

ATTACHMENT 1

AREA CALCULATIONS

EXISTING HYDROLOGIC BASINS FOR 100 YEAR STORM

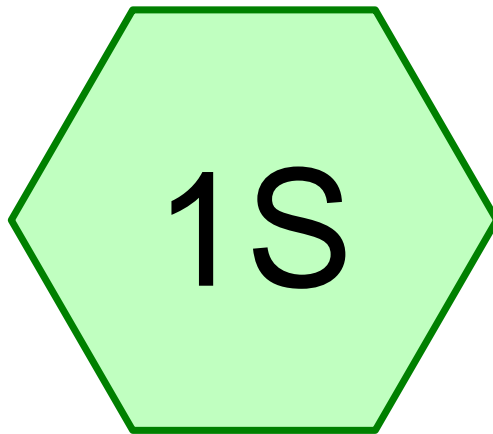
Basin Number	Total Area SF	Total Area Acres	Impervious Area SF	Impervious Area Acres	Percent Impervious	C Value Weighted
EX-1	308,100.000	7.073	145,831.300	3.348	47.33%	0.58
EX-2	145,300.000	3.336	108,151.420	2.483	74.43%	0.80
TOTAL	453,400.000	10.409	253,982.720	5.831	56.02%	0.65

*C values per City of Grover Beach Standards Table of Coefficient Runoff Chart D.2.

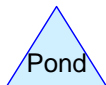
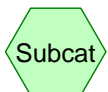
EXISTING HYDROLOGIC BASINS FOR OTHER STORM EVENTS

Basin Number	Total Area SF	Total Area Acres	Impervious Area SF	Impervious Area Acres	Percent Impervious	C Value Weighted
EX-1	308,100.000	7.073	77,800.600	1.786	25.25%	0.40
EX-2	145,300.000	3.336	108,151.420	2.483	74.43%	0.80
TOTAL	453,400.000	10.409	185,952.020	4.269	41.01%	0.53

*C values per City of Grover Beach Standards Table of Coefficient Runoff Chart D.2.



EX



EX_inundation

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
10.409	73	(1S)
10.409	73	TOTAL AREA

EX_inundation

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
10.409	Other	1S
10.409		TOTAL AREA

EX_inundation

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Type I 24-hr 100 YEAR Rainfall=6.00"

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Time span=5.00-30.00 hrs, dt=0.03 hrs, 834 points

Runoff by SBUH method

Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX

Runoff Area=10.409 ac Runoff Depth=3.09"
Tc=6.0 min CN=73 Runoff=22.22 cfs 2.679 af

Total Runoff Area = 10.409 ac Runoff Volume = 2.679 af Average Runoff Depth = 3.09"

EX_inundation

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Summary for Subcatchment 1S: EX

Runoff = 22.22 cfs @ 9.96 hrs, Volume= 2.679 af, Depth= 3.09"

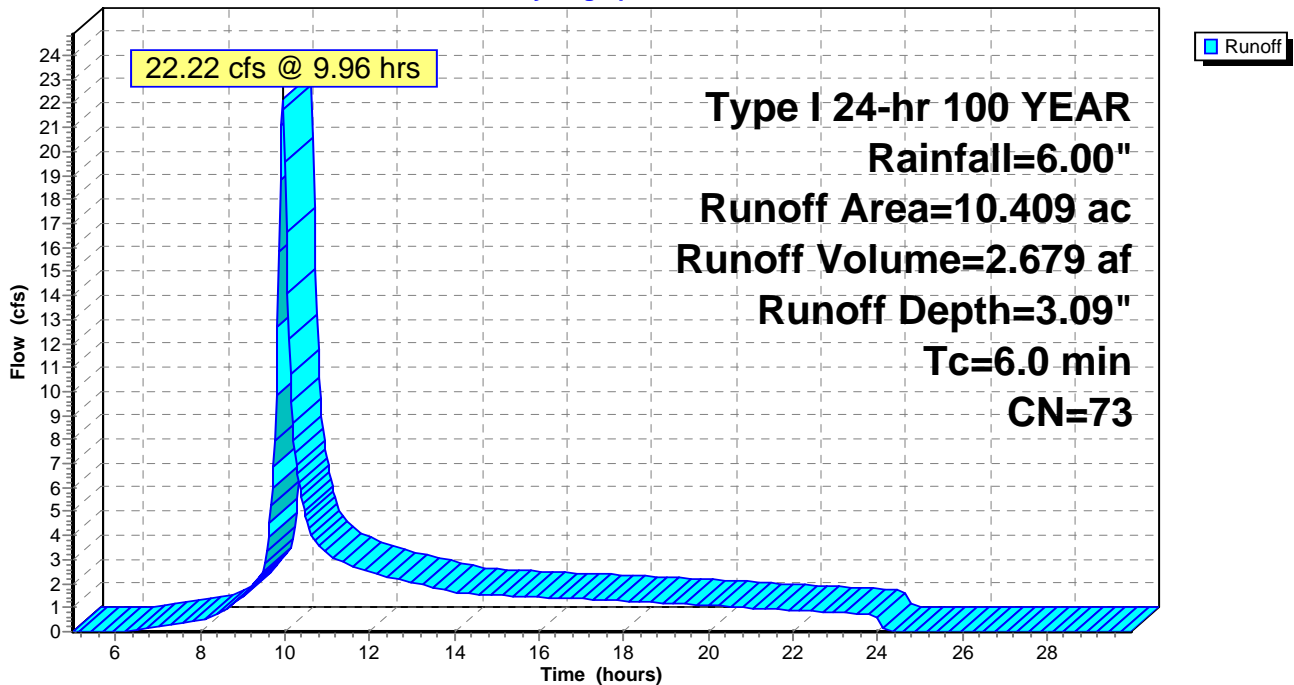
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

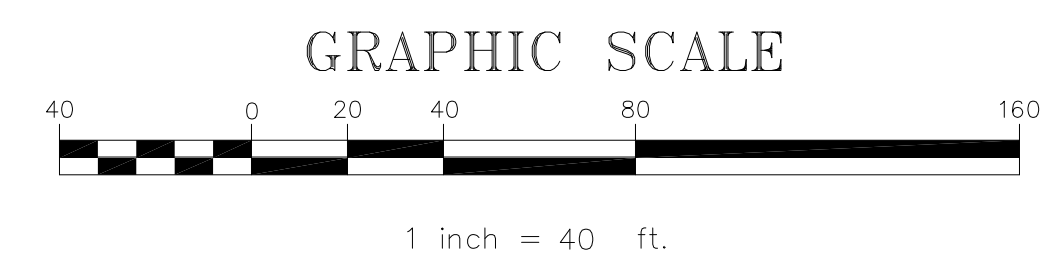
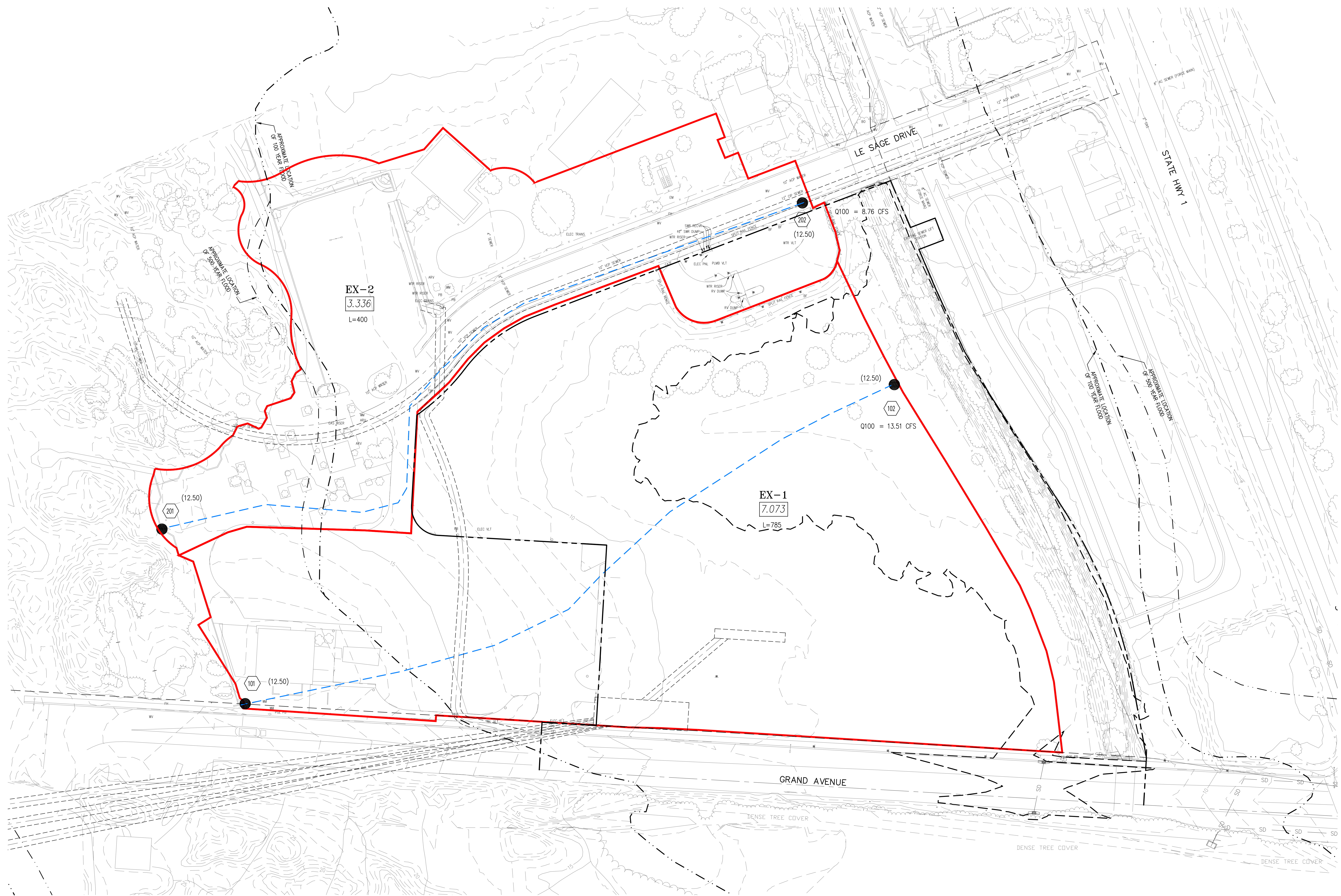
Area (ac)	CN	Description
* 10.409	73	

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

Subcatchment 1S: EX

Hydrograph





LEGEND

	EXISTING CONTOUR (MAJOR)
	EXISTING CONTOUR (MINOR)
	HYDROLOGIC BASIN BOUNDARY
	HYDROLOGIC FLOW PATH
EX-1	BASIN NUMBER
	AREA (ACRES)
	NODE NUMBER
	ELEVATION (FEET)

