow=55.43 cfs 200,530 cf 18.0" Round Culvert n=0.012 L=117.0' S=0.0521 '/' Outflow=55.43 cfs 200,530 cf
Pond CB-15: CB-15	Peak Elev=92.62' Inflow=52.30 cfs 190,997 cf 18.0" Round Culvert n=0.012 L=83.0' S=0.0542 '/' Outflow=52.30 cfs 190,997 cf

**20-2624 KINGS HIGHWAY NORTH HAVEN - POST W** *Type II 24-hr* 25-YEAR Rainfall=6.61" Prepared by LRC Group Printed 11/12/2020

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Pond CB-16: CB-16	Peak Elev=101.46' Inflow=46.04 cfs 171,696 cf 18.0" Round Culvert n=0.012 L=183.0' S=0.0536 '/' Outflow=46.04 cfs 171,696 cf
Pond CB-17: CB-17	Peak Elev=91.83' Inflow=33.54 cfs 124,216 cf 18.0" Round Culvert n=0.012 L=206.0' S=0.0262 '/' Outflow=33.54 cfs 124,216 cf
Pond CB-2: CB-2	Peak Elev=32.50' Inflow=11.60 cfs 36,320 cf 18.0" Round Culvert n=0.025 L=78.0' S=0.0026 '/' Outflow=11.60 cfs 36,320 cf
Pond CB-3: CB-3	Peak Elev=29.10' Inflow=3.03 cfs 10,542 cf 15.0" Round Culvert n=0.012 L=39.0' S=0.0513 '/' Outflow=3.03 cfs 10,542 cf
Pond CB-4: CB-4	Peak Elev=28.36' Inflow=14.59 cfs 47,727 cf 24.0" Round Culvert n=0.012 L=227.0' S=0.0031 '/' Outflow=14.59 cfs 47,727 cf
Pond CB-5: CB-5	Peak Elev=30.33' Inflow=2.10 cfs 5,069 cf 15.0" Round Culvert n=0.025 L=89.0' S=0.0360 '/' Outflow=2.10 cfs 5,069 cf
Pond CB-6: CB-6	Peak Elev=89.63' Inflow=118.70 cfs 546,610 cf 24.0" Round Culvert n=0.013 L=36.0' S=0.0167 '/' Outflow=118.70 cfs 546,610 cf
Pond CB-7: CB-7	Peak Elev=58.12' Inflow=133.26 cfs 595,483 cf 30.0" Round Culvert n=0.012 L=117.0' S=0.0205 '/' Outflow=133.26 cfs 595,483 cf
Pond CB-8: CB-8	Peak Elev=609.15' Inflow=89.64 cfs 336,810 cf 18.0" Round Culvert n=0.025 L=193.0' S=0.0166 '/' Outflow=89.64 cfs 336,810 cf
Pond CB-9: CB-9	Peak Elev=537.82' Inflow=83.02 cfs 316,790 cf 18.0" Round Culvert n=0.025 L=190.0' S=0.0232 '/' Outflow=83.02 cfs 316,790 cf

Total Runoff Area = 1,862,473 sf Runoff Volume = 610,963 cf Average Runoff Depth = 3.94" 88.62% Pervious = 1,650,520 sf 11.38% Impervious = 211,953 sf

#### Summary for Subcatchment DA-1: DA-1

Runoff = 11.50 cfs @ 12.10 hrs, Volume= 35,202 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

_	A	rea (sf)	CN [	Description							
		59,666	72 \	72 Woods/grass comb., Good, HSG C							
		42,347	74 >	75% Gras	s cover, Go	bod, HSG C					
_		8,924	98 F	Paved park	ing, HSG C						
	1	10,937	75 \	Veighted A	verage						
	1	02,013	ç	01.96% Per	vious Area						
		8,924	8	8.04% Impe	ervious Area	а					
	Тс	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	9.9	153	0.1050	0.26		Sheet Flow,					
						Grass: Dense n= 0.240 P2= 3.49"					
	2.0	189	0.0950	1.54		Shallow Concentrated Flow,					
						Woodland Kv= 5.0 fps					
	5.7	687	0.0820	2.00		Shallow Concentrated Flow,					
_						Short Grass Pasture Kv= 7.0 fps					
			<b>—</b> · ·								

17.6 1,029 Total

#### Subcatchment DA-1: DA-1



### Summary for Subcatchment DA-10: DA-10

Runoff = 3.79 cfs @ 12.03 hrs, Volume= 9,533 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	Area (sf)	CN	Description							
	26,737	74	74 >75% Grass cover, Good, HSG C							
	2,505	98	98 Paved parking, HSG C							
	29,242	76	Weighted A	verage						
	26,737		91.43% Pei	rvious Area						
	2,505		8.57% Impe	ervious Area	a					
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
9.7	250	0.1160	0.43		Sheet Flow,					
1.6	197	0.0812	1.99		Grass: Short n= 0.150 P2= 3.49" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps					
11.3	447	Total								

#### Subcatchment DA-10: DA-10



### Summary for Subcatchment DA-11: DA-11

Runoff = 7.47 cfs @ 12.04 hrs, Volume= 19,301 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN I	Description		
	57,780	74 >	>75% Gras	s cover, Go	ood, HSG C
	3,048	98 I	Paved park	ing, HSG C	
	60,828	75	Neighted A	verage	
	57,780	ę	94.99% Per	vious Area	
	3,048	Ę	5.01% Impe	ervious Area	а
_		~		<b>•</b> •	<b>-</b>
IC	Length	Slope	Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
9.8	250	0.1120	0.43		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.49"
2.4	246	0.0610	1.73		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
12.2	496	Total			

