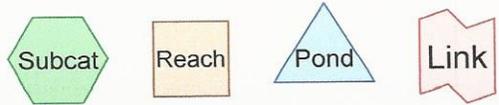
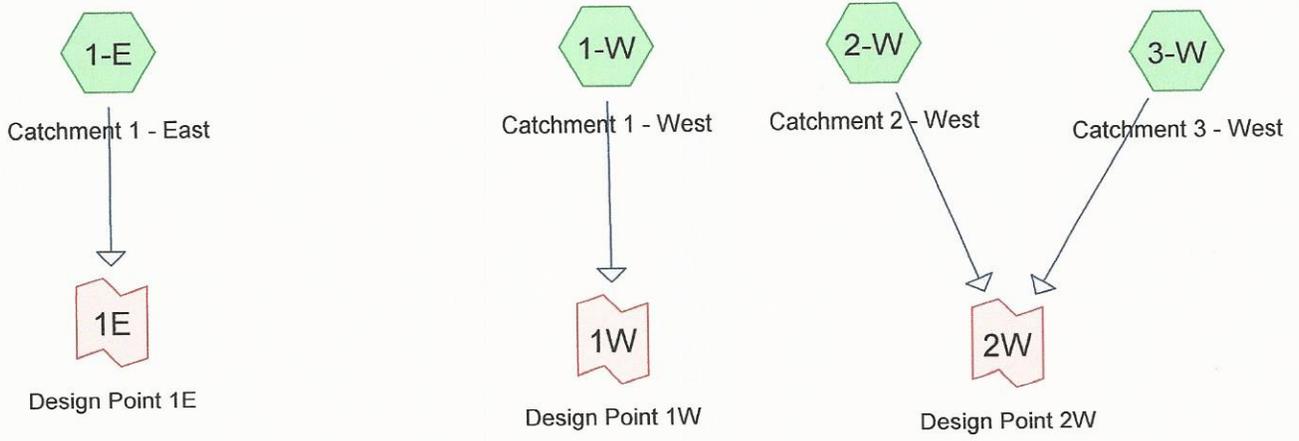


Table 1
197 New Boston Road,
Fairhaven, Ma
PRE/POST HYDROLOGY

STORM EVENT (YEARS)	DESIGN POINT	PRE DEVELOPMENT		POST DEVELOPMENT	
		PEAK RUNOFF (CFS)	PEAK VOLUME (AF)	PEAK RUNOFF (CFS)	PEAK VOLUME (AF)
2	1-EAST	0.05	0.005	0.20*	0.012
	1-WEST	0	0	0.03*	0.013
	2-WEST	0	0	1.56*	0.112
	3-WEST	0	0	1.41*	0.090
10	1-EAST	0.13	0.011	0.34*	0.020
	1-WEST	0.02	0.009	0.47*	0.074
	2-WEST	0.02	0.007	3.33*	0.227
	3-WEST	0.01	0.005	2.87*	0.176
25	1-EAST	0.18	0.014	0.42*	0.025
	1-WEST	0.06	0.026	1.13*	0.126
	2-WEST	0.05	0.021	4.44*	0.301
	3-WEST	0.03	0.015	3.78*	0.231
100	1-EAST	0.29	0.024	0.59*	0.036
	1-WEST	0.32	0.085	3.30*	0.260
	2-WEST	0.28	0.067	6.80*	0.461
	3-WEST	0.18	0.047	5.68*	0.348

- * Denotes runoff flowing into retention basin where 100% of volume infiltrates to ground.

3.B.1.: HydroCAD Stormwater Analysis: Existing & Proposed Conditions- See end of report for HydroCAD data sheets for the storm events summarized above.



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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
0.046	0.000	0.000	0.000	0.000	0.046	Brush, Fair	1-E
0.044	0.000	0.000	0.000	0.000	0.044	Gravel surface	1-E
4.698	0.000	0.000	0.000	0.000	4.698	Woods, Fair	1-W, 2-W, 3-W
4.788	0.000	0.000	0.000	0.000	4.788	TOTAL AREA	

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Type III 24-hr 2-Year Rainfall=3.40"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.05 cfs @ 12.17 hrs, Volume= 0.005 af, Depth= 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
1,900	96	Gravel surface, HSG A
2,000	35	Brush, Fair, HSG A
3,900	65	Weighted Average
3,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	25	0.0090	0.04		Sheet Flow, Sheet flow over grassy wooded area Woods: Light underbrush n= 0.400 P2= 3.40"
0.5	40	0.0090	1.42		Shallow Concentrated Flow, S.C. Flow over grassy wooded area Grassed Waterway Kv= 15.0 fps
10.0	65	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
87,600	36	Woods, Fair, HSG A
87,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow in woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

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Type III 24-hr 2-Year Rainfall=3.40"

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Area (sf)	CN	Description
68,400	36	Woods, Fair, HSG A
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
16.7	500	0.0100	0.50		Shallow Concentrated Flow, Shallw conc. flow thru woods Woodland Kv= 5.0 fps
38.5	575	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
48,650	36	Woods, Fair, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Link 1E: Design Point 1E

