PDS ENGINEERING &
CONSTRUCTION, INC

April 15, 2024

Stormwater Management Analysis

Startline Development LLC Proposed Building

90, 100 & 120 South Satellite Road, South Windsor, CT

by: Randy J. Becker, P.E.
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107 Old Windsor Road, Bloomfield, CT 06002
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Applicant: PDS Engineering & Construction, Inc., 107 Old Windsor Road, Bloomfield, CT 06002

Project Notes

- Stormwater discharges from this site may carry negligible amounts of pollutants such as oil, dirt, chemicals, and lawn fertilizers to streams and rivers, and will not seriously harm water quality. The calculated Water Quality Volume will be detained in the new detention basin to mitigate downstream impacts and to provide long-term, low-maintenance pollutant removal. The primary discharge is from the outlet structure through a 12-inch HDPE pipe at 0.5% slope connected to the existing storm drainage system in South Satellite Road.
- To protect surface water quality and groundwater resources, the proposed development is designed to be built to minimize increases in runoff. The post-development drainage pattern closely matches the pre-development drainage pattern on this project. The main difference is the new pavement area and building area have an increased runoff coefficient as opposed to the existing woods in this area.
- This development does not adversely affect critical areas, wetlands, buffers, and setbacks established by the local, state, and federal regulatory authorities.

Proposed Stormwater Management Practices

- Source controls and pollution prevention – Pollution potential is very limited on this relatively flat site. There are no steep slopes, and all potentially erosive soils are to be stabilized with lawns, curbs, or pavement. No fueling or vehicle washing is anticipated, no stockpiling is anticipated, and no hazardous chemicals will be used outdoors.
- Stormwater treatment practices – Stormwater enters into the new long, shallow detention basin that is behind and mostly parallel to the proposed building and the south property line via sheet flow from the parking lot through five (5) equally spaced riprapped leak-offs. Rain leaders from the building gutters tie-in at two of these leak-offs. An outlet structure with a 12-inch diameter invert Elevation 66.60 and overflow frame Elevation 68.0 controls the discharge flows at pre-development peak flow rates or less and has a built-in sump to collect sediment and debris, to be maintained by the Owner. The detention basin collects and stores stormwater from the added impervious area, allowing for settlement of solids and pollutant dissipation.
- Flood control and peak runoff attenuation management practices – The detention basin outlet runs northeast under the building and connects to the existing storm drainage system in South Satellite Road. The calculated 100-year event high water is at Elevation 67.16. If the stormwater level ever exceeds detention basin crest Elevation 68.0, it shall overflow into existing wetlands to the south and east. This is the same as the existing runoff pattern. This crest is just one foot lower than the proposed building's Finished Floor Elevation 69.0, and at the top of overflow frame of the outlet structure. This would allow stormwater to drain into the surrounding wetlands in wooded areas in an emergency rather than the building or the roadway.

Stormwater Storage Analysis

- Stormwater peak discharge following development on this site cannot exceed the runoff peak discharge prior to development. Sufficient detention basin storage is being provided in this proposed development to reduce the peak stormwater runoff discharge for a 100-year storm event, and to exceed the calculated Water Quality Volume of 0.125 acre-feet (5,445 cu. ft.) by a factor of 10.

  P = design precipitation = 1 inch I = percent impervious cover = 33.16% A = site area in acres = 4.319 Acres

  R_V = volumetric runoff coefficient = 0.05 + 0.009(I) = 0.05 + 0.009(33.16) = 0.348

  WQV = (P)(R_V)(A)/12 = (1")(0.348)(4.319)/12 = 0.125 ac-ft = 5,445 cu. ft.

- HydroCAD was utilized to calculate the detention basin volume required for the 100-year storm. The capacity of the detention basin is 54,494 cu. ft., or 1.251 acre-feet. This data is summarized in the table below:

	DETENTION BASIN VOLUME				
ELEVATION	AREA AT ELEV (SF)	VOLUME (CF)	CUMULATIVE (CF)	VOLUME (ac-ft)	CUMULATIVE (ac-ft)
68.00	27,661	21,127	54,494	0.485	1.251
67.16	23,610	4,138	33,367	0.095	0.766
67.00	22,825	20,299	29,229	0.466	0.671
66.00	17,816	8,930	8,930	0.205	0.205
65.00	0	0	0	0.000	0.000

- The detention pond has approximately 33,367 cu. ft. (0.766 acre-feet) of stormwater storage volume to Elevation 67.16 and 54,494 cu. ft. (1.251 ac-ft) to Elevation 68.00. This meets the calculated 100-year storm volume.