#### Subcatchment DA-11: DA-11



#### Summary for Subcatchment DA-12: DA-12

Runoff = 18.07 cfs @ 12.05 hrs, Volume= 47,480 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

_	Ai	rea (sf)	CN E	Description							
		33,394	72 V	72 Woods/grass comb., Good, HSG C							
		96,537	74 >	75% Gras	s cover, Go	bod, HSG C					
_		15,712	98 F	Paved park	ing, HSG C						
	1	45,643	76 V	Veighted A	verage						
	1	29,931	8	9.21% Per	vious Area						
		15,712	1	0.79% Imp	pervious Ar	ea					
	Тс	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	6.2	147	0.1220	0.40		Sheet Flow,					
						Grass: Short n= 0.150 P2= 3.49"					
	3.1	395	0.0911	2.11		Shallow Concentrated Flow,					
						Short Grass Pasture Kv= 7.0 fps					
	3.4	321	0.0500	1.57		Shallow Concentrated Flow,					
_						Short Grass Pasture Kv= 7.0 fps					
	40 7	000	<b>T</b> · ·								

12.7 863 Total

#### Subcatchment DA-12: DA-12



#### Summary for Subcatchment DA-13: DA-13

Runoff = 33.54 cfs @ 12.18 hrs, Volume= 124,216 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

_	A	rea (sf)	CN	Description							
	1	92,024	72	72 Woods/grass comb., Good, HSG C							
	1	65,425	74	>75% Gras	s cover, Go	bod, HSG C					
		34,014	98	Paved park	ing, HSG C						
	3	91,463	75	Weighted A	verage						
	3	57,449		91.31% Pe	rvious Area						
		34,014		8.69% Impe	ervious Are	а					
	Тс	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	21.5	250	0.1120	0.19		Sheet Flow,					
						Woods: Light underbrush n= 0.400 P2= 3.49"					
	3.1	405	0.0938	2.14		Shallow Concentrated Flow,					
_						Short Grass Pasture Kv= 7.0 fps					
	24.6	655	Total								

#### Subcatchment DA-13: DA-13



### Summary for Subcatchment DA-14: DA-14

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.38 cfs @ 11.95 hrs, Volume= 3,353 cf, Depth= 6.37"



#### Summary for Subcatchment DA-15: DA-15

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.47 cfs @ 11.95 hrs, Volume= 1,146 cf, Depth= 6.37"



### Summary for Subcatchment DA-16: DA-16

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.36 cfs @ 11.95 hrs, Volume= 865 cf, Depth= 6.37"



### Summary for Subcatchment DA-17: DA-17

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.46 cfs @ 11.95 hrs, Volume= 1,119 cf, Depth= 6.37"



### Summary for Subcatchment DA-2: DA-2

Runoff = 3.03 cfs @ 12.15 hrs, Volume= 10,542 cf, Depth= 4.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN	Description					
	6,390	72	Woods/gras	ss comb., G	Good, HSG C			
	14,909	74	>75% Gras	s cover, Go	ood, HSG C			
	7,876	98	Paved park	ing, HSG C				
	29,175	80	Weighted A	verage				
	21,299		73.00% Per	rvious Area				
	7,876		27.00% Imp	pervious Ar	ea			
Тс	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
22.0	284	0.0493	3 0.22		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

#### Subcatchment DA-2: DA-2



#### Summary for Subcatchment DA-2a: DA-2a

Runoff = 14.81 cfs @ 12.11 hrs, Volume= 46,258 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN E	Description							
	14,360	98 F	98 Paved parking, HSG C							
	20,313	72 V	Voods/gras	s comb., G	Good, HSG C					
1	07,222	74 >	75% Gras	s cover, Go	bod, HSG C					
1	41,895	76 V	Veighted A	verage						
1	27,535	8	9.88% Per	vious Area						
	14,360	1	0.12% Imp	pervious Ar	ea					
Тс	Length	Slope	Velocity	Capacity	Description					
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
14.1	244	0.1107	0.29		Sheet Flow,					
					Grass: Dense n= 0.240 P2= 3.49"					
1.7	164	0.1037	1.61		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
2.5	331	0.1027	2.24		Shallow Concentrated Flow,					
					Short Grass Pasture Kv= 7.0 fps					
10.0	720	Total								

18.3 739 Total

#### Subcatchment DA-2a: DA-2a



### Summary for Subcatchment DA-2b: DA-2b

Runoff = 8.17 cfs @ 12.13 hrs, Volume= 27,290 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN [	Description								
	10,589	98 F	98 Paved parking, HSG C								
	12,269	72 V	Voods/gras	ss comb., G	Good, HSG C						
	58,665	74 >	75% Gras	s cover, Go	ood, HSG C						
	81,523	77 V	Veighted A	verage							
	70,934	8	87.01% Per	vious Area							
	10,589	1	2.99% Imp	pervious Ar	ea						
			-								
Тс	Length	Slope	Velocity	Capacity	Description						
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)							
14.7	250	0.1040	0.28		Sheet Flow,						
					Grass: Dense n= 0.240 P2= 3.49"						
1.0	94	0.1060	1.63		Shallow Concentrated Flow,						
					Woodland Kv= 5.0 fps						
4.9	621	0.0902	2.10		Shallow Concentrated Flow,						
					Short Grass Pasture Kv= 7.0 fps						
20.0	005	Tatal									