**EXISTING HYDROLOGIC
CONDITIONS**

ATTACHMENT 2

AREA CALCULATIONS

PROPOSED HYDROLOGIC BASINS FOR 100 YEAR STORM EVENTS

Basin Number	Total Area SF	Total Area Acres	Impervious Area SF	Landscape Area SF	Pervious Pavement SF	Percent Impervious	C Value* Weighted
PR-1A	31,937.440	0.733	16,518.880	15,418.560	0.000	51.72%	0.61
PR-1B	36,382.870	0.835	20,033.090	16,349.780	0.000	55.06%	0.64
PR-2	33,493.280	0.769	13,569.680	19,923.600	0.000	40.51%	0.52
PR-3	35,045.700	0.805	11,234.730	23,810.970	0.000	32.06%	0.46
PR-4	59,732.950	1.371	13,334.850	46,398.100	0.000	22.32%	0.38
PR-5	42,745.900	0.981	11,981.200	16,968.700	13,796.000	28.03%	0.55
PR-6	43,345.700	0.995	28,599.090	7,046.610	7,700.000	65.98%	0.80
PR-7	53,398.140	1.226	37,221.620	11,052.320	5,124.200	69.71%	0.80
PR-8	117,337.200	2.694	91,386.185	25,951.015	0.000	77.88%	0.82
TOTAL	453,419.180	10.409	243,879.325	182,919.655	26,620.200	53.79%	0.698

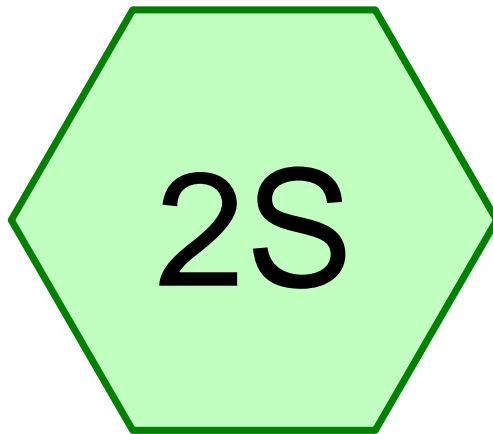
*C values per City of Grover Beach Standards Table of Coefficient Runoff Chart D.2.

PROPOSED HYDROLOGIC BASINS FOR OTHER STORM EVENTS

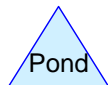
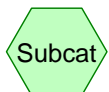
Basin Number	Total Area SF	Total Area Acres	Impervious Area SF	Landscape Area SF	Pervious Pavement SF	Percent Impervious	C Value* Weighted
PR-1A	31,937.440	0.733	16,518.880	15,418.560	0.000	51.72%	0.61
PR-1B	36,382.870	0.835	20,033.090	16,349.780	0.000	55.06%	0.64
PR-2	33,493.280	0.769	13,569.680	19,923.600	0.000	40.51%	0.52
PR-3	35,045.700	0.805	11,234.730	23,810.970	0.000	32.06%	0.46
PR-4	59,732.950	1.371	13,334.850	46,398.100	0.000	22.32%	0.38
PR-5	42,745.900	0.981	11,981.200	16,968.700	13,796.000	28.03%	0.55
PR-6	43,345.700	0.995	28,599.090	7,046.610	7,700.000	65.98%	0.80
PR-7	53,398.140	1.226	37,221.620	8,900.400	7,276.120	69.71%	0.81
PR-8	117,337.200	2.694	91,386.185	25,951.015	0.000	77.88%	0.82
TOTAL	453,419.180	10.409	243,879.325	180,767.735	28,772.120	53.79%	0.700

*C values per City of Grover Beach Standards Table of Coefficient Runoff Chart D.2.

**PROPOSED WITHOUT DETENTION
CALCS 100 YR**



PR_NO DETENTION



PR_inundation_WITHOUT DETENTION

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
10.409	73	(2S)
10.409	73	TOTAL AREA

PR_inundation_WITHOUT DETENTION

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
10.409	Other	2S
10.409		TOTAL AREA

PR_inundation_WITHOUT DETENTION

Type I 24-hr 100 YEAR Rainfall=6.00"

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Page 4

Time span=5.00-30.00 hrs, dt=0.03 hrs, 834 points

Runoff by SBUH method

Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 2S: PR_NO DETENTION

Runoff Area=10.409 ac Runoff Depth=3.09"

Tc=5.7 min CN=73 Runoff=22.52 cfs 2.679 af

Total Runoff Area = 10.409 ac Runoff Volume = 2.679 af Average Runoff Depth = 3.09"

PR_inundation_WITHOUT DETENTION

Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Subcatchment 2S: PR_NO DETENTION

Runoff = 22.52 cfs @ 9.96 hrs, Volume= 2.679 af, Depth= 3.09"

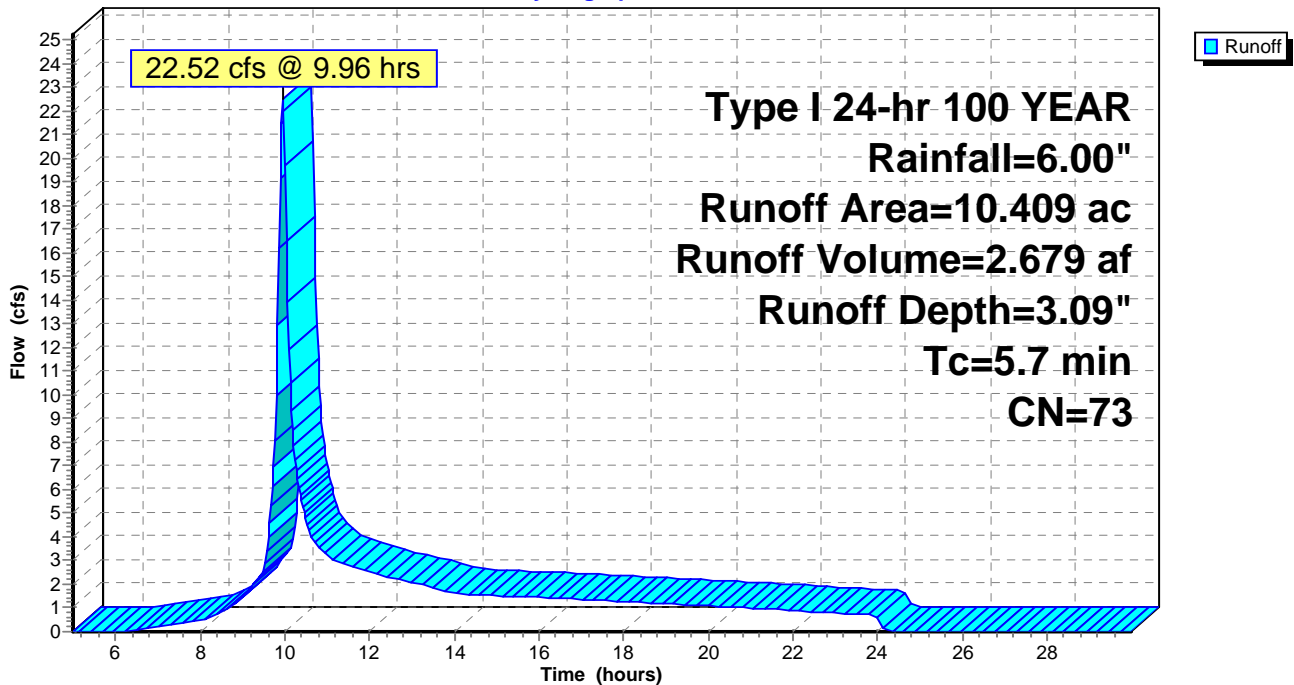
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (ac)	CN	Description
* 10.409	73	

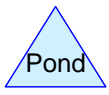
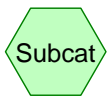
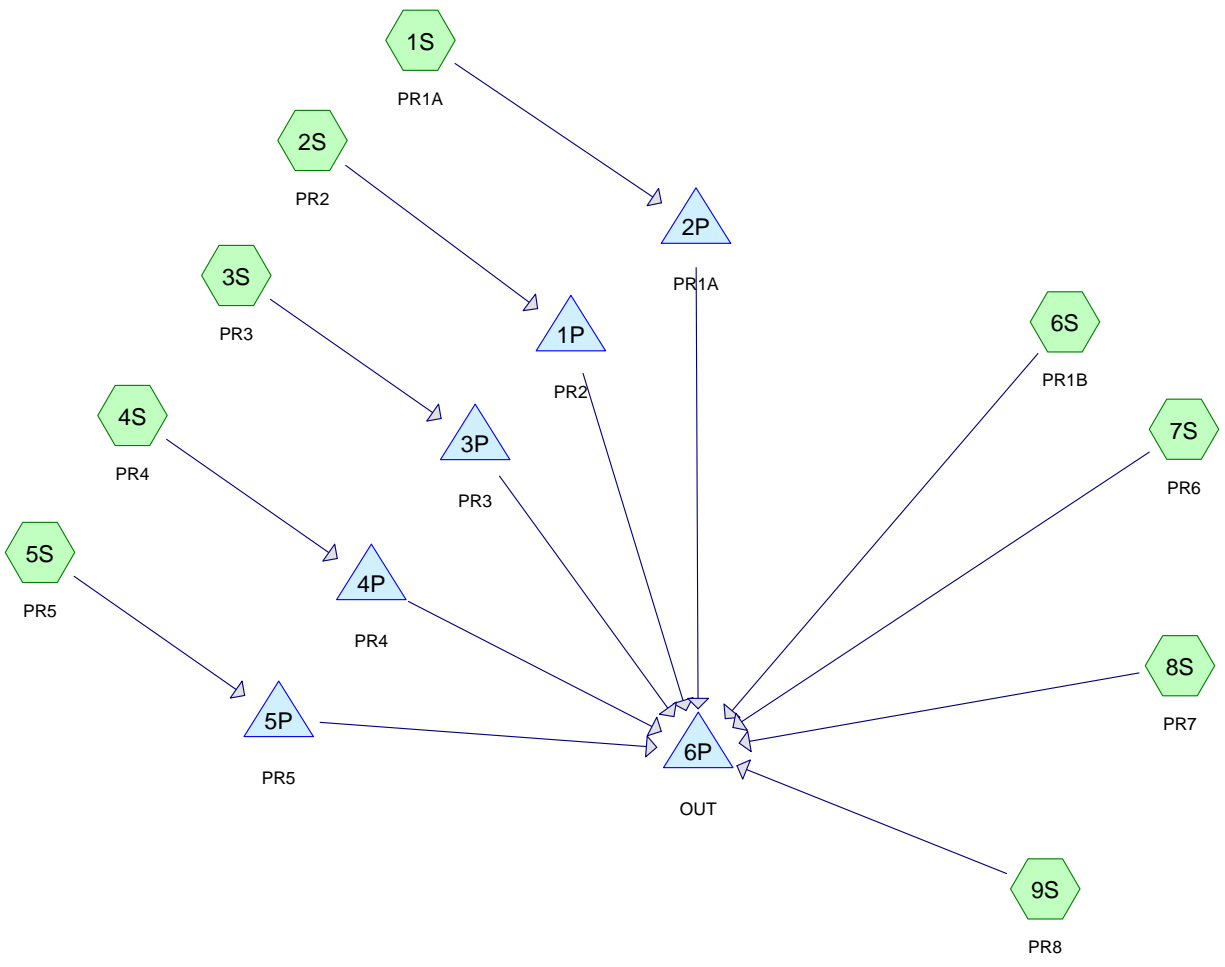
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7					Direct Entry,