EVENTS FOR DETENTION BASIN

STORM FREQ.	TOTAL PRECIP (IN.)	INFLOW (cfs)	OUTFLOW (cfs)	MAX. ELEV.	STORAGE USED (AC-FT)
2-YR	3.10	7.17	0.00	66.30	0.346
10-YR	4.92	11.55	0.13	66.77	0.564
25-YR	6.06	15.97	0.38	66.90	0.626
50-YR	6.89	19.81	0.70	67.02	0.683
100-YR	**7.81**	**24.34**	**1.17**	**67.17**	**0.766**

CONCLUSION:

Detention Basin Capacity required / provided = 54,494 cu ft. (0.485 acre-feet) to Elevation 68.00 (Top of Grate)

Water Quality Volume = 5,445 cu ft. (0.125 acre-feet) = Capacity to Elevation 65.60

SEE HYDROCAD ATTACHMENTS (16 pages)

NOAA Atlas 14, Volume 10, Version 3
Location name: South Windsor, Connecticut, USA*
Latitude: 41.8231°, Longitude: -72.6031°
Elevation: 69 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.336 (0.261-0.432)	0.407 (0.316-0.524)	0.523 (0.404-0.675)	0.620 (0.477-0.805)	0.753 (0.562-1.02)	0.853 (0.623-1.18)	0.958 (0.680-1.38)	1.08 (0.724-1.59)	1.25 (0.807-1.91)	1.38 (0.876-2.16)
10-min	0.476 (0.370-0.612)	0.577 (0.448-0.742)	0.742 (0.574-0.957)	0.879 (0.676-1.14)	1.07 (0.796-1.45)	1.21 (0.883-1.68)	1.36 (0.964-1.96)	1.52 (1.03-2.25)	1.76 (1.14-2.70)	1.96 (1.24-3.07)
15-min	0.560 (0.436-0.720)	0.679 (0.527-0.873)	0.873 (0.676-1.13)	1.03 (0.796-1.34)	1.26 (0.936-1.71)	1.42 (1.04-1.98)	1.60 (1.13-2.30)	1.79 (1.21-2.65)	2.08 (1.34-3.18)	2.31 (1.46-3.61)
30-min	0.751 (0.584-0.965)	0.913 (0.709-1.17)	1.18 (0.911-1.52)	1.40 (1.08-1.81)	1.70 (1.27-2.31)	1.93 (1.41-2.68)	2.16 (1.54-3.12)	2.43 (1.64-3.59)	2.82 (1.82-4.31)	3.13 (1.98-4.89)
