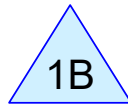


Existing Grass Field -
Little League



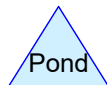
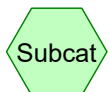
Turf Field - Little League



Underground Stone
Storage



Pipe To Manhole #1



Routing Diagram for Pre and Post Development West Orange PAL Little League Field

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Pre and Post Development West Orange PAL Little League Field

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.30	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.00	2
3	100-Year	Type III 24-hr		Default	24.00	1	8.30	2
4	Water Quality	NJ DEP 2-hr		Default	2.00	1	1.25	2

Pre and Post Development West Orange PAL Little League Field

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West Orange PAL

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.779	78	Meadow, non-grazed, HSG D (1)
0.779	98	Unconnected pavement, HSG D (1A)
1.557	88	TOTAL AREA

Pre and Post Development West Orange PAL Little League Field

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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	
1.557	HSG D	1, 1A
0.000	Other	
1.557		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
0.000	0.000	0.000	0.779	0.000	0.779	Meadow, non-grazed	1
0.000	0.000	0.000	0.779	0.000	0.779	Unconnected pavement	1A
0.000	0.000	0.000	1.557	0.000	1.557	TOTAL AREA	

Pre and Post Development West Orange PAL Little League Field

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1C	231.97	231.10	50.0	0.0174	0.010	0.0	12.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Existing Grass Field - Runoff Area=33,913 sf 0.00% Impervious Runoff Depth=1.35"
Flow Length=200' Slope=0.0200 '/' Tc=27.3 min CN=78 Runoff=0.71 cfs 0.087 af

Subcatchment 1A: Turf Field - Little Runoff Area=33,913 sf 100.00% Impervious Runoff Depth=3.07"
Flow Length=200' Slope=0.0100 '/' Tc=15.0 min CN=98 Runoff=1.91 cfs 0.199 af

Reach 1C: Pipe To Manhole #1 Avg. Flow Depth=0.16' Max Vel=4.21 fps Inflow=0.35 cfs 0.193 af
12.0" Round Pipe n=0.010 L=50.0' S=0.0174 '/' Capacity=6.11 cfs Outflow=0.35 cfs 0.193 af

Pond 1B: Underground Stone Storage Peak Elev=235.54' Storage=4,817 cf Inflow=1.91 cfs 0.199 af
Outflow=0.35 cfs 0.193 af

Total Runoff Area = 1.557 ac Runoff Volume = 0.286 af Average Runoff Depth = 2.21"
50.00% Pervious = 0.779 ac 50.00% Impervious = 0.779 ac

Summary for Subcatchment 1: Existing Grass Field - Little League

Runoff = 0.71 cfs @ 12.40 hrs, Volume= 0.087 af, Depth= 1.35"

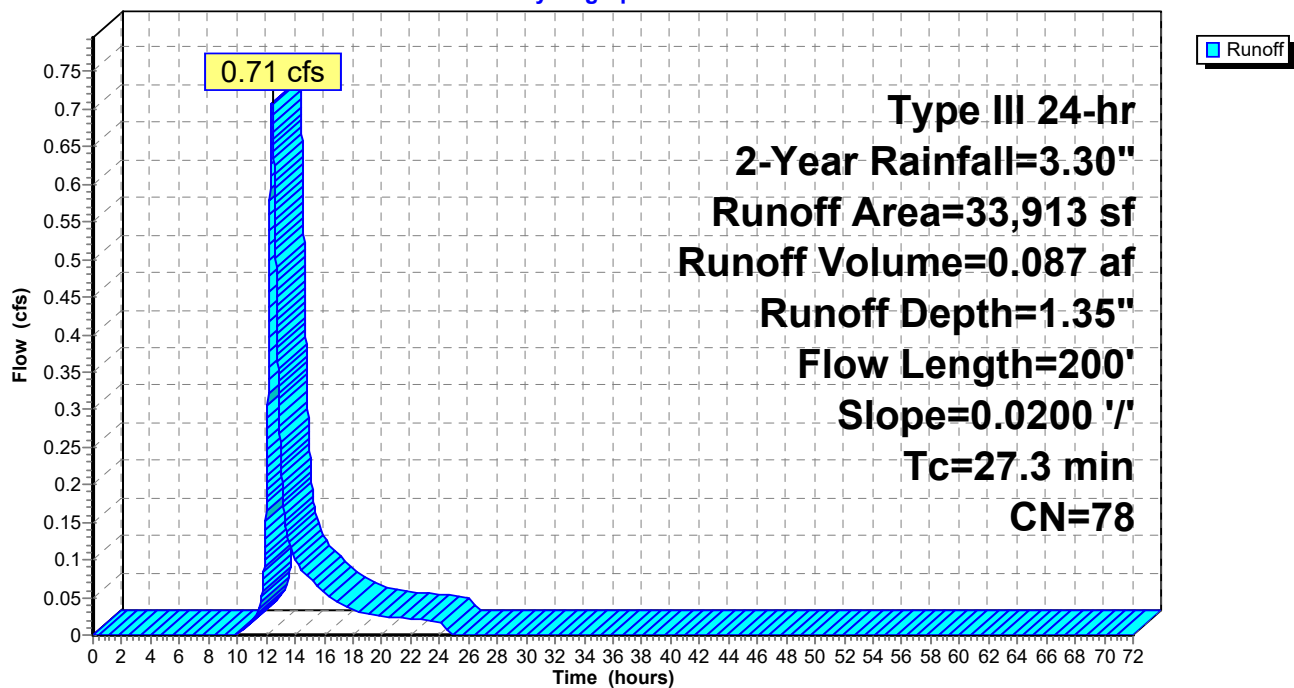
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
33,913	78	Meadow, non-grazed, HSG D
33,913		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.3	200	0.0200	0.12		Sheet Flow, Ballfield
					Grass: Short n= 0.150 P2= 1.25"

Subcatchment 1: Existing Grass Field - Little League

Hydrograph



Summary for Subcatchment 1A: Turf Field - Little League

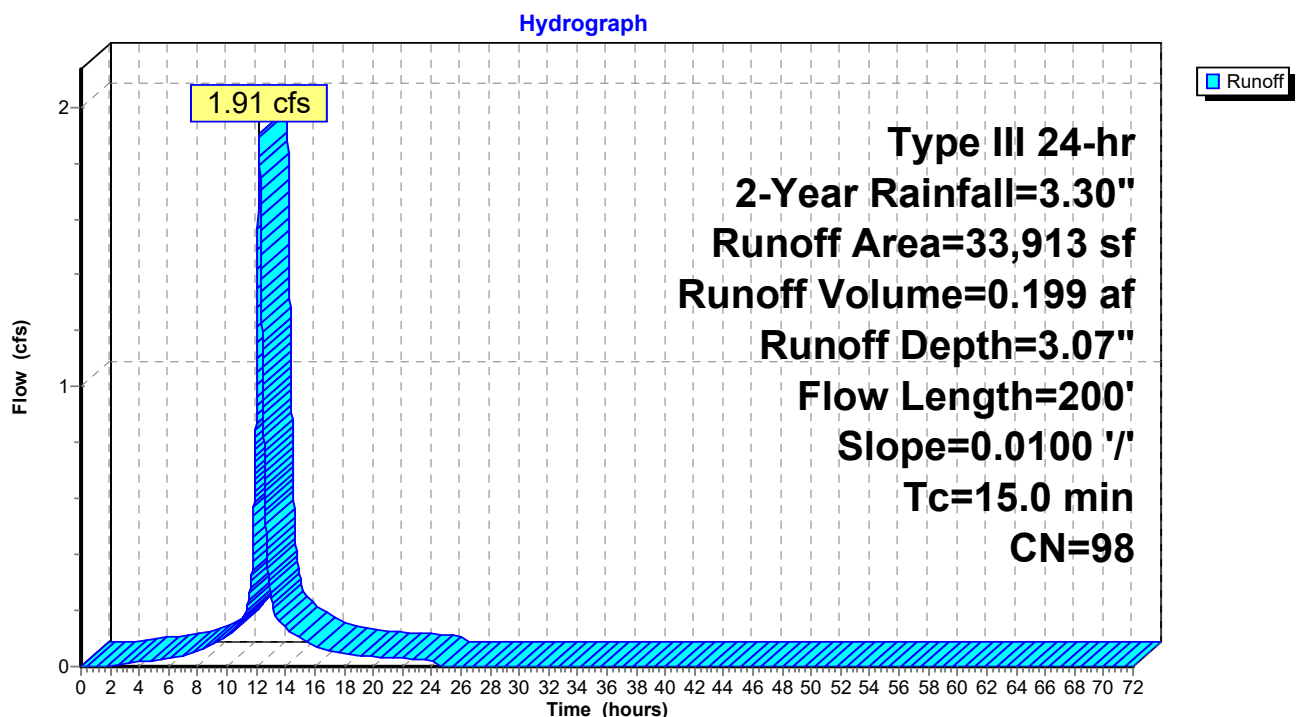
Runoff = 1.91 cfs @ 12.19 hrs, Volume= 0.199 af, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
33,913	98	Unconnected pavement, HSG D
33,913		100.00% Impervious Area
33,913		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	200	0.0100	0.22		Sheet Flow, Ballfield
					Fallow n= 0.050 P2= 1.25"

