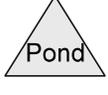
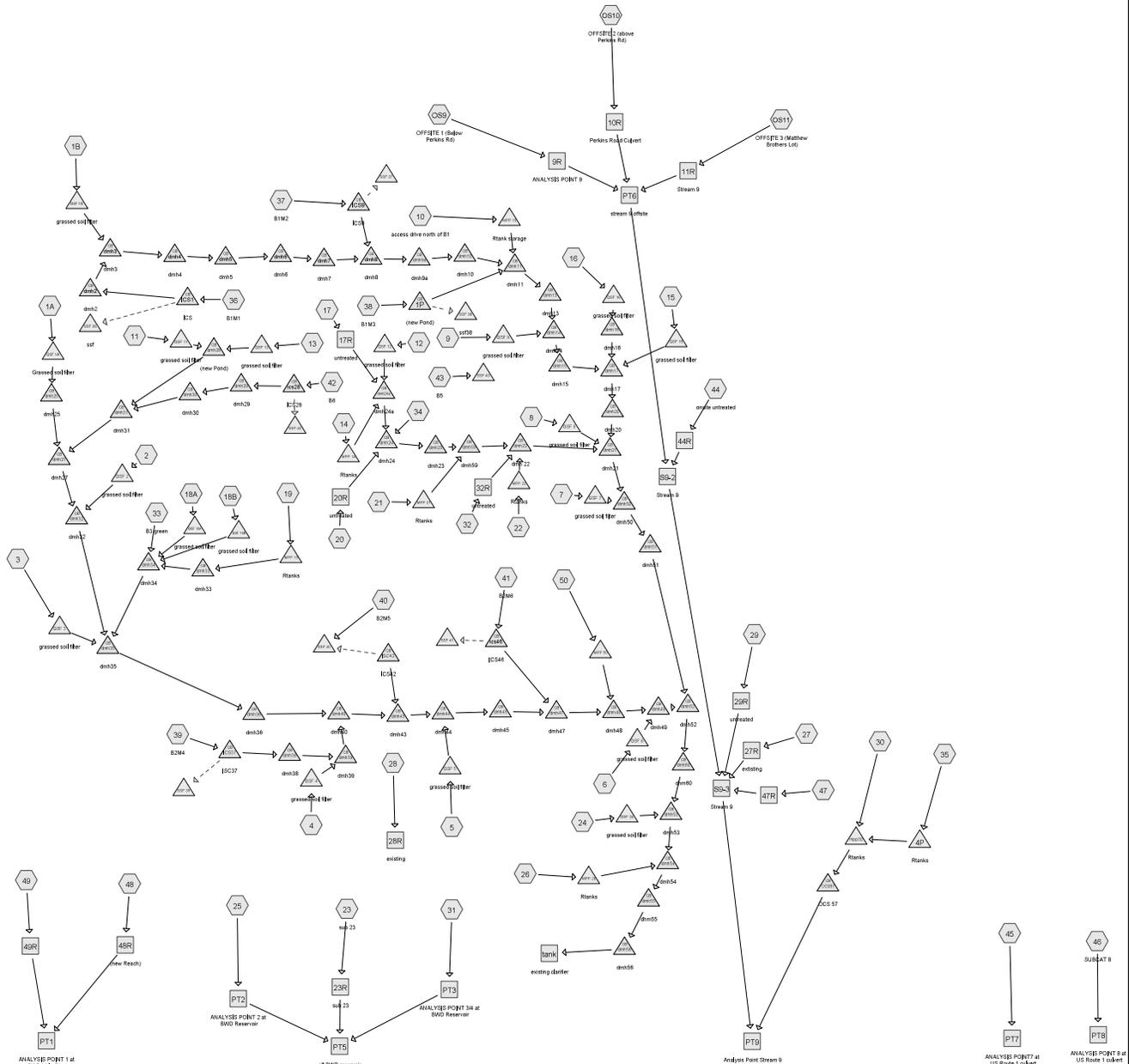


## **APPENDIX E**

Post-Development Hydro CAD and backup Calculations



**Routing Diagram for post conditions**  
 Prepared by Ransom Consulting, Printed 5/15/2019  
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**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
3.930	74	>75% Grass cover, Good, HSG C (1B, 2, 4, 5, 6, 7, 8, 12, 14, 23, OS9)
0.266	77	>75% Grass cover, Good, HSG C/D (1A)
52.064	74	>75% Grass cover, Good, HSG C/D (2, 3, 7, 9, 11, 13, 15, 16, 17, 18A, 18B, 19, 20, 21, 22, 25, 30, 31, 32, 44, 45, 46, 47, 48, 49, OS10, OS11, OS9)
1.458	80	>75% Grass cover, Good, HSG D (24, 28, 47)
0.088	94	Gravel roads, HSG C/D (OS9)
12.469	98	Impervious (1B, 2, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18A, 18B, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 32, 42, 43, 47, 49, 50, OS10, OS11, OS9)
0.301	98	Impervious, HSG C (3)
0.314	98	Impervious, HSG C/D (1A, 12)
0.143	98	Paved parking, HSG C (23)
15.504	98	Roof (36, 37, 38, 39, 40, 41)
1.952	70	Woods, Good, HSG C (23, 48, OS9)
23.761	70	Woods, Good, HSG C/D (3, 25, 31, 44, 45, 46, 47, 48, 49, OS10, OS11)
0.147	77	Woods, Good, HSG D (28)
0.249	79	Woods/grass comb., Good, HSG D (28)
0.111	98	penhouse/walks on roof (34)
0.414	98	penthouse (33)
0.096	98	penthouse/walks on roof (35)
0.110	74	vegetated roof (15)
2.891	61	vegetated roof (33, 34, 35)
<b>116.268</b>	<b>79</b>	<b>TOTAL AREA</b>

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**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
82.818	HSG C	1A, 1B, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18A, 18B, 19, 20, 21, 22, 23, 25, 30, 31, 32, 44, 45, 46, 47, 48, 49, OS10, OS11, OS9
1.854	HSG D	24, 28, 47
31.596	Other	1B, 2, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18A, 18B, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 47, 49, 50, OS10, OS11, OS9
<b>116.268</b>		<b>TOTAL AREA</b>

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**Ground Covers (all nodes)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	56.260	1.458	0.000	57.718	>75% Grass cover, Good	1A, 1B, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18A, 18B, 19, 20, 21, 22, 23, 24, 25, 28, 30, 31, 32, 44, 45, 46, 47, 48, 49, OS10, OS11, OS9
0.000	0.000	0.088	0.000	0.000	0.088	Gravel roads	OS9
0.000	0.000	0.615	0.000	12.469	13.084	Impervious	1A, 1B, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18A, 18B, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 32, 42, 43, 47, 49, 50, OS10, OS11, OS9

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**Ground Covers (all nodes) (continued)**

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.143	0.000	0.000	0.143	Paved parking	23
0.000	0.000	0.000	0.000	15.504	15.504	Roof	36, 37, 38, 39, 40, 41
0.000	0.000	25.712	0.147	0.000	25.860	Woods, Good	3, 23, 25, 28, 31, 44, 45, 46, 47, 48, 49, OS10, OS11, OS9
0.000	0.000	0.000	0.249	0.000	0.249	Woods/grass comb., Good	28
0.000	0.000	0.000	0.000	0.111	0.111	penhouse/walks on roof	34
0.000	0.000	0.000	0.000	0.414	0.414	penthouse	33
0.000	0.000	0.000	0.000	0.096	0.096	penthouse/walks on roof	35
0.000	0.000	0.000	0.000	3.001	3.001	vegetated roof	15, 33, 34, 35
<b>0.000</b>	<b>0.000</b>	<b>82.818</b>	<b>1.854</b>	<b>31.596</b>	<b>116.268</b>	<b>TOTAL AREA</b>	

**post conditions**

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**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	10R	75.50	75.00	25.0	0.0200	0.013	24.0	0.0	0.0
2	PT7	21.60	18.30	83.0	0.0398	0.013	18.0	0.0	0.0
3	PT8	23.40	18.60	76.0	0.0632	0.011	36.0	24.0	0.0
4	PT9	20.00	14.00	93.0	0.0645	0.011	36.0	0.0	0.0
5	1P	60.70	60.15	4.0	0.1375	0.013	18.0	0.0	0.0
6	1P	60.75	60.72	5.0	0.0060	0.013	12.0	0.0	0.0
7	4P	29.28	29.28	5.0	0.0000	0.013	12.0	0.0	0.0
8	dmh10	54.59	53.56	206.0	0.0050	0.013	24.0	0.0	0.0
9	dmh11	53.54	53.12	84.0	0.0050	0.013	30.0	0.0	0.0
10	dmh13	53.10	52.09	201.0	0.0050	0.013	30.0	0.0	0.0
11	dmh14	52.07	51.95	23.0	0.0052	0.020	30.0	0.0	0.0
12	dmh15	51.95	51.50	90.0	0.0050	0.013	30.0	0.0	0.0
13	dmh16	60.50	58.00	198.0	0.0126	0.013	12.0	0.0	0.0
14	dmh17	51.48	51.30	35.0	0.0051	0.013	30.0	0.0	0.0
15	dmh2	63.00	61.50	100.0	0.0150	0.013	18.0	0.0	0.0
16	dmh20	51.28	50.78	100.0	0.0050	0.013	30.0	0.0	0.0
17	dmh21	50.76	46.00	281.0	0.0169	0.013	36.0	0.0	0.0
18	dmh22	51.50	51.03	93.0	0.0051	0.013	15.0	0.0	0.0
19	dmh23	55.19	54.50	138.0	0.0050	0.013	12.0	0.0	0.0
20	dmh24	56.10	55.92	72.0	0.0025	0.013	12.0	0.0	0.0
21	dmh24a	58.00	57.10	95.0	0.0095	0.013	8.0	0.0	0.0
22	dmh25	60.00	55.00	98.0	0.0510	0.013	12.0	0.0	0.0
23	dmh26	57.75	57.61	28.0	0.0050	0.020	12.0	0.0	0.0
24	dmh27	53.03	51.75	256.0	0.0050	0.013	15.0	0.0	0.0
25	dmh29	57.85	57.39	46.0	0.0100	0.013	8.0	0.0	0.0
26	dmh3	60.50	59.84	125.0	0.0053	0.013	18.0	0.0	0.0
27	dmh30	55.40	54.37	206.0	0.0050	0.013	12.0	0.0	0.0
28	dmh31	54.35	53.05	259.0	0.0050	0.013	15.0	0.0	0.0
29	dmh32	51.73	51.60	36.0	0.0036	0.013	18.0	0.0	0.0
30	dmh33	54.00	52.01	201.0	0.0099	0.013	12.0	0.0	0.0
31	dmh34	51.99	51.60	39.0	0.0100	0.013	18.0	0.0	0.0
32	dmh35	51.55	50.17	276.0	0.0050	0.013	24.0	0.0	0.0
33	dmh36	50.15	49.35	159.0	0.0050	0.013	24.0	0.0	0.0
34	dmh38	51.98	50.92	106.0	0.0100	0.013	18.0	0.0	0.0
35	dmh39	50.59	50.32	58.0	0.0047	0.013	18.0	0.0	0.0
36	dmh4	59.84	59.57	66.0	0.0041	0.013	18.0	0.0	0.0
37	dmh40	49.33	47.63	340.0	0.0050	0.013	30.0	0.0	0.0
38	dmh43	47.61	46.64	193.0	0.0050	0.013	30.0	0.0	0.0
39	dmh44	46.62	46.21	82.0	0.0050	0.013	36.0	0.0	0.0
40	dmh45	46.19	44.61	316.0	0.0050	0.013	36.0	0.0	0.0

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**Pipe Listing (all nodes) (continued)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
41	dmh47	44.00	42.96	104.0	0.0100	0.013	36.0	0.0	0.0
42	dmh48	42.94	42.35	117.0	0.0050	0.013	36.0	0.0	0.0
43	dmh49	42.33	42.23	14.0	0.0071	0.013	36.0	0.0	0.0
44	dmh5	59.48	58.61	173.0	0.0050	0.013	18.0	0.0	0.0
45	dmh50	44.75	44.11	64.0	0.0100	0.013	36.0	0.0	0.0
46	dmh51	44.09	43.00	38.0	0.0287	0.013	36.0	0.0	0.0
47	dmh52	41.00	36.00	258.0	0.0194	0.013	60.0	0.0	0.0
48	dmh53	33.00	30.50	120.0	0.0208	0.013	60.0	0.0	0.0
49	dmh54	27.00	22.00	152.0	0.0329	0.013	60.0	0.0	0.0
50	dmh55	19.00	15.50	115.0	0.0304	0.013	60.0	0.0	0.0
51	dmh56	12.50	11.00	42.0	0.0357	0.013	60.0	0.0	0.0
52	dmh59	54.30	52.83	294.0	0.0050	0.013	12.0	0.0	0.0
53	dmh6	58.58	57.73	170.0	0.0050	0.020	18.0	0.0	0.0
54	dmh60	35.50	33.50	114.0	0.0175	0.013	60.0	0.0	0.0
55	dmh7	57.71	56.86	170.0	0.0050	0.013	18.0	0.0	0.0
56	dmh8	56.84	55.66	296.0	0.0040	0.013	24.0	0.0	0.0
57	dmh9a	55.64	54.61	206.0	0.0050	0.013	24.0	0.0	0.0
58	GSF 11	58.05	57.82	27.0	0.0085	0.013	12.0	0.0	0.0
59	GSF 12	58.20	58.10	21.0	0.0048	0.013	8.0	0.0	0.0
60	GSF 13	58.05	57.82	23.0	0.0100	0.013	12.0	0.0	0.0
61	GSF 15	60.70	60.52	18.0	0.0100	0.013	8.0	0.0	0.0
62	GSF 16	60.70	60.54	16.0	0.0100	0.013	8.0	0.0	0.0
63	GSF 18A	54.00	53.95	11.0	0.0045	0.013	8.0	0.0	0.0
64	GSF 18B	54.00	53.95	11.0	0.0045	0.013	8.0	0.0	0.0
65	GSF 1A	62.80	62.26	27.0	0.0200	0.013	8.0	0.0	0.0
66	GSF 1B	62.80	62.60	20.0	0.0100	0.013	8.0	0.0	0.0
67	GSF 2	53.95	53.76	19.0	0.0100	0.013	8.0	0.0	0.0
68	GSF 24	36.80	36.00	40.0	0.0200	0.013	8.0	0.0	0.0
69	GSF 3	51.98	51.84	14.0	0.0100	0.013	12.0	0.0	0.0
70	GSF 4	51.73	51.56	17.0	0.0100	0.013	8.0	0.0	0.0
71	GSF 5	51.00	50.95	5.0	0.0100	0.013	8.0	0.0	0.0
72	GSF 6	44.70	44.53	17.0	0.0100	0.013	8.0	0.0	0.0
73	GSF 7	51.00	50.48	26.0	0.0200	0.013	8.0	0.0	0.0
74	GSF 8	53.50	52.93	57.0	0.0100	0.013	8.0	0.0	0.0
75	GSF 9	59.00	57.92	54.0	0.0200	0.013	8.0	0.0	0.0
76	ICS1	63.50	63.27	23.0	0.0100	0.013	18.0	0.0	0.0
77	ICS1	63.95	63.90	5.0	0.0100	0.013	12.0	0.0	0.0
78	ics28	58.00	57.90	10.0	0.0100	0.013	8.0	0.0	0.0
79	ics28	58.15	58.12	5.0	0.0060	0.013	8.0	0.0	0.0
80	ICS37	52.50	52.00	51.0	0.0098	0.013	18.0	0.0	0.0

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**Pipe Listing (all nodes) (continued)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
81	ICS37	52.80	52.75	5.0	0.0100	0.013	12.0	0.0	0.0
82	ics46	46.20	46.00	22.0	0.0091	0.013	18.0	0.0	0.0
83	ics46	46.80	46.75	5.0	0.0100	0.013	12.0	0.0	0.0
84	ICS9	61.70	61.00	14.0	0.0500	0.013	18.0	0.0	0.0
85	ICS9	62.00	61.65	5.0	0.0700	0.013	12.0	0.0	0.0
86	ISC42	52.20	51.88	16.0	0.0200	0.013	18.0	0.0	0.0
87	ISC42	52.80	52.75	5.0	0.0100	0.013	12.0	0.0	0.0
88	MPP 10	61.48	61.40	2.0	0.0400	0.013	8.0	0.0	0.0
89	MPP 14	56.23	56.12	21.0	0.0052	0.013	8.0	0.0	0.0
90	MPP 19	55.08	55.00	19.0	0.0042	0.013	6.0	0.0	0.0
91	MPP 21	54.73	54.73	2.0	0.0000	0.013	6.0	0.0	0.0
92	MPP 22	55.05	55.05	2.0	0.0000	0.013	6.0	0.0	0.0
93	MPP 26	34.62	34.34	8.0	0.0350	0.013	8.0	0.0	0.0
94	MPP 50	54.58	54.55	3.0	0.0100	0.013	8.0	0.0	0.0
95	mpp30	29.61	29.00	20.0	0.0305	0.013	12.0	0.0	0.0
96	OCS57	29.50	29.30	20.0	0.0100	0.013	18.0	0.0	0.0

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NAF Post Development

Type III 24-hr 2-year Rainfall=2.90"

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Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1A:</b>	Runoff Area=17,785 sf 34.88% Impervious Runoff Depth>1.33" Tc=6.0 min CN=84 Runoff=0.67 cfs 0.045 af
<b>Subcatchment1B:</b>	Runoff Area=34,018 sf 20.08% Impervious Runoff Depth>1.03" Tc=6.0 min CN=79 Runoff=0.98 cfs 0.067 af
<b>Subcatchment2:</b>	Runoff Area=31,049 sf 25.93% Impervious Runoff Depth>1.08" Tc=6.0 min CN=80 Runoff=0.95 cfs 0.064 af
<b>Subcatchment3:</b>	Runoff Area=36,147 sf 36.22% Impervious Runoff Depth>1.20" Tc=6.0 min CN=82 Runoff=1.23 cfs 0.083 af
<b>Subcatchment4:</b>	Runoff Area=8,448 sf 0.00% Impervious Runoff Depth>0.77" Tc=6.0 min CN=74 Runoff=0.18 cfs 0.012 af
<b>Subcatchment5:</b>	Runoff Area=10,807 sf 0.00% Impervious Runoff Depth>0.77" Tc=6.0 min CN=74 Runoff=0.22 cfs 0.016 af
<b>Subcatchment6:</b>	Runoff Area=13,985 sf 32.06% Impervious Runoff Depth>1.20" Tc=6.0 min CN=82 Runoff=0.48 cfs 0.032 af
<b>Subcatchment7:</b>	Runoff Area=30,345 sf 25.86% Impervious Runoff Depth>1.08" Tc=6.0 min CN=80 Runoff=0.93 cfs 0.063 af
<b>Subcatchment8:</b>	Runoff Area=45,551 sf 55.78% Impervious Runoff Depth>1.54" Tc=6.0 min CN=87 Runoff=1.98 cfs 0.134 af
<b>Subcatchment9:</b>	Runoff Area=28,191 sf 63.29% Impervious Runoff Depth>1.70" Tc=6.0 min CN=89 Runoff=1.34 cfs 0.091 af
<b>Subcatchment10: access drive north of</b>	Runoff Area=30,932 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=1.95 cfs 0.150 af
<b>Subcatchment11:</b>	Runoff Area=43,174 sf 36.78% Impervious Runoff Depth>1.27" Tc=6.0 min CN=83 Runoff=1.55 cfs 0.105 af
<b>Subcatchment12:</b>	Runoff Area=12,920 sf 57.98% Impervious Runoff Depth>1.62" Tc=6.0 min CN=88 Runoff=0.59 cfs 0.040 af
<b>Subcatchment13:</b>	Runoff Area=45,163 sf 46.46% Impervious Runoff Depth>1.40" Tc=6.0 min CN=85 Runoff=1.79 cfs 0.121 af
<b>Subcatchment14:</b>	Runoff Area=9,378 sf 94.36% Impervious Runoff Depth>2.43" Tc=6.0 min CN=97 Runoff=0.58 cfs 0.044 af
<b>Subcatchment15:</b>	Runoff Area=9,157 sf 1.92% Impervious Runoff Depth>0.77" Tc=6.0 min CN=74 Runoff=0.19 cfs 0.013 af

**post conditions**

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NAF Post Development

Type III 24-hr 2-year Rainfall=2.90"

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<b>Subcatchment16:</b>	Runoff Area=15,110 sf 34.16% Impervious Runoff Depth>1.20" Tc=6.0 min CN=82 Runoff=0.51 cfs 0.035 af
<b>Subcatchment17:</b>	Runoff Area=13,300 sf 85.11% Impervious Runoff Depth>2.13" Tc=6.0 min CN=94 Runoff=0.76 cfs 0.054 af
<b>Subcatchment18A:</b>	Runoff Area=6,339 sf 40.91% Impervious Runoff Depth>1.33" Tc=6.0 min CN=84 Runoff=0.24 cfs 0.016 af
<b>Subcatchment18B:</b>	Runoff Area=4,023 sf 58.36% Impervious Runoff Depth>1.62" Tc=6.0 min CN=88 Runoff=0.18 cfs 0.012 af
<b>Subcatchment19:</b>	Runoff Area=13,711 sf 81.76% Impervious Runoff Depth>2.13" Tc=6.0 min CN=94 Runoff=0.78 cfs 0.056 af
<b>Subcatchment20:</b>	Runoff Area=28,459 sf 73.83% Impervious Runoff Depth>1.95" Tc=6.0 min CN=92 Runoff=1.52 cfs 0.106 af
<b>Subcatchment21:</b>	Runoff Area=9,994 sf 83.66% Impervious Runoff Depth>2.13" Tc=6.0 min CN=94 Runoff=0.57 cfs 0.041 af
<b>Subcatchment22:</b>	Runoff Area=13,511 sf 76.43% Impervious Runoff Depth>1.95" Tc=6.0 min CN=92 Runoff=0.72 cfs 0.050 af
<b>Subcatchment23: sub 23</b>	Runoff Area=28,475 sf 21.95% Impervious Runoff Depth>0.97" Tc=6.0 min CN=78 Runoff=0.77 cfs 0.053 af
<b>Subcatchment24:</b>	Runoff Area=18,261 sf 67.19% Impervious Runoff Depth>1.95" Tc=6.0 min CN=92 Runoff=0.98 cfs 0.068 af
<b>Subcatchment25:</b>	Runoff Area=118,223 sf 0.00% Impervious Runoff Depth>0.61" Flow Length=438' Tc=67.0 min CN=71 Runoff=0.71 cfs 0.139 af
<b>Subcatchment26:</b>	Runoff Area=3,816 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.019 af
<b>Subcatchment27:</b>	Runoff Area=4,262 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=0.27 cfs 0.021 af
<b>Subcatchment28:</b>	Runoff Area=79,698 sf 27.42% Impervious Runoff Depth>1.40" Tc=6.0 min CN=85 Runoff=3.16 cfs 0.213 af
<b>Subcatchment29:</b>	Runoff Area=1,306 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=0.08 cfs 0.006 af
<b>Subcatchment30:</b>	Runoff Area=31,472 sf 77.98% Impervious Runoff Depth>2.04" Tc=6.0 min CN=93 Runoff=1.74 cfs 0.123 af
<b>Subcatchment31:</b>	Runoff Area=70,616 sf 0.00% Impervious Runoff Depth>0.63" Flow Length=217' Tc=12.3 min CN=71 Runoff=0.94 cfs 0.085 af

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<b>Subcatchment32:</b>	Runoff Area=4,677 sf 60.42% Impervious Runoff Depth>1.70" Tc=6.0 min CN=89 Runoff=0.22 cfs 0.015 af
<b>Subcatchment33: B3 green</b>	Runoff Area=107,893 sf 16.71% Impervious Runoff Depth>0.48" Tc=6.0 min CN=67 Runoff=1.19 cfs 0.098 af
<b>Subcatchment34:</b>	Runoff Area=24,099 sf 20.00% Impervious Runoff Depth>0.51" Tc=6.0 min CN=68 Runoff=0.30 cfs 0.024 af
<b>Subcatchment35:</b>	Runoff Area=20,997 sf 20.00% Impervious Runoff Depth>0.51" Tc=6.0 min CN=68 Runoff=0.26 cfs 0.021 af
<b>Subcatchment36: B1M1</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=7.08 cfs 0.547 af
<b>Subcatchment37: B1M2</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=7.08 cfs 0.547 af
<b>Subcatchment38: B1M3</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=7.08 cfs 0.547 af
<b>Subcatchment39: B2M4</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=7.08 cfs 0.547 af
<b>Subcatchment40: B2M5</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=7.08 cfs 0.547 af
<b>Subcatchment41: B2M6</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=7.08 cfs 0.547 af
<b>Subcatchment42: B6</b>	Runoff Area=12,000 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=0.76 cfs 0.058 af
<b>Subcatchment43: B5</b>	Runoff Area=18,983 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=1.19 cfs 0.092 af
<b>Subcatchment44: onsite untreated</b>	Runoff Area=159,363 sf 0.00% Impervious Runoff Depth>0.63" Flow Length=574' Tc=18.8 min CN=71 Runoff=1.81 cfs 0.192 af
<b>Subcatchment45:</b>	Runoff Area=64,440 sf 0.00% Impervious Runoff Depth>0.58" Flow Length=307' Tc=29.9 min CN=70 Runoff=0.56 cfs 0.072 af
<b>Subcatchment46: SUBCAT 8</b>	Runoff Area=14,976 sf 0.00% Impervious Runoff Depth>0.62" Flow Length=276' Tc=34.7 min CN=71 Runoff=0.13 cfs 0.018 af
<b>Subcatchment47:</b>	Runoff Area=79,187 sf 6.00% Impervious Runoff Depth>0.81" Flow Length=639' Tc=15.9 min CN=75 Runoff=1.31 cfs 0.123 af
<b>Subcatchment48:</b>	Runoff Area=40,183 sf 0.00% Impervious Runoff Depth>0.58" Flow Length=377' Tc=54.0 min CN=70 Runoff=0.25 cfs 0.044 af

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<b>Subcatchment49:</b>	Runoff Area=84,173 sf 0.65% Impervious Runoff Depth>0.58" Flow Length=470' Tc=54.1 min CN=70 Runoff=0.53 cfs 0.093 af
<b>Subcatchment50:</b>	Runoff Area=30,173 sf 100.00% Impervious Runoff Depth>2.54" Tc=6.0 min CN=98 Runoff=1.90 cfs 0.147 af
<b>SubcatchmentOS10: OFFSITE 2 (above</b>	Runoff Area=1,644,982 sf 2.57% Impervious Runoff Depth>0.73" Flow Length=2,221' Tc=94.2 min CN=74 Runoff=10.03 cfs 2.307 af
<b>SubcatchmentOS11: OFFSITE 3</b>	Runoff Area=513,527 sf 23.06% Impervious Runoff Depth>0.97" Flow Length=532' Tc=6.8 min CN=78 Runoff=13.59 cfs 0.953 af
<b>SubcatchmentOS9: OFFSITE 1 (Below</b>	Runoff Area=702,010 sf 3.63% Impervious Runoff Depth>0.80" Flow Length=1,353' Tc=35.1 min CN=75 Runoff=8.31 cfs 1.080 af
<b>Reach 9R: ANALYSISPOINT 9</b>	Inflow=8.31 cfs 1.080 af Outflow=8.31 cfs 1.080 af
<b>Reach 10R: Perkins Road Culvert</b>	Avg. Flow Depth=0.77' Max Vel=9.01 fps Inflow=10.03 cfs 2.307 af 24.0" Round Pipe n=0.013 L=25.0' S=0.0200 '/' Capacity=31.99 cfs Outflow=10.03 cfs 2.307 af
<b>Reach 11R: Stream 9</b>	Inflow=13.59 cfs 0.953 af Outflow=13.59 cfs 0.953 af
<b>Reach 17R: untreated</b>	Inflow=0.76 cfs 0.054 af Outflow=0.76 cfs 0.054 af
<b>Reach 20R: untreated</b>	Inflow=1.52 cfs 0.106 af Outflow=1.52 cfs 0.106 af
<b>Reach 23R: sub 23</b>	Inflow=0.77 cfs 0.053 af Outflow=0.77 cfs 0.053 af
<b>Reach 27R: existing</b>	Inflow=0.27 cfs 0.021 af Outflow=0.27 cfs 0.021 af
<b>Reach 28R: existing</b>	Inflow=3.16 cfs 0.213 af Outflow=3.16 cfs 0.213 af
<b>Reach 29R: untreated</b>	Inflow=0.08 cfs 0.006 af Outflow=0.08 cfs 0.006 af
<b>Reach 32R: untreated</b>	Inflow=0.22 cfs 0.015 af Outflow=0.22 cfs 0.015 af
<b>Reach 44R:</b>	Inflow=1.81 cfs 0.192 af Outflow=1.81 cfs 0.192 af
<b>Reach 47R:</b>	Inflow=1.31 cfs 0.123 af Outflow=1.31 cfs 0.123 af

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<b>Reach 48R: (new Reach)</b>	Inflow=0.25 cfs 0.044 af Outflow=0.25 cfs 0.044 af
<b>Reach 49R:</b>	Inflow=0.53 cfs 0.093 af Outflow=0.53 cfs 0.093 af
<b>Reach PT1: ANALYSISPOINT 1 at BWD Little River</b>	Inflow=0.79 cfs 0.137 af Outflow=0.79 cfs 0.137 af
<b>Reach PT2: ANALYSISPOINT 2 at BWD Reservoir</b>	Inflow=0.71 cfs 0.139 af Outflow=0.71 cfs 0.139 af
<b>Reach PT3: ANALYSISPOINT 3/4 at BWD Reservoir</b>	Inflow=0.94 cfs 0.085 af Outflow=0.94 cfs 0.085 af
<b>Reach PT5: all BWD reservoir</b>	Inflow=1.57 cfs 0.277 af Outflow=1.57 cfs 0.277 af
<b>Reach PT6: stream 9 offsite</b>	Avg. Flow Depth=0.76' Max Vel=3.14 fps Inflow=16.20 cfs 4.340 af n=0.040 L=483.0' S=0.0145 '/' Capacity=401.91 cfs Outflow=15.42 cfs 4.321 af
<b>Reach PT7: ANALYSISPOINT7 at US</b>	Avg. Flow Depth=0.17' Max Vel=5.11 fps Inflow=0.56 cfs 0.072 af 18.0" Round Pipe n=0.013 L=83.0' S=0.0398 '/' Capacity=20.95 cfs Outflow=0.55 cfs 0.072 af
<b>Reach PT8: ANALYSISPOINT 8 at US</b>	Avg. Flow Depth=0.02' Max Vel=2.48 fps Inflow=0.13 cfs 0.018 af 36.0" x 24.0" Box Pipe n=0.011 L=76.0' S=0.0632 '/' Capacity=144.91 cfs Outflow=0.13 cfs 0.018 af
<b>Reach PT9: Analysis Point Stream 9</b>	Avg. Flow Depth=0.59' Max Vel=17.28 fps Inflow=17.03 cfs 4.727 af 36.0" Round Pipe n=0.011 L=93.0' S=0.0645 '/' Capacity=200.22 cfs Outflow=17.03 cfs 4.726 af
<b>Reach S9-2: Stream 9</b>	Avg. Flow Depth=0.68' Max Vel=3.74 fps Inflow=17.00 cfs 4.512 af n=0.040 L=1,580.0' S=0.0233 '/' Capacity=120.91 cfs Outflow=16.06 cfs 4.456 af
<b>Reach S9-3: Stream 9</b>	Avg. Flow Depth=0.64' Max Vel=3.72 fps Inflow=16.60 cfs 4.606 af n=0.035 L=364.0' S=0.0199 '/' Capacity=152.29 cfs Outflow=16.58 cfs 4.593 af
<b>Reach tank: existing clarifier</b>	Inflow=23.93 cfs 1.475 af Outflow=23.93 cfs 1.475 af
<b>Pond 1P: (new Pond)</b>	Peak Elev=63.34' Inflow=7.08 cfs 0.547 af Primary=2.77 cfs 0.029 af Secondary=4.31 cfs 0.518 af Outflow=7.08 cfs 0.547 af
<b>Pond 4P: Rtanks</b>	Peak Elev=29.54' Storage=138 cf Inflow=0.26 cfs 0.021 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=0.15 cfs 0.020 af
<b>Pond dmh10: dmh10</b>	Peak Elev=55.76' Inflow=5.57 cfs 0.105 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/' Outflow=5.57 cfs 0.105 af
<b>Pond dmh11: dmh11</b>	Peak Elev=55.03' Inflow=9.16 cfs 0.260 af 30.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=9.16 cfs 0.260 af

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<b>Pond dmh13: dmh13</b>	Peak Elev=54.52' Inflow=9.16 cfs 0.260 af 30.0" Round Culvert n=0.013 L=201.0' S=0.0050 '/ Outflow=9.16 cfs 0.260 af
<b>Pond dmh14: dmh14</b>	Peak Elev=53.86' Inflow=10.50 cfs 0.352 af 30.0" Round Culvert n=0.020 L=23.0' S=0.0052 '/ Outflow=10.50 cfs 0.352 af
<b>Pond dmh15: dmh15</b>	Peak Elev=53.56' Inflow=10.50 cfs 0.352 af 30.0" Round Culvert n=0.013 L=90.0' S=0.0050 '/ Outflow=10.50 cfs 0.352 af
<b>Pond dmh16: dmh16</b>	Peak Elev=60.50' Inflow=0.00 cfs 0.000 af 12.0" Round Culvert n=0.013 L=198.0' S=0.0126 '/ Outflow=0.00 cfs 0.000 af
<b>Pond dmh17: dmh17</b>	Peak Elev=53.18' Inflow=10.50 cfs 0.362 af 30.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=10.50 cfs 0.362 af
<b>Pond dmh2: dmh2</b>	Peak Elev=63.89' Inflow=2.77 cfs 0.029 af 18.0" Round Culvert n=0.013 L=100.0' S=0.0150 '/ Outflow=2.77 cfs 0.029 af
<b>Pond dmh20: dmh20</b>	Peak Elev=52.88' Inflow=10.50 cfs 0.362 af 30.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/ Outflow=10.50 cfs 0.362 af
<b>Pond dmh21: dmh21</b>	Peak Elev=52.44' Inflow=14.18 cfs 0.759 af 36.0" Round Culvert n=0.013 L=281.0' S=0.0169 '/ Outflow=14.18 cfs 0.759 af
<b>Pond dmh22: dmh 22</b>	Peak Elev=52.77' Inflow=3.76 cfs 0.337 af 15.0" Round Culvert n=0.013 L=93.0' S=0.0051 '/ Outflow=3.76 cfs 0.337 af
<b>Pond dmh23: dmh23</b>	Peak Elev=57.21' Inflow=3.30 cfs 0.250 af 12.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/ Outflow=3.30 cfs 0.250 af
<b>Pond dmh24: dmh24</b>	Peak Elev=58.06' Inflow=3.30 cfs 0.250 af 12.0" Round Culvert n=0.013 L=72.0' S=0.0025 '/ Outflow=3.30 cfs 0.250 af
<b>Pond dmh24a: dmh24a</b>	Peak Elev=59.81' Inflow=1.53 cfs 0.121 af 8.0" Round Culvert n=0.013 L=95.0' S=0.0095 '/ Outflow=1.53 cfs 0.121 af
<b>Pond dmh25: dmh25</b>	Peak Elev=60.44' Inflow=0.60 cfs 0.045 af 12.0" Round Culvert n=0.013 L=98.0' S=0.0510 '/ Outflow=0.60 cfs 0.045 af
<b>Pond dmh26: (new Pond)</b>	Peak Elev=58.20' Inflow=0.42 cfs 0.099 af 12.0" Round Culvert n=0.020 L=28.0' S=0.0050 '/ Outflow=0.42 cfs 0.099 af
<b>Pond dmh27: dmh27</b>	Peak Elev=53.66' Inflow=1.32 cfs 0.202 af 15.0" Round Culvert n=0.013 L=256.0' S=0.0050 '/ Outflow=1.32 cfs 0.202 af
<b>Pond dmh29: dmh29</b>	Peak Elev=58.50' Inflow=0.76 cfs 0.058 af 8.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/ Outflow=0.76 cfs 0.058 af
<b>Pond dmh3: dmh3</b>	Peak Elev=61.40' Inflow=2.77 cfs 0.075 af 18.0" Round Culvert n=0.013 L=125.0' S=0.0053 '/ Outflow=2.77 cfs 0.075 af

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**Pond dmh30: dmh30**

Peak Elev=55.91' Inflow=0.76 cfs 0.058 af  
12.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=0.76 cfs 0.058 af

**Pond dmh31: dmh31**

Peak Elev=54.82' Inflow=0.76 cfs 0.157 af  
15.0" Round Culvert n=0.013 L=259.0' S=0.0050 '/ Outflow=0.76 cfs 0.157 af

**Pond dmh32: dmh32**

Peak Elev=52.40' Inflow=1.32 cfs 0.231 af  
18.0" Round Culvert n=0.013 L=36.0' S=0.0036 '/ Outflow=1.32 cfs 0.231 af

**Pond dmh33: dmh33**

Peak Elev=54.23' Inflow=0.18 cfs 0.042 af  
12.0" Round Culvert n=0.013 L=201.0' S=0.0099 '/ Outflow=0.18 cfs 0.042 af

**Pond dmh34: dmh34**

Peak Elev=52.57' Inflow=1.29 cfs 0.151 af  
18.0" Round Culvert n=0.013 L=39.0' S=0.0100 '/ Outflow=1.29 cfs 0.151 af

**Pond dmh35: dmh35**

Peak Elev=52.32' Inflow=2.61 cfs 0.418 af  
24.0" Round Culvert n=0.013 L=276.0' S=0.0050 '/ Outflow=2.61 cfs 0.418 af

**Pond dmh36: dmh36**

Peak Elev=50.92' Inflow=2.61 cfs 0.418 af  
24.0" Round Culvert n=0.013 L=159.0' S=0.0050 '/ Outflow=2.61 cfs 0.418 af

**Pond dmh38: dmh38**

Peak Elev=52.87' Inflow=2.77 cfs 0.029 af  
18.0" Round Culvert n=0.013 L=106.0' S=0.0100 '/ Outflow=2.77 cfs 0.029 af

**Pond dmh39: dmh39**

Peak Elev=51.55' Inflow=2.77 cfs 0.034 af  
18.0" Round Culvert n=0.013 L=58.0' S=0.0047 '/ Outflow=2.77 cfs 0.034 af

**Pond dmh4: dmh4**

Peak Elev=60.82' Inflow=2.77 cfs 0.075 af  
18.0" Round Culvert n=0.013 L=66.0' S=0.0041 '/ Outflow=2.77 cfs 0.075 af

**Pond dmh40: dmh40**

Peak Elev=50.37' Inflow=5.32 cfs 0.452 af  
30.0" Round Culvert n=0.013 L=340.0' S=0.0050 '/ Outflow=5.32 cfs 0.452 af

**Pond dmh43: dmh43**

Peak Elev=48.65' Inflow=5.32 cfs 0.452 af  
30.0" Round Culvert n=0.013 L=193.0' S=0.0050 '/ Outflow=5.32 cfs 0.452 af

**Pond dmh44: dmh44**

Peak Elev=47.67' Inflow=5.54 cfs 0.468 af  
36.0" Round Culvert n=0.013 L=82.0' S=0.0050 '/ Outflow=5.54 cfs 0.468 af

**Pond dmh45: dmh45**

Peak Elev=47.19' Inflow=5.54 cfs 0.468 af  
36.0" Round Culvert n=0.013 L=316.0' S=0.0050 '/ Outflow=5.54 cfs 0.468 af

**Pond dmh47: dmh47**

Peak Elev=45.25' Inflow=8.31 cfs 0.497 af  
36.0" Round Culvert n=0.013 L=104.0' S=0.0100 '/ Outflow=8.31 cfs 0.497 af

**Pond dmh48: dmh48**

Peak Elev=44.29' Inflow=9.20 cfs 0.611 af  
36.0" Round Culvert n=0.013 L=117.0' S=0.0050 '/ Outflow=9.20 cfs 0.611 af

**Pond dmh49: dmh49**

Peak Elev=43.86' Inflow=9.67 cfs 0.643 af  
36.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/ Outflow=9.67 cfs 0.643 af

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<b>Pond dmh5: dmh5</b>	Peak Elev=60.38' Inflow=2.77 cfs 0.075 af 18.0" Round Culvert n=0.013 L=173.0' S=0.0050 '/ Outflow=2.77 cfs 0.075 af
<b>Pond dmh50: dmh50</b>	Peak Elev=46.43' Inflow=14.18 cfs 0.781 af 36.0" Round Culvert n=0.013 L=64.0' S=0.0100 '/ Outflow=14.18 cfs 0.781 af
<b>Pond dmh51: dmh51</b>	Peak Elev=45.77' Inflow=14.18 cfs 0.781 af 36.0" Round Culvert n=0.013 L=38.0' S=0.0287 '/ Outflow=14.18 cfs 0.781 af
<b>Pond dmh52: dmh52</b>	Peak Elev=42.84' Inflow=23.85 cfs 1.424 af 60.0" Round Culvert n=0.013 L=258.0' S=0.0194 '/ Outflow=23.85 cfs 1.424 af
<b>Pond dmh53: dmh53</b>	Peak Elev=34.84' Inflow=23.85 cfs 1.460 af 60.0" Round Culvert n=0.013 L=120.0' S=0.0208 '/ Outflow=23.85 cfs 1.460 af
<b>Pond dmh54: dmh54</b>	Peak Elev=28.84' Inflow=23.93 cfs 1.475 af 60.0" Round Culvert n=0.013 L=152.0' S=0.0329 '/ Outflow=23.93 cfs 1.475 af
<b>Pond dmh55: dhm55</b>	Peak Elev=20.84' Inflow=23.93 cfs 1.475 af 60.0" Round Culvert n=0.013 L=115.0' S=0.0304 '/ Outflow=23.93 cfs 1.475 af
<b>Pond dmh56: dmh56</b>	Peak Elev=14.34' Inflow=23.93 cfs 1.475 af 60.0" Round Culvert n=0.013 L=42.0' S=0.0357 '/ Outflow=23.93 cfs 1.475 af
<b>Pond dmh59: dmh59</b>	Peak Elev=57.21' Inflow=3.48 cfs 0.285 af 12.0" Round Culvert n=0.013 L=294.0' S=0.0050 '/ Outflow=3.48 cfs 0.285 af
<b>Pond dmh6: dmh6</b>	Peak Elev=59.66' Inflow=2.77 cfs 0.075 af 18.0" Round Culvert n=0.020 L=170.0' S=0.0050 '/ Outflow=2.77 cfs 0.075 af
<b>Pond dmh60: dhm60</b>	Peak Elev=37.34' Inflow=23.85 cfs 1.424 af 60.0" Round Culvert n=0.013 L=114.0' S=0.0175 '/ Outflow=23.85 cfs 1.424 af
<b>Pond dmh7: dmh7</b>	Peak Elev=58.61' Inflow=2.77 cfs 0.075 af 18.0" Round Culvert n=0.013 L=170.0' S=0.0050 '/ Outflow=2.77 cfs 0.075 af
<b>Pond dmh8: dmh8</b>	Peak Elev=58.05' Inflow=5.57 cfs 0.105 af 24.0" Round Culvert n=0.013 L=296.0' S=0.0040 '/ Outflow=5.57 cfs 0.105 af
<b>Pond dmh9a: dmh9a</b>	Peak Elev=56.81' Inflow=5.57 cfs 0.105 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=5.57 cfs 0.105 af
<b>Pond GSF 11: grassed soil filter</b>	Peak Elev=62.04' Storage=2,590 cf Inflow=1.55 cfs 0.105 af Outflow=0.21 cfs 0.047 af
<b>Pond GSF 12: grassed soil filter</b>	Peak Elev=61.57' Storage=558 cf Inflow=0.59 cfs 0.040 af Outflow=0.53 cfs 0.029 af
<b>Pond GSF 13: grassed soil filter</b>	Peak Elev=62.04' Storage=3,135 cf Inflow=1.79 cfs 0.121 af Outflow=0.21 cfs 0.051 af

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<b>Pond GSF 15: grassed soil filter</b>	Peak Elev=63.73' Storage=149 cf Inflow=0.19 cfs 0.013 af Outflow=0.14 cfs 0.010 af
<b>Pond GSF 16: grassed soil filter</b>	Peak Elev=63.86' Storage=1,513 cf Inflow=0.51 cfs 0.035 af Outflow=0.00 cfs 0.000 af
<b>Pond GSF 18A: grassed soil filter</b>	Peak Elev=57.41' Storage=415 cf Inflow=0.24 cfs 0.016 af Outflow=0.03 cfs 0.007 af
<b>Pond GSF 18B: grassed soil filter</b>	Peak Elev=57.91' Storage=376 cf Inflow=0.18 cfs 0.012 af Outflow=0.02 cfs 0.004 af
<b>Pond GSF 1A: Grassed soil filter</b>	Peak Elev=65.83' Storage=131 cf Inflow=0.67 cfs 0.045 af Outflow=0.60 cfs 0.045 af
<b>Pond GSF 1B: grassed soil filter</b>	Peak Elev=66.97' Storage=999 cf Inflow=0.98 cfs 0.067 af Outflow=0.53 cfs 0.046 af
<b>Pond GSF 2: grassed soil filter</b>	Peak Elev=57.63' Storage=1,574 cf Inflow=0.95 cfs 0.064 af Outflow=0.12 cfs 0.029 af
<b>Pond GSF 24: grassed soil filter</b>	Peak Elev=40.67' Storage=1,478 cf Inflow=0.98 cfs 0.068 af Outflow=0.44 cfs 0.037 af
<b>Pond GSF 3: grassed soil filter</b>	Peak Elev=55.78' Storage=2,084 cf Inflow=1.23 cfs 0.083 af Outflow=0.15 cfs 0.037 af
<b>Pond GSF 4: grassed soil filter</b>	Peak Elev=55.11' Storage=336 cf Inflow=0.18 cfs 0.012 af Outflow=0.02 cfs 0.005 af
<b>Pond GSF 5: grassed soil filter</b>	Peak Elev=54.00' Storage=1 cf Inflow=0.22 cfs 0.016 af Outflow=0.22 cfs 0.016 af
<b>Pond GSF 6: grassed soil filter</b>	Peak Elev=49.00' Storage=1 cf Inflow=0.48 cfs 0.032 af Outflow=0.48 cfs 0.032 af
<b>Pond GSF 7: grassed soil filter</b>	Peak Elev=54.72' Storage=1,812 cf Inflow=0.93 cfs 0.063 af Outflow=0.07 cfs 0.022 af
<b>Pond GSF 8: grassed soil filter</b>	Peak Elev=57.65' Storage=3,408 cf Inflow=1.98 cfs 0.134 af Outflow=0.32 cfs 0.059 af
<b>Pond GSF 9: grassed soil filter</b>	Peak Elev=63.51' Storage=14 cf Inflow=1.34 cfs 0.091 af Outflow=1.34 cfs 0.091 af
<b>Pond ICS1: ICS</b>	Peak Elev=66.54' Inflow=7.08 cfs 0.547 af Primary=2.77 cfs 0.029 af Secondary=4.31 cfs 0.518 af Outflow=7.08 cfs 0.547 af
<b>Pond ics28: ICS28</b>	Peak Elev=58.51' Inflow=0.76 cfs 0.058 af Primary=0.76 cfs 0.058 af Secondary=0.00 cfs 0.000 af Outflow=0.76 cfs 0.058 af

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<b>Pond ICS37: ICS37</b>	Peak Elev=55.39'	Inflow=7.08 cfs	0.547 af			
	Primary=2.77 cfs	0.029 af	Secondary=4.31 cfs	0.518 af	Outflow=7.08 cfs	0.547 af
<b>Pond ics46: ICS46</b>	Peak Elev=49.39'	Inflow=7.08 cfs	0.547 af			
	Primary=2.77 cfs	0.029 af	Secondary=4.31 cfs	0.518 af	Outflow=7.08 cfs	0.547 af
<b>Pond ICS9: ICS9</b>	Peak Elev=64.57'	Inflow=7.08 cfs	0.547 af			
	Primary=2.79 cfs	0.029 af	Secondary=4.29 cfs	0.518 af	Outflow=7.08 cfs	0.547 af
<b>Pond ISC42: ICS42</b>	Peak Elev=0.00'					
	Primary=0.00 cfs	0.000 af	Secondary=0.00 cfs	0.000 af		
<b>Pond MPP 10: Rtank storage</b>	Peak Elev=61.72'	Storage=0.055 af	Inflow=1.95 cfs	0.150 af		
	8.0" Round Culvert x 6.00	n=0.013	L=2.0'	S=0.0400 1/'	Outflow=1.07 cfs	0.127 af
<b>Pond MPP 14: Rtanks</b>	Peak Elev=56.51'	Storage=679 cf	Inflow=0.58 cfs	0.044 af		
	8.0" Round Culvert x 2.00	n=0.013	L=21.0'	S=0.0052 1/'	Outflow=0.33 cfs	0.038 af
<b>Pond MPP 19: Rtanks</b>	Peak Elev=55.42'	Storage=0.030 af	Inflow=0.78 cfs	0.056 af		
	6.0" Round Culvert	n=0.013	L=19.0'	S=0.0042 1/'	Outflow=0.18 cfs	0.042 af
<b>Pond MPP 21: Rtanks</b>	Peak Elev=55.15'	Storage=731 cf	Inflow=0.57 cfs	0.041 af		
	6.0" Round Culvert	n=0.013	L=2.0'	S=0.0000 1/'	Outflow=0.24 cfs	0.035 af
<b>Pond MPP 22: Rtanks</b>	Peak Elev=55.37'	Storage=1,184 cf	Inflow=0.72 cfs	0.050 af		
	6.0" Round Culvert	n=0.013	L=2.0'	S=0.0000 1/'	Outflow=0.15 cfs	0.037 af
<b>Pond MPP 26: Rtanks</b>	Peak Elev=34.82'	Storage=368 cf	Inflow=0.24 cfs	0.019 af		
	8.0" Round Culvert	n=0.013	L=8.0'	S=0.0350 1/'	Outflow=0.11 cfs	0.015 af
<b>Pond MPP 50:</b>	Peak Elev=54.86'	Storage=2,639 cf	Inflow=1.90 cfs	0.147 af		
	8.0" Round Culvert x 7.00	n=0.013	L=3.0'	S=0.0100 1/'	Outflow=1.14 cfs	0.114 af
<b>Pond mpp30: Rtanks</b>	Peak Elev=30.33'	Storage=1,090 cf	Inflow=1.80 cfs	0.142 af		
	12.0" Round Culvert	n=0.013	L=20.0'	S=0.0305 1/'	Outflow=1.38 cfs	0.134 af
<b>Pond OCS57: OCS 57</b>	Peak Elev=30.27'	Inflow=1.38 cfs	0.134 af			
		Outflow=1.38 cfs	0.134 af			
<b>Pond SSF 36: ssf</b>		Inflow=4.31 cfs	0.518 af			
		Primary=4.31 cfs	0.518 af			
<b>Pond SSF 37:</b>		Inflow=4.29 cfs	0.518 af			
		Primary=4.29 cfs	0.518 af			
<b>Pond SSF 38: ssf38</b>		Inflow=4.31 cfs	0.518 af			
		Primary=4.31 cfs	0.518 af			
<b>Pond SSF 39:</b>		Inflow=4.31 cfs	0.518 af			
		Primary=4.31 cfs	0.518 af			

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**Pond SSF 40:**

Inflow=7.08 cfs 0.547 af  
Primary=7.08 cfs 0.547 af

**Pond SSF 41:**

Inflow=4.31 cfs 0.518 af  
Primary=4.31 cfs 0.518 af

**Pond SSF 42:**

Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 af

**Pond SSF 43:**

Inflow=1.19 cfs 0.092 af  
Primary=1.19 cfs 0.092 af

**Total Runoff Area = 116.268 ac Runoff Volume = 10.799 af Average Runoff Depth = 1.11"  
74.75% Pervious = 86.915 ac 25.25% Impervious = 29.353 ac**

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**Summary for Subcatchment 1A:**

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.045 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	11,582	77	>75% Grass cover, Good, HSG C/D
*	6,203	98	Impervious, HSG C/D
	17,785	84	Weighted Average
	11,582		65.12% Pervious Area
	6,203		34.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 1B:**

Runoff = 0.98 cfs @ 12.10 hrs, Volume= 0.067 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	6,832	98	Impervious
	27,186	74	>75% Grass cover, Good, HSG C
	34,018	79	Weighted Average
	27,186		79.92% Pervious Area
	6,832		20.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 2:**

Runoff = 0.95 cfs @ 12.10 hrs, Volume= 0.064 af, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	8,052	98	Impervious
	5,300	74	>75% Grass cover, Good, HSG C
*	17,697	74	>75% Grass cover, Good, HSG C/D
	31,049	80	Weighted Average
	22,997		74.07% Pervious Area
	8,052		25.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 3:**

Runoff = 1.23 cfs @ 12.10 hrs, Volume= 0.083 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	13,091	98	Impervious, HSG C
*	15,516	74	>75% Grass cover, Good, HSG C/D
*	7,540	70	Woods, Good, HSG C/D
	36,147	82	Weighted Average
	23,056		63.78% Pervious Area
	13,091		36.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 4:**

Runoff = 0.18 cfs @ 12.10 hrs, Volume= 0.012 af, Depth> 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
	8,448	74	>75% Grass cover, Good, HSG C
	8,448		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 5:**

Runoff = 0.22 cfs @ 12.10 hrs, Volume= 0.016 af, Depth> 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
10,807	74	>75% Grass cover, Good, HSG C
10,807		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 6:**

Runoff = 0.48 cfs @ 12.10 hrs, Volume= 0.032 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 4,484	98	Impervious
* 9,501	74	>75% Grass cover, Good, HSG C
13,985	82	Weighted Average
9,501		67.94% Pervious Area
4,484		32.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 7:**

Runoff = 0.93 cfs @ 12.10 hrs, Volume= 0.063 af, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 7,846	98	Impervious
3,270	74	>75% Grass cover, Good, HSG C
* 19,229	74	>75% Grass cover, Good, HSG C/D
30,345	80	Weighted Average
22,499		74.14% Pervious Area
7,846		25.86% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 8:**

Runoff = 1.98 cfs @ 12.09 hrs, Volume= 0.134 af, Depth> 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 25,409	98	Impervious
20,142	74	>75% Grass cover, Good, HSG C
45,551	87	Weighted Average
20,142		44.22% Pervious Area
25,409		55.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 9:**

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.091 af, Depth> 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 10,348	74	>75% Grass cover, Good, HSG C/D
* 17,843	98	Impervious
28,191	89	Weighted Average
10,348		36.71% Pervious Area
17,843		63.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 10: access drive north of B1**

Runoff = 1.95 cfs @ 12.09 hrs, Volume= 0.150 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	30,932	98	Impervious
	30,932		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 11:**

Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.105 af, Depth> 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	15,881	98	Impervious
*	27,293	74	>75% Grass cover, Good, HSG C/D
	43,174	83	Weighted Average
	27,293		63.22% Pervious Area
	15,881		36.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 12:**

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.040 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	7,491	98	Impervious, HSG C/D
	5,429	74	>75% Grass cover, Good, HSG C
	12,920	88	Weighted Average
	5,429		42.02% Pervious Area
	7,491		57.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 13:**

Runoff = 1.79 cfs @ 12.09 hrs, Volume= 0.121 af, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	20,981	98	Impervious
*	24,182	74	>75% Grass cover, Good, HSG C/D
	45,163	85	Weighted Average
	24,182		53.54% Pervious Area
	20,981		46.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 14:**

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.044 af, Depth> 2.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	8,849	98	Impervious
	529	74	>75% Grass cover, Good, HSG C
	9,378	97	Weighted Average
	529		5.64% Pervious Area
	8,849		94.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 15:**

Runoff = 0.19 cfs @ 12.10 hrs, Volume= 0.013 af, Depth> 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	176	98	Impervious
*	4,183	74	>75% Grass cover, Good, HSG C/D
*	4,798	74	vegetated roof
	9,157	74	Weighted Average
	8,981		98.08% Pervious Area
	176		1.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 16:**

Runoff = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	5,161	98	Impervious
*	9,949	74	>75% Grass cover, Good, HSG C/D
	15,110	82	Weighted Average
	9,949		65.84% Pervious Area
	5,161		34.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 17:**

Runoff = 0.76 cfs @ 12.09 hrs, Volume= 0.054 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	11,320	98	Impervious
*	1,980	74	>75% Grass cover, Good, HSG C/D
	13,300	94	Weighted Average
	1,980		14.89% Pervious Area
	11,320		85.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 18A:**

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	2,593	98	Impervious
*	3,746	74	>75% Grass cover, Good, HSG C/D
	6,339	84	Weighted Average
	3,746		59.09% Pervious Area
	2,593		40.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 18B:**

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	2,348	98	Impervious
*	1,675	74	>75% Grass cover, Good, HSG C/D
	4,023	88	Weighted Average
	1,675		41.64% Pervious Area
	2,348		58.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 19:**

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	11,210	98	Impervious
*	2,501	74	>75% Grass cover, Good, HSG C/D
	13,711	94	Weighted Average
	2,501		18.24% Pervious Area
	11,210		81.76% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 20:**

Runoff = 1.52 cfs @ 12.09 hrs, Volume= 0.106 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 21,010	98	Impervious
* 7,449	74	>75% Grass cover, Good, HSG C/D
28,459	92	Weighted Average
7,449		26.17% Pervious Area
21,010		73.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 21:**

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 8,361	98	Impervious
* 1,633	74	>75% Grass cover, Good, HSG C/D
9,994	94	Weighted Average
1,633		16.34% Pervious Area
8,361		83.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 22:**

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	10,326	98	Impervious
*	3,185	74	>75% Grass cover, Good, HSG C/D
	13,511	92	Weighted Average
	3,185		23.57% Pervious Area
	10,326		76.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 23: sub 23**

Runoff = 0.77 cfs @ 12.10 hrs, Volume= 0.053 af, Depth> 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
	6,249	98	Paved parking, HSG C
	2,450	74	>75% Grass cover, Good, HSG C
	10,135	74	>75% Grass cover, Good, HSG C
	9,641	70	Woods, Good, HSG C
	28,475	78	Weighted Average
	22,226		78.05% Pervious Area
	6,249		21.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, direct

**Summary for Subcatchment 24:**

Runoff = 0.98 cfs @ 12.09 hrs, Volume= 0.068 af, Depth> 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	12,270	98	Impervious
	5,991	80	>75% Grass cover, Good, HSG D
	18,261	92	Weighted Average
	5,991		32.81% Pervious Area
	12,270		67.19% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 25:**

Runoff = 0.71 cfs @ 13.01 hrs, Volume= 0.139 af, Depth> 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 21,818	74	>75% Grass cover, Good, HSG C/D
* 96,405	70	Woods, Good, HSG C/D
118,223	71	Weighted Average
118,223		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4	130	0.0150	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
11.9	253	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	55	0.3000	1.37		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
67.0	438	Total			

**Summary for Subcatchment 26:**

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.019 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 3,816	98	Impervious
3,816		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 27:**

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	4,262	98	Impervious
	4,262		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 28:**

Runoff = 3.16 cfs @ 12.09 hrs, Volume= 0.213 af, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	21,852	98	Impervious
	40,598	80	>75% Grass cover, Good, HSG D
	6,418	77	Woods, Good, HSG D
	10,830	79	Woods/grass comb., Good, HSG D
	79,698	85	Weighted Average
	57,846		72.58% Pervious Area
	21,852		27.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 29:**

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	1,306	98	Impervious
	1,306		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 30:**

Runoff = 1.74 cfs @ 12.09 hrs, Volume= 0.123 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	24,541	98	Impervious
*	6,931	74	>75% Grass cover, Good, HSG C/D
	31,472	93	Weighted Average
	6,931		22.02% Pervious Area
	24,541		77.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 31:**

Runoff = 0.94 cfs @ 12.20 hrs, Volume= 0.085 af, Depth> 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	24,011	74	>75% Grass cover, Good, HSG C/D
*	46,605	70	Woods, Good, HSG C/D
	70,616	71	Weighted Average
	70,616		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0500	0.16		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
1.7	86	0.1200	0.87		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	31	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
12.3	217	Total			

**Summary for Subcatchment 32:**

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.015 af, Depth> 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	2,826	98	Impervious
*	1,851	74	>75% Grass cover, Good, HSG C/D
	4,677	89	Weighted Average
	1,851		39.58% Pervious Area
	2,826		60.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 33: B3 green**

Runoff = 1.19 cfs @ 12.11 hrs, Volume= 0.098 af, Depth> 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	89,860	61	vegetated roof
*	18,033	98	penthouse
	107,893	67	Weighted Average
	89,860		83.29% Pervious Area
	18,033		16.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 34:**

Runoff = 0.30 cfs @ 12.11 hrs, Volume= 0.024 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	19,279	61	vegetated roof
*	4,820	98	penhouse/walks on roof
	24,099	68	Weighted Average
	19,279		80.00% Pervious Area
	4,820		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 35:**

Runoff = 0.26 cfs @ 12.11 hrs, Volume= 0.021 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	16,797	61	vegetated roof
*	4,200	98	penthouse/walks on roof
	20,997	68	Weighted Average
	16,797		80.00% Pervious Area
	4,200		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 36: B1M1**

Runoff = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 37: B1M2**

Runoff = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 38: B1M3**

Runoff = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 39: B2M4**

Runoff = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 40: B2M5**

Runoff = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 41: B2M6**

Runoff = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 42: B6**

Runoff = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 12,000	98	Impervious
12,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 43: B5**

Runoff = 1.19 cfs @ 12.09 hrs, Volume= 0.092 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 18,983	98	Impervious
18,983		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 44: onsite untreated**

Runoff = 1.81 cfs @ 12.30 hrs, Volume= 0.192 af, Depth&gt; 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 29,531	74	>75% Grass cover, Good, HSG C/D
* 129,832	70	Woods, Good, HSG C/D
159,363	71	Weighted Average
159,363		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	97	0.0620	0.25		<b>Sheet Flow, a-b</b> Grass: Short n= 0.150 P2= 2.90"
4.3	170	0.0090	0.66		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
1.3	97	0.0320	1.25		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
6.8	210	0.0430	0.52		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
18.8	574	Total			

**Summary for Subcatchment 45:**

Runoff = 0.56 cfs @ 12.49 hrs, Volume= 0.072 af, Depth&gt; 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 5,799	74	>75% Grass cover, Good, HSG C/D
* 58,641	70	Woods, Good, HSG C/D
64,440	70	Weighted Average
64,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.3	79	0.0340	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
2.9	121	0.0800	0.71		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	34	0.0600	3.67		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
0.5	73	0.0600	2.64	10.56	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.100 Earth, dense brush, high stage

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29.9 307 Total

**Summary for Subcatchment 46: SUBCAT 8**

Runoff = 0.13 cfs @ 12.55 hrs, Volume= 0.018 af, Depth> 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	12,652	70	Woods, Good, HSG C/D
*	2,324	74	>75% Grass cover, Good, HSG C/D
	14,976	71	Weighted Average
	14,976		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.0	67	0.0150	0.03		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
1.1	43	0.0700	0.66		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.1	14	0.7100	2.11		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
1.5	152	0.0240	1.67	6.68	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 ' Top.W=6.00' n= 0.100

34.7 276 Total

**Summary for Subcatchment 47:**

Runoff = 1.31 cfs @ 12.24 hrs, Volume= 0.123 af, Depth> 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
	16,941	80	>75% Grass cover, Good, HSG D
*	27,433	74	>75% Grass cover, Good, HSG C/D
*	30,061	70	Woods, Good, HSG C/D
*	4,752	98	Impervious
	79,187	75	Weighted Average
	74,435		94.00% Pervious Area
	4,752		6.00% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	102	0.0400	0.15		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
0.6	30	0.1000	0.79		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.6	100	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
3.2	407	0.0200	2.12		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
15.9	639	Total			

**Summary for Subcatchment 48:**

Runoff = 0.25 cfs @ 12.83 hrs, Volume= 0.044 af, Depth> 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 305	74	>75% Grass cover, Good, HSG C/D
* 36,887	70	Woods, Good, HSG C/D
2,991	70	Woods, Good, HSG C
40,183	70	Weighted Average
40,183		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.6	127	0.0200	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
5.4	115	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	45	0.2000	1.12		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
0.3	90	0.0880	4.45		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
54.0	377	Total			

**Summary for Subcatchment 49:**

Runoff = 0.53 cfs @ 12.84 hrs, Volume= 0.093 af, Depth> 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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	Area (sf)	CN	Description
*	2,923	74	>75% Grass cover, Good, HSG C/D
*	80,702	70	Woods, Good, HSG C/D
*	548	98	Impervious
	84,173	70	Weighted Average
	83,625		99.35% Pervious Area
	548		0.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.4	115	0.0500	0.06		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
23.7	355	0.0100	0.25		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
54.1	470	Total			

**Summary for Subcatchment 50:**

Runoff = 1.90 cfs @ 12.09 hrs, Volume= 0.147 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	30,173	98	Impervious
	30,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment OS10: OFFSITE 2 (above Perkins Rd)**

Runoff = 10.03 cfs @ 13.35 hrs, Volume= 2.307 af, Depth> 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

	Area (sf)	CN	Description
*	298,066	70	Woods, Good, HSG C/D
*	42,276	98	Impervious
*	1,304,640	74	>75% Grass cover, Good, HSG C/D
	1,644,982	74	Weighted Average
	1,602,706		97.43% Pervious Area
	42,276		2.57% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.2	141	0.0280	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
15.3	384	0.0280	0.42		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
2.5	227	0.0480	1.53		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
18.6	780	0.0100	0.70		<b>Shallow Concentrated Flow, d-e</b> Short Grass Pasture Kv= 7.0 fps
12.6	689	0.0170	0.91		<b>Shallow Concentrated Flow, e-f</b> Short Grass Pasture Kv= 7.0 fps
94.2	2,221	Total			

**Summary for Subcatchment OS11: OFFSITE 3 (Matthew Brothers Lot)**

Runoff = 13.59 cfs @ 12.11 hrs, Volume= 0.953 af, Depth> 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

Area (sf)	CN	Description
* 118,437	98	Impervious
* 237,621	70	Woods, Good, HSG C/D
* 157,469	74	>75% Grass cover, Good, HSG C/D
513,527	78	Weighted Average
395,090		76.94% Pervious Area
118,437		23.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	16	0.1870	2.22		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
4.7	419	0.0100	1.50		<b>Shallow Concentrated Flow, b-c</b> Grassed Waterway Kv= 15.0 fps
2.0	97	0.1000	0.79		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
6.8	532	Total			

**Summary for Subcatchment OS9: OFFSITE 1 (Below Perkins Rd)**

Runoff = 8.31 cfs @ 12.53 hrs, Volume= 1.080 af, Depth> 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-year Rainfall=2.90"

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Area (sf)	CN	Description
* 25,513	98	Impervious
* 532,320	74	>75% Grass cover, Good, HSG C/D
* 3,818	94	Gravel roads, HSG C/D
6,087	74	>75% Grass cover, Good, HSG C
72,382	70	Woods, Good, HSG C
61,890	74	>75% Grass cover, Good, HSG C
702,010	75	Weighted Average
676,497		96.37% Pervious Area
25,513		3.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.2000	2.25		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
12.6	373	0.0050	0.49		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
13.1	715	0.0170	0.91		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
9.3	250	0.0320	0.45		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
35.1	1,353	Total			

**Summary for Reach 9R: ANALYSIS POINT 9**

Inflow Area = 16.116 ac, 3.63% Impervious, Inflow Depth > 0.80" for 2-year event  
 Inflow = 8.31 cfs @ 12.53 hrs, Volume= 1.080 af  
 Outflow = 8.31 cfs @ 12.53 hrs, Volume= 1.080 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 10R: Perkins Road Culvert**

Inflow Area = 37.764 ac, 2.57% Impervious, Inflow Depth > 0.73" for 2-year event  
 Inflow = 10.03 cfs @ 13.35 hrs, Volume= 2.307 af  
 Outflow = 10.03 cfs @ 13.36 hrs, Volume= 2.307 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Max. Velocity= 9.01 fps, Min. Travel Time= 0.0 min  
 Avg. Velocity = 5.80 fps, Avg. Travel Time= 0.1 min

Peak Storage= 28 cf @ 13.35 hrs  
 Average Depth at Peak Storage= 0.77'  
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 31.99 cfs

24.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 25.0' Slope= 0.0200 '/'  
 Inlet Invert= 75.50', Outlet Invert= 75.00'

## post conditions

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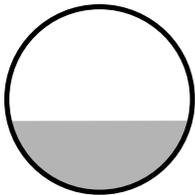
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### Summary for Reach 11R: Stream 9

Inflow Area = 11.789 ac, 23.06% Impervious, Inflow Depth > 0.97" for 2-year event  
Inflow = 13.59 cfs @ 12.11 hrs, Volume= 0.953 af  
Outflow = 13.59 cfs @ 12.11 hrs, Volume= 0.953 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 17R: untreated

Inflow Area = 0.305 ac, 85.11% Impervious, Inflow Depth > 2.13" for 2-year event  
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.054 af  
Outflow = 0.76 cfs @ 12.09 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 20R: untreated

Inflow Area = 0.653 ac, 73.83% Impervious, Inflow Depth > 1.95" for 2-year event  
Inflow = 1.52 cfs @ 12.09 hrs, Volume= 0.106 af  
Outflow = 1.52 cfs @ 12.09 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 23R: sub 23

Inflow Area = 0.654 ac, 21.95% Impervious, Inflow Depth > 0.97" for 2-year event  
Inflow = 0.77 cfs @ 12.10 hrs, Volume= 0.053 af  
Outflow = 0.77 cfs @ 12.10 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 27R: existing

Inflow Area = 0.098 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 0.27 cfs @ 12.09 hrs, Volume= 0.021 af  
Outflow = 0.27 cfs @ 12.09 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Reach 28R: existing**

Inflow Area = 1.830 ac, 27.42% Impervious, Inflow Depth > 1.40" for 2-year event  
Inflow = 3.16 cfs @ 12.09 hrs, Volume= 0.213 af  
Outflow = 3.16 cfs @ 12.09 hrs, Volume= 0.213 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 29R: untreated**

Inflow Area = 0.030 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af  
Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 32R: untreated**

Inflow Area = 0.107 ac, 60.42% Impervious, Inflow Depth > 1.70" for 2-year event  
Inflow = 0.22 cfs @ 12.09 hrs, Volume= 0.015 af  
Outflow = 0.22 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 44R:**

Inflow Area = 3.658 ac, 0.00% Impervious, Inflow Depth > 0.63" for 2-year event  
Inflow = 1.81 cfs @ 12.30 hrs, Volume= 0.192 af  
Outflow = 1.81 cfs @ 12.30 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 47R:**

Inflow Area = 1.818 ac, 6.00% Impervious, Inflow Depth > 0.81" for 2-year event  
Inflow = 1.31 cfs @ 12.24 hrs, Volume= 0.123 af  
Outflow = 1.31 cfs @ 12.24 hrs, Volume= 0.123 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 48R: (new Reach)**

Inflow Area = 0.922 ac, 0.00% Impervious, Inflow Depth > 0.58" for 2-year event  
Inflow = 0.25 cfs @ 12.83 hrs, Volume= 0.044 af  
Outflow = 0.25 cfs @ 12.83 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 49R:**

Inflow Area = 1.932 ac, 0.65% Impervious, Inflow Depth > 0.58" for 2-year event  
Inflow = 0.53 cfs @ 12.84 hrs, Volume= 0.093 af  
Outflow = 0.53 cfs @ 12.84 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT1: ANALYSIS POINT 1 at BWD Little River**

Inflow Area = 2.855 ac, 0.44% Impervious, Inflow Depth > 0.58" for 2-year event  
Inflow = 0.79 cfs @ 12.84 hrs, Volume= 0.137 af  
Outflow = 0.79 cfs @ 12.84 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT2: ANALYSIS POINT 2 at BWD Reservoir**

Inflow Area = 2.714 ac, 0.00% Impervious, Inflow Depth > 0.61" for 2-year event  
Inflow = 0.71 cfs @ 13.01 hrs, Volume= 0.139 af  
Outflow = 0.71 cfs @ 13.01 hrs, Volume= 0.139 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT3: ANALYSIS POINT 3/4 at BWD Reservoir**

Inflow Area = 1.621 ac, 0.00% Impervious, Inflow Depth > 0.63" for 2-year event  
Inflow = 0.94 cfs @ 12.20 hrs, Volume= 0.085 af  
Outflow = 0.94 cfs @ 12.20 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT5: all BWD reservoir**

Inflow Area = 4.989 ac, 2.88% Impervious, Inflow Depth > 0.67" for 2-year event  
Inflow = 1.57 cfs @ 12.15 hrs, Volume= 0.277 af  
Outflow = 1.57 cfs @ 12.15 hrs, Volume= 0.277 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT6: stream 9 offsite**

Inflow Area = 65.668 ac, 6.51% Impervious, Inflow Depth > 0.79" for 2-year event  
Inflow = 16.20 cfs @ 12.12 hrs, Volume= 4.340 af  
Outflow = 15.42 cfs @ 12.21 hrs, Volume= 4.321 af, Atten= 5%, Lag= 5.3 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Max. Velocity= 3.14 fps, Min. Travel Time= 2.6 min  
 Avg. Velocity = 1.97 fps, Avg. Travel Time= 4.1 min

Peak Storage= 2,390 cf @ 12.16 hrs  
 Average Depth at Peak Storage= 0.76'  
 Bank-Full Depth= 4.00' Flow Area= 52.0 sf, Capacity= 401.91 cfs

5.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals  
 Side Slope Z-value= 2.0 ' / ' Top Width= 21.00'  
 Length= 483.0' Slope= 0.0145 ' / '  
 Inlet Invert= 71.00', Outlet Invert= 64.00'



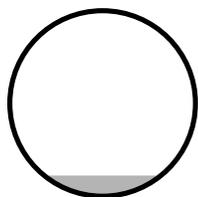
**Summary for Reach PT7: ANALYSIS POINT7 at US Route 1 culvert**

Inflow Area = 1.479 ac, 0.00% Impervious, Inflow Depth > 0.58" for 2-year event  
 Inflow = 0.56 cfs @ 12.49 hrs, Volume= 0.072 af  
 Outflow = 0.55 cfs @ 12.50 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Max. Velocity= 5.11 fps, Min. Travel Time= 0.3 min  
 Avg. Velocity = 2.82 fps, Avg. Travel Time= 0.5 min

Peak Storage= 9 cf @ 12.49 hrs  
 Average Depth at Peak Storage= 0.17'  
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 20.95 cfs

18.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 83.0' Slope= 0.0398 ' / '  
 Inlet Invert= 21.60', Outlet Invert= 18.30'



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**Summary for Reach PT8: ANALYSIS POINT 8 at US Route 1 culvert**

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 0.62" for 2-year event  
Inflow = 0.13 cfs @ 12.55 hrs, Volume= 0.018 af  
Outflow = 0.13 cfs @ 12.57 hrs, Volume= 0.018 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Max. Velocity= 2.48 fps, Min. Travel Time= 0.5 min  
Avg. Velocity = 2.48 fps, Avg. Travel Time= 0.5 min

Peak Storage= 4 cf @ 12.56 hrs  
Average Depth at Peak Storage= 0.02'  
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 144.91 cfs

36.0" W x 24.0" H Box Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 76.0' Slope= 0.0632 '/'  
Inlet Invert= 23.40', Outlet Invert= 18.60'



**Summary for Reach PT9: Analysis Point Stream 9 at US Route 1 culvert**

Inflow Area = 72.477 ac, 7.14% Impervious, Inflow Depth > 0.78" for 2-year event  
Inflow = 17.03 cfs @ 12.67 hrs, Volume= 4.727 af  
Outflow = 17.03 cfs @ 12.67 hrs, Volume= 4.726 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 17.28 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 7.22 fps, Avg. Travel Time= 0.2 min

Peak Storage= 92 cf @ 12.67 hrs  
Average Depth at Peak Storage= 0.59'  
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 200.22 cfs

36.0" Round Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 93.0' Slope= 0.0645 '/'  
Inlet Invert= 20.00', Outlet Invert= 14.00'

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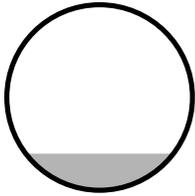
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**Summary for Reach S9-2: Stream 9**

Inflow Area = 69.327 ac, 6.17% Impervious, Inflow Depth > 0.78" for 2-year event  
Inflow = 17.00 cfs @ 12.21 hrs, Volume= 4.512 af  
Outflow = 16.06 cfs @ 12.69 hrs, Volume= 4.456 af, Atten= 6%, Lag= 28.4 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 3.74 fps, Min. Travel Time= 7.0 min  
Avg. Velocity = 2.30 fps, Avg. Travel Time= 11.5 min

Peak Storage= 6,796 cf @ 12.57 hrs  
Average Depth at Peak Storage= 0.68'  
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 120.91 cfs