20.6 965 Total

#### Subcatchment DA-2b: DA-2b



### Summary for Subcatchment DA-3: DA-3

Runoff = 2.10 cfs @ 12.02 hrs, Volume= 5,069 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN	Description					
	2,108	72	Woods/gras	ss comb., G	Good, HSG C			
	13,050	74	>75% Gras	s cover, Go	ood, HSG C			
	818	98	Paved park	ing, HSG C				
	15,976	75	Weighted A	verage				
	15,158		94.88% Per	vious Area				
	818		5.12% Impe	ervious Area	а			
Тс	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
10.1	192	0.1562	2 0.32		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

#### Subcatchment DA-3: DA-3



### Summary for Subcatchment DA-4: DA-4

Runoff = 8.36 cfs @ 12.01 hrs, Volume= 20,236 cf, Depth= 4.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN	Description					
	2,602	72	Woods/gras	ss comb., G	Good, HSG C			
	39,535	74	>75% Gras	s cover, Go	ood, HSG C			
	13,867	98	Paved park	ing, HSG C	)			
	56,004	80	Weighted A	verage				
	42.137 75.24% Pervious Area							
	13,867		24.76% Imp	pervious Ar	ea			
Tc	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
9.8	250	0.1120	0.43		Sheet Flow,			
					Grass: Short	n= 0.150	P2= 3.49"	

#### Subcatchment DA-4: DA-4



#### Summary for Subcatchment DA-4a: DA-4a

Runoff = 11.60 cfs @ 12.08 hrs, Volume= 33,594 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

	A	rea (sf)	CN [	Description		
		13,963	72 \	Noods/gras	ss comb., G	Good, HSG C
		4,349	98 F	Paved park	ing, HSG C	
		87,558	74 >	>75% Ġras	s cover, Go	bod, HSG C
	1	05,870	75 \	Neighted A	verage	
	1	01,521	ç	95.89% Per	vious Area	
		4,349	2	1.11% Impe	ervious Are	а
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	10.2	284	0.1303	0.46		Sheet Flow,
						Grass: Short n= 0.150 P2= 3.49"
	3.4	146	0.0822	0.72		Shallow Concentrated Flow,
						Forest w/Heavy Litter Kv= 2.5 fps
	2.1	278	0.0993	2.21		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	45 7	700	T - 4 - 1			

15.7 708 Total

#### Subcatchment DA-4a: DA-4a



### Summary for Subcatchment DA-5: DA-5

Runoff = 6.82 cfs @ 12.08 hrs, Volume= 20,020 cf, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	vrea (sf)	CN	Description					
	6,817	72	Woods/gras	ss comb., G	Good, HSG C			
	42,069	74	>75% Gras	s cover, Go	ood, HSG C			
	9,387	98	Paved park	ing, HSG C				
	58,273	78	Weighted A	verage				
	48,886		83.89% Per	rvious Area				
	9,387		16.11% Imp	pervious Ar	ea			
Tc	Length	Slope	e Velocity	Capacity	Description			
(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
16.0	228	0.0702	0.24		Sheet Flow,			
					Grass: Dense	n= 0.240	P2= 3.49"	

#### Subcatchment DA-5: DA-5



#### Summary for Subcatchment DA-5a: DA-5a

Runoff = 19.68 cfs @ 12.12 hrs, Volume= 63,473 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

	A	rea (sf)	CN	Description		
		24,732	72	Woods/gras	ss comb., G	Good, HSG C
		18,582	98	Paved park	ing, HSG C	
	1	51,386	74	>75% Ġras	s cover, Go	bod, HSG C
	1	94,700	76	Weighted A	verage	
	1	76,118		90.46% Pe	rvious Area	
		18,582		9.54% Impe	ervious Are	a
	Тс	Length	Slope	Velocity	Capacity	Description
(r	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1	14.3	250	0.1120	0.29		Sheet Flow,
						Grass: Dense n= 0.240 P2= 3.49"
	2.7	384	0.1150	2.37		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	2.4	130	0.1270	0.89		Shallow Concentrated Flow,
						Forest w/Heavy Litter Kv= 2.5 fps
1	19.4	764	Total			

#### Subcatchment DA-5a: DA-5a



#### Summary for Subcatchment DA-6: DA-6

Runoff = 5.42 cfs @ 12.11 hrs, Volume= 17,286 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

Ar	ea (sf)	CN I	Description		
2	25,517	72	Noods/gras	ss comb., G	Good, HSG C
2	21,299	74 🔅	>75% Gras	s cover, Go	bod, HSG C
	6,207	98 I	Paved park	ing, HSG C	
5	53,023	76	Neighted A	verage	
2	6,816	8	38.29% Pei	vious Area	
	6,207		1.71% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
17.5	185	0.1027	0.18		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.49"
1.5	193	0.0984	2.20		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
19.0	378	Total			

#### Subcatchment DA-6: DA-6



#### Summary for Subcatchment DA-6a: DA-6a

Runoff = 9.13 cfs @ 12.12 hrs, Volume= 29,360 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN I	Description		
	2,659	72	Noods/gras	ss comb., G	Good, HSG C
	77,944	74 🔅	>75% Gras	s cover, Go	bod, HSG C
	9,457	98 I	Paved park	ing, HSG C	
	90,060	76	Neighted A	verage	
	80,603	8	39.50% Pei	vious Area	
	9,457		10.50% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
14.7	250	0.1040	0.28		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.49"
4.6	559	0.0823	2.01		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
19.3	809	Total			

#### Subcatchment DA-6a: DA-6a



#### Summary for Subcatchment DA-7: DA-7

Runoff = 3.52 cfs @ 12.19 hrs, Volume= 13,228 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