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 0.62" for 2-Year event
 Inflow = 0.05 cfs @ 12.17 hrs, Volume= 0.005 af
 Primary = 0.05 cfs @ 12.17 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 1W: Design Point 1W

Inflow Area = 2.011 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
 Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 2-Year Rainfall=3.40"

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Summary for Link 2W: Design Point 2W

Inflow Area = 2.687 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10-Year Rainfall=4.80"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.13 cfs @ 12.16 hrs, Volume= 0.010 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
1,900	96	Gravel surface, HSG A
2,000	35	Brush, Fair, HSG A
3,900	65	Weighted Average
3,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	25	0.0090	0.04		Sheet Flow, Sheet flow over grassy wooded area Woods: Light underbrush n= 0.400 P2= 3.40"
0.5	40	0.0090	1.42		Shallow Concentrated Flow, S.C. Flow over grassy wooded area Grassed Waterway Kv= 15.0 fps
10.0	65	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 0.02 cfs @ 15.83 hrs, Volume= 0.009 af, Depth> 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
87,600	36	Woods, Fair, HSG A
87,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow in woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 0.02 cfs @ 15.61 hrs, Volume= 0.007 af, Depth> 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

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Type III 24-hr 10-Year Rainfall=4.80"

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Area (sf)	CN	Description
68,400	36	Woods, Fair, HSG A
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
16.7	500	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
38.5	575	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 0.01 cfs @ 15.83 hrs, Volume= 0.005 af, Depth> 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
48,650	36	Woods, Fair, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Link 1E: Design Point 1E

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 1.38" for 10-Year event
Inflow = 0.13 cfs @ 12.16 hrs, Volume= 0.010 af
Primary = 0.13 cfs @ 12.16 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 1W: Design Point 1W

Inflow Area = 2.011 ac, 0.00% Impervious, Inflow Depth > 0.05" for 10-Year event
Inflow = 0.02 cfs @ 15.83 hrs, Volume= 0.009 af
Primary = 0.02 cfs @ 15.83 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 10-Year Rainfall=4.80"

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Summary for Link 2W: Design Point 2W

Inflow Area = 2.687 ac, 0.00% Impervious, Inflow Depth > 0.05" for 10-Year event
Inflow = 0.03 cfs @ 15.71 hrs, Volume= 0.012 af
Primary = 0.03 cfs @ 15.71 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 25-Year Rainfall=5.60"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.18 cfs @ 12.15 hrs, Volume= 0.014 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
1,900	96	Gravel surface, HSG A
2,000	35	Brush, Fair, HSG A
3,900	65	Weighted Average
3,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	25	0.0090	0.04		Sheet Flow, Sheet flow over grassy wooded area Woods: Light underbrush n= 0.400 P2= 3.40"
0.5	40	0.0090	1.42		Shallow Concentrated Flow, S.C. Flow over grassy wooded area Grassed Waterway Kv= 15.0 fps
10.0	65	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 0.06 cfs @ 14.20 hrs, Volume= 0.026 af, Depth> 0.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
87,600	36	Woods, Fair, HSG A
87,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow in woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 0.05 cfs @ 14.02 hrs, Volume= 0.021 af, Depth> 0.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

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Type III 24-hr 25-Year Rainfall=5.60"

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Area (sf)	CN	Description
68,400	36	Woods, Fair, HSG A
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
16.7	500	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
38.5	575	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 0.03 cfs @ 14.20 hrs, Volume= 0.015 af, Depth> 0.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
48,650	36	Woods, Fair, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Link 1E: Design Point 1E

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 1.89" for 25-Year event
 Inflow = 0.18 cfs @ 12.15 hrs, Volume= 0.014 af
 Primary = 0.18 cfs @ 12.15 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 1W: Design Point 1W

Inflow Area = 2.011 ac, 0.00% Impervious, Inflow Depth > 0.16" for 25-Year event
 Inflow = 0.06 cfs @ 14.20 hrs, Volume= 0.026 af
 Primary = 0.06 cfs @ 14.20 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 25-Year Rainfall=5.60"

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Summary for Link 2W: Design Point 2W

Inflow Area = 2.687 ac, 0.00% Impervious, Inflow Depth > 0.16" for 25-Year event
Inflow = 0.08 cfs @ 14.10 hrs, Volume= 0.035 af
Primary = 0.08 cfs @ 14.10 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 100-Year Rainfall=7.20"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.29 cfs @ 12.15 hrs, Volume= 0.022 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
1,900	96	Gravel surface, HSG A
2,000	35	Brush, Fair, HSG A
3,900	65	Weighted Average
3,900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	25	0.0090	0.04		Sheet Flow, Sheet flow over grassy wooded area Woods: Light underbrush n= 0.400 P2= 3.40"
0.5	40	0.0090	1.42		Shallow Concentrated Flow, S.C. Flow over grassy wooded area Grassed Waterway Kv= 15.0 fps
10.0	65	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 0.32 cfs @ 12.97 hrs, Volume= 0.085 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
87,600	36	Woods, Fair, HSG A
87,600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow in woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 0.28 cfs @ 12.80 hrs, Volume= 0.067 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