Subcatchment 1A: Turf Field - Little League



Summary for Reach 1C: Pipe To Manhole #1

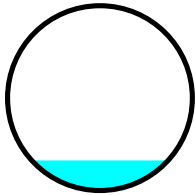
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth > 2.97" for 2-Year event
Inflow = 0.35 cfs @ 12.79 hrs, Volume= 0.193 af
Outflow = 0.35 cfs @ 12.79 hrs, Volume= 0.193 af, Atten= 0%, Lag= 0.1 min

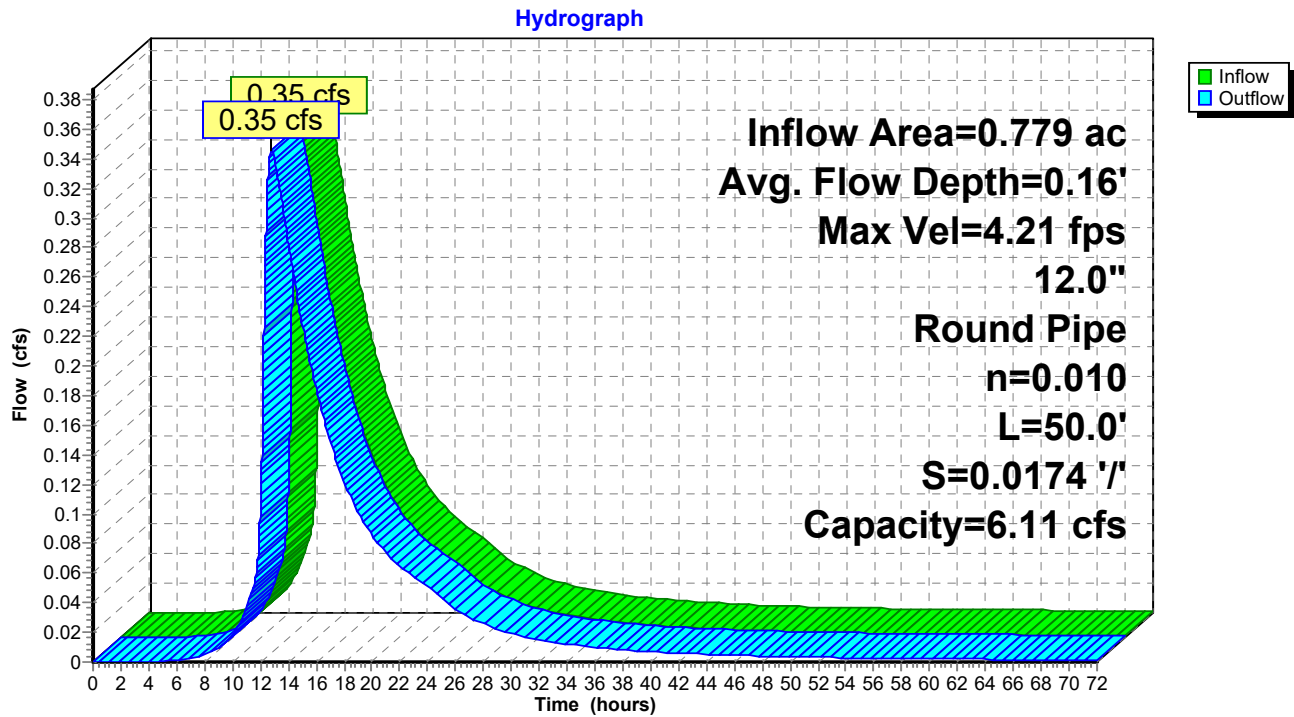
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.21 fps, Min. Travel Time= 0.2 min
Avg. Velocity= 1.59 fps, Avg. Travel Time= 0.5 min

Peak Storage= 4 cf @ 12.79 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 0.74'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.11 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 50.0' Slope= 0.0174 '/
Inlet Invert= 231.97', Outlet Invert= 231.10'



Reach 1C: Pipe To Manhole #1



Summary for Pond 1B: Underground Stone Storage

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
 Inflow = 1.91 cfs @ 12.19 hrs, Volume= 0.199 af
 Outflow = 0.35 cfs @ 12.79 hrs, Volume= 0.193 af, Atten= 82%, Lag= 35.5 min
 Primary = 0.35 cfs @ 12.79 hrs, Volume= 0.193 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 235.54' @ 12.79 hrs Storage= 4,817 cf

Plug-Flow detention time= 399.2 min calculated for 0.193 af (97% of inflow)
 Center-of-Mass det. time= 380.6 min (1,144.7 - 764.1)

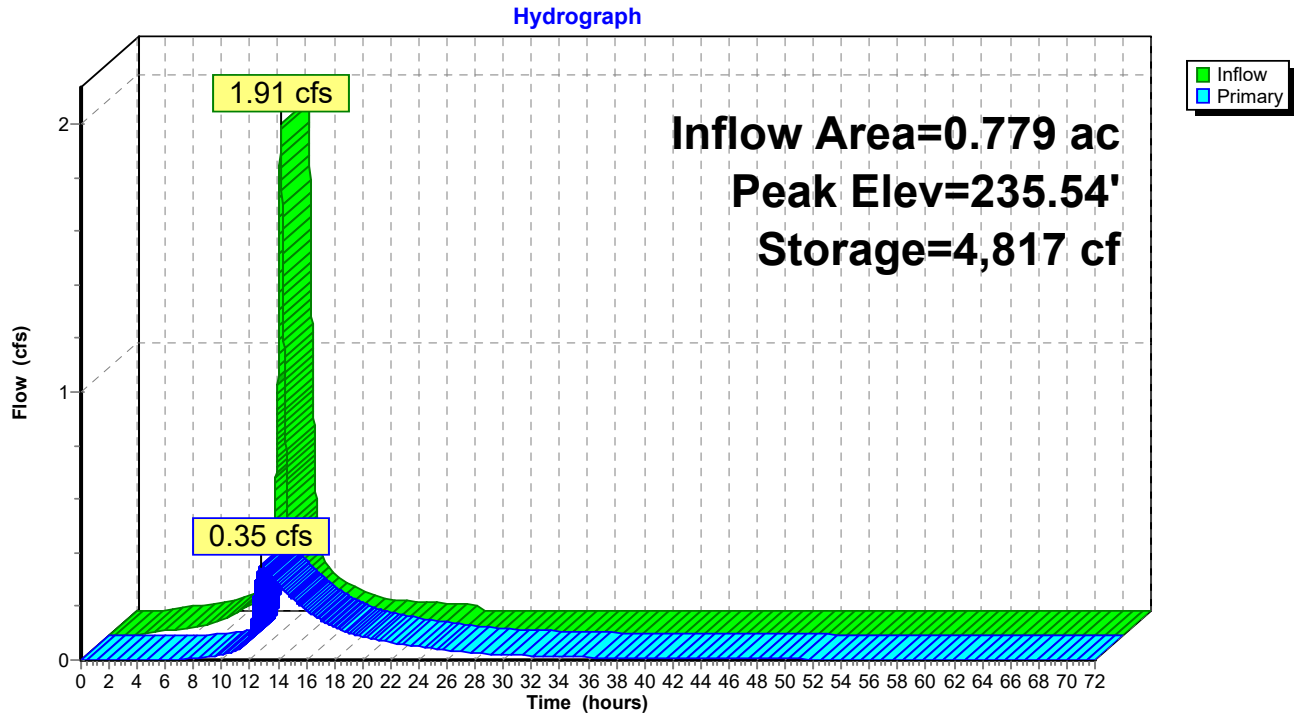
Volume	Invert	Avail.Storage	Storage Description
#1	235.18'	11,530 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.18	0	0
235.35	2,306	2,306
235.52	2,306	4,612
235.69	2,306	6,918
235.86	2,306	9,224
236.03	2,306	11,530