Subcatchment 2S: PR_NO DETENTION

Hydrograph



**PROPOSED WITH DETENTION
CALCS 100 YR**



Drainage Diagram for PR_inundation
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PR_inundation

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.371	61	(4S)
0.805	64	(3S)
0.769	67	(2S)
0.981	68	(5S)
0.733	71	(1S)
0.835	72	(6S)
2.221	78	(7S, 8S)
2.694	79	(9S)
10.409	72	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
10.409	Other	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S
10.409		TOTAL AREA

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Type I 24-hr 100 YEAR Rainfall=6.00"

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Time span=5.00-30.00 hrs, dt=0.03 hrs, 834 points

Runoff by SBUH method

Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: PR1ARunoff Area=31,937 sf Runoff Depth=2.90"
Tc=5.0 min CN=71 Runoff=1.52 cfs 0.177 af**Subcatchment 2S: PR2**Runoff Area=33,493 sf Runoff Depth=2.53"
Tc=5.0 min CN=67 Runoff=1.34 cfs 0.162 af**Subcatchment 3S: PR3**Runoff Area=35,046 sf Runoff Depth=2.26"
Tc=5.0 min CN=64 Runoff=1.21 cfs 0.152 af**Subcatchment 4S: PR4**Runoff Area=59,733 sf Runoff Depth=2.01"
Tc=5.0 min CN=61 Runoff=1.74 cfs 0.229 af**Subcatchment 5S: PR5**Runoff Area=42,746 sf Runoff Depth=2.62"
Tc=5.0 min CN=68 Runoff=1.79 cfs 0.214 af**Subcatchment 6S: PR1B**Runoff Area=36,383 sf Runoff Depth=2.99"
Tc=5.0 min CN=72 Runoff=1.80 cfs 0.208 af**Subcatchment 7S: PR6**Runoff Area=43,346 sf Runoff Depth>3.58"
Tc=5.0 min CN=78 Runoff=2.64 cfs 0.297 af**Subcatchment 8S: PR7**Runoff Area=53,398 sf Runoff Depth>3.58"
Tc=5.0 min CN=78 Runoff=3.25 cfs 0.366 af**Subcatchment 9S: PR8**Runoff Area=117,337 sf Runoff Depth>3.68"
Tc=5.0 min CN=79 Runoff=7.37 cfs 0.826 af**Pond 1P: PR2**Peak Elev=11.14' Storage=1,029 cf Inflow=1.34 cfs 0.162 af
Outflow=0.59 cfs 0.161 af**Pond 2P: PR1A**Peak Elev=9.60' Storage=1,450 cf Inflow=1.52 cfs 0.177 af
Outflow=0.56 cfs 0.176 af**Pond 3P: PR3**Peak Elev=9.60' Storage=883 cf Inflow=1.21 cfs 0.152 af
Outflow=0.56 cfs 0.151 af**Pond 4P: PR4**Peak Elev=11.76' Storage=1,333 cf Inflow=1.74 cfs 0.229 af
Outflow=0.68 cfs 0.228 af**Pond 5P: PR5**Peak Elev=9.94' Storage=1,609 cf Inflow=1.79 cfs 0.214 af
Outflow=0.56 cfs 0.214 af**Pond 6P: OUT**Inflow=17.38 cfs 2.627 af
Primary=17.38 cfs 2.627 af**Total Runoff Area = 10.409 ac Runoff Volume = 2.631 af Average Runoff Depth = 3.03"**

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Summary for Subcatchment 1S: PR1A

Runoff = 1.52 cfs @ 9.95 hrs, Volume= 0.177 af, Depth= 2.90"

Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs

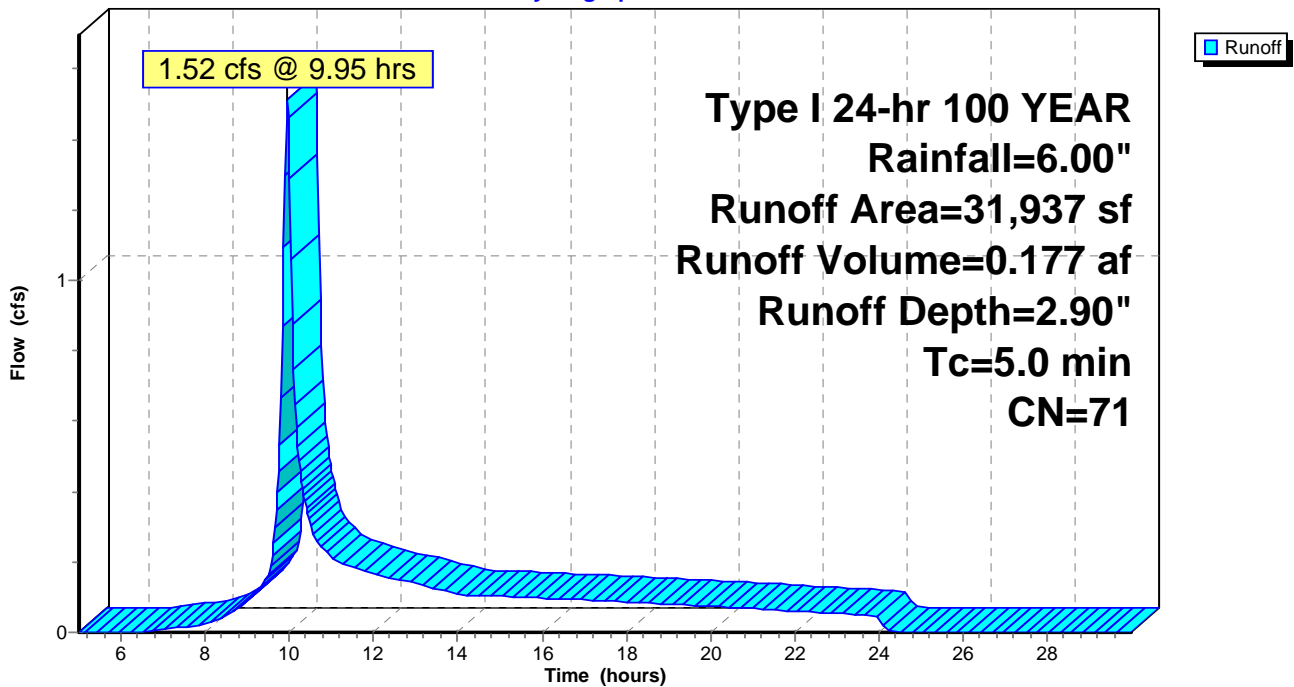
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 31,937	71	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry,
2.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 1S: PR1A

Hydrograph



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Summary for Subcatchment 2S: PR2

Runoff = 1.34 cfs @ 9.95 hrs, Volume= 0.162 af, Depth= 2.53"

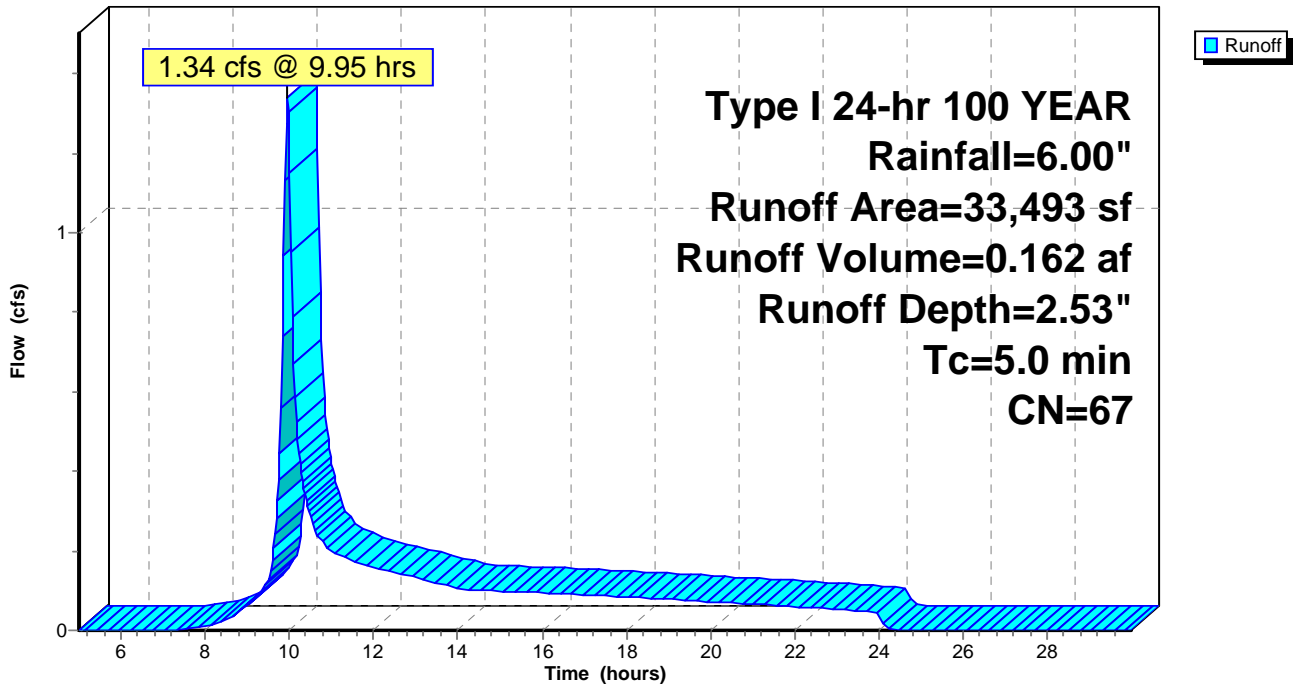
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 33,493	67	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry,
2.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 2S: PR2

Hydrograph



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Summary for Subcatchment 3S: PR3

Runoff = 1.21 cfs @ 9.96 hrs, Volume= 0.152 af, Depth= 2.26"