5.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 ' / ' Top Width= 13.00'  
Length= 1,580.0' Slope= 0.0233 ' / '  
Inlet Invert= 64.00', Outlet Invert= 27.25'



**Summary for Reach S9-3: Stream 9**

Inflow Area = 71.273 ac, 6.33% Impervious, Inflow Depth > 0.78" for 2-year event  
Inflow = 16.60 cfs @ 12.65 hrs, Volume= 4.606 af  
Outflow = 16.58 cfs @ 12.70 hrs, Volume= 4.593 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 3.72 fps, Min. Travel Time= 1.6 min  
Avg. Velocity = 1.43 fps, Avg. Travel Time= 4.2 min

Peak Storage= 1,621 cf @ 12.67 hrs  
Average Depth at Peak Storage= 0.64'  
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 152.29 cfs

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5.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds  
Side Slope Z-value= 2.0 4.0 ' ' Top Width= 17.00'  
Length= 364.0' Slope= 0.0199 ' '  
Inlet Invert= 27.25', Outlet Invert= 20.00'



**Summary for Reach tank: existing clarifier**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 0.60" for 2-year event  
Inflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af  
Outflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: (new Pond)**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af  
Outflow = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af  
Secondary = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.34' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>18.0" Round Culvert</b> L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.15' S= 0.1375 ' ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	62.95'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	60.75'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.75' / 60.72' S= 0.0060 ' ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=63.32' (Free Discharge)

↑1=Culvert (Passes 2.60 cfs of 9.18 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.60 cfs @ 1.76 fps)

**Secondary OutFlow** Max=4.29 cfs @ 12.09 hrs HW=63.32' (Free Discharge)

↑3=Culvert (Inlet Controls 4.29 cfs @ 5.47 fps)

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### Summary for Pond 4P: Rtanks

Inflow Area = 0.482 ac, 20.00% Impervious, Inflow Depth > 0.51" for 2-year event  
Inflow = 0.26 cfs @ 12.11 hrs, Volume= 0.021 af  
Outflow = 0.15 cfs @ 12.31 hrs, Volume= 0.020 af, Atten= 40%, Lag= 11.7 min  
Primary = 0.15 cfs @ 12.31 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 29.54' @ 12.31 hrs Surf.Area= 1,314 sf Storage= 138 cf

Plug-Flow detention time= 30.8 min calculated for 0.020 af (96% of inflow)  
Center-of-Mass det. time= 16.6 min ( 856.8 - 840.2 )

Volume	Invert	Avail.Storage	Storage Description
#1A	29.28'	968 cf	<b>17.12'W x 76.72'L x 3.42'H Field A</b> 4,487 cf Overall - 2,066 cf Embedded = 2,420 cf x 40.0% Voids
#2A	29.53'	1,963 cf	<b>ACF R-Tank HD 1.5 x 310 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 10 Rows of 31 Chambers
		2,931 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.28'	<b>12.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.28' / 29.28' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.15 cfs @ 12.31 hrs HW=29.54' (Free Discharge)

↑1=Culvert (Barrel Controls 0.15 cfs @ 1.46 fps)

### Summary for Pond dmh10: dmh10

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.21" for 2-year event  
Inflow = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af  
Outflow = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.76' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.59'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.59' / 53.56' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

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**Primary OutFlow** Max=5.22 cfs @ 12.09 hrs HW=55.72' (Free Discharge)

↑1=Culvert (Inlet Controls 5.22 cfs @ 2.86 fps)

**Summary for Pond dmh11: dmh11**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 0.34" for 2-year event  
Inflow = 9.16 cfs @ 12.09 hrs, Volume= 0.260 af  
Outflow = 9.16 cfs @ 12.09 hrs, Volume= 0.260 af, Atten= 0%, Lag= 0.0 min  
Primary = 9.16 cfs @ 12.09 hrs, Volume= 0.260 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.03' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.54'	<b>30.0" Round Culvert</b> L= 84.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.54' / 53.12' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=8.68 cfs @ 12.09 hrs HW=54.99' (Free Discharge)

↑1=Culvert (Barrel Controls 8.68 cfs @ 4.25 fps)

**Summary for Pond dmh13: dmh13**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 0.34" for 2-year event  
Inflow = 9.16 cfs @ 12.09 hrs, Volume= 0.260 af  
Outflow = 9.16 cfs @ 12.09 hrs, Volume= 0.260 af, Atten= 0%, Lag= 0.0 min  
Primary = 9.16 cfs @ 12.09 hrs, Volume= 0.260 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.52' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.10'	<b>30.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.10' / 52.09' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=8.68 cfs @ 12.09 hrs HW=54.47' (Free Discharge)

↑1=Culvert (Inlet Controls 8.68 cfs @ 3.15 fps)

**Summary for Pond dmh14: dmh14**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 0.43" for 2-year event  
Inflow = 10.50 cfs @ 12.09 hrs, Volume= 0.352 af  
Outflow = 10.50 cfs @ 12.09 hrs, Volume= 0.352 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.50 cfs @ 12.09 hrs, Volume= 0.352 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 53.86' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.07'	<b>30.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.07' / 51.95' S= 0.0052 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=10.00 cfs @ 12.09 hrs HW=53.81' (Free Discharge)

↑1=Culvert (Barrel Controls 10.00 cfs @ 3.87 fps)

**Summary for Pond dmh15: dmh15**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 0.43" for 2-year event  
 Inflow = 10.50 cfs @ 12.09 hrs, Volume= 0.352 af  
 Outflow = 10.50 cfs @ 12.09 hrs, Volume= 0.352 af, Atten= 0%, Lag= 0.0 min  
 Primary = 10.50 cfs @ 12.09 hrs, Volume= 0.352 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 53.56' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.95'	<b>30.0" Round Culvert</b> L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.95' / 51.50' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=10.00 cfs @ 12.09 hrs HW=53.52' (Free Discharge)

↑1=Culvert (Barrel Controls 10.00 cfs @ 4.41 fps)

**Summary for Pond dmh16: dmh16**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth = 0.00" for 2-year event  
 Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af  
 Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 60.50' @ 1.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>12.0" Round Culvert</b> L= 198.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.50' / 58.00' S= 0.0126 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=60.50' (Free Discharge)

↑1=Culvert ( Controls 0.00 cfs)

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**Summary for Pond dmh17: dmh17**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 0.42" for 2-year event  
Inflow = 10.50 cfs @ 12.09 hrs, Volume= 0.362 af  
Outflow = 10.50 cfs @ 12.09 hrs, Volume= 0.362 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.50 cfs @ 12.09 hrs, Volume= 0.362 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.18' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.48'	<b>30.0" Round Culvert</b> L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.48' / 51.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=10.00 cfs @ 12.09 hrs HW=53.13' (Free Discharge)  
↑1=Culvert (Barrel Controls 10.00 cfs @ 4.14 fps)

**Summary for Pond dmh2: dmh2**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 0.14" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.89' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>18.0" Round Culvert</b> L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.00' / 61.50' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=63.86' (Free Discharge)  
↑1=Culvert (Inlet Controls 2.60 cfs @ 2.49 fps)

**Summary for Pond dmh20: dmh20**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 0.42" for 2-year event  
Inflow = 10.50 cfs @ 12.09 hrs, Volume= 0.362 af  
Outflow = 10.50 cfs @ 12.09 hrs, Volume= 0.362 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.50 cfs @ 12.09 hrs, Volume= 0.362 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.88' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	<b>30.0" Round Culvert</b>

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L= 100.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.28' / 50.78' S= 0.0050 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=10.00 cfs @ 12.09 hrs HW=52.83' (Free Discharge)

↑1=Culvert (Barrel Controls 10.00 cfs @ 4.45 fps)

**Summary for Pond dmh21: dmh21**

Inflow Area = 14.164 ac, 80.88% Impervious, Inflow Depth > 0.64" for 2-year event  
Inflow = 14.18 cfs @ 12.09 hrs, Volume= 0.759 af  
Outflow = 14.18 cfs @ 12.09 hrs, Volume= 0.759 af, Atten= 0%, Lag= 0.0 min  
Primary = 14.18 cfs @ 12.09 hrs, Volume= 0.759 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.44' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.76'	<b>36.0" Round Culvert</b> L= 281.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.76' / 46.00' S= 0.0169 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=13.73 cfs @ 12.09 hrs HW=52.41' (Free Discharge)

↑1=Culvert (Inlet Controls 13.73 cfs @ 3.45 fps)

**Summary for Pond dmh22: dmh 22**

Inflow Area = 2.671 ac, 64.47% Impervious, Inflow Depth > 1.51" for 2-year event  
Inflow = 3.76 cfs @ 12.11 hrs, Volume= 0.337 af  
Outflow = 3.76 cfs @ 12.11 hrs, Volume= 0.337 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.76 cfs @ 12.11 hrs, Volume= 0.337 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.77' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>15.0" Round Culvert</b> L= 93.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.50' / 51.03' S= 0.0051 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=3.69 cfs @ 12.11 hrs HW=52.75' (Free Discharge)

↑1=Culvert (Inlet Controls 3.69 cfs @ 3.00 fps)

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**Summary for Pond dmh23: dmh23**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 1.48" for 2-year event  
Inflow = 3.30 cfs @ 12.11 hrs, Volume= 0.250 af  
Outflow = 3.30 cfs @ 12.11 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.30 cfs @ 12.11 hrs, Volume= 0.250 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.21' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.19'	<b>12.0" Round Culvert</b> L= 138.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.19' / 54.50' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.24 cfs @ 12.11 hrs HW=57.14' (Free Discharge)  
↑1=Culvert (Barrel Controls 3.24 cfs @ 4.12 fps)

**Summary for Pond dmh24: dmh24**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 1.48" for 2-year event  
Inflow = 3.30 cfs @ 12.11 hrs, Volume= 0.250 af  
Outflow = 3.30 cfs @ 12.11 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.30 cfs @ 12.11 hrs, Volume= 0.250 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.06' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.10'	<b>12.0" Round Culvert</b> L= 72.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.10' / 55.92' S= 0.0025 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.24 cfs @ 12.11 hrs HW=58.02' (Free Discharge)  
↑1=Culvert (Barrel Controls 3.24 cfs @ 4.12 fps)

**Summary for Pond dmh24a: dmh24a**

Inflow Area = 0.817 ac, 77.70% Impervious, Inflow Depth > 1.77" for 2-year event  
Inflow = 1.53 cfs @ 12.12 hrs, Volume= 0.121 af  
Outflow = 1.53 cfs @ 12.12 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.53 cfs @ 12.12 hrs, Volume= 0.121 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.81' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b>

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L= 95.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 58.00' / 57.10' S= 0.0095'/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.46 cfs @ 12.12 hrs HW=59.68' (Free Discharge)

↑1=Culvert (Barrel Controls 1.46 cfs @ 4.19 fps)

**Summary for Pond dmh25: dmh25**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 1.33" for 2-year event  
Inflow = 0.60 cfs @ 12.13 hrs, Volume= 0.045 af  
Outflow = 0.60 cfs @ 12.13 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.60 cfs @ 12.13 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.44' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	<b>12.0" Round Culvert</b> L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.00' / 55.00' S= 0.0510'/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.59 cfs @ 12.13 hrs HW=60.44' (Free Discharge)

↑1=Culvert (Inlet Controls 0.59 cfs @ 1.78 fps)

**Summary for Pond dmh26: (new Pond)**

Inflow Area = 2.028 ac, 41.73% Impervious, Inflow Depth > 0.58" for 2-year event  
Inflow = 0.42 cfs @ 12.84 hrs, Volume= 0.099 af  
Outflow = 0.42 cfs @ 12.84 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.42 cfs @ 12.84 hrs, Volume= 0.099 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.20' @ 12.84 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.75'	<b>12.0" Round Culvert</b> L= 28.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.75' / 57.61' S= 0.0050'/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.42 cfs @ 12.84 hrs HW=58.20' (Free Discharge)

↑1=Culvert (Barrel Controls 0.42 cfs @ 1.81 fps)

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**Summary for Pond dmh27: dmh27**

Inflow Area = 2.712 ac, 46.62% Impervious, Inflow Depth > 0.89" for 2-year event  
 Inflow = 1.32 cfs @ 12.10 hrs, Volume= 0.202 af  
 Outflow = 1.32 cfs @ 12.10 hrs, Volume= 0.202 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.32 cfs @ 12.10 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 53.66' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.03'	<b>15.0" Round Culvert</b> L= 256.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.03' / 51.75' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=1.31 cfs @ 12.10 hrs HW=53.66' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 1.31 cfs @ 3.09 fps)

**Summary for Pond dmh29: dmh29**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
 Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af  
 Outflow = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 58.50' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.85'	<b>8.0" Round Culvert</b> L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.85' / 57.39' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=0.74 cfs @ 12.09 hrs HW=58.49' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 0.74 cfs @ 2.14 fps)

**Summary for Pond dmh3: dmh3**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.27" for 2-year event  
 Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af  
 Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 61.40' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>18.0" Round Culvert</b>

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L= 125.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 60.50' / 59.84' S= 0.0053 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=61.37' (Free Discharge)

↑1=Culvert (Barrel Controls 2.60 cfs @ 3.54 fps)

**Summary for Pond dmh30: dmh30**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af  
Outflow = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.76 cfs @ 12.09 hrs, Volume= 0.058 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.91' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.40'	<b>12.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.40' / 54.37' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.73 cfs @ 12.09 hrs HW=55.91' (Free Discharge)

↑1=Culvert (Barrel Controls 0.73 cfs @ 2.69 fps)

**Summary for Pond dmh31: dmh31**

Inflow Area = 2.303 ac, 48.70% Impervious, Inflow Depth > 0.82" for 2-year event  
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.157 af  
Outflow = 0.76 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.76 cfs @ 12.09 hrs, Volume= 0.157 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.82' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.35'	<b>15.0" Round Culvert</b> L= 259.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.35' / 53.05' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=0.73 cfs @ 12.09 hrs HW=54.81' (Free Discharge)

↑1=Culvert (Barrel Controls 0.73 cfs @ 2.66 fps)

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**Summary for Pond dmh32: dmh32**

Inflow Area = 3.424 ac, 42.31% Impervious, Inflow Depth > 0.81" for 2-year event  
Inflow = 1.32 cfs @ 12.10 hrs, Volume= 0.231 af  
Outflow = 1.32 cfs @ 12.10 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.32 cfs @ 12.10 hrs, Volume= 0.231 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.40' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>18.0" Round Culvert</b> L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.60' S= 0.0036 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=1.31 cfs @ 12.10 hrs HW=52.39' (Free Discharge)  
↑1=Culvert (Barrel Controls 1.31 cfs @ 2.57 fps)

**Summary for Pond dmh33: dmh33**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 1.58" for 2-year event  
Inflow = 0.18 cfs @ 12.50 hrs, Volume= 0.042 af  
Outflow = 0.18 cfs @ 12.50 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.18 cfs @ 12.50 hrs, Volume= 0.042 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.23' @ 12.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 52.01' S= 0.0099 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.18 cfs @ 12.50 hrs HW=54.23' (Free Discharge)  
↑1=Culvert (Inlet Controls 0.18 cfs @ 1.29 fps)

**Summary for Pond dmh34: dmh34**

Inflow Area = 3.030 ac, 25.90% Impervious, Inflow Depth > 0.60" for 2-year event  
Inflow = 1.29 cfs @ 12.12 hrs, Volume= 0.151 af  
Outflow = 1.29 cfs @ 12.12 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.29 cfs @ 12.12 hrs, Volume= 0.151 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.57' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.99'	<b>18.0" Round Culvert</b>

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L= 39.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.99' / 51.60' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=1.24 cfs @ 12.12 hrs HW=52.56' (Free Discharge)

↑1=Culvert (Inlet Controls 1.24 cfs @ 2.03 fps)

**Summary for Pond dmh35: dmh35**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 0.69" for 2-year event  
Inflow = 2.61 cfs @ 12.11 hrs, Volume= 0.418 af  
Outflow = 2.61 cfs @ 12.11 hrs, Volume= 0.418 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.61 cfs @ 12.11 hrs, Volume= 0.418 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.32' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.55'	<b>24.0" Round Culvert</b> L= 276.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.55' / 50.17' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=2.54 cfs @ 12.11 hrs HW=52.31' (Free Discharge)

↑1=Culvert (Inlet Controls 2.54 cfs @ 2.34 fps)

**Summary for Pond dmh36: dmh36**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 0.69" for 2-year event  
Inflow = 2.61 cfs @ 12.11 hrs, Volume= 0.418 af  
Outflow = 2.61 cfs @ 12.11 hrs, Volume= 0.418 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.61 cfs @ 12.11 hrs, Volume= 0.418 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.92' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.15'	<b>24.0" Round Culvert</b> L= 159.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.15' / 49.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=2.54 cfs @ 12.11 hrs HW=50.91' (Free Discharge)

↑1=Culvert (Barrel Controls 2.54 cfs @ 3.44 fps)

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**Summary for Pond dmh38: dmh38**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 0.14" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.87' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>18.0" Round Culvert</b> L= 106.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 50.92' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=52.84' (Free Discharge)  
↑1=Culvert (Inlet Controls 2.60 cfs @ 2.49 fps)

**Summary for Pond dmh39: dmh39**

Inflow Area = 2.778 ac, 93.02% Impervious, Inflow Depth > 0.15" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.034 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.034 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 51.55' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.59'	<b>18.0" Round Culvert</b> L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.59' / 50.32' S= 0.0047 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=51.51' (Free Discharge)  
↑1=Culvert (Barrel Controls 2.60 cfs @ 3.26 fps)

**Summary for Pond dmh4: dmh4**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.27" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.82' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.84'	<b>18.0" Round Culvert</b>

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L= 66.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 59.84' / 59.57' S= 0.0041 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=60.78' (Free Discharge)

↑1=Culvert (Barrel Controls 2.60 cfs @ 3.20 fps)

**Summary for Pond dmh40: dmh40**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 0.54" for 2-year event  
Inflow = 5.32 cfs @ 12.09 hrs, Volume= 0.452 af  
Outflow = 5.32 cfs @ 12.09 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.32 cfs @ 12.09 hrs, Volume= 0.452 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.37' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.33'	<b>30.0" Round Culvert</b> L= 340.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 49.33' / 47.63' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=5.18 cfs @ 12.09 hrs HW=50.36' (Free Discharge)

↑1=Culvert (Inlet Controls 5.18 cfs @ 2.72 fps)

**Summary for Pond dmh43: dmh43**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 0.54" for 2-year event  
Inflow = 5.32 cfs @ 12.09 hrs, Volume= 0.452 af  
Outflow = 5.32 cfs @ 12.09 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.32 cfs @ 12.09 hrs, Volume= 0.452 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 48.65' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.61'	<b>30.0" Round Culvert</b> L= 193.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.61' / 46.64' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=5.18 cfs @ 12.09 hrs HW=48.64' (Free Discharge)

↑1=Culvert (Inlet Controls 5.18 cfs @ 2.72 fps)

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**Summary for Pond dmh44: dmh44**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 0.54" for 2-year event  
Inflow = 5.54 cfs @ 12.09 hrs, Volume= 0.468 af  
Outflow = 5.54 cfs @ 12.09 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.54 cfs @ 12.09 hrs, Volume= 0.468 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 47.67' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.62'	<b>36.0" Round Culvert</b> L= 82.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.62' / 46.21' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=5.40 cfs @ 12.09 hrs HW=47.65' (Free Discharge)  
↑1=Culvert (Barrel Controls 5.40 cfs @ 3.74 fps)

**Summary for Pond dmh45: dmh45**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 0.54" for 2-year event  
Inflow = 5.54 cfs @ 12.09 hrs, Volume= 0.468 af  
Outflow = 5.54 cfs @ 12.09 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.54 cfs @ 12.09 hrs, Volume= 0.468 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 47.19' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.19'	<b>36.0" Round Culvert</b> L= 316.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.19' / 44.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=5.40 cfs @ 12.09 hrs HW=47.18' (Free Discharge)  
↑1=Culvert (Inlet Controls 5.40 cfs @ 2.67 fps)

**Summary for Pond dmh47: dmh47**

Inflow Area = 12.894 ac, 59.74% Impervious, Inflow Depth > 0.46" for 2-year event  
Inflow = 8.31 cfs @ 12.09 hrs, Volume= 0.497 af  
Outflow = 8.31 cfs @ 12.09 hrs, Volume= 0.497 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.31 cfs @ 12.09 hrs, Volume= 0.497 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 45.25' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	<b>36.0" Round Culvert</b>

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L= 104.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.00' / 42.96' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=7.98 cfs @ 12.09 hrs HW=45.22' (Free Discharge)

↑1=Culvert (Inlet Controls 7.98 cfs @ 2.97 fps)

**Summary for Pond dmh48: dmh48**

Inflow Area = 13.587 ac, 61.79% Impervious, Inflow Depth > 0.54" for 2-year event  
Inflow = 9.20 cfs @ 12.09 hrs, Volume= 0.611 af  
Outflow = 9.20 cfs @ 12.09 hrs, Volume= 0.611 af, Atten= 0%, Lag= 0.0 min  
Primary = 9.20 cfs @ 12.09 hrs, Volume= 0.611 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.29' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.94'	<b>36.0" Round Culvert</b> L= 117.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.94' / 42.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=8.94 cfs @ 12.09 hrs HW=44.27' (Free Discharge)

↑1=Culvert (Barrel Controls 8.94 cfs @ 4.34 fps)

**Summary for Pond dmh49: dmh49**

Inflow Area = 13.908 ac, 61.10% Impervious, Inflow Depth > 0.55" for 2-year event  
Inflow = 9.67 cfs @ 12.09 hrs, Volume= 0.643 af  
Outflow = 9.67 cfs @ 12.09 hrs, Volume= 0.643 af, Atten= 0%, Lag= 0.0 min  
Primary = 9.67 cfs @ 12.09 hrs, Volume= 0.643 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 43.86' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.33'	<b>36.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.33' / 42.23' S= 0.0071 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=9.41 cfs @ 12.09 hrs HW=43.83' (Free Discharge)

↑1=Culvert (Barrel Controls 9.41 cfs @ 3.88 fps)

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**Summary for Pond dmh5: dmh5**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.27" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.38' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.48'	<b>18.0" Round Culvert</b> L= 173.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.48' / 58.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=60.34' (Free Discharge)  
↑1=Culvert (Barrel Controls 2.60 cfs @ 3.56 fps)

**Summary for Pond dmh50: dmh50**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 0.63" for 2-year event  
Inflow = 14.18 cfs @ 12.09 hrs, Volume= 0.781 af  
Outflow = 14.18 cfs @ 12.09 hrs, Volume= 0.781 af, Atten= 0%, Lag= 0.0 min  
Primary = 14.18 cfs @ 12.09 hrs, Volume= 0.781 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 46.43' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.75'	<b>36.0" Round Culvert</b> L= 64.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.75' / 44.11' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=13.73 cfs @ 12.09 hrs HW=46.40' (Free Discharge)  
↑1=Culvert (Inlet Controls 13.73 cfs @ 3.45 fps)

**Summary for Pond dmh51: dmh51**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 0.63" for 2-year event  
Inflow = 14.18 cfs @ 12.09 hrs, Volume= 0.781 af  
Outflow = 14.18 cfs @ 12.09 hrs, Volume= 0.781 af, Atten= 0%, Lag= 0.0 min  
Primary = 14.18 cfs @ 12.09 hrs, Volume= 0.781 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 45.77' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.09'	<b>36.0" Round Culvert</b>

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L= 38.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.09' / 43.00' S= 0.0287 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=13.73 cfs @ 12.09 hrs HW=45.74' (Free Discharge)

↑1=Culvert (Inlet Controls 13.73 cfs @ 3.45 fps)

**Summary for Pond dmh52: dmh52**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 0.59" for 2-year event  
Inflow = 23.85 cfs @ 12.09 hrs, Volume= 1.424 af  
Outflow = 23.85 cfs @ 12.09 hrs, Volume= 1.424 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.85 cfs @ 12.09 hrs, Volume= 1.424 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 42.84' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	41.00'	<b>60.0" Round Culvert</b> L= 258.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 41.00' / 36.00' S= 0.0194 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=23.13 cfs @ 12.09 hrs HW=42.81' (Free Discharge)

↑1=Culvert (Inlet Controls 23.13 cfs @ 3.61 fps)

**Summary for Pond dmh53: dmh53**

Inflow Area = 29.187 ac, 69.95% Impervious, Inflow Depth > 0.60" for 2-year event  
Inflow = 23.85 cfs @ 12.09 hrs, Volume= 1.460 af  
Outflow = 23.85 cfs @ 12.09 hrs, Volume= 1.460 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.85 cfs @ 12.09 hrs, Volume= 1.460 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 34.84' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	<b>60.0" Round Culvert</b> L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 33.00' / 30.50' S= 0.0208 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=23.13 cfs @ 12.09 hrs HW=34.81' (Free Discharge)

↑1=Culvert (Inlet Controls 23.13 cfs @ 3.61 fps)

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**Summary for Pond dmh54: dmh54**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 0.60" for 2-year event  
Inflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af  
Outflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 28.84' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	27.00'	<b>60.0" Round Culvert</b> L= 152.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 27.00' / 22.00' S= 0.0329 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=23.22 cfs @ 12.09 hrs HW=28.81' (Free Discharge)  
↑1=Culvert (Inlet Controls 23.22 cfs @ 3.62 fps)

**Summary for Pond dmh55: dhm55**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 0.60" for 2-year event  
Inflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af  
Outflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 20.84' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	<b>60.0" Round Culvert</b> L= 115.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.00' / 15.50' S= 0.0304 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=23.22 cfs @ 12.09 hrs HW=20.81' (Free Discharge)  
↑1=Culvert (Inlet Controls 23.22 cfs @ 3.62 fps)

**Summary for Pond dmh56: dmh56**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 0.60" for 2-year event  
Inflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af  
Outflow = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.93 cfs @ 12.09 hrs, Volume= 1.475 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 14.34' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.50'	<b>60.0" Round Culvert</b>

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L= 42.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 12.50' / 11.00' S= 0.0357 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=23.22 cfs @ 12.09 hrs HW=14.31' (Free Discharge)

↑1=Culvert (Inlet Controls 23.22 cfs @ 3.62 fps)

**Summary for Pond dmh59: dmh59**

Inflow Area = 2.253 ac, 63.02% Impervious, Inflow Depth > 1.52" for 2-year event  
Inflow = 3.48 cfs @ 12.11 hrs, Volume= 0.285 af  
Outflow = 3.48 cfs @ 12.11 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.48 cfs @ 12.11 hrs, Volume= 0.285 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.21' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	<b>12.0" Round Culvert</b> L= 294.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.30' / 52.83' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.40 cfs @ 12.11 hrs HW=57.06' (Free Discharge)

↑1=Culvert (Barrel Controls 3.40 cfs @ 4.33 fps)

**Summary for Pond dmh6: dmh6**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.27" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.66' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 57.73' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=59.62' (Free Discharge)

↑1=Culvert (Barrel Controls 2.60 cfs @ 2.81 fps)

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**Summary for Pond dmh60: dhm60**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 0.59" for 2-year event  
Inflow = 23.85 cfs @ 12.09 hrs, Volume= 1.424 af  
Outflow = 23.85 cfs @ 12.09 hrs, Volume= 1.424 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.85 cfs @ 12.09 hrs, Volume= 1.424 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 37.34' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	<b>60.0" Round Culvert</b> L= 114.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.50' / 33.50' S= 0.0175 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow Max=23.13 cfs @ 12.09 hrs HW=37.31' (Free Discharge)**  
↑1=Culvert (Inlet Controls 23.13 cfs @ 3.61 fps)

**Summary for Pond dmh7: dmh7**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.27" for 2-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af  
Outflow = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.77 cfs @ 12.09 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.61' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.71'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.71' / 56.86' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow Max=2.60 cfs @ 12.09 hrs HW=58.57' (Free Discharge)**  
↑1=Culvert (Barrel Controls 2.60 cfs @ 3.55 fps)

**Summary for Pond dmh8: dmh8**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.21" for 2-year event  
Inflow = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af  
Outflow = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.05' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.84'	<b>24.0" Round Culvert</b>

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L= 296.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 56.84' / 55.66' S= 0.0040 ' / ' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=5.22 cfs @ 12.09 hrs HW=58.01' (Free Discharge)

↑1=Culvert (Barrel Controls 5.22 cfs @ 3.95 fps)

**Summary for Pond dmh9a: dmh9a**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.21" for 2-year event  
Inflow = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af  
Outflow = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.57 cfs @ 12.09 hrs, Volume= 0.105 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.81' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.64'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.64' / 54.61' S= 0.0050 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=5.22 cfs @ 12.09 hrs HW=56.77' (Free Discharge)

↑1=Culvert (Inlet Controls 5.22 cfs @ 2.86 fps)

**Summary for Pond GSF 11: grassed soil filter**

Inflow Area = 0.991 ac, 36.78% Impervious, Inflow Depth > 1.27" for 2-year event  
Inflow = 1.55 cfs @ 12.09 hrs, Volume= 0.105 af  
Outflow = 0.21 cfs @ 12.79 hrs, Volume= 0.047 af, Atten= 87%, Lag= 41.5 min  
Primary = 0.21 cfs @ 12.79 hrs, Volume= 0.047 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.04' @ 12.79 hrs Surf.Area= 2,795 sf Storage= 2,590 cf  
Flood Elev= 63.00' Surf.Area= 3,400 sf Storage= 5,560 cf

Plug-Flow detention time= 191.1 min calculated for 0.047 af (45% of inflow)  
Center-of-Mass det. time= 105.3 min ( 905.0 - 799.7 )

Volume	Invert	Avail.Storage	Storage Description			
#1	61.00'	5,560 cf	<b>gsf11 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
61.00	2,200	181.0	0	0	2,200	
62.00	2,771	200.0	2,480	2,480	2,807	
63.00	3,400	219.0	3,080	5,560	3,474	

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Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0085 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. cb19 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.21 cfs @ 12.79 hrs HW=62.04' (Free Discharge)

↑1=Culvert (Passes 0.21 cfs of 5.58 cfs potential flow)

↑2=cb19 (Weir Controls 0.21 cfs @ 0.65 fps)

**Summary for Pond GSF 12: grassed soil filter**

Inflow Area = 0.297 ac, 57.98% Impervious, Inflow Depth > 1.62" for 2-year event  
 Inflow = 0.59 cfs @ 12.09 hrs, Volume= 0.040 af  
 Outflow = 0.53 cfs @ 12.14 hrs, Volume= 0.029 af, Atten= 10%, Lag= 3.1 min  
 Primary = 0.53 cfs @ 12.14 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 61.57' @ 12.14 hrs Surf.Area= 1,061 sf Storage= 558 cf  
 Flood Elev= 62.50' Surf.Area= 1,368 sf Storage= 1,681 cf

Plug-Flow detention time= 106.8 min calculated for 0.029 af (72% of inflow)  
 Center-of-Mass det. time= 42.8 min ( 827.6 - 784.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	1,681 cf	<b>gsf12 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	886	151.0	0	0	886
62.00	1,201	164.0	1,040	1,040	1,248
62.50	1,368	170.0	642	1,681	1,428

Device	Routing	Invert	Outlet Devices
#1	Primary	58.20'	<b>8.0" Round Culvert</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.20' / 58.10' S= 0.0048 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.50'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.52 cfs @ 12.14 hrs HW=61.57' (Free Discharge)

↑1=Culvert (Passes 0.52 cfs of 2.31 cfs potential flow)

↑2=Catch Basin (Weir Controls 0.52 cfs @ 0.88 fps)

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**Summary for Pond GSF 13: grassed soil filter**

Inflow Area = 1.037 ac, 46.46% Impervious, Inflow Depth > 1.40" for 2-year event  
Inflow = 1.79 cfs @ 12.09 hrs, Volume= 0.121 af  
Outflow = 0.21 cfs @ 12.87 hrs, Volume= 0.051 af, Atten= 88%, Lag= 46.4 min  
Primary = 0.21 cfs @ 12.87 hrs, Volume= 0.051 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.04' @ 12.87 hrs Surf.Area= 3,554 sf Storage= 3,135 cf  
Flood Elev= 63.00' Surf.Area= 4,582 sf Storage= 7,028 cf

Plug-Flow detention time= 200.0 min calculated for 0.051 af (42% of inflow)  
Center-of-Mass det. time= 113.4 min ( 907.5 - 794.1 )

Volume	Invert	Avail.Storage	Storage Description		
#1	61.00'	7,028 cf	<b>gsf13 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	2,500	328.0	0	0	2,500
62.00	3,513	347.0	2,992	2,992	3,575
63.00	4,582	366.0	4,036	7,028	4,710

Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. db18 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.21 cfs @ 12.87 hrs HW=62.04' (Free Discharge)

↑1=Culvert (Passes 0.21 cfs of 5.58 cfs potential flow)

↑2=db18 (Weir Controls 0.21 cfs @ 0.66 fps)

**Summary for Pond GSF 15: grassed soil filter**

Inflow Area = 0.210 ac, 1.92% Impervious, Inflow Depth > 0.77" for 2-year event  
Inflow = 0.19 cfs @ 12.10 hrs, Volume= 0.013 af  
Outflow = 0.14 cfs @ 12.22 hrs, Volume= 0.010 af, Atten= 29%, Lag= 7.2 min  
Primary = 0.14 cfs @ 12.22 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.73' @ 12.20 hrs Surf.Area= 712 sf Storage= 149 cf  
Flood Elev= 65.00' Surf.Area= 1,418 sf Storage= 1,489 cf

Plug-Flow detention time= 91.5 min calculated for 0.010 af (77% of inflow)  
Center-of-Mass det. time= 32.8 min ( 855.9 - 823.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	1,489 cf	<b>gsf15 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	600	168.0	0	0	600
64.00	858	177.0	363	363	862
65.00	1,418	196.0	1,126	1,489	1,456

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.52' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	63.70'	<b>2.0" x 2.0" Horiz. cb9 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 12.22 hrs HW=63.73' (Free Discharge)

↑1=Culvert (Passes 0.12 cfs of 2.18 cfs potential flow)

↑2=cb9 (Weir Controls 0.12 cfs @ 0.54 fps)

**Summary for Pond GSF 16: grassed soil filter**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 1.20" for 2-year event  
 Inflow = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af  
 Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min  
 Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 63.86' @ 20.00 hrs Surf.Area= 1,750 sf Storage= 1,513 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)  
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	62.75'	4,054 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
62.75	1,000	215.0	0	0	1,000
63.00	1,165	220.0	270	270	1,181
64.00	1,858	241.0	1,498	1,768	1,986
65.00	2,741	270.0	2,285	4,054	3,192

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.54' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	64.40'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b>

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C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=62.75' (Free Discharge)

↑1=Culvert (Passes 0.00 cfs of 1.74 cfs potential flow)

↑2=Catch Basin ( Controls 0.00 cfs)

**Summary for Pond GSF 18A: grassed soil filter**

Inflow Area = 0.146 ac, 40.91% Impervious, Inflow Depth > 1.33" for 2-year event  
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.016 af  
Outflow = 0.03 cfs @ 12.84 hrs, Volume= 0.007 af, Atten= 88%, Lag= 44.8 min  
Primary = 0.03 cfs @ 12.84 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.41' @ 12.84 hrs Surf.Area= 1,124 sf Storage= 415 cf

Plug-Flow detention time= 199.1 min calculated for 0.007 af (42% of inflow)  
Center-of-Mass det. time= 111.4 min ( 908.4 - 797.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	1,183 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	900	183.0	0	0	900
58.00	1,490	202.0	1,183	1,183	1,513

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.40'	<b>2.0" x 2.0" Horiz. cb24 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.03 cfs @ 12.84 hrs HW=57.41' (Free Discharge)

↑1=Culvert (Passes 0.03 cfs of 2.33 cfs potential flow)

↑2=cb24 (Weir Controls 0.03 cfs @ 0.34 fps)

**Summary for Pond GSF 18B: grassed soil filter**

Inflow Area = 0.092 ac, 58.36% Impervious, Inflow Depth > 1.62" for 2-year event  
Inflow = 0.18 cfs @ 12.09 hrs, Volume= 0.012 af  
Outflow = 0.02 cfs @ 13.36 hrs, Volume= 0.004 af, Atten= 92%, Lag= 75.8 min  
Primary = 0.02 cfs @ 13.36 hrs, Volume= 0.004 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.91' @ 13.36 hrs Surf.Area= 555 sf Storage= 376 cf

Plug-Flow detention time= 250.4 min calculated for 0.004 af (31% of inflow)

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Center-of-Mass det. time= 152.5 min ( 937.4 - 784.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	430 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	290	88.0	0	0	290
58.00	587	107.0	430	430	601

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.90'	<b>2.0" x 2.0" Horiz. cb23 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.01 cfs @ 13.36 hrs HW=57.91' (Free Discharge)

↑1=Culvert (Passes 0.01 cfs of 2.51 cfs potential flow)

↑2=cb23 (Weir Controls 0.01 cfs @ 0.25 fps)

**Summary for Pond GSF 1A: Grassed soil filter**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 1.33" for 2-year event  
 Inflow = 0.67 cfs @ 12.09 hrs, Volume= 0.045 af  
 Outflow = 0.60 cfs @ 12.13 hrs, Volume= 0.045 af, Atten= 11%, Lag= 2.4 min  
 Primary = 0.60 cfs @ 12.13 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 65.83' @ 12.13 hrs Surf.Area= 1,655 sf Storage= 131 cf  
 Flood Elev= 68.00' Surf.Area= 3,488 sf Storage= 5,554 cf

Plug-Flow detention time= 5.6 min calculated for 0.045 af (100% of inflow)  
 Center-of-Mass det. time= 4.6 min ( 801.5 - 797.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	5,554 cf	<b>Grassed Underdrain Soil Filter (Irregular)</b> listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	1,600	234.0	0	0	1,600
66.00	1,775	239.0	422	422	1,797
67.00	2,525	261.0	2,139	2,561	2,708
68.00	3,488	286.0	2,994	5,554	3,830

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.26' S= 0.0200 '/ Cc= 0.900

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#2 Device 1 65.75' n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf  
**2.0" x 2.0" Horiz. Orifice/Grate X 49.00**  
 C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=0.58 cfs @ 12.13 hrs HW=65.83' (Free Discharge)**

- ↑1=Culvert (Passes 0.58 cfs of 2.18 cfs potential flow)
- ↑2=Orifice/Grate (Weir Controls 0.58 cfs @ 0.92 fps)

**Summary for Pond GSF 1B: grassed soil filter**

Inflow Area = 0.781 ac, 20.08% Impervious, Inflow Depth > 1.03" for 2-year event  
 Inflow = 0.98 cfs @ 12.10 hrs, Volume= 0.067 af  
 Outflow = 0.53 cfs @ 12.27 hrs, Volume= 0.046 af, Atten= 46%, Lag= 10.5 min  
 Primary = 0.53 cfs @ 12.27 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 66.97' @ 12.27 hrs Surf.Area= 1,544 sf Storage= 999 cf  
 Flood Elev= 67.00' Surf.Area= 1,576 sf Storage= 1,039 cf

Plug-Flow detention time= 116.8 min calculated for 0.046 af (69% of inflow)  
 Center-of-Mass det. time= 46.5 min ( 856.8 - 810.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.00'	1,039 cf	<b>gsf1B (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.00	583	194.0	0	0	583
67.00	1,576	297.0	1,039	1,039	4,615

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.60' S= 0.0100 ' / Cc= 0.900
#2	Device 1	66.90'	<b>2.0" x 2.0" Horiz. CB17 grate X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=0.51 cfs @ 12.27 hrs HW=66.97' (Free Discharge)**

- ↑1=Culvert (Passes 0.51 cfs of 2.60 cfs potential flow)
- ↑2=CB17 grate (Weir Controls 0.51 cfs @ 0.88 fps)

**Summary for Pond GSF 2: grassed soil filter**

Inflow Area = 0.713 ac, 25.93% Impervious, Inflow Depth > 1.08" for 2-year event  
 Inflow = 0.95 cfs @ 12.10 hrs, Volume= 0.064 af  
 Outflow = 0.12 cfs @ 12.92 hrs, Volume= 0.029 af, Atten= 87%, Lag= 49.1 min  
 Primary = 0.12 cfs @ 12.92 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 57.63' @ 12.92 hrs Surf.Area= 2,095 sf Storage= 1,574 cf  
Flood Elev= 59.00' Surf.Area= 3,488 sf Storage= 5,317 cf

Plug-Flow detention time= 193.0 min calculated for 0.029 af (45% of inflow)  
Center-of-Mass det. time= 105.2 min ( 912.9 - 807.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.75'	5,317 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.75	1,500	218.0	0	0	1,500
57.00	1,669	223.0	396	396	1,684
58.00	2,371	245.0	2,010	2,406	2,536
59.00	3,488	283.0	2,912	5,317	4,154

Device	Routing	Invert	Outlet Devices
#1	Primary	53.95'	<b>8.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.95' / 53.76' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb20 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.12 cfs @ 12.92 hrs HW=57.63' (Free Discharge)

1=Culvert (Passes 0.12 cfs of 2.43 cfs potential flow)

2=cb20 (Weir Controls 0.12 cfs @ 0.54 fps)

**Summary for Pond GSF 24: grassed soil filter**

Inflow Area = 0.419 ac, 67.19% Impervious, Inflow Depth > 1.95" for 2-year event  
Inflow = 0.98 cfs @ 12.09 hrs, Volume= 0.068 af  
Outflow = 0.44 cfs @ 12.29 hrs, Volume= 0.037 af, Atten= 55%, Lag= 11.9 min  
Primary = 0.44 cfs @ 12.29 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.67' @ 12.29 hrs Surf.Area= 1,839 sf Storage= 1,478 cf

Plug-Flow detention time= 158.6 min calculated for 0.036 af (54% of inflow)  
Center-of-Mass det. time= 79.4 min ( 849.2 - 769.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.75'	4,479 cf	<b>gsf24 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
39.75	1,400	150.0	0	0	1,400
40.00	1,516	156.0	364	364	1,551
41.00	2,013	176.0	1,759	2,123	2,105
42.00	2,717	200.0	2,356	4,479	2,847

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Device	Routing	Invert	Outlet Devices
#1	Primary	36.80'	<b>8.0" Round Culvert</b> L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 36.80' / 36.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	40.60'	<b>2.0" x 2.0" Horiz. cb32 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.43 cfs @ 12.29 hrs HW=40.66' (Free Discharge)

↑1=Culvert (Passes 0.43 cfs of 2.49 cfs potential flow)

↑2=cb32 (Weir Controls 0.43 cfs @ 0.83 fps)

**Summary for Pond GSF 3: grassed soil filter**

Inflow Area = 0.830 ac, 36.22% Impervious, Inflow Depth > 1.20" for 2-year event  
 Inflow = 1.23 cfs @ 12.10 hrs, Volume= 0.083 af  
 Outflow = 0.15 cfs @ 12.88 hrs, Volume= 0.037 af, Atten= 88%, Lag= 47.3 min  
 Primary = 0.15 cfs @ 12.88 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 55.78' @ 12.88 hrs Surf.Area= 2,457 sf Storage= 2,084 cf  
 Flood Elev= 57.00' Surf.Area= 3,839 sf Storage= 5,872 cf

Plug-Flow detention time= 196.1 min calculated for 0.037 af (44% of inflow)  
 Center-of-Mass det. time= 108.4 min ( 910.9 - 802.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	54.75'	5,872 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.75	1,600	268.0	0	0	1,600
55.00	1,804	274.0	425	425	1,868
56.00	2,657	295.0	2,217	2,642	2,860
57.00	3,839	332.0	3,230	5,872	4,733

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>12.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 51.84' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	55.75'	<b>2.0" x 2.0" Horiz. cb25 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.15 cfs @ 12.88 hrs HW=55.78' (Free Discharge)

↑1=Culvert (Passes 0.15 cfs of 5.42 cfs potential flow)

↑2=cb25 (Weir Controls 0.15 cfs @ 0.58 fps)

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**Summary for Pond GSF 4: grassed soil filter**

Inflow Area = 0.194 ac, 0.00% Impervious, Inflow Depth > 0.77" for 2-year event  
Inflow = 0.18 cfs @ 12.10 hrs, Volume= 0.012 af  
Outflow = 0.02 cfs @ 13.70 hrs, Volume= 0.005 af, Atten= 90%, Lag= 95.7 min  
Primary = 0.02 cfs @ 13.70 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.11' @ 13.70 hrs Surf.Area= 656 sf Storage= 336 cf  
Flood Elev= 56.00' Surf.Area= 974 sf Storage= 1,061 cf

Plug-Flow detention time= 233.1 min calculated for 0.005 af (38% of inflow)  
Center-of-Mass det. time= 134.9 min ( 958.0 - 823.1 )

Volume	Invert	Avail.Storage	Storage Description		
#1	54.50'	1,061 cf	<b>gsf4 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.50	457	163.0	0	0	457
55.00	623	169.0	269	269	636
56.00	974	182.0	792	1,061	1,039

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>8.0" Round Culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.56' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	55.10'	<b>2.0" x 2.0" Horiz. cb26 rim X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.01 cfs @ 13.70 hrs HW=55.11' (Free Discharge)

↑1=Culvert (Passes 0.01 cfs of 2.31 cfs potential flow)

↑2=cb26 rim (Weir Controls 0.01 cfs @ 0.24 fps)

**Summary for Pond GSF 5: grassed soil filter**

Inflow Area = 0.248 ac, 0.00% Impervious, Inflow Depth > 0.77" for 2-year event  
Inflow = 0.22 cfs @ 12.10 hrs, Volume= 0.016 af  
Outflow = 0.22 cfs @ 12.10 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.22 cfs @ 12.10 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.00' @ 12.10 hrs Surf.Area= 601 sf Storage= 1 cf  
Flood Elev= 55.00' Surf.Area= 1,257 sf Storage= 908 cf

Plug-Flow detention time= 0.0 min calculated for 0.016 af (100% of inflow)  
Center-of-Mass det. time= 0.0 min ( 823.2 - 823.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	908 cf	<b>gsf5 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	600	210.0	0	0	600
55.00	1,257	228.0	908	908	1,265

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.95' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	54.60'	<b>2.0" x 2.0" Horiz. Catch Basin</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=2.17 cfs @ 12.10 hrs HW=54.00' (Free Discharge)

- 1=Culvert (Inlet Controls 2.17 cfs @ 6.21 fps)
- 2=Catch Basin ( Controls 0.00 cfs)

**Summary for Pond GSF 6: grassed soil filter**

Inflow Area = 0.321 ac, 32.06% Impervious, Inflow Depth > 1.20" for 2-year event  
 Inflow = 0.48 cfs @ 12.10 hrs, Volume= 0.032 af  
 Outflow = 0.48 cfs @ 12.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.48 cfs @ 12.10 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.00' @ 12.10 hrs Surf.Area= 1,000 sf Storage= 1 cf  
 Flood Elev= 50.00' Surf.Area= 1,768 sf Storage= 1,366 cf

Plug-Flow detention time= 0.0 min calculated for 0.032 af (100% of inflow)  
 Center-of-Mass det. time= 0.0 min ( 802.5 - 802.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	1,366 cf	<b>gsf6 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
49.00	1,000	156.0	0	0	1,000
50.00	1,768	184.0	1,366	1,366	1,776

Device	Routing	Invert	Outlet Devices
#1	Primary	44.70'	<b>8.0" Round culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.70' / 44.53' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	48.20'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

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**Primary OutFlow** Max=8.51 cfs @ 12.10 hrs HW=49.00' (Free Discharge)

↑1=culvert (Inlet Controls 2.64 cfs @ 7.57 fps)

↑2=Catch Basin (Orifice Controls 5.86 cfs @ 4.31 fps)

**Summary for Pond GSF 7: grassed soil filter**

Inflow Area = 0.697 ac, 25.86% Impervious, Inflow Depth > 1.08" for 2-year event  
Inflow = 0.93 cfs @ 12.10 hrs, Volume= 0.063 af  
Outflow = 0.07 cfs @ 13.86 hrs, Volume= 0.022 af, Atten= 92%, Lag= 105.9 min  
Primary = 0.07 cfs @ 13.86 hrs, Volume= 0.022 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Peak Elev= 54.72' @ 13.86 hrs Surf.Area= 3,028 sf Storage= 1,812 cf  
Flood Elev= 56.00' Surf.Area= 5,203 sf Storage= 7,026 cf

Plug-Flow detention time= 238.3 min calculated for 0.022 af (35% of inflow)  
Center-of-Mass det. time= 145.0 min ( 952.7 - 807.7 )

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	7,026 cf	<b>gsf7 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	2,037	220.0	0	0	2,037	
55.00	3,467	289.0	2,720	2,720	4,843	
56.00	5,203	357.0	4,306	7,026	8,354	

Device	Routing	Invert	Outlet Devices	
#1	Primary	51.00'	<b>8.0" Round cb29</b> L= 26.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.48' S= 0.0200 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf	
#2	Device 1	54.70'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads	

**Primary OutFlow** Max=0.07 cfs @ 13.86 hrs HW=54.72' (Free Discharge)

↑1=cb29 (Passes 0.07 cfs of 2.44 cfs potential flow)

↑2=Catch Basin (Weir Controls 0.07 cfs @ 0.46 fps)

**Summary for Pond GSF 8: grassed soil filter**

Inflow Area = 1.046 ac, 55.78% Impervious, Inflow Depth > 1.54" for 2-year event  
Inflow = 1.98 cfs @ 12.09 hrs, Volume= 0.134 af  
Outflow = 0.32 cfs @ 12.61 hrs, Volume= 0.059 af, Atten= 84%, Lag= 30.9 min  
Primary = 0.32 cfs @ 12.61 hrs, Volume= 0.059 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.65' @ 12.61 hrs Surf.Area= 3,327 sf Storage= 3,408 cf  
Flood Elev= 58.50' Surf.Area= 3,910 sf Storage= 6,471 cf

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Plug-Flow detention time= 191.5 min calculated for 0.059 af (44% of inflow)

Center-of-Mass det. time= 106.2 min ( 894.3 - 788.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	6,471 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.50	2,600	200.0	0	0	2,600
57.50	3,227	218.0	2,908	2,908	3,234
58.50	3,910	237.0	3,563	6,471	3,959

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.50' / 52.93' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb10 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.31 cfs @ 12.61 hrs HW=57.65' (Free Discharge)

↑1=Culvert (Passes 0.31 cfs of 2.53 cfs potential flow)

↑2=cb10 (Weir Controls 0.31 cfs @ 0.75 fps)

**Summary for Pond GSF 9: grassed soil filter**

Inflow Area = 0.647 ac, 63.29% Impervious, Inflow Depth > 1.70" for 2-year event  
 Inflow = 1.34 cfs @ 12.09 hrs, Volume= 0.091 af  
 Outflow = 1.34 cfs @ 12.09 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.2 min  
 Primary = 1.34 cfs @ 12.09 hrs, Volume= 0.091 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 63.51' @ 12.09 hrs Surf.Area= 1,909 sf Storage= 14 cf  
 Flood Elev= 65.00' Surf.Area= 3,935 sf Storage= 4,339 cf

Plug-Flow detention time= 0.2 min calculated for 0.091 af (100% of inflow)

Center-of-Mass det. time= 0.2 min ( 781.6 - 781.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	4,339 cf	<b>gsf9 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	1,900	437.0	0	0	1,900
64.00	2,567	446.0	1,113	1,113	2,570
65.00	3,935	465.0	3,227	4,339	4,021

Device	Routing	Invert	Outlet Devices
#1	Primary	59.00'	<b>8.0" Round Culvert</b> L= 54.0' CPP, projecting, no headwall, Ke= 0.900

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#2	Device 1	63.00'	Inlet / Outlet Invert= 59.00' / 57.92' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. cb6 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads
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**Primary OutFlow** Max=2.71 cfs @ 12.09 hrs HW=63.51' (Free Discharge)

↑1=Culvert (Inlet Controls 2.71 cfs @ 7.77 fps)

↑2=cb6 (Passes 2.71 cfs of 4.67 cfs potential flow)

**Summary for Pond ICS1: ICS**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event
Inflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af
Outflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
Primary =	2.77 cfs @ 12.09 hrs, Volume= 0.029 af
Secondary =	4.31 cfs @ 12.09 hrs, Volume= 0.518 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 66.54' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	<b>18.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 63.27' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	66.15'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	63.95'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.95' / 63.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=66.52' (Free Discharge)

↑1=Culvert (Passes 2.60 cfs of 10.12 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.60 cfs @ 1.76 fps)

**Secondary OutFlow** Max=4.29 cfs @ 12.09 hrs HW=66.52' (Free Discharge)

↑3=Culvert (Inlet Controls 4.29 cfs @ 5.47 fps)

**Summary for Pond ics28: ICS28**

Inflow Area =	0.275 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event
Inflow =	0.76 cfs @ 12.09 hrs, Volume= 0.058 af
Outflow =	0.76 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min
Primary =	0.76 cfs @ 12.09 hrs, Volume= 0.058 af
Secondary =	0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 58.51' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.00' / 57.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	60.50'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	58.15'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.15' / 58.12' S= 0.0060 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=0.73 cfs @ 12.09 hrs HW=58.50' (Free Discharge)

↑1=Culvert (Barrel Controls 0.50 cfs @ 2.46 fps)

↑3=Culvert (Barrel Controls 0.24 cfs @ 1.84 fps)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=58.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond ICS37: ISC37**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event
Inflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af
Outflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
Primary =	2.77 cfs @ 12.09 hrs, Volume= 0.029 af
Secondary =	4.31 cfs @ 12.09 hrs, Volume= 0.518 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 55.39' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.50'	<b>18.0" Round Culvert</b> L= 51.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.50' / 52.00' S= 0.0098 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

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**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=55.37' (Free Discharge)

↑1=Culvert (Passes 2.60 cfs of 9.78 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.60 cfs @ 1.76 fps)

**Secondary OutFlow** Max=4.29 cfs @ 12.09 hrs HW=55.37' (Free Discharge)

↑3=Culvert (Inlet Controls 4.29 cfs @ 5.47 fps)

**Summary for Pond ics46: ICS46**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event
Inflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af
Outflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
Primary =	2.77 cfs @ 12.09 hrs, Volume= 0.029 af
Secondary =	4.31 cfs @ 12.09 hrs, Volume= 0.518 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.39' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	<b>18.0" Round Culvert</b> L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.20' / 46.00' S= 0.0091' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	49.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	46.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 46.75' S= 0.0100' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.60 cfs @ 12.09 hrs HW=49.37' (Free Discharge)

↑1=Culvert (Passes 2.60 cfs of 10.45 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 2.60 cfs @ 1.76 fps)

**Secondary OutFlow** Max=4.29 cfs @ 12.09 hrs HW=49.37' (Free Discharge)

↑3=Culvert (Inlet Controls 4.29 cfs @ 5.47 fps)

**Summary for Pond ICS9: ICS9**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event
Inflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af
Outflow =	7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
Primary =	2.79 cfs @ 12.09 hrs, Volume= 0.029 af
Secondary =	4.29 cfs @ 12.09 hrs, Volume= 0.518 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 64.57' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.70'	<b>18.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.70' / 61.00' S= 0.0500 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	64.18'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	62.00'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.65' S= 0.0700 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.62 cfs @ 12.09 hrs HW=64.55' (Free Discharge)

↑1=Culvert (Passes 2.62 cfs of 9.74 cfs potential flow)

↑2=Broad-Crested Rectangular Weir(Weir Controls 2.62 cfs @ 1.77 fps)

**Secondary OutFlow** Max=4.27 cfs @ 12.09 hrs HW=64.55' (Free Discharge)

↑3=Culvert (Inlet Controls 4.27 cfs @ 5.44 fps)

**Summary for Pond ISC42: ICS42**

Device	Routing	Invert	Outlet Devices
#1	Primary	52.20'	<b>18.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.20' / 51.88' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.37'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑1=Culvert ( Controls 0.00 cfs)

↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑3=Culvert ( Controls 0.00 cfs)

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### Summary for Pond MPP 10: Rtank storage

Inflow Area = 0.710 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 1.95 cfs @ 12.09 hrs, Volume= 0.150 af  
Outflow = 1.07 cfs @ 12.22 hrs, Volume= 0.127 af, Atten= 45%, Lag= 7.9 min  
Primary = 1.07 cfs @ 12.22 hrs, Volume= 0.127 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.72' @ 12.22 hrs Surf.Area= 0.179 ac Storage= 0.055 af

Plug-Flow detention time= 121.2 min calculated for 0.127 af (84% of inflow)  
Center-of-Mass det. time= 73.8 min ( 804.6 - 730.8 )

Volume	Invert	Avail.Storage	Storage Description
#1A	61.23'	0.091 af	<b>6.25'W x 1,248.97'L x 1.94'H Field A</b> 0.347 af Overall - 0.118 af Embedded = 0.229 af x 40.0% Voids
#2A	61.48'	0.112 af	<b>ACF R-Tank HD 0.5 x 2128 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 4 Rows of 532 Chambers
		0.204 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	61.48'	<b>8.0" Round Culvert X 6.00</b> L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.48' / 61.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.06 cfs @ 12.22 hrs HW=61.72' (Free Discharge)  
↑1=Culvert (Barrel Controls 1.06 cfs @ 2.31 fps)

### Summary for Pond MPP 14: Rtanks

Inflow Area = 0.215 ac, 94.36% Impervious, Inflow Depth > 2.43" for 2-year event  
Inflow = 0.58 cfs @ 12.09 hrs, Volume= 0.044 af  
Outflow = 0.33 cfs @ 12.21 hrs, Volume= 0.038 af, Atten= 44%, Lag= 7.7 min  
Primary = 0.33 cfs @ 12.21 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.51' @ 12.21 hrs Surf.Area= 1,935 sf Storage= 679 cf  
Flood Elev= 60.50' Surf.Area= 1,935 sf Storage= 2,354 cf

Plug-Flow detention time= 110.7 min calculated for 0.038 af (86% of inflow)  
Center-of-Mass det. time= 67.6 min ( 807.9 - 740.3 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	55.98'	1,011 cf	<b>15.44'W x 125.33'L x 2.04'H Field A</b> 3,941 cf Overall - 1,413 cf Embedded = 2,528 cf x 40.0% Voids
#2A	56.23'	1,343 cf	<b>ACF R-Tank HD 0.5 x 583 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 11 Rows of 53 Chambers
		2,354 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	56.23'	<b>8.0" Round Culvert X 2.00</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.23' / 56.12' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.32 cfs @ 12.21 hrs HW=56.50' (Free Discharge)

↑1=Culvert (Barrel Controls 0.32 cfs @ 1.76 fps)

**Summary for Pond MPP 19: Rtanks**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 2.13" for 2-year event  
 Inflow = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af  
 Outflow = 0.18 cfs @ 12.50 hrs, Volume= 0.042 af, Atten= 78%, Lag= 24.5 min  
 Primary = 0.18 cfs @ 12.50 hrs, Volume= 0.042 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.42' @ 12.50 hrs Surf.Area= 0.074 ac Storage= 0.030 af

Plug-Flow detention time= 168.7 min calculated for 0.041 af (74% of inflow)  
Center-of-Mass det. time= 108.3 min ( 868.5 - 760.2 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.83'	0.033 af	<b>18.06'W x 179.28'L x 1.84'H Field A</b> 0.137 af Overall - 0.055 af Embedded = 0.082 af x 40.0% Voids
#2A	55.08'	0.052 af	<b>ACF R-Tank HD 0.5 x 988 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 76 Chambers
		0.085 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.08'	<b>6.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.08' / 55.00' S= 0.0042 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

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**Primary OutFlow** Max=0.18 cfs @ 12.50 hrs HW=55.42' (Free Discharge)  
↑1=Culvert (Barrel Controls 0.18 cfs @ 1.77 fps)

**Summary for Pond MPP 21: Rtanks**

Inflow Area = 0.229 ac, 83.66% Impervious, Inflow Depth > 2.13" for 2-year event  
Inflow = 0.57 cfs @ 12.09 hrs, Volume= 0.041 af  
Outflow = 0.24 cfs @ 12.30 hrs, Volume= 0.035 af, Atten= 58%, Lag= 12.8 min  
Primary = 0.24 cfs @ 12.30 hrs, Volume= 0.035 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.15' @ 12.30 hrs Surf.Area= 1,510 sf Storage= 731 cf

Plug-Flow detention time= 111.9 min calculated for 0.035 af (85% of inflow)  
Center-of-Mass det. time= 68.3 min ( 828.5 - 760.2 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.48'	818 cf	<b>16.75'W x 90.14'L x 2.09'H Field A</b> 3,151 cf Overall - 1,105 cf Embedded = 2,046 cf x 40.0% Voids
#2A	54.73'	1,050 cf	<b>ACF R-Tank HD 0.5 x 456 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 38 Chambers
		1,868 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.73'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.73' / 54.73' S= 0.0000 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.24 cfs @ 12.30 hrs HW=55.15' (Free Discharge)  
↑1=Culvert (Barrel Controls 0.24 cfs @ 1.83 fps)

**Summary for Pond MPP 22: Rtanks**

Inflow Area = 0.310 ac, 76.43% Impervious, Inflow Depth > 1.95" for 2-year event  
Inflow = 0.72 cfs @ 12.09 hrs, Volume= 0.050 af  
Outflow = 0.15 cfs @ 12.52 hrs, Volume= 0.037 af, Atten= 79%, Lag= 25.9 min  
Primary = 0.15 cfs @ 12.52 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.37' @ 12.52 hrs Surf.Area= 3,003 sf Storage= 1,184 cf

Plug-Flow detention time= 167.2 min calculated for 0.037 af (73% of inflow)  
Center-of-Mass det. time= 105.3 min ( 875.1 - 769.8 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	54.80'	1,262 cf	<b>16.75'W x 179.28'L x 1.79'H Field A</b> 5,367 cf Overall - 2,211 cf Embedded = 3,156 cf x 40.0% Voids
#2A	55.05'	2,100 cf	<b>ACF R-Tank HD 0.5 x 912 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 76 Chambers
		3,363 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.05'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.05' / 55.05' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.15 cfs @ 12.52 hrs HW=55.37' (Free Discharge)

↑1=Culvert (Barrel Controls 0.15 cfs @ 1.58 fps)

**Summary for Pond MPP 26: Rtanks**

Inflow Area = 0.088 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
 Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.019 af  
 Outflow = 0.11 cfs @ 12.26 hrs, Volume= 0.015 af, Atten= 54%, Lag= 10.7 min  
 Primary = 0.11 cfs @ 12.26 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 34.82' @ 12.26 hrs Surf.Area= 1,289 sf Storage= 368 cf

Plug-Flow detention time= 149.3 min calculated for 0.015 af (78% of inflow)  
Center-of-Mass det. time= 92.4 min ( 823.2 - 730.8 )

Volume	Invert	Avail.Storage	Storage Description
#1A	34.37'	492 cf	<b>18.06'W x 71.37'L x 1.69'H Field A</b> 2,175 cf Overall - 945 cf Embedded = 1,230 cf x 40.0% Voids
#2A	34.62'	898 cf	<b>ACF R-Tank HD 0.5 x 390 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 30 Chambers
		1,390 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	34.62'	<b>8.0" Round Culvert</b> L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 34.62' / 34.34' S= 0.0350 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

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**Primary OutFlow** Max=0.11 cfs @ 12.26 hrs HW=34.82' (Free Discharge)

↑1=Culvert (Inlet Controls 0.11 cfs @ 1.21 fps)

**Summary for Pond MPP 50:**

Inflow Area = 0.693 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 1.90 cfs @ 12.09 hrs, Volume= 0.147 af  
Outflow = 1.14 cfs @ 12.20 hrs, Volume= 0.114 af, Atten= 40%, Lag= 7.0 min  
Primary = 1.14 cfs @ 12.20 hrs, Volume= 0.114 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.86' @ 12.20 hrs Surf.Area= 5,946 sf Storage= 2,639 cf

Plug-Flow detention time= 140.3 min calculated for 0.114 af (77% of inflow)  
Center-of-Mass det. time= 80.8 min ( 811.6 - 730.8 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.33'	2,878 cf	<b>4.94'W x 1,204.40'L x 1.84'H Field A</b> 10,925 cf Overall - 3,731 cf Embedded = 7,195 cf x 40.0% Voids
#2A	54.33'	3,544 cf	<b>ACF R-Tank HD 0.5 x 1539 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 3 Rows of 513 Chambers
		6,422 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.58'	<b>8.0" Round Culvert X 7.00</b> L= 3.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.58' / 54.55' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.13 cfs @ 12.20 hrs HW=54.86' (Free Discharge)

↑1=Culvert (Barrel Controls 1.13 cfs @ 1.73 fps)

**Summary for Pond mpp30: Rtanks**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 1.42" for 2-year event  
Inflow = 1.80 cfs @ 12.09 hrs, Volume= 0.142 af  
Outflow = 1.38 cfs @ 12.17 hrs, Volume= 0.134 af, Atten= 23%, Lag= 4.7 min  
Primary = 1.38 cfs @ 12.17 hrs, Volume= 0.134 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.33' @ 12.17 hrs Surf.Area= 1,599 sf Storage= 1,090 cf  
Flood Elev= 31.78' Surf.Area= 8,586 sf Storage= 7,539 cf

Plug-Flow detention time= 48.2 min calculated for 0.134 af (94% of inflow)  
Center-of-Mass det. time= 26.9 min ( 804.8 - 778.0 )

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Volume	Invert	Avail.Storage	Storage Description
#1B	30.73'	4,011 cf	<b>8.56'W x 815.99'L x 2.04'H Field B</b> 14,234 cf Overall - 4,206 cf Embedded = 10,028 cf x 40.0% Voids
#2B	30.98'	3,995 cf	<b>ACF R-Tank HD 0.5 x 1735 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 5 Rows of 347 Chambers
#3C	29.28'	259 cf	<b>10.56'W x 74.72'L x 1.69'H Field C</b> 1,337 cf Overall - 689 cf Embedded = 648 cf x 40.0% Voids
#4C	29.53'	654 cf	<b>ACF R-Tank HD 1.0 x 155 Inside #3</b> Inside= 15.7"W x 17.3"H => 1.80 sf x 2.35'L = 4.2 cf Outside= 15.7"W x 17.3"H => 1.89 sf x 2.35'L = 4.4 cf 5 Rows of 31 Chambers
#5D	29.28'	694 cf	<b>10.56'W x 76.72'L x 3.42'H Field D</b> 2,767 cf Overall - 1,033 cf Embedded = 1,734 cf x 40.0% Voids
#6D	29.53'	982 cf	<b>ACF R-Tank HD 1.5 x 155 Inside #5</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 5 Rows of 31 Chambers
		10,595 cf	Total Available Storage

Storage Group B created with Chamber Wizard  
Storage Group C created with Chamber Wizard  
Storage Group D created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.61'	<b>12.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.61' / 29.00' S= 0.0305 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.35 cfs @ 12.17 hrs HW=30.32' (Free Discharge)

↑1=Culvert (Inlet Controls 1.35 cfs @ 2.27 fps)

**Summary for Pond OCS57: OCS 57**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 1.33" for 2-year event  
Inflow = 1.38 cfs @ 12.17 hrs, Volume= 0.134 af  
Outflow = 1.38 cfs @ 12.17 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.38 cfs @ 12.17 hrs, Volume= 0.134 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.27' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	<b>18.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 29.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

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#2	Device 1	30.07'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	29.53'	<b>2.0" Vert. Orifice/Grate X 2.00 C= 0.600</b>
#4	Primary	29.90'	<b>6.0" W x 2.0" H Vert. Orifice/Grate C= 0.600</b>

**Primary OutFlow** Max=1.35 cfs @ 12.17 hrs HW=30.27' (Free Discharge)

- 1=Culvert (Passes 0.97 cfs of 2.03 cfs potential flow)
- 2=Broad-Crested Rectangular Weir (Weir Controls 0.97 cfs @ 1.24 fps)
- 3=Orifice/Grate (Orifice Controls 0.17 cfs @ 3.89 fps)
- 4=Orifice/Grate (Orifice Controls 0.21 cfs @ 2.55 fps)

**Summary for Pond SSF 36: ssf**

Inflow = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af  
 Primary = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 37:**

Inflow = 4.29 cfs @ 12.09 hrs, Volume= 0.518 af  
 Primary = 4.29 cfs @ 12.09 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 38: ssf38**

Inflow = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af  
 Primary = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 39:**

Inflow = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af  
 Primary = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 40:**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
 Inflow = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af  
 Primary = 7.08 cfs @ 12.09 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Pond SSF 41:**

Inflow = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af  
Primary = 4.31 cfs @ 12.09 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 42:**

Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 43:**

Inflow Area = 0.436 ac, 100.00% Impervious, Inflow Depth > 2.54" for 2-year event  
Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.092 af  
Primary = 1.19 cfs @ 12.09 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1A:</b>	Runoff Area=17,785 sf 34.88% Impervious Runoff Depth>2.38" Tc=6.0 min CN=84 Runoff=1.19 cfs 0.081 af
<b>Subcatchment1B:</b>	Runoff Area=34,018 sf 20.08% Impervious Runoff Depth>1.98" Tc=6.0 min CN=79 Runoff=1.91 cfs 0.129 af
<b>Subcatchment2:</b>	Runoff Area=31,049 sf 25.93% Impervious Runoff Depth>2.05" Tc=6.0 min CN=80 Runoff=1.81 cfs 0.122 af
<b>Subcatchment3:</b>	Runoff Area=36,147 sf 36.22% Impervious Runoff Depth>2.22" Tc=6.0 min CN=82 Runoff=2.26 cfs 0.153 af
<b>Subcatchment4:</b>	Runoff Area=8,448 sf 0.00% Impervious Runoff Depth>1.61" Tc=6.0 min CN=74 Runoff=0.38 cfs 0.026 af
<b>Subcatchment5:</b>	Runoff Area=10,807 sf 0.00% Impervious Runoff Depth>1.61" Tc=6.0 min CN=74 Runoff=0.49 cfs 0.033 af
<b>Subcatchment6:</b>	Runoff Area=13,985 sf 32.06% Impervious Runoff Depth>2.22" Tc=6.0 min CN=82 Runoff=0.88 cfs 0.059 af
<b>Subcatchment7:</b>	Runoff Area=30,345 sf 25.86% Impervious Runoff Depth>2.05" Tc=6.0 min CN=80 Runoff=1.77 cfs 0.119 af
<b>Subcatchment8:</b>	Runoff Area=45,551 sf 55.78% Impervious Runoff Depth>2.65" Tc=6.0 min CN=87 Runoff=3.35 cfs 0.231 af
<b>Subcatchment9:</b>	Runoff Area=28,191 sf 63.29% Impervious Runoff Depth>2.84" Tc=6.0 min CN=89 Runoff=2.19 cfs 0.153 af
<b>Subcatchment10: access drive north of</b>	Runoff Area=30,932 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=2.84 cfs 0.224 af
<b>Subcatchment11:</b>	Runoff Area=43,174 sf 36.78% Impervious Runoff Depth>2.30" Tc=6.0 min CN=83 Runoff=2.80 cfs 0.190 af
<b>Subcatchment12:</b>	Runoff Area=12,920 sf 57.98% Impervious Runoff Depth>2.74" Tc=6.0 min CN=88 Runoff=0.98 cfs 0.068 af
<b>Subcatchment13:</b>	Runoff Area=45,163 sf 46.46% Impervious Runoff Depth>2.47" Tc=6.0 min CN=85 Runoff=3.13 cfs 0.214 af
<b>Subcatchment14:</b>	Runoff Area=9,378 sf 94.36% Impervious Runoff Depth>3.67" Tc=6.0 min CN=97 Runoff=0.85 cfs 0.066 af
<b>Subcatchment15:</b>	Runoff Area=9,157 sf 1.92% Impervious Runoff Depth>1.61" Tc=6.0 min CN=74 Runoff=0.42 cfs 0.028 af

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<b>Subcatchment16:</b>	Runoff Area=15,110 sf 34.16% Impervious Runoff Depth>2.22" Tc=6.0 min CN=82 Runoff=0.95 cfs 0.064 af
<b>Subcatchment17:</b>	Runoff Area=13,300 sf 85.11% Impervious Runoff Depth>3.34" Tc=6.0 min CN=94 Runoff=1.16 cfs 0.085 af
<b>Subcatchment18A:</b>	Runoff Area=6,339 sf 40.91% Impervious Runoff Depth>2.38" Tc=6.0 min CN=84 Runoff=0.43 cfs 0.029 af
<b>Subcatchment18B:</b>	Runoff Area=4,023 sf 58.36% Impervious Runoff Depth>2.74" Tc=6.0 min CN=88 Runoff=0.30 cfs 0.021 af
<b>Subcatchment19:</b>	Runoff Area=13,711 sf 81.76% Impervious Runoff Depth>3.34" Tc=6.0 min CN=94 Runoff=1.19 cfs 0.088 af
<b>Subcatchment20:</b>	Runoff Area=28,459 sf 73.83% Impervious Runoff Depth>3.13" Tc=6.0 min CN=92 Runoff=2.38 cfs 0.171 af
<b>Subcatchment21:</b>	Runoff Area=9,994 sf 83.66% Impervious Runoff Depth>3.34" Tc=6.0 min CN=94 Runoff=0.87 cfs 0.064 af
<b>Subcatchment22:</b>	Runoff Area=13,511 sf 76.43% Impervious Runoff Depth>3.13" Tc=6.0 min CN=92 Runoff=1.13 cfs 0.081 af
<b>Subcatchment23: sub 23</b>	Runoff Area=28,475 sf 21.95% Impervious Runoff Depth>1.90" Tc=6.0 min CN=78 Runoff=1.54 cfs 0.103 af
<b>Subcatchment24:</b>	Runoff Area=18,261 sf 67.19% Impervious Runoff Depth>3.13" Tc=6.0 min CN=92 Runoff=1.53 cfs 0.109 af
<b>Subcatchment25:</b>	Runoff Area=118,223 sf 0.00% Impervious Runoff Depth>1.37" Flow Length=438' Tc=67.0 min CN=71 Runoff=1.71 cfs 0.309 af
<b>Subcatchment26:</b>	Runoff Area=3,816 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=0.35 cfs 0.028 af
<b>Subcatchment27:</b>	Runoff Area=4,262 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=0.39 cfs 0.031 af
<b>Subcatchment28:</b>	Runoff Area=79,698 sf 27.42% Impervious Runoff Depth>2.47" Tc=6.0 min CN=85 Runoff=5.52 cfs 0.377 af
<b>Subcatchment29:</b>	Runoff Area=1,306 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.009 af
<b>Subcatchment30:</b>	Runoff Area=31,472 sf 77.98% Impervious Runoff Depth>3.24" Tc=6.0 min CN=93 Runoff=2.69 cfs 0.195 af
<b>Subcatchment31:</b>	Runoff Area=70,616 sf 0.00% Impervious Runoff Depth>1.40" Flow Length=217' Tc=12.3 min CN=71 Runoff=2.26 cfs 0.189 af

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<b>Subcatchment32:</b>	Runoff Area=4,677 sf 60.42% Impervious Runoff Depth>2.84" Tc=6.0 min CN=89 Runoff=0.36 cfs 0.025 af
<b>Subcatchment33: B3 green</b>	Runoff Area=107,893 sf 16.71% Impervious Runoff Depth>1.15" Tc=6.0 min CN=67 Runoff=3.39 cfs 0.238 af
<b>Subcatchment34:</b>	Runoff Area=24,099 sf 20.00% Impervious Runoff Depth>1.21" Tc=6.0 min CN=68 Runoff=0.80 cfs 0.056 af
<b>Subcatchment35:</b>	Runoff Area=20,997 sf 20.00% Impervious Runoff Depth>1.21" Tc=6.0 min CN=68 Runoff=0.70 cfs 0.049 af
<b>Subcatchment36: B1M1</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=10.34 cfs 0.814 af
<b>Subcatchment37: B1M2</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=10.34 cfs 0.814 af
<b>Subcatchment38: B1M3</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=10.34 cfs 0.814 af
<b>Subcatchment39: B2M4</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=10.34 cfs 0.814 af
<b>Subcatchment40: B2M5</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=10.34 cfs 0.814 af
<b>Subcatchment41: B2M6</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=10.34 cfs 0.814 af
<b>Subcatchment42: B6</b>	Runoff Area=12,000 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=1.10 cfs 0.087 af
<b>Subcatchment43: B5</b>	Runoff Area=18,983 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=1.74 cfs 0.137 af
<b>Subcatchment44: onsite untreated</b>	Runoff Area=159,363 sf 0.00% Impervious Runoff Depth>1.40" Flow Length=574' Tc=18.8 min CN=71 Runoff=4.35 cfs 0.426 af
<b>Subcatchment45:</b>	Runoff Area=64,440 sf 0.00% Impervious Runoff Depth>1.33" Flow Length=307' Tc=29.9 min CN=70 Runoff=1.38 cfs 0.163 af
<b>Subcatchment46: SUBCAT 8</b>	Runoff Area=14,976 sf 0.00% Impervious Runoff Depth>1.39" Flow Length=276' Tc=34.7 min CN=71 Runoff=0.31 cfs 0.040 af
<b>Subcatchment47:</b>	Runoff Area=79,187 sf 6.00% Impervious Runoff Depth>1.67" Flow Length=639' Tc=15.9 min CN=75 Runoff=2.80 cfs 0.253 af
<b>Subcatchment48:</b>	Runoff Area=40,183 sf 0.00% Impervious Runoff Depth>1.31" Flow Length=377' Tc=54.0 min CN=70 Runoff=0.63 cfs 0.101 af