Device	Routing	Invert	Outlet Devices
#1	Primary	235.18'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 12.79 hrs HW=235.54' TW=232.13' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Orifice Controls 0.35 cfs @ 2.03 fps)

Pond 1B: Underground Stone Storage



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Existing Grass Field - Runoff Area=33,913 sf 0.00% Impervious Runoff Depth=2.71"
Flow Length=200' Slope=0.0200 '/' Tc=27.3 min CN=78 Runoff=1.46 cfs 0.176 af

Subcatchment 1A: Turf Field - Little Runoff Area=33,913 sf 100.00% Impervious Runoff Depth=4.76"
Flow Length=200' Slope=0.0100 '/' Tc=15.0 min CN=98 Runoff=2.91 cfs 0.309 af

Reach 1C: Pipe To Manhole #1 Avg. Flow Depth=0.21' Max Vel=4.98 fps Inflow=0.61 cfs 0.303 af
12.0" Round Pipe n=0.010 L=50.0' S=0.0174 '/' Capacity=6.11 cfs Outflow=0.61 cfs 0.303 af

Pond 1B: Underground Stone Storage Peak Elev=235.70' Storage=7,014 cf Inflow=2.91 cfs 0.309 af
Outflow=0.61 cfs 0.303 af

Total Runoff Area = 1.557 ac Runoff Volume = 0.485 af Average Runoff Depth = 3.74"
50.00% Pervious = 0.779 ac 50.00% Impervious = 0.779 ac

Summary for Subcatchment 1: Existing Grass Field - Little League

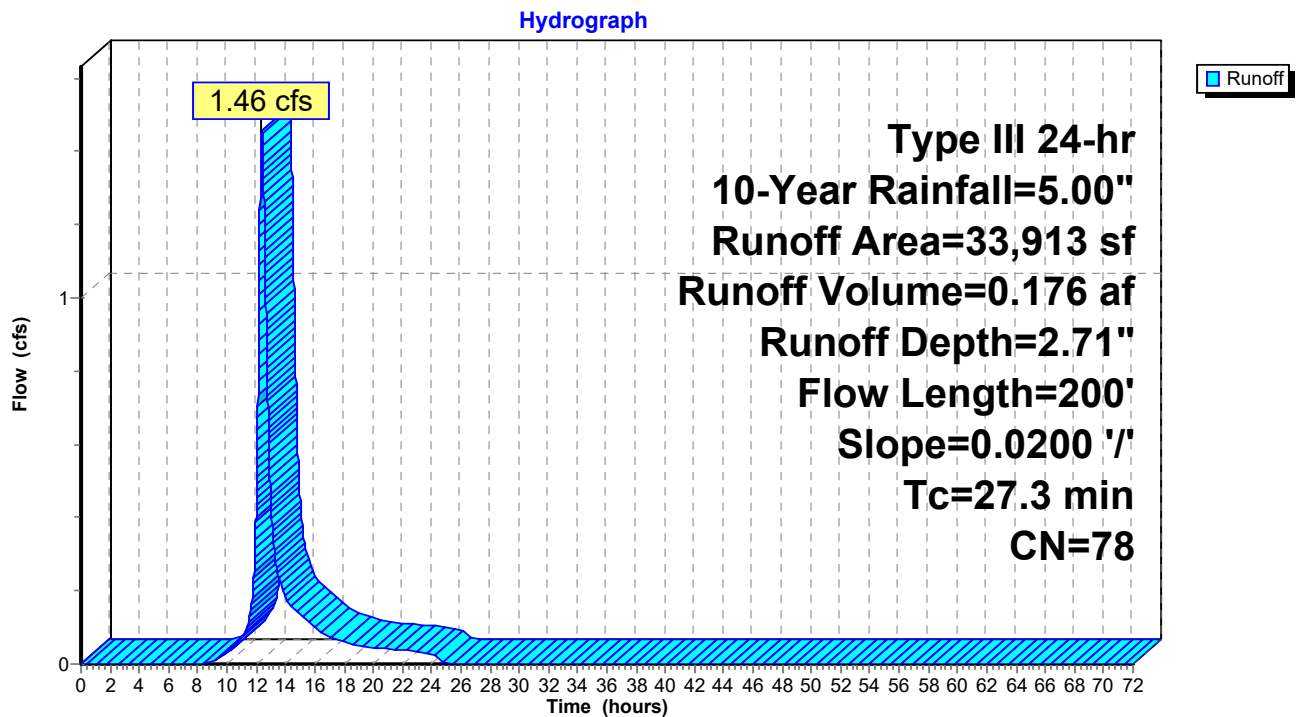
Runoff = 1.46 cfs @ 12.38 hrs, Volume= 0.176 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
33,913	78	Meadow, non-grazed, HSG D
33,913		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.3	200	0.0200	0.12		Sheet Flow, Ballfield Grass: Short n= 0.150 P2= 1.25"

Subcatchment 1: Existing Grass Field - Little League



Summary for Subcatchment 1A: Turf Field - Little League

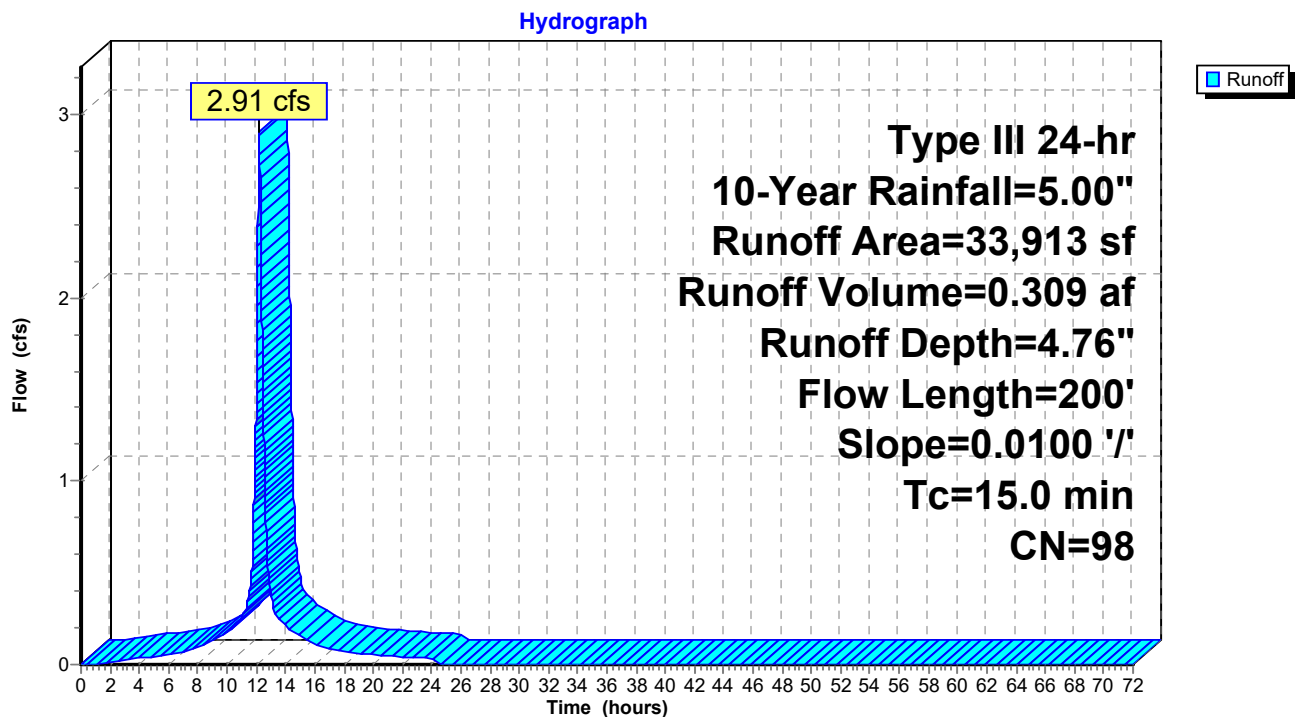
Runoff = 2.91 cfs @ 12.19 hrs, Volume= 0.309 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
33,913	98	Unconnected pavement, HSG D
33,913		100.00% Impervious Area
33,913		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	200	0.0100	0.22		Sheet Flow, Ballfield
					Fallow n= 0.050 P2= 1.25"