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Type III 24-hr 100-Year Rainfall=7.20"

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Area (sf)	CN	Description
68,400	36	Woods, Fair, HSG A
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
16.7	500	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
38.5	575	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 0.18 cfs @ 12.97 hrs, Volume= 0.047 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
48,650	36	Woods, Fair, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	75	0.0100	0.06		Sheet Flow, Sheet flow thru woods Woods: Light underbrush n= 0.400 P2= 3.40"
27.5	825	0.0100	0.50		Shallow Concentrated Flow, Shallow conc. flow thru woods Woodland Kv= 5.0 fps
49.3	900	Total			

Summary for Link 1E: Design Point 1E

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth > 3.01" for 100-Year event
 Inflow = 0.29 cfs @ 12.15 hrs, Volume= 0.022 af
 Primary = 0.29 cfs @ 12.15 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link 1W: Design Point 1W

Inflow Area = 2.011 ac, 0.00% Impervious, Inflow Depth > 0.51" for 100-Year event
 Inflow = 0.32 cfs @ 12.97 hrs, Volume= 0.085 af
 Primary = 0.32 cfs @ 12.97 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

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Type III 24-hr 100-Year Rainfall=7.20"

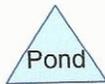
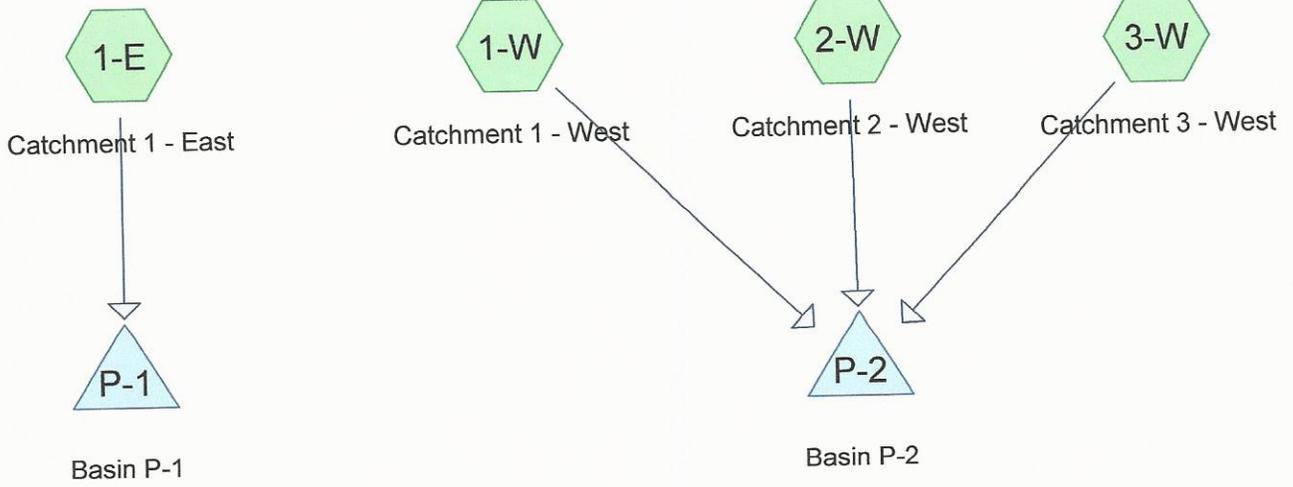
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Summary for Link 2W: Design Point 2W

Inflow Area = 2.687 ac, 0.00% Impervious, Inflow Depth > 0.51" for 100-Year event
Inflow = 0.45 cfs @ 12.86 hrs, Volume= 0.114 af
Primary = 0.45 cfs @ 12.86 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.030	49	50-75% Grass cover, Fair, HSG A (1-E)
0.458	39	>75% Grass cover, Good, HSG A (1-W)
2.404	48	Brush, Poor, HSG A (1-W, 2-W)
1.117	72	Dirt roads, HSG A (3-W)
1.178	77	Fallow, bare soil, HSG A (2-W)
0.044	98	Paved driveway, HSG A (1-E)
0.016	98	Water Surface, HSG A (1-E)
5.246	59	TOTAL AREA

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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
0.030	0.000	0.000	0.000	0.000	0.030	50-75% Grass cover, Fair	1-E
0.458	0.000	0.000	0.000	0.000	0.458	>75% Grass cover, Good	1-W
2.404	0.000	0.000	0.000	0.000	2.404	Brush, Poor	1-W, 2-W
1.117	0.000	0.000	0.000	0.000	1.117	Dirt roads	3-W
1.178	0.000	0.000	0.000	0.000	1.178	Fallow, bare soil	2-W
0.044	0.000	0.000	0.000	0.000	0.044	Paved driveway	1-E
0.016	0.000	0.000	0.000	0.000	0.016	Water Surface	1-E
5.246	0.000	0.000	0.000	0.000	5.246	TOTAL AREA	