60-min	0.942 (0.732-1.21)	1.15 (0.891-1.48)	1.48 (1.15-1.91)	1.76 (1.36-2.28)	2.14 (1.60-2.91)	2.43 (1.78-3.38)	2.73 (1.94-3.94)	3.07 (2.07-4.54)	3.56 (2.30-5.44)	3.95 (2.50-6.18)
2-hr	1.22 (0.954-1.56)	1.48 (1.15-1.89)	1.90 (1.48-2.43)	2.24 (1.74-2.90)	2.72 (2.04-3.69)	3.08 (2.27-4.27)	3.46 (2.48-5.00)	3.91 (2.64-5.74)	4.58 (2.98-6.97)	5.15 (3.27-7.99)
3-hr	1.40 (1.10-1.79)	1.70 (1.33-2.16)	2.18 (1.70-2.79)	2.58 (2.00-3.32)	3.13 (2.36-4.23)	3.54 (2.62-4.89)	3.97 (2.87-5.74)	4.50 (3.05-6.59)	5.31 (3.45-8.04)	5.99 (3.81-9.27)
6-hr	1.76 (1.39-2.23)	2.14 (1.68-2.70)	2.75 (2.16-3.49)	3.26 (2.54-4.16)	3.96 (3.00-5.33)	4.48 (3.33-6.17)	5.04 (3.66-7.26)	5.74 (3.89-8.34)	6.81 (4.44-10.3)	7.73 (4.93-11.9)
12-hr	2.14 (1.70-2.69)	2.62 (2.08-3.30)	3.42 (2.70-4.32)	4.07 (3.20-5.17)	4.97 (3.79-6.66)	5.64 (4.22-7.73)	6.36 (4.65-9.13)	7.27 (4.95-10.5)	8.67 (5.68-13.0)	9.89 (6.33-15.1)
24-hr	2.50 (1.99-3.12)	3.10 (2.48-3.88)	4.10 (3.26-5.15)	4.92 (3.89-6.22)	6.06 (4.65-8.08)	6.89 (5.20-9.43)	7.81 (5.76-11.2)	8.98 (6.14-12.9)	10.8 (7.12-16.1)	12.5 (8.01-18.9)
2-day	2.81 (2.26-3.49)	3.55 (2.85-4.42)	4.76 (3.80-5.94)	5.76 (4.58-7.23)	7.14 (5.52-9.49)	8.14 (6.19-11.1)	9.26 (6.91-13.3)	10.8 (7.37-15.4)	13.2 (8.69-19.5)	15.4 (9.91-23.2)
3-day	3.06 (2.47-3.79)	3.87 (3.12-4.80)	5.20 (4.17-6.47)	6.30 (5.02-7.88)	7.81 (6.07-10.4)	8.91 (6.80-12.2)	10.1 (7.60-14.6)	11.8 (8.10-16.8)	14.6 (9.60-21.4)	17.0 (11.0-25.5)