Subcatchment 1A: Turf Field - Little League



Summary for Reach 1C: Pipe To Manhole #1

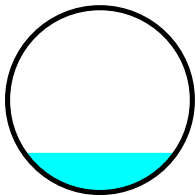
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth > 4.67" for 10-Year event
Inflow = 0.61 cfs @ 12.73 hrs, Volume= 0.303 af
Outflow = 0.61 cfs @ 12.73 hrs, Volume= 0.303 af, Atten= 0%, Lag= 0.1 min

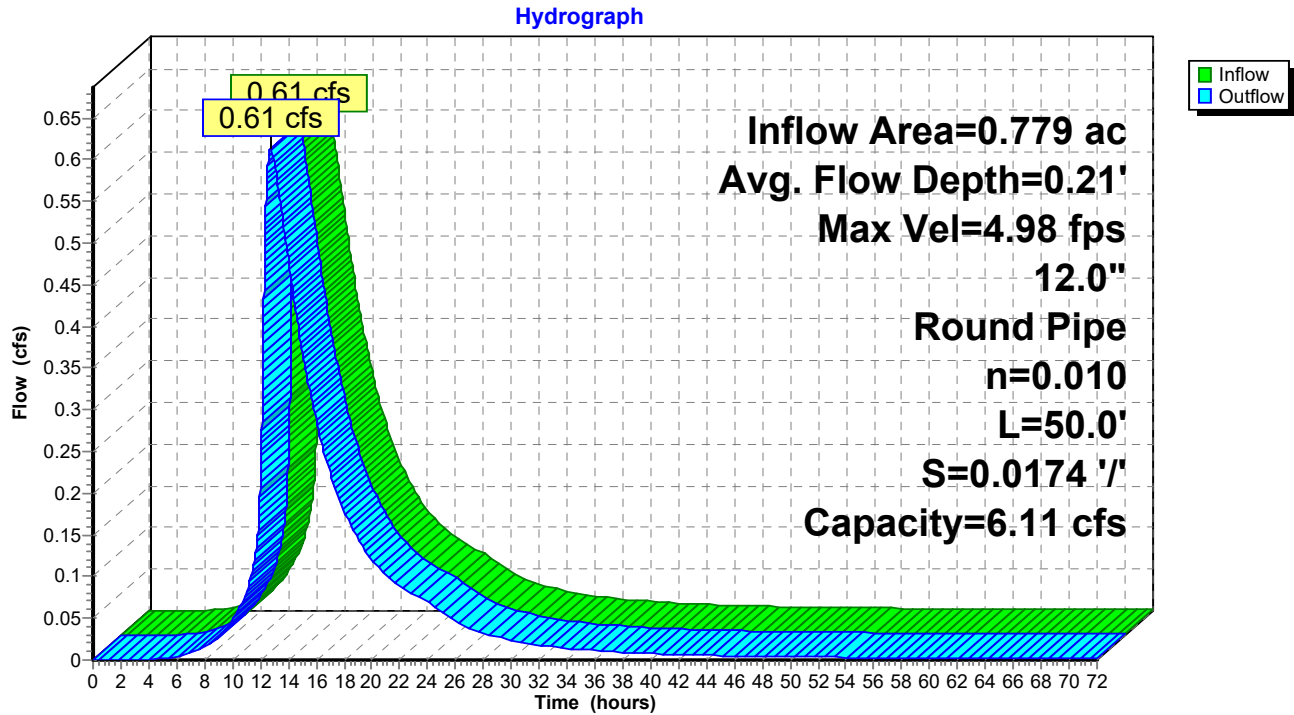
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.98 fps, Min. Travel Time= 0.2 min
Avg. Velocity= 1.73 fps, Avg. Travel Time= 0.5 min

Peak Storage= 6 cf @ 12.73 hrs
Average Depth at Peak Storage= 0.21' , Surface Width= 0.82'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.11 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 50.0' Slope= 0.0174 '/
Inlet Invert= 231.97', Outlet Invert= 231.10'



Reach 1C: Pipe To Manhole #1



Summary for Pond 1B: Underground Stone Storage

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth = 4.76" for 10-Year event
 Inflow = 2.91 cfs @ 12.19 hrs, Volume= 0.309 af
 Outflow = 0.61 cfs @ 12.73 hrs, Volume= 0.303 af, Atten= 79%, Lag= 31.9 min
 Primary = 0.61 cfs @ 12.73 hrs, Volume= 0.303 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 235.70' @ 12.73 hrs Storage= 7,014 cf

Plug-Flow detention time= 327.1 min calculated for 0.303 af (98% of inflow)
 Center-of-Mass det. time= 314.4 min (1,070.7 - 756.4)

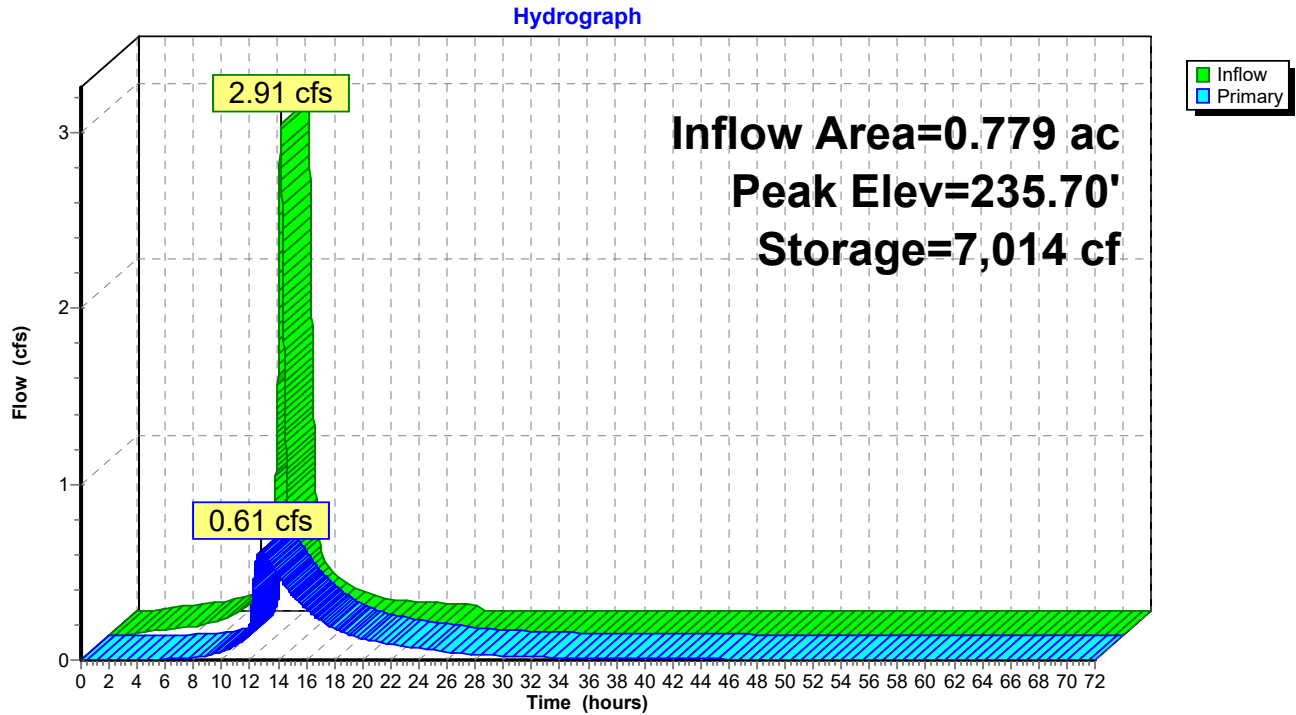
Volume	Invert	Avail.Storage	Storage Description
#1	235.18'	11,530 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.18	0	0
235.35	2,306	2,306
235.52	2,306	4,612
235.69	2,306	6,918
235.86	2,306	9,224
236.03	2,306	11,530