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Type III 24-hr 2-Year Rainfall=3.40"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.20 cfs @ 12.02 hrs, Volume= 0.012 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
* 1,900	98	Paved driveway, HSG A
710	98	Water Surface, HSG A
1,290	49	50-75% Grass cover, Fair, HSG A
3,900	82	Weighted Average
1,290		33.08% Pervious Area
2,610		66.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	10	0.0090	0.65		Sheet Flow, Sheet flow over driveway Smooth surfaces n= 0.011 P2= 3.40"
0.2	20	0.0090	1.93		Shallow Concentrated Flow, S.C. Flow over driveway Paved Kv= 20.3 fps
0.5	60	0.0050	2.08	4.58	Channel Flow, Grass channel Area= 2.2 sf Perim= 4.8' r= 0.46' n= 0.030 Earth, grassed & winding
1.0	90	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 0.03 cfs @ 14.66 hrs, Volume= 0.013 af, Depth> 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
87,600	48	Brush, Poor, HSG A
19,960	39	>75% Grass cover, Good, HSG A
107,560	46	Weighted Average
107,560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.4000	0.30		Sheet Flow, Sheet flow thru weeds & grass Grass: Dense n= 0.240 P2= 3.40"
0.1	25	0.4000	4.43		Shallow Concentrated Flow, Shallow conc. flow thru weeds & g Short Grass Pasture Kv= 7.0 fps
0.0	2		4.00		Direct Entry, Stone check dam @ 82'
4.1	800	0.0083	3.26	13.06	Channel Flow, Channel flow in Swale Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
5.6	852	Total			

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Type III 24-hr 2-Year Rainfall=3.40"

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Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 1.56 cfs @ 12.11 hrs, Volume= 0.112 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
51,300	77	Fallow, bare soil, HSG A
17,100	48	Brush, Poor, HSG A
68,400	70	Weighted Average
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.3300	0.98		Sheet Flow, Sheet flow on soil stockpile Fallow n= 0.050 P2= 3.40"
0.2	75	0.3300	5.74		Shallow Concentrated Flow, Shallow conc. flow on soil stockpile Nearly Bare & Untilled Kv= 10.0 fps
0.8	170	0.0500	3.60		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
4.5	520	0.0140	1.90		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in grass channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
6.2	905	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 1.41 cfs @ 12.06 hrs, Volume= 0.090 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
48,650	72	Dirt roads, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	15	0.2500	0.79		Sheet Flow, Sheet flow on gravel Fallow n= 0.050 P2= 3.40"
0.1	25	0.2500	8.05		Shallow Concentrated Flow, Shallow conc. flow on gravel Unpaved Kv= 16.1 fps
2.4	810	0.1250	5.69		Shallow Concentrated Flow, Shallow conc. flow over gravel Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in Grass Channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding

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Type III 24-hr 2-Year Rainfall=3.40"

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3.1 965 Total

Summary for Pond P-1: Basin P-1

Inflow Area = 0.090 ac, 66.92% Impervious, Inflow Depth > 1.58" for 2-Year event
 Inflow = 0.20 cfs @ 12.02 hrs, Volume= 0.012 af
 Outflow = 0.08 cfs @ 12.23 hrs, Volume= 0.012 af, Atten= 61%, Lag= 12.7 min
 Discarded = 0.08 cfs @ 12.23 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 81.97' @ 12.23 hrs Surf.Area= 406 sf Storage= 97 cf

Plug-Flow detention time= 10.1 min calculated for 0.012 af (100% of inflow)
 Center-of-Mass det. time= 9.9 min (802.3 - 792.4)

Volume	Invert	Avail.Storage	Storage Description
#1	81.50'	1,316 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.50	1	0	0
82.00	428	107	107
83.00	600	514	621
84.00	790	695	1,316

Device	Routing	Invert	Outlet Devices
#1	Discarded	81.50'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.08 cfs @ 12.23 hrs HW=81.97' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Summary for Pond P-2: Basin P-2

Inflow Area = 5.156 ac, 0.00% Impervious, Inflow Depth > 0.50" for 2-Year event
 Inflow = 2.80 cfs @ 12.08 hrs, Volume= 0.215 af
 Outflow = 1.17 cfs @ 12.39 hrs, Volume= 0.214 af, Atten= 58%, Lag= 18.4 min
 Discarded = 1.17 cfs @ 12.39 hrs, Volume= 0.214 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 73.36' @ 12.39 hrs Surf.Area= 6,104 sf Storage= 1,537 cf

Plug-Flow detention time= 12.0 min calculated for 0.213 af (99% of inflow)
 Center-of-Mass det. time= 10.1 min (840.7 - 830.6)

Volume	Invert	Avail.Storage	Storage Description
#1	73.10'	23,680 cf	I (Prismatic) Listed below (Recalc)

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Type III 24-hr 2-Year Rainfall=3.40"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.10	5,500	0	0
74.00	7,550	5,872	5,872
75.00	9,013	8,282	14,154
76.00	10,040	9,527	23,680