Α	rea (sf)	CN I	Description		
	16,249	72	Noods/gras	ss comb., G	Good, HSG C
	17,675	74 :	>75% Gras	s cover, Go	ood, HSG C
	5,591	98	Paved park	ing, HSG C	
	39,515	77	Neighted A	verage	
	33,924	ł	35.85% Pei	vious Area	
	5,591		14.15% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
21.5	250	0.1120	0.19		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.49"
1.8	90	0.1111	0.83		Shallow Concentrated Flow,
					Forest w/Heavy Litter Kv= 2.5 fps
1.9	249	0.1004	2.22		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
25.2	589	Total			

Subcatchment DA-7: DA-7



#### Summary for Subcatchment DA-8: DA-8

Runoff = 1.96 cfs @ 12.17 hrs, Volume= 7,091 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Type II 24-hr 25-YEAR Rainfall=6.61"

A	rea (sf)	CN E	Description		
	8,852	72 V	Voods/gras	ss comb., G	Good, HSG C
	9,279	74 >	75% Gras	s cover, Go	ood, HSG C
	3,053	98 F	Paved park	ing, HSG C	
	21,184	77 V	Veighted A	verage	
	18,131	8	5.59% Pei	vious Area	
	3,053	1	4.41% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
21.5	250	0.1120	0.19		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.49"
0.4	56	0.1070	2.29		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.7	239	0.1088	2.31		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
~~~~		<b>T</b> ( )			

23.6 545 Total

Subcatchment DA-8: DA-8



Summary for Subcatchment DA-9: DA-9

Runoff = 19.58 cfs @ 12.20 hrs, Volume= 75,302 cf, Depth= 4.02"

A	rea (sf)	CN D	escription		
	54,875	72 V	Voods/gras	ss comb., G	Good, HSG C
1	38,673	74 >	75% Gras	s cover, Go	ood, HSG C
	31,402	98 P	aved park	ing, HSG C	
2	24,950	77 V	Veighted A	verage	
1	93,548	8	6.04% Per	vious Area	
	31,402	1	3.96% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
21.5	250	0.1120	0.19		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.49"
0.3	50	0.1400	2.62		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.7	207	0.0870	2.06		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
0.3	100	0.7000	5.86		Shallow Concentrated Flow,
.					Short Grass Pasture Kv= 7.0 fps
2.4	320	0.1000	2.21		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
26.2	927	Total			



Subcatchment DA-9: DA-9

Summary for Reach 7R: OUTLET

[40] Hint: Not Described (Outflow=Inflow)

Inflow A	rea =	1,862,473 sf,	, 11.38% Impervious,	Inflow Depth = 3.84"	for 25-YEAR event
Inflow	=	133.26 cfs @	12.12 hrs, Volume=	595,483 cf	
Outflow		133.26 cfs @	12.12 hrs, Volume=	595,483 cf, Atte	n= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



Reach 7R: OUTLET

Summary for Pond 1P: DETENTION POND 3

[79] Warning: Submerged Pond 2P Primary device # 1 OUTLET by 0.49'

Inflow Area =	532,525 sf,	8.78% Impervious,	Inflow Depth > 3.59"	for 25-YEAR event
Inflow =	21.20 cfs @	12.17 hrs, Volume=	159,358 cf	
Outflow =	20.27 cfs @	12.26 hrs, Volume=	157,205 cf, Atte	n= 4%, Lag= 5.5 min
Primary =	1.42 cfs @	12.26 hrs, Volume=	65,119 cf	-
Secondary =	18.85 cfs @	12.26 hrs, Volume=	92,085 cf	

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 55.50' @ 12.26 hrs Surf.Area= 4,861 sf Storage= 11,130 cf

Plug-Flow detention time= 49.8 min calculated for 157,205 cf (99% of inflow) Center-of-Mass det. time= 35.8 min (992.6 - 956.8)

Volume	Inve	rt Avail.Sto	orage Storage	e Description	
#1	52.0	0' 16,5	27 cf Custor	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation (feet	n t)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
52.00 54.00 56.00 56.50	0 0 0 0	1,631 3,355 5,369 5,897	0 4,986 8,724 2,817	0 4,986 13,710 16,527	
Device	Routing	Invert	Outlet Devic	es	
#1 #2	Primary	53.00' 'y 54.50'	6.0" Round L= 46.0' CF Inlet / Outlet n= 0.013 Cc 6.0' long Sh	Culvert PP, square edge h Invert= 53.00' / 4 prrugated PE, smo arp-Crested Rect	neadwall, Ke= 0.500 6.00' S= 0.1522 '/' Cc= 0.900 ooth interior, Flow Area= 0.20 sf tangular Weir 2 End Contraction(s)

Primary OutFlow Max=1.42 cfs @ 12.26 hrs HW=55.49' (Free Discharge) **1=Culvert** (Inlet Controls 1.42 cfs @ 7.21 fps)

Secondary OutFlow Max=18.79 cfs @ 12.26 hrs HW=55.49' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 18.79 cfs @ 3.26 fps)



Pond 1P: DETENTION POND 3

Summary for Pond 2P: DETENTION POND 2

[79] Warning: Submerged Pond 3P Primary device # 1 OUTLET by 0.05'

Inflow Area =	390,630 sf,	8.29% Impervious,	Inflow Depth > 3.70"	for 25-YEAR event
Inflow =	15.90 cfs @	12.33 hrs, Volume=	120,324 cf	
Outflow =	14.70 cfs @	12.42 hrs, Volume=	113,100 cf, Atte	n= 8%, Lag= 5.4 min
Primary =	0.97 cfs @	12.42 hrs, Volume=	35,330 cf	-