Device	Routing	Invert	Outlet Devices
#1	Primary	235.18'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.61 cfs @ 12.73 hrs HW=235.70' TW=232.18' (Dynamic Tailwater)
 ↑ **1=Orifice/Grate** (Orifice Controls 0.61 cfs @ 2.45 fps)

Pond 1B: Underground Stone Storage



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Existing Grass Field - Runoff Area=33,913 sf 0.00% Impervious Runoff Depth=5.67"
Flow Length=200' Slope=0.0200 '/' Tc=27.3 min CN=78 Runoff=3.02 cfs 0.368 af

Subcatchment 1A: Turf Field - Little Runoff Area=33,913 sf 100.00% Impervious Runoff Depth=8.06"
Flow Length=200' Slope=0.0100 '/' Tc=15.0 min CN=98 Runoff=4.85 cfs 0.523 af

Reach 1C: Pipe To Manhole #1 Avg. Flow Depth=0.27' Max Vel=5.64 fps Inflow=0.94 cfs 0.516 af
12.0" Round Pipe n=0.010 L=50.0' S=0.0174 '/' Capacity=6.11 cfs Outflow=0.94 cfs 0.516 af

Pond 1B: Underground Stone Storage Peak Elev=236.01' Storage=11,258 cf Inflow=4.85 cfs 0.523 af
Outflow=0.94 cfs 0.516 af

Total Runoff Area = 1.557 ac Runoff Volume = 0.891 af Average Runoff Depth = 6.86"
50.00% Pervious = 0.779 ac 50.00% Impervious = 0.779 ac

Summary for Subcatchment 1: Existing Grass Field - Little League

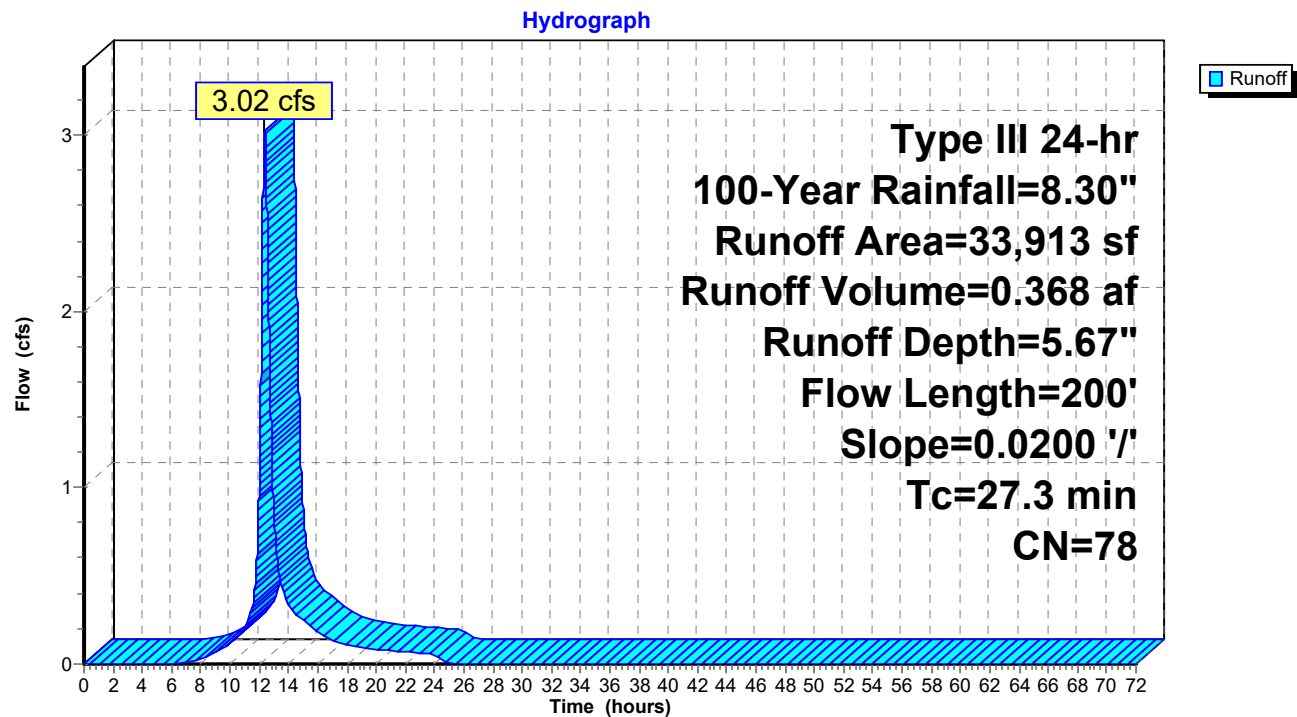
Runoff = 3.02 cfs @ 12.37 hrs, Volume= 0.368 af, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
33,913	78	Meadow, non-grazed, HSG D
33,913		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.3	200	0.0200	0.12		Sheet Flow, Ballfield
Grass: Short n= 0.150 P2= 1.25"					