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<b>Subcatchment49:</b>	Runoff Area=84,173 sf 0.65% Impervious Runoff Depth>1.31" Flow Length=470' Tc=54.1 min CN=70 Runoff=1.32 cfs 0.211 af
<b>Subcatchment50:</b>	Runoff Area=30,173 sf 100.00% Impervious Runoff Depth>3.78" Tc=6.0 min CN=98 Runoff=2.77 cfs 0.218 af
<b>SubcatchmentOS10: OFFSITE 2 (above</b>	Runoff Area=1,644,982 sf 2.57% Impervious Runoff Depth>1.55" Flow Length=2,221' Tc=94.2 min CN=74 Runoff=22.26 cfs 4.868 af
<b>SubcatchmentOS11: OFFSITE 3</b>	Runoff Area=513,527 sf 23.06% Impervious Runoff Depth>1.90" Flow Length=532' Tc=6.8 min CN=78 Runoff=27.08 cfs 1.865 af
<b>SubcatchmentOS9: OFFSITE 1 (Below</b>	Runoff Area=702,010 sf 3.63% Impervious Runoff Depth>1.66" Flow Length=1,353' Tc=35.1 min CN=75 Runoff=17.76 cfs 2.228 af
<b>Reach 9R: ANALYSISPOINT 9</b>	Inflow=17.76 cfs 2.228 af Outflow=17.76 cfs 2.228 af
<b>Reach 10R: Perkins Road Culvert</b>	Avg. Flow Depth=1.23' Max Vel=11.00 fps Inflow=22.26 cfs 4.868 af 24.0" Round Pipe n=0.013 L=25.0' S=0.0200 '/' Capacity=31.99 cfs Outflow=22.25 cfs 4.868 af
<b>Reach 11R: Stream 9</b>	Inflow=27.08 cfs 1.865 af Outflow=27.08 cfs 1.865 af
<b>Reach 17R: untreated</b>	Inflow=1.16 cfs 0.085 af Outflow=1.16 cfs 0.085 af
<b>Reach 20R: untreated</b>	Inflow=2.38 cfs 0.171 af Outflow=2.38 cfs 0.171 af
<b>Reach 23R: sub 23</b>	Inflow=1.54 cfs 0.103 af Outflow=1.54 cfs 0.103 af
<b>Reach 27R: existing</b>	Inflow=0.39 cfs 0.031 af Outflow=0.39 cfs 0.031 af
<b>Reach 28R: existing</b>	Inflow=5.52 cfs 0.377 af Outflow=5.52 cfs 0.377 af
<b>Reach 29R: untreated</b>	Inflow=0.12 cfs 0.009 af Outflow=0.12 cfs 0.009 af
<b>Reach 32R: untreated</b>	Inflow=0.36 cfs 0.025 af Outflow=0.36 cfs 0.025 af
<b>Reach 44R:</b>	Inflow=4.35 cfs 0.426 af Outflow=4.35 cfs 0.426 af
<b>Reach 47R:</b>	Inflow=2.80 cfs 0.253 af Outflow=2.80 cfs 0.253 af

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<b>Reach 48R: (new Reach)</b>	Inflow=0.63 cfs 0.101 af Outflow=0.63 cfs 0.101 af
<b>Reach 49R:</b>	Inflow=1.32 cfs 0.211 af Outflow=1.32 cfs 0.211 af
<b>Reach PT1: ANALYSISPOINT 1 at BWD Little River</b>	Inflow=1.95 cfs 0.312 af Outflow=1.95 cfs 0.312 af
<b>Reach PT2: ANALYSISPOINT 2 at BWD Reservoir</b>	Inflow=1.71 cfs 0.309 af Outflow=1.71 cfs 0.309 af
<b>Reach PT3: ANALYSISPOINT 3/4 at BWD Reservoir</b>	Inflow=2.26 cfs 0.189 af Outflow=2.26 cfs 0.189 af
<b>Reach PT5: all BWD reservoir</b>	Inflow=3.72 cfs 0.602 af Outflow=3.72 cfs 0.602 af
<b>Reach PT6: stream 9 offsite</b>	Avg. Flow Depth=1.17' Max Vel=3.99 fps Inflow=35.42 cfs 8.962 af n=0.040 L=483.0' S=0.0145 '/' Capacity=401.91 cfs Outflow=33.70 cfs 8.935 af
<b>Reach PT7: ANALYSISPOINT7 at US</b>	Avg. Flow Depth=0.26' Max Vel=6.70 fps Inflow=1.38 cfs 0.163 af 18.0" Round Pipe n=0.013 L=83.0' S=0.0398 '/' Capacity=20.95 cfs Outflow=1.37 cfs 0.163 af
<b>Reach PT8: ANALYSISPOINT 8 at US</b>	Avg. Flow Depth=0.03' Max Vel=3.45 fps Inflow=0.31 cfs 0.040 af 36.0" x 24.0" Box Pipe n=0.011 L=76.0' S=0.0632 '/' Capacity=144.91 cfs Outflow=0.31 cfs 0.040 af
<b>Reach PT9: Analysis Point Stream 9</b>	Avg. Flow Depth=0.89' Max Vel=21.89 fps Inflow=38.73 cfs 9.790 af 36.0" Round Pipe n=0.011 L=93.0' S=0.0645 '/' Capacity=200.22 cfs Outflow=38.72 cfs 9.789 af
<b>Reach S9-2: Stream 9</b>	Avg. Flow Depth=1.05' Max Vel=4.76 fps Inflow=37.57 cfs 9.361 af n=0.040 L=1,580.0' S=0.0233 '/' Capacity=120.91 cfs Outflow=35.58 cfs 9.282 af
<b>Reach S9-3: Stream 9</b>	Avg. Flow Depth=0.99' Max Vel=4.72 fps Inflow=37.14 cfs 9.575 af n=0.035 L=364.0' S=0.0199 '/' Capacity=152.29 cfs Outflow=37.03 cfs 9.557 af
<b>Reach tank: existing clarifier</b>	Inflow=55.34 cfs 3.098 af Outflow=55.34 cfs 3.098 af
<b>Pond 1P: (new Pond)</b>	Peak Elev=63.56' Inflow=10.34 cfs 0.814 af Primary=5.81 cfs 0.085 af Secondary=4.53 cfs 0.729 af Outflow=10.34 cfs 0.814 af
<b>Pond 4P: Rtanks</b>	Peak Elev=29.72' Storage=329 cf Inflow=0.70 cfs 0.049 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=0.45 cfs 0.048 af
<b>Pond dmh10: dmh10</b>	Peak Elev=56.83' Inflow=13.35 cfs 0.274 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/' Outflow=13.35 cfs 0.274 af
<b>Pond dmh11: dmh11</b>	Peak Elev=56.04' Inflow=20.48 cfs 0.559 af 30.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=20.48 cfs 0.559 af

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<b>Pond dmh13: dmh13</b>	Peak Elev=55.53' Inflow=20.48 cfs 0.559 af 30.0" Round Culvert n=0.013 L=201.0' S=0.0050 '/' Outflow=20.48 cfs 0.559 af
<b>Pond dmh14: dmh14</b>	Peak Elev=55.03' Inflow=22.68 cfs 0.712 af 30.0" Round Culvert n=0.020 L=23.0' S=0.0052 '/' Outflow=22.68 cfs 0.712 af
<b>Pond dmh15: dmh15</b>	Peak Elev=54.67' Inflow=22.68 cfs 0.712 af 30.0" Round Culvert n=0.013 L=90.0' S=0.0050 '/' Outflow=22.68 cfs 0.712 af
<b>Pond dmh16: dmh16</b>	Peak Elev=60.58' Inflow=0.02 cfs 0.005 af 12.0" Round Culvert n=0.013 L=198.0' S=0.0126 '/' Outflow=0.02 cfs 0.005 af
<b>Pond dmh17: dmh17</b>	Peak Elev=54.32' Inflow=23.06 cfs 0.741 af 30.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/' Outflow=23.06 cfs 0.741 af
<b>Pond dmh2: dmh2</b>	Peak Elev=64.48' Inflow=5.81 cfs 0.085 af 18.0" Round Culvert n=0.013 L=100.0' S=0.0150 '/' Outflow=5.81 cfs 0.085 af
<b>Pond dmh20: dmh20</b>	Peak Elev=54.04' Inflow=23.06 cfs 0.741 af 30.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=23.06 cfs 0.741 af
<b>Pond dmh21: dmh21</b>	Peak Elev=53.56' Inflow=30.88 cfs 1.473 af 36.0" Round Culvert n=0.013 L=281.0' S=0.0169 '/' Outflow=30.88 cfs 1.473 af
<b>Pond dmh22: dmh 22</b>	Peak Elev=54.11' Inflow=6.58 cfs 0.576 af 15.0" Round Culvert n=0.013 L=93.0' S=0.0051 '/' Outflow=6.58 cfs 0.576 af
<b>Pond dmh23: dmh23</b>	Peak Elev=60.58' Inflow=5.69 cfs 0.427 af 12.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/' Outflow=5.69 cfs 0.427 af
<b>Pond dmh24: dmh24</b>	Peak Elev=60.31' Inflow=5.69 cfs 0.427 af 12.0" Round Culvert n=0.013 L=72.0' S=0.0025 '/' Outflow=5.69 cfs 0.427 af
<b>Pond dmh24a: dmh24a</b>	Peak Elev=63.47' Inflow=2.53 cfs 0.201 af 8.0" Round Culvert n=0.013 L=95.0' S=0.0095 '/' Outflow=2.53 cfs 0.201 af
<b>Pond dmh25: dmh25</b>	Peak Elev=60.62' Inflow=1.09 cfs 0.081 af 12.0" Round Culvert n=0.013 L=98.0' S=0.0510 '/' Outflow=1.09 cfs 0.081 af
<b>Pond dmh26: (new Pond)</b>	Peak Elev=60.20' Inflow=3.99 cfs 0.276 af 12.0" Round Culvert n=0.020 L=28.0' S=0.0050 '/' Outflow=3.99 cfs 0.276 af
<b>Pond dmh27: dmh27</b>	Peak Elev=55.69' Inflow=5.81 cfs 0.444 af 15.0" Round Culvert n=0.013 L=256.0' S=0.0050 '/' Outflow=5.81 cfs 0.444 af
<b>Pond dmh29: dmh29</b>	Peak Elev=58.87' Inflow=1.10 cfs 0.087 af 8.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/' Outflow=1.10 cfs 0.087 af
<b>Pond dmh3: dmh3</b>	Peak Elev=62.49' Inflow=7.52 cfs 0.189 af 18.0" Round Culvert n=0.013 L=125.0' S=0.0053 '/' Outflow=7.52 cfs 0.189 af

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**Pond dmh30: dmh30**

Peak Elev=56.04' Inflow=1.10 cfs 0.087 af  
12.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=1.10 cfs 0.087 af

**Pond dmh31: dmh31**

Peak Elev=55.98' Inflow=4.67 cfs 0.363 af  
15.0" Round Culvert n=0.013 L=259.0' S=0.0050 '/ Outflow=4.67 cfs 0.363 af

**Pond dmh32: dmh32**

Peak Elev=53.67' Inflow=7.17 cfs 0.530 af  
18.0" Round Culvert n=0.013 L=36.0' S=0.0036 '/ Outflow=7.17 cfs 0.530 af

**Pond dmh33: dmh33**

Peak Elev=54.33' Inflow=0.35 cfs 0.072 af  
12.0" Round Culvert n=0.013 L=201.0' S=0.0099 '/ Outflow=0.35 cfs 0.072 af

**Pond dmh34: dmh34**

Peak Elev=53.07' Inflow=3.81 cfs 0.343 af  
18.0" Round Culvert n=0.013 L=39.0' S=0.0100 '/ Outflow=3.81 cfs 0.343 af

**Pond dmh35: dmh35**

Peak Elev=53.59' Inflow=12.28 cfs 0.980 af  
24.0" Round Culvert n=0.013 L=276.0' S=0.0050 '/ Outflow=12.28 cfs 0.980 af

**Pond dmh36: dmh36**

Peak Elev=52.19' Inflow=12.28 cfs 0.980 af  
24.0" Round Culvert n=0.013 L=159.0' S=0.0050 '/ Outflow=12.28 cfs 0.980 af

**Pond dmh38: dmh38**

Peak Elev=53.46' Inflow=5.81 cfs 0.085 af  
18.0" Round Culvert n=0.013 L=106.0' S=0.0100 '/ Outflow=5.81 cfs 0.085 af

**Pond dmh39: dmh39**

Peak Elev=52.14' Inflow=5.80 cfs 0.104 af  
18.0" Round Culvert n=0.013 L=58.0' S=0.0047 '/ Outflow=5.80 cfs 0.104 af

**Pond dmh4: dmh4**

Peak Elev=61.94' Inflow=7.52 cfs 0.189 af  
18.0" Round Culvert n=0.013 L=66.0' S=0.0041 '/ Outflow=7.52 cfs 0.189 af

**Pond dmh40: dmh40**

Peak Elev=51.31' Inflow=15.83 cfs 1.083 af  
30.0" Round Culvert n=0.013 L=340.0' S=0.0050 '/ Outflow=15.83 cfs 1.083 af

**Pond dmh43: dmh43**

Peak Elev=49.59' Inflow=15.83 cfs 1.083 af  
30.0" Round Culvert n=0.013 L=193.0' S=0.0050 '/ Outflow=15.83 cfs 1.083 af

**Pond dmh44: dmh44**

Peak Elev=48.56' Inflow=16.24 cfs 1.116 af  
36.0" Round Culvert n=0.013 L=82.0' S=0.0050 '/ Outflow=16.24 cfs 1.116 af

**Pond dmh45: dmh45**

Peak Elev=48.01' Inflow=16.24 cfs 1.116 af  
36.0" Round Culvert n=0.013 L=316.0' S=0.0050 '/ Outflow=16.24 cfs 1.116 af

**Pond dmh47: dmh47**

Peak Elev=46.12' Inflow=20.86 cfs 1.202 af  
36.0" Round Culvert n=0.013 L=104.0' S=0.0100 '/ Outflow=20.86 cfs 1.202 af

**Pond dmh48: dmh48**

Peak Elev=45.25' Inflow=22.54 cfs 1.386 af  
36.0" Round Culvert n=0.013 L=117.0' S=0.0050 '/ Outflow=22.54 cfs 1.386 af

**Pond dmh49: dmh49**

Peak Elev=44.89' Inflow=23.37 cfs 1.445 af  
36.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/ Outflow=23.37 cfs 1.445 af

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<b>Pond dmh5: dmh5</b>	Peak Elev=61.47' Inflow=7.52 cfs 0.189 af 18.0" Round Culvert n=0.013 L=173.0' S=0.0050 '/ Outflow=7.52 cfs 0.189 af
<b>Pond dmh50: dmh50</b>	Peak Elev=47.55' Inflow=30.87 cfs 1.552 af 36.0" Round Culvert n=0.013 L=64.0' S=0.0100 '/ Outflow=30.87 cfs 1.552 af
<b>Pond dmh51: dmh51</b>	Peak Elev=46.89' Inflow=30.87 cfs 1.552 af 36.0" Round Culvert n=0.013 L=38.0' S=0.0287 '/ Outflow=30.87 cfs 1.552 af
<b>Pond dmh52: dmh52</b>	Peak Elev=43.89' Inflow=53.80 cfs 2.997 af 60.0" Round Culvert n=0.013 L=258.0' S=0.0194 '/ Outflow=53.80 cfs 2.997 af
<b>Pond dmh53: dmh53</b>	Peak Elev=35.94' Inflow=55.19 cfs 3.075 af 60.0" Round Culvert n=0.013 L=120.0' S=0.0208 '/ Outflow=55.19 cfs 3.075 af
<b>Pond dmh54: dmh54</b>	Peak Elev=29.94' Inflow=55.34 cfs 3.098 af 60.0" Round Culvert n=0.013 L=152.0' S=0.0329 '/ Outflow=55.34 cfs 3.098 af
<b>Pond dmh55: dhm55</b>	Peak Elev=21.94' Inflow=55.34 cfs 3.098 af 60.0" Round Culvert n=0.013 L=115.0' S=0.0304 '/ Outflow=55.34 cfs 3.098 af
<b>Pond dmh56: dmh56</b>	Peak Elev=15.44' Inflow=55.34 cfs 3.098 af 60.0" Round Culvert n=0.013 L=42.0' S=0.0357 '/ Outflow=55.34 cfs 3.098 af
<b>Pond dmh59: dmh59</b>	Peak Elev=63.94' Inflow=6.01 cfs 0.485 af 12.0" Round Culvert n=0.013 L=294.0' S=0.0050 '/ Outflow=6.01 cfs 0.485 af
<b>Pond dmh6: dmh6</b>	Peak Elev=61.83' Inflow=7.52 cfs 0.189 af 18.0" Round Culvert n=0.020 L=170.0' S=0.0050 '/ Outflow=7.52 cfs 0.189 af
<b>Pond dmh60: dhm60</b>	Peak Elev=38.39' Inflow=53.80 cfs 2.997 af 60.0" Round Culvert n=0.013 L=114.0' S=0.0175 '/ Outflow=53.80 cfs 2.997 af
<b>Pond dmh7: dmh7</b>	Peak Elev=59.70' Inflow=7.52 cfs 0.189 af 18.0" Round Culvert n=0.013 L=170.0' S=0.0050 '/ Outflow=7.52 cfs 0.189 af
<b>Pond dmh8: dmh8</b>	Peak Elev=59.07' Inflow=13.35 cfs 0.274 af 24.0" Round Culvert n=0.013 L=296.0' S=0.0040 '/ Outflow=13.35 cfs 0.274 af
<b>Pond dmh9a: dmh9a</b>	Peak Elev=57.88' Inflow=13.35 cfs 0.274 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=13.35 cfs 0.274 af
<b>Pond GSF 11: grassed soil filter</b>	Peak Elev=62.18' Storage=2,985 cf Inflow=2.80 cfs 0.190 af Outflow=1.98 cfs 0.132 af
<b>Pond GSF 12: grassed soil filter</b>	Peak Elev=61.61' Storage=595 cf Inflow=0.98 cfs 0.068 af Outflow=0.94 cfs 0.057 af
<b>Pond GSF 13: grassed soil filter</b>	Peak Elev=62.18' Storage=3,647 cf Inflow=3.13 cfs 0.214 af Outflow=2.02 cfs 0.144 af

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<b>Pond GSF 15: grassed soil filter</b>	Peak Elev=63.76' Storage=174 cf Inflow=0.42 cfs 0.028 af Outflow=0.40 cfs 0.025 af
<b>Pond GSF 16: grassed soil filter</b>	Peak Elev=64.41' Storage=2,593 cf Inflow=0.95 cfs 0.064 af Outflow=0.02 cfs 0.005 af
<b>Pond GSF 18A: grassed soil filter</b>	Peak Elev=57.46' Storage=466 cf Inflow=0.43 cfs 0.029 af Outflow=0.34 cfs 0.020 af
<b>Pond GSF 18B: grassed soil filter</b>	Peak Elev=57.94' Storage=396 cf Inflow=0.30 cfs 0.021 af Outflow=0.21 cfs 0.013 af
<b>Pond GSF 1A: Grassed soil filter</b>	Peak Elev=65.87' Storage=198 cf Inflow=1.19 cfs 0.081 af Outflow=1.09 cfs 0.081 af
<b>Pond GSF 1B: grassed soil filter</b>	Peak Elev=67.06' Storage=1,039 cf Inflow=1.91 cfs 0.129 af Outflow=1.71 cfs 0.103 af
<b>Pond GSF 2: grassed soil filter</b>	Peak Elev=57.73' Storage=1,802 cf Inflow=1.81 cfs 0.122 af Outflow=1.29 cfs 0.087 af
<b>Pond GSF 24: grassed soil filter</b>	Peak Elev=40.74' Storage=1,623 cf Inflow=1.53 cfs 0.109 af Outflow=1.41 cfs 0.078 af
<b>Pond GSF 3: grassed soil filter</b>	Peak Elev=55.90' Storage=2,387 cf Inflow=2.26 cfs 0.153 af Outflow=1.55 cfs 0.107 af
<b>Pond GSF 4: grassed soil filter</b>	Peak Elev=55.15' Storage=366 cf Inflow=0.38 cfs 0.026 af Outflow=0.29 cfs 0.018 af
<b>Pond GSF 5: grassed soil filter</b>	Peak Elev=54.00' Storage=1 cf Inflow=0.49 cfs 0.033 af Outflow=0.49 cfs 0.033 af
<b>Pond GSF 6: grassed soil filter</b>	Peak Elev=49.00' Storage=1 cf Inflow=0.88 cfs 0.059 af Outflow=0.88 cfs 0.059 af
<b>Pond GSF 7: grassed soil filter</b>	Peak Elev=54.80' Storage=2,073 cf Inflow=1.77 cfs 0.119 af Outflow=0.89 cfs 0.079 af
<b>Pond GSF 8: grassed soil filter</b>	Peak Elev=57.81' Storage=3,937 cf Inflow=3.35 cfs 0.231 af Outflow=2.48 cfs 0.156 af
<b>Pond GSF 9: grassed soil filter</b>	Peak Elev=63.51' Storage=23 cf Inflow=2.19 cfs 0.153 af Outflow=2.20 cfs 0.153 af
<b>Pond ICS1: ICS</b>	Peak Elev=66.76' Inflow=10.34 cfs 0.814 af Primary=5.81 cfs 0.085 af Secondary=4.53 cfs 0.729 af Outflow=10.34 cfs 0.814 af
<b>Pond ics28: ICS28</b>	Peak Elev=58.63' Inflow=1.10 cfs 0.087 af Primary=1.10 cfs 0.087 af Secondary=0.00 cfs 0.000 af Outflow=1.10 cfs 0.087 af

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<b>Pond ICS37: ICS37</b>	Peak Elev=55.61' Inflow=10.34 cfs 0.814 af Primary=5.81 cfs 0.085 af Secondary=4.53 cfs 0.729 af Outflow=10.34 cfs 0.814 af
<b>Pond ics46: ICS46</b>	Peak Elev=49.61' Inflow=10.34 cfs 0.814 af Primary=5.81 cfs 0.085 af Secondary=4.53 cfs 0.729 af Outflow=10.34 cfs 0.814 af
<b>Pond ICS9: ICS9</b>	Peak Elev=64.79' Inflow=10.34 cfs 0.814 af Primary=5.83 cfs 0.086 af Secondary=4.52 cfs 0.728 af Outflow=10.34 cfs 0.814 af
<b>Pond ISC42: ICS42</b>	Peak Elev=0.00' Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af
<b>Pond MPP 10: Rtank storage</b>	Peak Elev=61.80' Storage=0.067 af Inflow=2.84 cfs 0.224 af 8.0" Round Culvert x 6.00 n=0.013 L=2.0' S=0.0400 '/ Outflow=1.68 cfs 0.199 af
<b>Pond MPP 14: Rtanks</b>	Peak Elev=56.59' Storage=826 cf Inflow=0.85 cfs 0.066 af 8.0" Round Culvert x 2.00 n=0.013 L=21.0' S=0.0052 '/ Outflow=0.53 cfs 0.059 af
<b>Pond MPP 19: Rtanks</b>	Peak Elev=55.60' Storage=0.043 af Inflow=1.19 cfs 0.088 af 6.0" Round Culvert n=0.013 L=19.0' S=0.0042 '/ Outflow=0.35 cfs 0.072 af
<b>Pond MPP 21: Rtanks</b>	Peak Elev=55.33' Storage=972 cf Inflow=0.87 cfs 0.064 af 6.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/ Outflow=0.40 cfs 0.057 af
<b>Pond MPP 22: Rtanks</b>	Peak Elev=55.57' Storage=1,715 cf Inflow=1.13 cfs 0.081 af 6.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/ Outflow=0.33 cfs 0.066 af
<b>Pond MPP 26: Rtanks</b>	Peak Elev=34.89' Storage=448 cf Inflow=0.35 cfs 0.028 af 8.0" Round Culvert n=0.013 L=8.0' S=0.0350 '/ Outflow=0.19 cfs 0.023 af
<b>Pond MPP 50:</b>	Peak Elev=54.94' Storage=3,064 cf Inflow=2.77 cfs 0.218 af 8.0" Round Culvert x 7.00 n=0.013 L=3.0' S=0.0100 '/ Outflow=1.82 cfs 0.184 af
<b>Pond mpp30: Rtanks</b>	Peak Elev=30.68' Storage=1,494 cf Inflow=3.00 cfs 0.242 af 12.0" Round Culvert n=0.013 L=20.0' S=0.0305 '/ Outflow=2.24 cfs 0.233 af
<b>Pond OCS57: OCS 57</b>	Peak Elev=30.36' Inflow=2.24 cfs 0.233 af Outflow=2.24 cfs 0.233 af
<b>Pond SSF 36: ssf</b>	Inflow=4.53 cfs 0.729 af Primary=4.53 cfs 0.729 af
<b>Pond SSF 37:</b>	Inflow=4.52 cfs 0.728 af Primary=4.52 cfs 0.728 af
<b>Pond SSF 38: ssf38</b>	Inflow=4.53 cfs 0.729 af Primary=4.53 cfs 0.729 af
<b>Pond SSF 39:</b>	Inflow=4.53 cfs 0.729 af Primary=4.53 cfs 0.729 af

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**Pond SSF 40:**

Inflow=10.34 cfs 0.814 af  
Primary=10.34 cfs 0.814 af

**Pond SSF 41:**

Inflow=4.53 cfs 0.729 af  
Primary=4.53 cfs 0.729 af

**Pond SSF 42:**

Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 af

**Pond SSF 43:**

Inflow=1.74 cfs 0.137 af  
Primary=1.74 cfs 0.137 af

**Total Runoff Area = 116.268 ac Runoff Volume = 19.701 af Average Runoff Depth = 2.03"**  
**74.75% Pervious = 86.915 ac 25.25% Impervious = 29.353 ac**

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**Summary for Subcatchment 1A:**

Runoff = 1.19 cfs @ 12.09 hrs, Volume= 0.081 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	11,582	77	>75% Grass cover, Good, HSG C/D
*	6,203	98	Impervious, HSG C/D
	17,785	84	Weighted Average
	11,582		65.12% Pervious Area
	6,203		34.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 1B:**

Runoff = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	6,832	98	Impervious
	27,186	74	>75% Grass cover, Good, HSG C
	34,018	79	Weighted Average
	27,186		79.92% Pervious Area
	6,832		20.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 2:**

Runoff = 1.81 cfs @ 12.09 hrs, Volume= 0.122 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	8,052	98	Impervious
	5,300	74	>75% Grass cover, Good, HSG C
*	17,697	74	>75% Grass cover, Good, HSG C/D
	31,049	80	Weighted Average
	22,997		74.07% Pervious Area
	8,052		25.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 3:**

Runoff = 2.26 cfs @ 12.09 hrs, Volume= 0.153 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	13,091	98	Impervious, HSG C
*	15,516	74	>75% Grass cover, Good, HSG C/D
*	7,540	70	Woods, Good, HSG C/D
	36,147	82	Weighted Average
	23,056		63.78% Pervious Area
	13,091		36.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 4:**

Runoff = 0.38 cfs @ 12.10 hrs, Volume= 0.026 af, Depth> 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
	8,448	74	>75% Grass cover, Good, HSG C
	8,448		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 5:**

Runoff = 0.49 cfs @ 12.10 hrs, Volume= 0.033 af, Depth> 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
10,807	74	>75% Grass cover, Good, HSG C
10,807		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 6:**

Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.059 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 4,484	98	Impervious
* 9,501	74	>75% Grass cover, Good, HSG C
13,985	82	Weighted Average
9,501		67.94% Pervious Area
4,484		32.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 7:**

Runoff = 1.77 cfs @ 12.09 hrs, Volume= 0.119 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 7,846	98	Impervious
3,270	74	>75% Grass cover, Good, HSG C
* 19,229	74	>75% Grass cover, Good, HSG C/D
30,345	80	Weighted Average
22,499		74.14% Pervious Area
7,846		25.86% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 8:**

Runoff = 3.35 cfs @ 12.09 hrs, Volume= 0.231 af, Depth> 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 25,409	98	Impervious
20,142	74	>75% Grass cover, Good, HSG C
45,551	87	Weighted Average
20,142		44.22% Pervious Area
25,409		55.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 9:**

Runoff = 2.19 cfs @ 12.09 hrs, Volume= 0.153 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 10,348	74	>75% Grass cover, Good, HSG C/D
* 17,843	98	Impervious
28,191	89	Weighted Average
10,348		36.71% Pervious Area
17,843		63.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 10: access drive north of B1**

Runoff = 2.84 cfs @ 12.09 hrs, Volume= 0.224 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	30,932	98	Impervious
	30,932		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 11:**

Runoff = 2.80 cfs @ 12.09 hrs, Volume= 0.190 af, Depth> 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	15,881	98	Impervious
*	27,293	74	>75% Grass cover, Good, HSG C/D
	43,174	83	Weighted Average
	27,293		63.22% Pervious Area
	15,881		36.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 12:**

Runoff = 0.98 cfs @ 12.09 hrs, Volume= 0.068 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	7,491	98	Impervious, HSG C/D
	5,429	74	>75% Grass cover, Good, HSG C
	12,920	88	Weighted Average
	5,429		42.02% Pervious Area
	7,491		57.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 13:**

Runoff = 3.13 cfs @ 12.09 hrs, Volume= 0.214 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	20,981	98	Impervious
*	24,182	74	>75% Grass cover, Good, HSG C/D
	45,163	85	Weighted Average
	24,182		53.54% Pervious Area
	20,981		46.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 14:**

Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.066 af, Depth> 3.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	8,849	98	Impervious
	529	74	>75% Grass cover, Good, HSG C
	9,378	97	Weighted Average
	529		5.64% Pervious Area
	8,849		94.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 15:**

Runoff = 0.42 cfs @ 12.10 hrs, Volume= 0.028 af, Depth> 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	176	98	Impervious
*	4,183	74	>75% Grass cover, Good, HSG C/D
*	4,798	74	vegetated roof
	9,157	74	Weighted Average
	8,981		98.08% Pervious Area
	176		1.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 16:**

Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	5,161	98	Impervious
*	9,949	74	>75% Grass cover, Good, HSG C/D
	15,110	82	Weighted Average
	9,949		65.84% Pervious Area
	5,161		34.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 17:**

Runoff = 1.16 cfs @ 12.09 hrs, Volume= 0.085 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	11,320	98	Impervious
*	1,980	74	>75% Grass cover, Good, HSG C/D
	13,300	94	Weighted Average
	1,980		14.89% Pervious Area
	11,320		85.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 18A:**

Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	2,593	98	Impervious
*	3,746	74	>75% Grass cover, Good, HSG C/D
	6,339	84	Weighted Average
	3,746		59.09% Pervious Area
	2,593		40.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 18B:**

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	2,348	98	Impervious
*	1,675	74	>75% Grass cover, Good, HSG C/D
	4,023	88	Weighted Average
	1,675		41.64% Pervious Area
	2,348		58.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 19:**

Runoff = 1.19 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	11,210	98	Impervious
*	2,501	74	>75% Grass cover, Good, HSG C/D
	13,711	94	Weighted Average
	2,501		18.24% Pervious Area
	11,210		81.76% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 20:**

Runoff = 2.38 cfs @ 12.09 hrs, Volume= 0.171 af, Depth> 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 21,010	98	Impervious
* 7,449	74	>75% Grass cover, Good, HSG C/D
28,459	92	Weighted Average
7,449		26.17% Pervious Area
21,010		73.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 21:**

Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 8,361	98	Impervious
* 1,633	74	>75% Grass cover, Good, HSG C/D
9,994	94	Weighted Average
1,633		16.34% Pervious Area
8,361		83.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 22:**

Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.081 af, Depth> 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	10,326	98	Impervious
*	3,185	74	>75% Grass cover, Good, HSG C/D
	13,511	92	Weighted Average
	3,185		23.57% Pervious Area
	10,326		76.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 23: sub 23**

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.103 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
	6,249	98	Paved parking, HSG C
	2,450	74	>75% Grass cover, Good, HSG C
	10,135	74	>75% Grass cover, Good, HSG C
	9,641	70	Woods, Good, HSG C
	28,475	78	Weighted Average
	22,226		78.05% Pervious Area
	6,249		21.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, direct

**Summary for Subcatchment 24:**

Runoff = 1.53 cfs @ 12.09 hrs, Volume= 0.109 af, Depth> 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	12,270	98	Impervious
	5,991	80	>75% Grass cover, Good, HSG D
	18,261	92	Weighted Average
	5,991		32.81% Pervious Area
	12,270		67.19% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 25:**

Runoff = 1.71 cfs @ 12.95 hrs, Volume= 0.309 af, Depth> 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 21,818	74	>75% Grass cover, Good, HSG C/D
* 96,405	70	Woods, Good, HSG C/D
118,223	71	Weighted Average
118,223		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4	130	0.0150	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
11.9	253	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	55	0.3000	1.37		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
67.0	438	Total			

**Summary for Subcatchment 26:**

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 3,816	98	Impervious
3,816		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 27:**

Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.031 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	4,262	98	Impervious
	4,262		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 28:**

Runoff = 5.52 cfs @ 12.09 hrs, Volume= 0.377 af, Depth> 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	21,852	98	Impervious
	40,598	80	>75% Grass cover, Good, HSG D
	6,418	77	Woods, Good, HSG D
	10,830	79	Woods/grass comb., Good, HSG D
	79,698	85	Weighted Average
	57,846		72.58% Pervious Area
	21,852		27.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 29:**

Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	1,306	98	Impervious
	1,306		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 30:**

Runoff = 2.69 cfs @ 12.09 hrs, Volume= 0.195 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	24,541	98	Impervious
*	6,931	74	>75% Grass cover, Good, HSG C/D
	31,472	93	Weighted Average
	6,931		22.02% Pervious Area
	24,541		77.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 31:**

Runoff = 2.26 cfs @ 12.18 hrs, Volume= 0.189 af, Depth> 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	24,011	74	>75% Grass cover, Good, HSG C/D
*	46,605	70	Woods, Good, HSG C/D
	70,616	71	Weighted Average
	70,616		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0500	0.16		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
1.7	86	0.1200	0.87		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	31	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
12.3	217	Total			

**Summary for Subcatchment 32:**

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	2,826	98	Impervious
*	1,851	74	>75% Grass cover, Good, HSG C/D
	4,677	89	Weighted Average
	1,851		39.58% Pervious Area
	2,826		60.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 33: B3 green**

Runoff = 3.39 cfs @ 12.10 hrs, Volume= 0.238 af, Depth> 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	89,860	61	vegetated roof
*	18,033	98	penthouse
	107,893	67	Weighted Average
	89,860		83.29% Pervious Area
	18,033		16.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 34:**

Runoff = 0.80 cfs @ 12.10 hrs, Volume= 0.056 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	19,279	61	vegetated roof
*	4,820	98	penhouse/walks on roof
	24,099	68	Weighted Average
	19,279		80.00% Pervious Area
	4,820		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 35:**

Runoff = 0.70 cfs @ 12.10 hrs, Volume= 0.049 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	16,797	61	vegetated roof
*	4,200	98	penthouse/walks on roof
	20,997	68	Weighted Average
	16,797		80.00% Pervious Area
	4,200		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 36: B1M1**

Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 37: B1M2**

Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 38: B1M3**

Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 39: B2M4**

Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 40: B2M5**

Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 41: B2M6**

Runoff = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 42: B6**

Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 12,000	98	Impervious
12,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 43: B5**

Runoff = 1.74 cfs @ 12.09 hrs, Volume= 0.137 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 18,983	98	Impervious
18,983		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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Type III 24-hr 10-year Rainfall=4.20"

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**Summary for Subcatchment 44: onsite untreated**

Runoff = 4.35 cfs @ 12.28 hrs, Volume= 0.426 af, Depth&gt; 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 29,531	74	>75% Grass cover, Good, HSG C/D
* 129,832	70	Woods, Good, HSG C/D
159,363	71	Weighted Average
159,363		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	97	0.0620	0.25		<b>Sheet Flow, a-b</b> Grass: Short n= 0.150 P2= 2.90"
4.3	170	0.0090	0.66		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
1.3	97	0.0320	1.25		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
6.8	210	0.0430	0.52		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
18.8	574	Total			

**Summary for Subcatchment 45:**

Runoff = 1.38 cfs @ 12.45 hrs, Volume= 0.163 af, Depth&gt; 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 5,799	74	>75% Grass cover, Good, HSG C/D
* 58,641	70	Woods, Good, HSG C/D
64,440	70	Weighted Average
64,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.3	79	0.0340	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
2.9	121	0.0800	0.71		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	34	0.0600	3.67		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
0.5	73	0.0600	2.64	10.56	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.100 Earth, dense brush, high stage

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29.9 307 Total

**Summary for Subcatchment 46: SUBCAT 8**

Runoff = 0.31 cfs @ 12.52 hrs, Volume= 0.040 af, Depth> 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	12,652	70	Woods, Good, HSG C/D
*	2,324	74	>75% Grass cover, Good, HSG C/D
	14,976	71	Weighted Average
	14,976		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.0	67	0.0150	0.03		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
1.1	43	0.0700	0.66		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.1	14	0.7100	2.11		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
1.5	152	0.0240	1.67	6.68	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 ' Top.W=6.00' n= 0.100

34.7 276 Total

**Summary for Subcatchment 47:**

Runoff = 2.80 cfs @ 12.23 hrs, Volume= 0.253 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
	16,941	80	>75% Grass cover, Good, HSG D
*	27,433	74	>75% Grass cover, Good, HSG C/D
*	30,061	70	Woods, Good, HSG C/D
*	4,752	98	Impervious
	79,187	75	Weighted Average
	74,435		94.00% Pervious Area
	4,752		6.00% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	102	0.0400	0.15		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
0.6	30	0.1000	0.79		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.6	100	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
3.2	407	0.0200	2.12		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
15.9	639	Total			

**Summary for Subcatchment 48:**

Runoff = 0.63 cfs @ 12.79 hrs, Volume= 0.101 af, Depth&gt; 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 305	74	>75% Grass cover, Good, HSG C/D
* 36,887	70	Woods, Good, HSG C/D
2,991	70	Woods, Good, HSG C
40,183	70	Weighted Average
40,183		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.6	127	0.0200	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
5.4	115	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	45	0.2000	1.12		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
0.3	90	0.0880	4.45		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
54.0	377	Total			

**Summary for Subcatchment 49:**

Runoff = 1.32 cfs @ 12.79 hrs, Volume= 0.211 af, Depth&gt; 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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	Area (sf)	CN	Description
*	2,923	74	>75% Grass cover, Good, HSG C/D
*	80,702	70	Woods, Good, HSG C/D
*	548	98	Impervious
	84,173	70	Weighted Average
	83,625		99.35% Pervious Area
	548		0.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.4	115	0.0500	0.06		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
23.7	355	0.0100	0.25		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
54.1	470	Total			

**Summary for Subcatchment 50:**

Runoff = 2.77 cfs @ 12.09 hrs, Volume= 0.218 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	30,173	98	Impervious
	30,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment OS10: OFFSITE 2 (above Perkins Rd)**

Runoff = 22.26 cfs @ 13.30 hrs, Volume= 4.868 af, Depth> 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

	Area (sf)	CN	Description
*	298,066	70	Woods, Good, HSG C/D
*	42,276	98	Impervious
*	1,304,640	74	>75% Grass cover, Good, HSG C/D
	1,644,982	74	Weighted Average
	1,602,706		97.43% Pervious Area
	42,276		2.57% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.2	141	0.0280	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
15.3	384	0.0280	0.42		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
2.5	227	0.0480	1.53		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
18.6	780	0.0100	0.70		<b>Shallow Concentrated Flow, d-e</b> Short Grass Pasture Kv= 7.0 fps
12.6	689	0.0170	0.91		<b>Shallow Concentrated Flow, e-f</b> Short Grass Pasture Kv= 7.0 fps
94.2	2,221	Total			

**Summary for Subcatchment OS11: OFFSITE 3 (Matthew Brothers Lot)**

Runoff = 27.08 cfs @ 12.10 hrs, Volume= 1.865 af, Depth> 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

Area (sf)	CN	Description
* 118,437	98	Impervious
* 237,621	70	Woods, Good, HSG C/D
* 157,469	74	>75% Grass cover, Good, HSG C/D
513,527	78	Weighted Average
395,090		76.94% Pervious Area
118,437		23.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	16	0.1870	2.22		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
4.7	419	0.0100	1.50		<b>Shallow Concentrated Flow, b-c</b> Grassed Waterway Kv= 15.0 fps
2.0	97	0.1000	0.79		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
6.8	532	Total			

**Summary for Subcatchment OS9: OFFSITE 1 (Below Perkins Rd)**

Runoff = 17.76 cfs @ 12.51 hrs, Volume= 2.228 af, Depth> 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-year Rainfall=4.20"

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Area (sf)	CN	Description
* 25,513	98	Impervious
* 532,320	74	>75% Grass cover, Good, HSG C/D
* 3,818	94	Gravel roads, HSG C/D
6,087	74	>75% Grass cover, Good, HSG C
72,382	70	Woods, Good, HSG C
61,890	74	>75% Grass cover, Good, HSG C
702,010	75	Weighted Average
676,497		96.37% Pervious Area
25,513		3.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.2000	2.25		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
12.6	373	0.0050	0.49		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
13.1	715	0.0170	0.91		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
9.3	250	0.0320	0.45		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
35.1	1,353	Total			

**Summary for Reach 9R: ANALYSIS POINT 9**

Inflow Area = 16.116 ac, 3.63% Impervious, Inflow Depth > 1.66" for 10-year event  
 Inflow = 17.76 cfs @ 12.51 hrs, Volume= 2.228 af  
 Outflow = 17.76 cfs @ 12.51 hrs, Volume= 2.228 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 10R: Perkins Road Culvert**

Inflow Area = 37.764 ac, 2.57% Impervious, Inflow Depth > 1.55" for 10-year event  
 Inflow = 22.26 cfs @ 13.30 hrs, Volume= 4.868 af  
 Outflow = 22.25 cfs @ 13.30 hrs, Volume= 4.868 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Max. Velocity= 11.00 fps, Min. Travel Time= 0.0 min  
 Avg. Velocity = 6.58 fps, Avg. Travel Time= 0.1 min

Peak Storage= 51 cf @ 13.30 hrs  
 Average Depth at Peak Storage= 1.23'  
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 31.99 cfs

24.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 25.0' Slope= 0.0200 '/'  
 Inlet Invert= 75.50', Outlet Invert= 75.00'

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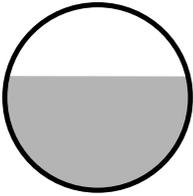
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**Summary for Reach 11R: Stream 9**

Inflow Area = 11.789 ac, 23.06% Impervious, Inflow Depth > 1.90" for 10-year event  
Inflow = 27.08 cfs @ 12.10 hrs, Volume= 1.865 af  
Outflow = 27.08 cfs @ 12.10 hrs, Volume= 1.865 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 17R: untreated**

Inflow Area = 0.305 ac, 85.11% Impervious, Inflow Depth > 3.34" for 10-year event  
Inflow = 1.16 cfs @ 12.09 hrs, Volume= 0.085 af  
Outflow = 1.16 cfs @ 12.09 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 20R: untreated**

Inflow Area = 0.653 ac, 73.83% Impervious, Inflow Depth > 3.13" for 10-year event  
Inflow = 2.38 cfs @ 12.09 hrs, Volume= 0.171 af  
Outflow = 2.38 cfs @ 12.09 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 23R: sub 23**

Inflow Area = 0.654 ac, 21.95% Impervious, Inflow Depth > 1.90" for 10-year event  
Inflow = 1.54 cfs @ 12.09 hrs, Volume= 0.103 af  
Outflow = 1.54 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 27R: existing**

Inflow Area = 0.098 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 0.39 cfs @ 12.09 hrs, Volume= 0.031 af  
Outflow = 0.39 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Reach 28R: existing**

Inflow Area = 1.830 ac, 27.42% Impervious, Inflow Depth > 2.47" for 10-year event  
Inflow = 5.52 cfs @ 12.09 hrs, Volume= 0.377 af  
Outflow = 5.52 cfs @ 12.09 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 29R: untreated**

Inflow Area = 0.030 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af  
Outflow = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 32R: untreated**

Inflow Area = 0.107 ac, 60.42% Impervious, Inflow Depth > 2.84" for 10-year event  
Inflow = 0.36 cfs @ 12.09 hrs, Volume= 0.025 af  
Outflow = 0.36 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 44R:**

Inflow Area = 3.658 ac, 0.00% Impervious, Inflow Depth > 1.40" for 10-year event  
Inflow = 4.35 cfs @ 12.28 hrs, Volume= 0.426 af  
Outflow = 4.35 cfs @ 12.28 hrs, Volume= 0.426 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 47R:**

Inflow Area = 1.818 ac, 6.00% Impervious, Inflow Depth > 1.67" for 10-year event  
Inflow = 2.80 cfs @ 12.23 hrs, Volume= 0.253 af  
Outflow = 2.80 cfs @ 12.23 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 48R: (new Reach)**

Inflow Area = 0.922 ac, 0.00% Impervious, Inflow Depth > 1.31" for 10-year event  
Inflow = 0.63 cfs @ 12.79 hrs, Volume= 0.101 af  
Outflow = 0.63 cfs @ 12.79 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 49R:**

Inflow Area = 1.932 ac, 0.65% Impervious, Inflow Depth > 1.31" for 10-year event  
Inflow = 1.32 cfs @ 12.79 hrs, Volume= 0.211 af  
Outflow = 1.32 cfs @ 12.79 hrs, Volume= 0.211 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT1: ANALYSIS POINT 1 at BWD Little River**

Inflow Area = 2.855 ac, 0.44% Impervious, Inflow Depth > 1.31" for 10-year event  
Inflow = 1.95 cfs @ 12.79 hrs, Volume= 0.312 af  
Outflow = 1.95 cfs @ 12.79 hrs, Volume= 0.312 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT2: ANALYSIS POINT 2 at BWD Reservoir**

Inflow Area = 2.714 ac, 0.00% Impervious, Inflow Depth > 1.37" for 10-year event  
Inflow = 1.71 cfs @ 12.95 hrs, Volume= 0.309 af  
Outflow = 1.71 cfs @ 12.95 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT3: ANALYSIS POINT 3/4 at BWD Reservoir**

Inflow Area = 1.621 ac, 0.00% Impervious, Inflow Depth > 1.40" for 10-year event  
Inflow = 2.26 cfs @ 12.18 hrs, Volume= 0.189 af  
Outflow = 2.26 cfs @ 12.18 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT5: all BWD reservoir**

Inflow Area = 4.989 ac, 2.88% Impervious, Inflow Depth > 1.45" for 10-year event  
Inflow = 3.72 cfs @ 12.15 hrs, Volume= 0.602 af  
Outflow = 3.72 cfs @ 12.15 hrs, Volume= 0.602 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT6: stream 9 offsite**

Inflow Area = 65.668 ac, 6.51% Impervious, Inflow Depth > 1.64" for 10-year event  
Inflow = 35.42 cfs @ 12.12 hrs, Volume= 8.962 af  
Outflow = 33.70 cfs @ 12.19 hrs, Volume= 8.935 af, Atten= 5%, Lag= 4.4 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 3.99 fps, Min. Travel Time= 2.0 min  
Avg. Velocity = 2.28 fps, Avg. Travel Time= 3.5 min

Peak Storage= 4,166 cf @ 12.15 hrs  
Average Depth at Peak Storage= 1.17'  
Bank-Full Depth= 4.00' Flow Area= 52.0 sf, Capacity= 401.91 cfs

5.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 ' / ' Top Width= 21.00'  
Length= 483.0' Slope= 0.0145 ' / '  
Inlet Invert= 71.00', Outlet Invert= 64.00'



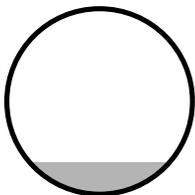
**Summary for Reach PT7: ANALYSIS POINT7 at US Route 1 culvert**

Inflow Area =	1.479 ac,	0.00% Impervious,	Inflow Depth > 1.33"	for 10-year event
Inflow =	1.38 cfs @	12.45 hrs,	Volume=	0.163 af
Outflow =	1.37 cfs @	12.45 hrs,	Volume=	0.163 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 6.70 fps, Min. Travel Time= 0.2 min  
Avg. Velocity = 3.34 fps, Avg. Travel Time= 0.4 min

Peak Storage= 17 cf @ 12.45 hrs  
Average Depth at Peak Storage= 0.26'  
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 20.95 cfs

18.0" Round Pipe  
n= 0.013 Corrugated PE, smooth interior  
Length= 83.0' Slope= 0.0398 ' / '  
Inlet Invert= 21.60', Outlet Invert= 18.30'



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**Summary for Reach PT8: ANALYSIS POINT 8 at US Route 1 culvert**

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 1.39" for 10-year event  
Inflow = 0.31 cfs @ 12.52 hrs, Volume= 0.040 af  
Outflow = 0.31 cfs @ 12.53 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Max. Velocity= 3.45 fps, Min. Travel Time= 0.4 min  
Avg. Velocity = 2.53 fps, Avg. Travel Time= 0.5 min

Peak Storage= 7 cf @ 12.52 hrs  
Average Depth at Peak Storage= 0.03'  
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 144.91 cfs

36.0" W x 24.0" H Box Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 76.0' Slope= 0.0632 '/'  
Inlet Invert= 23.40', Outlet Invert= 18.60'



**Summary for Reach PT9: Analysis Point Stream 9 at US Route 1 culvert**

Inflow Area = 72.477 ac, 7.14% Impervious, Inflow Depth > 1.62" for 10-year event  
Inflow = 38.73 cfs @ 12.42 hrs, Volume= 9.790 af  
Outflow = 38.72 cfs @ 12.42 hrs, Volume= 9.789 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 21.89 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 8.71 fps, Avg. Travel Time= 0.2 min

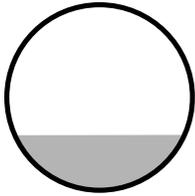
Peak Storage= 164 cf @ 12.42 hrs  
Average Depth at Peak Storage= 0.89'  
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 200.22 cfs

36.0" Round Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 93.0' Slope= 0.0645 '/'  
Inlet Invert= 20.00', Outlet Invert= 14.00'

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**Summary for Reach S9-2: Stream 9**

Inflow Area = 69.327 ac, 6.17% Impervious, Inflow Depth > 1.62" for 10-year event  
Inflow = 37.57 cfs @ 12.20 hrs, Volume= 9.361 af  
Outflow = 35.58 cfs @ 12.62 hrs, Volume= 9.282 af, Atten= 5%, Lag= 25.4 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 4.76 fps, Min. Travel Time= 5.5 min  
Avg. Velocity = 2.69 fps, Avg. Travel Time= 9.8 min

Peak Storage= 11,816 cf @ 12.53 hrs  
Average Depth at Peak Storage= 1.05'  
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 120.91 cfs

5.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 ' / ' Top Width= 13.00'  
Length= 1,580.0' Slope= 0.0233 ' / '  
Inlet Invert= 64.00', Outlet Invert= 27.25'



**Summary for Reach S9-3: Stream 9**

Inflow Area = 71.273 ac, 6.33% Impervious, Inflow Depth > 1.61" for 10-year event  
Inflow = 37.14 cfs @ 12.38 hrs, Volume= 9.575 af  
Outflow = 37.03 cfs @ 12.43 hrs, Volume= 9.557 af, Atten= 0%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 4.72 fps, Min. Travel Time= 1.3 min  
Avg. Velocity = 1.77 fps, Avg. Travel Time= 3.4 min

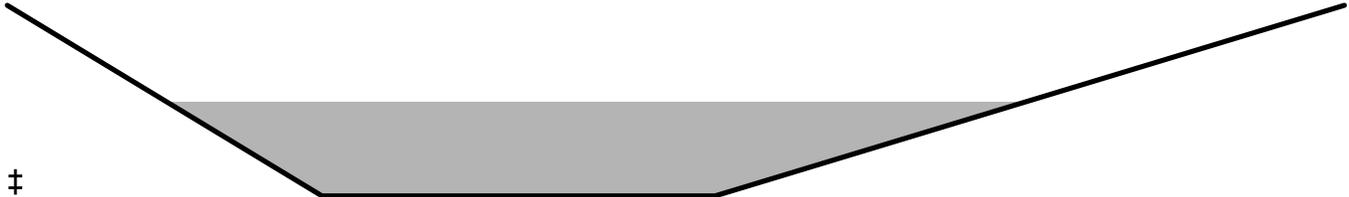
Peak Storage= 2,871 cf @ 12.41 hrs  
Average Depth at Peak Storage= 0.99'  
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 152.29 cfs

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5.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds  
Side Slope Z-value= 2.0 4.0 ' / ' Top Width= 17.00'  
Length= 364.0' Slope= 0.0199 ' / '  
Inlet Invert= 27.25', Outlet Invert= 20.00'



**Summary for Reach tank: existing clarifier**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.27" for 10-year event  
Inflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af  
Outflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: (new Pond)**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af  
Outflow = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af  
Secondary = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.56' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>18.0" Round Culvert</b> L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.15' S= 0.1375 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	62.95'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	60.75'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.75' / 60.72' S= 0.0060 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.54 cfs @ 12.09 hrs HW=63.54' (Free Discharge)

↑1=Culvert (Passes 5.54 cfs of 9.71 cfs potential flow)

↑2=Broad-Crested Rectangular Weir(Weir Controls 5.54 cfs @ 2.36 fps)

**Secondary OutFlow** Max=4.52 cfs @ 12.09 hrs HW=63.54' (Free Discharge)

↑3=Culvert (Inlet Controls 4.52 cfs @ 5.75 fps)

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**Summary for Pond 4P: Rtanks**

Inflow Area = 0.482 ac, 20.00% Impervious, Inflow Depth > 1.21" for 10-year event  
Inflow = 0.70 cfs @ 12.10 hrs, Volume= 0.049 af  
Outflow = 0.45 cfs @ 12.22 hrs, Volume= 0.048 af, Atten= 35%, Lag= 7.0 min  
Primary = 0.45 cfs @ 12.22 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 29.72' @ 12.22 hrs Surf.Area= 1,314 sf Storage= 329 cf

Plug-Flow detention time= 20.8 min calculated for 0.048 af (97% of inflow)  
Center-of-Mass det. time= 12.4 min ( 831.7 - 819.3 )

Volume	Invert	Avail.Storage	Storage Description
#1A	29.28'	968 cf	<b>17.12'W x 76.72'L x 3.42'H Field A</b> 4,487 cf Overall - 2,066 cf Embedded = 2,420 cf x 40.0% Voids
#2A	29.53'	1,963 cf	<b>ACF R-Tank HD 1.5 x 310 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 10 Rows of 31 Chambers
		2,931 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.28'	<b>12.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.28' / 29.28' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.45 cfs @ 12.22 hrs HW=29.72' (Free Discharge)  
↑1=Culvert (Barrel Controls 0.45 cfs @ 2.01 fps)

**Summary for Pond dmh10: dmh10**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.55" for 10-year event  
Inflow = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af  
Outflow = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min  
Primary = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.83' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.59'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.59' / 53.56' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

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**Primary OutFlow** Max=12.79 cfs @ 12.09 hrs HW=56.74' (Free Discharge)

↑1=Culvert (Inlet Controls 12.79 cfs @ 4.07 fps)

**Summary for Pond dmh11: dmh11**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 0.73" for 10-year event  
Inflow = 20.48 cfs @ 12.09 hrs, Volume= 0.559 af  
Outflow = 20.48 cfs @ 12.09 hrs, Volume= 0.559 af, Atten= 0%, Lag= 0.0 min  
Primary = 20.48 cfs @ 12.09 hrs, Volume= 0.559 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.04' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.54'	<b>30.0" Round Culvert</b> L= 84.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.54' / 53.12' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=19.74 cfs @ 12.09 hrs HW=55.97' (Free Discharge)

↑1=Culvert (Barrel Controls 19.74 cfs @ 5.14 fps)

**Summary for Pond dmh13: dmh13**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 0.73" for 10-year event  
Inflow = 20.48 cfs @ 12.09 hrs, Volume= 0.559 af  
Outflow = 20.48 cfs @ 12.09 hrs, Volume= 0.559 af, Atten= 0%, Lag= 0.0 min  
Primary = 20.48 cfs @ 12.09 hrs, Volume= 0.559 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.53' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.10'	<b>30.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.10' / 52.09' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=19.79 cfs @ 12.09 hrs HW=55.46' (Free Discharge)

↑1=Culvert (Inlet Controls 19.79 cfs @ 4.13 fps)

**Summary for Pond dmh14: dmh14**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 0.86" for 10-year event  
Inflow = 22.68 cfs @ 12.09 hrs, Volume= 0.712 af  
Outflow = 22.68 cfs @ 12.09 hrs, Volume= 0.712 af, Atten= 0%, Lag= 0.0 min  
Primary = 22.68 cfs @ 12.09 hrs, Volume= 0.712 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 55.03' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.07'	<b>30.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.07' / 51.95' S= 0.0052 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=21.92 cfs @ 12.09 hrs HW=54.95' (Free Discharge)

↑1=Culvert (Barrel Controls 21.92 cfs @ 4.86 fps)

**Summary for Pond dmh15: dmh15**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 0.86" for 10-year event  
 Inflow = 22.68 cfs @ 12.09 hrs, Volume= 0.712 af  
 Outflow = 22.68 cfs @ 12.09 hrs, Volume= 0.712 af, Atten= 0%, Lag= 0.0 min  
 Primary = 22.68 cfs @ 12.09 hrs, Volume= 0.712 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 54.67' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.95'	<b>30.0" Round Culvert</b> L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.95' / 51.50' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=22.00 cfs @ 12.09 hrs HW=54.59' (Free Discharge)

↑1=Culvert (Inlet Controls 22.00 cfs @ 4.48 fps)

**Summary for Pond dmh16: dmh16**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 0.16" for 10-year event  
 Inflow = 0.02 cfs @ 17.65 hrs, Volume= 0.005 af  
 Outflow = 0.02 cfs @ 17.65 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.02 cfs @ 17.65 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 60.58' @ 17.65 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>12.0" Round Culvert</b> L= 198.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.50' / 58.00' S= 0.0126 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.02 cfs @ 17.65 hrs HW=60.58' (Free Discharge)

↑1=Culvert (Inlet Controls 0.02 cfs @ 0.76 fps)

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**Summary for Pond dmh17: dmh17**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 0.85" for 10-year event  
Inflow = 23.06 cfs @ 12.09 hrs, Volume= 0.741 af  
Outflow = 23.06 cfs @ 12.09 hrs, Volume= 0.741 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.06 cfs @ 12.09 hrs, Volume= 0.741 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.32' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.48'	<b>30.0" Round Culvert</b> L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.48' / 51.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=22.30 cfs @ 12.09 hrs HW=54.25' (Free Discharge)

↑1=Culvert (Barrel Controls 22.30 cfs @ 5.11 fps)

**Summary for Pond dmh2: dmh2**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 0.40" for 10-year event  
Inflow = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af  
Outflow = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 64.48' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>18.0" Round Culvert</b> L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.00' / 61.50' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=5.57 cfs @ 12.09 hrs HW=64.43' (Free Discharge)

↑1=Culvert (Inlet Controls 5.57 cfs @ 3.21 fps)

**Summary for Pond dmh20: dmh20**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 0.85" for 10-year event  
Inflow = 23.06 cfs @ 12.09 hrs, Volume= 0.741 af  
Outflow = 23.06 cfs @ 12.09 hrs, Volume= 0.741 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.06 cfs @ 12.09 hrs, Volume= 0.741 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.04' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	<b>30.0" Round Culvert</b>

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L= 100.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.28' / 50.78' S= 0.0050 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=22.35 cfs @ 12.09 hrs HW=53.96' (Free Discharge)

↑1=Culvert (Inlet Controls 22.35 cfs @ 4.55 fps)

**Summary for Pond dmh21: dmh21**

Inflow Area = 14.164 ac, 80.88% Impervious, Inflow Depth > 1.25" for 10-year event  
Inflow = 30.88 cfs @ 12.10 hrs, Volume= 1.473 af  
Outflow = 30.88 cfs @ 12.10 hrs, Volume= 1.473 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.88 cfs @ 12.10 hrs, Volume= 1.473 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.56' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.76'	<b>36.0" Round Culvert</b> L= 281.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.76' / 46.00' S= 0.0169 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=30.54 cfs @ 12.10 hrs HW=53.53' (Free Discharge)

↑1=Culvert (Inlet Controls 30.54 cfs @ 4.48 fps)

**Summary for Pond dmh22: dmh 22**

Inflow Area = 2.671 ac, 64.47% Impervious, Inflow Depth > 2.59" for 10-year event  
Inflow = 6.58 cfs @ 12.10 hrs, Volume= 0.576 af  
Outflow = 6.58 cfs @ 12.10 hrs, Volume= 0.576 af, Atten= 0%, Lag= 0.0 min  
Primary = 6.58 cfs @ 12.10 hrs, Volume= 0.576 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.11' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>15.0" Round Culvert</b> L= 93.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.50' / 51.03' S= 0.0051 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=6.57 cfs @ 12.10 hrs HW=54.11' (Free Discharge)

↑1=Culvert (Inlet Controls 6.57 cfs @ 5.35 fps)

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**Summary for Pond dmh23: dmh23**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 2.53" for 10-year event  
Inflow = 5.69 cfs @ 12.10 hrs, Volume= 0.427 af  
Outflow = 5.69 cfs @ 12.10 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.69 cfs @ 12.10 hrs, Volume= 0.427 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.58' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.19'	<b>12.0" Round Culvert</b> L= 138.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.19' / 54.50' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.65 cfs @ 12.10 hrs HW=60.51' (Free Discharge)  
↑1=Culvert (Barrel Controls 5.65 cfs @ 7.20 fps)

**Summary for Pond dmh24: dmh24**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 2.53" for 10-year event  
Inflow = 5.69 cfs @ 12.10 hrs, Volume= 0.427 af  
Outflow = 5.69 cfs @ 12.10 hrs, Volume= 0.427 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.69 cfs @ 12.10 hrs, Volume= 0.427 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.31' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.10'	<b>12.0" Round Culvert</b> L= 72.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.10' / 55.92' S= 0.0025 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.65 cfs @ 12.10 hrs HW=60.27' (Free Discharge)  
↑1=Culvert (Barrel Controls 5.65 cfs @ 7.20 fps)

**Summary for Pond dmh24a: dmh24a**

Inflow Area = 0.817 ac, 77.70% Impervious, Inflow Depth > 2.95" for 10-year event  
Inflow = 2.53 cfs @ 12.11 hrs, Volume= 0.201 af  
Outflow = 2.53 cfs @ 12.11 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.53 cfs @ 12.11 hrs, Volume= 0.201 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.47' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b>

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L= 95.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 58.00' / 57.10' S= 0.0095'/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=2.49 cfs @ 12.11 hrs HW=63.34' (Free Discharge)

↑1=Culvert (Barrel Controls 2.49 cfs @ 7.15 fps)

**Summary for Pond dmh25: dmh25**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 2.38" for 10-year event  
Inflow = 1.09 cfs @ 12.12 hrs, Volume= 0.081 af  
Outflow = 1.09 cfs @ 12.12 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.09 cfs @ 12.12 hrs, Volume= 0.081 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 60.62' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	<b>12.0" Round Culvert</b> L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.00' / 55.00' S= 0.0510'/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.06 cfs @ 12.12 hrs HW=60.61' (Free Discharge)

↑1=Culvert (Inlet Controls 1.06 cfs @ 2.11 fps)

**Summary for Pond dmh26: (new Pond)**

Inflow Area = 2.028 ac, 41.73% Impervious, Inflow Depth > 1.63" for 10-year event  
Inflow = 3.99 cfs @ 12.19 hrs, Volume= 0.276 af  
Outflow = 3.99 cfs @ 12.19 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.99 cfs @ 12.19 hrs, Volume= 0.276 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 60.20' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.75'	<b>12.0" Round Culvert</b> L= 28.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.75' / 57.61' S= 0.0050'/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.95 cfs @ 12.19 hrs HW=60.17' (Free Discharge)

↑1=Culvert (Barrel Controls 3.95 cfs @ 5.03 fps)

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**Summary for Pond dmh27: dmh27**

Inflow Area = 2.712 ac, 46.62% Impervious, Inflow Depth > 1.96" for 10-year event  
Inflow = 5.81 cfs @ 12.17 hrs, Volume= 0.444 af  
Outflow = 5.81 cfs @ 12.17 hrs, Volume= 0.444 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.81 cfs @ 12.17 hrs, Volume= 0.444 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.69' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.03'	<b>15.0" Round Culvert</b> L= 256.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.03' / 51.75' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=5.57 cfs @ 12.17 hrs HW=55.52' (Free Discharge)  
↑1=Culvert (Barrel Controls 5.57 cfs @ 4.54 fps)

**Summary for Pond dmh29: dmh29**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af  
Outflow = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.87' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.85'	<b>8.0" Round Culvert</b> L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.85' / 57.39' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.07 cfs @ 12.09 hrs HW=58.84' (Free Discharge)  
↑1=Culvert (Inlet Controls 1.07 cfs @ 3.08 fps)

**Summary for Pond dmh3: dmh3**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.67" for 10-year event  
Inflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af  
Outflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.49' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>18.0" Round Culvert</b>

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L= 125.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 60.50' / 59.84' S= 0.0053 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=7.23 cfs @ 12.09 hrs HW=62.41' (Free Discharge)

↑1=Culvert (Inlet Controls 7.23 cfs @ 4.09 fps)

**Summary for Pond dmh30: dmh30**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af  
Outflow = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.10 cfs @ 12.09 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.04' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.40'	<b>12.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.40' / 54.37' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.07 cfs @ 12.09 hrs HW=56.03' (Free Discharge)

↑1=Culvert (Barrel Controls 1.07 cfs @ 2.96 fps)

**Summary for Pond dmh31: dmh31**

Inflow Area = 2.303 ac, 48.70% Impervious, Inflow Depth > 1.89" for 10-year event  
Inflow = 4.67 cfs @ 12.18 hrs, Volume= 0.363 af  
Outflow = 4.67 cfs @ 12.18 hrs, Volume= 0.363 af, Atten= 0%, Lag= 0.0 min  
Primary = 4.67 cfs @ 12.18 hrs, Volume= 0.363 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.98' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.35'	<b>15.0" Round Culvert</b> L= 259.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.35' / 53.05' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=4.60 cfs @ 12.18 hrs HW=55.95' (Free Discharge)

↑1=Culvert (Inlet Controls 4.60 cfs @ 3.74 fps)

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**Summary for Pond dmh32: dmh32**

Inflow Area = 3.424 ac, 42.31% Impervious, Inflow Depth > 1.86" for 10-year event  
Inflow = 7.17 cfs @ 12.17 hrs, Volume= 0.530 af  
Outflow = 7.17 cfs @ 12.17 hrs, Volume= 0.530 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.17 cfs @ 12.17 hrs, Volume= 0.530 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.67' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>18.0" Round Culvert</b> L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.60' S= 0.0036 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=6.82 cfs @ 12.17 hrs HW=53.60' (Free Discharge)  
↑1=Culvert (Barrel Controls 6.82 cfs @ 3.97 fps)

**Summary for Pond dmh33: dmh33**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 2.75" for 10-year event  
Inflow = 0.35 cfs @ 12.42 hrs, Volume= 0.072 af  
Outflow = 0.35 cfs @ 12.42 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.35 cfs @ 12.42 hrs, Volume= 0.072 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.33' @ 12.42 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 52.01' S= 0.0099 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.34 cfs @ 12.42 hrs HW=54.33' (Free Discharge)  
↑1=Culvert (Inlet Controls 0.34 cfs @ 1.54 fps)

**Summary for Pond dmh34: dmh34**

Inflow Area = 3.030 ac, 25.90% Impervious, Inflow Depth > 1.36" for 10-year event  
Inflow = 3.81 cfs @ 12.12 hrs, Volume= 0.343 af  
Outflow = 3.81 cfs @ 12.12 hrs, Volume= 0.343 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.81 cfs @ 12.12 hrs, Volume= 0.343 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.07' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.99'	<b>18.0" Round Culvert</b>

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L= 39.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.99' / 51.60' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=3.72 cfs @ 12.12 hrs HW=53.05' (Free Discharge)

↑1=Culvert (Inlet Controls 3.72 cfs @ 2.77 fps)

**Summary for Pond dmh35: dmh35**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 1.61" for 10-year event  
Inflow = 12.28 cfs @ 12.17 hrs, Volume= 0.980 af  
Outflow = 12.28 cfs @ 12.17 hrs, Volume= 0.980 af, Atten= 0%, Lag= 0.0 min  
Primary = 12.28 cfs @ 12.17 hrs, Volume= 0.980 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.59' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.55'	<b>24.0" Round Culvert</b> L= 276.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.55' / 50.17' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=11.83 cfs @ 12.17 hrs HW=53.52' (Free Discharge)

↑1=Culvert (Inlet Controls 11.83 cfs @ 3.78 fps)

**Summary for Pond dmh36: dmh36**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 1.61" for 10-year event  
Inflow = 12.28 cfs @ 12.17 hrs, Volume= 0.980 af  
Outflow = 12.28 cfs @ 12.17 hrs, Volume= 0.980 af, Atten= 0%, Lag= 0.0 min  
Primary = 12.28 cfs @ 12.17 hrs, Volume= 0.980 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.19' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.15'	<b>24.0" Round Culvert</b> L= 159.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.15' / 49.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=11.83 cfs @ 12.17 hrs HW=52.12' (Free Discharge)

↑1=Culvert (Inlet Controls 11.83 cfs @ 3.78 fps)

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**Summary for Pond dmh38: dmh38**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 0.40" for 10-year event  
Inflow = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af  
Outflow = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.81 cfs @ 12.09 hrs, Volume= 0.085 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.46' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>18.0" Round Culvert</b> L= 106.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 50.92' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=5.57 cfs @ 12.09 hrs HW=53.41' (Free Discharge)  
↑1=Culvert (Inlet Controls 5.57 cfs @ 3.21 fps)

**Summary for Pond dmh39: dmh39**

Inflow Area = 2.778 ac, 93.02% Impervious, Inflow Depth > 0.45" for 10-year event  
Inflow = 5.80 cfs @ 12.09 hrs, Volume= 0.104 af  
Outflow = 5.80 cfs @ 12.09 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min  
Primary = 5.80 cfs @ 12.09 hrs, Volume= 0.104 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.14' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.59'	<b>18.0" Round Culvert</b> L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.59' / 50.32' S= 0.0047 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=5.56 cfs @ 12.09 hrs HW=52.09' (Free Discharge)  
↑1=Culvert (Barrel Controls 5.56 cfs @ 3.91 fps)

**Summary for Pond dmh4: dmh4**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.67" for 10-year event  
Inflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af  
Outflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.94' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.84'	<b>18.0" Round Culvert</b>

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L= 66.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 59.84' / 59.57' S= 0.0041 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=7.07 cfs @ 12.09 hrs HW=61.84' (Free Discharge)

↑1=Culvert (Barrel Controls 7.07 cfs @ 4.00 fps)

**Summary for Pond dmh40: dmh40**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 1.29" for 10-year event  
Inflow = 15.83 cfs @ 12.14 hrs, Volume= 1.083 af  
Outflow = 15.83 cfs @ 12.14 hrs, Volume= 1.083 af, Atten= 0%, Lag= 0.0 min  
Primary = 15.83 cfs @ 12.14 hrs, Volume= 1.083 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 51.31' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.33'	<b>30.0" Round Culvert</b> L= 340.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 49.33' / 47.63' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=15.65 cfs @ 12.14 hrs HW=51.30' (Free Discharge)

↑1=Culvert (Inlet Controls 15.65 cfs @ 3.77 fps)

**Summary for Pond dmh43: dmh43**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 1.29" for 10-year event  
Inflow = 15.83 cfs @ 12.14 hrs, Volume= 1.083 af  
Outflow = 15.83 cfs @ 12.14 hrs, Volume= 1.083 af, Atten= 0%, Lag= 0.0 min  
Primary = 15.83 cfs @ 12.14 hrs, Volume= 1.083 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.59' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.61'	<b>30.0" Round Culvert</b> L= 193.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.61' / 46.64' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=15.65 cfs @ 12.14 hrs HW=49.58' (Free Discharge)

↑1=Culvert (Inlet Controls 15.65 cfs @ 3.77 fps)

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**Summary for Pond dmh44: dmh44**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 1.30" for 10-year event  
Inflow = 16.24 cfs @ 12.14 hrs, Volume= 1.116 af  
Outflow = 16.24 cfs @ 12.14 hrs, Volume= 1.116 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.24 cfs @ 12.14 hrs, Volume= 1.116 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 48.56' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.62'	<b>36.0" Round Culvert</b> L= 82.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.62' / 46.21' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=16.03 cfs @ 12.14 hrs HW=48.54' (Free Discharge)  
↑1=Culvert (Barrel Controls 16.03 cfs @ 4.77 fps)

**Summary for Pond dmh45: dmh45**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 1.30" for 10-year event  
Inflow = 16.24 cfs @ 12.14 hrs, Volume= 1.116 af  
Outflow = 16.24 cfs @ 12.14 hrs, Volume= 1.116 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.24 cfs @ 12.14 hrs, Volume= 1.116 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 48.01' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.19'	<b>36.0" Round Culvert</b> L= 316.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.19' / 44.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=16.03 cfs @ 12.14 hrs HW=47.99' (Free Discharge)  
↑1=Culvert (Inlet Controls 16.03 cfs @ 3.61 fps)

**Summary for Pond dmh47: dmh47**

Inflow Area = 12.894 ac, 59.74% Impervious, Inflow Depth > 1.12" for 10-year event  
Inflow = 20.86 cfs @ 12.12 hrs, Volume= 1.202 af  
Outflow = 20.86 cfs @ 12.12 hrs, Volume= 1.202 af, Atten= 0%, Lag= 0.0 min  
Primary = 20.86 cfs @ 12.12 hrs, Volume= 1.202 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 46.12' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	<b>36.0" Round Culvert</b>

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L= 104.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.00' / 42.96' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=20.21 cfs @ 12.12 hrs HW=46.08' (Free Discharge)

↑1=Culvert (Inlet Controls 20.21 cfs @ 3.87 fps)

**Summary for Pond dmh48: dmh48**

Inflow Area = 13.587 ac, 61.79% Impervious, Inflow Depth > 1.22" for 10-year event  
Inflow = 22.54 cfs @ 12.12 hrs, Volume= 1.386 af  
Outflow = 22.54 cfs @ 12.12 hrs, Volume= 1.386 af, Atten= 0%, Lag= 0.0 min  
Primary = 22.54 cfs @ 12.12 hrs, Volume= 1.386 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 45.25' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.94'	<b>36.0" Round Culvert</b> L= 117.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.94' / 42.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=21.85 cfs @ 12.12 hrs HW=45.21' (Free Discharge)

↑1=Culvert (Barrel Controls 21.85 cfs @ 5.28 fps)

**Summary for Pond dmh49: dmh49**

Inflow Area = 13.908 ac, 61.10% Impervious, Inflow Depth > 1.25" for 10-year event  
Inflow = 23.37 cfs @ 12.12 hrs, Volume= 1.445 af  
Outflow = 23.37 cfs @ 12.12 hrs, Volume= 1.445 af, Atten= 0%, Lag= 0.0 min  
Primary = 23.37 cfs @ 12.12 hrs, Volume= 1.445 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.89' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.33'	<b>36.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.33' / 42.23' S= 0.0071 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=22.66 cfs @ 12.12 hrs HW=44.84' (Free Discharge)

↑1=Culvert (Barrel Controls 22.66 cfs @ 4.86 fps)

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**Summary for Pond dmh5: dmh5**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.67" for 10-year event  
Inflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af  
Outflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.47' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.48'	<b>18.0" Round Culvert</b> L= 173.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.48' / 58.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow Max=7.23 cfs @ 12.09 hrs HW=61.39' (Free Discharge)**  
↑1=Culvert (Inlet Controls 7.23 cfs @ 4.09 fps)

**Summary for Pond dmh50: dmh50**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 1.25" for 10-year event  
Inflow = 30.87 cfs @ 12.10 hrs, Volume= 1.552 af  
Outflow = 30.87 cfs @ 12.10 hrs, Volume= 1.552 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.87 cfs @ 12.10 hrs, Volume= 1.552 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 47.55' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.75'	<b>36.0" Round Culvert</b> L= 64.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.75' / 44.11' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow Max=30.59 cfs @ 12.10 hrs HW=47.53' (Free Discharge)**  
↑1=Culvert (Inlet Controls 30.59 cfs @ 4.48 fps)