Secondary =	13.73 cfs @	12.42 hrs, Volume=	77,770 cf	

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 62.05' @ 12.42 hrs Surf.Area= 7,668 sf Storage= 15,812 cf

Plug-Flow detention time= 90.3 min calculated for 112,987 cf (94% of inflow) Center-of-Mass det. time= 52.8 min (1,009.4 - 956.6)

Volume	Inver	t Avail.Sto	rage Storag	ge Description	
#1	59.00	' 19,3 <u>9</u>	90 cf Custo	om Stage Data (Pr	ismatic) Listed below (Recalc)
Elevation (feet	n S	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
59.00 60.00 62.00 62.50))))	1,386 4,751 7,590 8,330	0 3,069 12,341 3,980	0 3,069 15,410 19,390	
Device	Routing	Invert	Outlet Devi	ces	
#1	Primary	60.75'	6.0" Round L= 30.0' C Inlet / Outle n= 0.013 C 6 0' long Si	d Culvert PP, square edge l t Invert= 60.75' / 5 Corrugated PE, sm	headwall, Ke= 0.500 5.00' S= 0.1917 '/' Cc= 0.900 ooth interior, Flow Area= 0.20 sf tangular Weir, 2 End Contraction(s)
π ∠	Cecondary	y 01.20			

Primary OutFlow Max=0.97 cfs @ 12.42 hrs HW=62.05' (Free Discharge) **1=Culvert** (Inlet Controls 0.97 cfs @ 4.93 fps)

Secondary OutFlow Max=13.65 cfs @ 12.42 hrs HW=62.05' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 13.65 cfs @ 2.92 fps)



Pond 2P: DETENTION POND 2

Summary for Pond 3P: DETENTION POND 1

Inflow Area	=	284,760 sf,	9.85% Impervior	us, Inflow Depth =	3.91" for	25-YEAR event
Inflow	=	28.81 cfs @	12.12 hrs, Volume	e= 92,832 cf		
Outflow	=	12.36 cfs @	12.37 hrs, Volume	e= 86,730 cf	, Atten= 5	7%, Lag= 14.8 min
Primary	=	1.77 cfs @	12.37 hrs, Volume	e= 64,715 cf		-
Secondary	=	10.59 cfs @	12.37 hrs, Volume	e= 22,015 cf		

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 70.17' @ 12.37 hrs Surf.Area= 11,675 sf Storage= 39,377 cf

Plug-Flow detention time= 212.1 min calculated for 86,643 cf (93% of inflow) Center-of-Mass det. time= 177.2 min (1,006.3 - 829.2)

Volume	Inve	rt Avail.Sto	rage Storage	Description	
#1	65.0	0' 43,3	35 cf Custom	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevatio	on (Surf.Area	Inc.Store	Cum.Store	
	<u>, , , , , , , , , , , , , , , , , , , </u>	2.065			
66.0	00	4,798	3,932	3,932	
68.0	00	8,721	13,519	17,451	
70.0	00	11,226	19,947	37,398	
70.5	50	12,525	5,938	43,335	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	66.40'	6.0" Round L= 50.0' CP Inlet / Outlet I n= 0.013 Co	Culvert P, square edge h nvert= 66.40' / 6 rrugated PE, smo	neadwall, Ke= 0.500 2.00' S= 0.0880 '/' Cc= 0.900 poth interior, Flow Area= 0.20 sf
#2	Seconda	ry 69.50'	6.0' long Sha	rp-Crested Rect	angular Weir 2 End Contraction(s)

Primary OutFlow Max=1.77 cfs @ 12.37 hrs HW=70.17' (Free Discharge) **1=Culvert** (Inlet Controls 1.77 cfs @ 9.03 fps)

Secondary OutFlow Max=10.47 cfs @ 12.37 hrs HW=70.17' (Free Discharge) 2=Sharp-Crested Rectangular Weir (Weir Controls 10.47 cfs @ 2.67 fps)



Pond 3P: DETENTION POND 1

Summary for Pond 4P: PR-CB-1

[57] Hint: Peaked at 32.55' (Flood elevation advised)

Inflow Area	a =	614,048 sf,	9.34% Impervious,	Inflow Depth > 3.	61" for 25-YEAR event
Inflow	=	27.26 cfs @	12.21 hrs, Volume=	184,495 cf	
Outflow	=	27.26 cfs @	12.21 hrs, Volume=	184,495 cf,	Atten= 0%, Lag= 0.0 min
Primary	=	27.26 cfs @	12.21 hrs, Volume=	184,495 cf	-

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 32.55' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	28.30'	24.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.30' / 27.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=27.09 cfs @ 12.21 hrs HW=32.51' (Free Discharge) ←1=Culvert (Inlet Controls 27.09 cfs @ 8.62 fps)



Pond 4P: PR-CB-1

Summary for Pond CB-1: CB-1

[58] Hint: Peaked 0.85' above defined flood level

Inflow Ar	ea =	110,937 sf,	8.04% Impervio	us, Inflow	v Depth =	3.81"	for 25	5-YEAR ever	nt
Inflow	=	11.50 cfs @	12.10 hrs, Volum	e=	35,202 ct		- 00/		
Duttion	=	11.50 CTS @	12.10 nrs, Volum	e=	35,202 CT	, Atter	1= 0%,	Lag= 0.0 m	In
Primary	=	11.50 CTS @	12.10 nrs, volum	e=	35,202 CT	Ī			
Routing I Peak Ele Flood Ele	by Stor-Ir ev= 31.32 ev= 30.47	id method, Tim '@ 12.10 hrs ''	e Span= 0.00-50	00 hrs, dt [:]	= 0.05 hrs				
Device	Routing	Inver	t Outlet Devices						

#1	Primary	26.90'	15.0" Round RCP_Round 15"
			L= 33.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 26.90' / 26.50' S= 0.0121 '/' Cc= 0.900
			n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=11.50 cfs @ 12.10 hrs HW=31.31' (Free Discharge) -1=RCP_Round 15" (Inlet Controls 11.50 cfs @ 9.37 fps)



Pond CB-1: CB-1

Summary for Pond CB-10: CB-10