Subcatchment 1: Existing Grass Field - Little League



Summary for Subcatchment 1A: Turf Field - Little League

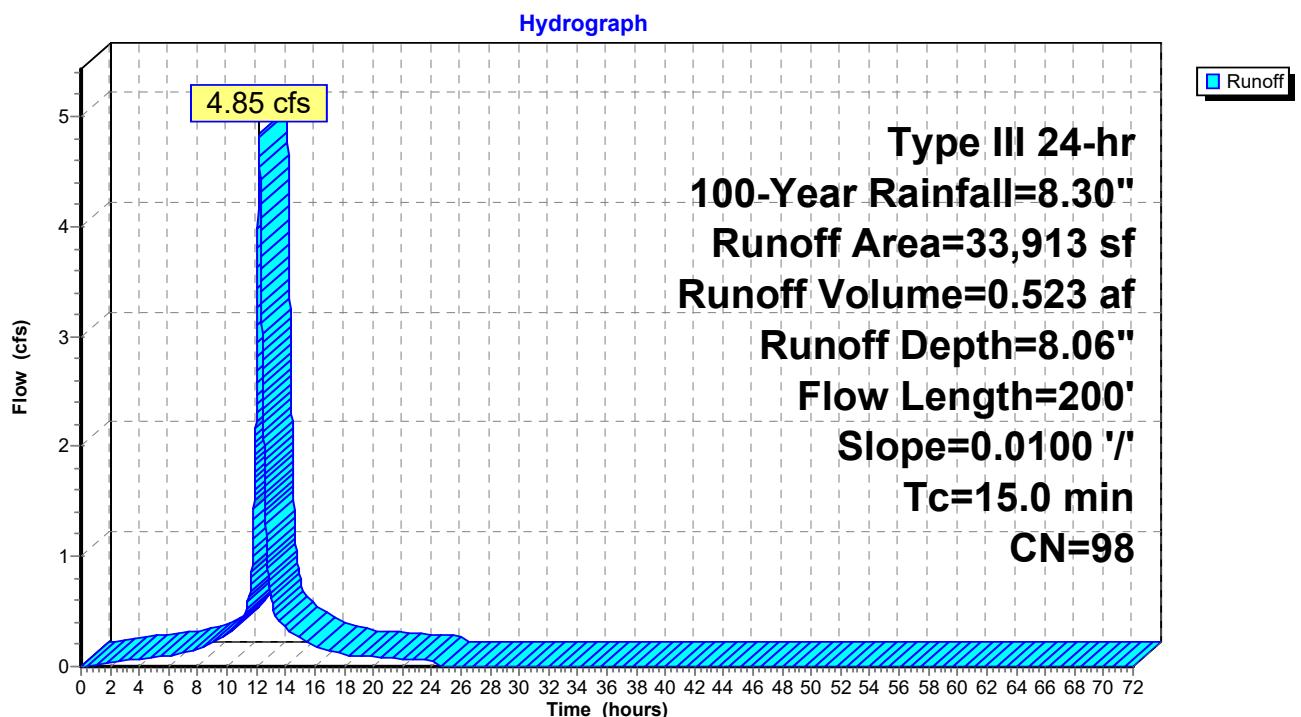
Runoff = 4.85 cfs @ 12.19 hrs, Volume= 0.523 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.30"

Area (sf)	CN	Description
33,913	98	Unconnected pavement, HSG D
33,913		100.00% Impervious Area
33,913		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	200	0.0100	0.22		Sheet Flow, Ballfield
					Fallow n= 0.050 P2= 1.25"

Subcatchment 1A: Turf Field - Little League



Summary for Reach 1C: Pipe To Manhole #1

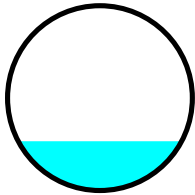
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth > 7.96" for 100-Year event
Inflow = 0.94 cfs @ 12.75 hrs, Volume= 0.516 af
Outflow = 0.94 cfs @ 12.76 hrs, Volume= 0.516 af, Atten= 0%, Lag= 0.1 min

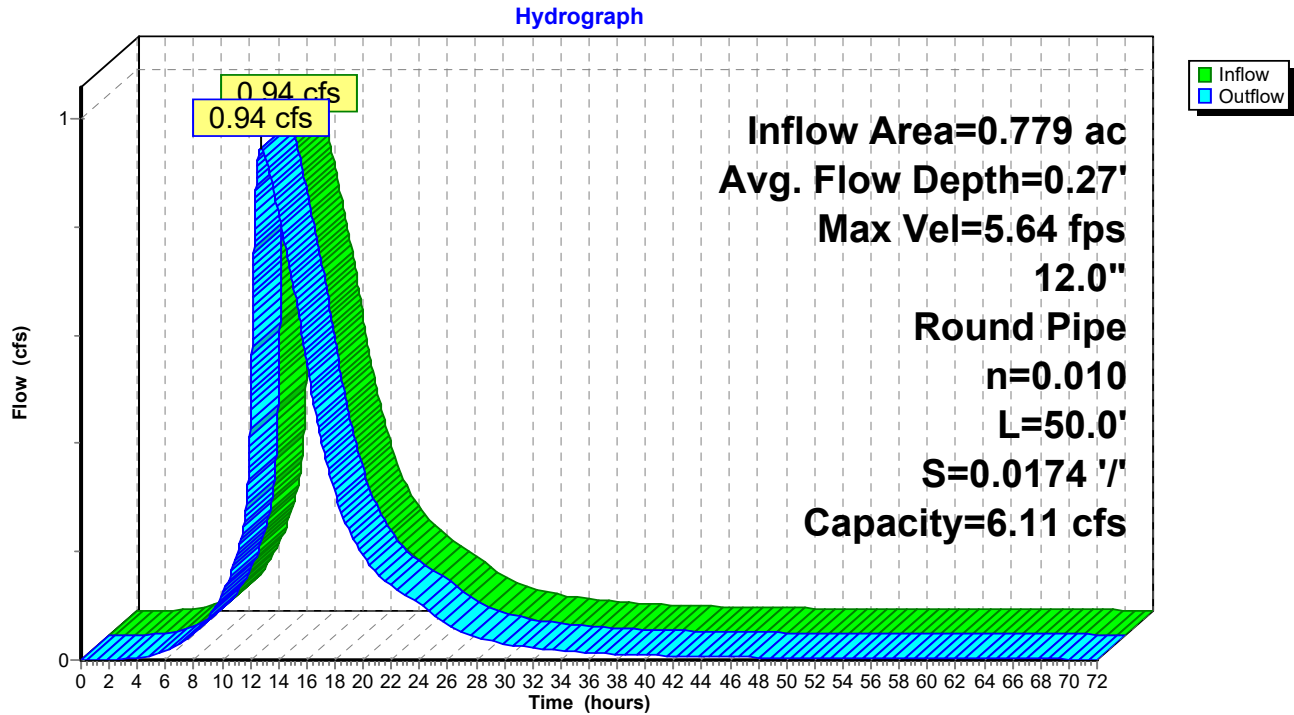
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.64 fps, Min. Travel Time= 0.1 min
Avg. Velocity= 1.94 fps, Avg. Travel Time= 0.4 min

Peak Storage= 8 cf @ 12.76 hrs
Average Depth at Peak Storage= 0.27' , Surface Width= 0.88'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.11 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 50.0' Slope= 0.0174 '/
Inlet Invert= 231.97', Outlet Invert= 231.10'



Reach 1C: Pipe To Manhole #1



Summary for Pond 1B: Underground Stone Storage

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth = 8.06" for 100-Year event
 Inflow = 4.85 cfs @ 12.19 hrs, Volume= 0.523 af
 Outflow = 0.94 cfs @ 12.75 hrs, Volume= 0.516 af, Atten= 81%, Lag= 33.6 min
 Primary = 0.94 cfs @ 12.75 hrs, Volume= 0.516 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 236.01' @ 12.75 hrs Storage= 11,258 cf

Plug-Flow detention time= 272.7 min calculated for 0.516 af (99% of inflow)
 Center-of-Mass det. time= 264.4 min (1,013.5 - 749.1)