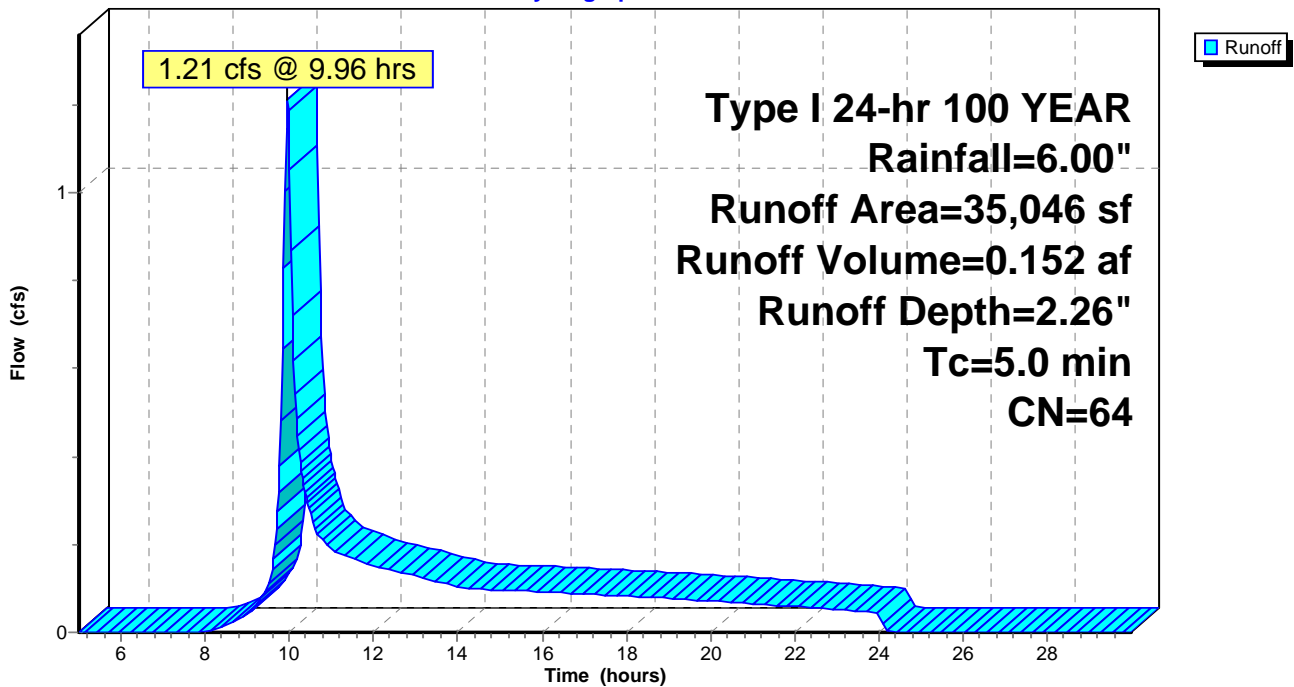
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 35,046	64	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry,
2.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 3S: PR3

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Subcatchment 4S: PR4

Runoff = 1.74 cfs @ 9.96 hrs, Volume= 0.229 af, Depth= 2.01"

Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs

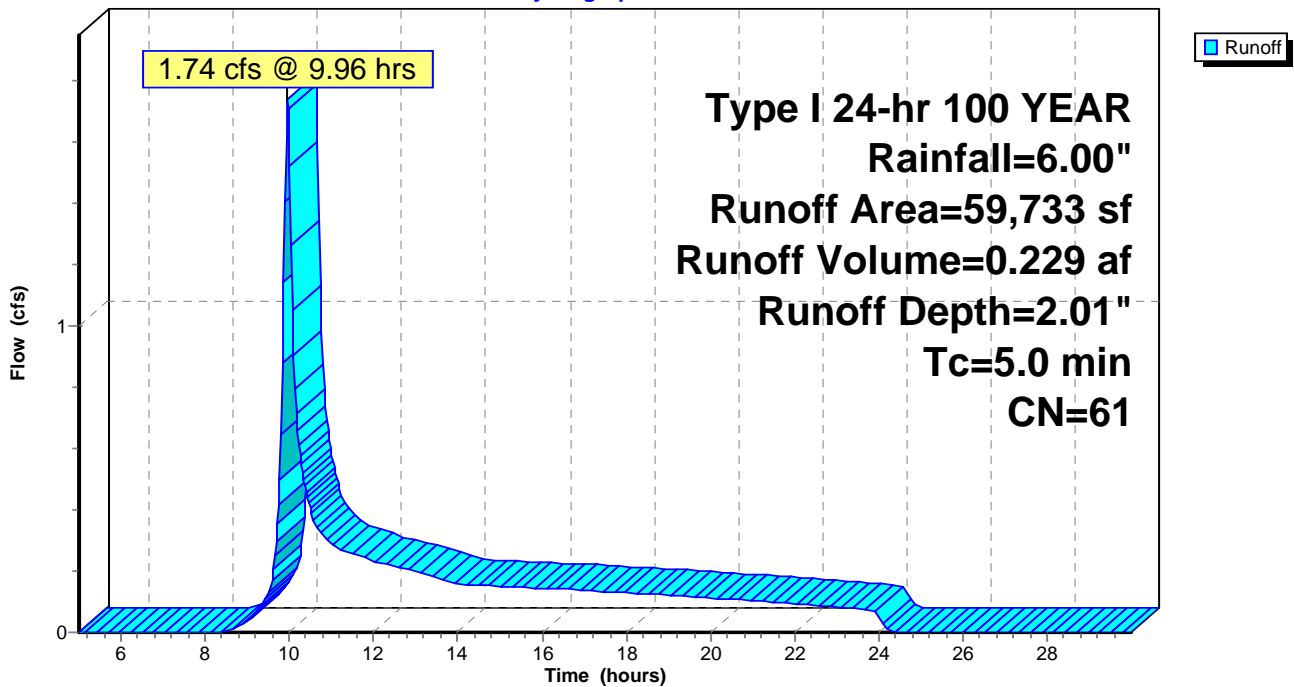
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 59,733	61	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry,
2.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 4S: PR4

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Subcatchment 5S: PR5

Runoff = 1.79 cfs @ 9.95 hrs, Volume= 0.214 af, Depth= 2.62"

Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs

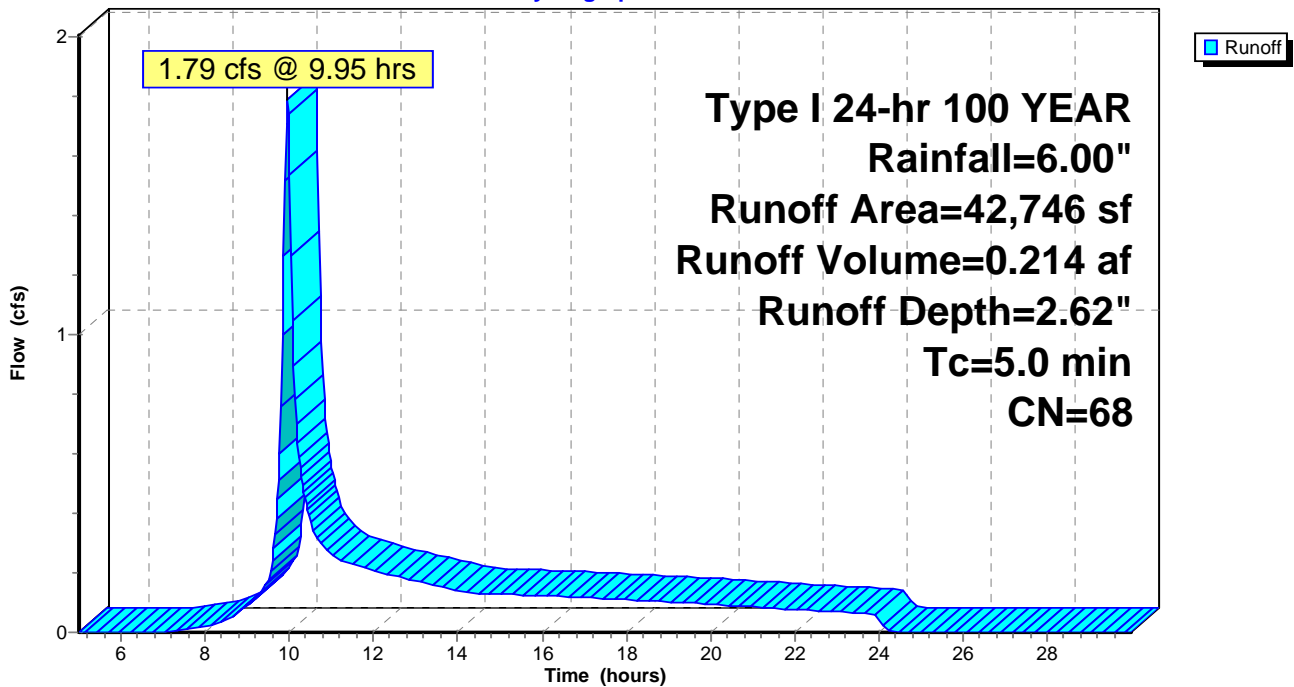
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 42,746	68	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry,
2.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 5S: PR5

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Subcatchment 6S: PR1B

Runoff = 1.80 cfs @ 9.95 hrs, Volume= 0.208 af, Depth= 2.99"

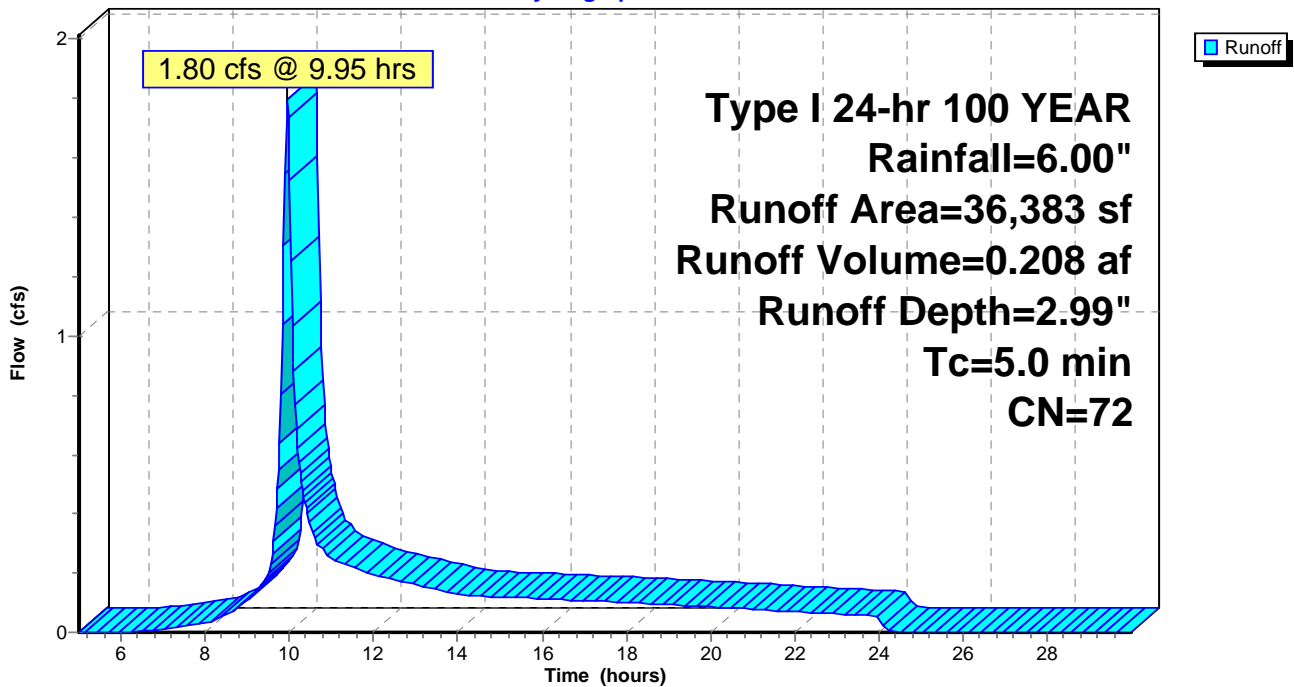
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 36,383	72	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0					Direct Entry,
2.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 6S: PR1B