Device	Routing	Invert	Outlet Devices
#1	Discarded	73.10'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.10'

Discarded OutFlow Max=1.17 cfs @ 12.39 hrs HW=73.36' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 1.17 cfs)

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Type III 24-hr 10-Year Rainfall=4.80"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.34 cfs @ 12.02 hrs, Volume= 0.020 af, Depth> 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
* 1,900	98	Paved driveway, HSG A
710	98	Water Surface, HSG A
1,290	49	50-75% Grass cover, Fair, HSG A
3,900	82	Weighted Average
1,290		33.08% Pervious Area
2,610		66.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	10	0.0090	0.65		Sheet Flow, Sheet flow over driveway Smooth surfaces n= 0.011 P2= 3.40"
0.2	20	0.0090	1.93		Shallow Concentrated Flow, S.C. Flow over driveway Paved Kv= 20.3 fps
0.5	60	0.0050	2.08	4.58	Channel Flow, Grass channel Area= 2.2 sf Perim= 4.8' r= 0.46' n= 0.030 Earth, grassed & winding
1.0	90	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 0.47 cfs @ 12.30 hrs, Volume= 0.074 af, Depth> 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
87,600	48	Brush, Poor, HSG A
19,960	39	>75% Grass cover, Good, HSG A
107,560	46	Weighted Average
107,560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.4000	0.30		Sheet Flow, Sheet flow thru weeds & grass Grass: Dense n= 0.240 P2= 3.40"
0.1	25	0.4000	4.43		Shallow Concentrated Flow, Shallow conc. flow thru weeds & g Short Grass Pasture Kv= 7.0 fps
0.0	2		4.00		Direct Entry, Stone check dam @ 82'
4.1	800	0.0083	3.26	13.06	Channel Flow, Channel flow in Swale Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
5.6	852	Total			

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Type III 24-hr 10-Year Rainfall=4.80"

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Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 3.33 cfs @ 12.10 hrs, Volume= 0.227 af, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
51,300	77	Fallow, bare soil, HSG A
17,100	48	Brush, Poor, HSG A
68,400	70	Weighted Average
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.3300	0.98		Sheet Flow, Sheet flow on soil stockpile Fallow n= 0.050 P2= 3.40"
0.2	75	0.3300	5.74		Shallow Concentrated Flow, Shallow conc. flow on soil stockpile Nearly Bare & Untilled Kv= 10.0 fps
0.8	170	0.0500	3.60		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
4.5	520	0.0140	1.90		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in grass channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
6.2	905	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 2.87 cfs @ 12.05 hrs, Volume= 0.176 af, Depth> 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.80"

Area (sf)	CN	Description
48,650	72	Dirt roads, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	15	0.2500	0.79		Sheet Flow, Sheet flow on gravel Fallow n= 0.050 P2= 3.40"
0.1	25	0.2500	8.05		Shallow Concentrated Flow, Shallow conc. flow on gravel Unpaved Kv= 16.1 fps
2.4	810	0.1250	5.69		Shallow Concentrated Flow, Shallow conc. flow over gravel Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in Grass Channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding

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Type III 24-hr 10-Year Rainfall=4.80"

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3.1 965 Total

Summary for Pond P-1: Basin P-1

Inflow Area = 0.090 ac, 66.92% Impervious, Inflow Depth > 2.72" for 10-Year event
 Inflow = 0.34 cfs @ 12.02 hrs, Volume= 0.020 af
 Outflow = 0.09 cfs @ 12.36 hrs, Volume= 0.020 af, Atten= 73%, Lag= 20.4 min
 Discarded = 0.09 cfs @ 12.36 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.25' @ 12.36 hrs Surf.Area= 472 sf Storage= 222 cf

Plug-Flow detention time= 18.1 min calculated for 0.020 af (100% of inflow)
 Center-of-Mass det. time= 17.9 min (797.8 - 779.9)

Volume	Invert	Avail.Storage	Storage Description
#1	81.50'	1,316 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.50	1	0	0
82.00	428	107	107
83.00	600	514	621
84.00	790	695	1,316

Device	Routing	Invert	Outlet Devices
#1	Discarded	81.50'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 12.36 hrs HW=82.25' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.09 cfs)

Summary for Pond P-2: Basin P-2

Inflow Area = 5.156 ac, 0.00% Impervious, Inflow Depth > 1.11" for 10-Year event
 Inflow = 6.05 cfs @ 12.08 hrs, Volume= 0.477 af
 Outflow = 1.43 cfs @ 12.56 hrs, Volume= 0.475 af, Atten= 76%, Lag= 28.5 min
 Discarded = 1.43 cfs @ 12.56 hrs, Volume= 0.475 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 73.97' @ 12.56 hrs Surf.Area= 7,481 sf Storage= 5,644 cf

Plug-Flow detention time= 32.6 min calculated for 0.473 af (99% of inflow)
 Center-of-Mass det. time= 30.9 min (848.8 - 817.9)