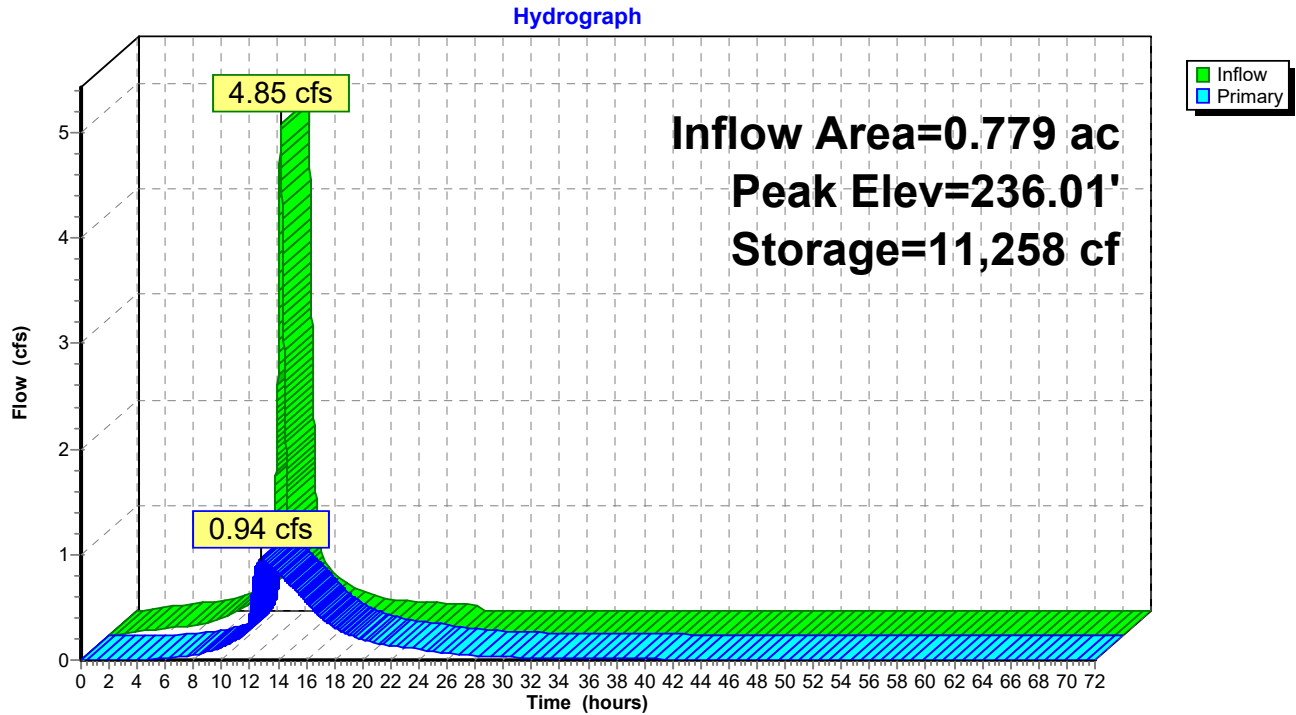
Volume	Invert	Avail.Storage	Storage Description
#1	235.18'	11,530 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.18	0	0
235.35	2,306	2,306
235.52	2,306	4,612
235.69	2,306	6,918
235.86	2,306	9,224
236.03	2,306	11,530

Device	Routing	Invert	Outlet Devices
#1	Primary	235.18'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.94 cfs @ 12.75 hrs HW=236.01' TW=232.24' (Dynamic Tailwater)
 ↑ **1=Orifice/Grate** (Orifice Controls 0.94 cfs @ 3.53 fps)

Pond 1B: Underground Stone Storage



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Existing Grass Field - Runoff Area=33,913 sf 0.00% Impervious Runoff Depth=0.13"
Flow Length=200' Slope=0.0200 '/' Tc=27.3 min CN=78 Runoff=0.14 cfs 0.009 af

Subcatchment 1A: Turf Field - Little Runoff Area=33,913 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=200' Slope=0.0100 '/' Tc=15.0 min CN=98 Runoff=1.73 cfs 0.067 af

Reach 1C: Pipe To Manhole #1 Avg. Flow Depth=0.09' Max Vel=3.01 fps Inflow=0.11 cfs 0.063 af
12.0" Round Pipe n=0.010 L=50.0' S=0.0174 '/' Capacity=6.11 cfs Outflow=0.11 cfs 0.063 af

Pond 1B: Underground Stone Storage Peak Elev=235.37' Storage=2,585 cf Inflow=1.73 cfs 0.067 af
Outflow=0.11 cfs 0.063 af

Total Runoff Area = 1.557 ac Runoff Volume = 0.076 af Average Runoff Depth = 0.58"
50.00% Pervious = 0.779 ac 50.00% Impervious = 0.779 ac

Summary for Subcatchment 1: Existing Grass Field - Little League

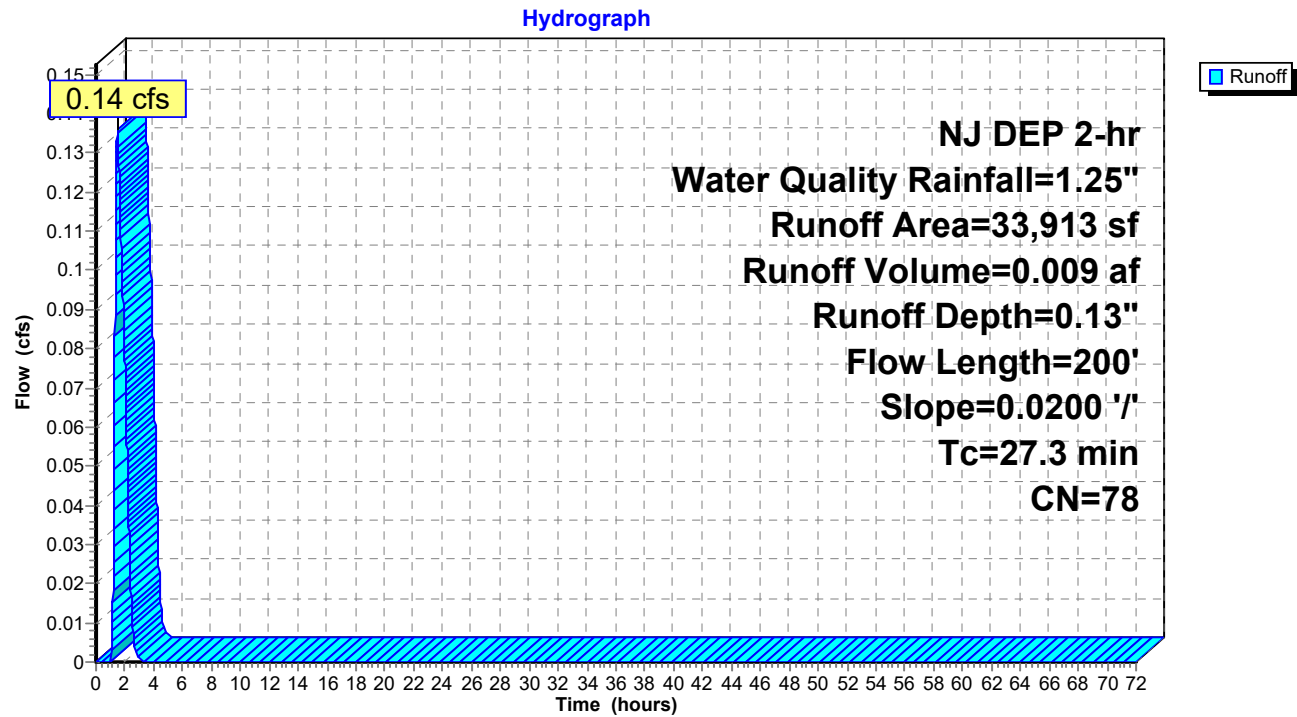
Runoff = 0.14 cfs @ 1.49 hrs, Volume= 0.009 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr Water Quality Rainfall=1.25"

Area (sf)	CN	Description
33,913	78	Meadow, non-grazed, HSG D
33,913		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.3	200	0.0200	0.12		Sheet Flow, Ballfield
					Grass: Short n= 0.150 P2= 1.25"