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Subcatchment 7S: PR6

Runoff = 2.64 cfs @ 9.95 hrs, Volume= 0.297 af, Depth> 3.58"

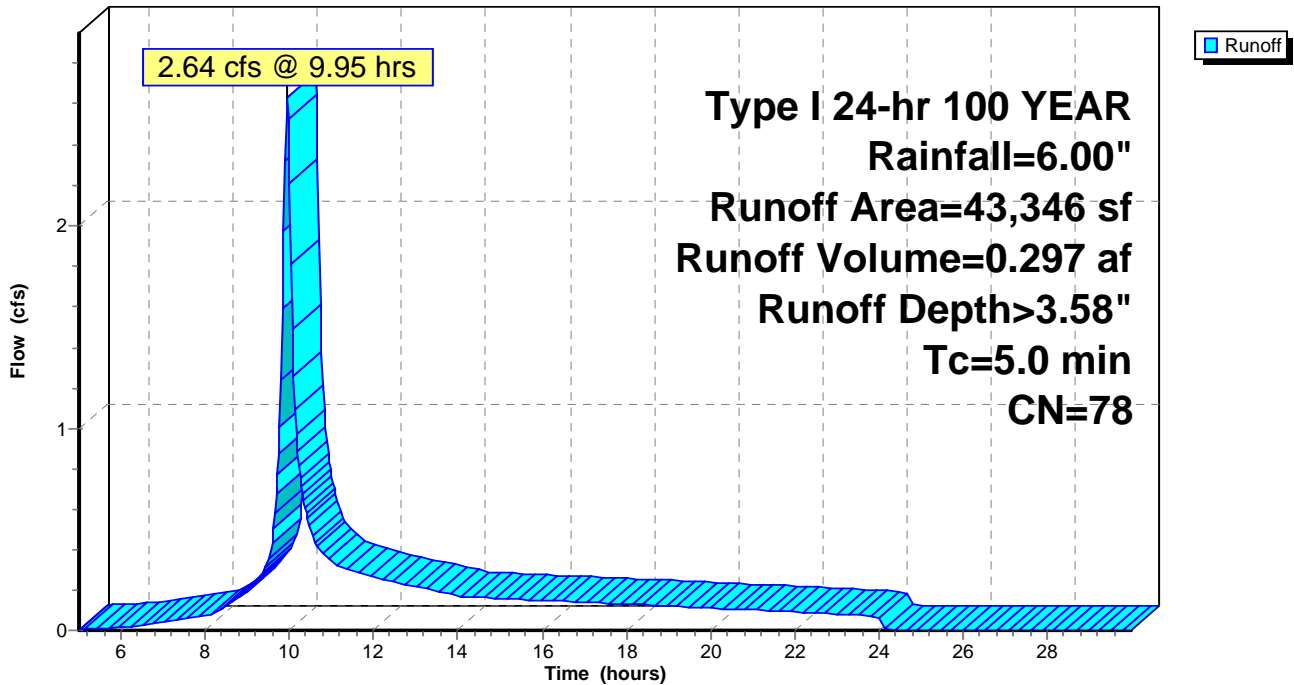
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 43,346	78	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0					Direct Entry,
3.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 7S: PR6

Hydrograph



PR_inundation

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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Subcatchment 8S: PR7

Runoff = 3.25 cfs @ 9.95 hrs, Volume= 0.366 af, Depth> 3.58"

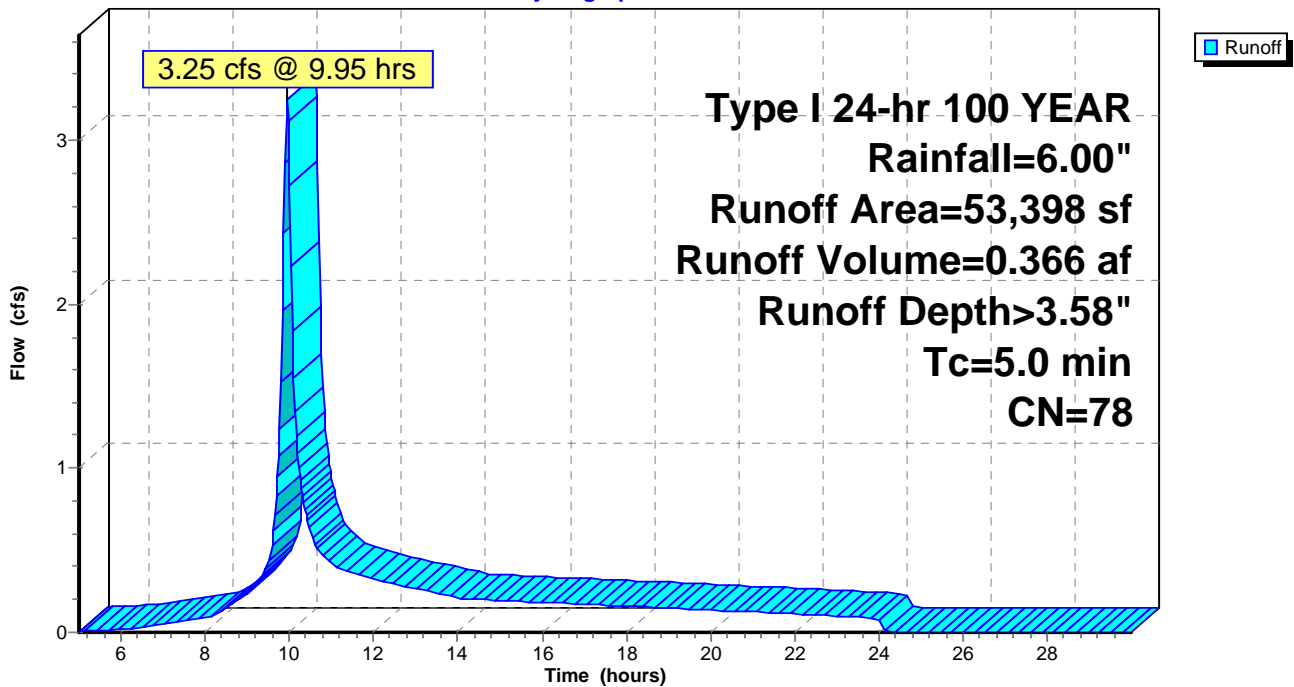
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 53,398	78	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0					Direct Entry,
3.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 8S: PR7

Hydrograph



PR_inundation

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Summary for Subcatchment 9S: PR8

Runoff = 7.37 cfs @ 9.95 hrs, Volume= 0.826 af, Depth> 3.68"

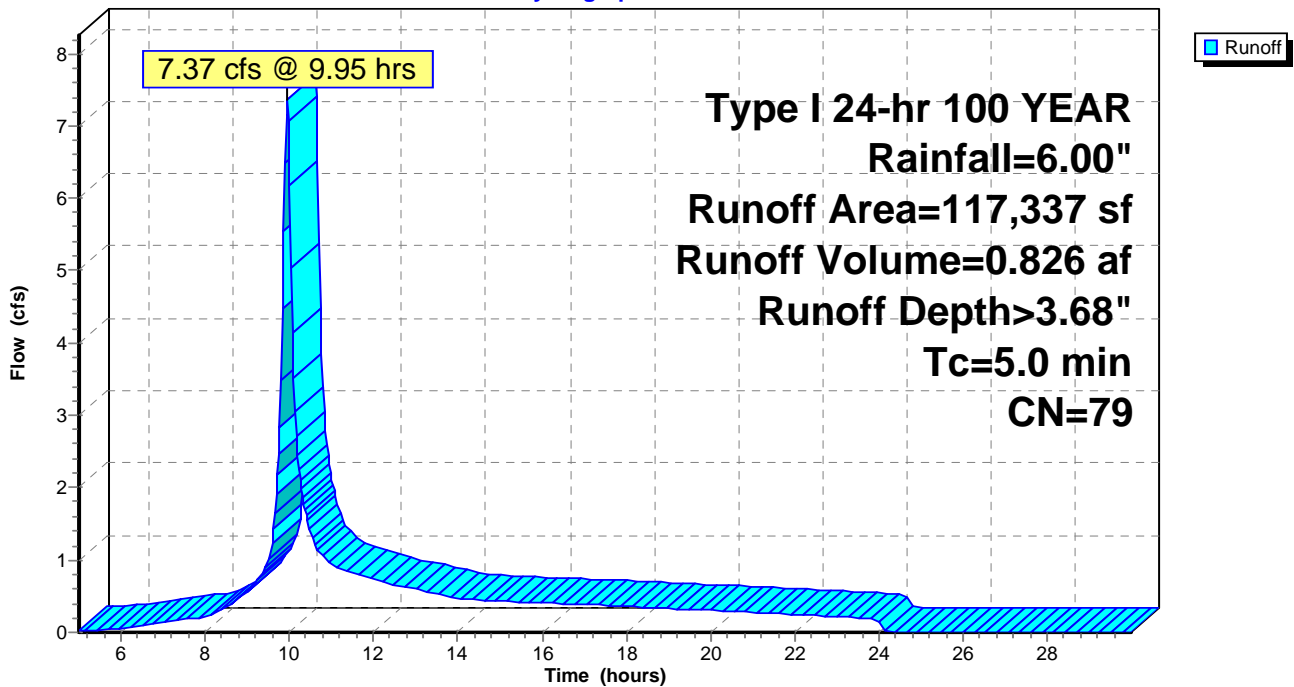
Runoff by SBUH method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
Type I 24-hr 100 YEAR Rainfall=6.00"

Area (sf)	CN	Description
* 117,337	79	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0					Direct Entry,
4.0	0	Total, Increased to minimum Tc = 5.0 min			