Volume	Invert	Avail.Storage	Storage Description
#1	73.10'	23,680 cf	I (Prismatic) Listed below (Recalc)

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Type III 24-hr 10-Year Rainfall=4.80"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.10	5,500	0	0
74.00	7,550	5,872	5,872
75.00	9,013	8,282	14,154
76.00	10,040	9,527	23,680

Device	Routing	Invert	Outlet Devices
#1	Discarded	73.10'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.10'

Discarded OutFlow Max=1.43 cfs @ 12.56 hrs HW=73.97' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 1.43 cfs)

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Type III 24-hr 25-Year Rainfall=5.60"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.42 cfs @ 12.02 hrs, Volume= 0.025 af, Depth> 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
* 1,900	98	Paved driveway, HSG A
710	98	Water Surface, HSG A
1,290	49	50-75% Grass cover, Fair, HSG A
3,900	82	Weighted Average
1,290		33.08% Pervious Area
2,610		66.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	10	0.0090	0.65		Sheet Flow, Sheet flow over driveway Smooth surfaces n= 0.011 P2= 3.40"
0.2	20	0.0090	1.93		Shallow Concentrated Flow, S.C. Flow over driveway Paved Kv= 20.3 fps
0.5	60	0.0050	2.08	4.58	Channel Flow, Grass channel Area= 2.2 sf Perim= 4.8' r= 0.46' n= 0.030 Earth, grassed & winding
1.0	90	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 1.13 cfs @ 12.13 hrs, Volume= 0.126 af, Depth> 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
87,600	48	Brush, Poor, HSG A
19,960	39	>75% Grass cover, Good, HSG A
107,560	46	Weighted Average
107,560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.4000	0.30		Sheet Flow, Sheet flow thru weeds & grass Grass: Dense n= 0.240 P2= 3.40"
0.1	25	0.4000	4.43		Shallow Concentrated Flow, Shallow conc. flow thru weeds & g Short Grass Pasture Kv= 7.0 fps
0.0	2		4.00		Direct Entry, Stone check dam @ 82'
4.1	800	0.0083	3.26	13.06	Channel Flow, Channel flow in Swale Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
5.6	852	Total			

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Type III 24-hr 25-Year Rainfall=5.60"

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Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 4.44 cfs @ 12.10 hrs, Volume= 0.301 af, Depth> 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
51,300	77	Fallow, bare soil, HSG A
17,100	48	Brush, Poor, HSG A
68,400	70	Weighted Average
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.3300	0.98		Sheet Flow, Sheet flow on soil stockpile Fallow n= 0.050 P2= 3.40"
0.2	75	0.3300	5.74		Shallow Concentrated Flow, Shallow conc. flow on soil stockpile Nearly Bare & Untilled Kv= 10.0 fps
0.8	170	0.0500	3.60		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
4.5	520	0.0140	1.90		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in grass channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
6.2	905	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 3.78 cfs @ 12.05 hrs, Volume= 0.231 af, Depth> 2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
48,650	72	Dirt roads, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	15	0.2500	0.79		Sheet Flow, Sheet flow on gravel Fallow n= 0.050 P2= 3.40"
0.1	25	0.2500	8.05		Shallow Concentrated Flow, Shallow conc. flow on gravel Unpaved Kv= 16.1 fps
2.4	810	0.1250	5.69		Shallow Concentrated Flow, Shallow conc. flow over gravel Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in Grass Channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding

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Type III 24-hr 25-Year Rainfall=5.60"

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3.1 965 Total

Summary for Pond P-1: Basin P-1

Inflow Area = 0.090 ac, 66.92% Impervious, Inflow Depth > 3.40" for 25-Year event
 Inflow = 0.42 cfs @ 12.02 hrs, Volume= 0.025 af
 Outflow = 0.10 cfs @ 12.39 hrs, Volume= 0.025 af, Atten= 77%, Lag= 22.8 min
 Discarded = 0.10 cfs @ 12.39 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.43' @ 12.39 hrs Surf.Area= 502 sf Storage= 308 cf

Plug-Flow detention time= 23.7 min calculated for 0.025 af (100% of inflow)
 Center-of-Mass det. time= 23.4 min (798.1 - 774.6)

Volume	Invert	Avail.Storage	Storage Description
#1	81.50'	1,316 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.50	1	0	0
82.00	428	107	107
83.00	600	514	621
84.00	790	695	1,316

Device	Routing	Invert	Outlet Devices
#1	Discarded	81.50'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.10 cfs @ 12.39 hrs HW=82.43' (Free Discharge)
 ↑ **1=Exfiltration** (Exfiltration Controls 0.10 cfs)

Summary for Pond P-2: Basin P-2

Inflow Area = 5.156 ac, 0.00% Impervious, Inflow Depth > 1.53" for 25-Year event
 Inflow = 8.73 cfs @ 12.08 hrs, Volume= 0.658 af
 Outflow = 1.56 cfs @ 12.65 hrs, Volume= 0.655 af, Atten= 82%, Lag= 33.9 min
 Discarded = 1.56 cfs @ 12.65 hrs, Volume= 0.655 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 74.41' @ 12.65 hrs Surf.Area= 8,150 sf Storage= 9,091 cf