Subcatchment 1: Existing Grass Field - Little League



Summary for Subcatchment 1A: Turf Field - Little League

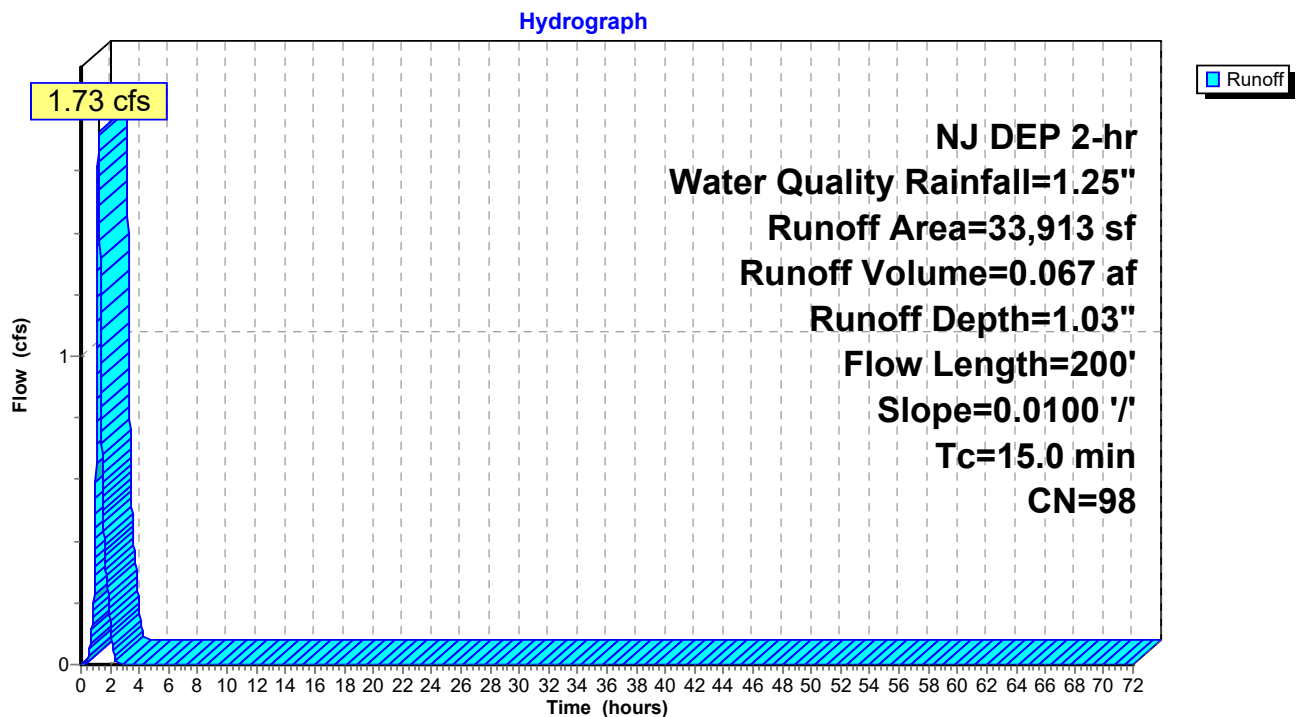
Runoff = 1.73 cfs @ 1.21 hrs, Volume= 0.067 af, Depth= 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NJ DEP 2-hr Water Quality Rainfall=1.25"

Area (sf)	CN	Description
33,913	98	Unconnected pavement, HSG D
33,913		100.00% Impervious Area
33,913		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	200	0.0100	0.22		Sheet Flow, Ballfield
Fallow n= 0.050 P2= 1.25"					

Subcatchment 1A: Turf Field - Little League



Summary for Reach 1C: Pipe To Manhole #1

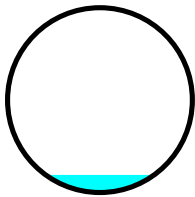
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth > 0.96" for Water Quality event
Inflow = 0.11 cfs @ 2.04 hrs, Volume= 0.063 af
Outflow = 0.11 cfs @ 2.05 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.2 min

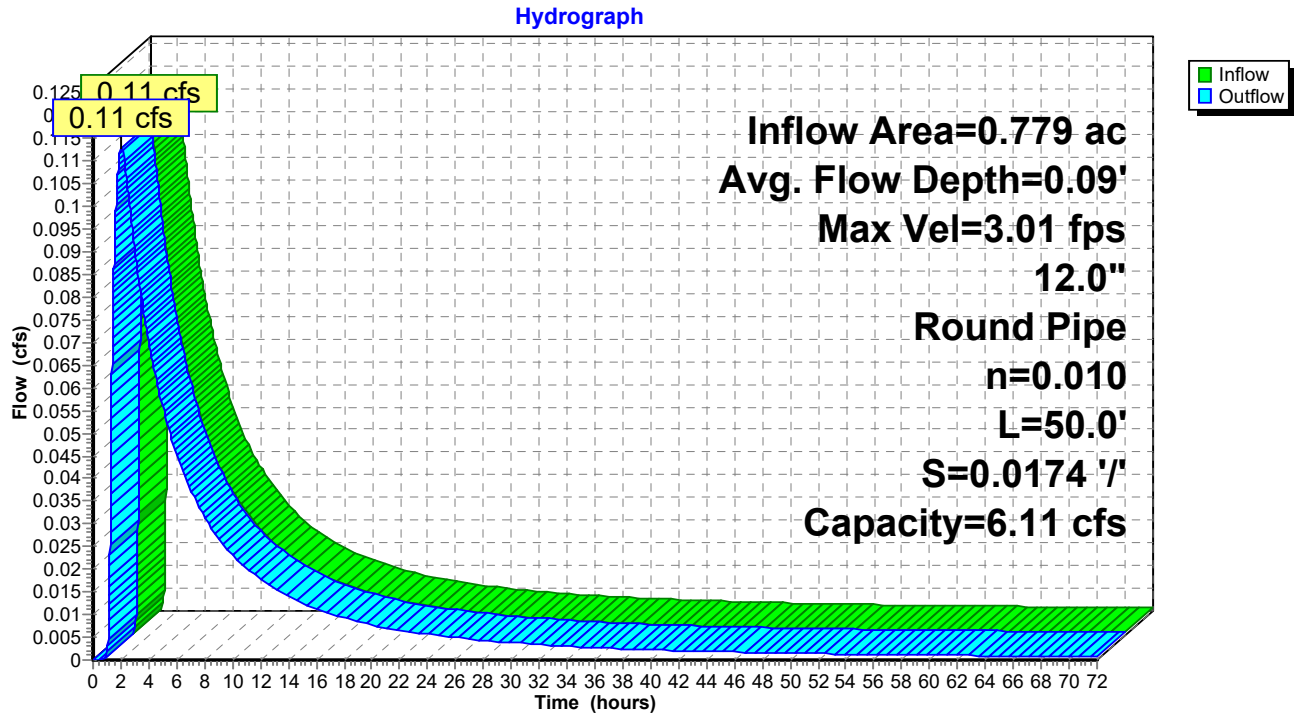
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.01 fps, Min. Travel Time= 0.3 min
Avg. Velocity= 1.19 fps, Avg. Travel Time= 0.7 min

Peak Storage= 2 cf @ 2.05 hrs
Average Depth at Peak Storage= 0.09' , Surface Width= 0.58'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.11 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 50.0' Slope= 0.0174 '/
Inlet Invert= 231.97', Outlet Invert= 231.10'



Reach 1C: Pipe To Manhole #1



Summary for Pond 1B: Underground Stone Storage

Inflow Area = 0.779 ac, 100.00% Impervious, Inflow Depth = 1.03" for Water Quality event
 Inflow = 1.73 cfs @ 1.21 hrs, Volume= 0.067 af
 Outflow = 0.11 cfs @ 2.04 hrs, Volume= 0.063 af, Atten= 93%, Lag= 50.3 min
 Primary = 0.11 cfs @ 2.04 hrs, Volume= 0.063 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 235.37' @ 2.04 hrs Storage= 2,585 cf

Plug-Flow detention time= 611.4 min calculated for 0.063 af (93% of inflow)
 Center-of-Mass det. time= 608.3 min (686.9 - 78.6)

Volume	Invert	Avail.Storage	Storage Description
#1	235.18'	11,530 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.18	0	0
235.35	2,306	2,306
235.52	2,306	4,612
235.69	2,306	6,918
235.86	2,306	9,224
236.03	2,306	11,530

Device	Routing	Invert	Outlet Devices
#1	Primary	235.18'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 2.04 hrs HW=235.37' TW=232.06' (Dynamic Tailwater)
 ↑**1=Orifice/Grate** (Orifice Controls 0.11 cfs @ 1.49 fps)

Pond 1B: Underground Stone Storage