Subcatchment 9S: PR8

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Pond 1P: PR2

Inflow Area = 0.769 ac, Inflow Depth = 2.53" for 100 YEAR event
 Inflow = 1.34 cfs @ 9.95 hrs, Volume= 0.162 af
 Outflow = 0.59 cfs @ 10.13 hrs, Volume= 0.161 af, Atten= 56%, Lag= 10.5 min
 Primary = 0.59 cfs @ 10.13 hrs, Volume= 0.161 af

Routing by Stor-Ind method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
 Peak Elev= 11.14' @ 10.13 hrs Surf.Area= 0 sf Storage= 1,029 cf

Plug-Flow detention time= 42.0 min calculated for 0.161 af (99% of inflow)
 Center-of-Mass det. time= 40.0 min (871.3 - 831.3)

Volume	Invert	Avail.Storage	Storage Description
#1	10.50'	4,507 cf	Custom Stage Data Listed below

Elevation (feet)	Cum.Store (cubic-feet)
10.50	0
11.00	747
11.50	1,727
12.00	2,971
12.50	4,507

Device	Routing	Invert	Outlet Devices
#1	Primary	10.50'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.59 cfs @ 10.13 hrs HW=11.14' (Free Discharge)
 ↑1=Orifice/Grate (Orifice Controls 0.59 cfs @ 3.02 fps)

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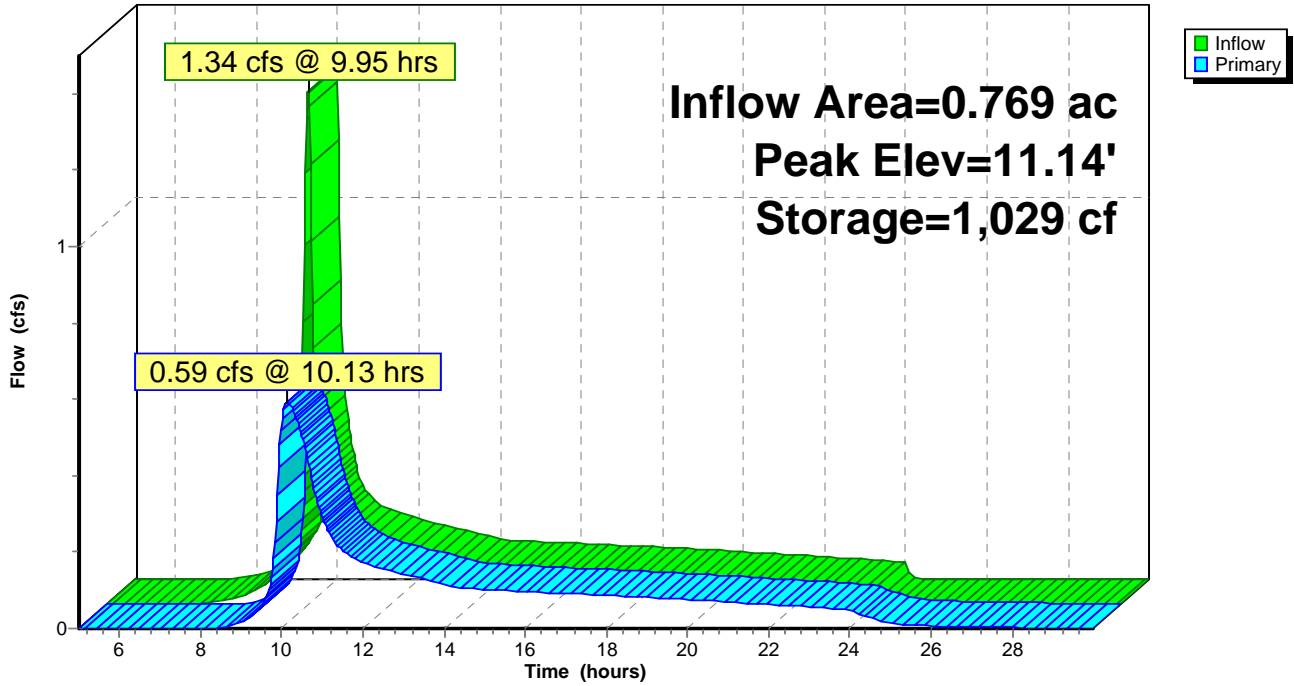
Type I 24-hr 100 YEAR Rainfall=6.00"

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Pond 1P: PR2

Hydrograph



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Summary for Pond 2P: PR1A

Inflow Area = 0.733 ac, Inflow Depth = 2.90" for 100 YEAR event
 Inflow = 1.52 cfs @ 9.95 hrs, Volume= 0.177 af
 Outflow = 0.56 cfs @ 10.17 hrs, Volume= 0.176 af, Atten= 63%, Lag= 13.3 min
 Primary = 0.56 cfs @ 10.17 hrs, Volume= 0.176 af

Routing by Stor-Ind method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
 Peak Elev= 9.60' @ 10.17 hrs Surf.Area= 0 sf Storage= 1,450 cf

Plug-Flow detention time= 64.1 min calculated for 0.175 af (99% of inflow)
 Center-of-Mass det. time= 59.2 min (875.4 - 816.2)

Volume	Invert	Avail.Storage	Storage Description
#1	9.00'	5,991 cf	Custom Stage Data Listed below

Elevation (feet)	Cum.Store (cubic-feet)
9.00	0
9.50	1,179
10.00	2,564
10.50	4,164
11.00	5,991

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.56 cfs @ 10.17 hrs HW=9.60' (Free Discharge)
 ↳ **1=Orifice/Grate** (Orifice Controls 0.56 cfs @ 2.84 fps)

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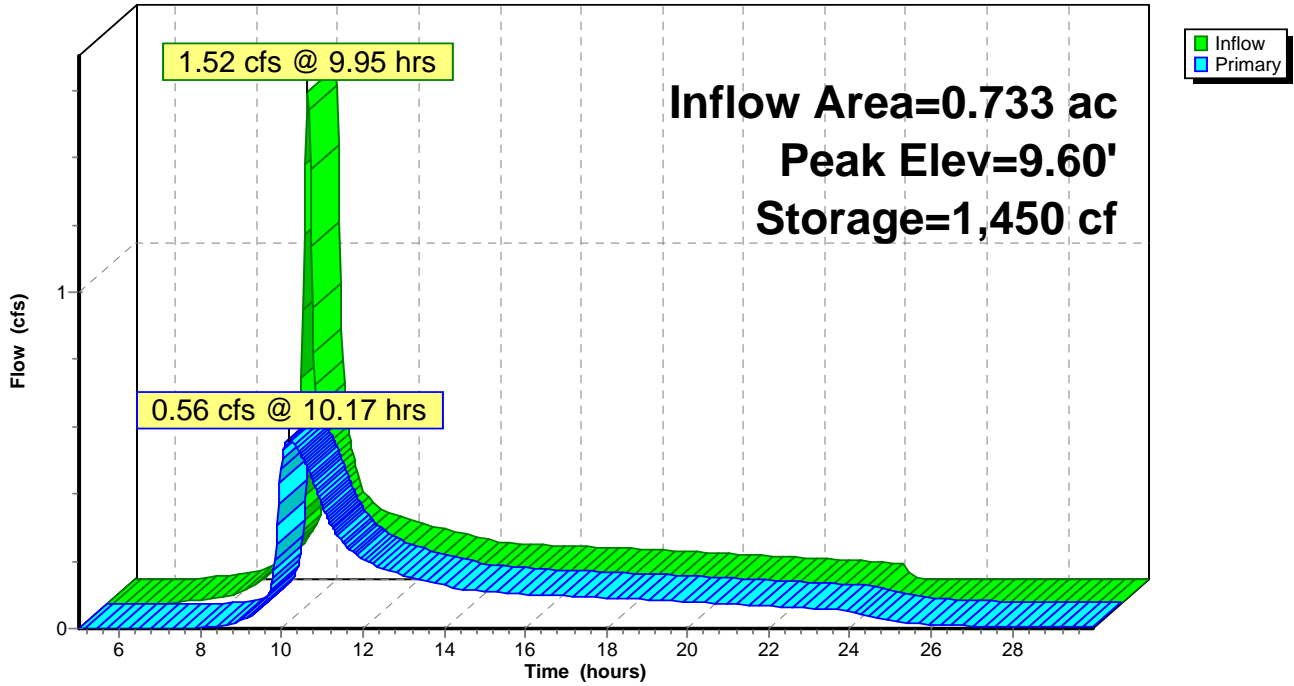
Type I 24-hr 100 YEAR Rainfall=6.00"

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Pond 2P: PR1A

Hydrograph



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Summary for Pond 3P: PR3

Inflow Area = 0.805 ac, Inflow Depth = 2.26" for 100 YEAR event
 Inflow = 1.21 cfs @ 9.96 hrs, Volume= 0.152 af
 Outflow = 0.56 cfs @ 10.12 hrs, Volume= 0.151 af, Atten= 54%, Lag= 10.1 min
 Primary = 0.56 cfs @ 10.12 hrs, Volume= 0.151 af

Routing by Stor-Ind method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
 Peak Elev= 9.60' @ 10.12 hrs Surf.Area= 0 sf Storage= 883 cf

Plug-Flow detention time= 40.2 min calculated for 0.151 af (100% of inflow)
 Center-of-Mass det. time= 38.0 min (881.1 - 843.1)

Volume	Invert	Avail.Storage	Storage Description
#1	9.00'	4,360 cf	Custom Stage Data Listed below

Elevation (feet)	Cum.Store (cubic-feet)
9.00	0
9.50	697
10.00	1,637
10.50	2,849
11.00	4,360

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.56 cfs @ 10.12 hrs HW=9.60' (Free Discharge)
 ↑1=Orifice/Grate (Orifice Controls 0.56 cfs @ 2.84 fps)