**Summary for Pond dmh51: dmh51**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 1.25" for 10-year event  
Inflow = 30.87 cfs @ 12.10 hrs, Volume= 1.552 af  
Outflow = 30.87 cfs @ 12.10 hrs, Volume= 1.552 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.87 cfs @ 12.10 hrs, Volume= 1.552 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 46.89' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.09'	<b>36.0" Round Culvert</b>

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L= 38.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.09' / 43.00' S= 0.0287 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=30.59 cfs @ 12.10 hrs HW=46.87' (Free Discharge)

↑1=Culvert (Inlet Controls 30.59 cfs @ 4.48 fps)

**Summary for Pond dmh52: dmh52**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 1.25" for 10-year event  
Inflow = 53.80 cfs @ 12.11 hrs, Volume= 2.997 af  
Outflow = 53.80 cfs @ 12.11 hrs, Volume= 2.997 af, Atten= 0%, Lag= 0.0 min  
Primary = 53.80 cfs @ 12.11 hrs, Volume= 2.997 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 43.89' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	41.00'	<b>60.0" Round Culvert</b> L= 258.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 41.00' / 36.00' S= 0.0194 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=52.98 cfs @ 12.11 hrs HW=43.87' (Free Discharge)

↑1=Culvert (Inlet Controls 52.98 cfs @ 4.55 fps)

**Summary for Pond dmh53: dmh53**

Inflow Area = 29.187 ac, 69.95% Impervious, Inflow Depth > 1.26" for 10-year event  
Inflow = 55.19 cfs @ 12.11 hrs, Volume= 3.075 af  
Outflow = 55.19 cfs @ 12.11 hrs, Volume= 3.075 af, Atten= 0%, Lag= 0.0 min  
Primary = 55.19 cfs @ 12.11 hrs, Volume= 3.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 35.94' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	<b>60.0" Round Culvert</b> L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 33.00' / 30.50' S= 0.0208 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=54.31 cfs @ 12.11 hrs HW=35.91' (Free Discharge)

↑1=Culvert (Inlet Controls 54.31 cfs @ 4.58 fps)

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**Summary for Pond dmh54: dmh54**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.27" for 10-year event  
Inflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af  
Outflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af, Atten= 0%, Lag= 0.0 min  
Primary = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 29.94' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	27.00'	<b>60.0" Round Culvert</b> L= 152.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 27.00' / 22.00' S= 0.0329 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow Max=54.45 cfs @ 12.11 hrs HW=29.91' (Free Discharge)**  
↑1=Culvert (Inlet Controls 54.45 cfs @ 4.59 fps)

**Summary for Pond dmh55: dhm55**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.27" for 10-year event  
Inflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af  
Outflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af, Atten= 0%, Lag= 0.0 min  
Primary = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 21.94' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	<b>60.0" Round Culvert</b> L= 115.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.00' / 15.50' S= 0.0304 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow Max=54.45 cfs @ 12.11 hrs HW=21.91' (Free Discharge)**  
↑1=Culvert (Inlet Controls 54.45 cfs @ 4.59 fps)

**Summary for Pond dmh56: dmh56**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.27" for 10-year event  
Inflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af  
Outflow = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af, Atten= 0%, Lag= 0.0 min  
Primary = 55.34 cfs @ 12.11 hrs, Volume= 3.098 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 15.44' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.50'	<b>60.0" Round Culvert</b>

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L= 42.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 12.50' / 11.00' S= 0.0357 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=54.45 cfs @ 12.11 hrs HW=15.41' (Free Discharge)

↑1=Culvert (Inlet Controls 54.45 cfs @ 4.59 fps)

**Summary for Pond dmh59: dmh59**

Inflow Area = 2.253 ac, 63.02% Impervious, Inflow Depth > 2.58" for 10-year event  
Inflow = 6.01 cfs @ 12.10 hrs, Volume= 0.485 af  
Outflow = 6.01 cfs @ 12.10 hrs, Volume= 0.485 af, Atten= 0%, Lag= 0.0 min  
Primary = 6.01 cfs @ 12.10 hrs, Volume= 0.485 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.94' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	<b>12.0" Round Culvert</b> L= 294.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.30' / 52.83' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=6.00 cfs @ 12.10 hrs HW=63.91' (Free Discharge)

↑1=Culvert (Barrel Controls 6.00 cfs @ 7.64 fps)

**Summary for Pond dmh6: dmh6**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.67" for 10-year event  
Inflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af  
Outflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.83' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 57.73' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=7.23 cfs @ 12.09 hrs HW=61.64' (Free Discharge)

↑1=Culvert (Barrel Controls 7.23 cfs @ 4.09 fps)

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**Summary for Pond dmh60: dhm60**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 1.25" for 10-year event  
Inflow = 53.80 cfs @ 12.11 hrs, Volume= 2.997 af  
Outflow = 53.80 cfs @ 12.11 hrs, Volume= 2.997 af, Atten= 0%, Lag= 0.0 min  
Primary = 53.80 cfs @ 12.11 hrs, Volume= 2.997 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 38.39' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	<b>60.0" Round Culvert</b> L= 114.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.50' / 33.50' S= 0.0175 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=52.98 cfs @ 12.11 hrs HW=38.37' (Free Discharge)  
↑1=Culvert (Inlet Controls 52.98 cfs @ 4.55 fps)

**Summary for Pond dmh7: dmh7**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 0.67" for 10-year event  
Inflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af  
Outflow = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.52 cfs @ 12.09 hrs, Volume= 0.189 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.70' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.71'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.71' / 56.86' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=7.23 cfs @ 12.09 hrs HW=59.62' (Free Discharge)  
↑1=Culvert (Inlet Controls 7.23 cfs @ 4.09 fps)

**Summary for Pond dmh8: dmh8**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.55" for 10-year event  
Inflow = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af  
Outflow = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min  
Primary = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.07' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.84'	<b>24.0" Round Culvert</b>

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L= 296.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 56.84' / 55.66' S= 0.0040 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=12.80 cfs @ 12.09 hrs HW=58.99' (Free Discharge)

↑1=Culvert (Inlet Controls 12.80 cfs @ 4.07 fps)

**Summary for Pond dmh9a: dmh9a**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.55" for 10-year event  
Inflow = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af  
Outflow = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min  
Primary = 13.35 cfs @ 12.09 hrs, Volume= 0.274 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.88' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.64'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.64' / 54.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=12.79 cfs @ 12.09 hrs HW=57.79' (Free Discharge)

↑1=Culvert (Inlet Controls 12.79 cfs @ 4.07 fps)

**Summary for Pond GSF 11: grassed soil filter**

Inflow Area = 0.991 ac, 36.78% Impervious, Inflow Depth > 2.30" for 10-year event  
Inflow = 2.80 cfs @ 12.09 hrs, Volume= 0.190 af  
Outflow = 1.98 cfs @ 12.18 hrs, Volume= 0.132 af, Atten= 29%, Lag= 5.4 min  
Primary = 1.98 cfs @ 12.18 hrs, Volume= 0.132 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.18' @ 12.18 hrs Surf.Area= 2,879 sf Storage= 2,985 cf  
Flood Elev= 63.00' Surf.Area= 3,400 sf Storage= 5,560 cf

Plug-Flow detention time= 114.4 min calculated for 0.132 af (69% of inflow)  
Center-of-Mass det. time= 48.0 min ( 834.2 - 786.1 )

Volume	Invert	Avail.Storage	Storage Description			
#1	61.00'	5,560 cf	<b>gsf11 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
61.00	2,200	181.0	0	0	2,200	
62.00	2,771	200.0	2,480	2,480	2,807	
63.00	3,400	219.0	3,080	5,560	3,474	

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Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0085 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. cb19 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.94 cfs @ 12.18 hrs HW=62.18' (Free Discharge)

↑1=Culvert (Passes 1.94 cfs of 5.69 cfs potential flow)

↑2=cb19 (Weir Controls 1.94 cfs @ 1.37 fps)

**Summary for Pond GSF 12: grassed soil filter**

Inflow Area = 0.297 ac, 57.98% Impervious, Inflow Depth > 2.74" for 10-year event  
 Inflow = 0.98 cfs @ 12.09 hrs, Volume= 0.068 af  
 Outflow = 0.94 cfs @ 12.11 hrs, Volume= 0.057 af, Atten= 3%, Lag= 1.4 min  
 Primary = 0.94 cfs @ 12.11 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 61.61' @ 12.11 hrs Surf.Area= 1,072 sf Storage= 595 cf  
 Flood Elev= 62.50' Surf.Area= 1,368 sf Storage= 1,681 cf

Plug-Flow detention time= 77.7 min calculated for 0.056 af (83% of inflow)  
 Center-of-Mass det. time= 31.8 min ( 804.2 - 772.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	1,681 cf	<b>gsf12 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	886	151.0	0	0	886
62.00	1,201	164.0	1,040	1,040	1,248
62.50	1,368	170.0	642	1,681	1,428

Device	Routing	Invert	Outlet Devices
#1	Primary	58.20'	<b>8.0" Round Culvert</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.20' / 58.10' S= 0.0048 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.50'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.92 cfs @ 12.11 hrs HW=61.61' (Free Discharge)

↑1=Culvert (Passes 0.92 cfs of 2.33 cfs potential flow)

↑2=Catch Basin (Weir Controls 0.92 cfs @ 1.07 fps)

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**Summary for Pond GSF 13: grassed soil filter**

Inflow Area = 1.037 ac, 46.46% Impervious, Inflow Depth > 2.47" for 10-year event  
Inflow = 3.13 cfs @ 12.09 hrs, Volume= 0.214 af  
Outflow = 2.02 cfs @ 12.20 hrs, Volume= 0.144 af, Atten= 35%, Lag= 6.7 min  
Primary = 2.02 cfs @ 12.20 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.18' @ 12.20 hrs Surf.Area= 3,697 sf Storage= 3,647 cf  
Flood Elev= 63.00' Surf.Area= 4,582 sf Storage= 7,028 cf

Plug-Flow detention time= 121.9 min calculated for 0.143 af (67% of inflow)  
Center-of-Mass det. time= 53.7 min ( 834.7 - 781.0 )

Volume	Invert	Avail.Storage	Storage Description			
#1	61.00'	7,028 cf	<b>gsf13 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
61.00	2,500	328.0	0	0	2,500	
62.00	3,513	347.0	2,992	2,992	3,575	
63.00	4,582	366.0	4,036	7,028	4,710	

Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. db18 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.01 cfs @ 12.20 hrs HW=62.18' (Free Discharge)

↑1=Culvert (Passes 2.01 cfs of 5.69 cfs potential flow)

↑2=db18 (Weir Controls 2.01 cfs @ 1.39 fps)

**Summary for Pond GSF 15: grassed soil filter**

Inflow Area = 0.210 ac, 1.92% Impervious, Inflow Depth > 1.61" for 10-year event  
Inflow = 0.42 cfs @ 12.10 hrs, Volume= 0.028 af  
Outflow = 0.40 cfs @ 12.12 hrs, Volume= 0.025 af, Atten= 3%, Lag= 1.3 min  
Primary = 0.40 cfs @ 12.12 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.76' @ 12.12 hrs Surf.Area= 729 sf Storage= 174 cf  
Flood Elev= 65.00' Surf.Area= 1,418 sf Storage= 1,489 cf

Plug-Flow detention time= 50.0 min calculated for 0.025 af (89% of inflow)  
Center-of-Mass det. time= 16.4 min ( 822.8 - 806.5 )

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Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	1,489 cf	<b>gsf15 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	600	168.0	0	0	600
64.00	858	177.0	363	363	862
65.00	1,418	196.0	1,126	1,489	1,456

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.52' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	63.70'	<b>2.0" x 2.0" Horiz. cb9 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.39 cfs @ 12.12 hrs HW=63.76' (Free Discharge)

↑1=Culvert (Passes 0.39 cfs of 2.19 cfs potential flow)

↑2=cb9 (Weir Controls 0.39 cfs @ 0.80 fps)

**Summary for Pond GSF 16: grassed soil filter**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 2.22" for 10-year event  
 Inflow = 0.95 cfs @ 12.09 hrs, Volume= 0.064 af  
 Outflow = 0.02 cfs @ 17.65 hrs, Volume= 0.005 af, Atten= 98%, Lag= 333.7 min  
 Primary = 0.02 cfs @ 17.65 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 64.41' @ 17.65 hrs Surf.Area= 2,197 sf Storage= 2,593 cf

Plug-Flow detention time= 488.8 min calculated for 0.005 af (7% of inflow)  
 Center-of-Mass det. time= 323.0 min ( 1,111.6 - 788.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	62.75'	4,054 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
62.75	1,000	215.0	0	0	1,000
63.00	1,165	220.0	270	270	1,181
64.00	1,858	241.0	1,498	1,768	1,986
65.00	2,741	270.0	2,285	4,054	3,192

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.54' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	64.40'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b>

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C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.02 cfs @ 17.65 hrs HW=64.41' (Free Discharge)

↑1=Culvert (Passes 0.02 cfs of 2.44 cfs potential flow)

↑2=Catch Basin (Weir Controls 0.02 cfs @ 0.28 fps)

**Summary for Pond GSF 18A: grassed soil filter**

Inflow Area = 0.146 ac, 40.91% Impervious, Inflow Depth > 2.38" for 10-year event  
Inflow = 0.43 cfs @ 12.09 hrs, Volume= 0.029 af  
Outflow = 0.34 cfs @ 12.17 hrs, Volume= 0.020 af, Atten= 20%, Lag= 4.7 min  
Primary = 0.34 cfs @ 12.17 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.46' @ 12.17 hrs Surf.Area= 1,151 sf Storage= 466 cf

Plug-Flow detention time= 118.2 min calculated for 0.020 af (68% of inflow)  
Center-of-Mass det. time= 50.3 min ( 833.9 - 783.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	1,183 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	900	183.0	0	0	900
58.00	1,490	202.0	1,183	1,183	1,513

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.40'	<b>2.0" x 2.0" Horiz. cb24 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.31 cfs @ 12.17 hrs HW=57.45' (Free Discharge)

↑1=Culvert (Passes 0.31 cfs of 2.34 cfs potential flow)

↑2=cb24 (Weir Controls 0.31 cfs @ 0.75 fps)

**Summary for Pond GSF 18B: grassed soil filter**

Inflow Area = 0.092 ac, 58.36% Impervious, Inflow Depth > 2.74" for 10-year event  
Inflow = 0.30 cfs @ 12.09 hrs, Volume= 0.021 af  
Outflow = 0.21 cfs @ 12.19 hrs, Volume= 0.013 af, Atten= 29%, Lag= 6.1 min  
Primary = 0.21 cfs @ 12.19 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.94' @ 12.19 hrs Surf.Area= 566 sf Storage= 396 cf

Plug-Flow detention time= 140.8 min calculated for 0.013 af (59% of inflow)

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Center-of-Mass det. time= 65.6 min ( 838.0 - 772.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	430 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	290	88.0	0	0	290
58.00	587	107.0	430	430	601

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.90'	<b>2.0" x 2.0" Horiz. cb23 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.21 cfs @ 12.19 hrs HW=57.94' (Free Discharge)

↑1=Culvert (Passes 0.21 cfs of 2.52 cfs potential flow)

↑2=cb23 (Weir Controls 0.21 cfs @ 0.65 fps)

**Summary for Pond GSF 1A: Grassed soil filter**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 2.38" for 10-year event  
 Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.081 af  
 Outflow = 1.09 cfs @ 12.12 hrs, Volume= 0.081 af, Atten= 8%, Lag= 1.8 min  
 Primary = 1.09 cfs @ 12.12 hrs, Volume= 0.081 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 65.87' @ 12.12 hrs Surf.Area= 1,683 sf Storage= 198 cf  
 Flood Elev= 68.00' Surf.Area= 3,488 sf Storage= 5,554 cf

Plug-Flow detention time= 5.1 min calculated for 0.081 af (100% of inflow)  
 Center-of-Mass det. time= 4.2 min ( 787.8 - 783.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	5,554 cf	<b>Grassed Underdrain Soil Filter (Irregular)</b> listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	1,600	234.0	0	0	1,600
66.00	1,775	239.0	422	422	1,797
67.00	2,525	261.0	2,139	2,561	2,708
68.00	3,488	286.0	2,994	5,554	3,830

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.26' S= 0.0200 '/ Cc= 0.900

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#2 Device 1 65.75' n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf  
**2.0" x 2.0" Horiz. Orifice/Grate X 49.00**  
C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=1.06 cfs @ 12.12 hrs HW=65.87' (Free Discharge)**

↑1=Culvert (Passes 1.06 cfs of 2.19 cfs potential flow)  
↑2=Orifice/Grate (Weir Controls 1.06 cfs @ 1.12 fps)

**Summary for Pond GSF 1B: grassed soil filter**

Inflow Area = 0.781 ac, 20.08% Impervious, Inflow Depth > 1.98" for 10-year event  
Inflow = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af  
Outflow = 1.71 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 10%, Lag= 0.0 min  
Primary = 1.71 cfs @ 12.09 hrs, Volume= 0.103 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Peak Elev= 67.06' @ 12.09 hrs Surf.Area= 1,576 sf Storage= 1,039 cf  
Flood Elev= 67.00' Surf.Area= 1,576 sf Storage= 1,039 cf

Plug-Flow detention time= 81.4 min calculated for 0.103 af (80% of inflow)  
Center-of-Mass det. time= 28.7 min ( 824.3 - 795.6 )

Volume	Invert	Avail.Storage	Storage Description			
#1	66.00'	1,039 cf	<b>gsf1B (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
66.00	583	194.0	0	0	583	
67.00	1,576	297.0	1,039	1,039	4,615	

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.60' S= 0.0100 '/' Cc= 0.900
#2	Device 1	66.90'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. CB17 grate X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=1.68 cfs @ 12.09 hrs HW=67.06' (Free Discharge)**

↑1=Culvert (Passes 1.68 cfs of 2.63 cfs potential flow)  
↑2=CB17 grate (Weir Controls 1.68 cfs @ 1.31 fps)

**Summary for Pond GSF 2: grassed soil filter**

Inflow Area = 0.713 ac, 25.93% Impervious, Inflow Depth > 2.05" for 10-year event  
Inflow = 1.81 cfs @ 12.09 hrs, Volume= 0.122 af  
Outflow = 1.29 cfs @ 12.18 hrs, Volume= 0.087 af, Atten= 29%, Lag= 5.5 min  
Primary = 1.29 cfs @ 12.18 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 57.73' @ 12.18 hrs Surf.Area= 2,172 sf Storage= 1,802 cf  
Flood Elev= 59.00' Surf.Area= 3,488 sf Storage= 5,317 cf

Plug-Flow detention time= 109.2 min calculated for 0.087 af (71% of inflow)  
Center-of-Mass det. time= 43.9 min ( 837.2 - 793.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.75'	5,317 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.75	1,500	218.0	0	0	1,500
57.00	1,669	223.0	396	396	1,684
58.00	2,371	245.0	2,010	2,406	2,536
59.00	3,488	283.0	2,912	5,317	4,154

Device	Routing	Invert	Outlet Devices
#1	Primary	53.95'	<b>8.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.95' / 53.76' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb20 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.26 cfs @ 12.18 hrs HW=57.73' (Free Discharge)

1=Culvert (Passes 1.26 cfs of 2.46 cfs potential flow)

2=cb20 (Weir Controls 1.26 cfs @ 1.19 fps)

**Summary for Pond GSF 24: grassed soil filter**

Inflow Area = 0.419 ac, 67.19% Impervious, Inflow Depth > 3.13" for 10-year event  
Inflow = 1.53 cfs @ 12.09 hrs, Volume= 0.109 af  
Outflow = 1.41 cfs @ 12.12 hrs, Volume= 0.078 af, Atten= 7%, Lag= 2.1 min  
Primary = 1.41 cfs @ 12.12 hrs, Volume= 0.078 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.74' @ 12.12 hrs Surf.Area= 1,879 sf Storage= 1,623 cf

Plug-Flow detention time= 118.3 min calculated for 0.078 af (71% of inflow)  
Center-of-Mass det. time= 54.3 min ( 812.7 - 758.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.75'	4,479 cf	<b>gsf24 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
39.75	1,400	150.0	0	0	1,400
40.00	1,516	156.0	364	364	1,551
41.00	2,013	176.0	1,759	2,123	2,105
42.00	2,717	200.0	2,356	4,479	2,847

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Device	Routing	Invert	Outlet Devices
#1	Primary	36.80'	<b>8.0" Round Culvert</b> L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 36.80' / 36.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	40.60'	<b>2.0" x 2.0" Horiz. cb32 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.37 cfs @ 12.12 hrs HW=40.74' (Free Discharge)

↑1=Culvert (Passes 1.37 cfs of 2.52 cfs potential flow)

↑2=cb32 (Weir Controls 1.37 cfs @ 1.22 fps)

**Summary for Pond GSF 3: grassed soil filter**

Inflow Area = 0.830 ac, 36.22% Impervious, Inflow Depth > 2.22" for 10-year event  
 Inflow = 2.26 cfs @ 12.09 hrs, Volume= 0.153 af  
 Outflow = 1.55 cfs @ 12.19 hrs, Volume= 0.107 af, Atten= 31%, Lag= 5.7 min  
 Primary = 1.55 cfs @ 12.19 hrs, Volume= 0.107 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 55.90' @ 12.19 hrs Surf.Area= 2,566 sf Storage= 2,387 cf  
 Flood Elev= 57.00' Surf.Area= 3,839 sf Storage= 5,872 cf

Plug-Flow detention time= 114.3 min calculated for 0.107 af (70% of inflow)  
 Center-of-Mass det. time= 46.9 min ( 835.5 - 788.6 )

Volume	Invert	Avail.Storage	Storage Description			
#1	54.75'	5,872 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.75	1,600	268.0	0	0	1,600	
55.00	1,804	274.0	425	425	1,868	
56.00	2,657	295.0	2,217	2,642	2,860	
57.00	3,839	332.0	3,230	5,872	4,733	

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>12.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 51.84' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	55.75'	<b>2.0" x 2.0" Horiz. cb25 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.53 cfs @ 12.19 hrs HW=55.90' (Free Discharge)

↑1=Culvert (Passes 1.53 cfs of 5.52 cfs potential flow)

↑2=cb25 (Weir Controls 1.53 cfs @ 1.27 fps)

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**Summary for Pond GSF 4: grassed soil filter**

Inflow Area = 0.194 ac, 0.00% Impervious, Inflow Depth > 1.61" for 10-year event  
Inflow = 0.38 cfs @ 12.10 hrs, Volume= 0.026 af  
Outflow = 0.29 cfs @ 12.21 hrs, Volume= 0.018 af, Atten= 25%, Lag= 7.0 min  
Primary = 0.29 cfs @ 12.21 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.15' @ 12.21 hrs Surf.Area= 671 sf Storage= 366 cf  
Flood Elev= 56.00' Surf.Area= 974 sf Storage= 1,061 cf

Plug-Flow detention time= 111.1 min calculated for 0.018 af (70% of inflow)  
Center-of-Mass det. time= 42.5 min ( 849.0 - 806.5 )

Volume	Invert	Avail.Storage	Storage Description		
#1	54.50'	1,061 cf	<b>gsf4 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.50	457	163.0	0	0	457
55.00	623	169.0	269	269	636
56.00	974	182.0	792	1,061	1,039

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>8.0" Round Culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.56' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	55.10'	<b>2.0" x 2.0" Horiz. cb26 rim X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.26 cfs @ 12.21 hrs HW=55.15' (Free Discharge)

↑1=Culvert (Passes 0.26 cfs of 2.33 cfs potential flow)

↑2=cb26 rim (Weir Controls 0.26 cfs @ 0.71 fps)

**Summary for Pond GSF 5: grassed soil filter**

Inflow Area = 0.248 ac, 0.00% Impervious, Inflow Depth > 1.61" for 10-year event  
Inflow = 0.49 cfs @ 12.10 hrs, Volume= 0.033 af  
Outflow = 0.49 cfs @ 12.10 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.49 cfs @ 12.10 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.00' @ 12.10 hrs Surf.Area= 601 sf Storage= 1 cf  
Flood Elev= 55.00' Surf.Area= 1,257 sf Storage= 908 cf

Plug-Flow detention time= 0.0 min calculated for 0.033 af (100% of inflow)  
Center-of-Mass det. time= 0.0 min ( 806.5 - 806.5 )

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Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	908 cf	<b>gsf5 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	600	210.0	0	0	600
55.00	1,257	228.0	908	908	1,265

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.95' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	54.60'	<b>2.0" x 2.0" Horiz. Catch Basin</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=2.17 cfs @ 12.10 hrs HW=54.00' (Free Discharge)

1=Culvert (Inlet Controls 2.17 cfs @ 6.21 fps)

2=Catch Basin ( Controls 0.00 cfs)

**Summary for Pond GSF 6: grassed soil filter**

Inflow Area = 0.321 ac, 32.06% Impervious, Inflow Depth > 2.22" for 10-year event  
 Inflow = 0.88 cfs @ 12.09 hrs, Volume= 0.059 af  
 Outflow = 0.88 cfs @ 12.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.88 cfs @ 12.09 hrs, Volume= 0.059 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.00' @ 12.09 hrs Surf.Area= 1,001 sf Storage= 1 cf  
 Flood Elev= 50.00' Surf.Area= 1,768 sf Storage= 1,366 cf

Plug-Flow detention time= 0.0 min calculated for 0.059 af (100% of inflow)  
 Center-of-Mass det. time= 0.0 min ( 788.6 - 788.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	1,366 cf	<b>gsf6 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
49.00	1,000	156.0	0	0	1,000
50.00	1,768	184.0	1,366	1,366	1,776

Device	Routing	Invert	Outlet Devices
#1	Primary	44.70'	<b>8.0" Round culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.70' / 44.53' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	48.20'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

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**Primary OutFlow** Max=8.51 cfs @ 12.09 hrs HW=49.00' (Free Discharge)

↑1=culvert (Inlet Controls 2.64 cfs @ 7.57 fps)

↑2=Catch Basin (Orifice Controls 5.87 cfs @ 4.31 fps)

**Summary for Pond GSF 7: grassed soil filter**

Inflow Area = 0.697 ac, 25.86% Impervious, Inflow Depth > 2.05" for 10-year event  
Inflow = 1.77 cfs @ 12.09 hrs, Volume= 0.119 af  
Outflow = 0.89 cfs @ 12.27 hrs, Volume= 0.079 af, Atten= 50%, Lag= 10.6 min  
Primary = 0.89 cfs @ 12.27 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Peak Elev= 54.80' @ 12.27 hrs Surf.Area= 3,158 sf Storage= 2,073 cf  
Flood Elev= 56.00' Surf.Area= 5,203 sf Storage= 7,026 cf

Plug-Flow detention time= 125.6 min calculated for 0.078 af (66% of inflow)  
Center-of-Mass det. time= 54.7 min ( 848.0 - 793.3 )

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	7,026 cf	<b>gsf7 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	2,037	220.0	0	0	2,037	
55.00	3,467	289.0	2,720	2,720	4,843	
56.00	5,203	357.0	4,306	7,026	8,354	

Device	Routing	Invert	Outlet Devices	
#1	Primary	51.00'	<b>8.0" Round cb29</b> L= 26.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.48' S= 0.0200 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf	
#2	Device 1	54.70'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads	

**Primary OutFlow** Max=0.87 cfs @ 12.27 hrs HW=54.80' (Free Discharge)

↑1=cb29 (Passes 0.87 cfs of 2.47 cfs potential flow)

↑2=Catch Basin (Weir Controls 0.87 cfs @ 1.05 fps)

**Summary for Pond GSF 8: grassed soil filter**

Inflow Area = 1.046 ac, 55.78% Impervious, Inflow Depth > 2.65" for 10-year event  
Inflow = 3.35 cfs @ 12.09 hrs, Volume= 0.231 af  
Outflow = 2.48 cfs @ 12.17 hrs, Volume= 0.156 af, Atten= 26%, Lag= 5.0 min  
Primary = 2.48 cfs @ 12.17 hrs, Volume= 0.156 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.81' @ 12.17 hrs Surf.Area= 3,431 sf Storage= 3,937 cf  
Flood Elev= 58.50' Surf.Area= 3,910 sf Storage= 6,471 cf

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Plug-Flow detention time= 122.3 min calculated for 0.155 af (67% of inflow)

Center-of-Mass det. time= 54.6 min ( 830.0 - 775.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	6,471 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.50	2,600	200.0	0	0	2,600
57.50	3,227	218.0	2,908	2,908	3,234
58.50	3,910	237.0	3,563	6,471	3,959

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.50' / 52.93' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb10 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.37 cfs @ 12.17 hrs HW=57.80' (Free Discharge)

↑1=Culvert (Passes 2.37 cfs of 2.58 cfs potential flow)

↑2=cb10 (Weir Controls 2.37 cfs @ 1.47 fps)

**Summary for Pond GSF 9: grassed soil filter**

Inflow Area = 0.647 ac, 63.29% Impervious, Inflow Depth > 2.84" for 10-year event  
 Inflow = 2.19 cfs @ 12.09 hrs, Volume= 0.153 af  
 Outflow = 2.20 cfs @ 12.09 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.2 min  
 Primary = 2.20 cfs @ 12.09 hrs, Volume= 0.153 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 63.51' @ 12.09 hrs Surf.Area= 1,915 sf Storage= 23 cf  
 Flood Elev= 65.00' Surf.Area= 3,935 sf Storage= 4,339 cf

Plug-Flow detention time= 0.2 min calculated for 0.153 af (100% of inflow)

Center-of-Mass det. time= 0.2 min ( 769.4 - 769.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	4,339 cf	<b>gsf9 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	1,900	437.0	0	0	1,900
64.00	2,567	446.0	1,113	1,113	2,570
65.00	3,935	465.0	3,227	4,339	4,021

Device	Routing	Invert	Outlet Devices
#1	Primary	59.00'	<b>8.0" Round Culvert</b> L= 54.0' CPP, projecting, no headwall, Ke= 0.900

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#2	Device 1	63.00'	Inlet / Outlet Invert= 59.00' / 57.92' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. cb6 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads
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**Primary OutFlow** Max=2.71 cfs @ 12.09 hrs HW=63.51' (Free Discharge)

- ↑1=Culvert (Inlet Controls 2.71 cfs @ 7.77 fps)
- ↑2=cb6 (Passes 2.71 cfs of 4.69 cfs potential flow)

**Summary for Pond ICS1: ICS**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event
Inflow =	10.34 cfs @ 12.09 hrs, Volume= 0.814 af
Outflow =	10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Atten= 0%, Lag= 0.0 min
Primary =	5.81 cfs @ 12.09 hrs, Volume= 0.085 af
Secondary =	4.53 cfs @ 12.09 hrs, Volume= 0.729 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 66.76' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	<b>18.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 63.27' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	66.15'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	63.95'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.95' / 63.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.54 cfs @ 12.09 hrs HW=66.74' (Free Discharge)

- ↑1=Culvert (Passes 5.54 cfs of 10.60 cfs potential flow)
- ↑2=Broad-Crested Rectangular Weir (Weir Controls 5.54 cfs @ 2.36 fps)

**Secondary OutFlow** Max=4.52 cfs @ 12.09 hrs HW=66.74' (Free Discharge)

- ↑3=Culvert (Inlet Controls 4.52 cfs @ 5.75 fps)

**Summary for Pond ics28: ICS28**

Inflow Area =	0.275 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event
Inflow =	1.10 cfs @ 12.09 hrs, Volume= 0.087 af
Outflow =	1.10 cfs @ 12.09 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
Primary =	1.10 cfs @ 12.09 hrs, Volume= 0.087 af
Secondary =	0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 58.63' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.00' / 57.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	60.50'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	58.15'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.15' / 58.12' S= 0.0060 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.07 cfs @ 12.09 hrs HW=58.62' (Free Discharge)

↑1=Culvert (Barrel Controls 0.68 cfs @ 2.65 fps)

↑3=Culvert (Barrel Controls 0.39 cfs @ 2.09 fps)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=58.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond ICS37: ISC37**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event
Inflow =	10.34 cfs @ 12.09 hrs, Volume= 0.814 af
Outflow =	10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Atten= 0%, Lag= 0.0 min
Primary =	5.81 cfs @ 12.09 hrs, Volume= 0.085 af
Secondary =	4.53 cfs @ 12.09 hrs, Volume= 0.729 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 55.61' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.50'	<b>18.0" Round Culvert</b> L= 51.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.50' / 52.00' S= 0.0098 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

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**Primary OutFlow** Max=5.55 cfs @ 12.09 hrs HW=55.59' (Free Discharge)

↑1=Culvert (Passes 5.55 cfs of 10.27 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 5.55 cfs @ 2.36 fps)

**Secondary OutFlow** Max=4.52 cfs @ 12.09 hrs HW=55.59' (Free Discharge)

↑3=Culvert (Inlet Controls 4.52 cfs @ 5.75 fps)

**Summary for Pond ics46: ICS46**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 3.78"	for 10-year event
Inflow =	10.34 cfs @ 12.09 hrs, Volume=	0.814 af
Outflow =	10.34 cfs @ 12.09 hrs, Volume=	0.814 af, Atten= 0%, Lag= 0.0 min
Primary =	5.81 cfs @ 12.09 hrs, Volume=	0.085 af
Secondary =	4.53 cfs @ 12.09 hrs, Volume=	0.729 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.61' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	<b>18.0" Round Culvert</b> L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.20' / 46.00' S= 0.0091 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	49.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	46.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 46.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.54 cfs @ 12.09 hrs HW=49.59' (Free Discharge)

↑1=Culvert (Passes 5.54 cfs of 10.91 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 5.54 cfs @ 2.36 fps)

**Secondary OutFlow** Max=4.52 cfs @ 12.09 hrs HW=49.59' (Free Discharge)

↑3=Culvert (Inlet Controls 4.52 cfs @ 5.75 fps)

**Summary for Pond ICS9: ICS9**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 3.78"	for 10-year event
Inflow =	10.34 cfs @ 12.09 hrs, Volume=	0.814 af
Outflow =	10.34 cfs @ 12.09 hrs, Volume=	0.814 af, Atten= 0%, Lag= 0.0 min
Primary =	5.83 cfs @ 12.09 hrs, Volume=	0.086 af
Secondary =	4.52 cfs @ 12.09 hrs, Volume=	0.728 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 64.79' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.70'	<b>18.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.70' / 61.00' S= 0.0500 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	64.18'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	62.00'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.65' S= 0.0700 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.56 cfs @ 12.09 hrs HW=64.77' (Free Discharge)

↑1=Culvert (Passes 5.56 cfs of 10.23 cfs potential flow)

↑2=Broad-Crested Rectangular Weir(Weir Controls 5.56 cfs @ 2.36 fps)

**Secondary OutFlow** Max=4.50 cfs @ 12.09 hrs HW=64.77' (Free Discharge)

↑3=Culvert (Inlet Controls 4.50 cfs @ 5.73 fps)

**Summary for Pond ISC42: ICS42**

Device	Routing	Invert	Outlet Devices
#1	Primary	52.20'	<b>18.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.20' / 51.88' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.37'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑1=Culvert ( Controls 0.00 cfs)

↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑3=Culvert ( Controls 0.00 cfs)

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### Summary for Pond MPP 10: Rtank storage

Inflow Area = 0.710 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 2.84 cfs @ 12.09 hrs, Volume= 0.224 af  
Outflow = 1.68 cfs @ 12.20 hrs, Volume= 0.199 af, Atten= 41%, Lag= 7.1 min  
Primary = 1.68 cfs @ 12.20 hrs, Volume= 0.199 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.80' @ 12.20 hrs Surf.Area= 0.179 ac Storage= 0.067 af

Plug-Flow detention time= 101.6 min calculated for 0.199 af (89% of inflow)  
Center-of-Mass det. time= 63.6 min ( 787.2 - 723.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	61.23'	0.091 af	<b>6.25'W x 1,248.97'L x 1.94'H Field A</b> 0.347 af Overall - 0.118 af Embedded = 0.229 af x 40.0% Voids
#2A	61.48'	0.112 af	<b>ACF R-Tank HD 0.5 x 2128 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 4 Rows of 532 Chambers
		0.204 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	61.48'	<b>8.0" Round Culvert X 6.00</b> L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.48' / 61.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.68 cfs @ 12.20 hrs HW=61.80' (Free Discharge)  
↑1=Culvert (Barrel Controls 1.68 cfs @ 2.50 fps)

### Summary for Pond MPP 14: Rtanks

Inflow Area = 0.215 ac, 94.36% Impervious, Inflow Depth > 3.67" for 10-year event  
Inflow = 0.85 cfs @ 12.09 hrs, Volume= 0.066 af  
Outflow = 0.53 cfs @ 12.20 hrs, Volume= 0.059 af, Atten= 38%, Lag= 6.7 min  
Primary = 0.53 cfs @ 12.20 hrs, Volume= 0.059 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.59' @ 12.20 hrs Surf.Area= 1,935 sf Storage= 826 cf  
Flood Elev= 60.50' Surf.Area= 1,935 sf Storage= 2,354 cf

Plug-Flow detention time= 91.3 min calculated for 0.059 af (90% of inflow)  
Center-of-Mass det. time= 57.5 min ( 789.3 - 731.8 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	55.98'	1,011 cf	<b>15.44'W x 125.33'L x 2.04'H Field A</b> 3,941 cf Overall - 1,413 cf Embedded = 2,528 cf x 40.0% Voids
#2A	56.23'	1,343 cf	<b>ACF R-Tank HD 0.5 x 583 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 11 Rows of 53 Chambers
		2,354 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	56.23'	<b>8.0" Round Culvert X 2.00</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.23' / 56.12' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.52 cfs @ 12.20 hrs HW=56.59' (Free Discharge)

↑1=Culvert (Barrel Controls 0.52 cfs @ 1.98 fps)

**Summary for Pond MPP 19: Rtanks**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 3.34" for 10-year event  
 Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.088 af  
 Outflow = 0.35 cfs @ 12.42 hrs, Volume= 0.072 af, Atten= 71%, Lag= 20.1 min  
 Primary = 0.35 cfs @ 12.42 hrs, Volume= 0.072 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.60' @ 12.42 hrs Surf.Area= 0.074 ac Storage= 0.043 af

Plug-Flow detention time= 145.0 min calculated for 0.072 af (82% of inflow)  
Center-of-Mass det. time= 95.5 min ( 845.0 - 749.5 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.83'	0.033 af	<b>18.06'W x 179.28'L x 1.84'H Field A</b> 0.137 af Overall - 0.055 af Embedded = 0.082 af x 40.0% Voids
#2A	55.08'	0.052 af	<b>ACF R-Tank HD 0.5 x 988 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 76 Chambers
		0.085 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.08'	<b>6.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.08' / 55.00' S= 0.0042 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

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**Primary OutFlow** Max=0.34 cfs @ 12.42 hrs HW=55.60' (Free Discharge)

↑1=Culvert (Barrel Controls 0.34 cfs @ 2.10 fps)

**Summary for Pond MPP 21: Rtanks**

Inflow Area = 0.229 ac, 83.66% Impervious, Inflow Depth > 3.34" for 10-year event  
Inflow = 0.87 cfs @ 12.09 hrs, Volume= 0.064 af  
Outflow = 0.40 cfs @ 12.26 hrs, Volume= 0.057 af, Atten= 54%, Lag= 10.6 min  
Primary = 0.40 cfs @ 12.26 hrs, Volume= 0.057 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.33' @ 12.26 hrs Surf.Area= 1,510 sf Storage= 972 cf

Plug-Flow detention time= 93.3 min calculated for 0.057 af (89% of inflow)  
Center-of-Mass det. time= 59.6 min ( 809.1 - 749.5 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.48'	818 cf	<b>16.75'W x 90.14'L x 2.09'H Field A</b> 3,151 cf Overall - 1,105 cf Embedded = 2,046 cf x 40.0% Voids
#2A	54.73'	1,050 cf	<b>ACF R-Tank HD 0.5 x 456 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 38 Chambers
		1,868 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.73'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.73' / 54.73' S= 0.0000 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.40 cfs @ 12.26 hrs HW=55.33' (Free Discharge)

↑1=Culvert (Barrel Controls 0.40 cfs @ 2.18 fps)

**Summary for Pond MPP 22: Rtanks**

Inflow Area = 0.310 ac, 76.43% Impervious, Inflow Depth > 3.13" for 10-year event  
Inflow = 1.13 cfs @ 12.09 hrs, Volume= 0.081 af  
Outflow = 0.33 cfs @ 12.42 hrs, Volume= 0.066 af, Atten= 71%, Lag= 20.2 min  
Primary = 0.33 cfs @ 12.42 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.57' @ 12.42 hrs Surf.Area= 3,003 sf Storage= 1,715 cf

Plug-Flow detention time= 140.4 min calculated for 0.066 af (82% of inflow)  
Center-of-Mass det. time= 90.3 min ( 848.7 - 758.4 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	54.80'	1,262 cf	<b>16.75'W x 179.28'L x 1.79'H Field A</b> 5,367 cf Overall - 2,211 cf Embedded = 3,156 cf x 40.0% Voids
#2A	55.05'	2,100 cf	<b>ACF R-Tank HD 0.5 x 912 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 76 Chambers
		3,363 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.05'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.05' / 55.05' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.33 cfs @ 12.42 hrs HW=55.56' (Free Discharge)

↑1=Culvert (Barrel Controls 0.33 cfs @ 2.02 fps)

**Summary for Pond MPP 26: Rtanks**

Inflow Area = 0.088 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
 Inflow = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af  
 Outflow = 0.19 cfs @ 12.22 hrs, Volume= 0.023 af, Atten= 47%, Lag= 8.2 min  
 Primary = 0.19 cfs @ 12.22 hrs, Volume= 0.023 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 34.89' @ 12.22 hrs Surf.Area= 1,289 sf Storage= 448 cf

Plug-Flow detention time= 127.1 min calculated for 0.023 af (85% of inflow)  
Center-of-Mass det. time= 79.8 min ( 803.5 - 723.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	34.37'	492 cf	<b>18.06'W x 71.37'L x 1.69'H Field A</b> 2,175 cf Overall - 945 cf Embedded = 1,230 cf x 40.0% Voids
#2A	34.62'	898 cf	<b>ACF R-Tank HD 0.5 x 390 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 30 Chambers
		1,390 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	34.62'	<b>8.0" Round Culvert</b> L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 34.62' / 34.34' S= 0.0350 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

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**Primary OutFlow** Max=0.19 cfs @ 12.22 hrs HW=34.89' (Free Discharge)  
↑1=Culvert (Inlet Controls 0.19 cfs @ 1.40 fps)

**Summary for Pond MPP 50:**

Inflow Area = 0.693 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 2.77 cfs @ 12.09 hrs, Volume= 0.218 af  
Outflow = 1.82 cfs @ 12.18 hrs, Volume= 0.184 af, Atten= 34%, Lag= 5.8 min  
Primary = 1.82 cfs @ 12.18 hrs, Volume= 0.184 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.94' @ 12.18 hrs Surf.Area= 5,946 sf Storage= 3,064 cf

Plug-Flow detention time= 118.0 min calculated for 0.184 af (84% of inflow)  
Center-of-Mass det. time= 70.1 min ( 793.7 - 723.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.33'	2,878 cf	<b>4.94'W x 1,204.40'L x 1.84'H Field A</b> 10,925 cf Overall - 3,731 cf Embedded = 7,195 cf x 40.0% Voids
#2A	54.33'	3,544 cf	<b>ACF R-Tank HD 0.5 x 1539 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 3 Rows of 513 Chambers
		6,422 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.58'	<b>8.0" Round Culvert X 7.00</b> L= 3.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.58' / 54.55' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.81 cfs @ 12.18 hrs HW=54.94' (Free Discharge)  
↑1=Culvert (Barrel Controls 1.81 cfs @ 1.93 fps)

**Summary for Pond mpp30: Rtanks**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 2.42" for 10-year event  
Inflow = 3.00 cfs @ 12.09 hrs, Volume= 0.242 af  
Outflow = 2.24 cfs @ 12.18 hrs, Volume= 0.233 af, Atten= 25%, Lag= 5.2 min  
Primary = 2.24 cfs @ 12.18 hrs, Volume= 0.233 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.68' @ 12.18 hrs Surf.Area= 1,599 sf Storage= 1,494 cf  
Flood Elev= 31.78' Surf.Area= 8,586 sf Storage= 7,539 cf

Plug-Flow detention time= 36.2 min calculated for 0.233 af (96% of inflow)  
Center-of-Mass det. time= 21.8 min ( 791.2 - 769.4 )

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Volume	Invert	Avail.Storage	Storage Description
#1B	30.73'	4,011 cf	<b>8.56'W x 815.99'L x 2.04'H Field B</b> 14,234 cf Overall - 4,206 cf Embedded = 10,028 cf x 40.0% Voids
#2B	30.98'	3,995 cf	<b>ACF R-Tank HD 0.5 x 1735 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 5 Rows of 347 Chambers
#3C	29.28'	259 cf	<b>10.56'W x 74.72'L x 1.69'H Field C</b> 1,337 cf Overall - 689 cf Embedded = 648 cf x 40.0% Voids
#4C	29.53'	654 cf	<b>ACF R-Tank HD 1.0 x 155 Inside #3</b> Inside= 15.7"W x 17.3"H => 1.80 sf x 2.35'L = 4.2 cf Outside= 15.7"W x 17.3"H => 1.89 sf x 2.35'L = 4.4 cf 5 Rows of 31 Chambers
#5D	29.28'	694 cf	<b>10.56'W x 76.72'L x 3.42'H Field D</b> 2,767 cf Overall - 1,033 cf Embedded = 1,734 cf x 40.0% Voids
#6D	29.53'	982 cf	<b>ACF R-Tank HD 1.5 x 155 Inside #5</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 5 Rows of 31 Chambers
		10,595 cf	Total Available Storage

Storage Group B created with Chamber Wizard  
Storage Group C created with Chamber Wizard  
Storage Group D created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.61'	<b>12.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.61' / 29.00' S= 0.0305 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.23 cfs @ 12.18 hrs HW=30.67' (Free Discharge)

↑1=Culvert (Inlet Controls 2.23 cfs @ 2.84 fps)

**Summary for Pond OCS57: OCS 57**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 2.32" for 10-year event  
Inflow = 2.24 cfs @ 12.18 hrs, Volume= 0.233 af  
Outflow = 2.24 cfs @ 12.18 hrs, Volume= 0.233 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.24 cfs @ 12.18 hrs, Volume= 0.233 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.36' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	<b>18.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 29.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

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#2	Device 1	30.07'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	29.53'	<b>2.0" Vert. Orifice/Grate X 2.00 C= 0.600</b>
#4	Primary	29.90'	<b>6.0" W x 2.0" H Vert. Orifice/Grate C= 0.600</b>

**Primary OutFlow** Max=2.23 cfs @ 12.18 hrs HW=30.36' (Free Discharge)

- 1=Culvert (Passes 1.80 cfs of 2.48 cfs potential flow)
- 2=Broad-Crested Rectangular Weir (Weir Controls 1.80 cfs @ 1.54 fps)
- 3=Orifice/Grate (Orifice Controls 0.18 cfs @ 4.17 fps)
- 4=Orifice/Grate (Orifice Controls 0.25 cfs @ 2.96 fps)

**Summary for Pond SSF 36: ssf**

Inflow = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af  
 Primary = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 37:**

Inflow = 4.52 cfs @ 12.09 hrs, Volume= 0.728 af  
 Primary = 4.52 cfs @ 12.09 hrs, Volume= 0.728 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 38: ssf38**

Inflow = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af  
 Primary = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 39:**

Inflow = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af  
 Primary = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 40:**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
 Inflow = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af  
 Primary = 10.34 cfs @ 12.09 hrs, Volume= 0.814 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Pond SSF 41:**

Inflow = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af  
Primary = 4.53 cfs @ 12.09 hrs, Volume= 0.729 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 42:**

Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 43:**

Inflow Area = 0.436 ac, 100.00% Impervious, Inflow Depth > 3.78" for 10-year event  
Inflow = 1.74 cfs @ 12.09 hrs, Volume= 0.137 af  
Primary = 1.74 cfs @ 12.09 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1A:</b>	Runoff Area=17,785 sf 34.88% Impervious Runoff Depth>3.24" Tc=6.0 min CN=84 Runoff=1.60 cfs 0.110 af
<b>Subcatchment1B:</b>	Runoff Area=34,018 sf 20.08% Impervious Runoff Depth>2.78" Tc=6.0 min CN=79 Runoff=2.67 cfs 0.181 af
<b>Subcatchment2:</b>	Runoff Area=31,049 sf 25.93% Impervious Runoff Depth>2.87" Tc=6.0 min CN=80 Runoff=2.51 cfs 0.170 af
<b>Subcatchment3:</b>	Runoff Area=36,147 sf 36.22% Impervious Runoff Depth>3.05" Tc=6.0 min CN=82 Runoff=3.09 cfs 0.211 af
<b>Subcatchment4:</b>	Runoff Area=8,448 sf 0.00% Impervious Runoff Depth>2.34" Tc=6.0 min CN=74 Runoff=0.56 cfs 0.038 af
<b>Subcatchment5:</b>	Runoff Area=10,807 sf 0.00% Impervious Runoff Depth>2.34" Tc=6.0 min CN=74 Runoff=0.72 cfs 0.048 af
<b>Subcatchment6:</b>	Runoff Area=13,985 sf 32.06% Impervious Runoff Depth>3.05" Tc=6.0 min CN=82 Runoff=1.20 cfs 0.082 af
<b>Subcatchment7:</b>	Runoff Area=30,345 sf 25.86% Impervious Runoff Depth>2.87" Tc=6.0 min CN=80 Runoff=2.45 cfs 0.167 af
<b>Subcatchment8:</b>	Runoff Area=45,551 sf 55.78% Impervious Runoff Depth>3.54" Tc=6.0 min CN=87 Runoff=4.41 cfs 0.309 af
<b>Subcatchment9:</b>	Runoff Area=28,191 sf 63.29% Impervious Runoff Depth>3.74" Tc=6.0 min CN=89 Runoff=2.85 cfs 0.202 af
<b>Subcatchment10: access drive north of</b>	Runoff Area=30,932 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=3.53 cfs 0.280 af
<b>Subcatchment11:</b>	Runoff Area=43,174 sf 36.78% Impervious Runoff Depth>3.15" Tc=6.0 min CN=83 Runoff=3.79 cfs 0.260 af
<b>Subcatchment12:</b>	Runoff Area=12,920 sf 57.98% Impervious Runoff Depth>3.64" Tc=6.0 min CN=88 Runoff=1.28 cfs 0.090 af
<b>Subcatchment13:</b>	Runoff Area=45,163 sf 46.46% Impervious Runoff Depth>3.34" Tc=6.0 min CN=85 Runoff=4.18 cfs 0.289 af
<b>Subcatchment14:</b>	Runoff Area=9,378 sf 94.36% Impervious Runoff Depth>4.62" Tc=6.0 min CN=97 Runoff=1.06 cfs 0.083 af
<b>Subcatchment15:</b>	Runoff Area=9,157 sf 1.92% Impervious Runoff Depth>2.34" Tc=6.0 min CN=74 Runoff=0.61 cfs 0.041 af

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<b>Subcatchment16:</b>	Runoff Area=15,110 sf 34.16% Impervious Runoff Depth>3.05" Tc=6.0 min CN=82 Runoff=1.29 cfs 0.088 af
<b>Subcatchment17:</b>	Runoff Area=13,300 sf 85.11% Impervious Runoff Depth>4.28" Tc=6.0 min CN=94 Runoff=1.46 cfs 0.109 af
<b>Subcatchment18A:</b>	Runoff Area=6,339 sf 40.91% Impervious Runoff Depth>3.24" Tc=6.0 min CN=84 Runoff=0.57 cfs 0.039 af
<b>Subcatchment18B:</b>	Runoff Area=4,023 sf 58.36% Impervious Runoff Depth>3.64" Tc=6.0 min CN=88 Runoff=0.40 cfs 0.028 af
<b>Subcatchment19:</b>	Runoff Area=13,711 sf 81.76% Impervious Runoff Depth>4.28" Tc=6.0 min CN=94 Runoff=1.51 cfs 0.112 af
<b>Subcatchment20:</b>	Runoff Area=28,459 sf 73.83% Impervious Runoff Depth>4.06" Tc=6.0 min CN=92 Runoff=3.04 cfs 0.221 af
<b>Subcatchment21:</b>	Runoff Area=9,994 sf 83.66% Impervious Runoff Depth>4.28" Tc=6.0 min CN=94 Runoff=1.10 cfs 0.082 af
<b>Subcatchment22:</b>	Runoff Area=13,511 sf 76.43% Impervious Runoff Depth>4.06" Tc=6.0 min CN=92 Runoff=1.44 cfs 0.105 af
<b>Subcatchment23: sub 23</b>	Runoff Area=28,475 sf 21.95% Impervious Runoff Depth>2.69" Tc=6.0 min CN=78 Runoff=2.17 cfs 0.146 af
<b>Subcatchment24:</b>	Runoff Area=18,261 sf 67.19% Impervious Runoff Depth>4.06" Tc=6.0 min CN=92 Runoff=1.95 cfs 0.142 af
<b>Subcatchment25:</b>	Runoff Area=118,223 sf 0.00% Impervious Runoff Depth>2.04" Flow Length=438' Tc=67.0 min CN=71 Runoff=2.61 cfs 0.462 af
<b>Subcatchment26:</b>	Runoff Area=3,816 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=0.44 cfs 0.035 af
<b>Subcatchment27:</b>	Runoff Area=4,262 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=0.49 cfs 0.039 af
<b>Subcatchment28:</b>	Runoff Area=79,698 sf 27.42% Impervious Runoff Depth>3.34" Tc=6.0 min CN=85 Runoff=7.37 cfs 0.510 af
<b>Subcatchment29:</b>	Runoff Area=1,306 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af
<b>Subcatchment30:</b>	Runoff Area=31,472 sf 77.98% Impervious Runoff Depth>4.17" Tc=6.0 min CN=93 Runoff=3.41 cfs 0.251 af
<b>Subcatchment31:</b>	Runoff Area=70,616 sf 0.00% Impervious Runoff Depth>2.09" Flow Length=217' Tc=12.3 min CN=71 Runoff=3.42 cfs 0.282 af

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<b>Subcatchment32:</b>	Runoff Area=4,677 sf 60.42% Impervious Runoff Depth>3.74" Tc=6.0 min CN=89 Runoff=0.47 cfs 0.034 af
<b>Subcatchment33: B3 green</b>	Runoff Area=107,893 sf 16.71% Impervious Runoff Depth>1.78" Tc=6.0 min CN=67 Runoff=5.39 cfs 0.368 af
<b>Subcatchment34:</b>	Runoff Area=24,099 sf 20.00% Impervious Runoff Depth>1.86" Tc=6.0 min CN=68 Runoff=1.26 cfs 0.086 af
<b>Subcatchment35:</b>	Runoff Area=20,997 sf 20.00% Impervious Runoff Depth>1.86" Tc=6.0 min CN=68 Runoff=1.10 cfs 0.075 af
<b>Subcatchment36: B1M1</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=12.84 cfs 1.020 af
<b>Subcatchment37: B1M2</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=12.84 cfs 1.020 af
<b>Subcatchment38: B1M3</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=12.84 cfs 1.020 af
<b>Subcatchment39: B2M4</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=12.84 cfs 1.020 af
<b>Subcatchment40: B2M5</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=12.84 cfs 1.020 af
<b>Subcatchment41: B2M6</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=12.84 cfs 1.020 af
<b>Subcatchment42: B6</b>	Runoff Area=12,000 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=1.37 cfs 0.109 af
<b>Subcatchment43: B5</b>	Runoff Area=18,983 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=2.17 cfs 0.172 af
<b>Subcatchment44: onsite untreated</b>	Runoff Area=159,363 sf 0.00% Impervious Runoff Depth>2.08" Flow Length=574' Tc=18.8 min CN=71 Runoff=6.62 cfs 0.636 af
<b>Subcatchment45:</b>	Runoff Area=64,440 sf 0.00% Impervious Runoff Depth>2.00" Flow Length=307' Tc=29.9 min CN=70 Runoff=2.11 cfs 0.246 af
<b>Subcatchment46: SUBCAT 8</b>	Runoff Area=14,976 sf 0.00% Impervious Runoff Depth>2.07" Flow Length=276' Tc=34.7 min CN=71 Runoff=0.48 cfs 0.059 af
<b>Subcatchment47:</b>	Runoff Area=79,187 sf 6.00% Impervious Runoff Depth>2.42" Flow Length=639' Tc=15.9 min CN=75 Runoff=4.09 cfs 0.366 af
<b>Subcatchment48:</b>	Runoff Area=40,183 sf 0.00% Impervious Runoff Depth>1.98" Flow Length=377' Tc=54.0 min CN=70 Runoff=0.97 cfs 0.152 af

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<b>Subcatchment49:</b>	Runoff Area=84,173 sf 0.65% Impervious Runoff Depth>1.98" Flow Length=470' Tc=54.1 min CN=70 Runoff=2.02 cfs 0.318 af
<b>Subcatchment50:</b>	Runoff Area=30,173 sf 100.00% Impervious Runoff Depth>4.73" Tc=6.0 min CN=98 Runoff=3.44 cfs 0.273 af
<b>SubcatchmentOS10: OFFSITE 2 (above</b>	Runoff Area=1,644,982 sf 2.57% Impervious Runoff Depth>2.26" Flow Length=2,221' Tc=94.2 min CN=74 Runoff=32.78 cfs 7.112 af
<b>SubcatchmentOS11: OFFSITE 3</b>	Runoff Area=513,527 sf 23.06% Impervious Runoff Depth>2.69" Flow Length=532' Tc=6.8 min CN=78 Runoff=38.24 cfs 2.640 af
<b>SubcatchmentOS9: OFFSITE 1 (Below</b>	Runoff Area=702,010 sf 3.63% Impervious Runoff Depth>2.40" Flow Length=1,353' Tc=35.1 min CN=75 Runoff=25.81 cfs 3.224 af
<b>Reach 9R: ANALYSISPOINT 9</b>	Inflow=25.81 cfs 3.224 af Outflow=25.81 cfs 3.224 af
<b>Reach 10R: Perkins Road Culvert</b>	Avg. Flow Depth=1.69' Max Vel=11.61 fps Inflow=32.78 cfs 7.112 af 24.0" Round Pipe n=0.013 L=25.0' S=0.0200 '/' Capacity=31.99 cfs Outflow=32.77 cfs 7.112 af
<b>Reach 11R: Stream 9</b>	Inflow=38.24 cfs 2.640 af Outflow=38.24 cfs 2.640 af
<b>Reach 17R: untreated</b>	Inflow=1.46 cfs 0.109 af Outflow=1.46 cfs 0.109 af
<b>Reach 20R: untreated</b>	Inflow=3.04 cfs 0.221 af Outflow=3.04 cfs 0.221 af
<b>Reach 23R: sub 23</b>	Inflow=2.17 cfs 0.146 af Outflow=2.17 cfs 0.146 af
<b>Reach 27R: existing</b>	Inflow=0.49 cfs 0.039 af Outflow=0.49 cfs 0.039 af
<b>Reach 28R: existing</b>	Inflow=7.37 cfs 0.510 af Outflow=7.37 cfs 0.510 af
<b>Reach 29R: untreated</b>	Inflow=0.15 cfs 0.012 af Outflow=0.15 cfs 0.012 af
<b>Reach 32R: untreated</b>	Inflow=0.47 cfs 0.034 af Outflow=0.47 cfs 0.034 af
<b>Reach 44R:</b>	Inflow=6.62 cfs 0.636 af Outflow=6.62 cfs 0.636 af
<b>Reach 47R:</b>	Inflow=4.09 cfs 0.366 af Outflow=4.09 cfs 0.366 af

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<b>Reach 48R: (new Reach)</b>	Inflow=0.97 cfs 0.152 af Outflow=0.97 cfs 0.152 af
<b>Reach 49R:</b>	Inflow=2.02 cfs 0.318 af Outflow=2.02 cfs 0.318 af
<b>Reach PT1: ANALYSISPOINT 1 at BWD Little River</b>	Inflow=2.99 cfs 0.470 af Outflow=2.99 cfs 0.470 af
<b>Reach PT2: ANALYSISPOINT 2 at BWD Reservoir</b>	Inflow=2.61 cfs 0.462 af Outflow=2.61 cfs 0.462 af
<b>Reach PT3: ANALYSISPOINT 3/4 at BWD Reservoir</b>	Inflow=3.42 cfs 0.282 af Outflow=3.42 cfs 0.282 af
<b>Reach PT5: all BWD reservoir</b>	Inflow=5.61 cfs 0.891 af Outflow=5.61 cfs 0.891 af
<b>Reach PT6: stream 9 offsite</b>	Avg. Flow Depth=1.44' Max Vel=4.45 fps Inflow=52.03 cfs 12.976 af n=0.040 L=483.0' S=0.0145 '/' Capacity=401.91 cfs Outflow=49.54 cfs 12.943 af
<b>Reach PT7: ANALYSISPOINT7 at US</b>	Avg. Flow Depth=0.32' Max Vel=7.59 fps Inflow=2.11 cfs 0.246 af 18.0" Round Pipe n=0.013 L=83.0' S=0.0398 '/' Capacity=20.95 cfs Outflow=2.10 cfs 0.246 af
<b>Reach PT8: ANALYSISPOINT 8 at US</b>	Avg. Flow Depth=0.04' Max Vel=3.93 fps Inflow=0.48 cfs 0.059 af 36.0" x 24.0" Box Pipe n=0.011 L=76.0' S=0.0632 '/' Capacity=144.91 cfs Outflow=0.47 cfs 0.059 af
<b>Reach PT9: Analysis Point Stream 9</b>	Avg. Flow Depth=1.10' Max Vel=24.49 fps Inflow=57.73 cfs 14.193 af 36.0" Round Pipe n=0.011 L=93.0' S=0.0645 '/' Capacity=200.22 cfs Outflow=57.73 cfs 14.192 af
<b>Reach S9-2: Stream 9</b>	Avg. Flow Depth=1.30' Max Vel=5.33 fps Inflow=55.36 cfs 13.579 af n=0.040 L=1,580.0' S=0.0233 '/' Capacity=120.91 cfs Outflow=52.44 cfs 13.484 af
<b>Reach S9-3: Stream 9</b>	Avg. Flow Depth=1.22' Max Vel=5.28 fps Inflow=55.61 cfs 13.901 af n=0.035 L=364.0' S=0.0199 '/' Capacity=152.29 cfs Outflow=55.32 cfs 13.878 af
<b>Reach tank: existing clarifier</b>	Inflow=88.29 cfs 4.517 af Outflow=88.29 cfs 4.517 af
<b>Pond 1P: (new Pond)</b>	Peak Elev=63.69' Inflow=12.84 cfs 1.020 af Primary=8.18 cfs 0.144 af Secondary=4.66 cfs 0.876 af Outflow=12.84 cfs 1.020 af
<b>Pond 4P: Rtanks</b>	Peak Elev=29.86' Storage=474 cf Inflow=1.10 cfs 0.075 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=0.76 cfs 0.073 af
<b>Pond dmh10: dmh10</b>	Peak Elev=58.09' Inflow=18.95 cfs 0.444 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/' Outflow=18.95 cfs 0.444 af
<b>Pond dmh11: dmh11</b>	Peak Elev=57.17' Inflow=28.86 cfs 0.842 af 30.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=28.86 cfs 0.842 af

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<b>Pond dmh13: dmh13</b>	Peak Elev=56.73' Inflow=28.86 cfs 0.842 af 30.0" Round Culvert n=0.013 L=201.0' S=0.0050 '/ Outflow=28.86 cfs 0.842 af
<b>Pond dmh14: dmh14</b>	Peak Elev=56.16' Inflow=31.57 cfs 1.044 af 30.0" Round Culvert n=0.020 L=23.0' S=0.0052 '/ Outflow=31.57 cfs 1.044 af
<b>Pond dmh15: dmh15</b>	Peak Elev=56.05' Inflow=31.57 cfs 1.044 af 30.0" Round Culvert n=0.013 L=90.0' S=0.0050 '/ Outflow=31.57 cfs 1.044 af
<b>Pond dmh16: dmh16</b>	Peak Elev=60.68' Inflow=0.11 cfs 0.029 af 12.0" Round Culvert n=0.013 L=198.0' S=0.0126 '/ Outflow=0.11 cfs 0.029 af
<b>Pond dmh17: dmh17</b>	Peak Elev=55.68' Inflow=32.14 cfs 1.111 af 30.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=32.14 cfs 1.111 af
<b>Pond dmh2: dmh2</b>	Peak Elev=65.22' Inflow=8.18 cfs 0.144 af 18.0" Round Culvert n=0.013 L=100.0' S=0.0150 '/ Outflow=8.18 cfs 0.144 af
<b>Pond dmh20: dmh20</b>	Peak Elev=55.48' Inflow=32.14 cfs 1.111 af 30.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/ Outflow=32.14 cfs 1.111 af
<b>Pond dmh21: dmh21</b>	Peak Elev=54.87' Inflow=43.44 cfs 2.112 af 36.0" Round Culvert n=0.013 L=281.0' S=0.0169 '/ Outflow=43.44 cfs 2.112 af
<b>Pond dmh22: dmh 22</b>	Peak Elev=55.63' Inflow=8.73 cfs 0.768 af 15.0" Round Culvert n=0.013 L=93.0' S=0.0051 '/ Outflow=8.73 cfs 0.768 af
<b>Pond dmh23: dmh23</b>	Peak Elev=64.40' Inflow=7.53 cfs 0.571 af 12.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/ Outflow=7.53 cfs 0.571 af
<b>Pond dmh24: dmh24</b>	Peak Elev=62.96' Inflow=7.53 cfs 0.571 af 12.0" Round Culvert n=0.013 L=72.0' S=0.0025 '/ Outflow=7.53 cfs 0.571 af
<b>Pond dmh24a: dmh24a</b>	Peak Elev=67.28' Inflow=3.26 cfs 0.264 af 8.0" Round Culvert n=0.013 L=95.0' S=0.0095 '/ Outflow=3.26 cfs 0.264 af
<b>Pond dmh25: dmh25</b>	Peak Elev=60.76' Inflow=1.49 cfs 0.110 af 12.0" Round Culvert n=0.013 L=98.0' S=0.0510 '/ Outflow=1.49 cfs 0.110 af
<b>Pond dmh26: (new Pond)</b>	Peak Elev=63.39' Inflow=6.77 cfs 0.421 af 12.0" Round Culvert n=0.020 L=28.0' S=0.0050 '/ Outflow=6.77 cfs 0.421 af
<b>Pond dmh27: dmh27</b>	Peak Elev=60.37' Inflow=9.57 cfs 0.639 af 15.0" Round Culvert n=0.013 L=256.0' S=0.0050 '/ Outflow=9.57 cfs 0.639 af
<b>Pond dmh29: dmh29</b>	Peak Elev=59.24' Inflow=1.37 cfs 0.109 af 8.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/ Outflow=1.37 cfs 0.109 af
<b>Pond dmh3: dmh3</b>	Peak Elev=63.80' Inflow=10.75 cfs 0.300 af 18.0" Round Culvert n=0.013 L=125.0' S=0.0053 '/ Outflow=10.75 cfs 0.300 af

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<b>Pond dmh30: dmh30</b>	Peak Elev=56.13' Inflow=1.37 cfs 0.109 af 12.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=1.37 cfs 0.109 af
<b>Pond dmh31: dmh31</b>	Peak Elev=59.60' Inflow=8.08 cfs 0.529 af 15.0" Round Culvert n=0.013 L=259.0' S=0.0050 '/ Outflow=8.08 cfs 0.529 af
<b>Pond dmh32: dmh32</b>	Peak Elev=55.58' Inflow=11.88 cfs 0.774 af 18.0" Round Culvert n=0.013 L=36.0' S=0.0036 '/ Outflow=11.88 cfs 0.774 af
<b>Pond dmh33: dmh33</b>	Peak Elev=54.37' Inflow=0.43 cfs 0.096 af 12.0" Round Culvert n=0.013 L=201.0' S=0.0099 '/ Outflow=0.43 cfs 0.096 af
<b>Pond dmh34: dmh34</b>	Peak Elev=53.72' Inflow=6.64 cfs 0.514 af 18.0" Round Culvert n=0.013 L=39.0' S=0.0100 '/ Outflow=6.64 cfs 0.514 af
<b>Pond dmh35: dmh35</b>	Peak Elev=55.91' Inflow=21.15 cfs 1.452 af 24.0" Round Culvert n=0.013 L=276.0' S=0.0050 '/ Outflow=21.15 cfs 1.452 af
<b>Pond dmh36: dmh36</b>	Peak Elev=54.27' Inflow=21.15 cfs 1.452 af 24.0" Round Culvert n=0.013 L=159.0' S=0.0050 '/ Outflow=21.15 cfs 1.452 af
<b>Pond dmh38: dmh38</b>	Peak Elev=54.20' Inflow=8.18 cfs 0.144 af 18.0" Round Culvert n=0.013 L=106.0' S=0.0100 '/ Outflow=8.18 cfs 0.144 af
<b>Pond dmh39: dmh39</b>	Peak Elev=53.01' Inflow=8.70 cfs 0.174 af 18.0" Round Culvert n=0.013 L=58.0' S=0.0047 '/ Outflow=8.70 cfs 0.174 af
<b>Pond dmh4: dmh4</b>	Peak Elev=63.13' Inflow=10.75 cfs 0.300 af 18.0" Round Culvert n=0.013 L=66.0' S=0.0041 '/ Outflow=10.75 cfs 0.300 af
<b>Pond dmh40: dmh40</b>	Peak Elev=53.08' Inflow=29.51 cfs 1.626 af 30.0" Round Culvert n=0.013 L=340.0' S=0.0050 '/ Outflow=29.51 cfs 1.626 af
<b>Pond dmh43: dmh43</b>	Peak Elev=51.36' Inflow=29.51 cfs 1.626 af 30.0" Round Culvert n=0.013 L=193.0' S=0.0050 '/ Outflow=29.51 cfs 1.626 af
<b>Pond dmh44: dmh44</b>	Peak Elev=49.50' Inflow=30.22 cfs 1.674 af 36.0" Round Culvert n=0.013 L=82.0' S=0.0050 '/ Outflow=30.22 cfs 1.674 af
<b>Pond dmh45: dmh45</b>	Peak Elev=48.94' Inflow=30.22 cfs 1.674 af 36.0" Round Culvert n=0.013 L=316.0' S=0.0050 '/ Outflow=30.22 cfs 1.674 af
<b>Pond dmh47: dmh47</b>	Peak Elev=47.52' Inflow=38.22 cfs 1.818 af 36.0" Round Culvert n=0.013 L=104.0' S=0.0100 '/ Outflow=38.22 cfs 1.818 af
<b>Pond dmh48: dmh48</b>	Peak Elev=46.68' Inflow=40.26 cfs 2.057 af 36.0" Round Culvert n=0.013 L=117.0' S=0.0050 '/ Outflow=40.26 cfs 2.057 af
<b>Pond dmh49: dmh49</b>	Peak Elev=46.23' Inflow=41.45 cfs 2.138 af 36.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/ Outflow=41.45 cfs 2.138 af

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<b>Pond dmh5: dmh5</b>	Peak Elev=63.00' Inflow=10.75 cfs 0.300 af 18.0" Round Culvert n=0.013 L=173.0' S=0.0050 '/ Outflow=10.75 cfs 0.300 af
<b>Pond dmh50: dmh50</b>	Peak Elev=49.05' Inflow=44.95 cfs 2.238 af 36.0" Round Culvert n=0.013 L=64.0' S=0.0100 '/ Outflow=44.95 cfs 2.238 af
<b>Pond dmh51: dmh51</b>	Peak Elev=48.39' Inflow=44.95 cfs 2.238 af 36.0" Round Culvert n=0.013 L=38.0' S=0.0287 '/ Outflow=44.95 cfs 2.238 af
<b>Pond dmh52: dmh52</b>	Peak Elev=44.87' Inflow=86.31 cfs 4.376 af 60.0" Round Culvert n=0.013 L=258.0' S=0.0194 '/ Outflow=86.31 cfs 4.376 af
<b>Pond dmh53: dmh53</b>	Peak Elev=36.93' Inflow=88.10 cfs 4.487 af 60.0" Round Culvert n=0.013 L=120.0' S=0.0208 '/ Outflow=88.10 cfs 4.487 af
<b>Pond dmh54: dmh54</b>	Peak Elev=30.93' Inflow=88.29 cfs 4.517 af 60.0" Round Culvert n=0.013 L=152.0' S=0.0329 '/ Outflow=88.29 cfs 4.517 af
<b>Pond dmh55: dhm55</b>	Peak Elev=22.93' Inflow=88.29 cfs 4.517 af 60.0" Round Culvert n=0.013 L=115.0' S=0.0304 '/ Outflow=88.29 cfs 4.517 af
<b>Pond dmh56: dmh56</b>	Peak Elev=16.43' Inflow=88.29 cfs 4.517 af 60.0" Round Culvert n=0.013 L=42.0' S=0.0357 '/ Outflow=88.29 cfs 4.517 af
<b>Pond dmh59: dmh59</b>	Peak Elev=71.51' Inflow=7.94 cfs 0.646 af 12.0" Round Culvert n=0.013 L=294.0' S=0.0050 '/ Outflow=7.94 cfs 0.646 af
<b>Pond dmh6: dmh6</b>	Peak Elev=64.52' Inflow=10.75 cfs 0.300 af 18.0" Round Culvert n=0.020 L=170.0' S=0.0050 '/ Outflow=10.75 cfs 0.300 af
<b>Pond dmh60: dhm60</b>	Peak Elev=39.37' Inflow=86.31 cfs 4.376 af 60.0" Round Culvert n=0.013 L=114.0' S=0.0175 '/ Outflow=86.31 cfs 4.376 af
<b>Pond dmh7: dmh7</b>	Peak Elev=61.22' Inflow=10.75 cfs 0.300 af 18.0" Round Culvert n=0.013 L=170.0' S=0.0050 '/ Outflow=10.75 cfs 0.300 af
<b>Pond dmh8: dmh8</b>	Peak Elev=60.81' Inflow=18.95 cfs 0.444 af 24.0" Round Culvert n=0.013 L=296.0' S=0.0040 '/ Outflow=18.95 cfs 0.444 af
<b>Pond dmh9a: dmh9a</b>	Peak Elev=59.14' Inflow=18.95 cfs 0.444 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=18.95 cfs 0.444 af
<b>Pond GSF 11: grassed soil filter</b>	Peak Elev=62.26' Storage=3,223 cf Inflow=3.79 cfs 0.260 af Outflow=3.35 cfs 0.202 af
<b>Pond GSF 12: grassed soil filter</b>	Peak Elev=61.63' Storage=619 cf Inflow=1.28 cfs 0.090 af Outflow=1.24 cfs 0.079 af
<b>Pond GSF 13: grassed soil filter</b>	Peak Elev=62.27' Storage=3,989 cf Inflow=4.18 cfs 0.289 af Outflow=3.42 cfs 0.219 af

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<b>Pond GSF 15: grassed soil filter</b>	Peak Elev=63.78' Storage=187 cf Inflow=0.61 cfs 0.041 af Outflow=0.59 cfs 0.038 af
<b>Pond GSF 16: grassed soil filter</b>	Peak Elev=64.42' Storage=2,631 cf Inflow=1.29 cfs 0.088 af Outflow=0.11 cfs 0.029 af
<b>Pond GSF 18A: grassed soil filter</b>	Peak Elev=57.48' Storage=489 cf Inflow=0.57 cfs 0.039 af Outflow=0.54 cfs 0.030 af
<b>Pond GSF 18B: grassed soil filter</b>	Peak Elev=57.96' Storage=407 cf Inflow=0.40 cfs 0.028 af Outflow=0.39 cfs 0.019 af
<b>Pond GSF 1A: Grassed soil filter</b>	Peak Elev=65.90' Storage=244 cf Inflow=1.60 cfs 0.110 af Outflow=1.49 cfs 0.110 af
<b>Pond GSF 1B: grassed soil filter</b>	Peak Elev=67.11' Storage=1,039 cf Inflow=2.67 cfs 0.181 af Outflow=2.58 cfs 0.156 af
<b>Pond GSF 2: grassed soil filter</b>	Peak Elev=57.80' Storage=1,940 cf Inflow=2.51 cfs 0.170 af Outflow=2.29 cfs 0.135 af
<b>Pond GSF 24: grassed soil filter</b>	Peak Elev=40.77' Storage=1,673 cf Inflow=1.95 cfs 0.142 af Outflow=1.83 cfs 0.110 af
<b>Pond GSF 3: grassed soil filter</b>	Peak Elev=55.97' Storage=2,570 cf Inflow=3.09 cfs 0.211 af Outflow=2.75 cfs 0.164 af
<b>Pond GSF 4: grassed soil filter</b>	Peak Elev=55.18' Storage=385 cf Inflow=0.56 cfs 0.038 af Outflow=0.57 cfs 0.030 af
<b>Pond GSF 5: grassed soil filter</b>	Peak Elev=54.00' Storage=2 cf Inflow=0.72 cfs 0.048 af Outflow=0.72 cfs 0.048 af
<b>Pond GSF 6: grassed soil filter</b>	Peak Elev=49.00' Storage=1 cf Inflow=1.20 cfs 0.082 af Outflow=1.20 cfs 0.082 af
<b>Pond GSF 7: grassed soil filter</b>	Peak Elev=54.88' Storage=2,309 cf Inflow=2.45 cfs 0.167 af Outflow=1.96 cfs 0.125 af
<b>Pond GSF 8: grassed soil filter</b>	Peak Elev=58.00' Storage=4,598 cf Inflow=4.41 cfs 0.309 af Outflow=2.64 cfs 0.233 af
<b>Pond GSF 9: grassed soil filter</b>	Peak Elev=63.52' Storage=42 cf Inflow=2.85 cfs 0.202 af Outflow=2.72 cfs 0.202 af
<b>Pond ICS1: ICS</b>	Peak Elev=66.89' Inflow=12.84 cfs 1.020 af Primary=8.18 cfs 0.144 af Secondary=4.66 cfs 0.876 af Outflow=12.84 cfs 1.020 af
<b>Pond ics28: ICS28</b>	Peak Elev=58.72' Inflow=1.37 cfs 0.109 af Primary=1.37 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=1.37 cfs 0.109 af