[58] Hint: Peaked 238.57' above defined flood level[81] Warning: Exceeded Pond CB-11 by 240.42' @ 12.10 hrs[81] Warning: Exceeded Pond CB-12 by 158.49' @ 12.10 hrs

 Inflow Area =
 919,141 sf, 11.06% Impervious, Inflow Depth = 3.91" for 25-YEAR event

 Inflow =
 77.60 cfs @ 12.12 hrs, Volume=
 299,505 cf

 Outflow =
 77.60 cfs @ 12.12 hrs, Volume=
 299,505 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 77.60 cfs @ 12.12 hrs, Volume=
 299,505 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 277.77' @ 12.11 hrs Flood Elev= 39.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.20'	18.0" Round CMP_Round 18" L= 91.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.20' / 35.20' S= 0.0000 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=76.97 cfs @ 12.12 hrs HW=273.95' (Free Discharge) -1=CMP_Round 18" (Barrel Controls 76.97 cfs @ 43.55 fps)



Pond CB-10: CB-10

Summary for Pond CB-11: CB-11

Inflow Area = 6,316 sf,100.00% Impervious, Inflow Depth = 6.37" for 25-YEAR event Inflow 1.38 cfs @ 11.95 hrs, Volume= 3.353 cf = 1.38 cfs @ 11.95 hrs, Volume= Outflow 3,353 cf, Atten= 0%, Lag= 0.0 min = 1.38 cfs @ 11.95 hrs, Volume= Primary = 3.353 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 36.03' @ 11.95 hrs Flood Elev= 39.13' Device Routing Invert Outlet Devices 18.0" Round RCP_Round 18" #1 Primary 35.50' L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.50' / 35.10' S= 0.0154 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.38 cfs @ 11.95 hrs HW=36.03' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 1.38 cfs @ 2.48 fps)



Pond CB-11: CB-11
Summary for Pond CB-12: CB-12

[58] Hint: Peaked 75.29' above defined flood level [79] Warning: Submerged Pond CB-13 Primary device # 1 INLET by 74.36'

 Inflow Area =
 873,310 sf, 10.28% Impervious, Inflow Depth =
 3.89" for 25-YEAR event

 Inflow =
 74.12 cfs @
 12.11 hrs, Volume=
 282,924 cf

 Outflow =
 74.12 cfs @
 12.11 hrs, Volume=
 282,924 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 74.12 cfs @
 12.11 hrs, Volume=
 282,924 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 118.09' @ 12.11 hrs Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.70'	18.0" Round CMP_Round 18" L= 95.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.70' / 35.20' S= 0.0474 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=73.54 cfs @ 12.11 hrs HW=116.85' (Free Discharge) —1=CMP_Round 18" (Barrel Controls 73.54 cfs @ 41.62 fps)



Pond CB-12: CB-12

Summary for Pond CB-13: CB-13

[58] Hint: Peaked 155.20' above defined flood level [81] Warning: Exceeded Pond CB-14 by 105.18' @ 12.10 hrs

 Inflow Area =
 852,126 sf, 10.17% Impervious, Inflow Depth =
 3.88" for 25-YEAR event

 Inflow =
 72.26 cfs @
 12.11 hrs, Volume=
 275,832 cf

 Outflow =
 72.26 cfs @
 12.11 hrs, Volume=
 275,832 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 72.26 cfs @
 12.11 hrs, Volume=
 275,832 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 201.23' @ 12.11 hrs Flood Elev= 46.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.30'	18.0" Round CMP_Round 18" L= 63.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 43.30' / 39.80' S= 0.0556 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=71.74 cfs @ 12.11 hrs HW=198.97' (Free Discharge) —1=CMP_Round 18" (Barrel Controls 71.74 cfs @ 40.60 fps)



Pond CB-13: CB-13

Summary for Pond CB-14: CB-14

[58] Hint: Peaked 42.75' above defined flood level [81] Warning: Exceeded Pond CB-15 by 3.33' @ 12.05 hrs

 Inflow Area =
 627,176 sf,
 8.81% Impervious,
 Inflow Depth =
 3.84"
 for 25-YEAR event

 Inflow =
 55.43 cfs @
 12.09 hrs,
 Volume=
 200,530 cf

 Outflow =
 55.43 cfs @
 12.09 hrs,
 Volume=
 200,530 cf,

 Primary =
 55.43 cfs @
 12.09 hrs,
 Volume=
 200,530 cf,

 Atten= 0%,
 Lag= 0.0 min
 200,530 cf
 200,530 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 95.65' @ 12.09 hrs Flood Elev= 52.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	18.0" Round RCP_Round 18" L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.50' / 43.40' S= 0.0521 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=54.97 cfs @ 12.09 hrs HW=94.83' (Free Discharge) -1=RCP_Round 18" (Barrel Controls 54.97 cfs @ 31.11 fps)



Pond CB-14: CB-14

Summary for Pond CB-15: CB-15

[58] Hint: Peaked 34.56' above defined flood level [79] Warning: Submerged Pond CB-16 Primary device # 1 INLET by 28.70'

 Inflow Area =
 597,934 sf,
 8.83% Impervious,
 Inflow Depth =
 3.83"
 for 25-YEAR event

 Inflow =
 52.30 cfs @
 12.10 hrs,
 Volume=
 190,997 cf

 Outflow =
 52.30 cfs @
 12.10 hrs,
 Volume=