Plug-Flow detention time= 52.3 min calculated for 0.655 af (100% of inflow)
 Center-of-Mass det. time= 50.8 min (862.8 - 812.0)

Volume	Invert	Avail.Storage	Storage Description
#1	73.10'	23,680 cf	I (Prismatic) Listed below (Recalc)

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Type III 24-hr 25-Year Rainfall=5.60"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.10	5,500	0	0
74.00	7,550	5,872	5,872
75.00	9,013	8,282	14,154
76.00	10,040	9,527	23,680

Device	Routing	Invert	Outlet Devices
#1	Discarded	73.10'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.10'

Discarded OutFlow Max=1.56 cfs @ 12.65 hrs HW=74.41' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 1.56 cfs)

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Type III 24-hr 100-Year Rainfall=7.20"

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Summary for Subcatchment 1-E: Catchment 1 - East

Runoff = 0.59 cfs @ 12.01 hrs, Volume= 0.036 af, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

	Area (sf)	CN	Description
*	1,900	98	Paved driveway, HSG A
	710	98	Water Surface, HSG A
	1,290	49	50-75% Grass cover, Fair, HSG A
	3,900	82	Weighted Average
	1,290		33.08% Pervious Area
	2,610		66.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	10	0.0090	0.65		Sheet Flow, Sheet flow over driveway Smooth surfaces n= 0.011 P2= 3.40"
0.2	20	0.0090	1.93		Shallow Concentrated Flow, S.C. Flow over driveway Paved Kv= 20.3 fps
0.5	60	0.0050	2.08	4.58	Channel Flow, Grass channel Area= 2.2 sf Perim= 4.8' r= 0.46' n= 0.030 Earth, grassed & winding
1.0	90	Total			

Summary for Subcatchment 1-W: Catchment 1 - West

Runoff = 3.30 cfs @ 12.11 hrs, Volume= 0.260 af, Depth> 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

	Area (sf)	CN	Description
	87,600	48	Brush, Poor, HSG A
	19,960	39	>75% Grass cover, Good, HSG A
	107,560	46	Weighted Average
	107,560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.4000	0.30		Sheet Flow, Sheet flow thru weeds & grass Grass: Dense n= 0.240 P2= 3.40"
0.1	25	0.4000	4.43		Shallow Concentrated Flow, Shallow conc. flow thru weeds & g Short Grass Pasture Kv= 7.0 fps
0.0	2		4.00		Direct Entry, Stone check dam @ 82'
4.1	800	0.0083	3.26	13.06	Channel Flow, Channel flow in Swale Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
5.6	852	Total			

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Type III 24-hr 100-Year Rainfall=7.20"

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Summary for Subcatchment 2-W: Catchment 2 - West

Runoff = 6.80 cfs @ 12.10 hrs, Volume= 0.461 af, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
51,300	77	Fallow, bare soil, HSG A
17,100	48	Brush, Poor, HSG A
68,400	70	Weighted Average
68,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	25	0.3300	0.98		Sheet Flow, Sheet flow on soil stockpile Fallow n= 0.050 P2= 3.40"
0.2	75	0.3300	5.74		Shallow Concentrated Flow, Shallow conc. flow on soil stockpile Nearly Bare & Untilled Kv= 10.0 fps
0.8	170	0.0500	3.60		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
4.5	520	0.0140	1.90		Shallow Concentrated Flow, Shallow conc. flow over haul road Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in grass channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding
6.2	905	Total			

Summary for Subcatchment 3-W: Catchment 3 - West

Runoff = 5.68 cfs @ 12.05 hrs, Volume= 0.348 af, Depth> 3.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=7.20"

Area (sf)	CN	Description
48,650	72	Dirt roads, HSG A
48,650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	15	0.2500	0.79		Sheet Flow, Sheet flow on gravel Fallow n= 0.050 P2= 3.40"
0.1	25	0.2500	8.05		Shallow Concentrated Flow, Shallow conc. flow on gravel Unpaved Kv= 16.1 fps
2.4	810	0.1250	5.69		Shallow Concentrated Flow, Shallow conc. flow over gravel Unpaved Kv= 16.1 fps
0.3	115	0.0440	7.52	30.07	Channel Flow, Flow in Grass Channel Area= 4.0 sf Perim= 6.5' r= 0.62' n= 0.030 Earth, grassed & winding

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Type III 24-hr 100-Year Rainfall=7.20"

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3.1 965 Total

Summary for Pond P-1: Basin P-1

Inflow Area = 0.090 ac, 66.92% Impervious, Inflow Depth > 4.81" for 100-Year event
 Inflow = 0.59 cfs @ 12.01 hrs, Volume= 0.036 af
 Outflow = 0.11 cfs @ 12.44 hrs, Volume= 0.036 af, Atten= 82%, Lag= 25.5 min
 Discarded = 0.11 cfs @ 12.44 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.78' @ 12.44 hrs Surf.Area= 563 sf Storage= 495 cf