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<b>Pond ICS37: ICS37</b>	Peak Elev=55.74' Inflow=12.84 cfs 1.020 af Primary=8.18 cfs 0.144 af Secondary=4.66 cfs 0.876 af Outflow=12.84 cfs 1.020 af
<b>Pond ics46: ICS46</b>	Peak Elev=49.74' Inflow=12.84 cfs 1.020 af Primary=8.18 cfs 0.144 af Secondary=4.66 cfs 0.876 af Outflow=12.84 cfs 1.020 af
<b>Pond ICS9: ICS9</b>	Peak Elev=64.92' Inflow=12.84 cfs 1.020 af Primary=8.20 cfs 0.145 af Secondary=4.64 cfs 0.875 af Outflow=12.84 cfs 1.020 af
<b>Pond ISC42: ICS42</b>	Peak Elev=0.00' Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af
<b>Pond MPP 10: Rtank storage</b>	Peak Elev=61.85' Storage=0.075 af Inflow=3.53 cfs 0.280 af 8.0" Round Culvert x 6.00 n=0.013 L=2.0' S=0.0400 '/ Outflow=2.16 cfs 0.255 af
<b>Pond MPP 14: Rtanks</b>	Peak Elev=56.65' Storage=927 cf Inflow=1.06 cfs 0.083 af 8.0" Round Culvert x 2.00 n=0.013 L=21.0' S=0.0052 '/ Outflow=0.68 cfs 0.076 af
<b>Pond MPP 19: Rtanks</b>	Peak Elev=55.73' Storage=0.052 af Inflow=1.51 cfs 0.112 af 6.0" Round Culvert n=0.013 L=19.0' S=0.0042 '/ Outflow=0.43 cfs 0.096 af
<b>Pond MPP 21: Rtanks</b>	Peak Elev=55.45' Storage=1,147 cf Inflow=1.10 cfs 0.082 af 6.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/ Outflow=0.51 cfs 0.075 af
<b>Pond MPP 22: Rtanks</b>	Peak Elev=55.70' Storage=2,091 cf Inflow=1.44 cfs 0.105 af 6.0" Round Culvert n=0.013 L=2.0' S=0.0000 '/ Outflow=0.44 cfs 0.089 af
<b>Pond MPP 26: Rtanks</b>	Peak Elev=34.93' Storage=499 cf Inflow=0.44 cfs 0.035 af 8.0" Round Culvert n=0.013 L=8.0' S=0.0350 '/ Outflow=0.24 cfs 0.030 af
<b>Pond MPP 50:</b>	Peak Elev=55.00' Storage=3,348 cf Inflow=3.44 cfs 0.273 af 8.0" Round Culvert x 7.00 n=0.013 L=3.0' S=0.0100 '/ Outflow=2.35 cfs 0.239 af
<b>Pond mpp30: Rtanks</b>	Peak Elev=30.84' Storage=2,006 cf Inflow=3.99 cfs 0.324 af 12.0" Round Culvert n=0.013 L=20.0' S=0.0305 '/ Outflow=2.56 cfs 0.315 af
<b>Pond OCS57: OCS 57</b>	Peak Elev=30.39' Inflow=2.56 cfs 0.315 af Outflow=2.56 cfs 0.315 af
<b>Pond SSF 36: ssf</b>	Inflow=4.66 cfs 0.876 af Primary=4.66 cfs 0.876 af
<b>Pond SSF 37:</b>	Inflow=4.64 cfs 0.875 af Primary=4.64 cfs 0.875 af
<b>Pond SSF 38: ssf38</b>	Inflow=4.66 cfs 0.876 af Primary=4.66 cfs 0.876 af
<b>Pond SSF 39:</b>	Inflow=4.66 cfs 0.876 af Primary=4.66 cfs 0.876 af

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**Pond SSF 40:**

Inflow=12.84 cfs 1.020 af  
Primary=12.84 cfs 1.020 af

**Pond SSF 41:**

Inflow=4.66 cfs 0.876 af  
Primary=4.66 cfs 0.876 af

**Pond SSF 42:**

Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 af

**Pond SSF 43:**

Inflow=2.17 cfs 0.172 af  
Primary=2.17 cfs 0.172 af

**Total Runoff Area = 116.268 ac Runoff Volume = 27.211 af Average Runoff Depth = 2.81"  
74.75% Pervious = 86.915 ac 25.25% Impervious = 29.353 ac**

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**Summary for Subcatchment 1A:**

Runoff = 1.60 cfs @ 12.09 hrs, Volume= 0.110 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	11,582	77	>75% Grass cover, Good, HSG C/D
*	6,203	98	Impervious, HSG C/D
	17,785	84	Weighted Average
	11,582		65.12% Pervious Area
	6,203		34.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 1B:**

Runoff = 2.67 cfs @ 12.09 hrs, Volume= 0.181 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	6,832	98	Impervious
	27,186	74	>75% Grass cover, Good, HSG C
	34,018	79	Weighted Average
	27,186		79.92% Pervious Area
	6,832		20.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 2:**

Runoff = 2.51 cfs @ 12.09 hrs, Volume= 0.170 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	8,052	98	Impervious
	5,300	74	>75% Grass cover, Good, HSG C
*	17,697	74	>75% Grass cover, Good, HSG C/D
	31,049	80	Weighted Average
	22,997		74.07% Pervious Area
	8,052		25.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 3:**

Runoff = 3.09 cfs @ 12.09 hrs, Volume= 0.211 af, Depth> 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	13,091	98	Impervious, HSG C
*	15,516	74	>75% Grass cover, Good, HSG C/D
*	7,540	70	Woods, Good, HSG C/D
	36,147	82	Weighted Average
	23,056		63.78% Pervious Area
	13,091		36.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 4:**

Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
	8,448	74	>75% Grass cover, Good, HSG C
	8,448		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 5:**

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.048 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
10,807	74	>75% Grass cover, Good, HSG C
10,807		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 6:**

Runoff = 1.20 cfs @ 12.09 hrs, Volume= 0.082 af, Depth> 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 4,484	98	Impervious
* 9,501	74	>75% Grass cover, Good, HSG C
13,985	82	Weighted Average
9,501		67.94% Pervious Area
4,484		32.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 7:**

Runoff = 2.45 cfs @ 12.09 hrs, Volume= 0.167 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 7,846	98	Impervious
3,270	74	>75% Grass cover, Good, HSG C
* 19,229	74	>75% Grass cover, Good, HSG C/D
30,345	80	Weighted Average
22,499		74.14% Pervious Area
7,846		25.86% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 8:**

Runoff = 4.41 cfs @ 12.09 hrs, Volume= 0.309 af, Depth> 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 25,409	98	Impervious
20,142	74	>75% Grass cover, Good, HSG C
45,551	87	Weighted Average
20,142		44.22% Pervious Area
25,409		55.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 9:**

Runoff = 2.85 cfs @ 12.09 hrs, Volume= 0.202 af, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 10,348	74	>75% Grass cover, Good, HSG C/D
* 17,843	98	Impervious
28,191	89	Weighted Average
10,348		36.71% Pervious Area
17,843		63.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 10: access drive north of B1**

Runoff = 3.53 cfs @ 12.09 hrs, Volume= 0.280 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	30,932	98	Impervious
	30,932		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 11:**

Runoff = 3.79 cfs @ 12.09 hrs, Volume= 0.260 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	15,881	98	Impervious
*	27,293	74	>75% Grass cover, Good, HSG C/D
	43,174	83	Weighted Average
	27,293		63.22% Pervious Area
	15,881		36.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 12:**

Runoff = 1.28 cfs @ 12.09 hrs, Volume= 0.090 af, Depth> 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	7,491	98	Impervious, HSG C/D
	5,429	74	>75% Grass cover, Good, HSG C
	12,920	88	Weighted Average
	5,429		42.02% Pervious Area
	7,491		57.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 13:**

Runoff = 4.18 cfs @ 12.09 hrs, Volume= 0.289 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	20,981	98	Impervious
*	24,182	74	>75% Grass cover, Good, HSG C/D
	45,163	85	Weighted Average
	24,182		53.54% Pervious Area
	20,981		46.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 14:**

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.083 af, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	8,849	98	Impervious
	529	74	>75% Grass cover, Good, HSG C
	9,378	97	Weighted Average
	529		5.64% Pervious Area
	8,849		94.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 15:**

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	176	98	Impervious
*	4,183	74	>75% Grass cover, Good, HSG C/D
*	4,798	74	vegetated roof
	9,157	74	Weighted Average
	8,981		98.08% Pervious Area
	176		1.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 16:**

Runoff = 1.29 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 3.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	5,161	98	Impervious
*	9,949	74	>75% Grass cover, Good, HSG C/D
	15,110	82	Weighted Average
	9,949		65.84% Pervious Area
	5,161		34.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 17:**

Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.109 af, Depth> 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	11,320	98	Impervious
*	1,980	74	>75% Grass cover, Good, HSG C/D
	13,300	94	Weighted Average
	1,980		14.89% Pervious Area
	11,320		85.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 18A:**

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.039 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	2,593	98	Impervious
*	3,746	74	>75% Grass cover, Good, HSG C/D
	6,339	84	Weighted Average
	3,746		59.09% Pervious Area
	2,593		40.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 18B:**

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.028 af, Depth> 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	2,348	98	Impervious
*	1,675	74	>75% Grass cover, Good, HSG C/D
	4,023	88	Weighted Average
	1,675		41.64% Pervious Area
	2,348		58.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 19:**

Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.112 af, Depth> 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	11,210	98	Impervious
*	2,501	74	>75% Grass cover, Good, HSG C/D
	13,711	94	Weighted Average
	2,501		18.24% Pervious Area
	11,210		81.76% Impervious Area

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Type III 24-hr 25-year Rainfall=5.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 20:**

Runoff = 3.04 cfs @ 12.09 hrs, Volume= 0.221 af, Depth> 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 21,010	98	Impervious
* 7,449	74	>75% Grass cover, Good, HSG C/D
28,459	92	Weighted Average
7,449		26.17% Pervious Area
21,010		73.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 21:**

Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.082 af, Depth> 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 8,361	98	Impervious
* 1,633	74	>75% Grass cover, Good, HSG C/D
9,994	94	Weighted Average
1,633		16.34% Pervious Area
8,361		83.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 22:**

Runoff = 1.44 cfs @ 12.09 hrs, Volume= 0.105 af, Depth> 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	10,326	98	Impervious
*	3,185	74	>75% Grass cover, Good, HSG C/D
	13,511	92	Weighted Average
	3,185		23.57% Pervious Area
	10,326		76.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 23: sub 23**

Runoff = 2.17 cfs @ 12.09 hrs, Volume= 0.146 af, Depth> 2.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
	6,249	98	Paved parking, HSG C
	2,450	74	>75% Grass cover, Good, HSG C
	10,135	74	>75% Grass cover, Good, HSG C
	9,641	70	Woods, Good, HSG C
	28,475	78	Weighted Average
	22,226		78.05% Pervious Area
	6,249		21.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, direct

**Summary for Subcatchment 24:**

Runoff = 1.95 cfs @ 12.09 hrs, Volume= 0.142 af, Depth> 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	12,270	98	Impervious
	5,991	80	>75% Grass cover, Good, HSG D
	18,261	92	Weighted Average
	5,991		32.81% Pervious Area
	12,270		67.19% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 25:**

Runoff = 2.61 cfs @ 12.92 hrs, Volume= 0.462 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 21,818	74	>75% Grass cover, Good, HSG C/D
* 96,405	70	Woods, Good, HSG C/D
118,223	71	Weighted Average
118,223		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4	130	0.0150	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
11.9	253	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	55	0.3000	1.37		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
67.0	438	Total			

**Summary for Subcatchment 26:**

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.035 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 3,816	98	Impervious
3,816		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 27:**

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.039 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	4,262	98	Impervious
	4,262		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 28:**

Runoff = 7.37 cfs @ 12.09 hrs, Volume= 0.510 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	21,852	98	Impervious
	40,598	80	>75% Grass cover, Good, HSG D
	6,418	77	Woods, Good, HSG D
	10,830	79	Woods/grass comb., Good, HSG D
	79,698	85	Weighted Average
	57,846		72.58% Pervious Area
	21,852		27.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 29:**

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	1,306	98	Impervious
	1,306		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 30:**

Runoff = 3.41 cfs @ 12.09 hrs, Volume= 0.251 af, Depth&gt; 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	24,541	98	Impervious
*	6,931	74	>75% Grass cover, Good, HSG C/D
	31,472	93	Weighted Average
	6,931		22.02% Pervious Area
	24,541		77.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 31:**

Runoff = 3.42 cfs @ 12.18 hrs, Volume= 0.282 af, Depth&gt; 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	24,011	74	>75% Grass cover, Good, HSG C/D
*	46,605	70	Woods, Good, HSG C/D
	70,616	71	Weighted Average
	70,616		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0500	0.16		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
1.7	86	0.1200	0.87		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	31	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
12.3	217	Total			

**Summary for Subcatchment 32:**

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.034 af, Depth&gt; 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	2,826	98	Impervious
*	1,851	74	>75% Grass cover, Good, HSG C/D
	4,677	89	Weighted Average
	1,851		39.58% Pervious Area
	2,826		60.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 33: B3 green**

Runoff = 5.39 cfs @ 12.10 hrs, Volume= 0.368 af, Depth> 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	89,860	61	vegetated roof
*	18,033	98	penthouse
	107,893	67	Weighted Average
	89,860		83.29% Pervious Area
	18,033		16.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 34:**

Runoff = 1.26 cfs @ 12.10 hrs, Volume= 0.086 af, Depth> 1.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	19,279	61	vegetated roof
*	4,820	98	penhouse/walks on roof
	24,099	68	Weighted Average
	19,279		80.00% Pervious Area
	4,820		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 35:**

Runoff = 1.10 cfs @ 12.10 hrs, Volume= 0.075 af, Depth> 1.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	16,797	61	vegetated roof
*	4,200	98	penthouse/walks on roof
	20,997	68	Weighted Average
	16,797		80.00% Pervious Area
	4,200		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 36: B1M1**

Runoff = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 37: B1M2**

Runoff = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 38: B1M3**

Runoff = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 39: B2M4**

Runoff = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 40: B2M5**

Runoff = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 41: B2M6**

Runoff = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 42: B6**

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 12,000	98	Impervious
12,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 43: B5**

Runoff = 2.17 cfs @ 12.09 hrs, Volume= 0.172 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 18,983	98	Impervious
18,983		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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Type III 24-hr 25-year Rainfall=5.20"

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**Summary for Subcatchment 44: onsite untreated**

Runoff = 6.62 cfs @ 12.27 hrs, Volume= 0.636 af, Depth&gt; 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 29,531	74	>75% Grass cover, Good, HSG C/D
* 129,832	70	Woods, Good, HSG C/D
159,363	71	Weighted Average
159,363		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	97	0.0620	0.25		<b>Sheet Flow, a-b</b> Grass: Short n= 0.150 P2= 2.90"
4.3	170	0.0090	0.66		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
1.3	97	0.0320	1.25		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
6.8	210	0.0430	0.52		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
18.8	574	Total			

**Summary for Subcatchment 45:**

Runoff = 2.11 cfs @ 12.43 hrs, Volume= 0.246 af, Depth&gt; 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 5,799	74	>75% Grass cover, Good, HSG C/D
* 58,641	70	Woods, Good, HSG C/D
64,440	70	Weighted Average
64,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.3	79	0.0340	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
2.9	121	0.0800	0.71		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	34	0.0600	3.67		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
0.5	73	0.0600	2.64	10.56	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.100 Earth, dense brush, high stage

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29.9 307 Total

**Summary for Subcatchment 46: SUBCAT 8**

Runoff = 0.48 cfs @ 12.50 hrs, Volume= 0.059 af, Depth> 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	12,652	70	Woods, Good, HSG C/D
*	2,324	74	>75% Grass cover, Good, HSG C/D
	14,976	71	Weighted Average
	14,976		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.0	67	0.0150	0.03		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
1.1	43	0.0700	0.66		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.1	14	0.7100	2.11		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
1.5	152	0.0240	1.67	6.68	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.100

34.7 276 Total

**Summary for Subcatchment 47:**

Runoff = 4.09 cfs @ 12.22 hrs, Volume= 0.366 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
	16,941	80	>75% Grass cover, Good, HSG D
*	27,433	74	>75% Grass cover, Good, HSG C/D
*	30,061	70	Woods, Good, HSG C/D
*	4,752	98	Impervious
	79,187	75	Weighted Average
	74,435		94.00% Pervious Area
	4,752		6.00% Impervious Area

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Type III 24-hr 25-year Rainfall=5.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	102	0.0400	0.15		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
0.6	30	0.1000	0.79		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.6	100	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
3.2	407	0.0200	2.12		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
15.9	639	Total			

**Summary for Subcatchment 48:**

Runoff = 0.97 cfs @ 12.77 hrs, Volume= 0.152 af, Depth&gt; 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 305	74	>75% Grass cover, Good, HSG C/D
* 36,887	70	Woods, Good, HSG C/D
2,991	70	Woods, Good, HSG C
40,183	70	Weighted Average
40,183		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.6	127	0.0200	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
5.4	115	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	45	0.2000	1.12		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
0.3	90	0.0880	4.45		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
54.0	377	Total			

**Summary for Subcatchment 49:**

Runoff = 2.02 cfs @ 12.77 hrs, Volume= 0.318 af, Depth&gt; 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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	Area (sf)	CN	Description
*	2,923	74	>75% Grass cover, Good, HSG C/D
*	80,702	70	Woods, Good, HSG C/D
*	548	98	Impervious
	84,173	70	Weighted Average
	83,625		99.35% Pervious Area
	548		0.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.4	115	0.0500	0.06		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
23.7	355	0.0100	0.25		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
54.1	470	Total			

**Summary for Subcatchment 50:**

Runoff = 3.44 cfs @ 12.09 hrs, Volume= 0.273 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	30,173	98	Impervious
	30,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment OS10: OFFSITE 2 (above Perkins Rd)**

Runoff = 32.78 cfs @ 13.29 hrs, Volume= 7.112 af, Depth> 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

	Area (sf)	CN	Description
*	298,066	70	Woods, Good, HSG C/D
*	42,276	98	Impervious
*	1,304,640	74	>75% Grass cover, Good, HSG C/D
	1,644,982	74	Weighted Average
	1,602,706		97.43% Pervious Area
	42,276		2.57% Impervious Area

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Type III 24-hr 25-year Rainfall=5.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.2	141	0.0280	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
15.3	384	0.0280	0.42		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
2.5	227	0.0480	1.53		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
18.6	780	0.0100	0.70		<b>Shallow Concentrated Flow, d-e</b> Short Grass Pasture Kv= 7.0 fps
12.6	689	0.0170	0.91		<b>Shallow Concentrated Flow, e-f</b> Short Grass Pasture Kv= 7.0 fps
94.2	2,221	Total			

**Summary for Subcatchment OS11: OFFSITE 3 (Matthew Brothers Lot)**

Runoff = 38.24 cfs @ 12.10 hrs, Volume= 2.640 af, Depth&gt; 2.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

Area (sf)	CN	Description
* 118,437	98	Impervious
* 237,621	70	Woods, Good, HSG C/D
* 157,469	74	>75% Grass cover, Good, HSG C/D
513,527	78	Weighted Average
395,090		76.94% Pervious Area
118,437		23.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	16	0.1870	2.22		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
4.7	419	0.0100	1.50		<b>Shallow Concentrated Flow, b-c</b> Grassed Waterway Kv= 15.0 fps
2.0	97	0.1000	0.79		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
6.8	532	Total			

**Summary for Subcatchment OS9: OFFSITE 1 (Below Perkins Rd)**

Runoff = 25.81 cfs @ 12.50 hrs, Volume= 3.224 af, Depth&gt; 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-year Rainfall=5.20"

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Area (sf)	CN	Description
* 25,513	98	Impervious
* 532,320	74	>75% Grass cover, Good, HSG C/D
* 3,818	94	Gravel roads, HSG C/D
6,087	74	>75% Grass cover, Good, HSG C
72,382	70	Woods, Good, HSG C
61,890	74	>75% Grass cover, Good, HSG C
702,010	75	Weighted Average
676,497		96.37% Pervious Area
25,513		3.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.2000	2.25		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
12.6	373	0.0050	0.49		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
13.1	715	0.0170	0.91		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
9.3	250	0.0320	0.45		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
35.1	1,353	Total			

**Summary for Reach 9R: ANALYSIS POINT 9**

Inflow Area = 16.116 ac, 3.63% Impervious, Inflow Depth > 2.40" for 25-year event  
 Inflow = 25.81 cfs @ 12.50 hrs, Volume= 3.224 af  
 Outflow = 25.81 cfs @ 12.50 hrs, Volume= 3.224 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 10R: Perkins Road Culvert**

Inflow Area = 37.764 ac, 2.57% Impervious, Inflow Depth > 2.26" for 25-year event  
 Inflow = 32.78 cfs @ 13.29 hrs, Volume= 7.112 af  
 Outflow = 32.77 cfs @ 13.29 hrs, Volume= 7.112 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Max. Velocity= 11.61 fps, Min. Travel Time= 0.0 min  
 Avg. Velocity = 7.03 fps, Avg. Travel Time= 0.1 min

Peak Storage= 71 cf @ 13.29 hrs  
 Average Depth at Peak Storage= 1.69'  
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 31.99 cfs

24.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 25.0' Slope= 0.0200 '/'  
 Inlet Invert= 75.50', Outlet Invert= 75.00'

## post conditions

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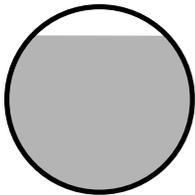
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### Summary for Reach 11R: Stream 9

Inflow Area = 11.789 ac, 23.06% Impervious, Inflow Depth > 2.69" for 25-year event  
Inflow = 38.24 cfs @ 12.10 hrs, Volume= 2.640 af  
Outflow = 38.24 cfs @ 12.10 hrs, Volume= 2.640 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 17R: untreated

Inflow Area = 0.305 ac, 85.11% Impervious, Inflow Depth > 4.28" for 25-year event  
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.109 af  
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 20R: untreated

Inflow Area = 0.653 ac, 73.83% Impervious, Inflow Depth > 4.06" for 25-year event  
Inflow = 3.04 cfs @ 12.09 hrs, Volume= 0.221 af  
Outflow = 3.04 cfs @ 12.09 hrs, Volume= 0.221 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 23R: sub 23

Inflow Area = 0.654 ac, 21.95% Impervious, Inflow Depth > 2.69" for 25-year event  
Inflow = 2.17 cfs @ 12.09 hrs, Volume= 0.146 af  
Outflow = 2.17 cfs @ 12.09 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

### Summary for Reach 27R: existing

Inflow Area = 0.098 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 0.49 cfs @ 12.09 hrs, Volume= 0.039 af  
Outflow = 0.49 cfs @ 12.09 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Reach 28R: existing**

Inflow Area = 1.830 ac, 27.42% Impervious, Inflow Depth > 3.34" for 25-year event  
Inflow = 7.37 cfs @ 12.09 hrs, Volume= 0.510 af  
Outflow = 7.37 cfs @ 12.09 hrs, Volume= 0.510 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 29R: untreated**

Inflow Area = 0.030 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af  
Outflow = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 32R: untreated**

Inflow Area = 0.107 ac, 60.42% Impervious, Inflow Depth > 3.74" for 25-year event  
Inflow = 0.47 cfs @ 12.09 hrs, Volume= 0.034 af  
Outflow = 0.47 cfs @ 12.09 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 44R:**

Inflow Area = 3.658 ac, 0.00% Impervious, Inflow Depth > 2.08" for 25-year event  
Inflow = 6.62 cfs @ 12.27 hrs, Volume= 0.636 af  
Outflow = 6.62 cfs @ 12.27 hrs, Volume= 0.636 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 47R:**

Inflow Area = 1.818 ac, 6.00% Impervious, Inflow Depth > 2.42" for 25-year event  
Inflow = 4.09 cfs @ 12.22 hrs, Volume= 0.366 af  
Outflow = 4.09 cfs @ 12.22 hrs, Volume= 0.366 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 48R: (new Reach)**

Inflow Area = 0.922 ac, 0.00% Impervious, Inflow Depth > 1.98" for 25-year event  
Inflow = 0.97 cfs @ 12.77 hrs, Volume= 0.152 af  
Outflow = 0.97 cfs @ 12.77 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 49R:**

Inflow Area = 1.932 ac, 0.65% Impervious, Inflow Depth > 1.98" for 25-year event  
Inflow = 2.02 cfs @ 12.77 hrs, Volume= 0.318 af  
Outflow = 2.02 cfs @ 12.77 hrs, Volume= 0.318 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT1: ANALYSIS POINT 1 at BWD Little River**

Inflow Area = 2.855 ac, 0.44% Impervious, Inflow Depth > 1.98" for 25-year event  
Inflow = 2.99 cfs @ 12.77 hrs, Volume= 0.470 af  
Outflow = 2.99 cfs @ 12.77 hrs, Volume= 0.470 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT2: ANALYSIS POINT 2 at BWD Reservoir**

Inflow Area = 2.714 ac, 0.00% Impervious, Inflow Depth > 2.04" for 25-year event  
Inflow = 2.61 cfs @ 12.92 hrs, Volume= 0.462 af  
Outflow = 2.61 cfs @ 12.92 hrs, Volume= 0.462 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT3: ANALYSIS POINT 3/4 at BWD Reservoir**

Inflow Area = 1.621 ac, 0.00% Impervious, Inflow Depth > 2.09" for 25-year event  
Inflow = 3.42 cfs @ 12.18 hrs, Volume= 0.282 af  
Outflow = 3.42 cfs @ 12.18 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT5: all BWD reservoir**

Inflow Area = 4.989 ac, 2.88% Impervious, Inflow Depth > 2.14" for 25-year event  
Inflow = 5.61 cfs @ 12.15 hrs, Volume= 0.891 af  
Outflow = 5.61 cfs @ 12.15 hrs, Volume= 0.891 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT6: stream 9 offsite**

Inflow Area = 65.668 ac, 6.51% Impervious, Inflow Depth > 2.37" for 25-year event  
Inflow = 52.03 cfs @ 12.11 hrs, Volume= 12.976 af  
Outflow = 49.54 cfs @ 12.18 hrs, Volume= 12.943 af, Atten= 5%, Lag= 3.7 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 4.45 fps, Min. Travel Time= 1.8 min  
Avg. Velocity = 2.46 fps, Avg. Travel Time= 3.3 min

Peak Storage= 5,496 cf @ 12.15 hrs  
Average Depth at Peak Storage= 1.44'  
Bank-Full Depth= 4.00' Flow Area= 52.0 sf, Capacity= 401.91 cfs

5.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 ' / ' Top Width= 21.00'  
Length= 483.0' Slope= 0.0145 ' / '  
Inlet Invert= 71.00', Outlet Invert= 64.00'



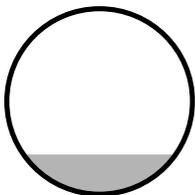
**Summary for Reach PT7: ANALYSIS POINT7 at US Route 1 culvert**

Inflow Area = 1.479 ac, 0.00% Impervious, Inflow Depth > 2.00" for 25-year event  
Inflow = 2.11 cfs @ 12.43 hrs, Volume= 0.246 af  
Outflow = 2.10 cfs @ 12.44 hrs, Volume= 0.246 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 7.59 fps, Min. Travel Time= 0.2 min  
Avg. Velocity = 3.63 fps, Avg. Travel Time= 0.4 min

Peak Storage= 23 cf @ 12.44 hrs  
Average Depth at Peak Storage= 0.32'  
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 20.95 cfs

18.0" Round Pipe  
n= 0.013 Corrugated PE, smooth interior  
Length= 83.0' Slope= 0.0398 ' / '  
Inlet Invert= 21.60', Outlet Invert= 18.30'



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**Summary for Reach PT8: ANALYSIS POINT 8 at US Route 1 culvert**

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 2.07" for 25-year event  
Inflow = 0.48 cfs @ 12.50 hrs, Volume= 0.059 af  
Outflow = 0.47 cfs @ 12.51 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Max. Velocity= 3.93 fps, Min. Travel Time= 0.3 min  
Avg. Velocity = 2.58 fps, Avg. Travel Time= 0.5 min

Peak Storage= 9 cf @ 12.51 hrs  
Average Depth at Peak Storage= 0.04'  
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 144.91 cfs

36.0" W x 24.0" H Box Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 76.0' Slope= 0.0632 '/'  
Inlet Invert= 23.40', Outlet Invert= 18.60'



**Summary for Reach PT9: Analysis Point Stream 9 at US Route 1 culvert**

Inflow Area = 72.477 ac, 7.14% Impervious, Inflow Depth > 2.35" for 25-year event  
Inflow = 57.73 cfs @ 12.40 hrs, Volume= 14.193 af  
Outflow = 57.73 cfs @ 12.40 hrs, Volume= 14.192 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 24.49 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 9.73 fps, Avg. Travel Time= 0.2 min

Peak Storage= 219 cf @ 12.40 hrs  
Average Depth at Peak Storage= 1.10'  
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 200.22 cfs

36.0" Round Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 93.0' Slope= 0.0645 '/'  
Inlet Invert= 20.00', Outlet Invert= 14.00'

**post conditions**

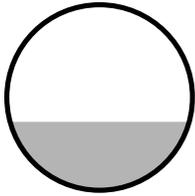
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**Summary for Reach S9-2: Stream 9**

Inflow Area = 69.327 ac, 6.17% Impervious, Inflow Depth > 2.35" for 25-year event  
Inflow = 55.36 cfs @ 12.19 hrs, Volume= 13.579 af  
Outflow = 52.44 cfs @ 12.59 hrs, Volume= 13.484 af, Atten= 5%, Lag= 24.3 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 5.33 fps, Min. Travel Time= 4.9 min  
Avg. Velocity = 2.91 fps, Avg. Travel Time= 9.1 min

Peak Storage= 15,562 cf @ 12.51 hrs  
Average Depth at Peak Storage= 1.30'  
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 120.91 cfs

5.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 ' / ' Top Width= 13.00'  
Length= 1,580.0' Slope= 0.0233 ' / '  
Inlet Invert= 64.00', Outlet Invert= 27.25'



**Summary for Reach S9-3: Stream 9**

Inflow Area = 71.273 ac, 6.33% Impervious, Inflow Depth > 2.34" for 25-year event  
Inflow = 55.61 cfs @ 12.36 hrs, Volume= 13.901 af  
Outflow = 55.32 cfs @ 12.40 hrs, Volume= 13.878 af, Atten= 1%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 5.28 fps, Min. Travel Time= 1.1 min  
Avg. Velocity = 2.00 fps, Avg. Travel Time= 3.0 min

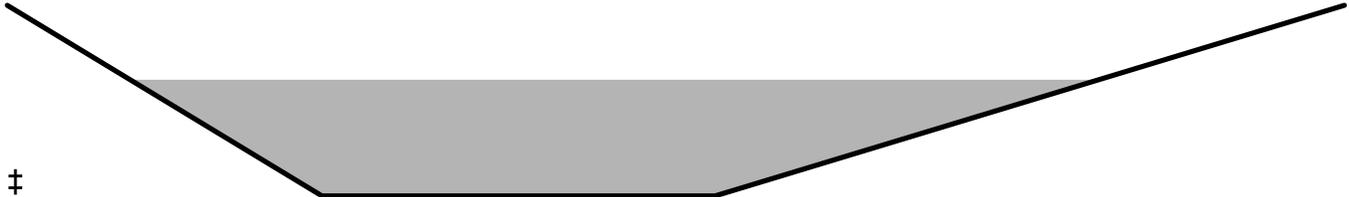
Peak Storage= 3,839 cf @ 12.37 hrs  
Average Depth at Peak Storage= 1.22'  
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 152.29 cfs

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5.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds  
Side Slope Z-value= 2.0 4.0 ' / ' Top Width= 17.00'  
Length= 364.0' Slope= 0.0199 ' / '  
Inlet Invert= 27.25', Outlet Invert= 20.00'



**Summary for Reach tank: existing clarifier**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.85" for 25-year event  
Inflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af  
Outflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: (new Pond)**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af  
Outflow = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af  
Secondary = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.69' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>18.0" Round Culvert</b> L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.15' S= 0.1375 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	62.95'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	60.75'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.75' / 60.72' S= 0.0060 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow Max=7.85 cfs @ 12.09 hrs HW=63.67' (Free Discharge)**

↑ **1=Culvert (Passes 7.85 cfs of 10.01 cfs potential flow)**

↑ **2=Broad-Crested Rectangular Weir (Weir Controls 7.85 cfs @ 2.72 fps)**

**Secondary OutFlow Max=4.64 cfs @ 12.09 hrs HW=63.67' (Free Discharge)**

↑ **3=Culvert (Inlet Controls 4.64 cfs @ 5.91 fps)**

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**Summary for Pond 4P: Rtanks**

Inflow Area = 0.482 ac, 20.00% Impervious, Inflow Depth > 1.86" for 25-year event  
Inflow = 1.10 cfs @ 12.10 hrs, Volume= 0.075 af  
Outflow = 0.76 cfs @ 12.19 hrs, Volume= 0.073 af, Atten= 30%, Lag= 5.8 min  
Primary = 0.76 cfs @ 12.19 hrs, Volume= 0.073 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 29.86' @ 12.19 hrs Surf.Area= 1,314 sf Storage= 474 cf

Plug-Flow detention time= 17.6 min calculated for 0.073 af (98% of inflow)  
Center-of-Mass det. time= 11.1 min ( 820.9 - 809.7 )

Volume	Invert	Avail.Storage	Storage Description
#1A	29.28'	968 cf	<b>17.12'W x 76.72'L x 3.42'H Field A</b> 4,487 cf Overall - 2,066 cf Embedded = 2,420 cf x 40.0% Voids
#2A	29.53'	1,963 cf	<b>ACF R-Tank HD 1.5 x 310 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 10 Rows of 31 Chambers
		2,931 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.28'	<b>12.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.28' / 29.28' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.76 cfs @ 12.19 hrs HW=29.86' (Free Discharge)  
↑1=Culvert (Barrel Controls 0.76 cfs @ 2.35 fps)

**Summary for Pond dmh10: dmh10**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.90" for 25-year event  
Inflow = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af  
Outflow = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af, Atten= 0%, Lag= 0.0 min  
Primary = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.09' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.59'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.59' / 53.56' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

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**Primary OutFlow** Max=18.26 cfs @ 12.09 hrs HW=57.93' (Free Discharge)

↑1=Culvert (Inlet Controls 18.26 cfs @ 5.81 fps)

**Summary for Pond dmh11: dmh11**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 1.09" for 25-year event  
Inflow = 28.86 cfs @ 12.09 hrs, Volume= 0.842 af  
Outflow = 28.86 cfs @ 12.09 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.0 min  
Primary = 28.86 cfs @ 12.09 hrs, Volume= 0.842 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 57.17' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.54'	<b>30.0" Round Culvert</b> L= 84.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.54' / 53.12' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=27.93 cfs @ 12.09 hrs HW=57.03' (Free Discharge)

↑1=Culvert (Inlet Controls 27.93 cfs @ 5.69 fps)

**Summary for Pond dmh13: dmh13**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 1.09" for 25-year event  
Inflow = 28.86 cfs @ 12.09 hrs, Volume= 0.842 af  
Outflow = 28.86 cfs @ 12.09 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.0 min  
Primary = 28.86 cfs @ 12.09 hrs, Volume= 0.842 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 56.73' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.10'	<b>30.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.10' / 52.09' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=27.93 cfs @ 12.09 hrs HW=56.59' (Free Discharge)

↑1=Culvert (Inlet Controls 27.93 cfs @ 5.69 fps)

**Summary for Pond dmh14: dmh14**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 1.27" for 25-year event  
Inflow = 31.57 cfs @ 12.09 hrs, Volume= 1.044 af  
Outflow = 31.57 cfs @ 12.09 hrs, Volume= 1.044 af, Atten= 0%, Lag= 0.0 min  
Primary = 31.57 cfs @ 12.09 hrs, Volume= 1.044 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 56.16' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.07'	<b>30.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.07' / 51.95' S= 0.0052 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=30.72 cfs @ 12.09 hrs HW=56.03' (Free Discharge)

↑1=Culvert (Inlet Controls 30.72 cfs @ 6.26 fps)

**Summary for Pond dmh15: dmh15**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 1.27" for 25-year event  
 Inflow = 31.57 cfs @ 12.09 hrs, Volume= 1.044 af  
 Outflow = 31.57 cfs @ 12.09 hrs, Volume= 1.044 af, Atten= 0%, Lag= 0.0 min  
 Primary = 31.57 cfs @ 12.09 hrs, Volume= 1.044 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 56.05' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.95'	<b>30.0" Round Culvert</b> L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.95' / 51.50' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=30.62 cfs @ 12.09 hrs HW=55.89' (Free Discharge)

↑1=Culvert (Inlet Controls 30.62 cfs @ 6.24 fps)

**Summary for Pond dmh16: dmh16**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 1.00" for 25-year event  
 Inflow = 0.11 cfs @ 13.26 hrs, Volume= 0.029 af  
 Outflow = 0.11 cfs @ 13.26 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min  
 Primary = 0.11 cfs @ 13.26 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 60.68' @ 13.26 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>12.0" Round Culvert</b> L= 198.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.50' / 58.00' S= 0.0126 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.11 cfs @ 13.26 hrs HW=60.68' (Free Discharge)

↑1=Culvert (Inlet Controls 0.11 cfs @ 1.13 fps)

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**Summary for Pond dmh17: dmh17**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 1.28" for 25-year event  
Inflow = 32.14 cfs @ 12.09 hrs, Volume= 1.111 af  
Outflow = 32.14 cfs @ 12.09 hrs, Volume= 1.111 af, Atten= 0%, Lag= 0.0 min  
Primary = 32.14 cfs @ 12.09 hrs, Volume= 1.111 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.68' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.48'	<b>30.0" Round Culvert</b> L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.48' / 51.30' S= 0.0051 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=31.21 cfs @ 12.09 hrs HW=55.53' (Free Discharge)  
↑1=Culvert (Inlet Controls 31.21 cfs @ 6.36 fps)

**Summary for Pond dmh2: dmh2**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 0.67" for 25-year event  
Inflow = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af  
Outflow = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 65.22' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>18.0" Round Culvert</b> L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.00' / 61.50' S= 0.0150 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=7.86 cfs @ 12.09 hrs HW=65.12' (Free Discharge)  
↑1=Culvert (Inlet Controls 7.86 cfs @ 4.45 fps)

**Summary for Pond dmh20: dmh20**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 1.28" for 25-year event  
Inflow = 32.14 cfs @ 12.09 hrs, Volume= 1.111 af  
Outflow = 32.14 cfs @ 12.09 hrs, Volume= 1.111 af, Atten= 0%, Lag= 0.0 min  
Primary = 32.14 cfs @ 12.09 hrs, Volume= 1.111 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.48' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	<b>30.0" Round Culvert</b>

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L= 100.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.28' / 50.78' S= 0.0050 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=31.21 cfs @ 12.09 hrs HW=55.33' (Free Discharge)

↑1=Culvert (Inlet Controls 31.21 cfs @ 6.36 fps)

**Summary for Pond dmh21: dmh21**

Inflow Area = 14.164 ac, 80.88% Impervious, Inflow Depth > 1.79" for 25-year event  
Inflow = 43.44 cfs @ 12.09 hrs, Volume= 2.112 af  
Outflow = 43.44 cfs @ 12.09 hrs, Volume= 2.112 af, Atten= 0%, Lag= 0.0 min  
Primary = 43.44 cfs @ 12.09 hrs, Volume= 2.112 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.87' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.76'	<b>36.0" Round Culvert</b> L= 281.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.76' / 46.00' S= 0.0169 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=42.47 cfs @ 12.09 hrs HW=54.76' (Free Discharge)

↑1=Culvert (Inlet Controls 42.47 cfs @ 6.01 fps)

**Summary for Pond dmh22: dmh 22**

Inflow Area = 2.671 ac, 64.47% Impervious, Inflow Depth > 3.45" for 25-year event  
Inflow = 8.73 cfs @ 12.10 hrs, Volume= 0.768 af  
Outflow = 8.73 cfs @ 12.10 hrs, Volume= 0.768 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.73 cfs @ 12.10 hrs, Volume= 0.768 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.63' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>15.0" Round Culvert</b> L= 93.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.50' / 51.03' S= 0.0051 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=8.71 cfs @ 12.10 hrs HW=55.61' (Free Discharge)

↑1=Culvert (Inlet Controls 8.71 cfs @ 7.10 fps)

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**Summary for Pond dmh23: dmh23**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 3.38" for 25-year event  
Inflow = 7.53 cfs @ 12.10 hrs, Volume= 0.571 af  
Outflow = 7.53 cfs @ 12.10 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.53 cfs @ 12.10 hrs, Volume= 0.571 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 64.40' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.19'	<b>12.0" Round Culvert</b> L= 138.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.19' / 54.50' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.47 cfs @ 12.10 hrs HW=64.25' (Free Discharge)  
↑1=Culvert (Barrel Controls 7.47 cfs @ 9.51 fps)

**Summary for Pond dmh24: dmh24**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 3.38" for 25-year event  
Inflow = 7.53 cfs @ 12.10 hrs, Volume= 0.571 af  
Outflow = 7.53 cfs @ 12.10 hrs, Volume= 0.571 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.53 cfs @ 12.10 hrs, Volume= 0.571 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.96' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.10'	<b>12.0" Round Culvert</b> L= 72.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.10' / 55.92' S= 0.0025 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.47 cfs @ 12.10 hrs HW=62.86' (Free Discharge)  
↑1=Culvert (Inlet Controls 7.47 cfs @ 9.51 fps)

**Summary for Pond dmh24a: dmh24a**

Inflow Area = 0.817 ac, 77.70% Impervious, Inflow Depth > 3.87" for 25-year event  
Inflow = 3.26 cfs @ 12.10 hrs, Volume= 0.264 af  
Outflow = 3.26 cfs @ 12.10 hrs, Volume= 0.264 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.26 cfs @ 12.10 hrs, Volume= 0.264 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 67.28' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b>

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L= 95.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 58.00' / 57.10' S= 0.0095'/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=3.23 cfs @ 12.10 hrs HW=67.09' (Free Discharge)

↑1=Culvert (Barrel Controls 3.23 cfs @ 9.25 fps)

**Summary for Pond dmh25: dmh25**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 3.24" for 25-year event  
Inflow = 1.49 cfs @ 12.12 hrs, Volume= 0.110 af  
Outflow = 1.49 cfs @ 12.12 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.49 cfs @ 12.12 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.76' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	<b>12.0" Round Culvert</b> L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.00' / 55.00' S= 0.0510'/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.45 cfs @ 12.12 hrs HW=60.74' (Free Discharge)

↑1=Culvert (Inlet Controls 1.45 cfs @ 2.32 fps)

**Summary for Pond dmh26: (new Pond)**

Inflow Area = 2.028 ac, 41.73% Impervious, Inflow Depth > 2.49" for 25-year event  
Inflow = 6.77 cfs @ 12.14 hrs, Volume= 0.421 af  
Outflow = 6.77 cfs @ 12.14 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min  
Primary = 6.77 cfs @ 12.14 hrs, Volume= 0.421 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.39' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.75'	<b>12.0" Round Culvert</b> L= 28.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.75' / 57.61' S= 0.0050'/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=6.70 cfs @ 12.14 hrs HW=63.29' (Free Discharge)

↑1=Culvert (Inlet Controls 6.70 cfs @ 8.54 fps)

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**Summary for Pond dmh27: dmh27**

Inflow Area = 2.712 ac, 46.62% Impervious, Inflow Depth > 2.83" for 25-year event  
Inflow = 9.57 cfs @ 12.12 hrs, Volume= 0.639 af  
Outflow = 9.57 cfs @ 12.12 hrs, Volume= 0.639 af, Atten= 0%, Lag= 0.0 min  
Primary = 9.57 cfs @ 12.12 hrs, Volume= 0.639 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.37' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.03'	<b>15.0" Round Culvert</b> L= 256.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.03' / 51.75' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow Max=9.28 cfs @ 12.12 hrs HW=59.98' (Free Discharge)**  
↑1=Culvert (Barrel Controls 9.28 cfs @ 7.56 fps)

**Summary for Pond dmh29: dmh29**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af  
Outflow = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.24' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.85'	<b>8.0" Round Culvert</b> L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.85' / 57.39' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow Max=1.33 cfs @ 12.09 hrs HW=59.19' (Free Discharge)**  
↑1=Culvert (Inlet Controls 1.33 cfs @ 3.82 fps)

**Summary for Pond dmh3: dmh3**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.07" for 25-year event  
Inflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af  
Outflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.80' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>18.0" Round Culvert</b>

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L= 125.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 60.50' / 59.84' S= 0.0053 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=10.38 cfs @ 12.09 hrs HW=63.64' (Free Discharge)

↑1=Culvert (Inlet Controls 10.38 cfs @ 5.87 fps)

**Summary for Pond dmh30: dmh30**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af  
Outflow = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.37 cfs @ 12.09 hrs, Volume= 0.109 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.13' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.40'	<b>12.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.40' / 54.37' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.33 cfs @ 12.09 hrs HW=56.11' (Free Discharge)

↑1=Culvert (Barrel Controls 1.33 cfs @ 3.12 fps)

**Summary for Pond dmh31: dmh31**

Inflow Area = 2.303 ac, 48.70% Impervious, Inflow Depth > 2.76" for 25-year event  
Inflow = 8.08 cfs @ 12.12 hrs, Volume= 0.529 af  
Outflow = 8.08 cfs @ 12.12 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.08 cfs @ 12.12 hrs, Volume= 0.529 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.60' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.35'	<b>15.0" Round Culvert</b> L= 259.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.35' / 53.05' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=7.83 cfs @ 12.12 hrs HW=59.32' (Free Discharge)

↑1=Culvert (Barrel Controls 7.83 cfs @ 6.38 fps)

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**Summary for Pond dmh32: dmh32**

Inflow Area = 3.424 ac, 42.31% Impervious, Inflow Depth > 2.71" for 25-year event  
Inflow = 11.88 cfs @ 12.12 hrs, Volume= 0.774 af  
Outflow = 11.88 cfs @ 12.12 hrs, Volume= 0.774 af, Atten= 0%, Lag= 0.0 min  
Primary = 11.88 cfs @ 12.12 hrs, Volume= 0.774 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.58' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>18.0" Round Culvert</b> L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.60' S= 0.0036 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow Max=11.51 cfs @ 12.12 hrs HW=55.42' (Free Discharge)**  
↑1=Culvert (Inlet Controls 11.51 cfs @ 6.51 fps)

**Summary for Pond dmh33: dmh33**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 3.66" for 25-year event  
Inflow = 0.43 cfs @ 12.35 hrs, Volume= 0.096 af  
Outflow = 0.43 cfs @ 12.35 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.43 cfs @ 12.35 hrs, Volume= 0.096 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.37' @ 12.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 52.01' S= 0.0099 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow Max=0.43 cfs @ 12.35 hrs HW=54.37' (Free Discharge)**  
↑1=Culvert (Inlet Controls 0.43 cfs @ 1.63 fps)

**Summary for Pond dmh34: dmh34**

Inflow Area = 3.030 ac, 25.90% Impervious, Inflow Depth > 2.03" for 25-year event  
Inflow = 6.64 cfs @ 12.10 hrs, Volume= 0.514 af  
Outflow = 6.64 cfs @ 12.10 hrs, Volume= 0.514 af, Atten= 0%, Lag= 0.0 min  
Primary = 6.64 cfs @ 12.10 hrs, Volume= 0.514 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.72' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.99'	<b>18.0" Round Culvert</b>

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L= 39.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.99' / 51.60' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=6.61 cfs @ 12.10 hrs HW=53.71' (Free Discharge)

↑1=Culvert (Inlet Controls 6.61 cfs @ 3.74 fps)

**Summary for Pond dmh35: dmh35**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 2.39" for 25-year event  
Inflow = 21.15 cfs @ 12.12 hrs, Volume= 1.452 af  
Outflow = 21.15 cfs @ 12.12 hrs, Volume= 1.452 af, Atten= 0%, Lag= 0.0 min  
Primary = 21.15 cfs @ 12.12 hrs, Volume= 1.452 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.91' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.55'	<b>24.0" Round Culvert</b> L= 276.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.55' / 50.17' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=20.53 cfs @ 12.12 hrs HW=55.71' (Free Discharge)

↑1=Culvert (Barrel Controls 20.53 cfs @ 6.54 fps)

**Summary for Pond dmh36: dmh36**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 2.39" for 25-year event  
Inflow = 21.15 cfs @ 12.12 hrs, Volume= 1.452 af  
Outflow = 21.15 cfs @ 12.12 hrs, Volume= 1.452 af, Atten= 0%, Lag= 0.0 min  
Primary = 21.15 cfs @ 12.12 hrs, Volume= 1.452 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.27' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.15'	<b>24.0" Round Culvert</b> L= 159.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.15' / 49.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=20.53 cfs @ 12.12 hrs HW=54.11' (Free Discharge)

↑1=Culvert (Inlet Controls 20.53 cfs @ 6.54 fps)

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**Summary for Pond dmh38: dmh38**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 0.67" for 25-year event  
Inflow = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af  
Outflow = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.18 cfs @ 12.09 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.20' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>18.0" Round Culvert</b> L= 106.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 50.92' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=7.86 cfs @ 12.09 hrs HW=54.10' (Free Discharge)  
↑1=Culvert (Inlet Controls 7.86 cfs @ 4.45 fps)

**Summary for Pond dmh39: dmh39**

Inflow Area = 2.778 ac, 93.02% Impervious, Inflow Depth > 0.75" for 25-year event  
Inflow = 8.70 cfs @ 12.09 hrs, Volume= 0.174 af  
Outflow = 8.70 cfs @ 12.09 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.70 cfs @ 12.09 hrs, Volume= 0.174 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.01' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.59'	<b>18.0" Round Culvert</b> L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.59' / 50.32' S= 0.0047 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=8.43 cfs @ 12.09 hrs HW=52.92' (Free Discharge)  
↑1=Culvert (Inlet Controls 8.43 cfs @ 4.77 fps)

**Summary for Pond dmh4: dmh4**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.07" for 25-year event  
Inflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af  
Outflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.13' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.84'	<b>18.0" Round Culvert</b>

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L= 66.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 59.84' / 59.57' S= 0.0041 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=10.38 cfs @ 12.09 hrs HW=62.98' (Free Discharge)

↑1=Culvert (Inlet Controls 10.38 cfs @ 5.87 fps)

**Summary for Pond dmh40: dmh40**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 1.94" for 25-year event  
Inflow = 29.51 cfs @ 12.11 hrs, Volume= 1.626 af  
Outflow = 29.51 cfs @ 12.11 hrs, Volume= 1.626 af, Atten= 0%, Lag= 0.0 min  
Primary = 29.51 cfs @ 12.11 hrs, Volume= 1.626 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 53.08' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.33'	<b>30.0" Round Culvert</b> L= 340.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 49.33' / 47.63' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=29.05 cfs @ 12.11 hrs HW=53.00' (Free Discharge)

↑1=Culvert (Inlet Controls 29.05 cfs @ 5.92 fps)

**Summary for Pond dmh43: dmh43**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 1.94" for 25-year event  
Inflow = 29.51 cfs @ 12.11 hrs, Volume= 1.626 af  
Outflow = 29.51 cfs @ 12.11 hrs, Volume= 1.626 af, Atten= 0%, Lag= 0.0 min  
Primary = 29.51 cfs @ 12.11 hrs, Volume= 1.626 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 51.36' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.61'	<b>30.0" Round Culvert</b> L= 193.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.61' / 46.64' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=29.05 cfs @ 12.11 hrs HW=51.28' (Free Discharge)

↑1=Culvert (Inlet Controls 29.05 cfs @ 5.92 fps)

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**Summary for Pond dmh44: dmh44**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 1.95" for 25-year event  
Inflow = 30.22 cfs @ 12.11 hrs, Volume= 1.674 af  
Outflow = 30.22 cfs @ 12.11 hrs, Volume= 1.674 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.22 cfs @ 12.11 hrs, Volume= 1.674 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.50' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.62'	<b>36.0" Round Culvert</b> L= 82.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.62' / 46.21' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=29.75 cfs @ 12.11 hrs HW=49.47' (Free Discharge)  
↑1=Culvert (Barrel Controls 29.75 cfs @ 5.52 fps)

**Summary for Pond dmh45: dmh45**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 1.95" for 25-year event  
Inflow = 30.22 cfs @ 12.11 hrs, Volume= 1.674 af  
Outflow = 30.22 cfs @ 12.11 hrs, Volume= 1.674 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.22 cfs @ 12.11 hrs, Volume= 1.674 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 48.94' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.19'	<b>36.0" Round Culvert</b> L= 316.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.19' / 44.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=29.77 cfs @ 12.11 hrs HW=48.90' (Free Discharge)  
↑1=Culvert (Inlet Controls 29.77 cfs @ 4.43 fps)

**Summary for Pond dmh47: dmh47**

Inflow Area = 12.894 ac, 59.74% Impervious, Inflow Depth > 1.69" for 25-year event  
Inflow = 38.22 cfs @ 12.10 hrs, Volume= 1.818 af  
Outflow = 38.22 cfs @ 12.10 hrs, Volume= 1.818 af, Atten= 0%, Lag= 0.0 min  
Primary = 38.22 cfs @ 12.10 hrs, Volume= 1.818 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 47.52' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	<b>36.0" Round Culvert</b>

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L= 104.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.00' / 42.96' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=38.13 cfs @ 12.10 hrs HW=47.51' (Free Discharge)

↑1=Culvert (Inlet Controls 38.13 cfs @ 5.39 fps)

**Summary for Pond dmh48: dmh48**

Inflow Area = 13.587 ac, 61.79% Impervious, Inflow Depth > 1.82" for 25-year event  
Inflow = 40.26 cfs @ 12.10 hrs, Volume= 2.057 af  
Outflow = 40.26 cfs @ 12.10 hrs, Volume= 2.057 af, Atten= 0%, Lag= 0.0 min  
Primary = 40.26 cfs @ 12.10 hrs, Volume= 2.057 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 46.68' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.94'	<b>36.0" Round Culvert</b> L= 117.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.94' / 42.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=40.01 cfs @ 12.10 hrs HW=46.66' (Free Discharge)

↑1=Culvert (Inlet Controls 40.01 cfs @ 5.66 fps)

**Summary for Pond dmh49: dmh49**

Inflow Area = 13.908 ac, 61.10% Impervious, Inflow Depth > 1.85" for 25-year event  
Inflow = 41.45 cfs @ 12.10 hrs, Volume= 2.138 af  
Outflow = 41.45 cfs @ 12.10 hrs, Volume= 2.138 af, Atten= 0%, Lag= 0.0 min  
Primary = 41.45 cfs @ 12.10 hrs, Volume= 2.138 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 46.23' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.33'	<b>36.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.33' / 42.23' S= 0.0071 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=41.27 cfs @ 12.10 hrs HW=46.21' (Free Discharge)

↑1=Culvert (Barrel Controls 41.27 cfs @ 5.89 fps)

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**Summary for Pond dmh5: dmh5**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.07" for 25-year event  
Inflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af  
Outflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.00' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.48'	<b>18.0" Round Culvert</b> L= 173.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.48' / 58.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=10.38 cfs @ 12.09 hrs HW=62.82' (Free Discharge)  
↑1=Culvert (Barrel Controls 10.38 cfs @ 5.87 fps)

**Summary for Pond dmh50: dmh50**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 1.81" for 25-year event  
Inflow = 44.95 cfs @ 12.09 hrs, Volume= 2.238 af  
Outflow = 44.95 cfs @ 12.09 hrs, Volume= 2.238 af, Atten= 0%, Lag= 0.0 min  
Primary = 44.95 cfs @ 12.09 hrs, Volume= 2.238 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.05' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.75'	<b>36.0" Round Culvert</b> L= 64.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.75' / 44.11' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=44.18 cfs @ 12.09 hrs HW=48.95' (Free Discharge)  
↑1=Culvert (Inlet Controls 44.18 cfs @ 6.25 fps)

**Summary for Pond dmh51: dmh51**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 1.81" for 25-year event  
Inflow = 44.95 cfs @ 12.09 hrs, Volume= 2.238 af  
Outflow = 44.95 cfs @ 12.09 hrs, Volume= 2.238 af, Atten= 0%, Lag= 0.0 min  
Primary = 44.95 cfs @ 12.09 hrs, Volume= 2.238 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 48.39' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.09'	<b>36.0" Round Culvert</b>

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L= 38.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.09' / 43.00' S= 0.0287 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=44.18 cfs @ 12.09 hrs HW=48.29' (Free Discharge)

↑1=Culvert (Inlet Controls 44.18 cfs @ 6.25 fps)

**Summary for Pond dmh52: dmh52**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 1.83" for 25-year event  
Inflow = 86.31 cfs @ 12.10 hrs, Volume= 4.376 af  
Outflow = 86.31 cfs @ 12.10 hrs, Volume= 4.376 af, Atten= 0%, Lag= 0.0 min  
Primary = 86.31 cfs @ 12.10 hrs, Volume= 4.376 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 44.87' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	41.00'	<b>60.0" Round Culvert</b> L= 258.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 41.00' / 36.00' S= 0.0194 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=85.66 cfs @ 12.10 hrs HW=44.85' (Free Discharge)

↑1=Culvert (Inlet Controls 85.66 cfs @ 5.28 fps)

**Summary for Pond dmh53: dmh53**

Inflow Area = 29.187 ac, 69.95% Impervious, Inflow Depth > 1.84" for 25-year event  
Inflow = 88.10 cfs @ 12.10 hrs, Volume= 4.487 af  
Outflow = 88.10 cfs @ 12.10 hrs, Volume= 4.487 af, Atten= 0%, Lag= 0.0 min  
Primary = 88.10 cfs @ 12.10 hrs, Volume= 4.487 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 36.93' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	<b>60.0" Round Culvert</b> L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 33.00' / 30.50' S= 0.0208 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=87.53 cfs @ 12.10 hrs HW=36.91' (Free Discharge)

↑1=Culvert (Inlet Controls 87.53 cfs @ 5.31 fps)

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**Summary for Pond dmh54: dmh54**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.85" for 25-year event  
Inflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af  
Outflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af, Atten= 0%, Lag= 0.0 min  
Primary = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.93' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	27.00'	<b>60.0" Round Culvert</b> L= 152.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 27.00' / 22.00' S= 0.0329 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow Max=87.74 cfs @ 12.10 hrs HW=30.92' (Free Discharge)**  
↑1=Culvert (Inlet Controls 87.74 cfs @ 5.32 fps)

**Summary for Pond dmh55: dhm55**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.85" for 25-year event  
Inflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af  
Outflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af, Atten= 0%, Lag= 0.0 min  
Primary = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 22.93' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	<b>60.0" Round Culvert</b> L= 115.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.00' / 15.50' S= 0.0304 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow Max=87.74 cfs @ 12.10 hrs HW=22.92' (Free Discharge)**  
↑1=Culvert (Inlet Controls 87.74 cfs @ 5.32 fps)

**Summary for Pond dmh56: dmh56**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 1.85" for 25-year event  
Inflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af  
Outflow = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af, Atten= 0%, Lag= 0.0 min  
Primary = 88.29 cfs @ 12.10 hrs, Volume= 4.517 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 16.43' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.50'	<b>60.0" Round Culvert</b>

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L= 42.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 12.50' / 11.00' S= 0.0357 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=87.74 cfs @ 12.10 hrs HW=16.42' (Free Discharge)

↑1=Culvert (Inlet Controls 87.74 cfs @ 5.32 fps)

**Summary for Pond dmh59: dmh59**

Inflow Area = 2.253 ac, 63.02% Impervious, Inflow Depth > 3.44" for 25-year event  
Inflow = 7.94 cfs @ 12.10 hrs, Volume= 0.646 af  
Outflow = 7.94 cfs @ 12.10 hrs, Volume= 0.646 af, Atten= 0%, Lag= 0.0 min  
Primary = 7.94 cfs @ 12.10 hrs, Volume= 0.646 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 71.51' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	<b>12.0" Round Culvert</b> L= 294.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.30' / 52.83' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.91 cfs @ 12.10 hrs HW=71.35' (Free Discharge)

↑1=Culvert (Barrel Controls 7.91 cfs @ 10.07 fps)

**Summary for Pond dmh6: dmh6**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.07" for 25-year event  
Inflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af  
Outflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 64.52' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 57.73' S= 0.0050 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=10.38 cfs @ 12.09 hrs HW=64.19' (Free Discharge)

↑1=Culvert (Barrel Controls 10.38 cfs @ 5.87 fps)

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**Summary for Pond dmh60: dhm60**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 1.83" for 25-year event  
Inflow = 86.31 cfs @ 12.10 hrs, Volume= 4.376 af  
Outflow = 86.31 cfs @ 12.10 hrs, Volume= 4.376 af, Atten= 0%, Lag= 0.0 min  
Primary = 86.31 cfs @ 12.10 hrs, Volume= 4.376 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 39.37' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	<b>60.0" Round Culvert</b> L= 114.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.50' / 33.50' S= 0.0175 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow Max=85.66 cfs @ 12.10 hrs HW=39.35' (Free Discharge)**  
↑1=Culvert (Inlet Controls 85.66 cfs @ 5.28 fps)

**Summary for Pond dmh7: dmh7**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.07" for 25-year event  
Inflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af  
Outflow = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.75 cfs @ 12.09 hrs, Volume= 0.300 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.22' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.71'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.71' / 56.86' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow Max=10.38 cfs @ 12.09 hrs HW=61.04' (Free Discharge)**  
↑1=Culvert (Barrel Controls 10.38 cfs @ 5.87 fps)

**Summary for Pond dmh8: dmh8**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.90" for 25-year event  
Inflow = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af  
Outflow = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af, Atten= 0%, Lag= 0.0 min  
Primary = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.81' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.84'	<b>24.0" Round Culvert</b>

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L= 296.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 56.84' / 55.66' S= 0.0040 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=18.26 cfs @ 12.09 hrs HW=60.59' (Free Discharge)

↑1=Culvert (Barrel Controls 18.26 cfs @ 5.81 fps)

**Summary for Pond dmh9a: dmh9a**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 0.90" for 25-year event  
Inflow = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af  
Outflow = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af, Atten= 0%, Lag= 0.0 min  
Primary = 18.95 cfs @ 12.09 hrs, Volume= 0.444 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.14' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.64'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.64' / 54.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=18.26 cfs @ 12.09 hrs HW=58.98' (Free Discharge)

↑1=Culvert (Inlet Controls 18.26 cfs @ 5.81 fps)

**Summary for Pond GSF 11: grassed soil filter**

Inflow Area = 0.991 ac, 36.78% Impervious, Inflow Depth > 3.15" for 25-year event  
Inflow = 3.79 cfs @ 12.09 hrs, Volume= 0.260 af  
Outflow = 3.35 cfs @ 12.13 hrs, Volume= 0.202 af, Atten= 12%, Lag= 2.7 min  
Primary = 3.35 cfs @ 12.13 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.26' @ 12.14 hrs Surf.Area= 2,929 sf Storage= 3,223 cf  
Flood Elev= 63.00' Surf.Area= 3,400 sf Storage= 5,560 cf

Plug-Flow detention time= 93.9 min calculated for 0.202 af (77% of inflow)  
Center-of-Mass det. time= 38.2 min ( 817.0 - 778.8 )

Volume	Invert	Avail.Storage	Storage Description			
#1	61.00'	5,560 cf	<b>gsf11 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
61.00	2,200	181.0	0	0	2,200	
62.00	2,771	200.0	2,480	2,480	2,807	
63.00	3,400	219.0	3,080	5,560	3,474	

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Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0085 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. cb19 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=3.32 cfs @ 12.13 hrs HW=62.26' (Free Discharge)

↑1=Culvert (Passes 3.32 cfs of 5.75 cfs potential flow)

↑2=cb19 (Orifice Controls 3.32 cfs @ 2.44 fps)

**Summary for Pond GSF 12: grassed soil filter**

Inflow Area = 0.297 ac, 57.98% Impervious, Inflow Depth > 3.64" for 25-year event  
 Inflow = 1.28 cfs @ 12.09 hrs, Volume= 0.090 af  
 Outflow = 1.24 cfs @ 12.11 hrs, Volume= 0.079 af, Atten= 3%, Lag= 1.3 min  
 Primary = 1.24 cfs @ 12.11 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 61.63' @ 12.11 hrs Surf.Area= 1,079 sf Storage= 619 cf  
 Flood Elev= 62.50' Surf.Area= 1,368 sf Storage= 1,681 cf

Plug-Flow detention time= 66.8 min calculated for 0.079 af (87% of inflow)  
 Center-of-Mass det. time= 29.0 min ( 794.5 - 765.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	1,681 cf	<b>gsf12 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	886	151.0	0	0	886
62.00	1,201	164.0	1,040	1,040	1,248
62.50	1,368	170.0	642	1,681	1,428

Device	Routing	Invert	Outlet Devices
#1	Primary	58.20'	<b>8.0" Round Culvert</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.20' / 58.10' S= 0.0048 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.50'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.21 cfs @ 12.11 hrs HW=61.63' (Free Discharge)

↑1=Culvert (Passes 1.21 cfs of 2.33 cfs potential flow)

↑2=Catch Basin (Weir Controls 1.21 cfs @ 1.18 fps)

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**Summary for Pond GSF 13: grassed soil filter**

Inflow Area = 1.037 ac, 46.46% Impervious, Inflow Depth > 3.34" for 25-year event  
Inflow = 4.18 cfs @ 12.09 hrs, Volume= 0.289 af  
Outflow = 3.42 cfs @ 12.15 hrs, Volume= 0.219 af, Atten= 18%, Lag= 3.5 min  
Primary = 3.42 cfs @ 12.15 hrs, Volume= 0.219 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.27' @ 12.15 hrs Surf.Area= 3,791 sf Storage= 3,989 cf  
Flood Elev= 63.00' Surf.Area= 4,582 sf Storage= 7,028 cf

Plug-Flow detention time= 101.7 min calculated for 0.218 af (75% of inflow)  
Center-of-Mass det. time= 43.4 min ( 817.2 - 773.8 )

Volume	Invert	Avail.Storage	Storage Description		
#1	61.00'	7,028 cf	<b>gsf13 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	2,500	328.0	0	0	2,500
62.00	3,513	347.0	2,992	2,992	3,575
63.00	4,582	366.0	4,036	7,028	4,710

Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. db18 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=3.42 cfs @ 12.15 hrs HW=62.27' (Free Discharge)

↑1=Culvert (Passes 3.42 cfs of 5.76 cfs potential flow)

↑2=db18 (Orifice Controls 3.42 cfs @ 2.51 fps)

**Summary for Pond GSF 15: grassed soil filter**

Inflow Area = 0.210 ac, 1.92% Impervious, Inflow Depth > 2.34" for 25-year event  
Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.041 af  
Outflow = 0.59 cfs @ 12.11 hrs, Volume= 0.038 af, Atten= 2%, Lag= 1.1 min  
Primary = 0.59 cfs @ 12.11 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.78' @ 12.11 hrs Surf.Area= 739 sf Storage= 187 cf  
Flood Elev= 65.00' Surf.Area= 1,418 sf Storage= 1,489 cf

Plug-Flow detention time= 38.3 min calculated for 0.038 af (92% of inflow)  
Center-of-Mass det. time= 13.4 min ( 811.4 - 798.0 )

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Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	1,489 cf	<b>gsf15 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	600	168.0	0	0	600
64.00	858	177.0	363	363	862
65.00	1,418	196.0	1,126	1,489	1,456

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.52' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	63.70'	<b>2.0" x 2.0" Horiz. cb9 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.58 cfs @ 12.11 hrs HW=63.78' (Free Discharge)

↑1=Culvert (Passes 0.58 cfs of 2.20 cfs potential flow)

↑2=cb9 (Weir Controls 0.58 cfs @ 0.92 fps)

**Summary for Pond GSF 16: grassed soil filter**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 3.05" for 25-year event  
 Inflow = 1.29 cfs @ 12.09 hrs, Volume= 0.088 af  
 Outflow = 0.11 cfs @ 13.26 hrs, Volume= 0.029 af, Atten= 92%, Lag= 70.0 min  
 Primary = 0.11 cfs @ 13.26 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 64.42' @ 13.26 hrs Surf.Area= 2,212 sf Storage= 2,631 cf

Plug-Flow detention time= 246.0 min calculated for 0.029 af (33% of inflow)  
 Center-of-Mass det. time= 148.3 min ( 929.4 - 781.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	62.75'	4,054 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
62.75	1,000	215.0	0	0	1,000
63.00	1,165	220.0	270	270	1,181
64.00	1,858	241.0	1,498	1,768	1,986
65.00	2,741	270.0	2,285	4,054	3,192

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.54' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	64.40'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b>

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C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.10 cfs @ 13.26 hrs HW=64.42' (Free Discharge)

↑1=Culvert (Passes 0.10 cfs of 2.44 cfs potential flow)

↑2=Catch Basin (Weir Controls 0.10 cfs @ 0.51 fps)

**Summary for Pond GSF 18A: grassed soil filter**

Inflow Area = 0.146 ac, 40.91% Impervious, Inflow Depth > 3.24" for 25-year event  
Inflow = 0.57 cfs @ 12.09 hrs, Volume= 0.039 af  
Outflow = 0.54 cfs @ 12.12 hrs, Volume= 0.030 af, Atten= 6%, Lag= 1.8 min  
Primary = 0.54 cfs @ 12.12 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.48' @ 12.12 hrs Surf.Area= 1,162 sf Storage= 489 cf

Plug-Flow detention time= 98.4 min calculated for 0.030 af (76% of inflow)  
Center-of-Mass det. time= 40.1 min ( 816.4 - 776.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	1,183 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	900	183.0	0	0	900
58.00	1,490	202.0	1,183	1,183	1,513

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.40'	<b>2.0" x 2.0" Horiz. cb24 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.52 cfs @ 12.12 hrs HW=57.47' (Free Discharge)

↑1=Culvert (Passes 0.52 cfs of 2.35 cfs potential flow)

↑2=cb24 (Weir Controls 0.52 cfs @ 0.89 fps)

**Summary for Pond GSF 18B: grassed soil filter**

Inflow Area = 0.092 ac, 58.36% Impervious, Inflow Depth > 3.64" for 25-year event  
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.028 af  
Outflow = 0.39 cfs @ 12.11 hrs, Volume= 0.019 af, Atten= 2%, Lag= 1.0 min  
Primary = 0.39 cfs @ 12.11 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.96' @ 12.11 hrs Surf.Area= 573 sf Storage= 407 cf

Plug-Flow detention time= 117.5 min calculated for 0.019 af (69% of inflow)

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Center-of-Mass det. time= 51.8 min ( 817.4 - 765.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	430 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	290	88.0	0	0	290
58.00	587	107.0	430	430	601

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.90'	<b>2.0" x 2.0" Horiz. cb23 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.39 cfs @ 12.11 hrs HW=57.96' (Free Discharge)

↑1=Culvert (Passes 0.39 cfs of 2.53 cfs potential flow)

↑2=cb23 (Weir Controls 0.39 cfs @ 0.80 fps)

**Summary for Pond GSF 1A: Grassed soil filter**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 3.24" for 25-year event  
 Inflow = 1.60 cfs @ 12.09 hrs, Volume= 0.110 af  
 Outflow = 1.49 cfs @ 12.12 hrs, Volume= 0.110 af, Atten= 7%, Lag= 1.7 min  
 Primary = 1.49 cfs @ 12.12 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 65.90' @ 12.12 hrs Surf.Area= 1,702 sf Storage= 244 cf  
 Flood Elev= 68.00' Surf.Area= 3,488 sf Storage= 5,554 cf

Plug-Flow detention time= 4.8 min calculated for 0.110 af (100% of inflow)  
 Center-of-Mass det. time= 4.0 min ( 780.3 - 776.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	5,554 cf	<b>Grassed Underdrain Soil Filter (Irregular)</b> listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	1,600	234.0	0	0	1,600
66.00	1,775	239.0	422	422	1,797
67.00	2,525	261.0	2,139	2,561	2,708
68.00	3,488	286.0	2,994	5,554	3,830

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.26' S= 0.0200 '/ Cc= 0.900

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#2 Device 1 65.75' n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf  
**2.0" x 2.0" Horiz. Orifice/Grate X 49.00**  
 C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=1.44 cfs @ 12.12 hrs HW=65.90' (Free Discharge)**

↑1=Culvert (Passes 1.44 cfs of 2.21 cfs potential flow)  
 ↑2=Orifice/Grate (Weir Controls 1.44 cfs @ 1.25 fps)

**Summary for Pond GSF 1B: grassed soil filter**

Inflow Area = 0.781 ac, 20.08% Impervious, Inflow Depth > 2.78" for 25-year event  
 Inflow = 2.67 cfs @ 12.09 hrs, Volume= 0.181 af  
 Outflow = 2.58 cfs @ 12.09 hrs, Volume= 0.156 af, Atten= 3%, Lag= 0.0 min  
 Primary = 2.58 cfs @ 12.09 hrs, Volume= 0.156 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 67.11' @ 12.09 hrs Surf.Area= 1,576 sf Storage= 1,039 cf  
 Flood Elev= 67.00' Surf.Area= 1,576 sf Storage= 1,039 cf

Plug-Flow detention time= 63.5 min calculated for 0.156 af (86% of inflow)  
 Center-of-Mass det. time= 22.6 min ( 810.3 - 787.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.00'	1,039 cf	<b>gsf1B (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.00	583	194.0	0	0	583
67.00	1,576	297.0	1,039	1,039	4,615

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.60' S= 0.0100 ' / Cc= 0.900
#2	Device 1	66.90'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. CB17 grate X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=2.54 cfs @ 12.09 hrs HW=67.11' (Free Discharge)**

↑1=Culvert (Passes 2.54 cfs of 2.65 cfs potential flow)  
 ↑2=CB17 grate (Weir Controls 2.54 cfs @ 1.50 fps)

**Summary for Pond GSF 2: grassed soil filter**

Inflow Area = 0.713 ac, 25.93% Impervious, Inflow Depth > 2.87" for 25-year event  
 Inflow = 2.51 cfs @ 12.09 hrs, Volume= 0.170 af  
 Outflow = 2.29 cfs @ 12.13 hrs, Volume= 0.135 af, Atten= 9%, Lag= 2.2 min  
 Primary = 2.29 cfs @ 12.13 hrs, Volume= 0.135 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 57.80' @ 12.13 hrs Surf.Area= 2,219 sf Storage= 1,940 cf

Flood Elev= 59.00' Surf.Area= 3,488 sf Storage= 5,317 cf

Plug-Flow detention time= 87.3 min calculated for 0.135 af (79% of inflow)

Center-of-Mass det. time= 33.8 min ( 819.4 - 785.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.75'	5,317 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.75	1,500	218.0	0	0	1,500
57.00	1,669	223.0	396	396	1,684
58.00	2,371	245.0	2,010	2,406	2,536
59.00	3,488	283.0	2,912	5,317	4,154

Device	Routing	Invert	Outlet Devices
#1	Primary	53.95'	<b>8.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.95' / 53.76' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb20 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.24 cfs @ 12.13 hrs HW=57.79' (Free Discharge)

↑1=Culvert (Passes 2.24 cfs of 2.49 cfs potential flow)

↑2=cb20 (Weir Controls 2.24 cfs @ 1.44 fps)

**Summary for Pond GSF 24: grassed soil filter**

Inflow Area = 0.419 ac, 67.19% Impervious, Inflow Depth &gt; 4.06" for 25-year event

Inflow = 1.95 cfs @ 12.09 hrs, Volume= 0.142 af

Outflow = 1.83 cfs @ 12.12 hrs, Volume= 0.110 af, Atten= 6%, Lag= 1.8 min

Primary = 1.83 cfs @ 12.12 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 40.77' @ 12.12 hrs Surf.Area= 1,892 sf Storage= 1,673 cf

Plug-Flow detention time= 105.0 min calculated for 0.110 af (78% of inflow)