 190,997 cf,

 Primary =
 52.30 cfs @
 12.10 hrs,
 Volume=
 190,997 cf,

 Atten= 0%,
 Lag= 0.0 min
 190,997 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 92.62' @ 12.10 hrs Flood Elev= 58.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	54.10'	18.0" Round RCP_Round 18" L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.10' / 49.60' S= 0.0542 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=52.12 cfs @ 12.10 hrs HW=92.37' (Free Discharge) -1=RCP_Round 18" (Inlet Controls 52.12 cfs @ 29.49 fps)



Pond CB-15: CB-15

Summary for Pond CB-16: CB-16

[58] Hint: Peaked 33.72' above defined flood level [81] Warning: Exceeded Pond CB-17 by 15.44' @ 12.05 hrs

 Inflow Area =
 537,106 sf,
 9.26% Impervious, Inflow Depth =
 3.84" for 25-YEAR event

 Inflow =
 46.04 cfs @
 12.11 hrs, Volume=
 171,696 cf

 Outflow =
 46.04 cfs @
 12.11 hrs, Volume=
 171,696 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 46.04 cfs @
 12.11 hrs, Volume=
 171,696 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 101.46' @ 12.11 hrs Flood Elev= 67.74'

#1 Primary 63.90' 18.0" Round RCP_Round 18"	
L= 183.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 63.90' / 54.10' S= 0.0536 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf	

Primary OutFlow Max=45.66 cfs @ 12.11 hrs HW=100.72' (Free Discharge) ←1=RCP_Round 18" (Barrel Controls 45.66 cfs @ 25.84 fps)



Pond CB-16: CB-16

Summary for Pond CB-17: CB-17

[58] Hint: Peaked 17.75' above defined flood level

Inflow Area =	391,463 sf,	8.69% Impervious,	Inflow Depth = 3.81"	for 25-YEAR event
Inflow =	33.54 cfs @	12.18 hrs, Volume=	124,216 cf	
Outflow =	33.54 cfs @	12.18 hrs, Volume=	124,216 cf, Atte	n= 0%, Lag= 0.0 min
Primary =	33.54 cfs @	12.18 hrs, Volume=	124,216 cf	
Routing by Stor-In	d method. Tin	ne Span= 0.00-50.00 h	nrs. dt= 0.05 hrs	

Peak Elev= 91.83' @ 12.18 hrs Flood Elev= 74.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.40'	18.0" Round RCP_Round 18" L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 64.00' S= 0.0262 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=33.24 cfs @ 12.18 hrs HW=91.38' (Free Discharge) ☐ 1=RCP_Round 18" (Barrel Controls 33.24 cfs @ 18.81 fps)



Pond CB-17: CB-17

Summary for Pond CB-2: CB-2

[58] Hint: Peaked 3.56' above defined flood level [81] Warning: Exceeded Pond CB-1 by 1.19' @ 12.10 hrs

 Inflow Area =
 113,044 sf, 9.76% Impervious, Inflow Depth = 3.86" for 25-YEAR event

 Inflow =
 11.60 cfs @ 12.10 hrs, Volume=
 36,320 cf

 Outflow =
 11.60 cfs @ 12.10 hrs, Volume=
 36,320 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 11.60 cfs @ 12.10 hrs, Volume=
 36,320 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 32.50' @ 12.10 hrs Flood Elev= 28.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.40'	18.0" Round Culvert L= 78.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 26.40' / 26.20' S= 0.0026 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=11.57 cfs @ 12.10 hrs HW=32.48' (Free Discharge) —1=Culvert (Barrel Controls 11.57 cfs @ 6.55 fps)



Pond CB-2: CB-2

Summary for Pond CB-3: CB-3

Inflow Area = 29,175 sf, 27.00% Impervious, Inflow Depth = 4.34" for 25-YEAR event Inflow 3.03 cfs @ 12.15 hrs, Volume= 10.542 cf = 3.03 cfs @ 12.15 hrs, Volume= Outflow 10,542 cf, Atten= 0%, Lag= 0.0 min = 3.03 cfs @ 12.15 hrs, Volume= Primary = 10,542 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 29.10' @ 12.15 hrs Flood Elev= 30.66' Device Routing Invert Outlet Devices 15.0" Round RCP Round 15" #1 Primary 28.20' L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 26.20' S= 0.0513 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=3.02 cfs @ 12.15 hrs HW=29.09' (Free Discharge) -1=RCP_Round 15" (Inlet Controls 3.02 cfs @ 3.22 fps)



Pond CB-3: CB-3

Summary for Pond CB-4: CB-4

[79] Warning: Submerged Pond CB-2 Primary device # 1 INLET by 1.96' [79] Warning: Submerged Pond CB-3 Primary device # 1 INLET by 0.16'

 Inflow Area =
 143,849 sf, 14.28% Impervious, Inflow Depth = 3.98" for 25-YEAR event

 Inflow =
 14.59 cfs @ 12.10 hrs, Volume=
 47,727 cf

 Outflow =
 14.59 cfs @ 12.10 hrs, Volume=
 47,727 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 14.59 cfs @ 12.10 hrs, Volume=
 47,727 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 28.36' @ 12.10 hrs Flood Elev= 29.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	24.0" Round Culvert L= 227.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.00' / 25.30' S= 0.0031 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=14.53 cfs @ 12.10 hrs HW=28.35' (Free Discharge) —1=Culvert (Barrel Controls 14.53 cfs @ 4.95 fps)