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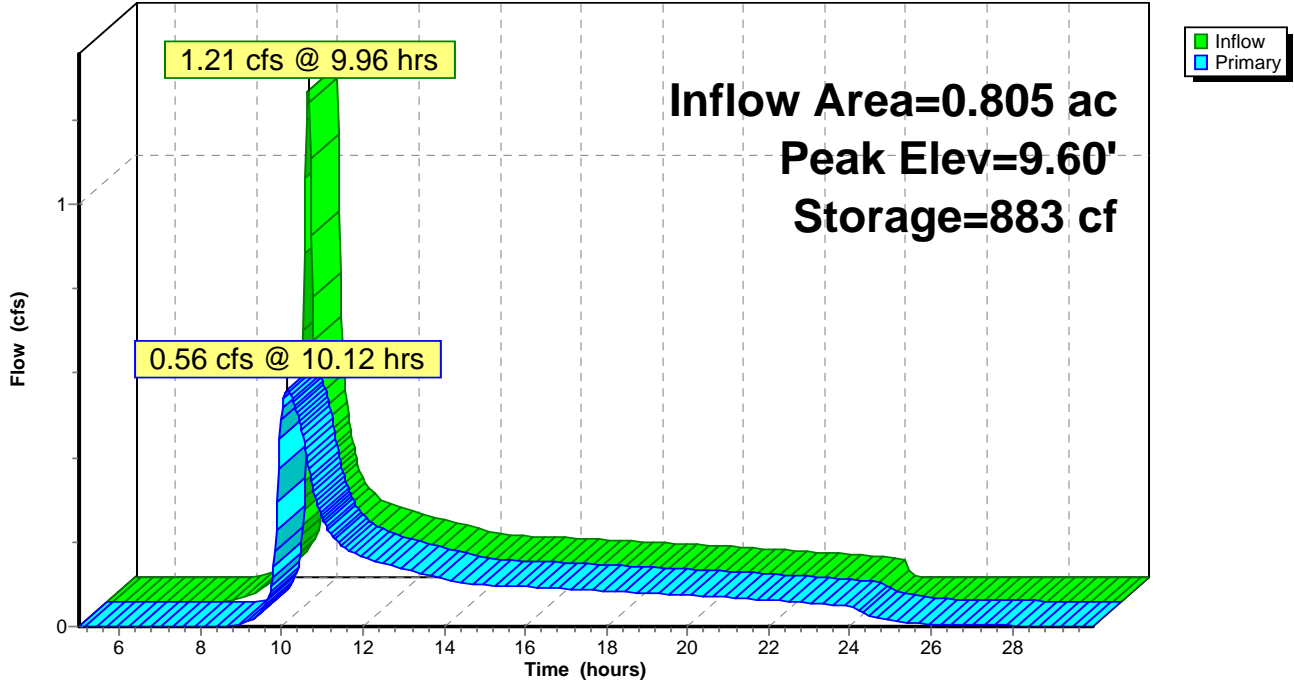
Type I 24-hr 100 YEAR Rainfall=6.00"

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Pond 3P: PR3

Hydrograph



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Summary for Pond 4P: PR4

Inflow Area = 1.371 ac, Inflow Depth = 2.01" for 100 YEAR event
 Inflow = 1.74 cfs @ 9.96 hrs, Volume= 0.229 af
 Outflow = 0.68 cfs @ 10.18 hrs, Volume= 0.228 af, Atten= 61%, Lag= 13.4 min
 Primary = 0.68 cfs @ 10.18 hrs, Volume= 0.228 af

Routing by Stor-Ind method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
 Peak Elev= 11.76' @ 10.18 hrs Surf.Area= 0 sf Storage= 1,333 cf

Plug-Flow detention time= 39.8 min calculated for 0.228 af (100% of inflow)
 Center-of-Mass det. time= 37.9 min (893.3 - 855.5)

Volume	Invert	Avail.Storage	Storage Description
#1	11.00'	4,538 cf	Custom Stage Data Listed below

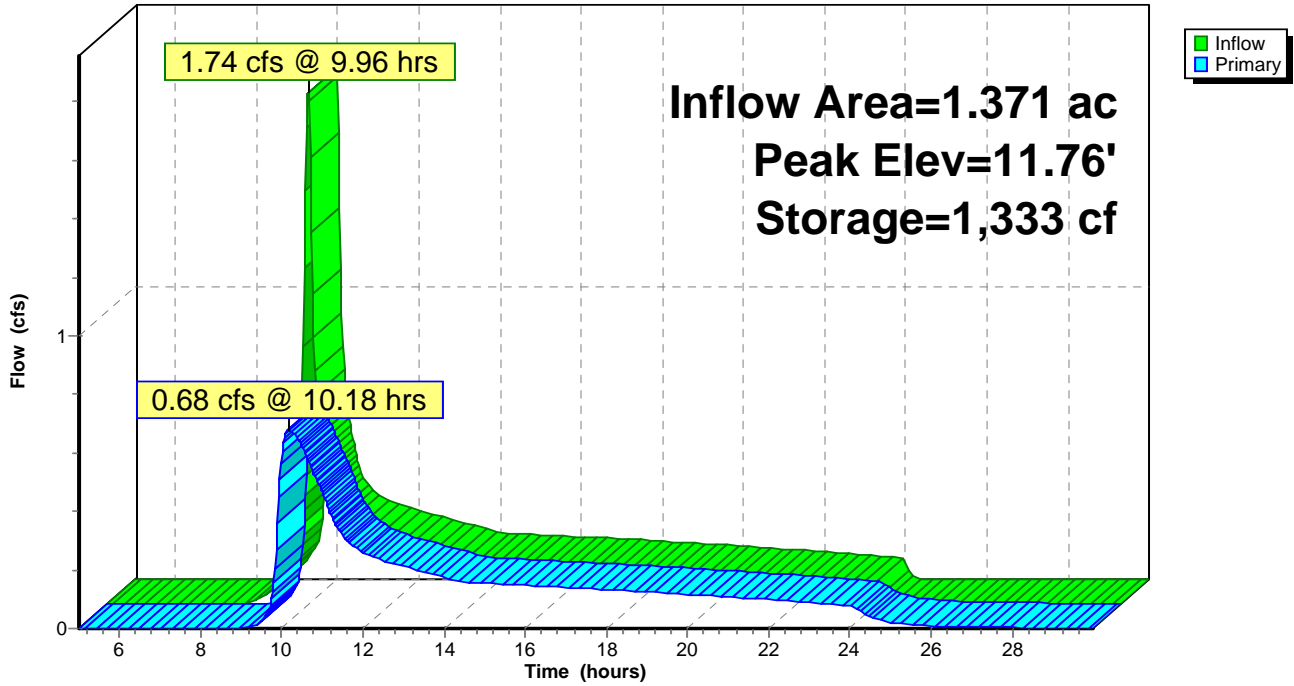
Elevation (feet)	Cum.Store (cubic-feet)
11.00	0
11.50	805
12.00	1,819
12.50	3,057
13.00	4,538

Device	Routing	Invert	Outlet Devices
#1	Primary	11.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.68 cfs @ 10.18 hrs HW=11.76' (Free Discharge)
 ↑1=Orifice/Grate (Orifice Controls 0.68 cfs @ 3.44 fps)

Pond 4P: PR4

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Pond 5P: PR5

Inflow Area = 0.981 ac, Inflow Depth = 2.62" for 100 YEAR event
 Inflow = 1.79 cfs @ 9.95 hrs, Volume= 0.214 af
 Outflow = 0.56 cfs @ 10.24 hrs, Volume= 0.214 af, Atten= 69%, Lag= 17.3 min
 Primary = 0.56 cfs @ 10.24 hrs, Volume= 0.214 af

Routing by Stor-Ind method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs
 Peak Elev= 9.94' @ 10.24 hrs Surf.Area= 0 sf Storage= 1,609 cf

Plug-Flow detention time= 45.5 min calculated for 0.214 af (100% of inflow)
 Center-of-Mass det. time= 43.5 min (870.9 - 827.5)

Volume	Invert	Avail.Storage	Storage Description
#1	9.00'	4,415 cf	Custom Stage Data Listed below

Elevation (feet)	Cum.Store (cubic-feet)
9.00	0
9.50	747
10.00	1,720
10.50	2,937
11.00	4,415

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	5.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.56 cfs @ 10.24 hrs HW=9.94' (Free Discharge)
 ↑1=Orifice/Grate (Orifice Controls 0.56 cfs @ 4.13 fps)

PR_inundation

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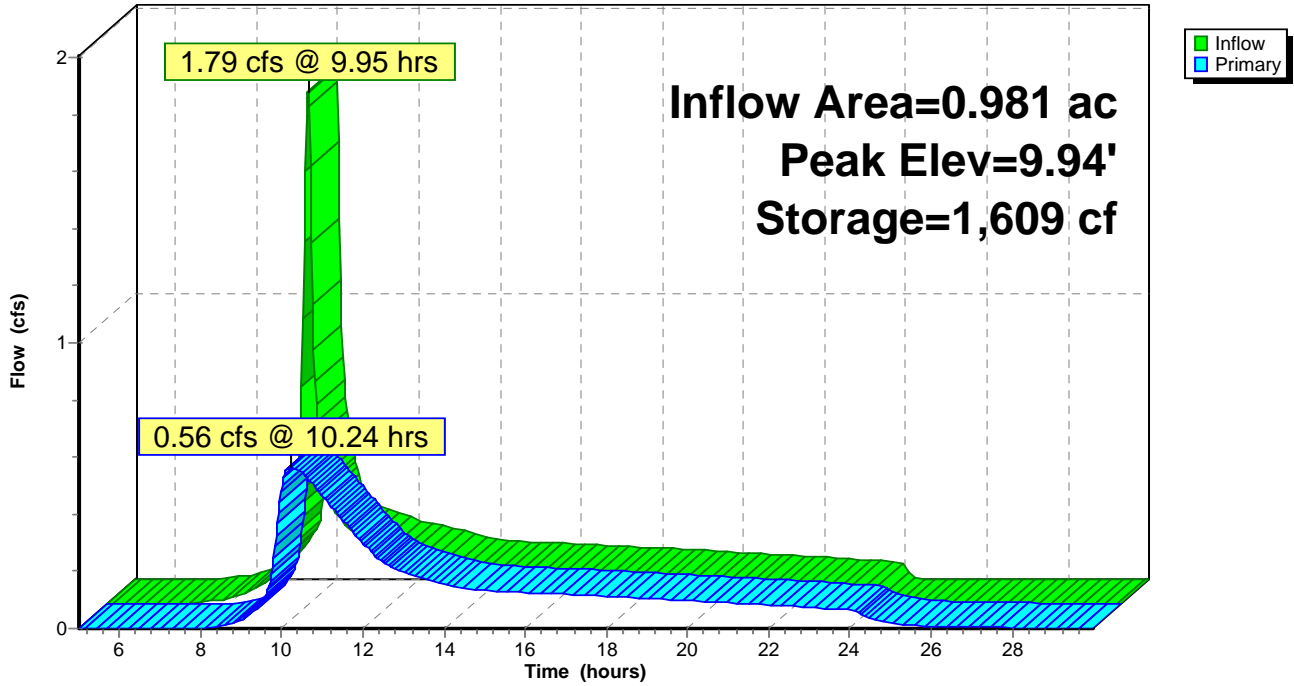
Type I 24-hr 100 YEAR Rainfall=6.00"

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Pond 5P: PR5

Hydrograph



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Type I 24-hr 100 YEAR Rainfall=6.00"