Center-of-Mass det. time= 49.0 min ( 801.2 - 752.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.75'	4,479 cf	<b>gsf24 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
39.75	1,400	150.0	0	0	1,400
40.00	1,516	156.0	364	364	1,551
41.00	2,013	176.0	1,759	2,123	2,105
42.00	2,717	200.0	2,356	4,479	2,847

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Device	Routing	Invert	Outlet Devices
#1	Primary	36.80'	<b>8.0" Round Culvert</b> L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 36.80' / 36.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	40.60'	<b>2.0" x 2.0" Horiz. cb32 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.77 cfs @ 12.12 hrs HW=40.77' (Free Discharge)

↑1=Culvert (Passes 1.77 cfs of 2.53 cfs potential flow)

↑2=cb32 (Weir Controls 1.77 cfs @ 1.33 fps)

**Summary for Pond GSF 3: grassed soil filter**

Inflow Area = 0.830 ac, 36.22% Impervious, Inflow Depth > 3.05" for 25-year event  
 Inflow = 3.09 cfs @ 12.09 hrs, Volume= 0.211 af  
 Outflow = 2.75 cfs @ 12.13 hrs, Volume= 0.164 af, Atten= 11%, Lag= 2.4 min  
 Primary = 2.75 cfs @ 12.13 hrs, Volume= 0.164 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 55.97' @ 12.13 hrs Surf.Area= 2,631 sf Storage= 2,570 cf  
 Flood Elev= 57.00' Surf.Area= 3,839 sf Storage= 5,872 cf

Plug-Flow detention time= 92.6 min calculated for 0.164 af (78% of inflow)  
 Center-of-Mass det. time= 37.1 min ( 818.2 - 781.1 )

Volume	Invert	Avail.Storage	Storage Description		
#1	54.75'	5,872 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.75	1,600	268.0	0	0	1,600
55.00	1,804	274.0	425	425	1,868
56.00	2,657	295.0	2,217	2,642	2,860
57.00	3,839	332.0	3,230	5,872	4,733

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>12.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 51.84' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	55.75'	<b>2.0" x 2.0" Horiz. cb25 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.69 cfs @ 12.13 hrs HW=55.97' (Free Discharge)

↑1=Culvert (Passes 2.69 cfs of 5.58 cfs potential flow)

↑2=cb25 (Weir Controls 2.69 cfs @ 1.53 fps)

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**Summary for Pond GSF 4: grassed soil filter**

Inflow Area = 0.194 ac, 0.00% Impervious, Inflow Depth > 2.34" for 25-year event  
Inflow = 0.56 cfs @ 12.09 hrs, Volume= 0.038 af  
Outflow = 0.57 cfs @ 12.12 hrs, Volume= 0.030 af, Atten= 0%, Lag= 1.3 min  
Primary = 0.57 cfs @ 12.12 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.18' @ 12.12 hrs Surf.Area= 680 sf Storage= 385 cf  
Flood Elev= 56.00' Surf.Area= 974 sf Storage= 1,061 cf

Plug-Flow detention time= 82.4 min calculated for 0.030 af (79% of inflow)  
Center-of-Mass det. time= 29.0 min ( 827.1 - 798.0 )

Volume	Invert	Avail.Storage	Storage Description		
#1	54.50'	1,061 cf	<b>gsf4 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.50	457	163.0	0	0	457
55.00	623	169.0	269	269	636
56.00	974	182.0	792	1,061	1,039

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>8.0" Round Culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.56' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	55.10'	<b>2.0" x 2.0" Horiz. cb26 rim X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.54 cfs @ 12.12 hrs HW=55.18' (Free Discharge)

↑1=Culvert (Passes 0.54 cfs of 2.34 cfs potential flow)

↑2=cb26 rim (Weir Controls 0.54 cfs @ 0.90 fps)

**Summary for Pond GSF 5: grassed soil filter**

Inflow Area = 0.248 ac, 0.00% Impervious, Inflow Depth > 2.34" for 25-year event  
Inflow = 0.72 cfs @ 12.09 hrs, Volume= 0.048 af  
Outflow = 0.72 cfs @ 12.10 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.1 min  
Primary = 0.72 cfs @ 12.10 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.00' @ 12.10 hrs Surf.Area= 602 sf Storage= 2 cf  
Flood Elev= 55.00' Surf.Area= 1,257 sf Storage= 908 cf

Plug-Flow detention time= 0.0 min calculated for 0.048 af (100% of inflow)  
Center-of-Mass det. time= 0.0 min ( 798.1 - 798.0 )

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Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	908 cf	<b>gsf5 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	600	210.0	0	0	600
55.00	1,257	228.0	908	908	1,265

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.95' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	54.60'	<b>2.0" x 2.0" Horiz. Catch Basin</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=2.17 cfs @ 12.10 hrs HW=54.00' (Free Discharge)

- 1=Culvert (Inlet Controls 2.17 cfs @ 6.21 fps)
- 2=Catch Basin ( Controls 0.00 cfs)

**Summary for Pond GSF 6: grassed soil filter**

Inflow Area = 0.321 ac, 32.06% Impervious, Inflow Depth > 3.05" for 25-year event  
 Inflow = 1.20 cfs @ 12.09 hrs, Volume= 0.082 af  
 Outflow = 1.20 cfs @ 12.09 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.20 cfs @ 12.09 hrs, Volume= 0.082 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.00' @ 12.09 hrs Surf.Area= 1,001 sf Storage= 1 cf  
 Flood Elev= 50.00' Surf.Area= 1,768 sf Storage= 1,366 cf

Plug-Flow detention time= 0.0 min calculated for 0.082 af (100% of inflow)  
 Center-of-Mass det. time= 0.0 min ( 781.1 - 781.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	1,366 cf	<b>gsf6 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
49.00	1,000	156.0	0	0	1,000
50.00	1,768	184.0	1,366	1,366	1,776

Device	Routing	Invert	Outlet Devices
#1	Primary	44.70'	<b>8.0" Round culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.70' / 44.53' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	48.20'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

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**Primary OutFlow** Max=8.51 cfs @ 12.09 hrs HW=49.00' (Free Discharge)

↑1=culvert (Inlet Controls 2.64 cfs @ 7.57 fps)

↑2=Catch Basin (Orifice Controls 5.87 cfs @ 4.31 fps)

**Summary for Pond GSF 7: grassed soil filter**

Inflow Area = 0.697 ac, 25.86% Impervious, Inflow Depth > 2.87" for 25-year event  
Inflow = 2.45 cfs @ 12.09 hrs, Volume= 0.167 af  
Outflow = 1.96 cfs @ 12.16 hrs, Volume= 0.125 af, Atten= 20%, Lag= 4.1 min  
Primary = 1.96 cfs @ 12.16 hrs, Volume= 0.125 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Peak Elev= 54.88' @ 12.16 hrs Surf.Area= 3,272 sf Storage= 2,309 cf  
Flood Elev= 56.00' Surf.Area= 5,203 sf Storage= 7,026 cf

Plug-Flow detention time= 100.7 min calculated for 0.125 af (75% of inflow)  
Center-of-Mass det. time= 40.7 min ( 826.3 - 785.6 )

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	7,026 cf	<b>gsf7 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	2,037	220.0	0	0	2,037	
55.00	3,467	289.0	2,720	2,720	4,843	
56.00	5,203	357.0	4,306	7,026	8,354	

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>8.0" Round cb29</b> L= 26.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.48' S= 0.0200 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	54.70'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.92 cfs @ 12.16 hrs HW=54.88' (Free Discharge)

↑1=cb29 (Passes 1.92 cfs of 2.50 cfs potential flow)

↑2=Catch Basin (Weir Controls 1.92 cfs @ 1.37 fps)

**Summary for Pond GSF 8: grassed soil filter**

Inflow Area = 1.046 ac, 55.78% Impervious, Inflow Depth > 3.54" for 25-year event  
Inflow = 4.41 cfs @ 12.09 hrs, Volume= 0.309 af  
Outflow = 2.64 cfs @ 12.21 hrs, Volume= 0.233 af, Atten= 40%, Lag= 7.0 min  
Primary = 2.64 cfs @ 12.21 hrs, Volume= 0.233 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.00' @ 12.21 hrs Surf.Area= 3,559 sf Storage= 4,598 cf  
Flood Elev= 58.50' Surf.Area= 3,910 sf Storage= 6,471 cf

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Plug-Flow detention time= 105.6 min calculated for 0.233 af (75% of inflow)

Center-of-Mass det. time= 46.2 min ( 814.7 - 768.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	6,471 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.50	2,600	200.0	0	0	2,600
57.50	3,227	218.0	2,908	2,908	3,234
58.50	3,910	237.0	3,563	6,471	3,959

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.50' / 52.93' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb10 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.64 cfs @ 12.21 hrs HW=58.00' (Free Discharge)

↑1=Culvert (Barrel Controls 2.64 cfs @ 7.55 fps)

↑2=cb10 (Passes 2.64 cfs of 4.13 cfs potential flow)

**Summary for Pond GSF 9: grassed soil filter**

Inflow Area = 0.647 ac, 63.29% Impervious, Inflow Depth > 3.74" for 25-year event  
 Inflow = 2.85 cfs @ 12.09 hrs, Volume= 0.202 af  
 Outflow = 2.72 cfs @ 12.10 hrs, Volume= 0.202 af, Atten= 5%, Lag= 0.5 min  
 Primary = 2.72 cfs @ 12.10 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 63.52' @ 12.10 hrs Surf.Area= 1,927 sf Storage= 42 cf  
 Flood Elev= 65.00' Surf.Area= 3,935 sf Storage= 4,339 cf

Plug-Flow detention time= 0.2 min calculated for 0.201 af (100% of inflow)

Center-of-Mass det. time= 0.2 min ( 762.7 - 762.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	4,339 cf	<b>gsf9 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	1,900	437.0	0	0	1,900
64.00	2,567	446.0	1,113	1,113	2,570
65.00	3,935	465.0	3,227	4,339	4,021

Device	Routing	Invert	Outlet Devices
#1	Primary	59.00'	<b>8.0" Round Culvert</b> L= 54.0' CPP, projecting, no headwall, Ke= 0.900

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#2	Device 1	63.00'	Inlet / Outlet Invert= 59.00' / 57.92' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. cb6 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads
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**Primary OutFlow** Max=2.72 cfs @ 12.10 hrs HW=63.52' (Free Discharge)

↑1=Culvert (Inlet Controls 2.72 cfs @ 7.78 fps)

↑2=cb6 (Passes 2.72 cfs of 4.73 cfs potential flow)

**Summary for Pond ICS1: ICS**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event
Inflow =	12.84 cfs @ 12.09 hrs, Volume= 1.020 af
Outflow =	12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min
Primary =	8.18 cfs @ 12.09 hrs, Volume= 0.144 af
Secondary =	4.66 cfs @ 12.09 hrs, Volume= 0.876 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 66.89' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	<b>18.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 63.27' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	66.15'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	63.95'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.95' / 63.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.85 cfs @ 12.09 hrs HW=66.87' (Free Discharge)

↑1=Culvert (Passes 7.85 cfs of 10.87 cfs potential flow)

↑2=Broad-Crested Rectangular Weir (Weir Controls 7.85 cfs @ 2.72 fps)

**Secondary OutFlow** Max=4.64 cfs @ 12.09 hrs HW=66.87' (Free Discharge)

↑3=Culvert (Inlet Controls 4.64 cfs @ 5.91 fps)

**Summary for Pond ics28: ICS28**

Inflow Area =	0.275 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event
Inflow =	1.37 cfs @ 12.09 hrs, Volume= 0.109 af
Outflow =	1.37 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
Primary =	1.37 cfs @ 12.09 hrs, Volume= 0.109 af
Secondary =	0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 58.72' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.00' / 57.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	60.50'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	58.15'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.15' / 58.12' S= 0.0060 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.33 cfs @ 12.09 hrs HW=58.71' (Free Discharge)

- ↑1=Culvert (Inlet Controls 0.81 cfs @ 2.32 fps)
- ↑3=Culvert (Barrel Controls 0.52 cfs @ 2.26 fps)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=58.01' (Free Discharge)

- ↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Pond ICS37: ISC37**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event
Inflow =	12.84 cfs @ 12.09 hrs, Volume= 1.020 af
Outflow =	12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min
Primary =	8.18 cfs @ 12.09 hrs, Volume= 0.144 af
Secondary =	4.66 cfs @ 12.09 hrs, Volume= 0.876 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 55.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.50'	<b>18.0" Round Culvert</b> L= 51.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.50' / 52.00' S= 0.0098 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

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**Primary OutFlow** Max=7.85 cfs @ 12.09 hrs HW=55.72' (Free Discharge)

└─1=Culvert (Passes 7.85 cfs of 10.56 cfs potential flow)

└─2=Broad-Crested Rectangular Weir (Weir Controls 7.85 cfs @ 2.72 fps)

**Secondary OutFlow** Max=4.64 cfs @ 12.09 hrs HW=55.72' (Free Discharge)

└─3=Culvert (Inlet Controls 4.64 cfs @ 5.91 fps)

**Summary for Pond ics46: ICS46**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 4.73"	for 25-year event
Inflow =	12.84 cfs @ 12.09 hrs, Volume=	1.020 af
Outflow =	12.84 cfs @ 12.09 hrs, Volume=	1.020 af, Atten= 0%, Lag= 0.0 min
Primary =	8.18 cfs @ 12.09 hrs, Volume=	0.144 af
Secondary =	4.66 cfs @ 12.09 hrs, Volume=	0.876 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	<b>18.0" Round Culvert</b> L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.20' / 46.00' S= 0.0091 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	49.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	46.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 46.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.85 cfs @ 12.09 hrs HW=49.72' (Free Discharge)

└─1=Culvert (Passes 7.85 cfs of 11.18 cfs potential flow)

└─2=Broad-Crested Rectangular Weir (Weir Controls 7.85 cfs @ 2.72 fps)

**Secondary OutFlow** Max=4.64 cfs @ 12.09 hrs HW=49.72' (Free Discharge)

└─3=Culvert (Inlet Controls 4.64 cfs @ 5.91 fps)

**Summary for Pond ICS9: ICS9**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 4.73"	for 25-year event
Inflow =	12.84 cfs @ 12.09 hrs, Volume=	1.020 af
Outflow =	12.84 cfs @ 12.09 hrs, Volume=	1.020 af, Atten= 0%, Lag= 0.0 min
Primary =	8.20 cfs @ 12.09 hrs, Volume=	0.145 af
Secondary =	4.64 cfs @ 12.09 hrs, Volume=	0.875 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 64.92' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.70'	<b>18.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.70' / 61.00' S= 0.0500 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	64.18'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	62.00'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.65' S= 0.0700 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=7.86 cfs @ 12.09 hrs HW=64.90' (Free Discharge)

↑1=Culvert (Passes 7.86 cfs of 10.52 cfs potential flow)

↑2=Broad-Crested Rectangular Weir(Weir Controls 7.86 cfs @ 2.73 fps)

**Secondary OutFlow** Max=4.63 cfs @ 12.09 hrs HW=64.90' (Free Discharge)

↑3=Culvert (Inlet Controls 4.63 cfs @ 5.89 fps)

**Summary for Pond ISC42: ICS42**

Device	Routing	Invert	Outlet Devices
#1	Primary	52.20'	<b>18.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.20' / 51.88' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.37'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑1=Culvert ( Controls 0.00 cfs)

↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑3=Culvert ( Controls 0.00 cfs)

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### Summary for Pond MPP 10: Rtank storage

Inflow Area = 0.710 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 3.53 cfs @ 12.09 hrs, Volume= 0.280 af  
Outflow = 2.16 cfs @ 12.20 hrs, Volume= 0.255 af, Atten= 39%, Lag= 6.7 min  
Primary = 2.16 cfs @ 12.20 hrs, Volume= 0.255 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.85' @ 12.20 hrs Surf.Area= 0.179 ac Storage= 0.075 af

Plug-Flow detention time= 91.0 min calculated for 0.255 af (91% of inflow)  
Center-of-Mass det. time= 57.8 min ( 777.9 - 720.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	61.23'	0.091 af	<b>6.25'W x 1,248.97'L x 1.94'H Field A</b> 0.347 af Overall - 0.118 af Embedded = 0.229 af x 40.0% Voids
#2A	61.48'	0.112 af	<b>ACF R-Tank HD 0.5 x 2128 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 4 Rows of 532 Chambers
		0.204 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	61.48'	<b>8.0" Round Culvert X 6.00</b> L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.48' / 61.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=2.16 cfs @ 12.20 hrs HW=61.85' (Free Discharge)  
↑**1=Culvert** (Barrel Controls 2.16 cfs @ 2.61 fps)

### Summary for Pond MPP 14: Rtanks

Inflow Area = 0.215 ac, 94.36% Impervious, Inflow Depth > 4.62" for 25-year event  
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 0.083 af  
Outflow = 0.68 cfs @ 12.19 hrs, Volume= 0.076 af, Atten= 36%, Lag= 6.2 min  
Primary = 0.68 cfs @ 12.19 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.65' @ 12.19 hrs Surf.Area= 1,935 sf Storage= 927 cf  
Flood Elev= 60.50' Surf.Area= 1,935 sf Storage= 2,354 cf

Plug-Flow detention time= 82.0 min calculated for 0.076 af (92% of inflow)  
Center-of-Mass det. time= 52.1 min ( 779.5 - 727.4 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	55.98'	1,011 cf	<b>15.44'W x 125.33'L x 2.04'H Field A</b> 3,941 cf Overall - 1,413 cf Embedded = 2,528 cf x 40.0% Voids
#2A	56.23'	1,343 cf	<b>ACF R-Tank HD 0.5 x 583 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 11 Rows of 53 Chambers
		2,354 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	56.23'	<b>8.0" Round Culvert X 2.00</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.23' / 56.12' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.67 cfs @ 12.19 hrs HW=56.65' (Free Discharge)

↑1=Culvert (Barrel Controls 0.67 cfs @ 2.11 fps)

**Summary for Pond MPP 19: Rtanks**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 4.28" for 25-year event  
 Inflow = 1.51 cfs @ 12.09 hrs, Volume= 0.112 af  
 Outflow = 0.43 cfs @ 12.35 hrs, Volume= 0.096 af, Atten= 71%, Lag= 15.8 min  
 Primary = 0.43 cfs @ 12.35 hrs, Volume= 0.096 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.73' @ 12.42 hrs Surf.Area= 0.074 ac Storage= 0.052 af

Plug-Flow detention time= 134.0 min calculated for 0.096 af (85% of inflow)  
Center-of-Mass det. time= 90.7 min ( 834.6 - 743.8 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.83'	0.033 af	<b>18.06'W x 179.28'L x 1.84'H Field A</b> 0.137 af Overall - 0.055 af Embedded = 0.082 af x 40.0% Voids
#2A	55.08'	0.052 af	<b>ACF R-Tank HD 0.5 x 988 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 76 Chambers
		0.085 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.08'	<b>6.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.08' / 55.00' S= 0.0042 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

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**Primary OutFlow** Max=0.43 cfs @ 12.35 hrs HW=55.73' (Free Discharge)

↑1=Culvert (Barrel Controls 0.43 cfs @ 2.20 fps)

**Summary for Pond MPP 21: Rtanks**

Inflow Area = 0.229 ac, 83.66% Impervious, Inflow Depth > 4.28" for 25-year event  
Inflow = 1.10 cfs @ 12.09 hrs, Volume= 0.082 af  
Outflow = 0.51 cfs @ 12.26 hrs, Volume= 0.075 af, Atten= 53%, Lag= 10.4 min  
Primary = 0.51 cfs @ 12.26 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.45' @ 12.26 hrs Surf.Area= 1,510 sf Storage= 1,147 cf

Plug-Flow detention time= 84.7 min calculated for 0.075 af (91% of inflow)  
Center-of-Mass det. time= 55.5 min ( 799.4 - 743.8 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.48'	818 cf	<b>16.75'W x 90.14'L x 2.09'H Field A</b> 3,151 cf Overall - 1,105 cf Embedded = 2,046 cf x 40.0% Voids
#2A	54.73'	1,050 cf	<b>ACF R-Tank HD 0.5 x 456 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 38 Chambers
		1,868 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.73'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.73' / 54.73' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.51 cfs @ 12.26 hrs HW=55.45' (Free Discharge)

↑1=Culvert (Inlet Controls 0.51 cfs @ 2.61 fps)

**Summary for Pond MPP 22: Rtanks**

Inflow Area = 0.310 ac, 76.43% Impervious, Inflow Depth > 4.06" for 25-year event  
Inflow = 1.44 cfs @ 12.09 hrs, Volume= 0.105 af  
Outflow = 0.44 cfs @ 12.41 hrs, Volume= 0.089 af, Atten= 69%, Lag= 19.0 min  
Primary = 0.44 cfs @ 12.41 hrs, Volume= 0.089 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.70' @ 12.41 hrs Surf.Area= 3,003 sf Storage= 2,091 cf

Plug-Flow detention time= 128.7 min calculated for 0.089 af (85% of inflow)  
Center-of-Mass det. time= 84.8 min ( 837.0 - 752.2 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	54.80'	1,262 cf	<b>16.75'W x 179.28'L x 1.79'H Field A</b> 5,367 cf Overall - 2,211 cf Embedded = 3,156 cf x 40.0% Voids
#2A	55.05'	2,100 cf	<b>ACF R-Tank HD 0.5 x 912 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 76 Chambers
		3,363 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.05'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.05' / 55.05' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.44 cfs @ 12.41 hrs HW=55.70' (Free Discharge)

↑1=Culvert (Barrel Controls 0.44 cfs @ 2.27 fps)

**Summary for Pond MPP 26: Rtanks**

Inflow Area = 0.088 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
 Inflow = 0.44 cfs @ 12.09 hrs, Volume= 0.035 af  
 Outflow = 0.24 cfs @ 12.21 hrs, Volume= 0.030 af, Atten= 44%, Lag= 7.6 min  
 Primary = 0.24 cfs @ 12.21 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 34.93' @ 12.21 hrs Surf.Area= 1,289 sf Storage= 499 cf

Plug-Flow detention time= 114.5 min calculated for 0.030 af (88% of inflow)  
Center-of-Mass det. time= 72.8 min ( 792.9 - 720.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	34.37'	492 cf	<b>18.06'W x 71.37'L x 1.69'H Field A</b> 2,175 cf Overall - 945 cf Embedded = 1,230 cf x 40.0% Voids
#2A	34.62'	898 cf	<b>ACF R-Tank HD 0.5 x 390 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 30 Chambers
		1,390 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	34.62'	<b>8.0" Round Culvert</b> L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 34.62' / 34.34' S= 0.0350 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

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**Primary OutFlow** Max=0.24 cfs @ 12.21 hrs HW=34.93' (Free Discharge)

↑1=Culvert (Inlet Controls 0.24 cfs @ 1.51 fps)

**Summary for Pond MPP 50:**

Inflow Area = 0.693 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 3.44 cfs @ 12.09 hrs, Volume= 0.273 af  
Outflow = 2.35 cfs @ 12.18 hrs, Volume= 0.239 af, Atten= 32%, Lag= 5.3 min  
Primary = 2.35 cfs @ 12.18 hrs, Volume= 0.239 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.00' @ 12.18 hrs Surf.Area= 5,946 sf Storage= 3,348 cf

Plug-Flow detention time= 105.7 min calculated for 0.238 af (87% of inflow)  
Center-of-Mass det. time= 63.9 min ( 784.0 - 720.1 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.33'	2,878 cf	<b>4.94'W x 1,204.40'L x 1.84'H Field A</b> 10,925 cf Overall - 3,731 cf Embedded = 7,195 cf x 40.0% Voids
#2A	54.33'	3,544 cf	<b>ACF R-Tank HD 0.5 x 1539 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 3 Rows of 513 Chambers
		6,422 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.58'	<b>8.0" Round Culvert X 7.00</b> L= 3.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.58' / 54.55' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=2.33 cfs @ 12.18 hrs HW=55.00' (Free Discharge)

↑1=Culvert (Barrel Controls 2.33 cfs @ 2.05 fps)

**Summary for Pond mpp30: Rtanks**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 3.23" for 25-year event  
Inflow = 3.99 cfs @ 12.10 hrs, Volume= 0.324 af  
Outflow = 2.56 cfs @ 12.22 hrs, Volume= 0.315 af, Atten= 36%, Lag= 7.7 min  
Primary = 2.56 cfs @ 12.22 hrs, Volume= 0.315 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.84' @ 12.22 hrs Surf.Area= 8,586 sf Storage= 2,006 cf  
Flood Elev= 31.78' Surf.Area= 8,586 sf Storage= 7,539 cf

Plug-Flow detention time= 31.5 min calculated for 0.314 af (97% of inflow)  
Center-of-Mass det. time= 19.8 min ( 784.5 - 764.6 )

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Volume	Invert	Avail.Storage	Storage Description
#1B	30.73'	4,011 cf	<b>8.56'W x 815.99'L x 2.04'H Field B</b> 14,234 cf Overall - 4,206 cf Embedded = 10,028 cf x 40.0% Voids
#2B	30.98'	3,995 cf	<b>ACF R-Tank HD 0.5 x 1735 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 5 Rows of 347 Chambers
#3C	29.28'	259 cf	<b>10.56'W x 74.72'L x 1.69'H Field C</b> 1,337 cf Overall - 689 cf Embedded = 648 cf x 40.0% Voids
#4C	29.53'	654 cf	<b>ACF R-Tank HD 1.0 x 155 Inside #3</b> Inside= 15.7"W x 17.3"H => 1.80 sf x 2.35'L = 4.2 cf Outside= 15.7"W x 17.3"H => 1.89 sf x 2.35'L = 4.4 cf 5 Rows of 31 Chambers
#5D	29.28'	694 cf	<b>10.56'W x 76.72'L x 3.42'H Field D</b> 2,767 cf Overall - 1,033 cf Embedded = 1,734 cf x 40.0% Voids
#6D	29.53'	982 cf	<b>ACF R-Tank HD 1.5 x 155 Inside #5</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 5 Rows of 31 Chambers
		10,595 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Storage Group C created with Chamber Wizard

Storage Group D created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.61'	<b>12.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.61' / 29.00' S= 0.0305'/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.55 cfs @ 12.22 hrs HW=30.84' (Free Discharge)

↑1=Culvert (Inlet Controls 2.55 cfs @ 3.25 fps)

**Summary for Pond OCS57: OCS 57**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 3.14" for 25-year event  
 Inflow = 2.56 cfs @ 12.22 hrs, Volume= 0.315 af  
 Outflow = 2.56 cfs @ 12.22 hrs, Volume= 0.315 af, Atten= 0%, Lag= 0.0 min  
 Primary = 2.56 cfs @ 12.22 hrs, Volume= 0.315 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 30.39' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	<b>18.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 29.30' S= 0.0100'/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

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#2	Device 1	30.07'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	29.53'	<b>2.0" Vert. Orifice/Grate X 2.00 C= 0.600</b>
#4	Primary	29.90'	<b>6.0" W x 2.0" H Vert. Orifice/Grate C= 0.600</b>

**Primary OutFlow** Max=2.55 cfs @ 12.22 hrs HW=30.39' (Free Discharge)

- 1=Culvert (Passes 2.11 cfs of 2.62 cfs potential flow)
- 2=Broad-Crested Rectangular Weir (Weir Controls 2.11 cfs @ 1.63 fps)
- 3=Orifice/Grate (Orifice Controls 0.19 cfs @ 4.25 fps)
- 4=Orifice/Grate (Orifice Controls 0.26 cfs @ 3.08 fps)

**Summary for Pond SSF 36: ssf**

Inflow = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af  
 Primary = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 37:**

Inflow = 4.64 cfs @ 12.09 hrs, Volume= 0.875 af  
 Primary = 4.64 cfs @ 12.09 hrs, Volume= 0.875 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 38: ssf38**

Inflow = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af  
 Primary = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 39:**

Inflow = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af  
 Primary = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 40:**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
 Inflow = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af  
 Primary = 12.84 cfs @ 12.09 hrs, Volume= 1.020 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Pond SSF 41:**

Inflow = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af  
Primary = 4.66 cfs @ 12.09 hrs, Volume= 0.876 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 42:**

Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 43:**

Inflow Area = 0.436 ac, 100.00% Impervious, Inflow Depth > 4.73" for 25-year event  
Inflow = 2.17 cfs @ 12.09 hrs, Volume= 0.172 af  
Primary = 2.17 cfs @ 12.09 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1A:</b>	Runoff Area=17,785 sf 34.88% Impervious Runoff Depth>5.03" Tc=6.0 min CN=84 Runoff=2.43 cfs 0.171 af
<b>Subcatchment1B:</b>	Runoff Area=34,018 sf 20.08% Impervious Runoff Depth>4.48" Tc=6.0 min CN=79 Runoff=4.24 cfs 0.291 af
<b>Subcatchment2:</b>	Runoff Area=31,049 sf 25.93% Impervious Runoff Depth>4.59" Tc=6.0 min CN=80 Runoff=3.95 cfs 0.272 af
<b>Subcatchment3:</b>	Runoff Area=36,147 sf 36.22% Impervious Runoff Depth>4.81" Tc=6.0 min CN=82 Runoff=4.77 cfs 0.332 af
<b>Subcatchment4:</b>	Runoff Area=8,448 sf 0.00% Impervious Runoff Depth>3.94" Tc=6.0 min CN=74 Runoff=0.94 cfs 0.064 af
<b>Subcatchment5:</b>	Runoff Area=10,807 sf 0.00% Impervious Runoff Depth>3.94" Tc=6.0 min CN=74 Runoff=1.20 cfs 0.081 af
<b>Subcatchment6:</b>	Runoff Area=13,985 sf 32.06% Impervious Runoff Depth>4.81" Tc=6.0 min CN=82 Runoff=1.85 cfs 0.129 af
<b>Subcatchment7:</b>	Runoff Area=30,345 sf 25.86% Impervious Runoff Depth>4.59" Tc=6.0 min CN=80 Runoff=3.86 cfs 0.266 af
<b>Subcatchment8:</b>	Runoff Area=45,551 sf 55.78% Impervious Runoff Depth>5.37" Tc=6.0 min CN=87 Runoff=6.53 cfs 0.468 af
<b>Subcatchment9:</b>	Runoff Area=28,191 sf 63.29% Impervious Runoff Depth>5.59" Tc=6.0 min CN=89 Runoff=4.15 cfs 0.302 af
<b>Subcatchment10: access drive north of</b>	Runoff Area=30,932 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=4.90 cfs 0.393 af
<b>Subcatchment11:</b>	Runoff Area=43,174 sf 36.78% Impervious Runoff Depth>4.92" Tc=6.0 min CN=83 Runoff=5.81 cfs 0.406 af
<b>Subcatchment12:</b>	Runoff Area=12,920 sf 57.98% Impervious Runoff Depth>5.48" Tc=6.0 min CN=88 Runoff=1.88 cfs 0.135 af
<b>Subcatchment13:</b>	Runoff Area=45,163 sf 46.46% Impervious Runoff Depth>5.14" Tc=6.0 min CN=85 Runoff=6.28 cfs 0.444 af
<b>Subcatchment14:</b>	Runoff Area=9,378 sf 94.36% Impervious Runoff Depth>6.53" Tc=6.0 min CN=97 Runoff=1.48 cfs 0.117 af
<b>Subcatchment15:</b>	Runoff Area=9,157 sf 1.92% Impervious Runoff Depth>3.94" Tc=6.0 min CN=74 Runoff=1.02 cfs 0.069 af

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<b>Subcatchment16:</b>	Runoff Area=15,110 sf 34.16% Impervious Runoff Depth>4.81" Tc=6.0 min CN=82 Runoff=2.00 cfs 0.139 af
<b>Subcatchment17:</b>	Runoff Area=13,300 sf 85.11% Impervious Runoff Depth>6.17" Tc=6.0 min CN=94 Runoff=2.06 cfs 0.157 af
<b>Subcatchment18A:</b>	Runoff Area=6,339 sf 40.91% Impervious Runoff Depth>5.03" Tc=6.0 min CN=84 Runoff=0.87 cfs 0.061 af
<b>Subcatchment18B:</b>	Runoff Area=4,023 sf 58.36% Impervious Runoff Depth>5.48" Tc=6.0 min CN=88 Runoff=0.58 cfs 0.042 af
<b>Subcatchment19:</b>	Runoff Area=13,711 sf 81.76% Impervious Runoff Depth>6.17" Tc=6.0 min CN=94 Runoff=2.12 cfs 0.162 af
<b>Subcatchment20:</b>	Runoff Area=28,459 sf 73.83% Impervious Runoff Depth>5.94" Tc=6.0 min CN=92 Runoff=4.33 cfs 0.323 af
<b>Subcatchment21:</b>	Runoff Area=9,994 sf 83.66% Impervious Runoff Depth>6.17" Tc=6.0 min CN=94 Runoff=1.55 cfs 0.118 af
<b>Subcatchment22:</b>	Runoff Area=13,511 sf 76.43% Impervious Runoff Depth>5.94" Tc=6.0 min CN=92 Runoff=2.06 cfs 0.154 af
<b>Subcatchment23: sub 23</b>	Runoff Area=28,475 sf 21.95% Impervious Runoff Depth>4.37" Tc=6.0 min CN=78 Runoff=3.47 cfs 0.238 af
<b>Subcatchment24:</b>	Runoff Area=18,261 sf 67.19% Impervious Runoff Depth>5.94" Tc=6.0 min CN=92 Runoff=2.78 cfs 0.208 af
<b>Subcatchment25:</b>	Runoff Area=118,223 sf 0.00% Impervious Runoff Depth>3.55" Flow Length=438' Tc=67.0 min CN=71 Runoff=4.55 cfs 0.802 af
<b>Subcatchment26:</b>	Runoff Area=3,816 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=0.60 cfs 0.048 af
<b>Subcatchment27:</b>	Runoff Area=4,262 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=0.67 cfs 0.054 af
<b>Subcatchment28:</b>	Runoff Area=79,698 sf 27.42% Impervious Runoff Depth>5.14" Tc=6.0 min CN=85 Runoff=11.08 cfs 0.784 af
<b>Subcatchment29:</b>	Runoff Area=1,306 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af
<b>Subcatchment30:</b>	Runoff Area=31,472 sf 77.98% Impervious Runoff Depth>6.06" Tc=6.0 min CN=93 Runoff=4.84 cfs 0.365 af
<b>Subcatchment31:</b>	Runoff Area=70,616 sf 0.00% Impervious Runoff Depth>3.62" Flow Length=217' Tc=12.3 min CN=71 Runoff=5.98 cfs 0.489 af

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<b>Subcatchment32:</b>	Runoff Area=4,677 sf 60.42% Impervious Runoff Depth>5.59" Tc=6.0 min CN=89 Runoff=0.69 cfs 0.050 af
<b>Subcatchment33: B3 green</b>	Runoff Area=107,893 sf 16.71% Impervious Runoff Depth>3.21" Tc=6.0 min CN=67 Runoff=9.84 cfs 0.664 af
<b>Subcatchment34:</b>	Runoff Area=24,099 sf 20.00% Impervious Runoff Depth>3.32" Tc=6.0 min CN=68 Runoff=2.27 cfs 0.153 af
<b>Subcatchment35:</b>	Runoff Area=20,997 sf 20.00% Impervious Runoff Depth>3.32" Tc=6.0 min CN=68 Runoff=1.98 cfs 0.133 af
<b>Subcatchment36: B1M1</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=17.83 cfs 1.430 af
<b>Subcatchment37: B1M2</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=17.83 cfs 1.430 af
<b>Subcatchment38: B1M3</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=17.83 cfs 1.430 af
<b>Subcatchment39: B2M4</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=17.83 cfs 1.430 af
<b>Subcatchment40: B2M5</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=17.83 cfs 1.430 af
<b>Subcatchment41: B2M6</b>	Runoff Area=112,560 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=17.83 cfs 1.430 af
<b>Subcatchment42: B6</b>	Runoff Area=12,000 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=1.90 cfs 0.152 af
<b>Subcatchment43: B5</b>	Runoff Area=18,983 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=3.01 cfs 0.241 af
<b>Subcatchment44: onsite untreated</b>	Runoff Area=159,363 sf 0.00% Impervious Runoff Depth>3.61" Flow Length=574' Tc=18.8 min CN=71 Runoff=11.51 cfs 1.101 af
<b>Subcatchment45:</b>	Runoff Area=64,440 sf 0.00% Impervious Runoff Depth>3.49" Flow Length=307' Tc=29.9 min CN=70 Runoff=3.71 cfs 0.431 af
<b>Subcatchment46: SUBCAT 8</b>	Runoff Area=14,976 sf 0.00% Impervious Runoff Depth>3.59" Flow Length=276' Tc=34.7 min CN=71 Runoff=0.83 cfs 0.103 af
<b>Subcatchment47:</b>	Runoff Area=79,187 sf 6.00% Impervious Runoff Depth>4.03" Flow Length=639' Tc=15.9 min CN=75 Runoff=6.80 cfs 0.611 af
<b>Subcatchment48:</b>	Runoff Area=40,183 sf 0.00% Impervious Runoff Depth>3.46" Flow Length=377' Tc=54.0 min CN=70 Runoff=1.71 cfs 0.266 af

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<b>Subcatchment49:</b>	Runoff Area=84,173 sf 0.65% Impervious Runoff Depth>3.46" Flow Length=470' Tc=54.1 min CN=70 Runoff=3.57 cfs 0.557 af
<b>Subcatchment50:</b>	Runoff Area=30,173 sf 100.00% Impervious Runoff Depth>6.64" Tc=6.0 min CN=98 Runoff=4.78 cfs 0.383 af
<b>SubcatchmentOS10: OFFSITE 2 (above</b>	Runoff Area=1,644,982 sf 2.57% Impervious Runoff Depth>3.82" Flow Length=2,221' Tc=94.2 min CN=74 Runoff=55.26 cfs 12.013 af
<b>SubcatchmentOS11: OFFSITE 3</b>	Runoff Area=513,527 sf 23.06% Impervious Runoff Depth>4.37" Flow Length=532' Tc=6.8 min CN=78 Runoff=61.36 cfs 4.292 af
<b>SubcatchmentOS9: OFFSITE 1 (Below</b>	Runoff Area=702,010 sf 3.63% Impervious Runoff Depth>4.01" Flow Length=1,353' Tc=35.1 min CN=75 Runoff=42.86 cfs 5.384 af
<b>Reach 9R: ANALYSISPOINT 9</b>	Inflow=42.86 cfs 5.384 af Outflow=42.86 cfs 5.384 af
<b>Reach 10R: Perkins Road Culvert</b>	Avg. Flow Depth=2.00' Max Vel=11.61 fps Inflow=55.26 cfs 12.013 af 24.0" Round Pipe n=0.013 L=25.0' S=0.0200 '/' Capacity=31.99 cfs Outflow=31.99 cfs 12.014 af
<b>Reach 11R: Stream 9</b>	Inflow=61.36 cfs 4.292 af Outflow=61.36 cfs 4.292 af
<b>Reach 17R: untreated</b>	Inflow=2.06 cfs 0.157 af Outflow=2.06 cfs 0.157 af
<b>Reach 20R: untreated</b>	Inflow=4.33 cfs 0.323 af Outflow=4.33 cfs 0.323 af
<b>Reach 23R: sub 23</b>	Inflow=3.47 cfs 0.238 af Outflow=3.47 cfs 0.238 af
<b>Reach 27R: existing</b>	Inflow=0.67 cfs 0.054 af Outflow=0.67 cfs 0.054 af
<b>Reach 28R: existing</b>	Inflow=11.08 cfs 0.784 af Outflow=11.08 cfs 0.784 af
<b>Reach 29R: untreated</b>	Inflow=0.21 cfs 0.017 af Outflow=0.21 cfs 0.017 af
<b>Reach 32R: untreated</b>	Inflow=0.69 cfs 0.050 af Outflow=0.69 cfs 0.050 af
<b>Reach 44R:</b>	Inflow=11.51 cfs 1.101 af Outflow=11.51 cfs 1.101 af
<b>Reach 47R:</b>	Inflow=6.80 cfs 0.611 af Outflow=6.80 cfs 0.611 af

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<b>Reach 48R: (new Reach)</b>	Inflow=1.71 cfs 0.266 af Outflow=1.71 cfs 0.266 af
<b>Reach 49R:</b>	Inflow=3.57 cfs 0.557 af Outflow=3.57 cfs 0.557 af
<b>Reach PT1: ANALYSISPOINT 1 at BWD Little River</b>	Inflow=5.28 cfs 0.823 af Outflow=5.28 cfs 0.823 af
<b>Reach PT2: ANALYSISPOINT 2 at BWD Reservoir</b>	Inflow=4.55 cfs 0.802 af Outflow=4.55 cfs 0.802 af
<b>Reach PT3: ANALYSISPOINT 3/4 at BWD Reservoir</b>	Inflow=5.98 cfs 0.489 af Outflow=5.98 cfs 0.489 af
<b>Reach PT5: all BWD reservoir</b>	Inflow=9.71 cfs 1.529 af Outflow=9.71 cfs 1.529 af
<b>Reach PT6: stream 9 offsite</b>	Avg. Flow Depth=1.89' Max Vel=5.14 fps Inflow=87.55 cfs 21.689 af n=0.040 L=483.0' S=0.0145 '/' Capacity=401.91 cfs Outflow=84.59 cfs 21.647 af
<b>Reach PT7: ANALYSISPOINT7 at US</b>	Avg. Flow Depth=0.43' Max Vel=8.93 fps Inflow=3.71 cfs 0.431 af 18.0" Round Pipe n=0.013 L=83.0' S=0.0398 '/' Capacity=20.95 cfs Outflow=3.71 cfs 0.430 af
<b>Reach PT8: ANALYSISPOINT 8 at US</b>	Avg. Flow Depth=0.06' Max Vel=4.90 fps Inflow=0.83 cfs 0.103 af 36.0" x 24.0" Box Pipe n=0.011 L=76.0' S=0.0632 '/' Capacity=144.91 cfs Outflow=0.82 cfs 0.103 af
<b>Reach PT9: Analysis Point Stream 9</b>	Avg. Flow Depth=1.48' Max Vel=28.16 fps Inflow=97.89 cfs 23.762 af 36.0" Round Pipe n=0.011 L=93.0' S=0.0645 '/' Capacity=200.22 cfs Outflow=97.88 cfs 23.760 af
<b>Reach S9-2: Stream 9</b>	Avg. Flow Depth=1.72' Max Vel=6.19 fps Inflow=94.48 cfs 22.748 af n=0.040 L=1,580.0' S=0.0233 '/' Capacity=120.91 cfs Outflow=88.94 cfs 22.624 af
<b>Reach S9-3: Stream 9</b>	Avg. Flow Depth=1.59' Max Vel=6.11 fps Inflow=95.54 cfs 23.306 af n=0.035 L=364.0' S=0.0199 '/' Capacity=152.29 cfs Outflow=94.87 cfs 23.276 af
<b>Reach tank: existing clarifier</b>	Inflow=130.54 cfs 7.550 af Outflow=130.54 cfs 7.550 af
<b>Pond 1P: (new Pond)</b>	Peak Elev=64.72' Inflow=17.83 cfs 1.430 af Primary=12.26 cfs 0.278 af Secondary=5.57 cfs 1.153 af Outflow=17.83 cfs 1.430 af
<b>Pond 4P: Rtanks</b>	Peak Elev=30.12' Storage=754 cf Inflow=1.98 cfs 0.133 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0000 '/' Outflow=1.51 cfs 0.132 af
<b>Pond dmh10: dmh10</b>	Peak Elev=61.48' Inflow=29.05 cfs 0.823 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/' Outflow=29.05 cfs 0.823 af
<b>Pond dmh11: dmh11</b>	Peak Elev=60.30' Inflow=43.86 cfs 1.467 af 30.0" Round Culvert n=0.013 L=84.0' S=0.0050 '/' Outflow=43.86 cfs 1.467 af

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<b>Pond dmh13: dmh13</b>	Peak Elev=59.86' Inflow=43.86 cfs 1.467 af 30.0" Round Culvert n=0.013 L=201.0' S=0.0050 '/ Outflow=43.86 cfs 1.467 af
<b>Pond dmh14: dmh14</b>	Peak Elev=59.54' Inflow=46.62 cfs 1.769 af 30.0" Round Culvert n=0.020 L=23.0' S=0.0052 '/ Outflow=46.62 cfs 1.769 af
<b>Pond dmh15: dmh15</b>	Peak Elev=59.42' Inflow=46.62 cfs 1.769 af 30.0" Round Culvert n=0.013 L=90.0' S=0.0050 '/ Outflow=46.62 cfs 1.769 af
<b>Pond dmh16: dmh16</b>	Peak Elev=61.11' Inflow=1.06 cfs 0.079 af 12.0" Round Culvert n=0.013 L=198.0' S=0.0126 '/ Outflow=1.06 cfs 0.079 af
<b>Pond dmh17: dmh17</b>	Peak Elev=59.21' Inflow=47.57 cfs 1.914 af 30.0" Round Culvert n=0.013 L=35.0' S=0.0051 '/ Outflow=47.57 cfs 1.914 af
<b>Pond dmh2: dmh2</b>	Peak Elev=67.20' Inflow=12.51 cfs 0.280 af 18.0" Round Culvert n=0.013 L=100.0' S=0.0150 '/ Outflow=12.51 cfs 0.280 af
<b>Pond dmh20: dmh20</b>	Peak Elev=59.01' Inflow=47.57 cfs 1.914 af 30.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/ Outflow=47.57 cfs 1.914 af
<b>Pond dmh21: dmh21</b>	Peak Elev=57.79' Inflow=63.26 cfs 3.471 af 36.0" Round Culvert n=0.013 L=281.0' S=0.0169 '/ Outflow=63.26 cfs 3.471 af
<b>Pond dmh22: dmh 22</b>	Peak Elev=59.96' Inflow=13.06 cfs 1.165 af 15.0" Round Culvert n=0.013 L=93.0' S=0.0051 '/ Outflow=13.06 cfs 1.165 af
<b>Pond dmh23: dmh23</b>	Peak Elev=75.54' Inflow=11.30 cfs 0.867 af 12.0" Round Culvert n=0.013 L=138.0' S=0.0050 '/ Outflow=11.30 cfs 0.867 af
<b>Pond dmh24: dmh24</b>	Peak Elev=70.93' Inflow=11.30 cfs 0.867 af 12.0" Round Culvert n=0.013 L=72.0' S=0.0025 '/ Outflow=11.30 cfs 0.867 af
<b>Pond dmh24a: dmh24a</b>	Peak Elev=77.81' Inflow=4.73 cfs 0.391 af 8.0" Round Culvert n=0.013 L=95.0' S=0.0095 '/ Outflow=4.73 cfs 0.391 af
<b>Pond dmh25: dmh25</b>	Peak Elev=61.05' Inflow=2.23 cfs 0.171 af 12.0" Round Culvert n=0.013 L=98.0' S=0.0510 '/ Outflow=2.23 cfs 0.171 af
<b>Pond dmh26: (new Pond)</b>	Peak Elev=67.18' Inflow=8.92 cfs 0.722 af 12.0" Round Culvert n=0.020 L=28.0' S=0.0050 '/ Outflow=8.92 cfs 0.722 af
<b>Pond dmh27: dmh27</b>	Peak Elev=65.89' Inflow=12.61 cfs 1.045 af 15.0" Round Culvert n=0.013 L=256.0' S=0.0050 '/ Outflow=12.61 cfs 1.045 af
<b>Pond dmh29: dmh29</b>	Peak Elev=60.23' Inflow=1.90 cfs 0.152 af 8.0" Round Culvert n=0.013 L=46.0' S=0.0100 '/ Outflow=1.90 cfs 0.152 af
<b>Pond dmh3: dmh3</b>	Peak Elev=67.35' Inflow=16.64 cfs 0.543 af 18.0" Round Culvert n=0.013 L=125.0' S=0.0053 '/ Outflow=16.64 cfs 0.543 af

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<b>Pond dmh30: dmh30</b>	Peak Elev=56.30' Inflow=1.90 cfs 0.152 af 12.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=1.90 cfs 0.152 af
<b>Pond dmh31: dmh31</b>	Peak Elev=63.14' Inflow=10.39 cfs 0.874 af 15.0" Round Culvert n=0.013 L=259.0' S=0.0050 '/ Outflow=10.39 cfs 0.874 af
<b>Pond dmh32: dmh32</b>	Peak Elev=57.57' Inflow=15.16 cfs 1.282 af 18.0" Round Culvert n=0.013 L=36.0' S=0.0036 '/ Outflow=15.16 cfs 1.282 af
<b>Pond dmh33: dmh33</b>	Peak Elev=54.47' Inflow=0.66 cfs 0.144 af 12.0" Round Culvert n=0.013 L=201.0' S=0.0099 '/ Outflow=0.66 cfs 0.144 af
<b>Pond dmh34: dmh34</b>	Peak Elev=55.76' Inflow=11.68 cfs 0.893 af 18.0" Round Culvert n=0.013 L=39.0' S=0.0100 '/ Outflow=11.68 cfs 0.893 af
<b>Pond dmh35: dmh35</b>	Peak Elev=59.96' Inflow=30.45 cfs 2.460 af 24.0" Round Culvert n=0.013 L=276.0' S=0.0050 '/ Outflow=30.45 cfs 2.460 af
<b>Pond dmh36: dmh36</b>	Peak Elev=57.65' Inflow=30.45 cfs 2.460 af 24.0" Round Culvert n=0.013 L=159.0' S=0.0050 '/ Outflow=30.45 cfs 2.460 af
<b>Pond dmh38: dmh38</b>	Peak Elev=56.13' Inflow=12.42 cfs 0.279 af 18.0" Round Culvert n=0.013 L=106.0' S=0.0100 '/ Outflow=12.42 cfs 0.279 af
<b>Pond dmh39: dmh39</b>	Peak Elev=55.25' Inflow=13.32 cfs 0.335 af 18.0" Round Culvert n=0.013 L=58.0' S=0.0047 '/ Outflow=13.32 cfs 0.335 af
<b>Pond dmh4: dmh4</b>	Peak Elev=66.69' Inflow=16.64 cfs 0.543 af 18.0" Round Culvert n=0.013 L=66.0' S=0.0041 '/ Outflow=16.64 cfs 0.543 af
<b>Pond dmh40: dmh40</b>	Peak Elev=56.29' Inflow=43.53 cfs 2.795 af 30.0" Round Culvert n=0.013 L=340.0' S=0.0050 '/ Outflow=43.53 cfs 2.795 af
<b>Pond dmh43: dmh43</b>	Peak Elev=54.30' Inflow=43.53 cfs 2.795 af 30.0" Round Culvert n=0.013 L=193.0' S=0.0050 '/ Outflow=43.53 cfs 2.795 af
<b>Pond dmh44: dmh44</b>	Peak Elev=50.89' Inflow=44.73 cfs 2.877 af 36.0" Round Culvert n=0.013 L=82.0' S=0.0050 '/ Outflow=44.73 cfs 2.877 af
<b>Pond dmh45: dmh45</b>	Peak Elev=50.46' Inflow=44.73 cfs 2.877 af 36.0" Round Culvert n=0.013 L=316.0' S=0.0050 '/ Outflow=44.73 cfs 2.877 af
<b>Pond dmh47: dmh47</b>	Peak Elev=50.03' Inflow=57.22 cfs 3.157 af 36.0" Round Culvert n=0.013 L=104.0' S=0.0100 '/ Outflow=57.22 cfs 3.157 af
<b>Pond dmh48: dmh48</b>	Peak Elev=49.46' Inflow=60.18 cfs 3.505 af 36.0" Round Culvert n=0.013 L=117.0' S=0.0050 '/ Outflow=60.18 cfs 3.505 af
<b>Pond dmh49: dmh49</b>	Peak Elev=49.16' Inflow=62.02 cfs 3.634 af 36.0" Round Culvert n=0.013 L=14.0' S=0.0071 '/ Outflow=62.02 cfs 3.634 af

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<b>Pond dmh5: dmh5</b>	Peak Elev=67.04' Inflow=16.64 cfs 0.543 af 18.0" Round Culvert n=0.013 L=173.0' S=0.0050 '/ Outflow=16.64 cfs 0.543 af
<b>Pond dmh50: dmh50</b>	Peak Elev=52.24' Inflow=65.78 cfs 3.696 af 36.0" Round Culvert n=0.013 L=64.0' S=0.0100 '/ Outflow=65.78 cfs 3.696 af
<b>Pond dmh51: dmh51</b>	Peak Elev=51.58' Inflow=65.78 cfs 3.696 af 36.0" Round Culvert n=0.013 L=38.0' S=0.0287 '/ Outflow=65.78 cfs 3.696 af
<b>Pond dmh52: dmh52</b>	Peak Elev=46.43' Inflow=127.76 cfs 7.330 af 60.0" Round Culvert n=0.013 L=258.0' S=0.0194 '/ Outflow=127.76 cfs 7.330 af
<b>Pond dmh53: dmh53</b>	Peak Elev=38.54' Inflow=130.24 cfs 7.506 af 60.0" Round Culvert n=0.013 L=120.0' S=0.0208 '/ Outflow=130.24 cfs 7.506 af
<b>Pond dmh54: dmh54</b>	Peak Elev=32.56' Inflow=130.54 cfs 7.550 af 60.0" Round Culvert n=0.013 L=152.0' S=0.0329 '/ Outflow=130.54 cfs 7.550 af
<b>Pond dmh55: dhm55</b>	Peak Elev=24.56' Inflow=130.54 cfs 7.550 af 60.0" Round Culvert n=0.013 L=115.0' S=0.0304 '/ Outflow=130.54 cfs 7.550 af
<b>Pond dmh56: dmh56</b>	Peak Elev=18.06' Inflow=130.54 cfs 7.550 af 60.0" Round Culvert n=0.013 L=42.0' S=0.0357 '/ Outflow=130.54 cfs 7.550 af
<b>Pond dmh59: dmh59</b>	Peak Elev=93.32' Inflow=11.87 cfs 0.978 af 12.0" Round Culvert n=0.013 L=294.0' S=0.0050 '/ Outflow=11.87 cfs 0.978 af
<b>Pond dmh6: dmh6</b>	Peak Elev=71.91' Inflow=16.64 cfs 0.543 af 18.0" Round Culvert n=0.020 L=170.0' S=0.0050 '/ Outflow=16.64 cfs 0.543 af
<b>Pond dmh60: dhm60</b>	Peak Elev=40.93' Inflow=127.76 cfs 7.330 af 60.0" Round Culvert n=0.013 L=114.0' S=0.0175 '/ Outflow=127.76 cfs 7.330 af
<b>Pond dmh7: dmh7</b>	Peak Elev=65.22' Inflow=16.64 cfs 0.543 af 18.0" Round Culvert n=0.013 L=170.0' S=0.0050 '/ Outflow=16.64 cfs 0.543 af
<b>Pond dmh8: dmh8</b>	Peak Elev=65.04' Inflow=29.05 cfs 0.823 af 24.0" Round Culvert n=0.013 L=296.0' S=0.0040 '/ Outflow=29.05 cfs 0.823 af
<b>Pond dmh9a: dmh9a</b>	Peak Elev=62.53' Inflow=29.05 cfs 0.823 af 24.0" Round Culvert n=0.013 L=206.0' S=0.0050 '/ Outflow=29.05 cfs 0.823 af
<b>Pond GSF 11: grassed soil filter</b>	Peak Elev=62.46' Storage=3,813 cf Inflow=5.81 cfs 0.406 af Outflow=4.44 cfs 0.348 af
<b>Pond GSF 12: grassed soil filter</b>	Peak Elev=61.67' Storage=662 cf Inflow=1.88 cfs 0.135 af Outflow=1.84 cfs 0.124 af
<b>Pond GSF 13: grassed soil filter</b>	Peak Elev=62.47' Storage=4,753 cf Inflow=6.28 cfs 0.444 af Outflow=4.49 cfs 0.374 af

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<b>Pond GSF 15: grassed soil filter</b>	Peak Elev=63.81' Storage=212 cf Inflow=1.02 cfs 0.069 af Outflow=1.00 cfs 0.066 af
<b>Pond GSF 16: grassed soil filter</b>	Peak Elev=64.52' Storage=2,840 cf Inflow=2.00 cfs 0.139 af Outflow=1.06 cfs 0.079 af
<b>Pond GSF 18A: grassed soil filter</b>	Peak Elev=57.50' Storage=518 cf Inflow=0.87 cfs 0.061 af Outflow=0.83 cfs 0.052 af
<b>Pond GSF 18B: grassed soil filter</b>	Peak Elev=57.98' Storage=417 cf Inflow=0.58 cfs 0.042 af Outflow=0.58 cfs 0.034 af
<b>Pond GSF 1A: Grassed soil filter</b>	Peak Elev=65.95' Storage=337 cf Inflow=2.43 cfs 0.171 af Outflow=2.23 cfs 0.171 af
<b>Pond GSF 1B: grassed soil filter</b>	Peak Elev=72.80' Storage=1,039 cf Inflow=4.24 cfs 0.291 af Outflow=4.13 cfs 0.263 af
<b>Pond GSF 2: grassed soil filter</b>	Peak Elev=58.03' Storage=2,473 cf Inflow=3.95 cfs 0.272 af Outflow=2.57 cfs 0.237 af
<b>Pond GSF 24: grassed soil filter</b>	Peak Elev=40.82' Storage=1,774 cf Inflow=2.78 cfs 0.208 af Outflow=2.56 cfs 0.176 af
<b>Pond GSF 3: grassed soil filter</b>	Peak Elev=56.10' Storage=2,923 cf Inflow=4.77 cfs 0.332 af Outflow=3.90 cfs 0.286 af
<b>Pond GSF 4: grassed soil filter</b>	Peak Elev=55.21' Storage=405 cf Inflow=0.94 cfs 0.064 af Outflow=0.93 cfs 0.056 af
<b>Pond GSF 5: grassed soil filter</b>	Peak Elev=54.01' Storage=3 cf Inflow=1.20 cfs 0.081 af Outflow=1.20 cfs 0.081 af
<b>Pond GSF 6: grassed soil filter</b>	Peak Elev=49.00' Storage=2 cf Inflow=1.85 cfs 0.129 af Outflow=1.85 cfs 0.129 af
<b>Pond GSF 7: grassed soil filter</b>	Peak Elev=55.03' Storage=2,825 cf Inflow=3.86 cfs 0.266 af Outflow=2.55 cfs 0.225 af
<b>Pond GSF 8: grassed soil filter</b>	Peak Elev=58.44' Storage=6,241 cf Inflow=6.53 cfs 0.468 af Outflow=2.76 cfs 0.392 af
<b>Pond GSF 9: grassed soil filter</b>	Peak Elev=63.76' Storage=535 cf Inflow=4.15 cfs 0.302 af Outflow=2.79 cfs 0.302 af
<b>Pond ICS1: ICS</b>	Peak Elev=67.63' Inflow=17.83 cfs 1.430 af Primary=12.51 cfs 0.280 af Secondary=5.32 cfs 1.151 af Outflow=17.83 cfs 1.430 af
<b>Pond ics28: ICS28</b>	Peak Elev=58.94' Inflow=1.90 cfs 0.152 af Primary=1.90 cfs 0.152 af Secondary=0.00 cfs 0.000 af Outflow=1.90 cfs 0.152 af

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<b>Pond ICS37: ICS37</b>	Peak Elev=56.59'	Inflow=17.83 cfs	1.430 af
	Primary=12.42 cfs	0.279 af	Secondary=5.42 cfs
			1.151 af
		Outflow=17.83 cfs	1.430 af
<b>Pond ics46: ICS46</b>	Peak Elev=50.37'	Inflow=17.83 cfs	1.430 af
	Primary=12.61 cfs	0.281 af	Secondary=5.23 cfs
			1.150 af
		Outflow=17.83 cfs	1.430 af
<b>Pond ICS9: ICS9</b>	Peak Elev=65.79'	Inflow=17.83 cfs	1.430 af
	Primary=12.42 cfs	0.280 af	Secondary=5.42 cfs
			1.150 af
		Outflow=17.83 cfs	1.430 af
<b>Pond ISC42: ICS42</b>	Peak Elev=0.00'		
	Primary=0.00 cfs	0.000 af	Secondary=0.00 cfs
			0.000 af
<b>Pond MPP 10: Rtank storage</b>	Peak Elev=61.95'	Storage=0.090 af	Inflow=4.90 cfs
	8.0" Round Culvert x 6.00	n=0.013	L=2.0' S=0.0400 '/'
			Outflow=3.15 cfs
			0.366 af
<b>Pond MPP 14: Rtanks</b>	Peak Elev=56.75'	Storage=1,114 cf	Inflow=1.48 cfs
	8.0" Round Culvert x 2.00	n=0.013	L=21.0' S=0.0052 '/'
			Outflow=0.99 cfs
			0.110 af
<b>Pond MPP 19: Rtanks</b>	Peak Elev=56.12'	Storage=0.068 af	Inflow=2.12 cfs
	6.0" Round Culvert	n=0.013	L=19.0' S=0.0042 '/'
			Outflow=0.66 cfs
			0.144 af
<b>Pond MPP 21: Rtanks</b>	Peak Elev=55.93'	Storage=1,484 cf	Inflow=1.55 cfs
	6.0" Round Culvert	n=0.013	L=2.0' S=0.0000 '/'
			Outflow=0.73 cfs
			0.111 af
<b>Pond MPP 22: Rtanks</b>	Peak Elev=56.10'	Storage=2,782 cf	Inflow=2.06 cfs
	6.0" Round Culvert	n=0.013	L=2.0' S=0.0000 '/'
			Outflow=0.67 cfs
			0.137 af
<b>Pond MPP 26: Rtanks</b>	Peak Elev=35.01'	Storage=592 cf	Inflow=0.60 cfs
	8.0" Round Culvert	n=0.013	L=8.0' S=0.0350 '/'
			Outflow=0.36 cfs
			0.044 af
<b>Pond MPP 50:</b>	Peak Elev=55.11'	Storage=3,881 cf	Inflow=4.78 cfs
	8.0" Round Culvert x 7.00	n=0.013	L=3.0' S=0.0100 '/'
			Outflow=3.43 cfs
			0.348 af
<b>Pond mpp30: Rtanks</b>	Peak Elev=31.14'	Storage=3,567 cf	Inflow=6.08 cfs
	12.0" Round Culvert	n=0.013	L=20.0' S=0.0305 '/'
			Outflow=3.03 cfs
			0.486 af
<b>Pond OCS57: OCS 57</b>	Peak Elev=30.44'	Inflow=3.03 cfs	0.486 af
		Outflow=3.03 cfs	0.486 af
<b>Pond SSF 36: ssf</b>		Inflow=5.32 cfs	1.151 af
		Primary=5.32 cfs	1.151 af
<b>Pond SSF 37:</b>		Inflow=5.42 cfs	1.150 af
		Primary=5.42 cfs	1.150 af
<b>Pond SSF 38: ssf38</b>		Inflow=5.57 cfs	1.153 af
		Primary=5.57 cfs	1.153 af
<b>Pond SSF 39:</b>		Inflow=5.42 cfs	1.151 af
		Primary=5.42 cfs	1.151 af

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**Pond SSF 40:**

Inflow=17.83 cfs 1.430 af  
Primary=17.83 cfs 1.430 af

**Pond SSF 41:**

Inflow=5.23 cfs 1.150 af  
Primary=5.23 cfs 1.150 af

**Pond SSF 42:**

Inflow=0.00 cfs 0.000 af  
Primary=0.00 cfs 0.000 af

**Pond SSF 43:**

Inflow=3.01 cfs 0.241 af  
Primary=3.01 cfs 0.241 af

**Total Runoff Area = 116.268 ac Runoff Volume = 43.220 af Average Runoff Depth = 4.46"**  
**74.75% Pervious = 86.915 ac 25.25% Impervious = 29.353 ac**

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**Summary for Subcatchment 1A:**

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.171 af, Depth> 5.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	11,582	77	>75% Grass cover, Good, HSG C/D
*	6,203	98	Impervious, HSG C/D
	17,785	84	Weighted Average
	11,582		65.12% Pervious Area
	6,203		34.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 1B:**

Runoff = 4.24 cfs @ 12.09 hrs, Volume= 0.291 af, Depth> 4.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	6,832	98	Impervious
	27,186	74	>75% Grass cover, Good, HSG C
	34,018	79	Weighted Average
	27,186		79.92% Pervious Area
	6,832		20.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 2:**

Runoff = 3.95 cfs @ 12.09 hrs, Volume= 0.272 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	8,052	98	Impervious
	5,300	74	>75% Grass cover, Good, HSG C
*	17,697	74	>75% Grass cover, Good, HSG C/D
	31,049	80	Weighted Average
	22,997		74.07% Pervious Area
	8,052		25.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 3:**

Runoff = 4.77 cfs @ 12.09 hrs, Volume= 0.332 af, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	13,091	98	Impervious, HSG C
*	15,516	74	>75% Grass cover, Good, HSG C/D
*	7,540	70	Woods, Good, HSG C/D
	36,147	82	Weighted Average
	23,056		63.78% Pervious Area
	13,091		36.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 4:**

Runoff = 0.94 cfs @ 12.09 hrs, Volume= 0.064 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
	8,448	74	>75% Grass cover, Good, HSG C
	8,448		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 5:**

Runoff = 1.20 cfs @ 12.09 hrs, Volume= 0.081 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
10,807	74	>75% Grass cover, Good, HSG C
10,807		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 6:**

Runoff = 1.85 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 4,484	98	Impervious
* 9,501	74	>75% Grass cover, Good, HSG C
13,985	82	Weighted Average
9,501		67.94% Pervious Area
4,484		32.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 7:**

Runoff = 3.86 cfs @ 12.09 hrs, Volume= 0.266 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 7,846	98	Impervious
3,270	74	>75% Grass cover, Good, HSG C
* 19,229	74	>75% Grass cover, Good, HSG C/D
30,345	80	Weighted Average
22,499		74.14% Pervious Area
7,846		25.86% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 8:**

Runoff = 6.53 cfs @ 12.09 hrs, Volume= 0.468 af, Depth> 5.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 25,409	98	Impervious
20,142	74	>75% Grass cover, Good, HSG C
45,551	87	Weighted Average
20,142		44.22% Pervious Area
25,409		55.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 9:**

Runoff = 4.15 cfs @ 12.09 hrs, Volume= 0.302 af, Depth> 5.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 10,348	74	>75% Grass cover, Good, HSG C/D
* 17,843	98	Impervious
28,191	89	Weighted Average
10,348		36.71% Pervious Area
17,843		63.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 10: access drive north of B1**

Runoff = 4.90 cfs @ 12.09 hrs, Volume= 0.393 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	30,932	98	Impervious
	30,932		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 11:**

Runoff = 5.81 cfs @ 12.09 hrs, Volume= 0.406 af, Depth> 4.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	15,881	98	Impervious
*	27,293	74	>75% Grass cover, Good, HSG C/D
	43,174	83	Weighted Average
	27,293		63.22% Pervious Area
	15,881		36.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 12:**

Runoff = 1.88 cfs @ 12.09 hrs, Volume= 0.135 af, Depth> 5.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	7,491	98	Impervious, HSG C/D
	5,429	74	>75% Grass cover, Good, HSG C
	12,920	88	Weighted Average
	5,429		42.02% Pervious Area
	7,491		57.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 13:**

Runoff = 6.28 cfs @ 12.09 hrs, Volume= 0.444 af, Depth> 5.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	20,981	98	Impervious
*	24,182	74	>75% Grass cover, Good, HSG C/D
	45,163	85	Weighted Average
	24,182		53.54% Pervious Area
	20,981		46.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 14:**

Runoff = 1.48 cfs @ 12.09 hrs, Volume= 0.117 af, Depth> 6.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	8,849	98	Impervious
	529	74	>75% Grass cover, Good, HSG C
	9,378	97	Weighted Average
	529		5.64% Pervious Area
	8,849		94.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 15:**

Runoff = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	176	98	Impervious
*	4,183	74	>75% Grass cover, Good, HSG C/D
*	4,798	74	vegetated roof
	9,157	74	Weighted Average
	8,981		98.08% Pervious Area
	176		1.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 16:**

Runoff = 2.00 cfs @ 12.09 hrs, Volume= 0.139 af, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	5,161	98	Impervious
*	9,949	74	>75% Grass cover, Good, HSG C/D
	15,110	82	Weighted Average
	9,949		65.84% Pervious Area
	5,161		34.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 17:**

Runoff = 2.06 cfs @ 12.09 hrs, Volume= 0.157 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	11,320	98	Impervious
*	1,980	74	>75% Grass cover, Good, HSG C/D
	13,300	94	Weighted Average
	1,980		14.89% Pervious Area
	11,320		85.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 18A:**

Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.061 af, Depth> 5.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	2,593	98	Impervious
*	3,746	74	>75% Grass cover, Good, HSG C/D
	6,339	84	Weighted Average
	3,746		59.09% Pervious Area
	2,593		40.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 18B:**

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.042 af, Depth> 5.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	2,348	98	Impervious
*	1,675	74	>75% Grass cover, Good, HSG C/D
	4,023	88	Weighted Average
	1,675		41.64% Pervious Area
	2,348		58.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 19:**

Runoff = 2.12 cfs @ 12.09 hrs, Volume= 0.162 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	11,210	98	Impervious
*	2,501	74	>75% Grass cover, Good, HSG C/D
	13,711	94	Weighted Average
	2,501		18.24% Pervious Area
	11,210		81.76% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 20:**

Runoff = 4.33 cfs @ 12.09 hrs, Volume= 0.323 af, Depth> 5.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 21,010	98	Impervious
* 7,449	74	>75% Grass cover, Good, HSG C/D
28,459	92	Weighted Average
7,449		26.17% Pervious Area
21,010		73.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 21:**

Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.118 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 8,361	98	Impervious
* 1,633	74	>75% Grass cover, Good, HSG C/D
9,994	94	Weighted Average
1,633		16.34% Pervious Area
8,361		83.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 22:**

Runoff = 2.06 cfs @ 12.09 hrs, Volume= 0.154 af, Depth> 5.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	10,326	98	Impervious
*	3,185	74	>75% Grass cover, Good, HSG C/D
	13,511	92	Weighted Average
	3,185		23.57% Pervious Area
	10,326		76.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 23: sub 23**

Runoff = 3.47 cfs @ 12.09 hrs, Volume= 0.238 af, Depth> 4.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
	6,249	98	Paved parking, HSG C
	2,450	74	>75% Grass cover, Good, HSG C
	10,135	74	>75% Grass cover, Good, HSG C
	9,641	70	Woods, Good, HSG C
	28,475	78	Weighted Average
	22,226		78.05% Pervious Area
	6,249		21.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, direct

**Summary for Subcatchment 24:**

Runoff = 2.78 cfs @ 12.09 hrs, Volume= 0.208 af, Depth> 5.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	12,270	98	Impervious
	5,991	80	>75% Grass cover, Good, HSG D
	18,261	92	Weighted Average
	5,991		32.81% Pervious Area
	12,270		67.19% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 25:**

Runoff = 4.55 cfs @ 12.90 hrs, Volume= 0.802 af, Depth> 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 21,818	74	>75% Grass cover, Good, HSG C/D
* 96,405	70	Woods, Good, HSG C/D
118,223	71	Weighted Average
118,223		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4	130	0.0150	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
11.9	253	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	55	0.3000	1.37		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
67.0	438	Total			

**Summary for Subcatchment 26:**

Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.048 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 3,816	98	Impervious
3,816		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 27:**

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.054 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	4,262	98	Impervious
	4,262		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 28:**

Runoff = 11.08 cfs @ 12.09 hrs, Volume= 0.784 af, Depth> 5.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	21,852	98	Impervious
	40,598	80	>75% Grass cover, Good, HSG D
	6,418	77	Woods, Good, HSG D
	10,830	79	Woods/grass comb., Good, HSG D
	79,698	85	Weighted Average
	57,846		72.58% Pervious Area
	21,852		27.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 29:**

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	1,306	98	Impervious
	1,306		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 30:**

Runoff = 4.84 cfs @ 12.09 hrs, Volume= 0.365 af, Depth> 6.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	24,541	98	Impervious
*	6,931	74	>75% Grass cover, Good, HSG C/D
	31,472	93	Weighted Average
	6,931		22.02% Pervious Area
	24,541		77.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment 31:**

Runoff = 5.98 cfs @ 12.17 hrs, Volume= 0.489 af, Depth> 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	24,011	74	>75% Grass cover, Good, HSG C/D
*	46,605	70	Woods, Good, HSG C/D
	70,616	71	Weighted Average
	70,616		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0500	0.16		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
1.7	86	0.1200	0.87		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	31	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
12.3	217	Total			

**Summary for Subcatchment 32:**

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 5.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	2,826	98	Impervious
*	1,851	74	>75% Grass cover, Good, HSG C/D
	4,677	89	Weighted Average
	1,851		39.58% Pervious Area
	2,826		60.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 33: B3 green**

Runoff = 9.84 cfs @ 12.09 hrs, Volume= 0.664 af, Depth> 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	89,860	61	vegetated roof
*	18,033	98	penthouse
	107,893	67	Weighted Average
	89,860		83.29% Pervious Area
	18,033		16.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 34:**

Runoff = 2.27 cfs @ 12.09 hrs, Volume= 0.153 af, Depth> 3.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	19,279	61	vegetated roof
*	4,820	98	penhouse/walks on roof
	24,099	68	Weighted Average
	19,279		80.00% Pervious Area
	4,820		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 35:**

Runoff = 1.98 cfs @ 12.09 hrs, Volume= 0.133 af, Depth> 3.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	16,797	61	vegetated roof
*	4,200	98	penthouse/walks on roof
	20,997	68	Weighted Average
	16,797		80.00% Pervious Area
	4,200		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 36: B1M1**

Runoff = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 37: B1M2**

Runoff = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 38: B1M3**

Runoff = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 39: B2M4**

Runoff = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 40: B2M5**

Runoff = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	112,560	98	Roof
	112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 41: B2M6**

Runoff = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 112,560	98	Roof
112,560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 42: B6**

Runoff = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 12,000	98	Impervious
12,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

**Summary for Subcatchment 43: B5**

Runoff = 3.01 cfs @ 12.09 hrs, Volume= 0.241 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 18,983	98	Impervious
18,983		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, a-b

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**Summary for Subcatchment 44: onsite untreated**

Runoff = 11.51 cfs @ 12.26 hrs, Volume= 1.101 af, Depth&gt; 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 29,531	74	>75% Grass cover, Good, HSG C/D
* 129,832	70	Woods, Good, HSG C/D
159,363	71	Weighted Average
159,363		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	97	0.0620	0.25		<b>Sheet Flow, a-b</b> Grass: Short n= 0.150 P2= 2.90"
4.3	170	0.0090	0.66		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
1.3	97	0.0320	1.25		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
6.8	210	0.0430	0.52		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
18.8	574	Total			

**Summary for Subcatchment 45:**

Runoff = 3.71 cfs @ 12.42 hrs, Volume= 0.431 af, Depth&gt; 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 5,799	74	>75% Grass cover, Good, HSG C/D
* 58,641	70	Woods, Good, HSG C/D
64,440	70	Weighted Average
64,440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.3	79	0.0340	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
2.9	121	0.0800	0.71		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.2	34	0.0600	3.67		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
0.5	73	0.0600	2.64	10.56	<b>Trap/Vee/Rect Channel Flow, d-e</b> Bot.W=2.00' D=1.00' Z= 2.0 ' /' Top.W=6.00' n= 0.100 Earth, dense brush, high stage

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29.9 307 Total

**Summary for Subcatchment 46: SUBCAT 8**

Runoff = 0.83 cfs @ 12.48 hrs, Volume= 0.103 af, Depth> 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	12,652	70	Woods, Good, HSG C/D
*	2,324	74	>75% Grass cover, Good, HSG C/D
	14,976	71	Weighted Average
	14,976		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.0	67	0.0150	0.03		<b>Sheet Flow, a-b</b>
					Woods: Dense underbrush n= 0.800 P2= 2.90"
1.1	43	0.0700	0.66		<b>Shallow Concentrated Flow, b-c</b>
					Forest w/Heavy Litter Kv= 2.5 fps
0.1	14	0.7100	2.11		<b>Shallow Concentrated Flow, c-d</b>
					Forest w/Heavy Litter Kv= 2.5 fps
1.5	152	0.0240	1.67	6.68	<b>Trap/Vee/Rect Channel Flow, d-e</b>
					Bot.W=2.00' D=1.00' Z= 2.0 ' Top.W=6.00'
					n= 0.100

34.7 276 Total

**Summary for Subcatchment 47:**

Runoff = 6.80 cfs @ 12.22 hrs, Volume= 0.611 af, Depth> 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
	16,941	80	>75% Grass cover, Good, HSG D
*	27,433	74	>75% Grass cover, Good, HSG C/D
*	30,061	70	Woods, Good, HSG C/D
*	4,752	98	Impervious
	79,187	75	Weighted Average
	74,435		94.00% Pervious Area
	4,752		6.00% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	102	0.0400	0.15		<b>Sheet Flow, a-b</b> Grass: Dense n= 0.240 P2= 2.90"
0.6	30	0.1000	0.79		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.6	100	0.0300	2.60		<b>Shallow Concentrated Flow, c-d</b> Grassed Waterway Kv= 15.0 fps
3.2	407	0.0200	2.12		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
15.9	639	Total			