Pond CB-4: CB-4

Summary for Pond CB-5: CB-5

Inflow Area = 15,976 sf, 5.12% Impervious, Inflow Depth = 3.81" for 25-YEAR event 2.10 cfs @ 12.02 hrs, Volume= Inflow 5.069 cf = 2.10 cfs @ 12.02 hrs, Volume= Outflow 5,069 cf, Atten= 0%, Lag= 0.0 min = 2.10 cfs @ 12.02 hrs, Volume= Primary = 5.069 cf Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 30.33' @ 12.02 hrs Flood Elev= 33.19' Device Routing Invert Outlet Devices 15.0" Round CMP Round 15" #1 Primary 29.50' L= 89.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0360 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=2.05 cfs @ 12.02 hrs HW=30.31' (Free Discharge) —1=CMP_Round 15" (Inlet Controls 2.05 cfs @ 2.42 fps)



Pond CB-5: CB-5

Summary for Pond CB-6: CB-6

[58] Hint: Peaked 57.85' above defined flood level

- [81] Warning: Exceeded Pond 4P by 57.42' @ 12.10 hrs
- [81] Warning: Exceeded Pond CB-5 by 58.55' @ 12.10 hrs
- [79] Warning: Submerged Pond CB-8 Primary device # 1 INLET by 59.21'

Inflow Area	a =	1,716,465 sf,	11.03% Impervious,	Inflow Depth = 3	3.82" fo	or 25-YEAR event
Inflow	=	118.70 cfs @	12.12 hrs, Volume=	546,610 cf		
Outflow	=	118.70 cfs @	12.12 hrs, Volume=	546,610 cf,	Atten=	0%, Lag= 0.0 min
Primary	=	118.70 cfs @	12.12 hrs, Volume=	546,610 cf		

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 89.63' @ 12.12 hrs Flood Elev= 31.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	24.0" Round Culvert
			L= 36.0' RCP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 27.10' / 26.50' S= 0.0167 '/' Cc= 0.900
			n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=117.58 cfs @ 12.12 hrs HW=88.52' (Free Discharge) **1=Culvert** (Inlet Controls 117.58 cfs @ 37.43 fps)



Pond CB-6: CB-6

Summary for Pond CB-7: CB-7

[58] Hint: Peaked 27.32' above defined flood level
[81] Warning: Exceeded Pond CB-4 by 29.39' @ 12.10 hrs
[79] Warning: Submerged Pond CB-6 Primary device # 1 INLET by 30.65'

 Inflow Area =
 1,862,473 sf, 11.38% Impervious, Inflow Depth =
 3.84" for 25-YEAR event

 Inflow =
 133.26 cfs @
 12.12 hrs, Volume=
 595,483 cf

 Outflow =
 133.26 cfs @
 12.12 hrs, Volume=
 595,483 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 133.26 cfs @
 12.12 hrs, Volume=
 595,483 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 58.12' @ 12.12 hrs Flood Elev= 30.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.10'	30.0" Round Culvert L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.10' / 22.70' S= 0.0205 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=132.00 cfs @ 12.12 hrs HW=57.54' (Free Discharge) ←1=Culvert (Inlet Controls 132.00 cfs @ 26.89 fps)



Pond CB-7: CB-7

Summary for Pond CB-8: CB-8

[58] Hint: Peaked 574.72' above defined flood level [81] Warning: Exceeded Pond CB-9 by 72.69' @ 12.10 hrs

 Inflow Area =
 1,030,437 sf, 11.38% Impervious, Inflow Depth =
 3.92" for 25-YEAR event

 Inflow =
 89.64 cfs @
 12.11 hrs, Volume=
 336,810 cf

 Outflow =
 89.64 cfs @
 12.11 hrs, Volume=
 336,810 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 89.64 cfs @
 12.11 hrs, Volume=
 336,810 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 609.15' @ 12.11 hrs Flood Elev= 34.43'

Device Routing Invert Outlet Devices	
#1 Primary 29.50' 18.0" Round RCP_Round 18" L= 193.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0166 '/' Cc= 0.90 n= 0.025 Corrugated metal, Flow Area= 1.77 sf	0

Primary OutFlow Max=89.00 cfs @ 12.11 hrs HW=601.05' (Free Discharge) -1=RCP_Round 18" (Barrel Controls 89.00 cfs @ 50.37 fps)



Pond CB-8: CB-8

Summary for Pond CB-9: CB-9

[58] Hint: Peaked 499.69' above defined flood level [81] Warning: Exceeded Pond CB-10 by 258.19' @ 12.10 hrs

 Inflow Area =
 972,164 sf, 11.09% Impervious, Inflow Depth =
 3.91" for 25-YEAR event

 Inflow =
 83.02 cfs @
 12.12 hrs, Volume=
 316,790 cf

 Outflow =
 83.02 cfs @
 12.12 hrs, Volume=
 316,790 cf, Atten= 0%, Lag= 0.0 min

 Primary =
 83.02 cfs @
 12.12 hrs, Volume=
 316,790 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs Peak Elev= 537.82' @ 12.11 hrs Flood Elev= 38.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.40'	18.0" Round CMP_Round 18" L= 190.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.40' / 31.00' S= 0.0232 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=82.32 cfs @ 12.12 hrs HW=529.52' (Free Discharge) -1=CMP_Round 18" (Barrel Controls 82.32 cfs @ 46.58 fps)



Pond CB-9: CB-9