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Summary for Pond 6P: OUT

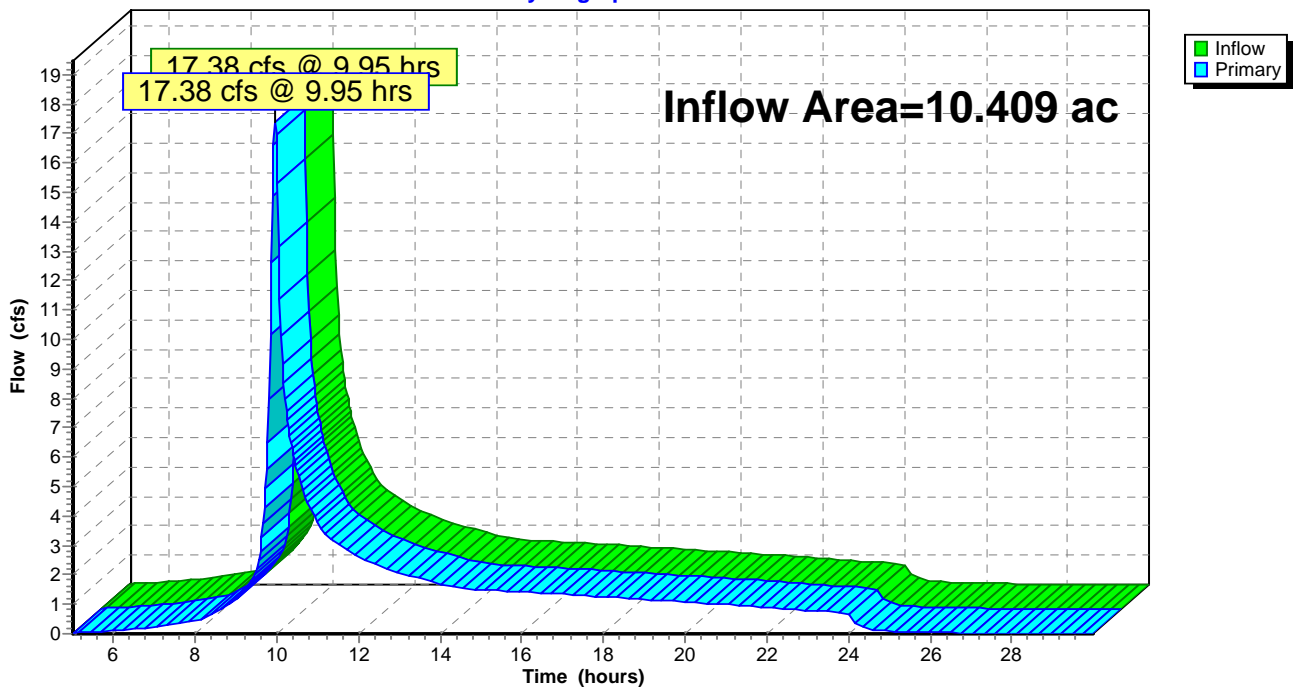
[40] Hint: Not Described (Outflow=Inflow)

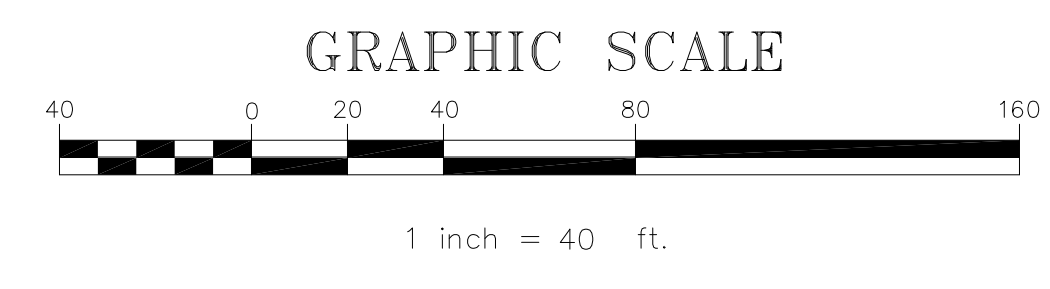
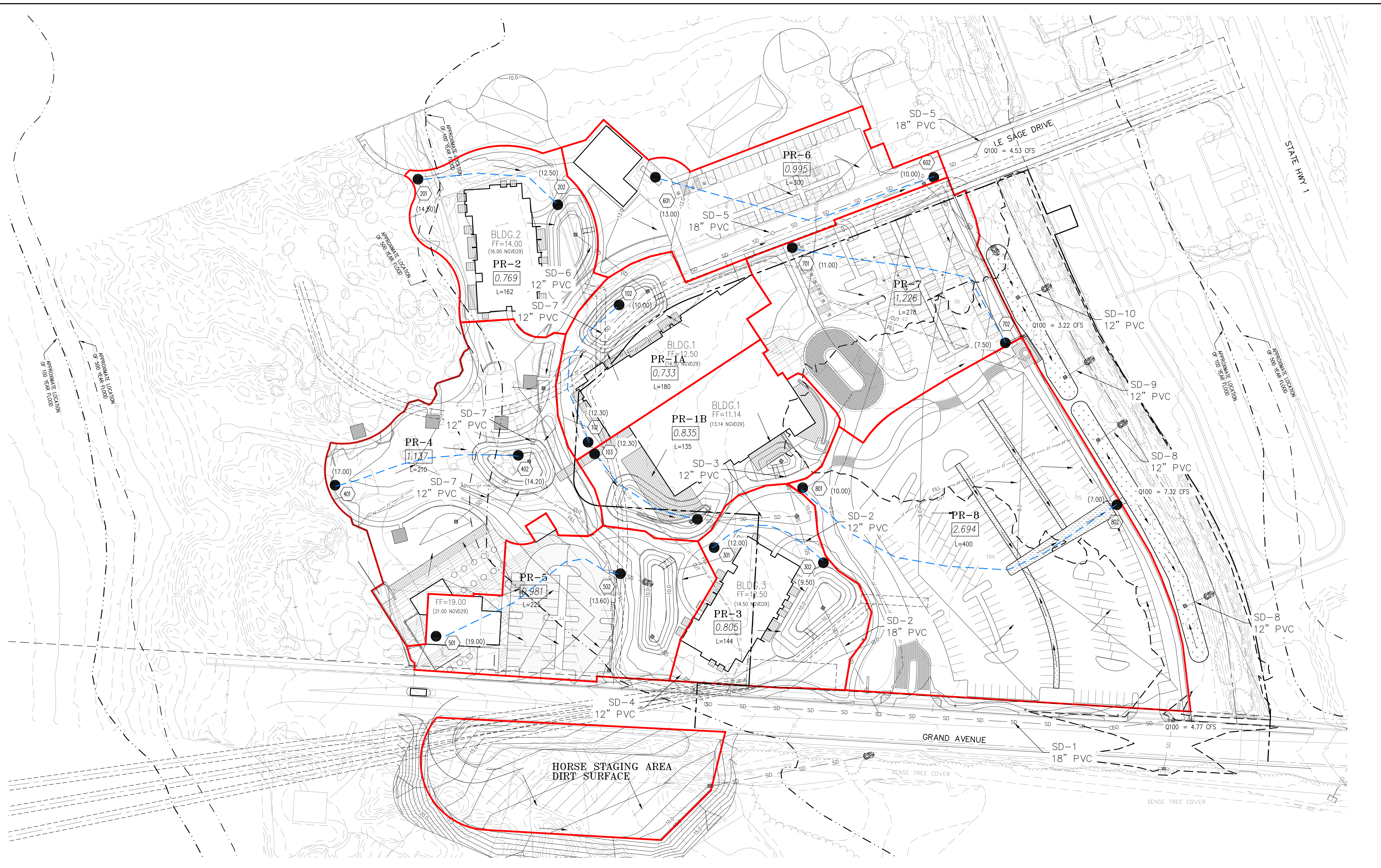
Inflow Area = 10.409 ac, Inflow Depth > 3.03" for 100 YEAR event
Inflow = 17.38 cfs @ 9.95 hrs, Volume= 2.627 af
Primary = 17.38 cfs @ 9.95 hrs, Volume= 2.627 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-29.99 hrs, dt= 0.03 hrs

Pond 6P: OUT

Hydrograph





LEGEND

	EXISTING CONTOUR (MAJOR)
	EXISTING CONTOUR (MINOR)
	HYDROLOGIC BASIN BOUNDARY
	HYDROLOGIC FLOW PATH
PR-1	BASIN NUMBER
0.63	AREA (ACRES)
101	NODE NUMBER
(12.00)	ELEVATION (FEET)

**PROPOSED HYDROLOGIC
CONDITIONS**

ATTACHMENT 3

HYDROLOGY

TABLE 1: PRE-DEVELOPMENT FLOW SUMMARY			
Basin	Area (acre)	Impervious Percentage	Q100 (cfs)
EX-1	7.073	56.02	13.51
EX-2	3.336	74.43	8.76
TOTAL	10.409	56.02	22.27

TABLE 2: PRE-DEVELOPMENT 100 YEAR VOLUME SUMMARY	
Basin	Q100 (Acre-ft)
EX	2.679

TABLE 3: POST-DEVELOPMENT SUMMARY W/ NO DETENTION			
Basin	Area (acre)	Impervious Percentage	Q100 (cfs)
PR-1A	0.733	51.72	1.49
PR-1B	0.835	55.06	1.77
PR-2	0.769	40.51	1.33
PR-3	0.805	32.06	1.21
PR-4	1.371	22.32	1.71
PR-5	0.981	28.03	1.79
PR-6	0.995	65.98	2.62
PR-7	1.226	69.71	3.22
PR-8	2.694	77.88	7.32
TOTAL	10.409	53.79	22.46

TABLE 4: PRE- AND POST-DEVELOPMENT COMPARISON W/ NO DETENTION	
Basin	Q100 (cfs)
EXISTING	22.27
PROPOSED	22.46
DIFFERENCE	0.19

TABLE 5: PRE- AND POST-DEVELOPMENT 100 YEAR VOLUME COMPARISON W/ NO DETENTION	
Basin	Q100 (Acre-ft)
EXISTING	2.679
PROPOSED	2.679
DIFFERENCE	0

TABLE 6: POST-DEVELOPMENT SUMMARY WITH DETENTION			
Basin	Area (acre)	Impervious Percentage	Q100 (cfs)
PR-1A	0.733	51.72	<i>0.56</i>
PR-1B	0.835	55.06	1.77
PR-2	0.769	40.51	<i>0.59</i>
PR-3	0.805	32.06	<i>0.56</i>
PR-4	1.371	22.32	<i>0.68</i>
PR-5	0.981	28.03	<i>0.56</i>
PR-6	0.995	65.98	2.62
PR-7	1.226	69.71	3.22
PR-8	2.694	77.88	7.32
TOTAL	10.409	53.79	17.88

TABLE 6: PRE- AND POST-DEVELOPMENT COMPARISON WITH DETENTION	
Basin	Q100 (cfs)
EXISTING	22.27
PROPOSED	17.88
DIFFERENCE	-4.39

TABLE 7: PRE- AND POST-DEVELOPMENT 100 YEAR VOLUME COMPARISON WITH DETENTION	
Basin	Q100 (Acre-ft)
EXISTING	2.679
PROPOSED	2.631
DIFFERENCE	-0.048