**Summary for Subcatchment 48:**

Runoff = 1.71 cfs @ 12.75 hrs, Volume= 0.266 af, Depth&gt; 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 305	74	>75% Grass cover, Good, HSG C/D
* 36,887	70	Woods, Good, HSG C/D
2,991	70	Woods, Good, HSG C
40,183	70	Weighted Average
40,183		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.6	127	0.0200	0.04		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
5.4	115	0.0200	0.35		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
0.7	45	0.2000	1.12		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
0.3	90	0.0880	4.45		<b>Shallow Concentrated Flow, d-e</b> Grassed Waterway Kv= 15.0 fps
54.0	377	Total			

**Summary for Subcatchment 49:**

Runoff = 3.57 cfs @ 12.74 hrs, Volume= 0.557 af, Depth&gt; 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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	Area (sf)	CN	Description
*	2,923	74	>75% Grass cover, Good, HSG C/D
*	80,702	70	Woods, Good, HSG C/D
*	548	98	Impervious
	84,173	70	Weighted Average
	83,625		99.35% Pervious Area
	548		0.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.4	115	0.0500	0.06		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
23.7	355	0.0100	0.25		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
54.1	470	Total			

**Summary for Subcatchment 50:**

Runoff = 4.78 cfs @ 12.09 hrs, Volume= 0.383 af, Depth> 6.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	30,173	98	Impervious
	30,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry, a-b</b>

**Summary for Subcatchment OS10: OFFSITE 2 (above Perkins Rd)**

Runoff = 55.26 cfs @ 13.28 hrs, Volume= 12.013 af, Depth> 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

	Area (sf)	CN	Description
*	298,066	70	Woods, Good, HSG C/D
*	42,276	98	Impervious
*	1,304,640	74	>75% Grass cover, Good, HSG C/D
	1,644,982	74	Weighted Average
	1,602,706		97.43% Pervious Area
	42,276		2.57% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.2	141	0.0280	0.05		<b>Sheet Flow, a-b</b> Woods: Dense underbrush n= 0.800 P2= 2.90"
15.3	384	0.0280	0.42		<b>Shallow Concentrated Flow, b-c</b> Forest w/Heavy Litter Kv= 2.5 fps
2.5	227	0.0480	1.53		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
18.6	780	0.0100	0.70		<b>Shallow Concentrated Flow, d-e</b> Short Grass Pasture Kv= 7.0 fps
12.6	689	0.0170	0.91		<b>Shallow Concentrated Flow, e-f</b> Short Grass Pasture Kv= 7.0 fps
94.2	2,221	Total			

**Summary for Subcatchment OS11: OFFSITE 3 (Matthew Brothers Lot)**

Runoff = 61.36 cfs @ 12.10 hrs, Volume= 4.292 af, Depth> 4.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

Area (sf)	CN	Description
* 118,437	98	Impervious
* 237,621	70	Woods, Good, HSG C/D
* 157,469	74	>75% Grass cover, Good, HSG C/D
513,527	78	Weighted Average
395,090		76.94% Pervious Area
118,437		23.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	16	0.1870	2.22		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
4.7	419	0.0100	1.50		<b>Shallow Concentrated Flow, b-c</b> Grassed Waterway Kv= 15.0 fps
2.0	97	0.1000	0.79		<b>Shallow Concentrated Flow, c-d</b> Forest w/Heavy Litter Kv= 2.5 fps
6.8	532	Total			

**Summary for Subcatchment OS9: OFFSITE 1 (Below Perkins Rd)**

Runoff = 42.86 cfs @ 12.48 hrs, Volume= 5.384 af, Depth> 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-year Rainfall=7.20"

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Area (sf)	CN	Description
* 25,513	98	Impervious
* 532,320	74	>75% Grass cover, Good, HSG C/D
* 3,818	94	Gravel roads, HSG C/D
6,087	74	>75% Grass cover, Good, HSG C
72,382	70	Woods, Good, HSG C
61,890	74	>75% Grass cover, Good, HSG C
702,010	75	Weighted Average
676,497		96.37% Pervious Area
25,513		3.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.2000	2.25		<b>Sheet Flow, a-b</b> Smooth surfaces n= 0.011 P2= 2.90"
12.6	373	0.0050	0.49		<b>Shallow Concentrated Flow, b-c</b> Short Grass Pasture Kv= 7.0 fps
13.1	715	0.0170	0.91		<b>Shallow Concentrated Flow, c-d</b> Short Grass Pasture Kv= 7.0 fps
9.3	250	0.0320	0.45		<b>Shallow Concentrated Flow, d-e</b> Forest w/Heavy Litter Kv= 2.5 fps
35.1	1,353	Total			

**Summary for Reach 9R: ANALYSIS POINT 9**

Inflow Area = 16.116 ac, 3.63% Impervious, Inflow Depth > 4.01" for 100-year event  
 Inflow = 42.86 cfs @ 12.48 hrs, Volume= 5.384 af  
 Outflow = 42.86 cfs @ 12.48 hrs, Volume= 5.384 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 10R: Perkins Road Culvert**

Inflow Area = 37.764 ac, 2.57% Impervious, Inflow Depth > 3.82" for 100-year event  
 Inflow = 55.26 cfs @ 13.28 hrs, Volume= 12.013 af  
 Outflow = 31.99 cfs @ 12.75 hrs, Volume= 12.014 af, Atten= 42%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Max. Velocity= 11.61 fps, Min. Travel Time= 0.0 min  
 Avg. Velocity = 7.35 fps, Avg. Travel Time= 0.1 min

Peak Storage= 79 cf @ 12.70 hrs  
 Average Depth at Peak Storage= 2.00'  
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 31.99 cfs

24.0" Round Pipe  
 n= 0.013 Corrugated PE, smooth interior  
 Length= 25.0' Slope= 0.0200 '/'  
 Inlet Invert= 75.50', Outlet Invert= 75.00'

**post conditions**

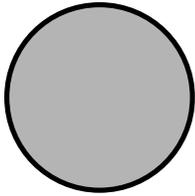
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**Summary for Reach 11R: Stream 9**

Inflow Area = 11.789 ac, 23.06% Impervious, Inflow Depth > 4.37" for 100-year event  
Inflow = 61.36 cfs @ 12.10 hrs, Volume= 4.292 af  
Outflow = 61.36 cfs @ 12.10 hrs, Volume= 4.292 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 17R: untreated**

Inflow Area = 0.305 ac, 85.11% Impervious, Inflow Depth > 6.17" for 100-year event  
Inflow = 2.06 cfs @ 12.09 hrs, Volume= 0.157 af  
Outflow = 2.06 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 20R: untreated**

Inflow Area = 0.653 ac, 73.83% Impervious, Inflow Depth > 5.94" for 100-year event  
Inflow = 4.33 cfs @ 12.09 hrs, Volume= 0.323 af  
Outflow = 4.33 cfs @ 12.09 hrs, Volume= 0.323 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 23R: sub 23**

Inflow Area = 0.654 ac, 21.95% Impervious, Inflow Depth > 4.37" for 100-year event  
Inflow = 3.47 cfs @ 12.09 hrs, Volume= 0.238 af  
Outflow = 3.47 cfs @ 12.09 hrs, Volume= 0.238 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 27R: existing**

Inflow Area = 0.098 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 0.67 cfs @ 12.09 hrs, Volume= 0.054 af  
Outflow = 0.67 cfs @ 12.09 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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**Summary for Reach 28R: existing**

Inflow Area = 1.830 ac, 27.42% Impervious, Inflow Depth > 5.14" for 100-year event  
Inflow = 11.08 cfs @ 12.09 hrs, Volume= 0.784 af  
Outflow = 11.08 cfs @ 12.09 hrs, Volume= 0.784 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 29R: untreated**

Inflow Area = 0.030 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af  
Outflow = 0.21 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 32R: untreated**

Inflow Area = 0.107 ac, 60.42% Impervious, Inflow Depth > 5.59" for 100-year event  
Inflow = 0.69 cfs @ 12.09 hrs, Volume= 0.050 af  
Outflow = 0.69 cfs @ 12.09 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 44R:**

Inflow Area = 3.658 ac, 0.00% Impervious, Inflow Depth > 3.61" for 100-year event  
Inflow = 11.51 cfs @ 12.26 hrs, Volume= 1.101 af  
Outflow = 11.51 cfs @ 12.26 hrs, Volume= 1.101 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 47R:**

Inflow Area = 1.818 ac, 6.00% Impervious, Inflow Depth > 4.03" for 100-year event  
Inflow = 6.80 cfs @ 12.22 hrs, Volume= 0.611 af  
Outflow = 6.80 cfs @ 12.22 hrs, Volume= 0.611 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 48R: (new Reach)**

Inflow Area = 0.922 ac, 0.00% Impervious, Inflow Depth > 3.46" for 100-year event  
Inflow = 1.71 cfs @ 12.75 hrs, Volume= 0.266 af  
Outflow = 1.71 cfs @ 12.75 hrs, Volume= 0.266 af, Atten= 0%, Lag= 0.0 min

**post conditions**

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach 49R:**

Inflow Area = 1.932 ac, 0.65% Impervious, Inflow Depth > 3.46" for 100-year event  
Inflow = 3.57 cfs @ 12.74 hrs, Volume= 0.557 af  
Outflow = 3.57 cfs @ 12.74 hrs, Volume= 0.557 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT1: ANALYSIS POINT 1 at BWD Little River**

Inflow Area = 2.855 ac, 0.44% Impervious, Inflow Depth > 3.46" for 100-year event  
Inflow = 5.28 cfs @ 12.74 hrs, Volume= 0.823 af  
Outflow = 5.28 cfs @ 12.74 hrs, Volume= 0.823 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT2: ANALYSIS POINT 2 at BWD Reservoir**

Inflow Area = 2.714 ac, 0.00% Impervious, Inflow Depth > 3.55" for 100-year event  
Inflow = 4.55 cfs @ 12.90 hrs, Volume= 0.802 af  
Outflow = 4.55 cfs @ 12.90 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT3: ANALYSIS POINT 3/4 at BWD Reservoir**

Inflow Area = 1.621 ac, 0.00% Impervious, Inflow Depth > 3.62" for 100-year event  
Inflow = 5.98 cfs @ 12.17 hrs, Volume= 0.489 af  
Outflow = 5.98 cfs @ 12.17 hrs, Volume= 0.489 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT5: all BWD reservoir**

Inflow Area = 4.989 ac, 2.88% Impervious, Inflow Depth > 3.68" for 100-year event  
Inflow = 9.71 cfs @ 12.15 hrs, Volume= 1.529 af  
Outflow = 9.71 cfs @ 12.15 hrs, Volume= 1.529 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Reach PT6: stream 9 offsite**

Inflow Area = 65.668 ac, 6.51% Impervious, Inflow Depth > 3.96" for 100-year event  
Inflow = 87.55 cfs @ 12.11 hrs, Volume= 21.689 af  
Outflow = 84.59 cfs @ 12.17 hrs, Volume= 21.647 af, Atten= 3%, Lag= 3.3 min

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Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 5.14 fps, Min. Travel Time= 1.6 min  
Avg. Velocity = 2.75 fps, Avg. Travel Time= 2.9 min

Peak Storage= 8,024 cf @ 12.14 hrs  
Average Depth at Peak Storage= 1.89'  
Bank-Full Depth= 4.00' Flow Area= 52.0 sf, Capacity= 401.91 cfs

5.00' x 4.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 '/' Top Width= 21.00'  
Length= 483.0' Slope= 0.0145 '/'  
Inlet Invert= 71.00', Outlet Invert= 64.00'



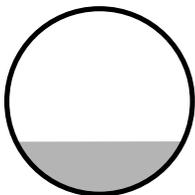
**Summary for Reach PT7: ANALYSIS POINT7 at US Route 1 culvert**

Inflow Area = 1.479 ac, 0.00% Impervious, Inflow Depth > 3.49" for 100-year event  
Inflow = 3.71 cfs @ 12.42 hrs, Volume= 0.431 af  
Outflow = 3.71 cfs @ 12.42 hrs, Volume= 0.430 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 8.93 fps, Min. Travel Time= 0.2 min  
Avg. Velocity = 4.08 fps, Avg. Travel Time= 0.3 min

Peak Storage= 34 cf @ 12.42 hrs  
Average Depth at Peak Storage= 0.43'  
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 20.95 cfs

18.0" Round Pipe  
n= 0.013 Corrugated PE, smooth interior  
Length= 83.0' Slope= 0.0398 '/'  
Inlet Invert= 21.60', Outlet Invert= 18.30'



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**Summary for Reach PT8: ANALYSIS POINT 8 at US Route 1 culvert**

Inflow Area = 0.344 ac, 0.00% Impervious, Inflow Depth > 3.59" for 100-year event  
Inflow = 0.83 cfs @ 12.48 hrs, Volume= 0.103 af  
Outflow = 0.82 cfs @ 12.49 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Max. Velocity= 4.90 fps, Min. Travel Time= 0.3 min  
Avg. Velocity = 2.66 fps, Avg. Travel Time= 0.5 min

Peak Storage= 13 cf @ 12.49 hrs  
Average Depth at Peak Storage= 0.06'  
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 144.91 cfs

36.0" W x 24.0" H Box Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 76.0' Slope= 0.0632 '/'  
Inlet Invert= 23.40', Outlet Invert= 18.60'



**Summary for Reach PT9: Analysis Point Stream 9 at US Route 1 culvert**

Inflow Area = 72.477 ac, 7.14% Impervious, Inflow Depth > 3.93" for 100-year event  
Inflow = 97.89 cfs @ 12.36 hrs, Volume= 23.762 af  
Outflow = 97.88 cfs @ 12.36 hrs, Volume= 23.760 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 28.16 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 11.61 fps, Avg. Travel Time= 0.1 min

Peak Storage= 323 cf @ 12.36 hrs  
Average Depth at Peak Storage= 1.48'  
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 200.22 cfs

36.0" Round Pipe  
n= 0.011 Concrete pipe, straight & clean  
Length= 93.0' Slope= 0.0645 '/'  
Inlet Invert= 20.00', Outlet Invert= 14.00'

**post conditions**

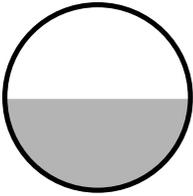
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**Summary for Reach S9-2: Stream 9**

Inflow Area = 69.327 ac, 6.17% Impervious, Inflow Depth > 3.94" for 100-year event  
Inflow = 94.48 cfs @ 12.17 hrs, Volume= 22.748 af  
Outflow = 88.94 cfs @ 12.33 hrs, Volume= 22.624 af, Atten= 6%, Lag= 9.1 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 6.19 fps, Min. Travel Time= 4.3 min  
Avg. Velocity = 3.26 fps, Avg. Travel Time= 8.1 min

Peak Storage= 22,877 cf @ 12.25 hrs  
Average Depth at Peak Storage= 1.72'  
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 120.91 cfs

5.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals  
Side Slope Z-value= 2.0 ' / ' Top Width= 13.00'  
Length= 1,580.0' Slope= 0.0233 ' / '  
Inlet Invert= 64.00', Outlet Invert= 27.25'



**Summary for Reach S9-3: Stream 9**

Inflow Area = 71.273 ac, 6.33% Impervious, Inflow Depth > 3.92" for 100-year event  
Inflow = 95.54 cfs @ 12.32 hrs, Volume= 23.306 af  
Outflow = 94.87 cfs @ 12.36 hrs, Volume= 23.276 af, Atten= 1%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 6.11 fps, Min. Travel Time= 1.0 min  
Avg. Velocity = 2.42 fps, Avg. Travel Time= 2.5 min

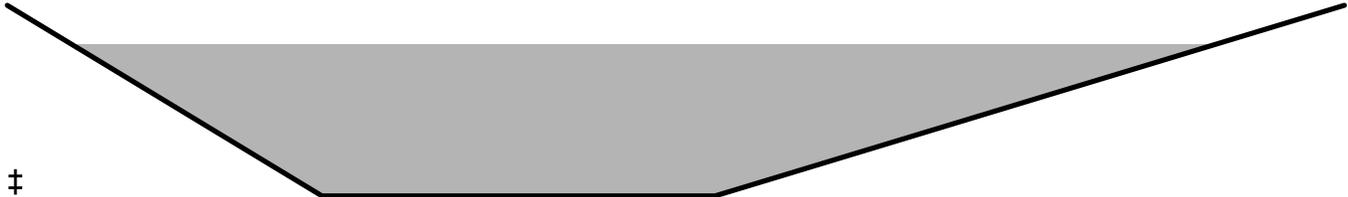
Peak Storage= 5,664 cf @ 12.33 hrs  
Average Depth at Peak Storage= 1.59'  
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 152.29 cfs

**post conditions**

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5.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds  
Side Slope Z-value= 2.0 4.0 ' / ' Top Width= 17.00'  
Length= 364.0' Slope= 0.0199 ' / '  
Inlet Invert= 27.25', Outlet Invert= 20.00'



**Summary for Reach tank: existing clarifier**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 3.09" for 100-year event  
Inflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af  
Outflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond 1P: (new Pond)**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af  
Outflow = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Atten= 0%, Lag= 0.0 min  
Primary = 12.26 cfs @ 12.09 hrs, Volume= 0.278 af  
Secondary = 5.57 cfs @ 12.09 hrs, Volume= 1.153 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 64.72' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>18.0" Round Culvert</b> L= 4.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.15' S= 0.1375 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	62.95'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	60.75'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.75' / 60.72' S= 0.0060 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=11.88 cfs @ 12.09 hrs HW=64.58' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 11.88 cfs @ 6.72 fps)

↑ **2=Broad-Crested Rectangular Weir** (Passes 11.88 cfs of 27.61 cfs potential flow)

**Secondary OutFlow** Max=5.47 cfs @ 12.09 hrs HW=64.61' (Free Discharge)

↑ **3=Culvert** (Inlet Controls 5.47 cfs @ 6.97 fps)

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**Summary for Pond 4P: Rtanks**

Inflow Area = 0.482 ac, 20.00% Impervious, Inflow Depth > 3.32" for 100-year event  
Inflow = 1.98 cfs @ 12.09 hrs, Volume= 0.133 af  
Outflow = 1.51 cfs @ 12.17 hrs, Volume= 0.132 af, Atten= 24%, Lag= 4.5 min  
Primary = 1.51 cfs @ 12.17 hrs, Volume= 0.132 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.12' @ 12.17 hrs Surf.Area= 1,314 sf Storage= 754 cf

Plug-Flow detention time= 14.5 min calculated for 0.131 af (99% of inflow)  
Center-of-Mass det. time= 9.8 min ( 806.6 - 796.8 )

Volume	Invert	Avail.Storage	Storage Description
#1A	29.28'	968 cf	<b>17.12'W x 76.72'L x 3.42'H Field A</b> 4,487 cf Overall - 2,066 cf Embedded = 2,420 cf x 40.0% Voids
#2A	29.53'	1,963 cf	<b>ACF R-Tank HD 1.5 x 310 Inside #1</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 10 Rows of 31 Chambers
		2,931 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.28'	<b>12.0" Round Culvert</b> L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.28' / 29.28' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.48 cfs @ 12.17 hrs HW=30.11' (Free Discharge)  
↑1=Culvert (Barrel Controls 1.48 cfs @ 2.87 fps)

**Summary for Pond dmh10: dmh10**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 1.66" for 100-year event  
Inflow = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af  
Outflow = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af, Atten= 0%, Lag= 0.0 min  
Primary = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.48' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.59'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.59' / 53.56' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

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**Primary OutFlow** Max=28.15 cfs @ 12.09 hrs HW=61.15' (Free Discharge)  
↑1=Culvert (Inlet Controls 28.15 cfs @ 8.96 fps)

**Summary for Pond dmh11: dmh11**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 1.91" for 100-year event  
Inflow = 43.86 cfs @ 12.09 hrs, Volume= 1.467 af  
Outflow = 43.86 cfs @ 12.09 hrs, Volume= 1.467 af, Atten= 0%, Lag= 0.0 min  
Primary = 43.86 cfs @ 12.09 hrs, Volume= 1.467 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.30' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.54'	<b>30.0" Round Culvert</b> L= 84.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.54' / 53.12' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=42.70 cfs @ 12.09 hrs HW=60.03' (Free Discharge)  
↑1=Culvert (Inlet Controls 42.70 cfs @ 8.70 fps)

**Summary for Pond dmh13: dmh13**

Inflow Area = 9.243 ac, 93.25% Impervious, Inflow Depth > 1.91" for 100-year event  
Inflow = 43.86 cfs @ 12.09 hrs, Volume= 1.467 af  
Outflow = 43.86 cfs @ 12.09 hrs, Volume= 1.467 af, Atten= 0%, Lag= 0.0 min  
Primary = 43.86 cfs @ 12.09 hrs, Volume= 1.467 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.86' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.10'	<b>30.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.10' / 52.09' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=42.70 cfs @ 12.09 hrs HW=59.59' (Free Discharge)  
↑1=Culvert (Inlet Controls 42.70 cfs @ 8.70 fps)

**Summary for Pond dmh14: dmh14**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 2.15" for 100-year event  
Inflow = 46.62 cfs @ 12.09 hrs, Volume= 1.769 af  
Outflow = 46.62 cfs @ 12.09 hrs, Volume= 1.769 af, Atten= 0%, Lag= 0.0 min  
Primary = 46.62 cfs @ 12.09 hrs, Volume= 1.769 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 59.54' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.07'	<b>30.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.07' / 51.95' S= 0.0052 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=45.46 cfs @ 12.09 hrs HW=59.26' (Free Discharge)

↑1=Culvert (Inlet Controls 45.46 cfs @ 9.26 fps)

**Summary for Pond dmh15: dmh15**

Inflow Area = 9.890 ac, 91.29% Impervious, Inflow Depth > 2.15" for 100-year event  
 Inflow = 46.62 cfs @ 12.09 hrs, Volume= 1.769 af  
 Outflow = 46.62 cfs @ 12.09 hrs, Volume= 1.769 af, Atten= 0%, Lag= 0.0 min  
 Primary = 46.62 cfs @ 12.09 hrs, Volume= 1.769 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 59.42' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.95'	<b>30.0" Round Culvert</b> L= 90.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.95' / 51.50' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=45.46 cfs @ 12.09 hrs HW=59.14' (Free Discharge)

↑1=Culvert (Inlet Controls 45.46 cfs @ 9.26 fps)

**Summary for Pond dmh16: dmh16**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 2.74" for 100-year event  
 Inflow = 1.06 cfs @ 12.24 hrs, Volume= 0.079 af  
 Outflow = 1.06 cfs @ 12.24 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.06 cfs @ 12.24 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 61.11' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>12.0" Round Culvert</b> L= 198.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.50' / 58.00' S= 0.0126 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.05 cfs @ 12.24 hrs HW=61.11' (Free Discharge)

↑1=Culvert (Inlet Controls 1.05 cfs @ 2.09 fps)

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**Summary for Pond dmh17: dmh17**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 2.20" for 100-year event  
Inflow = 47.57 cfs @ 12.09 hrs, Volume= 1.914 af  
Outflow = 47.57 cfs @ 12.09 hrs, Volume= 1.914 af, Atten= 0%, Lag= 0.0 min  
Primary = 47.57 cfs @ 12.09 hrs, Volume= 1.914 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.21' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.48'	<b>30.0" Round Culvert</b> L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.48' / 51.30' S= 0.0051 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=46.47 cfs @ 12.09 hrs HW=58.93' (Free Discharge)  
↑1=Culvert (Inlet Controls 46.47 cfs @ 9.47 fps)

**Summary for Pond dmh2: dmh2**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 1.30" for 100-year event  
Inflow = 12.51 cfs @ 12.08 hrs, Volume= 0.280 af  
Outflow = 12.51 cfs @ 12.08 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min  
Primary = 12.51 cfs @ 12.08 hrs, Volume= 0.280 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 67.20' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	<b>18.0" Round Culvert</b> L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.00' / 61.50' S= 0.0150 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=12.10 cfs @ 12.08 hrs HW=67.00' (Free Discharge)  
↑1=Culvert (Inlet Controls 12.10 cfs @ 6.85 fps)

**Summary for Pond dmh20: dmh20**

Inflow Area = 10.447 ac, 87.59% Impervious, Inflow Depth > 2.20" for 100-year event  
Inflow = 47.57 cfs @ 12.09 hrs, Volume= 1.914 af  
Outflow = 47.57 cfs @ 12.09 hrs, Volume= 1.914 af, Atten= 0%, Lag= 0.0 min  
Primary = 47.57 cfs @ 12.09 hrs, Volume= 1.914 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.01' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	<b>30.0" Round Culvert</b>

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L= 100.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.28' / 50.78' S= 0.0050 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=46.47 cfs @ 12.09 hrs HW=58.73' (Free Discharge)

↑1=Culvert (Inlet Controls 46.47 cfs @ 9.47 fps)

**Summary for Pond dmh21: dmh21**

Inflow Area = 14.164 ac, 80.88% Impervious, Inflow Depth > 2.94" for 100-year event  
Inflow = 63.26 cfs @ 12.09 hrs, Volume= 3.471 af  
Outflow = 63.26 cfs @ 12.09 hrs, Volume= 3.471 af, Atten= 0%, Lag= 0.0 min  
Primary = 63.26 cfs @ 12.09 hrs, Volume= 3.471 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.79' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.76'	<b>36.0" Round Culvert</b> L= 281.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.76' / 46.00' S= 0.0169 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=62.07 cfs @ 12.09 hrs HW=57.60' (Free Discharge)

↑1=Culvert (Inlet Controls 62.07 cfs @ 8.78 fps)

**Summary for Pond dmh22: dmh 22**

Inflow Area = 2.671 ac, 64.47% Impervious, Inflow Depth > 5.23" for 100-year event  
Inflow = 13.06 cfs @ 12.10 hrs, Volume= 1.165 af  
Outflow = 13.06 cfs @ 12.10 hrs, Volume= 1.165 af, Atten= 0%, Lag= 0.0 min  
Primary = 13.06 cfs @ 12.10 hrs, Volume= 1.165 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.96' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.50'	<b>15.0" Round Culvert</b> L= 93.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.50' / 51.03' S= 0.0051 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=12.98 cfs @ 12.10 hrs HW=59.86' (Free Discharge)

↑1=Culvert (Inlet Controls 12.98 cfs @ 10.57 fps)

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**Summary for Pond dmh23: dmh23**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 5.14" for 100-year event  
Inflow = 11.30 cfs @ 12.09 hrs, Volume= 0.867 af  
Outflow = 11.30 cfs @ 12.09 hrs, Volume= 0.867 af, Atten= 0%, Lag= 0.0 min  
Primary = 11.30 cfs @ 12.09 hrs, Volume= 0.867 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 75.54' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.19'	<b>12.0" Round Culvert</b> L= 138.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.19' / 54.50' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=11.17 cfs @ 12.09 hrs HW=75.09' (Free Discharge)  
↑1=Culvert (Barrel Controls 11.17 cfs @ 14.23 fps)

**Summary for Pond dmh24: dmh24**

Inflow Area = 2.024 ac, 60.68% Impervious, Inflow Depth > 5.14" for 100-year event  
Inflow = 11.30 cfs @ 12.09 hrs, Volume= 0.867 af  
Outflow = 11.30 cfs @ 12.09 hrs, Volume= 0.867 af, Atten= 0%, Lag= 0.0 min  
Primary = 11.30 cfs @ 12.09 hrs, Volume= 0.867 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 70.93' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.10'	<b>12.0" Round Culvert</b> L= 72.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.10' / 55.92' S= 0.0025 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=11.17 cfs @ 12.09 hrs HW=70.61' (Free Discharge)  
↑1=Culvert (Inlet Controls 11.17 cfs @ 14.23 fps)

**Summary for Pond dmh24a: dmh24a**

Inflow Area = 0.817 ac, 77.70% Impervious, Inflow Depth > 5.74" for 100-year event  
Inflow = 4.73 cfs @ 12.10 hrs, Volume= 0.391 af  
Outflow = 4.73 cfs @ 12.10 hrs, Volume= 0.391 af, Atten= 0%, Lag= 0.0 min  
Primary = 4.73 cfs @ 12.10 hrs, Volume= 0.391 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 77.81' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b>

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L= 95.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 58.00' / 57.10' S= 0.0095' /' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=4.70 cfs @ 12.10 hrs HW=77.51' (Free Discharge)

↑1=Culvert (Barrel Controls 4.70 cfs @ 13.46 fps)

**Summary for Pond dmh25: dmh25**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 5.02" for 100-year event  
Inflow = 2.23 cfs @ 12.12 hrs, Volume= 0.171 af  
Outflow = 2.23 cfs @ 12.12 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min  
Primary = 2.23 cfs @ 12.12 hrs, Volume= 0.171 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.05' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	<b>12.0" Round Culvert</b> L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.00' / 55.00' S= 0.0510' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=2.18 cfs @ 12.12 hrs HW=61.03' (Free Discharge)

↑1=Culvert (Inlet Controls 2.18 cfs @ 2.77 fps)

**Summary for Pond dmh26: (new Pond)**

Inflow Area = 2.028 ac, 41.73% Impervious, Inflow Depth > 4.27" for 100-year event  
Inflow = 8.92 cfs @ 12.17 hrs, Volume= 0.722 af  
Outflow = 8.92 cfs @ 12.17 hrs, Volume= 0.722 af, Atten= 0%, Lag= 0.0 min  
Primary = 8.92 cfs @ 12.17 hrs, Volume= 0.722 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 67.18' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.75'	<b>12.0" Round Culvert</b> L= 28.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.75' / 57.61' S= 0.0050' /' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=8.85 cfs @ 12.17 hrs HW=67.04' (Free Discharge)

↑1=Culvert (Inlet Controls 8.85 cfs @ 11.27 fps)

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**Summary for Pond dmh27: dmh27**

Inflow Area = 2.712 ac, 46.62% Impervious, Inflow Depth > 4.62" for 100-year event  
Inflow = 12.61 cfs @ 12.13 hrs, Volume= 1.045 af  
Outflow = 12.61 cfs @ 12.13 hrs, Volume= 1.045 af, Atten= 0%, Lag= 0.0 min  
Primary = 12.61 cfs @ 12.13 hrs, Volume= 1.045 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 65.89' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.03'	<b>15.0" Round Culvert</b> L= 256.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.03' / 51.75' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=12.48 cfs @ 12.13 hrs HW=65.64' (Free Discharge)  
↑1=Culvert (Barrel Controls 12.48 cfs @ 10.17 fps)

**Summary for Pond dmh29: dmh29**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af  
Outflow = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 60.23' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.85'	<b>8.0" Round Culvert</b> L= 46.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.85' / 57.39' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.85 cfs @ 12.09 hrs HW=60.13' (Free Discharge)  
↑1=Culvert (Inlet Controls 1.85 cfs @ 5.30 fps)

**Summary for Pond dmh3: dmh3**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.94" for 100-year event  
Inflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af  
Outflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 67.35' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	<b>18.0" Round Culvert</b>

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L= 125.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 60.50' / 59.84' S= 0.0053 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=16.13 cfs @ 12.09 hrs HW=67.02' (Free Discharge)

↑1=Culvert (Inlet Controls 16.13 cfs @ 9.13 fps)

**Summary for Pond dmh30: dmh30**

Inflow Area = 0.275 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af  
Outflow = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min  
Primary = 1.90 cfs @ 12.09 hrs, Volume= 0.152 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.30' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.40'	<b>12.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.40' / 54.37' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=1.85 cfs @ 12.09 hrs HW=56.28' (Free Discharge)

↑1=Culvert (Barrel Controls 1.85 cfs @ 3.35 fps)

**Summary for Pond dmh31: dmh31**

Inflow Area = 2.303 ac, 48.70% Impervious, Inflow Depth > 4.55" for 100-year event  
Inflow = 10.39 cfs @ 12.14 hrs, Volume= 0.874 af  
Outflow = 10.39 cfs @ 12.14 hrs, Volume= 0.874 af, Atten= 0%, Lag= 0.0 min  
Primary = 10.39 cfs @ 12.14 hrs, Volume= 0.874 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.14' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.35'	<b>15.0" Round Culvert</b> L= 259.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.35' / 53.05' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

**Primary OutFlow** Max=10.33 cfs @ 12.14 hrs HW=63.03' (Free Discharge)

↑1=Culvert (Barrel Controls 10.33 cfs @ 8.42 fps)

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**Summary for Pond dmh32: dmh32**

Inflow Area = 3.424 ac, 42.31% Impervious, Inflow Depth > 4.49" for 100-year event  
Inflow = 15.16 cfs @ 12.13 hrs, Volume= 1.282 af  
Outflow = 15.16 cfs @ 12.13 hrs, Volume= 1.282 af, Atten= 0%, Lag= 0.0 min  
Primary = 15.16 cfs @ 12.13 hrs, Volume= 1.282 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.57' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>18.0" Round Culvert</b> L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.60' S= 0.0036 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=15.04 cfs @ 12.13 hrs HW=57.49' (Free Discharge)  
↑1=Culvert (Inlet Controls 15.04 cfs @ 8.51 fps)

**Summary for Pond dmh33: dmh33**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 5.50" for 100-year event  
Inflow = 0.66 cfs @ 12.40 hrs, Volume= 0.144 af  
Outflow = 0.66 cfs @ 12.40 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min  
Primary = 0.66 cfs @ 12.40 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.47' @ 12.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>12.0" Round Culvert</b> L= 201.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 52.01' S= 0.0099 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.66 cfs @ 12.40 hrs HW=54.47' (Free Discharge)  
↑1=Culvert (Inlet Controls 0.66 cfs @ 1.84 fps)

**Summary for Pond dmh34: dmh34**

Inflow Area = 3.030 ac, 25.90% Impervious, Inflow Depth > 3.54" for 100-year event  
Inflow = 11.68 cfs @ 12.10 hrs, Volume= 0.893 af  
Outflow = 11.68 cfs @ 12.10 hrs, Volume= 0.893 af, Atten= 0%, Lag= 0.0 min  
Primary = 11.68 cfs @ 12.10 hrs, Volume= 0.893 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.76' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.99'	<b>18.0" Round Culvert</b>

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L= 39.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 51.99' / 51.60' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=11.60 cfs @ 12.10 hrs HW=55.72' (Free Discharge)

↑1=Culvert (Inlet Controls 11.60 cfs @ 6.56 fps)

**Summary for Pond dmh35: dmh35**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 4.05" for 100-year event  
Inflow = 30.45 cfs @ 12.11 hrs, Volume= 2.460 af  
Outflow = 30.45 cfs @ 12.11 hrs, Volume= 2.460 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.45 cfs @ 12.11 hrs, Volume= 2.460 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 59.96' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.55'	<b>24.0" Round Culvert</b> L= 276.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.55' / 50.17' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=30.07 cfs @ 12.11 hrs HW=59.77' (Free Discharge)

↑1=Culvert (Barrel Controls 30.07 cfs @ 9.57 fps)

**Summary for Pond dmh36: dmh36**

Inflow Area = 7.284 ac, 34.79% Impervious, Inflow Depth > 4.05" for 100-year event  
Inflow = 30.45 cfs @ 12.11 hrs, Volume= 2.460 af  
Outflow = 30.45 cfs @ 12.11 hrs, Volume= 2.460 af, Atten= 0%, Lag= 0.0 min  
Primary = 30.45 cfs @ 12.11 hrs, Volume= 2.460 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.65' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.15'	<b>24.0" Round Culvert</b> L= 159.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.15' / 49.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=30.07 cfs @ 12.11 hrs HW=57.49' (Free Discharge)

↑1=Culvert (Inlet Controls 30.07 cfs @ 9.57 fps)

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**Summary for Pond dmh38: dmh38**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth = 1.30" for 100-year event  
Inflow = 12.42 cfs @ 12.08 hrs, Volume= 0.279 af  
Outflow = 12.42 cfs @ 12.08 hrs, Volume= 0.279 af, Atten= 0%, Lag= 0.0 min  
Primary = 12.42 cfs @ 12.08 hrs, Volume= 0.279 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.13' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>18.0" Round Culvert</b> L= 106.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 50.92' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=12.02 cfs @ 12.08 hrs HW=55.93' (Free Discharge)  
↑1=Culvert (Inlet Controls 12.02 cfs @ 6.80 fps)

**Summary for Pond dmh39: dmh39**

Inflow Area = 2.778 ac, 93.02% Impervious, Inflow Depth > 1.45" for 100-year event  
Inflow = 13.32 cfs @ 12.09 hrs, Volume= 0.335 af  
Outflow = 13.32 cfs @ 12.09 hrs, Volume= 0.335 af, Atten= 0%, Lag= 0.0 min  
Primary = 13.32 cfs @ 12.09 hrs, Volume= 0.335 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.25' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.59'	<b>18.0" Round Culvert</b> L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.59' / 50.32' S= 0.0047 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=12.92 cfs @ 12.09 hrs HW=55.04' (Free Discharge)  
↑1=Culvert (Inlet Controls 12.92 cfs @ 7.31 fps)

**Summary for Pond dmh4: dmh4**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.94" for 100-year event  
Inflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af  
Outflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 66.69' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.84'	<b>18.0" Round Culvert</b>

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L= 66.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 59.84' / 59.57' S= 0.0041 '/' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=16.13 cfs @ 12.09 hrs HW=66.36' (Free Discharge)

↑1=Culvert (Inlet Controls 16.13 cfs @ 9.13 fps)

**Summary for Pond dmh40: dmh40**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 3.33" for 100-year event  
Inflow = 43.53 cfs @ 12.10 hrs, Volume= 2.795 af  
Outflow = 43.53 cfs @ 12.10 hrs, Volume= 2.795 af, Atten= 0%, Lag= 0.0 min  
Primary = 43.53 cfs @ 12.10 hrs, Volume= 2.795 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.29' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.33'	<b>30.0" Round Culvert</b> L= 340.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 49.33' / 47.63' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=43.46 cfs @ 12.10 hrs HW=56.27' (Free Discharge)

↑1=Culvert (Barrel Controls 43.46 cfs @ 8.85 fps)

**Summary for Pond dmh43: dmh43**

Inflow Area = 10.062 ac, 50.87% Impervious, Inflow Depth > 3.33" for 100-year event  
Inflow = 43.53 cfs @ 12.10 hrs, Volume= 2.795 af  
Outflow = 43.53 cfs @ 12.10 hrs, Volume= 2.795 af, Atten= 0%, Lag= 0.0 min  
Primary = 43.53 cfs @ 12.10 hrs, Volume= 2.795 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.30' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.61'	<b>30.0" Round Culvert</b> L= 193.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.61' / 46.64' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

**Primary OutFlow** Max=43.46 cfs @ 12.10 hrs HW=54.29' (Free Discharge)

↑1=Culvert (Inlet Controls 43.46 cfs @ 8.85 fps)

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**Summary for Pond dmh44: dmh44**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 3.35" for 100-year event  
Inflow = 44.73 cfs @ 12.10 hrs, Volume= 2.877 af  
Outflow = 44.73 cfs @ 12.10 hrs, Volume= 2.877 af, Atten= 0%, Lag= 0.0 min  
Primary = 44.73 cfs @ 12.10 hrs, Volume= 2.877 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.89' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.62'	<b>36.0" Round Culvert</b> L= 82.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.62' / 46.21' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=44.64 cfs @ 12.10 hrs HW=50.88' (Free Discharge)  
↑1=Culvert (Inlet Controls 44.64 cfs @ 6.31 fps)

**Summary for Pond dmh45: dmh45**

Inflow Area = 10.310 ac, 49.64% Impervious, Inflow Depth > 3.35" for 100-year event  
Inflow = 44.73 cfs @ 12.10 hrs, Volume= 2.877 af  
Outflow = 44.73 cfs @ 12.10 hrs, Volume= 2.877 af, Atten= 0%, Lag= 0.0 min  
Primary = 44.73 cfs @ 12.10 hrs, Volume= 2.877 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.46' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.19'	<b>36.0" Round Culvert</b> L= 316.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.19' / 44.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=44.64 cfs @ 12.10 hrs HW=50.45' (Free Discharge)  
↑1=Culvert (Inlet Controls 44.64 cfs @ 6.31 fps)

**Summary for Pond dmh47: dmh47**

Inflow Area = 12.894 ac, 59.74% Impervious, Inflow Depth > 2.94" for 100-year event  
Inflow = 57.22 cfs @ 12.09 hrs, Volume= 3.157 af  
Outflow = 57.22 cfs @ 12.09 hrs, Volume= 3.157 af, Atten= 0%, Lag= 0.0 min  
Primary = 57.22 cfs @ 12.09 hrs, Volume= 3.157 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.03' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	<b>36.0" Round Culvert</b>

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L= 104.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.00' / 42.96' S= 0.0100 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=56.60 cfs @ 12.09 hrs HW=49.94' (Free Discharge)

↑1=Culvert (Inlet Controls 56.60 cfs @ 8.01 fps)

**Summary for Pond dmh48: dmh48**

Inflow Area = 13.587 ac, 61.79% Impervious, Inflow Depth > 3.10" for 100-year event  
Inflow = 60.18 cfs @ 12.10 hrs, Volume= 3.505 af  
Outflow = 60.18 cfs @ 12.10 hrs, Volume= 3.505 af, Atten= 0%, Lag= 0.0 min  
Primary = 60.18 cfs @ 12.10 hrs, Volume= 3.505 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.46' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.94'	<b>36.0" Round Culvert</b> L= 117.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.94' / 42.35' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=59.78 cfs @ 12.10 hrs HW=49.39' (Free Discharge)

↑1=Culvert (Inlet Controls 59.78 cfs @ 8.46 fps)

**Summary for Pond dmh49: dmh49**

Inflow Area = 13.908 ac, 61.10% Impervious, Inflow Depth > 3.14" for 100-year event  
Inflow = 62.02 cfs @ 12.10 hrs, Volume= 3.634 af  
Outflow = 62.02 cfs @ 12.10 hrs, Volume= 3.634 af, Atten= 0%, Lag= 0.0 min  
Primary = 62.02 cfs @ 12.10 hrs, Volume= 3.634 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 49.16' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.33'	<b>36.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 42.33' / 42.23' S= 0.0071 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=61.58 cfs @ 12.10 hrs HW=49.08' (Free Discharge)

↑1=Culvert (Inlet Controls 61.58 cfs @ 8.71 fps)

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**Summary for Pond dmh5: dmh5**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.94" for 100-year event  
Inflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af  
Outflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 67.04' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.48'	<b>18.0" Round Culvert</b> L= 173.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.48' / 58.61' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=16.13 cfs @ 12.09 hrs HW=66.66' (Free Discharge)  
↑1=Culvert (Barrel Controls 16.13 cfs @ 9.13 fps)

**Summary for Pond dmh50: dmh50**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 2.98" for 100-year event  
Inflow = 65.78 cfs @ 12.09 hrs, Volume= 3.696 af  
Outflow = 65.78 cfs @ 12.09 hrs, Volume= 3.696 af, Atten= 0%, Lag= 0.0 min  
Primary = 65.78 cfs @ 12.09 hrs, Volume= 3.696 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 52.24' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.75'	<b>36.0" Round Culvert</b> L= 64.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.75' / 44.11' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=64.60 cfs @ 12.09 hrs HW=52.03' (Free Discharge)  
↑1=Culvert (Inlet Controls 64.60 cfs @ 9.14 fps)

**Summary for Pond dmh51: dmh51**

Inflow Area = 14.860 ac, 78.30% Impervious, Inflow Depth > 2.98" for 100-year event  
Inflow = 65.78 cfs @ 12.09 hrs, Volume= 3.696 af  
Outflow = 65.78 cfs @ 12.09 hrs, Volume= 3.696 af, Atten= 0%, Lag= 0.0 min  
Primary = 65.78 cfs @ 12.09 hrs, Volume= 3.696 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 51.58' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.09'	<b>36.0" Round Culvert</b>

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L= 38.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 44.09' / 43.00' S= 0.0287 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

**Primary OutFlow** Max=64.60 cfs @ 12.09 hrs HW=51.37' (Free Discharge)

↑1=Culvert (Inlet Controls 64.60 cfs @ 9.14 fps)

**Summary for Pond dmh52: dmh52**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 3.06" for 100-year event  
Inflow = 127.76 cfs @ 12.09 hrs, Volume= 7.330 af  
Outflow = 127.76 cfs @ 12.09 hrs, Volume= 7.330 af, Atten= 0%, Lag= 0.0 min  
Primary = 127.76 cfs @ 12.09 hrs, Volume= 7.330 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 46.43' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	41.00'	<b>60.0" Round Culvert</b> L= 258.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 41.00' / 36.00' S= 0.0194 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=126.01 cfs @ 12.09 hrs HW=46.35' (Free Discharge)

↑1=Culvert (Inlet Controls 126.01 cfs @ 6.42 fps)

**Summary for Pond dmh53: dmh53**

Inflow Area = 29.187 ac, 69.95% Impervious, Inflow Depth > 3.09" for 100-year event  
Inflow = 130.24 cfs @ 12.09 hrs, Volume= 7.506 af  
Outflow = 130.24 cfs @ 12.09 hrs, Volume= 7.506 af, Atten= 0%, Lag= 0.0 min  
Primary = 130.24 cfs @ 12.09 hrs, Volume= 7.506 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 38.54' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	<b>60.0" Round Culvert</b> L= 120.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 33.00' / 30.50' S= 0.0208 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=128.65 cfs @ 12.09 hrs HW=38.47' (Free Discharge)

↑1=Culvert (Inlet Controls 128.65 cfs @ 6.55 fps)

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**Summary for Pond dmh54: dmh54**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 3.09" for 100-year event  
Inflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af  
Outflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af, Atten= 0%, Lag= 0.0 min  
Primary = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 32.56' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	27.00'	<b>60.0" Round Culvert</b> L= 152.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 27.00' / 22.00' S= 0.0329 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=128.96 cfs @ 12.09 hrs HW=32.49' (Free Discharge)  
↑1=Culvert (Inlet Controls 128.96 cfs @ 6.57 fps)

**Summary for Pond dmh55: dhm55**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 3.09" for 100-year event  
Inflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af  
Outflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af, Atten= 0%, Lag= 0.0 min  
Primary = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 24.56' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	<b>60.0" Round Culvert</b> L= 115.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.00' / 15.50' S= 0.0304 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=128.96 cfs @ 12.09 hrs HW=24.49' (Free Discharge)  
↑1=Culvert (Inlet Controls 128.96 cfs @ 6.57 fps)

**Summary for Pond dmh56: dmh56**

Inflow Area = 29.275 ac, 70.04% Impervious, Inflow Depth > 3.09" for 100-year event  
Inflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af  
Outflow = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af, Atten= 0%, Lag= 0.0 min  
Primary = 130.54 cfs @ 12.09 hrs, Volume= 7.550 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 18.06' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.50'	<b>60.0" Round Culvert</b>

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L= 42.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 12.50' / 11.00' S= 0.0357 '/ Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=128.96 cfs @ 12.09 hrs HW=17.99' (Free Discharge)

↑1=Culvert (Inlet Controls 128.96 cfs @ 6.57 fps)

**Summary for Pond dmh59: dmh59**

Inflow Area = 2.253 ac, 63.02% Impervious, Inflow Depth > 5.21" for 100-year event  
Inflow = 11.87 cfs @ 12.10 hrs, Volume= 0.978 af  
Outflow = 11.87 cfs @ 12.10 hrs, Volume= 0.978 af, Atten= 0%, Lag= 0.0 min  
Primary = 11.87 cfs @ 12.10 hrs, Volume= 0.978 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 93.32' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	<b>12.0" Round Culvert</b> L= 294.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.30' / 52.83' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=11.78 cfs @ 12.10 hrs HW=92.73' (Free Discharge)

↑1=Culvert (Barrel Controls 11.78 cfs @ 15.00 fps)

**Summary for Pond dmh6: dmh6**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.94" for 100-year event  
Inflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af  
Outflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 71.91' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 57.73' S= 0.0050 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=16.13 cfs @ 12.09 hrs HW=71.21' (Free Discharge)

↑1=Culvert (Barrel Controls 16.13 cfs @ 9.13 fps)

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**Summary for Pond dmh60: dhm60**

Inflow Area = 28.768 ac, 69.99% Impervious, Inflow Depth > 3.06" for 100-year event  
Inflow = 127.76 cfs @ 12.09 hrs, Volume= 7.330 af  
Outflow = 127.76 cfs @ 12.09 hrs, Volume= 7.330 af, Atten= 0%, Lag= 0.0 min  
Primary = 127.76 cfs @ 12.09 hrs, Volume= 7.330 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.93' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	<b>60.0" Round Culvert</b> L= 114.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.50' / 33.50' S= 0.0175 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 19.63 sf

**Primary OutFlow** Max=126.01 cfs @ 12.09 hrs HW=40.85' (Free Discharge)  
↑1=Culvert (Inlet Controls 126.01 cfs @ 6.42 fps)

**Summary for Pond dmh7: dmh7**

Inflow Area = 3.365 ac, 81.45% Impervious, Inflow Depth > 1.94" for 100-year event  
Inflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af  
Outflow = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af, Atten= 0%, Lag= 0.0 min  
Primary = 16.64 cfs @ 12.09 hrs, Volume= 0.543 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 65.22' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.71'	<b>18.0" Round Culvert</b> L= 170.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 57.71' / 56.86' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**Primary OutFlow** Max=16.13 cfs @ 12.09 hrs HW=64.84' (Free Discharge)  
↑1=Culvert (Barrel Controls 16.13 cfs @ 9.13 fps)

**Summary for Pond dmh8: dmh8**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 1.66" for 100-year event  
Inflow = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af  
Outflow = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af, Atten= 0%, Lag= 0.0 min  
Primary = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 65.04' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.84'	<b>24.0" Round Culvert</b>

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L= 296.0' CPP, projecting, no headwall, Ke= 0.900  
Inlet / Outlet Invert= 56.84' / 55.66' S= 0.0040 ' / ' Cc= 0.900  
n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=28.15 cfs @ 12.09 hrs HW=64.63' (Free Discharge)

↑1=Culvert (Barrel Controls 28.15 cfs @ 8.96 fps)

**Summary for Pond dmh9a: dmh9a**

Inflow Area = 5.949 ac, 89.51% Impervious, Inflow Depth > 1.66" for 100-year event  
Inflow = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af  
Outflow = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af, Atten= 0%, Lag= 0.0 min  
Primary = 29.05 cfs @ 12.09 hrs, Volume= 0.823 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.53' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.64'	<b>24.0" Round Culvert</b> L= 206.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.64' / 54.61' S= 0.0050 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

**Primary OutFlow** Max=28.15 cfs @ 12.09 hrs HW=62.20' (Free Discharge)

↑1=Culvert (Inlet Controls 28.15 cfs @ 8.96 fps)

**Summary for Pond GSF 11: grassed soil filter**

Inflow Area = 0.991 ac, 36.78% Impervious, Inflow Depth > 4.92" for 100-year event  
Inflow = 5.81 cfs @ 12.09 hrs, Volume= 0.406 af  
Outflow = 4.44 cfs @ 12.16 hrs, Volume= 0.348 af, Atten= 24%, Lag= 4.3 min  
Primary = 4.44 cfs @ 12.16 hrs, Volume= 0.348 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.46' @ 12.16 hrs Surf.Area= 3,051 sf Storage= 3,813 cf  
Flood Elev= 63.00' Surf.Area= 3,400 sf Storage= 5,560 cf

Plug-Flow detention time= 74.7 min calculated for 0.348 af (86% of inflow)  
Center-of-Mass det. time= 32.2 min ( 800.4 - 768.1 )

Volume	Invert	Avail.Storage	Storage Description			
#1	61.00'	5,560 cf	<b>gsf11 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
61.00	2,200	181.0	0	0	2,200	
62.00	2,771	200.0	2,480	2,480	2,807	
63.00	3,400	219.0	3,080	5,560	3,474	

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Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0085 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. cb19 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=4.40 cfs @ 12.16 hrs HW=62.45' (Free Discharge)

↑1=Culvert (Passes 4.40 cfs of 5.90 cfs potential flow)

↑2=cb19 (Orifice Controls 4.40 cfs @ 3.24 fps)

**Summary for Pond GSF 12: grassed soil filter**

Inflow Area = 0.297 ac, 57.98% Impervious, Inflow Depth > 5.48" for 100-year event  
 Inflow = 1.88 cfs @ 12.09 hrs, Volume= 0.135 af  
 Outflow = 1.84 cfs @ 12.11 hrs, Volume= 0.124 af, Atten= 2%, Lag= 1.1 min  
 Primary = 1.84 cfs @ 12.11 hrs, Volume= 0.124 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 61.67' @ 12.11 hrs Surf.Area= 1,092 sf Storage= 662 cf  
 Flood Elev= 62.50' Surf.Area= 1,368 sf Storage= 1,681 cf

Plug-Flow detention time= 53.7 min calculated for 0.124 af (92% of inflow)  
 Center-of-Mass det. time= 25.0 min ( 780.8 - 755.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	61.00'	1,681 cf	<b>gsf12 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	886	151.0	0	0	886
62.00	1,201	164.0	1,040	1,040	1,248
62.50	1,368	170.0	642	1,681	1,428

Device	Routing	Invert	Outlet Devices
#1	Primary	58.20'	<b>8.0" Round Culvert</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.20' / 58.10' S= 0.0048 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.50'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=1.80 cfs @ 12.11 hrs HW=61.67' (Free Discharge)

↑1=Culvert (Passes 1.80 cfs of 2.35 cfs potential flow)

↑2=Catch Basin (Weir Controls 1.80 cfs @ 1.34 fps)

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**Summary for Pond GSF 13: grassed soil filter**

Inflow Area = 1.037 ac, 46.46% Impervious, Inflow Depth > 5.14" for 100-year event  
Inflow = 6.28 cfs @ 12.09 hrs, Volume= 0.444 af  
Outflow = 4.49 cfs @ 12.17 hrs, Volume= 0.374 af, Atten= 28%, Lag= 4.9 min  
Primary = 4.49 cfs @ 12.17 hrs, Volume= 0.374 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 62.47' @ 12.17 hrs Surf.Area= 3,997 sf Storage= 4,753 cf  
Flood Elev= 63.00' Surf.Area= 4,582 sf Storage= 7,028 cf

Plug-Flow detention time= 82.1 min calculated for 0.373 af (84% of inflow)  
Center-of-Mass det. time= 37.1 min ( 800.6 - 763.5 )

Volume	Invert	Avail.Storage	Storage Description		
#1	61.00'	7,028 cf	<b>gsf13 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
61.00	2,500	328.0	0	0	2,500
62.00	3,513	347.0	2,992	2,992	3,575
63.00	4,582	366.0	4,036	7,028	4,710

Device	Routing	Invert	Outlet Devices
#1	Primary	58.05'	<b>12.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.05' / 57.82' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	62.00'	<b>2.0" x 2.0" Horiz. db18 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=4.45 cfs @ 12.17 hrs HW=62.46' (Free Discharge)

↑1=Culvert (Passes 4.45 cfs of 5.90 cfs potential flow)

↑2=db18 (Orifice Controls 4.45 cfs @ 3.27 fps)

**Summary for Pond GSF 15: grassed soil filter**

Inflow Area = 0.210 ac, 1.92% Impervious, Inflow Depth > 3.94" for 100-year event  
Inflow = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af  
Outflow = 1.00 cfs @ 12.11 hrs, Volume= 0.066 af, Atten= 2%, Lag= 1.0 min  
Primary = 1.00 cfs @ 12.11 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 63.81' @ 12.11 hrs Surf.Area= 756 sf Storage= 212 cf  
Flood Elev= 65.00' Surf.Area= 1,418 sf Storage= 1,489 cf

Plug-Flow detention time= 27.1 min calculated for 0.066 af (95% of inflow)  
Center-of-Mass det. time= 11.0 min ( 797.1 - 786.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	1,489 cf	<b>gsf15 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	600	168.0	0	0	600
64.00	858	177.0	363	363	862
65.00	1,418	196.0	1,126	1,489	1,456

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.52' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	63.70'	<b>2.0" x 2.0" Horiz. cb9 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=0.98 cfs @ 12.11 hrs HW=63.81' (Free Discharge)

↑1=Culvert (Passes 0.98 cfs of 2.21 cfs potential flow)

↑2=cb9 (Weir Controls 0.98 cfs @ 1.09 fps)

**Summary for Pond GSF 16: grassed soil filter**

Inflow Area = 0.347 ac, 34.16% Impervious, Inflow Depth > 4.81" for 100-year event  
 Inflow = 2.00 cfs @ 12.09 hrs, Volume= 0.139 af  
 Outflow = 1.06 cfs @ 12.24 hrs, Volume= 0.079 af, Atten= 47%, Lag= 9.2 min  
 Primary = 1.06 cfs @ 12.24 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 64.52' @ 12.24 hrs Surf.Area= 2,293 sf Storage= 2,840 cf

Plug-Flow detention time= 149.0 min calculated for 0.079 af (57% of inflow)  
 Center-of-Mass det. time= 72.7 min ( 843.1 - 770.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	62.75'	4,054 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
62.75	1,000	215.0	0	0	1,000
63.00	1,165	220.0	270	270	1,181
64.00	1,858	241.0	1,498	1,768	1,986
65.00	2,741	270.0	2,285	4,054	3,192

Device	Routing	Invert	Outlet Devices
#1	Primary	60.70'	<b>8.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.70' / 60.54' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	64.40'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b>

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C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=1.04 cfs @ 12.24 hrs HW=64.52' (Free Discharge)**

↑1=Culvert (Passes 1.04 cfs of 2.48 cfs potential flow)

↑2=Catch Basin (Weir Controls 1.04 cfs @ 1.12 fps)

**Summary for Pond GSF 18A: grassed soil filter**

Inflow Area = 0.146 ac, 40.91% Impervious, Inflow Depth > 5.03" for 100-year event  
Inflow = 0.87 cfs @ 12.09 hrs, Volume= 0.061 af  
Outflow = 0.83 cfs @ 12.11 hrs, Volume= 0.052 af, Atten= 4%, Lag= 1.5 min  
Primary = 0.83 cfs @ 12.11 hrs, Volume= 0.052 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.50' @ 12.12 hrs Surf.Area= 1,177 sf Storage= 518 cf

Plug-Flow detention time= 77.3 min calculated for 0.051 af (84% of inflow)  
Center-of-Mass det. time= 33.4 min ( 799.3 - 765.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	1,183 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	900	183.0	0	0	900
58.00	1,490	202.0	1,183	1,183	1,513

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.40'	<b>2.0" x 2.0" Horiz. cb24 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=0.81 cfs @ 12.11 hrs HW=57.50' (Free Discharge)**

↑1=Culvert (Passes 0.81 cfs of 2.36 cfs potential flow)

↑2=cb24 (Weir Controls 0.81 cfs @ 1.02 fps)

**Summary for Pond GSF 18B: grassed soil filter**

Inflow Area = 0.092 ac, 58.36% Impervious, Inflow Depth > 5.48" for 100-year event  
Inflow = 0.58 cfs @ 12.09 hrs, Volume= 0.042 af  
Outflow = 0.58 cfs @ 12.10 hrs, Volume= 0.034 af, Atten= 1%, Lag= 0.9 min  
Primary = 0.58 cfs @ 12.10 hrs, Volume= 0.034 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 57.98' @ 12.10 hrs Surf.Area= 580 sf Storage= 417 cf

Plug-Flow detention time= 96.8 min calculated for 0.034 af (80% of inflow)

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Center-of-Mass det. time= 43.1 min ( 798.8 - 755.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	430 cf	<b>gsf18a (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
57.00	290	88.0	0	0	290
58.00	587	107.0	430	430	601

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	<b>8.0" Round Culvert</b> L= 11.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 53.95' S= 0.0045 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.90'	<b>2.0" x 2.0" Horiz. cb23 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.57 cfs @ 12.10 hrs HW=57.98' (Free Discharge)

↑1=Culvert (Passes 0.57 cfs of 2.53 cfs potential flow)

↑2=cb23 (Weir Controls 0.57 cfs @ 0.91 fps)

**Summary for Pond GSF 1A: Grassed soil filter**

Inflow Area = 0.408 ac, 34.88% Impervious, Inflow Depth > 5.03" for 100-year event  
 Inflow = 2.43 cfs @ 12.09 hrs, Volume= 0.171 af  
 Outflow = 2.23 cfs @ 12.12 hrs, Volume= 0.171 af, Atten= 8%, Lag= 1.9 min  
 Primary = 2.23 cfs @ 12.12 hrs, Volume= 0.171 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 65.95' @ 12.12 hrs Surf.Area= 1,740 sf Storage= 337 cf  
 Flood Elev= 68.00' Surf.Area= 3,488 sf Storage= 5,554 cf

Plug-Flow detention time= 4.6 min calculated for 0.170 af (100% of inflow)  
 Center-of-Mass det. time= 3.6 min ( 769.5 - 765.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	5,554 cf	<b>Grassed Underdrain Soil Filter (Irregular)</b> listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	1,600	234.0	0	0	1,600
66.00	1,775	239.0	422	422	1,797
67.00	2,525	261.0	2,139	2,561	2,708
68.00	3,488	286.0	2,994	5,554	3,830

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.26' S= 0.0200 '/ Cc= 0.900

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#2 Device 1 65.75' n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf  
**2.0" x 2.0" Horiz. Orifice/Grate X 49.00**  
 C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=2.23 cfs @ 12.12 hrs HW=65.95' (Free Discharge)**

↑1=Culvert (Inlet Controls 2.23 cfs @ 6.38 fps)

↑2=Orifice/Grate (Passes 2.23 cfs of 2.30 cfs potential flow)

**Summary for Pond GSF 1B: grassed soil filter**

Inflow Area = 0.781 ac, 20.08% Impervious, Inflow Depth > 4.48" for 100-year event  
 Inflow = 4.24 cfs @ 12.09 hrs, Volume= 0.291 af  
 Outflow = 4.13 cfs @ 12.09 hrs, Volume= 0.263 af, Atten= 3%, Lag= 0.0 min  
 Primary = 4.13 cfs @ 12.09 hrs, Volume= 0.263 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 72.80' @ 12.09 hrs Surf.Area= 1,576 sf Storage= 1,039 cf  
 Flood Elev= 67.00' Surf.Area= 1,576 sf Storage= 1,039 cf

Plug-Flow detention time= 49.9 min calculated for 0.263 af (90% of inflow)  
 Center-of-Mass det. time= 18.9 min ( 795.5 - 776.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	66.00'	1,039 cf	<b>gsf1B (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.00	583	194.0	0	0	583
67.00	1,576	297.0	1,039	1,039	4,615

Device	Routing	Invert	Outlet Devices
#1	Primary	62.80'	<b>8.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.80' / 62.60' S= 0.0100 ' /' Cc= 0.900
#2	Device 1	66.90'	n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. CB17 grate X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow Max=4.04 cfs @ 12.09 hrs HW=72.40' (Free Discharge)**

↑1=Culvert (Inlet Controls 4.04 cfs @ 11.57 fps)

↑2=CB17 grate (Passes 4.04 cfs of 15.37 cfs potential flow)

**Summary for Pond GSF 2: grassed soil filter**

Inflow Area = 0.713 ac, 25.93% Impervious, Inflow Depth > 4.59" for 100-year event  
 Inflow = 3.95 cfs @ 12.09 hrs, Volume= 0.272 af  
 Outflow = 2.57 cfs @ 12.19 hrs, Volume= 0.237 af, Atten= 35%, Lag= 6.0 min  
 Primary = 2.57 cfs @ 12.19 hrs, Volume= 0.237 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 58.03' @ 12.19 hrs Surf.Area= 2,400 sf Storage= 2,473 cf  
Flood Elev= 59.00' Surf.Area= 3,488 sf Storage= 5,317 cf

Plug-Flow detention time= 67.2 min calculated for 0.236 af (87% of inflow)  
Center-of-Mass det. time= 28.1 min ( 802.7 - 774.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.75'	5,317 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.75	1,500	218.0	0	0	1,500
57.00	1,669	223.0	396	396	1,684
58.00	2,371	245.0	2,010	2,406	2,536
59.00	3,488	283.0	2,912	5,317	4,154

Device	Routing	Invert	Outlet Devices
#1	Primary	53.95'	<b>8.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.95' / 53.76' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb20 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.57 cfs @ 12.19 hrs HW=58.02' (Free Discharge)

- 1=Culvert (Inlet Controls 2.57 cfs @ 7.35 fps)
- 2=cb20 (Passes 2.57 cfs of 4.27 cfs potential flow)

**Summary for Pond GSF 24: grassed soil filter**

Inflow Area = 0.419 ac, 67.19% Impervious, Inflow Depth > 5.94" for 100-year event  
Inflow = 2.78 cfs @ 12.09 hrs, Volume= 0.208 af  
Outflow = 2.56 cfs @ 12.12 hrs, Volume= 0.176 af, Atten= 8%, Lag= 2.2 min  
Primary = 2.56 cfs @ 12.12 hrs, Volume= 0.176 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 40.82' @ 12.12 hrs Surf.Area= 1,920 sf Storage= 1,774 cf

Plug-Flow detention time= 88.8 min calculated for 0.176 af (85% of inflow)  
Center-of-Mass det. time= 43.5 min ( 786.9 - 743.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	39.75'	4,479 cf	<b>gsf24 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
39.75	1,400	150.0	0	0	1,400
40.00	1,516	156.0	364	364	1,551
41.00	2,013	176.0	1,759	2,123	2,105
42.00	2,717	200.0	2,356	4,479	2,847

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Device	Routing	Invert	Outlet Devices
#1	Primary	36.80'	<b>8.0" Round Culvert</b> L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 36.80' / 36.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	40.60'	<b>2.0" x 2.0" Horiz. cb32 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.55 cfs @ 12.12 hrs HW=40.82' (Free Discharge)

↑1=Culvert (Inlet Controls 2.55 cfs @ 7.30 fps)

↑2=cb32 (Passes 2.55 cfs of 2.65 cfs potential flow)

**Summary for Pond GSF 3: grassed soil filter**

Inflow Area = 0.830 ac, 36.22% Impervious, Inflow Depth > 4.81" for 100-year event  
 Inflow = 4.77 cfs @ 12.09 hrs, Volume= 0.332 af  
 Outflow = 3.90 cfs @ 12.15 hrs, Volume= 0.286 af, Atten= 18%, Lag= 3.5 min  
 Primary = 3.90 cfs @ 12.15 hrs, Volume= 0.286 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
 Peak Elev= 56.10' @ 12.15 hrs Surf.Area= 2,769 sf Storage= 2,923 cf  
 Flood Elev= 57.00' Surf.Area= 3,839 sf Storage= 5,872 cf

Plug-Flow detention time= 72.6 min calculated for 0.286 af (86% of inflow)  
 Center-of-Mass det. time= 30.7 min ( 801.1 - 770.3 )

Volume	Invert	Avail.Storage	Storage Description			
#1	54.75'	5,872 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.75	1,600	268.0	0	0	1,600	
55.00	1,804	274.0	425	425	1,868	
56.00	2,657	295.0	2,217	2,642	2,860	
57.00	3,839	332.0	3,230	5,872	4,733	

Device	Routing	Invert	Outlet Devices
#1	Primary	51.98'	<b>12.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.98' / 51.84' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	55.75'	<b>2.0" x 2.0" Horiz. cb25 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=3.89 cfs @ 12.15 hrs HW=56.10' (Free Discharge)

↑1=Culvert (Passes 3.89 cfs of 5.68 cfs potential flow)

↑2=cb25 (Orifice Controls 3.89 cfs @ 2.86 fps)

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**Summary for Pond GSF 4: grassed soil filter**

Inflow Area = 0.194 ac, 0.00% Impervious, Inflow Depth > 3.94" for 100-year event  
Inflow = 0.94 cfs @ 12.09 hrs, Volume= 0.064 af  
Outflow = 0.93 cfs @ 12.11 hrs, Volume= 0.056 af, Atten= 1%, Lag= 0.9 min  
Primary = 0.93 cfs @ 12.11 hrs, Volume= 0.056 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.21' @ 12.11 hrs Surf.Area= 690 sf Storage= 405 cf  
Flood Elev= 56.00' Surf.Area= 974 sf Storage= 1,061 cf

Plug-Flow detention time= 58.7 min calculated for 0.056 af (88% of inflow)  
Center-of-Mass det. time= 21.3 min ( 807.4 - 786.1 )

Volume	Invert	Avail.Storage	Storage Description		
#1	54.50'	1,061 cf	<b>gsf4 (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.50	457	163.0	0	0	457
55.00	623	169.0	269	269	636
56.00	974	182.0	792	1,061	1,039

Device	Routing	Invert	Outlet Devices
#1	Primary	51.73'	<b>8.0" Round Culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.73' / 51.56' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	55.10'	<b>2.0" x 2.0" Horiz. cb26 rim X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=0.91 cfs @ 12.11 hrs HW=55.21' (Free Discharge)

↑1=Culvert (Passes 0.91 cfs of 2.35 cfs potential flow)

↑2=cb26 rim (Weir Controls 0.91 cfs @ 1.07 fps)

**Summary for Pond GSF 5: grassed soil filter**

Inflow Area = 0.248 ac, 0.00% Impervious, Inflow Depth > 3.94" for 100-year event  
Inflow = 1.20 cfs @ 12.09 hrs, Volume= 0.081 af  
Outflow = 1.20 cfs @ 12.09 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.1 min  
Primary = 1.20 cfs @ 12.09 hrs, Volume= 0.081 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 54.01' @ 12.09 hrs Surf.Area= 603 sf Storage= 3 cf  
Flood Elev= 55.00' Surf.Area= 1,257 sf Storage= 908 cf

Plug-Flow detention time= 0.0 min calculated for 0.081 af (100% of inflow)  
Center-of-Mass det. time= 0.0 min ( 786.2 - 786.1 )

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Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	908 cf	<b>gsf5 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	600	210.0	0	0	600
55.00	1,257	228.0	908	908	1,265

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.95' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	54.60'	<b>2.0" x 2.0" Horiz. Catch Basin</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

Primary OutFlow Max=2.17 cfs @ 12.09 hrs HW=54.01' (Free Discharge)

- 1=Culvert (Inlet Controls 2.17 cfs @ 6.21 fps)
- 2=Catch Basin ( Controls 0.00 cfs)

**Summary for Pond GSF 6: grassed soil filter**

Inflow Area = 0.321 ac, 32.06% Impervious, Inflow Depth > 4.81" for 100-year event  
 Inflow = 1.85 cfs @ 12.09 hrs, Volume= 0.129 af  
 Outflow = 1.85 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min  
 Primary = 1.85 cfs @ 12.09 hrs, Volume= 0.129 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 49.00' @ 12.09 hrs Surf.Area= 1,001 sf Storage= 2 cf  
 Flood Elev= 50.00' Surf.Area= 1,768 sf Storage= 1,366 cf

Plug-Flow detention time= 0.0 min calculated for 0.128 af (100% of inflow)  
 Center-of-Mass det. time= 0.0 min ( 770.4 - 770.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	1,366 cf	<b>gsf6 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
49.00	1,000	156.0	0	0	1,000
50.00	1,768	184.0	1,366	1,366	1,776

Device	Routing	Invert	Outlet Devices
#1	Primary	44.70'	<b>8.0" Round culvert</b> L= 17.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.70' / 44.53' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Primary	48.20'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

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**Primary OutFlow** Max=8.51 cfs @ 12.09 hrs HW=49.00' (Free Discharge)

↑1=culvert (Inlet Controls 2.64 cfs @ 7.57 fps)

↑2=Catch Basin (Orifice Controls 5.87 cfs @ 4.31 fps)

**Summary for Pond GSF 7: grassed soil filter**

Inflow Area = 0.697 ac, 25.86% Impervious, Inflow Depth > 4.59" for 100-year event  
Inflow = 3.86 cfs @ 12.09 hrs, Volume= 0.266 af  
Outflow = 2.55 cfs @ 12.19 hrs, Volume= 0.225 af, Atten= 34%, Lag= 5.8 min  
Primary = 2.55 cfs @ 12.19 hrs, Volume= 0.225 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2  
Peak Elev= 55.03' @ 12.19 hrs Surf.Area= 3,514 sf Storage= 2,825 cf  
Flood Elev= 56.00' Surf.Area= 5,203 sf Storage= 7,026 cf

Plug-Flow detention time= 76.9 min calculated for 0.225 af (85% of inflow)  
Center-of-Mass det. time= 32.3 min ( 806.9 - 774.6 )

Volume	Invert	Avail.Storage	Storage Description			
#1	54.00'	7,026 cf	<b>gsf7 (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
54.00	2,037	220.0	0	0	2,037	
55.00	3,467	289.0	2,720	2,720	4,843	
56.00	5,203	357.0	4,306	7,026	8,354	

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	<b>8.0" Round cb29</b> L= 26.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 50.48' S= 0.0200 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	54.70'	<b>2.0" x 2.0" Horiz. Catch Basin X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.55 cfs @ 12.19 hrs HW=55.03' (Free Discharge)

↑1=cb29 (Inlet Controls 2.55 cfs @ 7.31 fps)

↑2=Catch Basin (Passes 2.55 cfs of 3.75 cfs potential flow)

**Summary for Pond GSF 8: grassed soil filter**

Inflow Area = 1.046 ac, 55.78% Impervious, Inflow Depth > 5.37" for 100-year event  
Inflow = 6.53 cfs @ 12.09 hrs, Volume= 0.468 af  
Outflow = 2.76 cfs @ 12.30 hrs, Volume= 0.392 af, Atten= 58%, Lag= 12.4 min  
Primary = 2.76 cfs @ 12.30 hrs, Volume= 0.392 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 58.44' @ 12.30 hrs Surf.Area= 3,868 sf Storage= 6,241 cf  
Flood Elev= 58.50' Surf.Area= 3,910 sf Storage= 6,471 cf

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Plug-Flow detention time= 88.9 min calculated for 0.391 af (84% of inflow)

Center-of-Mass det. time= 43.1 min ( 801.5 - 758.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	6,471 cf	<b>Grassed Underdrain (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
56.50	2,600	200.0	0	0	2,600
57.50	3,227	218.0	2,908	2,908	3,234
58.50	3,910	237.0	3,563	6,471	3,959

Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	<b>8.0" Round Culvert</b> L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.50' / 52.93' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	57.60'	<b>2.0" x 2.0" Horiz. cb10 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads

**Primary OutFlow** Max=2.76 cfs @ 12.30 hrs HW=58.44' (Free Discharge)

↑1=Culvert (Barrel Controls 2.76 cfs @ 7.92 fps)

↑2=cb10 (Passes 2.76 cfs of 6.01 cfs potential flow)

**Summary for Pond GSF 9: grassed soil filter**

Inflow Area = 0.647 ac, 63.29% Impervious, Inflow Depth > 5.59" for 100-year event  
 Inflow = 4.15 cfs @ 12.09 hrs, Volume= 0.302 af  
 Outflow = 2.79 cfs @ 12.18 hrs, Volume= 0.302 af, Atten= 33%, Lag= 5.5 min  
 Primary = 2.79 cfs @ 12.18 hrs, Volume= 0.302 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 63.76' @ 12.18 hrs Surf.Area= 2,233 sf Storage= 535 cf  
 Flood Elev= 65.00' Surf.Area= 3,935 sf Storage= 4,339 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.6 min ( 753.6 - 752.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	63.50'	4,339 cf	<b>gsf9 (Irregular)</b> Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.50	1,900	437.0	0	0	1,900
64.00	2,567	446.0	1,113	1,113	2,570
65.00	3,935	465.0	3,227	4,339	4,021

Device	Routing	Invert	Outlet Devices
#1	Primary	59.00'	<b>8.0" Round Culvert</b> L= 54.0' CPP, projecting, no headwall, Ke= 0.900

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#2	Device 1	63.00'	Inlet / Outlet Invert= 59.00' / 57.92' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf <b>2.0" x 2.0" Horiz. cb6 X 49.00</b> C= 0.600 in 24.0" x 24.0" Grate Limited to weir flow at low heads
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**Primary OutFlow** Max=2.79 cfs @ 12.18 hrs HW=63.75' (Free Discharge)

↑1=Culvert (Inlet Controls 2.79 cfs @ 7.99 fps)

↑2=cb6 (Passes 2.79 cfs of 5.69 cfs potential flow)

**Summary for Pond ICS1: ICS**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event
Inflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af
Outflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Atten= 0%, Lag= 0.0 min
Primary =	12.51 cfs @ 12.08 hrs, Volume= 0.280 af
Secondary =	5.32 cfs @ 12.09 hrs, Volume= 1.151 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 67.63' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.50'	<b>18.0" Round Culvert</b> L= 23.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.50' / 63.27' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	66.15'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	63.95'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 63.95' / 63.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=12.10 cfs @ 12.08 hrs HW=67.50' (Free Discharge)

↑1=Culvert (Inlet Controls 12.10 cfs @ 6.85 fps)

↑2=Broad-Crested Rectangular Weir (Passes 12.10 cfs of 20.74 cfs potential flow)

**Secondary OutFlow** Max=5.27 cfs @ 12.09 hrs HW=67.56' (Free Discharge)

↑3=Culvert (Inlet Controls 5.27 cfs @ 6.71 fps)