Plug-Flow detention time= 35.6 min calculated for 0.036 af (100% of inflow)
 Center-of-Mass det. time= 35.2 min (801.5 - 766.3)

Volume	Invert	Avail.Storage	Storage Description
#1	81.50'	1,316 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.50	1	0	0
82.00	428	107	107
83.00	600	514	621
84.00	790	695	1,316

Device	Routing	Invert	Outlet Devices
#1	Discarded	81.50'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.01'

Discarded OutFlow Max=0.11 cfs @ 12.44 hrs HW=82.78' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.11 cfs)

Summary for Pond P-2: Basin P-2

Inflow Area = 5.156 ac, 0.00% Impervious, Inflow Depth > 2.49" for 100-Year event
 Inflow = 14.91 cfs @ 12.08 hrs, Volume= 1.069 af
 Outflow = 1.81 cfs @ 12.96 hrs, Volume= 1.065 af, Atten= 88%, Lag= 52.9 min
 Discarded = 1.81 cfs @ 12.96 hrs, Volume= 1.065 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 75.42' @ 12.96 hrs Surf.Area= 9,441 sf Storage= 17,999 cf

Plug-Flow detention time= 101.1 min calculated for 1.065 af (100% of inflow)
 Center-of-Mass det. time= 99.6 min (902.5 - 802.9)

Volume	Invert	Avail.Storage	Storage Description
#1	73.10'	23,680 cf	I (Prismatic) Listed below (Recalc)

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Type III 24-hr 100-Year Rainfall=7.20"

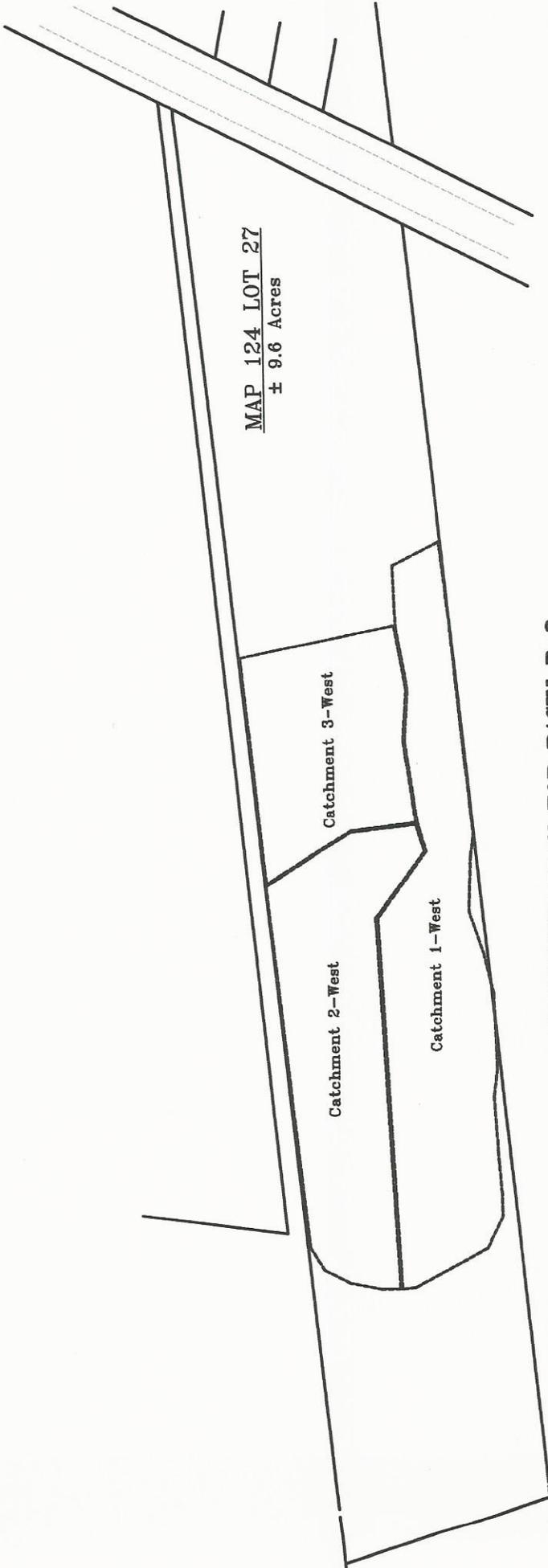
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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.10	5,500	0	0
74.00	7,550	5,872	5,872
75.00	9,013	8,282	14,154
76.00	10,040	9,527	23,680

Device	Routing	Invert	Outlet Devices
#1	Discarded	73.10'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.10'

Discarded OutFlow Max=1.81 cfs @ 12.96 hrs HW=75.42' (Free Discharge)
↑1=Exfiltration (Exfiltration Controls 1.81 cfs)



MAP 124 LOT 27
± 9.6 Acres

Catchment 3-West

Catchment 2-West

Catchment 1-West

CATCHMENT PLAN FOR BASIN P-2