**Summary for Pond ics28: ICS28**

Inflow Area =	0.275 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event
Inflow =	1.90 cfs @ 12.09 hrs, Volume= 0.152 af
Outflow =	1.90 cfs @ 12.09 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min
Primary =	1.90 cfs @ 12.09 hrs, Volume= 0.152 af
Secondary =	0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 58.94' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.00' / 57.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	60.50'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	58.15'	<b>8.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.15' / 58.12' S= 0.0060 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=1.85 cfs @ 12.09 hrs HW=58.92' (Free Discharge)

↑1=Culvert (Inlet Controls 1.01 cfs @ 2.91 fps)

↑3=Culvert (Barrel Controls 0.84 cfs @ 2.60 fps)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=58.04' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

**Summary for Pond ICS37: ISC37**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event
Inflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af
Outflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Atten= 0%, Lag= 0.0 min
Primary =	12.42 cfs @ 12.08 hrs, Volume= 0.279 af
Secondary =	5.42 cfs @ 12.09 hrs, Volume= 1.151 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 56.59' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.50'	<b>18.0" Round Culvert</b> L= 51.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.50' / 52.00' S= 0.0098 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

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**Primary OutFlow** Max=12.02 cfs @ 12.08 hrs HW=56.45' (Free Discharge)

↑1=Culvert (Inlet Controls 12.02 cfs @ 6.80 fps)

↑2=Broad-Crested Rectangular Weir(Passes 12.02 cfs of 23.22 cfs potential flow)

**Secondary OutFlow** Max=5.34 cfs @ 12.09 hrs HW=56.50' (Free Discharge)

↑3=Culvert (Inlet Controls 5.34 cfs @ 6.80 fps)

**Summary for Pond ics46: ICS46**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event
Inflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af
Outflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Atten= 0%, Lag= 0.0 min
Primary =	12.61 cfs @ 12.08 hrs, Volume= 0.281 af
Secondary =	5.23 cfs @ 12.10 hrs, Volume= 1.150 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 50.37' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	<b>18.0" Round Culvert</b> L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.20' / 46.00' S= 0.0091' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	49.00'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	46.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.80' / 46.75' S= 0.0100' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=12.19 cfs @ 12.08 hrs HW=50.24' (Free Discharge)

↑1=Culvert (Inlet Controls 12.19 cfs @ 6.90 fps)

↑2=Broad-Crested Rectangular Weir(Passes 12.19 cfs of 18.37 cfs potential flow)

**Secondary OutFlow** Max=5.20 cfs @ 12.10 hrs HW=50.33' (Free Discharge)

↑3=Culvert (Inlet Controls 5.20 cfs @ 6.61 fps)

**Summary for Pond ICS9: ICS9**

Inflow Area =	2.584 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event
Inflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af
Outflow =	17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Atten= 0%, Lag= 0.0 min
Primary =	12.42 cfs @ 12.08 hrs, Volume= 0.280 af
Secondary =	5.42 cfs @ 12.09 hrs, Volume= 1.150 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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Peak Elev= 65.79' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.70'	<b>18.0" Round Culvert</b> L= 14.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.70' / 61.00' S= 0.0500 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	64.18'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	62.00'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.65' S= 0.0700 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=12.02 cfs @ 12.08 hrs HW=65.65' (Free Discharge)

↑1=Culvert (Inlet Controls 12.02 cfs @ 6.80 fps)

↑2=Broad-Crested Rectangular Weir(Passes 12.02 cfs of 23.72 cfs potential flow)

**Secondary OutFlow** Max=5.34 cfs @ 12.09 hrs HW=65.70' (Free Discharge)

↑3=Culvert (Inlet Controls 5.34 cfs @ 6.80 fps)

**Summary for Pond ISC42: ICS42**

Device	Routing	Invert	Outlet Devices
#1	Primary	52.20'	<b>18.0" Round Culvert</b> L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.20' / 51.88' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.37'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	52.80'	<b>12.0" Round Culvert</b> L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.75' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑1=Culvert ( Controls 0.00 cfs)

↑2=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 1.00 hrs HW=0.00' (Free Discharge)

↑3=Culvert ( Controls 0.00 cfs)

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### Summary for Pond MPP 10: Rtank storage

Inflow Area = 0.710 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 4.90 cfs @ 12.09 hrs, Volume= 0.393 af  
Outflow = 3.15 cfs @ 12.19 hrs, Volume= 0.366 af, Atten= 36%, Lag= 6.1 min  
Primary = 3.15 cfs @ 12.19 hrs, Volume= 0.366 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 61.95' @ 12.19 hrs Surf.Area= 0.179 ac Storage= 0.090 af

Plug-Flow detention time= 76.1 min calculated for 0.366 af (93% of inflow)  
Center-of-Mass det. time= 49.3 min ( 764.9 - 715.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	61.23'	0.091 af	<b>6.25'W x 1,248.97'L x 1.94'H Field A</b> 0.347 af Overall - 0.118 af Embedded = 0.229 af x 40.0% Voids
#2A	61.48'	0.112 af	<b>ACF R-Tank HD 0.5 x 2128 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 4 Rows of 532 Chambers
		0.204 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	61.48'	<b>8.0" Round Culvert X 6.00</b> L= 2.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 61.48' / 61.40' S= 0.0400 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=3.13 cfs @ 12.19 hrs HW=61.95' (Free Discharge)  
↑1=Culvert (Barrel Controls 3.13 cfs @ 2.81 fps)

### Summary for Pond MPP 14: Rtanks

Inflow Area = 0.215 ac, 94.36% Impervious, Inflow Depth > 6.53" for 100-year event  
Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.117 af  
Outflow = 0.99 cfs @ 12.18 hrs, Volume= 0.110 af, Atten= 33%, Lag= 5.6 min  
Primary = 0.99 cfs @ 12.18 hrs, Volume= 0.110 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.75' @ 12.18 hrs Surf.Area= 1,935 sf Storage= 1,114 cf  
Flood Elev= 60.50' Surf.Area= 1,935 sf Storage= 2,354 cf

Plug-Flow detention time= 69.2 min calculated for 0.110 af (94% of inflow)  
Center-of-Mass det. time= 44.8 min ( 766.3 - 721.5 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	55.98'	1,011 cf	<b>15.44'W x 125.33'L x 2.04'H Field A</b> 3,941 cf Overall - 1,413 cf Embedded = 2,528 cf x 40.0% Voids
#2A	56.23'	1,343 cf	<b>ACF R-Tank HD 0.5 x 583 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 11 Rows of 53 Chambers
		2,354 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	56.23'	<b>8.0" Round Culvert X 2.00</b> L= 21.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 56.23' / 56.12' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.98 cfs @ 12.18 hrs HW=56.75' (Free Discharge)

↑1=Culvert (Barrel Controls 0.98 cfs @ 2.31 fps)

**Summary for Pond MPP 19: Rtanks**

Inflow Area = 0.315 ac, 81.76% Impervious, Inflow Depth > 6.17" for 100-year event  
 Inflow = 2.12 cfs @ 12.09 hrs, Volume= 0.162 af  
 Outflow = 0.66 cfs @ 12.40 hrs, Volume= 0.144 af, Atten= 69%, Lag= 18.5 min  
 Primary = 0.66 cfs @ 12.40 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 56.12' @ 12.40 hrs Surf.Area= 0.074 ac Storage= 0.068 af

Plug-Flow detention time= 120.4 min calculated for 0.144 af (89% of inflow)  
 Center-of-Mass det. time= 84.6 min ( 820.5 - 735.9 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.83'	0.033 af	<b>18.06'W x 179.28'L x 1.84'H Field A</b> 0.137 af Overall - 0.055 af Embedded = 0.082 af x 40.0% Voids
#2A	55.08'	0.052 af	<b>ACF R-Tank HD 0.5 x 988 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 76 Chambers
		0.085 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.08'	<b>6.0" Round Culvert</b> L= 19.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.08' / 55.00' S= 0.0042 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

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**Primary OutFlow** Max=0.66 cfs @ 12.40 hrs HW=56.11' (Free Discharge)  
↑1=Culvert (Inlet Controls 0.66 cfs @ 3.37 fps)

**Summary for Pond MPP 21: Rtanks**

Inflow Area = 0.229 ac, 83.66% Impervious, Inflow Depth > 6.17" for 100-year event  
Inflow = 1.55 cfs @ 12.09 hrs, Volume= 0.118 af  
Outflow = 0.73 cfs @ 12.26 hrs, Volume= 0.111 af, Atten= 53%, Lag= 10.2 min  
Primary = 0.73 cfs @ 12.26 hrs, Volume= 0.111 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.93' @ 12.26 hrs Surf.Area= 1,510 sf Storage= 1,484 cf

Plug-Flow detention time= 73.3 min calculated for 0.110 af (93% of inflow)  
Center-of-Mass det. time= 49.8 min ( 785.7 - 735.9 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.48'	818 cf	<b>16.75'W x 90.14'L x 2.09'H Field A</b> 3,151 cf Overall - 1,105 cf Embedded = 2,046 cf x 40.0% Voids
#2A	54.73'	1,050 cf	<b>ACF R-Tank HD 0.5 x 456 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 38 Chambers
		1,868 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.73'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.73' / 54.73' S= 0.0000 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.73 cfs @ 12.26 hrs HW=55.93' (Free Discharge)  
↑1=Culvert (Inlet Controls 0.73 cfs @ 3.70 fps)

**Summary for Pond MPP 22: Rtanks**

Inflow Area = 0.310 ac, 76.43% Impervious, Inflow Depth > 5.94" for 100-year event  
Inflow = 2.06 cfs @ 12.09 hrs, Volume= 0.154 af  
Outflow = 0.67 cfs @ 12.38 hrs, Volume= 0.137 af, Atten= 67%, Lag= 17.7 min  
Primary = 0.67 cfs @ 12.38 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 56.10' @ 12.38 hrs Surf.Area= 3,003 sf Storage= 2,782 cf

Plug-Flow detention time= 113.7 min calculated for 0.136 af (89% of inflow)  
Center-of-Mass det. time= 78.2 min ( 821.6 - 743.4 )

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Volume	Invert	Avail.Storage	Storage Description
#1A	54.80'	1,262 cf	<b>16.75'W x 179.28'L x 1.79'H Field A</b> 5,367 cf Overall - 2,211 cf Embedded = 3,156 cf x 40.0% Voids
#2A	55.05'	2,100 cf	<b>ACF R-Tank HD 0.5 x 912 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 12 Rows of 76 Chambers
		3,363 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	55.05'	<b>6.0" Round Culvert</b> L= 2.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 55.05' / 55.05' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.67 cfs @ 12.38 hrs HW=56.10' (Free Discharge)

↑#1=Culvert (Inlet Controls 0.67 cfs @ 3.40 fps)

**Summary for Pond MPP 26: Rtanks**

Inflow Area = 0.088 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
 Inflow = 0.60 cfs @ 12.09 hrs, Volume= 0.048 af  
 Outflow = 0.36 cfs @ 12.20 hrs, Volume= 0.044 af, Atten= 40%, Lag= 7.0 min  
 Primary = 0.36 cfs @ 12.20 hrs, Volume= 0.044 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 35.01' @ 12.20 hrs Surf.Area= 1,289 sf Storage= 592 cf

Plug-Flow detention time= 96.3 min calculated for 0.044 af (90% of inflow)  
Center-of-Mass det. time= 62.8 min ( 778.4 - 715.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	34.37'	492 cf	<b>18.06'W x 71.37'L x 1.69'H Field A</b> 2,175 cf Overall - 945 cf Embedded = 1,230 cf x 40.0% Voids
#2A	34.62'	898 cf	<b>ACF R-Tank HD 0.5 x 390 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 13 Rows of 30 Chambers
		1,390 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	34.62'	<b>8.0" Round Culvert</b> L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 34.62' / 34.34' S= 0.0350 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

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**Primary OutFlow** Max=0.36 cfs @ 12.20 hrs HW=35.01' (Free Discharge)

↑1=Culvert (Inlet Controls 0.36 cfs @ 1.69 fps)

**Summary for Pond MPP 50:**

Inflow Area = 0.693 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 4.78 cfs @ 12.09 hrs, Volume= 0.383 af  
Outflow = 3.43 cfs @ 12.17 hrs, Volume= 0.348 af, Atten= 28%, Lag= 5.0 min  
Primary = 3.43 cfs @ 12.17 hrs, Volume= 0.348 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 55.11' @ 12.17 hrs Surf.Area= 5,946 sf Storage= 3,881 cf

Plug-Flow detention time= 88.3 min calculated for 0.347 af (90% of inflow)  
Center-of-Mass det. time= 54.7 min ( 770.3 - 715.6 )

Volume	Invert	Avail.Storage	Storage Description
#1A	54.33'	2,878 cf	<b>4.94'W x 1,204.40'L x 1.84'H Field A</b> 10,925 cf Overall - 3,731 cf Embedded = 7,195 cf x 40.0% Voids
#2A	54.33'	3,544 cf	<b>ACF R-Tank HD 0.5 x 1539 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 3 Rows of 513 Chambers
		6,422 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	54.58'	<b>8.0" Round Culvert X 7.00</b> L= 3.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.58' / 54.55' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

**Primary OutFlow** Max=3.37 cfs @ 12.17 hrs HW=55.10' (Free Discharge)

↑1=Culvert (Barrel Controls 3.37 cfs @ 2.25 fps)

**Summary for Pond mpp30: Rtanks**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 4.94" for 100-year event  
Inflow = 6.08 cfs @ 12.10 hrs, Volume= 0.496 af  
Outflow = 3.03 cfs @ 12.32 hrs, Volume= 0.486 af, Atten= 50%, Lag= 13.1 min  
Primary = 3.03 cfs @ 12.32 hrs, Volume= 0.486 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 31.14' @ 12.32 hrs Surf.Area= 8,586 sf Storage= 3,567 cf  
Flood Elev= 31.78' Surf.Area= 8,586 sf Storage= 7,539 cf

Plug-Flow detention time= 27.5 min calculated for 0.486 af (98% of inflow)  
Center-of-Mass det. time= 18.8 min ( 776.3 - 757.5 )

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Volume	Invert	Avail.Storage	Storage Description
#1B	30.73'	4,011 cf	<b>8.56'W x 815.99'L x 2.04'H Field B</b> 14,234 cf Overall - 4,206 cf Embedded = 10,028 cf x 40.0% Voids
#2B	30.98'	3,995 cf	<b>ACF R-Tank HD 0.5 x 1735 Inside #1</b> Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 5 Rows of 347 Chambers
#3C	29.28'	259 cf	<b>10.56'W x 74.72'L x 1.69'H Field C</b> 1,337 cf Overall - 689 cf Embedded = 648 cf x 40.0% Voids
#4C	29.53'	654 cf	<b>ACF R-Tank HD 1.0 x 155 Inside #3</b> Inside= 15.7"W x 17.3"H => 1.80 sf x 2.35'L = 4.2 cf Outside= 15.7"W x 17.3"H => 1.89 sf x 2.35'L = 4.4 cf 5 Rows of 31 Chambers
#5D	29.28'	694 cf	<b>10.56'W x 76.72'L x 3.42'H Field D</b> 2,767 cf Overall - 1,033 cf Embedded = 1,734 cf x 40.0% Voids
#6D	29.53'	982 cf	<b>ACF R-Tank HD 1.5 x 155 Inside #5</b> Inside= 15.7"W x 26.0"H => 2.70 sf x 2.35'L = 6.3 cf Outside= 15.7"W x 26.0"H => 2.84 sf x 2.35'L = 6.7 cf 5 Rows of 31 Chambers
		10,595 cf	Total Available Storage

Storage Group B created with Chamber Wizard  
Storage Group C created with Chamber Wizard  
Storage Group D created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	29.61'	<b>12.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.61' / 29.00' S= 0.0305 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.03 cfs @ 12.32 hrs HW=31.14' (Free Discharge)

↑1=Culvert (Inlet Controls 3.03 cfs @ 3.86 fps)

**Summary for Pond OCS57: OCS 57**

Inflow Area = 1.205 ac, 54.78% Impervious, Inflow Depth > 4.84" for 100-year event  
Inflow = 3.03 cfs @ 12.32 hrs, Volume= 0.486 af  
Outflow = 3.03 cfs @ 12.32 hrs, Volume= 0.486 af, Atten= 0%, Lag= 0.0 min  
Primary = 3.03 cfs @ 12.32 hrs, Volume= 0.486 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs  
Peak Elev= 30.44' @ 12.32 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	<b>18.0" Round Culvert</b> L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 29.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

**post conditions**

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#2	Device 1	30.07'	<b>4.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b>
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Primary	29.53'	<b>2.0" Vert. Orifice/Grate X 2.00 C= 0.600</b>
#4	Primary	29.90'	<b>6.0" W x 2.0" H Vert. Orifice/Grate C= 0.600</b>

**Primary OutFlow** Max=3.03 cfs @ 12.32 hrs HW=30.44' (Free Discharge)

- 1=Culvert (Passes 2.57 cfs of 2.84 cfs potential flow)
- 2=Broad-Crested Rectangular Weir (Weir Controls 2.57 cfs @ 1.75 fps)
- 3=Orifice/Grate (Orifice Controls 0.19 cfs @ 4.37 fps)
- 4=Orifice/Grate (Orifice Controls 0.27 cfs @ 3.24 fps)

**Summary for Pond SSF 36: ssf**

Inflow = 5.32 cfs @ 12.09 hrs, Volume= 1.151 af  
 Primary = 5.32 cfs @ 12.09 hrs, Volume= 1.151 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 37:**

Inflow = 5.42 cfs @ 12.09 hrs, Volume= 1.150 af  
 Primary = 5.42 cfs @ 12.09 hrs, Volume= 1.150 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 38: ssf38**

Inflow = 5.57 cfs @ 12.09 hrs, Volume= 1.153 af  
 Primary = 5.57 cfs @ 12.09 hrs, Volume= 1.153 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 39:**

Inflow = 5.42 cfs @ 12.09 hrs, Volume= 1.151 af  
 Primary = 5.42 cfs @ 12.09 hrs, Volume= 1.151 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 40:**

Inflow Area = 2.584 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
 Inflow = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af  
 Primary = 17.83 cfs @ 12.09 hrs, Volume= 1.430 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**post conditions**

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NAF Post Development  
Type III 24-hr 100-year Rainfall=7.20"

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**Summary for Pond SSF 41:**

Inflow = 5.23 cfs @ 12.10 hrs, Volume= 1.150 af  
Primary = 5.23 cfs @ 12.10 hrs, Volume= 1.150 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 42:**

Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af  
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

**Summary for Pond SSF 43:**

Inflow Area = 0.436 ac, 100.00% Impervious, Inflow Depth > 6.64" for 100-year event  
Inflow = 3.01 cfs @ 12.09 hrs, Volume= 0.241 af  
Primary = 3.01 cfs @ 12.09 hrs, Volume= 0.241 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 1 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/1/19  
 CHECKED BY SJB DATE 4/18/19  
 SCALE N/A

## Post Development conditions

Off-site conditions are primarily the same as in the pre-development state. Difference in Subcatch No. 9 where a portion @ the northern boundary is added to the subcatchment area. This is the location of the off-site stormwater interceptor trench/channel. The channel itself does not represent the most hydraulically remote location for the Tc path so the path from pre-Development remains.

### Additional Area:

Grass/channel: 61,830 sf  
 woods/woodsline: 72,382 sf

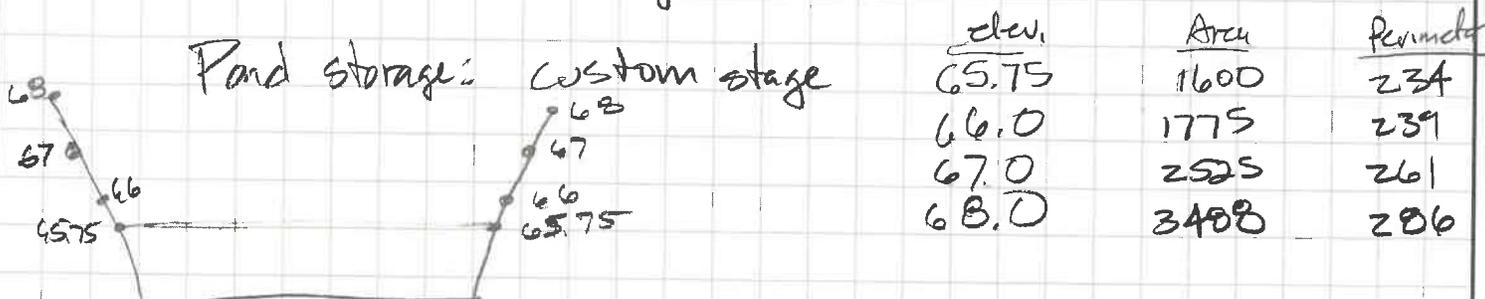
Post-Development: On-site Areas, w/ Grassed underdrain soil filter  
Subcatch 1A (prev. part of subcatch #1):

### Area contributing to GSP-1A:

11582 sf	77% grass HSG C/D impervious (access Rd)
6203 sf	
<u>17785 sf</u>	

Tc Path: Direct entry of 6mm.

Pond storage: Custom stage



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PROJECT NO. 171.05027 SITE NAF  
 SHEET NO. 2 OF \_\_\_\_\_  
 CALCULATED BY MPM/MH DATE \_\_\_\_\_  
 CHECKED BY SJB DATE 4/15/19  
 SCALE N/A

Pond outlet is a complex outlet w/a stand pipe/CB.

culvert/pipe to closed system

Pipe = 8" HDPE; l=27', s=0.02 to DMH 25

CB Rim = 66.3 assume 2' x 2' box or 2' Ø Bechive  
 6" INV. IN = 63.0  
 8" INV. OUT = 62.80

CB Rim was calculated above WQV. Assume that WQV sits on filter, filters through in 24-48 hrs. ∴ WQV is not in peak but is a second peak when treatment systems are discharging later.

model complex outlet w/ final first i.e. culvert then Rate the orifice/grate through Penel, leaves WQV at

SUBCATCHMENT 1B: (part of subcatch #1)

Areas:

6932	impervious (roadway)
15476	> 75% grass, H <sub>2</sub> O C/D
<u>22308</u>	

T<sub>c</sub> = 6 min, direct entry

Pond storage:	E	A	P
	66.0 - 553		194
	67.0 - 1576		297

use 2' x 2' grate w/ 2" x 2" holes

CB Rim = 66.90 (CB17)  
 Pipe/culvert: 8" pipe (CB17 to DMH 3)  
 l = 20ft, 62.80 to 62.60

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PROJECT NO. 17L05027 SITE NAF  
 SHEET NO. 3 OF  
 CALCULATED BY MH DATE 2/13/19  
 CHECKED BY MPM DATE 4/1/19  
 SCALE N/A SSB 4/18/19

## C. Subcatchment 3

Area (sq. ft.)	CN	Description
13091 ✓	98	Impervious (road)
15516	74	>75% grass, HSG C/D
7540	70	Good weeds, HSC C/D
<b>Total: 36147</b>		

2. T<sub>c</sub> Path  
 a-b direct entry (to GSF 3)  
 T<sub>c</sub> = 6 min

## D. Subcatchment 4

Area (sq. ft.)	CN	Description
0	98	Impervious (road)
9707	74	>75% grass, HSG C/D
<b>Total: 9707</b>		

2. T<sub>c</sub> Path  
 a-b direct entry (to BCF 4)  
 T<sub>c</sub> = 6 min

## E. Subcatchment 5

Area (sq. ft.)	CN	Description
0	98	Impervious (road)
10807	74	>75% grass, HSG C/D
<b>Total: 10807</b>		

2. T<sub>c</sub> Path  
 a-b direct entry (to BCF 5)  
 T<sub>c</sub> = 6 min

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PROJECT NO. 171.05027 SITE NAF  
 SHEET NO. 4 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/1/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

Subcatchment 2: Area contributing

8052	Impervious (Roadway)
5300	775% grass, HSG C
17697	>75% grass, HSG UD
<u>31,049</u>	

Pond storage:

E	A	P
56.75	1500	218
57.0	1669	223
58.0	2371	245
59.0	3488	283

Pipe/Wverts: CB20 to DMH 32      8" pipe L=19'  
 53.95 to 53.76  
 CBRim: 57.60

Ponding for subcatchment 3:

Custom Stage

E	A	P
54.75	1600	268
55.0	1804	274
56.0	2657	295
57.0	3839	282

Pipe/Wverts: CB 25 to DMH 36      12" pipe  
 51.98 to 51.84      L=14'  
 CBRim: 55.75

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PROJECT NO. 171.05027 SITE NAF  
SHEET NO. 5 OF \_\_\_\_\_  
CALCULATED BY MPM DATE 4/11/19  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE N/A SJB 4/18/19

• Ponding storage for subcatchment 4.

Custom Stage:

<u>E</u>	<u>A</u>	<u>P</u>
54.50	457	163
55.0	623	169
56.0	974	182

Pipe/culvert: CB 26 to DMH 39  
51.73 to 51.56  
6"  $l = 17'$

$CBR_{in} = 55.10$

• Ponding storage for subcatchment #5  
Custom Stage

<u>E</u>	<u>A</u>	<u>P</u>
54	600	200
55	1257	228

Pipe/culvert: CB 27 to DMH 44  
51.00 to 50.95  
6"  $l = 5'$

$CBR_{in} = 54.60$

## F. Subcatchment 6

1. Area (sq. ft.)	CN	Description
4484	98	Impervious
0	74	>75% grass, HSG C/D
<u>9501</u>	74	>75% grass, HSG C
Total: 13985		

2. T<sub>c</sub> Path  
 a-b direct entry (to BCF 6)  
T<sub>c</sub> = 6 min

## G. Subcatchment 7

1. Area (sq. ft.)	CN	Description
7846	98	Impervious
3270	74	>75% grass, HSG C
<u>19229</u>	74	>75% grass, HSG C/D
Total: 30345		

2. T<sub>c</sub> Path  
 a-b direct entry (to BSF 7)  
T<sub>c</sub> = 6 min

## H. Subcatchment 8

1. Area (sq. ft.)	CN	Description
26621	98	Impervious
5472	74	>75% grass, HSG C
<u>13458</u>	74	>75% grass, HSG C/D
Total: 45551		

2. T<sub>c</sub> Path  
 a-b direct flow (to BSF 8)  
T<sub>c</sub> = 6 min

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PROJECT NO. 171.05007 SITE \_\_\_\_\_  
 SHEET NO. 7 OF \_\_\_\_\_  
 CALCULATED BY uPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE NA SJB 4/18/19

Ponding Storage for subcatchment #6  
 custom stage

<u>E</u>	<u>A</u>	<u>P</u>
49.0	1000	156
50.0	1767	184

Pipe/culvert: CB28 to DMH49  
 44.7 44.53  
 8"  $\phi$  L = 17'

CB Rim = 48.20

Ponding Storage for subcatchment #7  
 custom stage

<u>E</u>	<u>A</u>	<u>P</u>
54	2037	220
55	3467	289
56	5203	357

Pipe/culvert: CB29 to DMH50  
 51.0 50.48  
 8"  $\phi$  L = 26'

CB Rim = 54.70

Ponding Storage for subcatchment #8  
 custom stage

<u>E</u>	<u>A</u>	<u>P</u>
56.50	2000	200
57.50	3227	218
58.50	3910	237

Piping/culvert: CB10 to PIR-22  
 53.50 52.93  
 8"  $\phi$  L = 57'

CB Rim = 57.60

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PROJECT NO. 171-05027 SITE NAP  
 SHEET NO. 8 OF  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY WPM DATE 4/11/19  
 SCALE N/A SJB 4/18/19

## I Subcatchment 9

1.	Area (sq. ft.)	CN	Description
	9103	74	775% grass, HSG C/D
	17996	98	Impervious (parking lot + road)
Total: 27099			

### 2. T<sub>c</sub> Path

a-b direct flow (to BUF 9)

$T_c = 6 \text{ min}$

## J. Subcatchment 10

1.	Area (sq. ft.)	CN	Description
	30932	98	Impervious, HSG C/D

### 2. T<sub>c</sub> Path

a-b direct flow (to MPP 10)

$T_c = 6 \text{ min}$

## ~~Subcatchment 10~~

1.	Area (sq. ft.)	CN	Description
	21,523	98	Impervious, HSG C/D
	6,673	77	>75% grass, HSG C/D
	44,785	74	>75% grass, HSG C
<del>Total: 72,981</del>			

MKH

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PROJECT NO. 171.05027 SITE NAE  
 SHEET NO. 9 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/8/19

~~Subcatchment 10~~

~~2. Tc Path~~

~~a-b direct flow (porous pavers)~~

~~Tc = 6 min~~

MKH

K. Subcatchment 11

1. Area (sq. ft.)

CN

Description

15,881

98

Impervious

27,293

74

>75% grass, HSG, C/D

Total: 43,174

2. Tc Path

a-b direct entry (to GSF 11) (A)

Tc = 6 min

L. Subcatchment 12

1. Area (sq. ft.)

CN

Description

7205

98

Impervious

5715

74

77% grass, HSG, C/D

Total: 12,920

2. Tc Path

a-b direct flow (to BUF 12) (A)

Tc = 6 min

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PROJECT NO. 1105027 SITE NAR  
 SHEET NO. 10 OF \_\_\_\_\_  
 CALCULATED BY HPM DATE 4/13/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

• Pending / storage for GSP 9  
 custom stage

<u>E</u>	<u>A</u>	<u>P</u>
63.50	1900	437
64	2567	446
65	3935	465

Pipe/culvert: CB6 to P18  
 59.0 57.92

8" l = 54'  
 CB Rim = 63.0

• Pending / storage for GSP 11  
 custom stage

<u>E</u>	<u>A</u>	<u>P</u>
61	2200	181
62	2771	200
63	3400	219

Pipe/culvert: CB-19 to DMH26  
 58.05 57.82

12" l = 27'  
 CB Rim = 62.00

• Pending storage for GSP 13  
 custom storage

<u>E</u>	<u>A</u>	<u>P</u>
61	2500	328
62	3513	347
63	4582	366

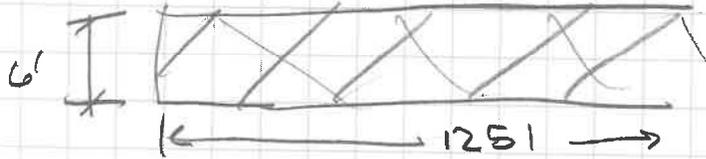
Pipe/culvert: CB-18 to DMH26  
 58.05 57.82

12" l = 23'  
 CB Rim = 62.0

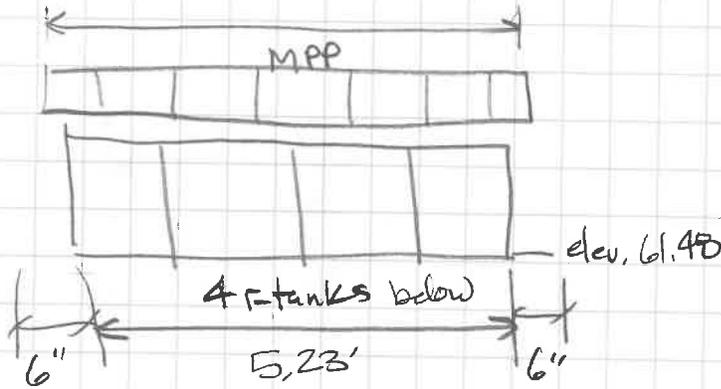
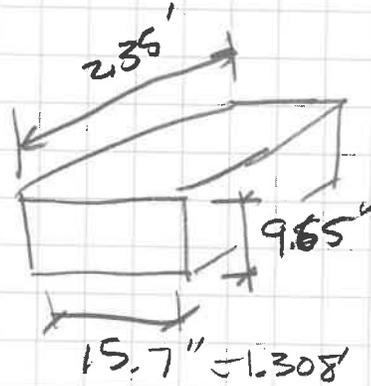
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PROJECT NO. 171-05027 SITE NAR  
 SHEET NO. 11 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/13/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A

• Storage ID - Man made porous paver system (MPP)



mini R-Tanks



$$6 / 1.308 = 4 \text{ rows} \times$$

$$1251 / 2.35 = 532 \text{ units/row}$$

$$4 \text{ rows} \times 532 \text{ units} = 2128 \text{ units}$$

MPP storage beneath filter system. CBs are piped right to R-Tanks. R-Tanks piped to drain line that passes by - drop into top of pipe. @MPP ID there are 6 discharges from R-Tanks to pipe

8"  $l = 3'$   
(R-tank to pipe)

Stone cover above filter for WQV = 0.9 ft. = 10.8 inches

M. Subcatchment 13

1. Area (sq. ft.)	CN	Description
20981	98	Impervious (road, parking lot)
24182	74	>75% grass, HSG c/d
<u>Total: 45163</u>		

2. T<sub>c</sub> Path

a-b direct entry (to bSF 13)

T<sub>c</sub> = 6 min

~~b-c shallow conc. flow (to biocell 13A)~~

~~Short grass pasture~~

~~Vel. Factor = 7 ft/s~~

~~Flow Length = 222 ft~~

~~Slope = 0.018~~

~~(y<sub>2</sub> = 66 ft, y<sub>1</sub> = 62 ft)~~

~~T<sub>t</sub> =  $\frac{222 \text{ ft}}{3600 \text{ v}}$  = 3.9 min~~

~~b-c~~

~~T<sub>c</sub> = 6 + 3.9~~

T<sub>c</sub> = 9.9 min

MKH

N. Subcatchment 14

1. Area (sq. ft.)	CN	Description
8849	98	Impervious (Parking lot/Road)
529	74	>75% grass, HSG c/d
<u>Total: 9378</u>		

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PROJECT NO. 171-05027 SITE NAR  
 SHEET NO. 13 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## N. Subcatchment 14

### 2. T<sub>c</sub> Path

a-b direct entry (to MPP 14)

T<sub>c</sub> = 6 min

## O. Subcatchment 15

### 1. Area (sq. ft.)

235

3184

Total: 3,419

CN

98

74

### Description

Impervious (Parking lot/road)

>75% grass, HSG C/D

### 2. T<sub>c</sub> Path

a-b direct entry (to BUF 15)

T<sub>c</sub> = 6 min.

## P. Subcatchment 16

### 1. Area (sq. ft.)

6793

9412

Total: 16,205

CN

98

74

### Description

Impervious

>75% grass, HSG C/D

### 2. T<sub>c</sub> Path

a-b direct entry (to GISF 16A)

T<sub>c</sub> = 6 min

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 14 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/8/19

• Pond Storage for Subcatchment 12

Custom Stage:

Custom Stage	E	A	P
	61	880	151
	62	1201	164
	63	1368	170

Pipe/culvert: CB15A to DMA-24A  
 8" L = 21'      58.20      58.10  
 CB Rim = 61.90

• Pond Storage for Subcatchment 15

Custom Stage

Custom Stage	E	A	P
	63.5	600	168
	64	858	177
	65	1418	196

8" L = 18'  
 Pipe/culvert: CB9 to DMA-17  
 60.70      60.52  
 CB Rim = 63.70

• Pond Storage for Subcatchment 16

Custom Stage

Custom Stage	E	A	P
	62.75	1000	215
	63.0	1165	220
	64.0	1853	241
	65.0	2741	270

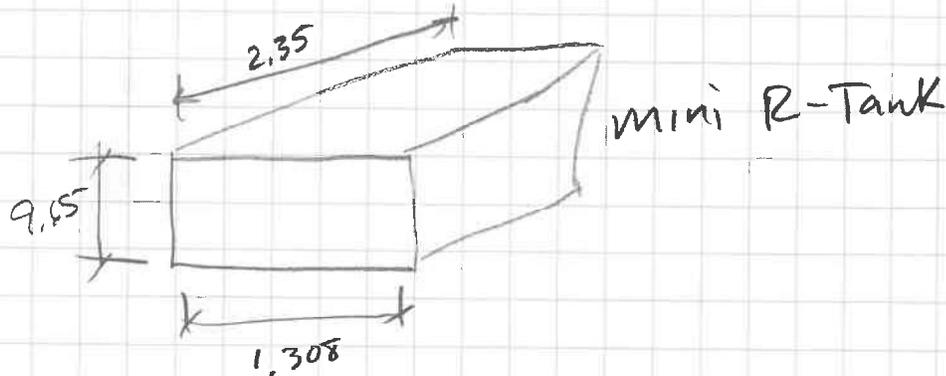
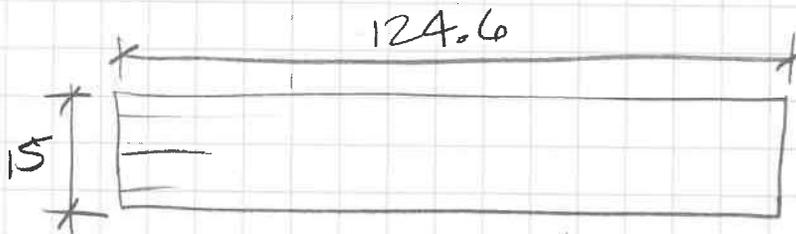
Pipe/culvert: 60.70 to 60.54; 8" pipe; L=16'  
 (CB8 to DMA16)  
 CB Rim = 64.40

• Subcatch 14 - man made pavers

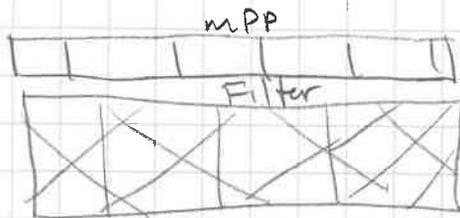
Area: width:  $15' / 1.308 = 11 \text{ units w/ } 6'' \text{ sides}$

length:  $124.6 / 2.35 = 53 \text{ units}$

$11 \text{ rows} \times 53 / \text{row}$   
 $= 583 \text{ units}$



MPP 14 has 2 CBs piped directly into Tanks



CB15 to DMH24

elev. = 56.23

Piping from R-Tanks to DMH 24 and Pipe between 24:23

Bring all flow into DMH 24 w/ 8" pipe x 2

Stone cover above filter = 12"

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PROJECT NO. 171.05027 SITE NAF  
 SHEET NO. 16 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## Subcatchment 16

$$T_{t \text{ a-b}} = \frac{0.007 (nL)^{0.8}}{(2)^{0.5} (5)^{0.4}}$$

$$= \frac{0.007 (0.011 \times 38 \text{ ft})^{0.8} (60)}{(2.9)^{0.5} (0.005)^{0.4}}$$

$$T_{t \text{ a-b}} = 1 \text{ min}$$

b-c shallow conc. flow (to biocell 16A)  
 Grassed waterway  
 Vel. Factor: 15 ft/s  
 Flow length: 82 ft  
 Slope: 0.005 (assumed b/c grading will change)

$$T_{t \text{ b-c}} = \frac{82 \text{ ft}}{3600 \text{ V}} = 1.3 \text{ min}$$

$$T_c = 1 + 1.3$$

$$T_c = 2.3 \text{ min}$$

MKH

## Q. Subcatchment 17 (untreated)

1. Area (sq. ft)	CN	Description
11,320	98	Impervious
1,980	74	>75% grass, HSG C/D
Total: 13,300		

2. T<sub>c</sub> Path  
 a-b direct flow

$$T_c = 6 \text{ min}$$

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PROJECT NO. 171.05027 SITE NHF  
 SHEET NO. 17 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## R. Subcatchment 18A

1. Area (sq. ft.)	CN	Description
2593	98	Impervious (Road)
3746	74	75% grass, C/D

Total: 6339

2. T<sub>c</sub> Path  
 a-b direct (to BCF 18A)

T<sub>c</sub> = 6 min

## S. Subcatchment 19

1. Area (sq. ft.)	CN	Description
11,210	98	Impervious (parking lot/road)
2501	74	75% grass, HSG C/D

Total: 13,711

2. T<sub>c</sub> Path  
 a-b direct entry (to MPP 19)

T<sub>c</sub> = 6 min

## T. Subcatchment 20 (untreated)

1. Area (sq. ft.)	CN	Description
2100	98	Impervious
7449	74	75% grass, HSG C/D

Total: 28459

2. T<sub>c</sub> Path  
 a-b direct entry (to MPP 19)

T<sub>c</sub> = 6 min

## 2R. Subcatchment 18A

1. Area (ft <sup>2</sup> )	CN	DESCRIP.
2348	98	Impervious
1675	74	75% grass C/D

Total: 4023

2. T<sub>c</sub> Path  
 a-b direct (to BCF 18B)

T<sub>c</sub> = 6 min

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 18 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/13/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/15/19

• Pond storage for sub catch 18A  
 custom stage

E	A	P
57	900	183
58	1490	202

Pipe/whvert: CB-24 to Pipe 36 (drop in)  
 Bring to DMH 34 in hydrocad

Elev. out of CB-24 = 54.00  $R_{in} = 57.40$

8" Pipe length = 11'

$$S = 0.005$$

∴ drop into pipe @ elev. = 53.95

• Pond storage for subcatch 18B  
 custom stage

E	A	P
57	290	88
58	587	107

Pipe/whvert: CB-23 to Pipe 36 (drop in)  
 Bring to DMH 34 in hydrocad

Elev. out of CB-23 = 54.0  $R_{in} = 57.90$

8" Pipe length = 11'

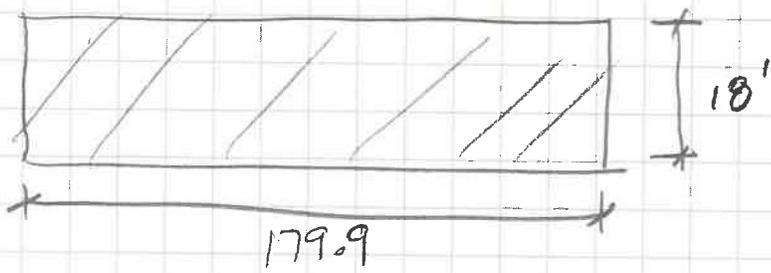
$$S = 0.005$$

∴ drop elev. = 53.95

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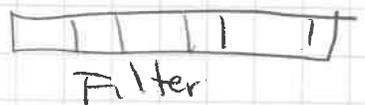
PROJECT NO. 171.05027 SITE NAF  
 SHEET NO. 19 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

• subcatch 19, man made pavers (MPP)

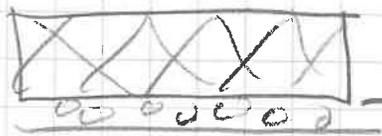


Area: width = 18' / 1.308 = 13 units w/ 6" on sides  
 length = 179.9 / 2.35 = 76 units w/ 6" on ends  
 13 rows w/ 76 units / row = 988 min. R-Tanks

MPP 19 has 2 CBs which discharge directly to R tanks. R tanks discharge directly into DMH 33 w/ pipe stub



Filter



55.08

CB 22 to DMH 33  
 6" pipe = 19'  
 Stone cover above filter = 0.8' = 9.6"

elev. into DMH 33 = 55.0

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PROJECT NO. 171.05007 SITE NAP  
 SHEET NO. 20 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 4/11/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## U. Subcatchment 21

Area (sq. ft.)	CN	Description
8361	98	Impervious
1633	74	>75% grass, HSG C/D
<u>Total: 9994</u>		

2. T<sub>c</sub> Path  
 a-b direct entry (MPP 21)  
T<sub>c</sub> = 6 min

## V. Subcatchment 22

Area (sq. ft.)	CN	Description
10,326	98	Impervious (parking lot/road)
3185	74	>75% grass, HSG C/D
<u>Total: 13,511</u>		

2. T<sub>c</sub> Path  
 a-b direct entry (MPP 22)  
T<sub>c</sub> = 6 min

## W. Subcatchment 23

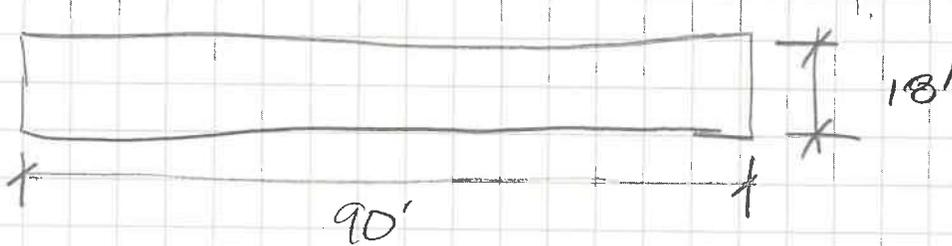
Area (sq. ft.)	CN	Description
6249	98	Impervious (road)
2450	74	>75% grass, HSG C
10135	74	>75% grass, HSG C/D
9641	70	hard woods, HSG C/D
<u>Total: 28475</u>		

2. T<sub>c</sub> Path  
 a-b direct entry (to GSF 23)  
T<sub>c</sub> = 6 min

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PROJECT NO. 171.05037 SITE NAF  
 SHEET NO. 21 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/1/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/10/19

• Subcatch 21 - MMP

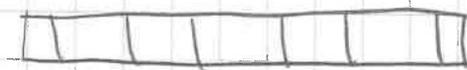


Area: width =  $18 / 1.308 = 13$  units w/6" on sides  
 length =  $90 / 2.35 = 38$  units w/6" on sides

13 rows x 38 units / row = 494 units mini R-Tanks

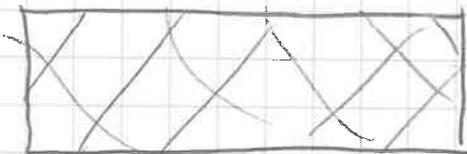
MPP 21 has 2 cbs which discharge directly into R tank system

Drain line between DMH 23 and DMH 59 goes beneath / thru R tanks  
 2" Pipe stub directly into 12" pipe



Filter

stone cover above filter = 1.05ft. = 12.6"



54.73

DMH 23 to DMH 59  
 55.19                      54.50

Remove 1 Row of units to put pipe down middle.

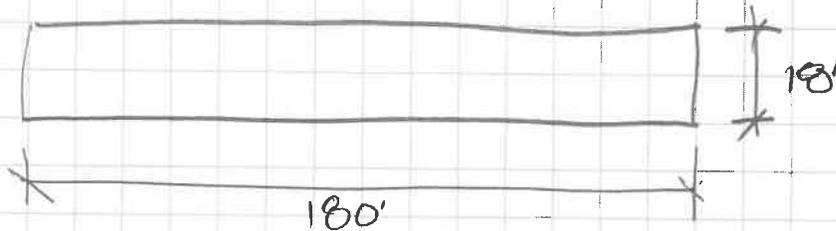
For hydrocad purposes  
 add all flow to DMH 59  
 w/ discharge multiplier of 2

Draws @ 38 / row = 456

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PROJECT NO. 171,05027 SITE NAP  
 SHEET NO. 22 OF \_\_\_\_\_  
 CALCULATED BY NPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

• Subcatch 22 - man made permeas pavers



Area: width =  $18' / 1.368 = 13$  units w/6" on sides  
 length =  $180 / 2.35 = 76$  units w/6" on ends  
 13 rows @ 76 units / row = 988 Mini Tanks

MPP 22 has 2 CJs which discharge directly to R tank system

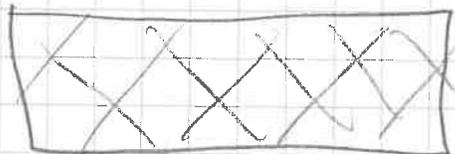
Drainline between DMH 59 to DMH 22 goes beneath

2' Pipe stub directly into 12' pipe



Filter

Stone cover above filter = 0.75' = 9"



55.05

For hydraulic purposes, add all flow to DMH 22 w/ multiplier of 2

DMH 59 54.3 to DMH 22 52.83

Remove 1 row of units to allow pipe to go under/through  
 $12 \times 76 = 912$  units

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PROJECT NO. 171,05027 SITE NAP  
 SHEET NO. 23 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## Subcatchment 23

$$T_{a-b} = \frac{0.007(0.011 \times 184)^{0.8}}{(29.1 \text{ in})^{0.5}(0.027)^{0.4}} = 0.3 \text{ min}$$

b-c shallow conc. flow  
 Grassed Waterway  
 Vel. Factor: 15 ft/s  
 Flow length: 232 ft  
 Slope: 0.036  
 ( $y_2 = 52.5$ ,  $y_1 = 44$  ft)

$$T_{b-c} = \frac{232 \text{ ft}}{3600 \text{ ft}^3/\text{s}} = 1.4 \text{ min}$$

$$T_c = 0.3 + 1.4$$

$$T_c = 1.7 \text{ min}$$

MKH

## X. Subcatchment 24

1. Area (sq. ft.)	CN	Description
12276	98	Impervious (road)
5302	80	775% grass, HSG. D
689	74	775% grass, HSG. C/D
<u>Total: 18,267</u>		

2.  $T_c$  Path  
 a-b direct entry (to GSF 24)  
 $T_c = 6 \text{ min}$

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 24 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

• Pond storage for subcatchment 24 (GSP)

Custom stage

E	A	P
39.75	1400	150
40	1516	156
41	2013	174
42	2717	200

Pipe/culvert: CB 33 to DMH53  
 36.80 36.00

8" I = 40'

CB Rim = 40.60

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PROJECT NO. 7105027 SITE NAF  
 SHEET NO. 25 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY M.P.M. DATE 4/11/19  
 SCALE N/A SJB 4/18/19

## Y, Subcatchment 25 (untreated)

<u>1. Area (sq. ft.)</u>	<u>CN</u>	<u>Description</u>
21818	74	775% grass, HSG C/D
96405	70	Wood woods, HSG C/D
<u>Total: 118223</u>		

### 2. Tc Path

a-b sheet flow  
 Woods: dense underbrush  
 Flow length: 130 ft  
 Slope:  $\frac{57-55}{130} = 0.015$

$$T_{t \text{ a-b}} = 54.4 \text{ min}$$

b-c shallow conc. flow  
 Forest w/ heavy litter  
 Flow length: 253 ft  
 Slope:  $\frac{55-49}{253} = 0.02$

$$T_{t \text{ b-c}} = 11.9 \text{ min}$$

c-d shallow conc. flow  
 Forest w/ heavy litter  
 Flow length: 55 ft  
 Slope:  $\frac{49-32}{55} = 0.3$

$$T_{t \text{ c-d}} = 0.7 \text{ min}$$

$$T_c = 67.0 \text{ min}$$

~~Y. Subcatchment 25 (untreated area)~~

<u>Area (sq. ft.)</u>	<u>CN</u>	<u>Description</u>
0	98	Impervious (Road)
21818	74	75% grass, HSG C/D
96405	70	Good woods, HSG C/D
<u>Total: 118223</u>		

MKH

Z. Subcatchment 26

<u>Area (sq. ft.)</u>	<u>CN</u>	<u>Description</u>
3816	98	Impervious (parking lot / road)

2. Tc Path  
 a-b direct entry (MPP 26)  
Tc = 6 min

AA Subcatchment 27 (untreated area) <sup>existing</sup>

<u>Area (sq. ft.)</u>	<u>CN</u>	<u>Description</u>
4262	98	Impervious (road + buildings)

2. Tc Path  
 a-b direct entry  
Tc = 6 min

BB. Subcatchment 28 (existing area) <sup>untreated</sup>

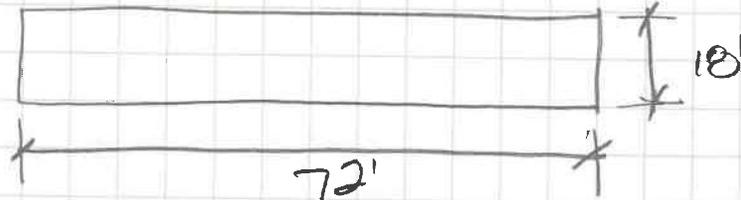
<u>Area (sq. ft.)</u>	<u>CN</u>	<u>Description</u>
21852	98	Impervious
40598	80	275% grass, HSG D
6418	77	Good woods, HSG D
10,830	79	Woods grass combo, HSG D

Total: 79,698 2. Tc = 6 min

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PROJECT NO. 171.06027 SITE NAF  
 SHEET NO. 27 OF  
 CALCULATED BY MPM DATE 4/11/19  
 CHECKED BY DATE  
 SCALE N/A SJB 4/18/19

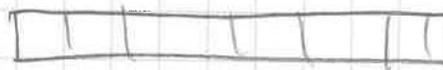
• Subcatchment 26 - manmade pervious pavers (MPP) w/ RTanks



Area: width =  $18' / 1.308 = 13$  Rows w/ 6" sides  
 length =  $72 / 2.35 = 30$  units w/ 6" ends  
 13 rows @ 30 units / row  
 = 390 mini units

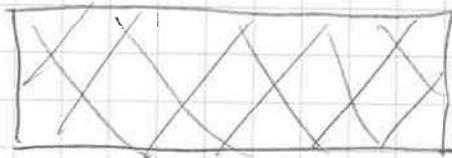
MPP 26 has 1 CB that discharges to R tank system.

R tank discharges to DMH54 w/ 8" pipe



Filter

Stone cover above filter = 0.65 ft  
 = 7.8 inches



34.62

Discharge from RTanks @ elev. = 34.62

@ DMH54 = 34.34

8" pipe @ 8'

## CC. Subcatchment 29 (untreated area)

1. Area (sq. ft.)	CN	Description
1306	98	Impervious

2. T<sub>c</sub> Path  
 a-b direct entry  $T_c = 6 \text{ min}$

## DD. Subcatchment 30

1. Area (sq. ft.)	CN	Description
24541	98	Impervious
6931	74	>75% grass, HSG C/D
<b>Total: 31472</b>		

2. T<sub>c</sub> Path  
 a-b direct entry (to MPP 30)  
 $T_c = 6 \text{ min}$

See page 32  
 for MPP  
 storage

## EE. Subcatchment 31 (untreated area)

1. Area (sq. ft.)	CN	Description
0	98	Impervious
24011	74	>75% grass, HSG C/D
46605	70	Good woods, HSG C/D
<b>Total: 70616</b>		

2. T<sub>c</sub> Path  
 a-b sheet flow  
 Dense Grass  
 Slope =  $\frac{57 - 52}{100} = 0.05$

$$T_{t \text{ a-b}} = 10.4 \text{ min}$$

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PROJECT NO. 171.05027 SITE N4F  
SHEET NO. 29 OF \_\_\_\_\_  
CALCULATED BY MKA DATE 2/13/19  
CHECKED BY MPM DATE 4/11/19  
SCALE N/A SJB 4/18/19

EE. Subcatchment 31

b-c shallow conc. flow  
Forest w/ heavy litter

$$S = \frac{52 - 42}{86} = 0.12$$

$$T_t = 1.7 \text{ min}$$

b-c

c-d shallow conc. flow  
Grassed Waterway

$$S = \frac{42 - 41}{31} = 0.03$$

$$T_t = 0.2 \text{ min}$$

c-d

$$T_c = 12.3 \text{ min}$$

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PROJECT NO. 71.05027 SITE NAF  
 SHEET NO. 3D OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE 4/11/19  
 SCALE N/A SJB 4/8/19

## FF. Subcatchment 32 (untreated area)

1. Area (sq. ft.)	CN	Description
2,826	98	Impervious
1,851	74	>75% grass, HSG C/D
<u>Total: 4,677</u>		

2. T<sub>c</sub> Path  
 a-b direct entry  
T<sub>c</sub> = 6 min

~~b-c Shallow conc. flow  
 Grassed Waterway  
 Vel. Factor: 15 ft/s  
 Length: 239 ft  
 Slope: 0.023  
 (y<sub>2</sub> = 34.5', y<sub>1</sub> = 29 ft)~~

~~T<sub>t</sub> = 239 ft  
 b-c 3600 V  
 = 1.8 min~~

~~T<sub>c</sub> = 1 min + 1.8 min  
T<sub>c</sub> = 2.8 min~~

MKH

## GG. Subcatchment 33 (Green roof)

1. Area (sq. ft.)	CN	Description
86314	61	>75% grass, HSG B
(20%) 21579	98	Impervious (penthouses)
<u>Total: 107893</u>		

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PROJECT NO. 171,05027 SITE UAF  
 SHEET NO. 31 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## Subcatchment 33 (Green roof)

2. Tc Path  
 a-b direct entry

$T_c = 6 \text{ min}$

Roof discharge  
 to DMA 34

Literature identifies up to 10% retained w/no flow to storm drain system due to evapotranspiration

## HH. Subcatchment 34 (Green roof)

1. Area (sq. ft.)	CN	Description
19279	61	>75% grass, HSG B
(20%) 4820	98	Impervious
Total: 24099		

2. Tc Path  
 a-b direct entry

$T_c = 6 \text{ min}$

Roof discharge  
 to DMA 24

Assume time of travel based on impervious roof but use 80% roof area as 7.75% grass in HSG B sals 20% as impervious

## II. Subcatchment 35 (Green roof)

1. Area (sq. ft.)	CN	Description
16,797	61	>75% grass, HSG B
(20%) 4200	98	Impervious
Total: 20997		

2. Tc Path  
 a-b direct entry

$T_c = 6 \text{ min}$

Roof Discharge  
 to RTanks  
 see page 32

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 32 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

Subcatchment 30 - man made <sup>(MPP)</sup> pervious and  
 and Subcatchment 35 R-tanks



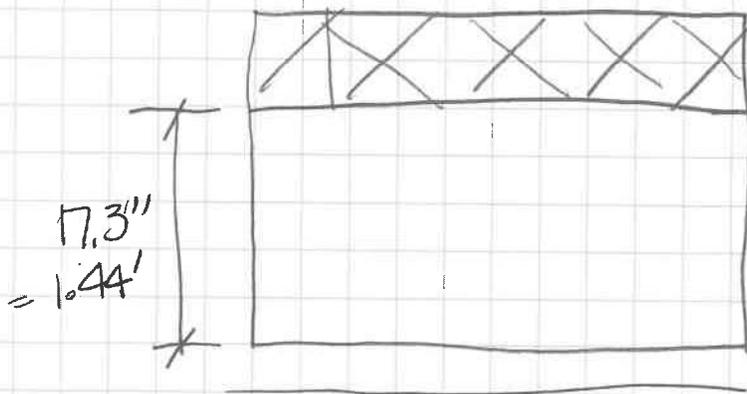
Area: width =  $7' / 1.308 = 5 \text{ w}/12'' \text{ sides}$   
 length =  $817 / 2.35 = 347 \text{ w}/12'' \text{ ends}$   
 = 1735 units mini R tanks

MPP 30 has 8 CBS that can discharge directly  
 to the R tank system



Filter

Stone cover  
 above filter =  
 1 ft. = 12''



30.98

Add 5 rows of  
 31 units as  
 Pond B under

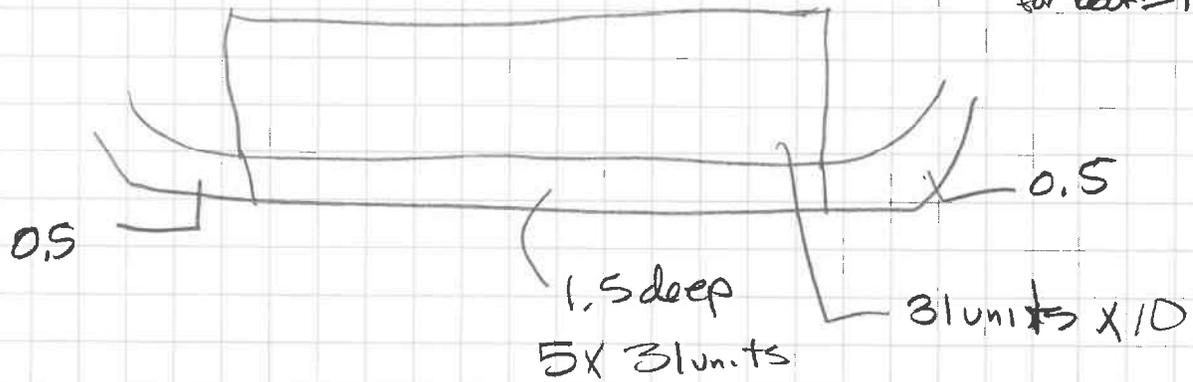
29.53  
 stone @ 29.28

minis  
 @ SE end  
 of parking

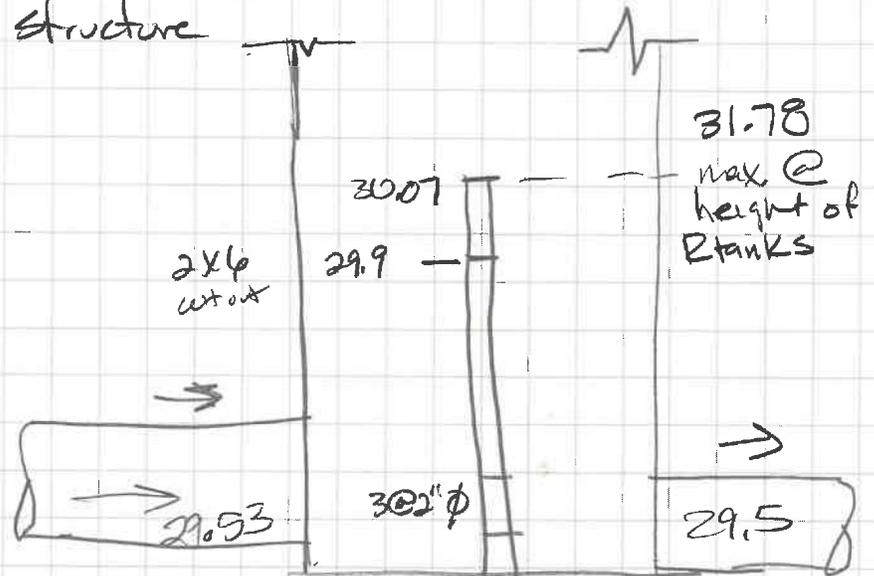
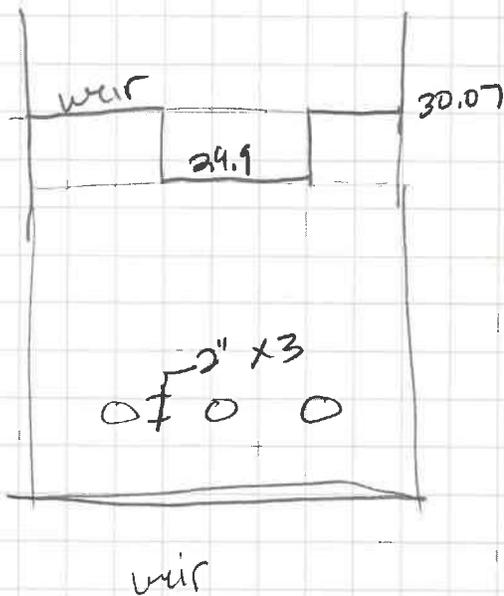
Rtanks for Roof in parking const.

use 1.5 Rtank system adjacent to the ones in parking

Volume of 10yr storm for Roof = 1600 cf



Outlet control structure



## JJ. Subcatchment 36 (to SSF 36)

1. Area (sq. ft.) CN Description  
 112,560 98 Impervious (Roof)

2. T<sub>c</sub> Path  
a-b direct entry  
T<sub>c</sub> = 6 min

See sheet 35  
 for Routing

## KK. Subcatchment 37 (to SSF 37)

1. Area (sq. ft.) CN Description  
 112,560 98 Impervious (Roof)

2. T<sub>c</sub> Path  
a-b direct entry  
T<sub>c</sub> = 6 min

## LL. Subcatchment 38 (to SSF 38)

1. Area (sq. ft.) CN Description  
 112,560 98 Impervious (Roof)

2. T<sub>c</sub> Path  
a-b direct entry  
T<sub>c</sub> = 6 min

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PROJECT NO. 01.05027 SITE NAF  
SHEET NO. 35 OF \_\_\_\_\_  
CALCULATED BY NPM DATE 4/11/19  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE N/A SJB 4/8/19

Roof Runoff from module construction on Buildings  
1 and 2 use subsurface sand filter for treatment

Runoff is initially routed through an inlet control  
structure with an overflow weir. Weir is

Set so that Roof runoff will enter the chamber/  
filter system up to the water quality volume.

Larger events pass over the weir. Filters

have a 24-48 hr lag time and therefore will  
not play a role in peak discharge.

Hydrocad Routing Looks at these as ponds  
with

Per design calculations: SSF36 weir is  
set @ 66.15

12" HDPE w/inv. @ 63.95

18" HDPE other side of weir @ 63.5

Storage is secondary routing 5X3 units

Assume Filter will be routed through

system, but there will be a 24-48 hr

Lag.

M.M. Subcatchment 39 (Roof runoff to SSF 39)

1. Area (sq. ft.) CN Description  
 112560 98 Impervious (Roof)

2.  $T_c = 6 \text{ min}$  direct entry

N.N. Subcatchment 40 (Roof runoff to SSF 40)

1. Area (sq. ft.) CN Description  
 112560 98 Impervious (Roof)

2.  $T_c = 6 \text{ min}$  direct entry

O.O. Subcatchment 41 (Roof runoff to SSF 41)

1. Area (sq. ft.) CN Description  
 112560 98 Impervious (Roof)

2.  $T_c = 6 \text{ min}$  direct entry

P.P. Subcatchment 42 (Roof runoff to SSF 42)

1. Area (sq. ft.) CN Description  
 12,000 98 Impervious (Roof)

2.  $T_c = 6 \text{ min}$

Q.Q. Subcatchment 43 (SSF 43)

1. Area (sq. ft.) CN Description  
 18983 98 Imperv.

2.  $T_c$  Path

$T_c = 6 \text{ min}$

SSF 37 - ICS 9 to DMH 8

Refer to page 35

weir @ elevation = 64.18

12" pipe inv. out = 62.0 @ isolator = 61.95

18" pipe inv. at = 61.7

SSF 38 ICS 12 to DMH 11

weir elev. = 62.95

12" pipe inv. out = 60.75 @ isolator = 60.72

18" pipe inv. = 60.7

SSF 39 ICS 37 to DMH 38

weir elev. = 55.0

12" inv. out = 52.80 @ isolator = 52.75

18" inv. at = 52.50

SSF 40 ICS 42 to DMH 43

weir elev. = 55.37

12" inv. at = 52.8 @ isolator = 52.75

18" inv. out = 52.2

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PROJECT NO. 01.05027 SITE NAF  
SHEET NO. 38 OF \_\_\_\_\_  
CALCULATED BY MPM DATE 4/11/19  
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
SCALE N/A SJB 4/18/19

SSF 41 ICS46 to DM# 47

Weir elev. = 49.0

12" inv. out = 46.8

@ isolator = 46.75

18" inv. out = 46.2

SSF 43 ICS to DM#

Weir elev = 60.25

8" inv. out = 57.8

@ isolator = 57.8

12" inv. out = 57.8

SSF 42 ICS28 to DM# 29

Weir elev. = 60.50

8" inv. out = 58.15

@ isolator = 58.12

8" inv. out = 58.0

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 39 OF \_\_\_\_\_  
 CALCULATED BY MPM DATE 4/11/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/15/19

Sub catchment 44

35266  
 129832

> 75% grass, HSG C/D  
 Good woods, HSG C/D

165098

Tc 1.

a-b = 97 ft.  
 grass slope

$$S = 6/97 = 0.062$$

b-c = 170 ft.  
 grass

$$S = 1.5/170 = 0.009$$

c-d = 97  
 short grass pasture  
 $S = 0.032$

d-e = 210  
~~channel 5' bottom 2:1 slopes 2' deep~~  
 forest heavy litter earth dense brush

$$S = 0.043$$

Discharge to Stream 9 @ S9-2

SS. Subcatchment 45 existing / untreated

1. Area (sq. ft.)	LN	Description
5,799	74	775% grass, HSG C/D
<u>58,641</u>	70	Good woods, HSG C/D
Total: 64,440		

2. Tc Path

a-b Sheet flow

Woods: Dense Underbrush

$$S = \frac{41 - 38}{79} = 0.034$$

$$T_{t \text{ a-b}} = 28.9 \text{ min}$$

b-c Shallow conc. flow

Forest w/ heavy litter

$$S = \frac{38 - 28}{121} = 0.08$$

$$T_{t \text{ b-c}} = 2.9 \text{ min}$$

c-d Shallow conc. flow

Grassed waterway

$$S = \frac{28 - 23}{107} = 0.046 \rightarrow 0.06$$

$$T_{t \text{ c-d}} = \frac{0.6}{0.2} \text{ min}$$

$$T_c = 32.4 \text{ min}$$

$$T_e = 325$$

d-e

Channel

2' bottom

2:1 sides

earth, dense

$$L = 73'$$

$$S = 0.06$$

$$T_c = 0.5 \text{ min}$$

26' to 21.6 @ culvert

Discharge Through 18"  
 culvert under Rt. 1  
 Inv. in = 21.6  
 Inv. out = 15.3  
 L = 83'

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PROJECT NO. 171,05027 SITE NAP  
 SHEET NO. 41 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY MPM DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## TT. Subcatchment 46 (existing)

1. Area (sq. ft.)	CN	Description
2410	74	775% grass, HSG C/D
13198	70	Good woods, HSG C/D
<u>15608</u>		

### 2. T<sub>c</sub> Path

Same as preconditions (see precondition calcs)

$$T_c = \frac{34.7}{55.7} \text{ min}$$

## UU. Subcatchment 47

1. Area (sq. ft.)	CN	Description
16941	80	>75% grass, HSG D
27433	74	775% grass, HSG C/D
30061	70	Good woods, HSG C/D
4752	98	Impervious

Total: 79187

### 2. T<sub>c</sub> Path

a-b Sheet flow

Grass: Dense

$$S = \frac{40 - 36}{102} = 0.04$$

$$T_{t \text{ a-b}} = 11.5 \text{ min}$$

b-c Shallow conc. flow

Forest w/ heavy litter

$$S = \frac{36 - 33}{30} = 0.1$$

$$T_{t \text{ b-c}} = 0.6 \text{ min}$$

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PROJECT NO. 171.05027 SITE NAP  
 SHEET NO. 42 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

c-d Shallow conc. flow  
 Forest w/ heavy litter

$$S = \frac{33 - 30}{100} = 0.03$$

$$T_t = 0.6 \text{ min}$$

c-d

d-e Shallow conc. flow  
 Grassed waterway

$$S = \frac{30 - 20}{407} = 0.02$$

$$T_t = 3.2 \text{ min}$$

d-e

$$T_c = 15.9 \text{ min}$$

VV. Subcatchment 48

1. Area (sq. ft.)	CN	Description
305	74	77% grass, HSG C/D
36887	70	Good woods, HSG C/D
2991	70	Good woods, HSG C
<u>Total: 40183</u>		

2. T<sub>c</sub> Path

a-b sheet flow

Woods: Dense underbrush

$$S = \frac{68 - 65}{127} = 0.02$$

$$T_t = 47.6 \text{ min}$$

a-b

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PROJECT NO. 171,05027 SITE NAP  
 SHEET NO. 43 OF \_\_\_\_\_  
 CALCULATED BY MKH DATE 2/13/19  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE N/A SJB 4/18/19

## WV. Subcatchment 48

b-c Shallow conc. flow  
 Forest w/ heavy litter

$$S = \frac{65 - 62}{115} = 0.02$$

$$T_t = 5.4 \text{ min}$$

b-c

c-d Shallow conc. flow

$$S = \frac{62 - 53}{45} = 0.2$$

$$T_t = 0.7 \text{ min}$$

c-d

d-e Shallow conc. flow  
 Grassed Waterway

$$S = \frac{53 - 45}{90} = 0.088$$

$$T_t = 0.3 \text{ min}$$

d-e

$$T_c = 54 \text{ min}$$

## WW. Subcatchment 49

1. Area (sq. ft.)	LN
2923	74
80702	70
548	98
<u>Total: 84173</u>	✓

Description  
 77.5% grass, HSG <sup>c/d</sup>  
 Good woods, HSG <sup>c/d</sup>  
 Impervious (gravel driveway?)

2. T<sub>c</sub> Path  
 a-b Sheet flow  
 Woods: Dense

$$S = \frac{80 - 74}{115} = 0.05 \checkmark$$

$$T_t = 30.4 \text{ min}$$

a-b

WW. Subcatchment 49

b-c Shallow conc. flow  
Forest w/ heavy litter

$$S = \frac{74 - 69}{355} = 0.01$$

$$T_t = 23.7 \text{ min}$$

$$T_c = 54.1 \text{ min}$$

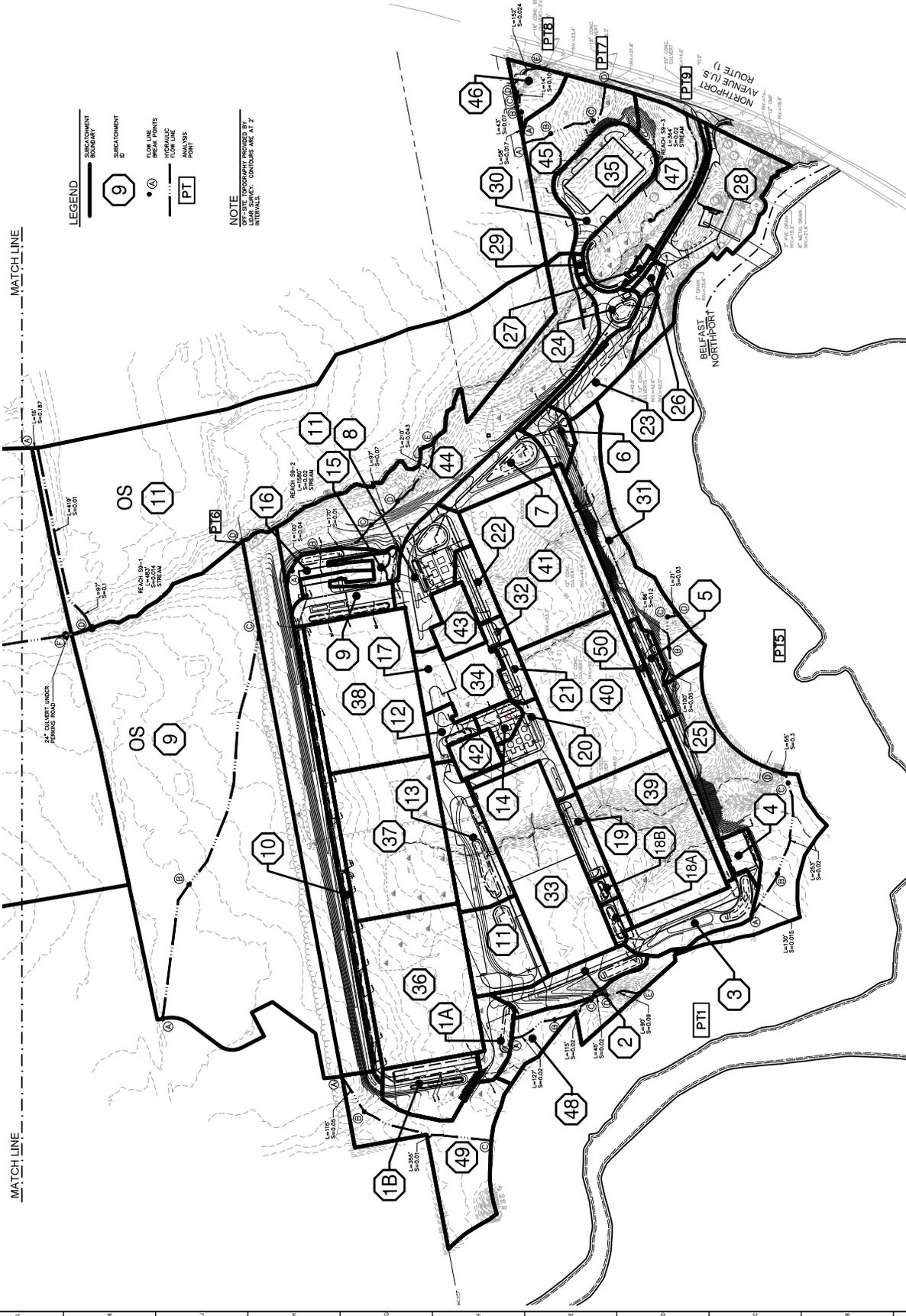
XX. Subcatchment 50 (to MPP 50)

<u>1. Area (sq. ft.)</u>	<u>CN</u>	<u>Description</u>
30173	98	Impervious

2. Tc Path  
a-b direct entry

$$T_c = 6 \text{ min}$$





MATCHLINE

MATCHLINE

**LEGEND**

	SUBMITTAL BOUNDARY
	SUBMITTAL
	FLOW LINE
	BREAK POINT
	HYDRAULIC ANALYSIS POINT
	POINT

**NOTE**  
 DTG-SEE TOPOGRAPHY PROVIDED BY  
 LAND SURVEY. CONTOURS ARE AT 2'  
 INTERVALS.

**ANSOM** Consulting Engineers and Scientists

**WOODWARD CLIFTON**

REV.	DESCRIPTION	DATE
0	ISSUED FOR PERMIT	5-14-19

ISSUED FOR PERMIT  
 5-14-19

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 ON-SITE AREAS

SCALE: 1" = 20'  
 0 60 120 240

PROJECT MANAGER: MFM PROJECT NO: 17-05627  
 DRAWN BY: JBC

**CW-104**

NOT FOR CONSTRUCTION