4-day	3.29 (2.66-4.06)	4.15 (3.35-5.13)	5.56 (4.47-6.90)	6.73 (5.38-8.40)	8.35 (6.50-11.0)	9.51 (7.28-12.9)	10.8 (8.13-15.5)	12.6 (8.66-17.9)	15.5 (10.3-22.8)	18.2 (11.7-27.2)
7-day	3.90 (3.16-4.79)	4.87 (3.95-5.99)	6.45 (5.21-7.96)	7.77 (6.24-9.64)	9.58 (7.48-12.6)	10.9 (8.36-14.7)	12.4 (9.29-17.5)	14.3 (9.88-20.2)	17.5 (11.6-25.6)	20.4 (13.2-30.3)
10-day	4.51 (3.68-5.53)	5.54 (4.51-6.79)	7.22 (5.85-8.88)	8.61 (6.93-10.7)	10.5 (8.23-13.7)	11.9 (9.15-16.0)	13.5 (10.1-18.9)	15.5 (10.7-21.8)	18.7 (12.4-27.3)	21.6 (14.0-32.1)
20-day	6.50 (5.33-7.91)	7.58 (6.21-9.24)	9.36 (7.63-11.4)	10.8 (8.77-13.3)	12.9 (10.1-16.6)	14.4 (11.0-18.9)	16.0 (11.9-22.0)	17.9 (12.5-25.0)	20.9 (14.0-30.2)	23.5 (15.3-34.6)
30-day	8.21 (6.75-9.96)	9.32 (7.65-11.3)	11.1 (9.11-13.6)	12.6 (10.3-15.5)	14.7 (11.5-18.8)	16.3 (12.5-21.2)	17.9 (13.3-24.2)	19.8 (13.8-27.4)	22.4 (15.0-32.2)	24.7 (16.1-36.2)
45-day	10.4 (8.55-12.5)	11.5 (9.48-13.9)	13.4 (11.0-16.2)	14.9 (12.2-18.2)	17.1 (13.4-21.6)	18.7 (14.3-24.2)	20.4 (15.0-27.2)	22.1 (15.5-30.5)	24.4 (16.4-34.8)	26.1 (17.1-38.2)
60-day	12.2 (10.1-14.7)	13.4 (11.0-16.1)	15.3 (12.6-18.5)	16.9 (13.8-20.6)	19.1 (15.0-24.1)	20.9 (16.0-26.7)	22.5 (16.6-29.8)	24.1 (17.0-33.2)	26.1 (17.6-37.2)	27.6 (18.0-40.1)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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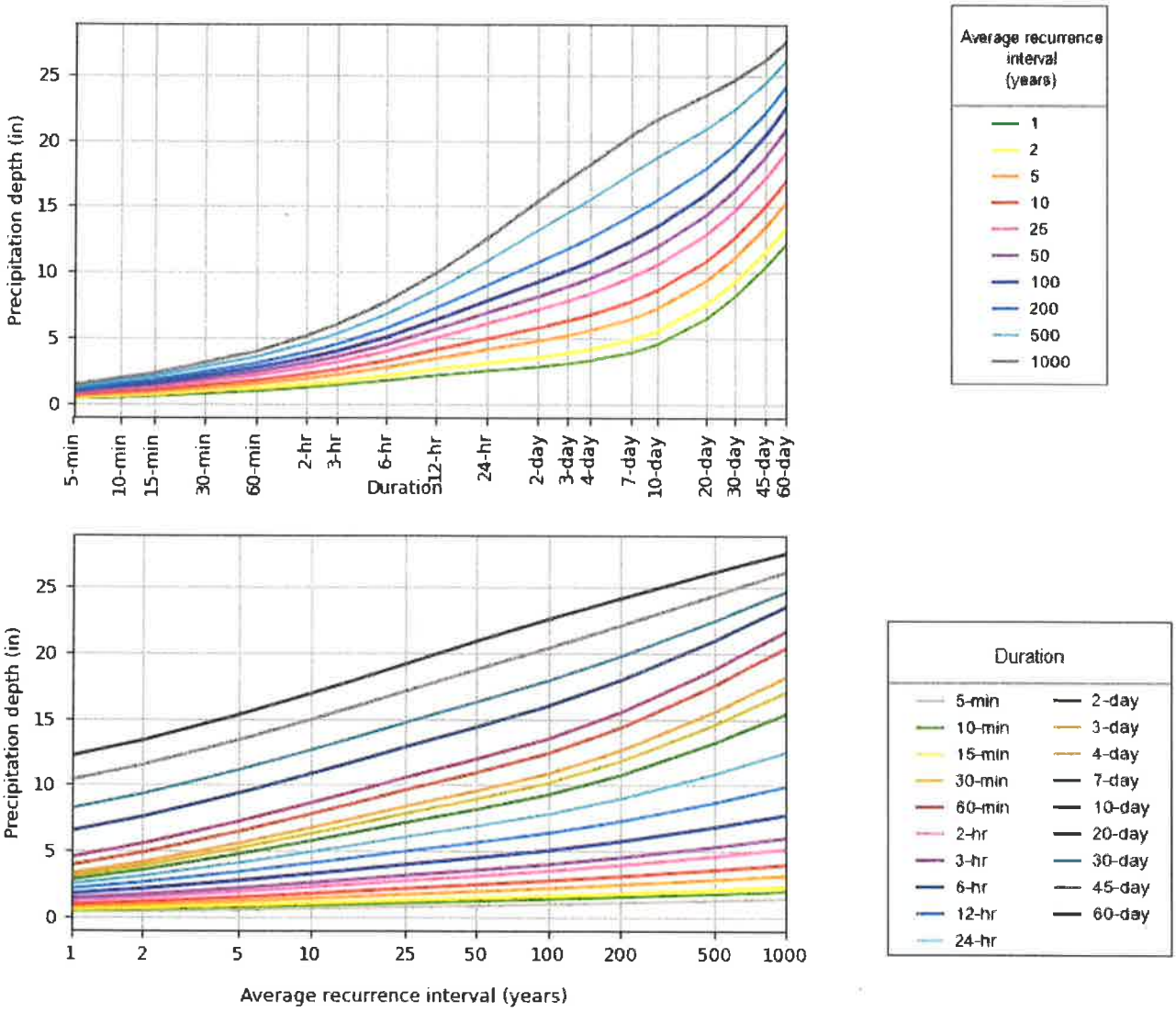
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.8231°, Longitude: -72.6031°



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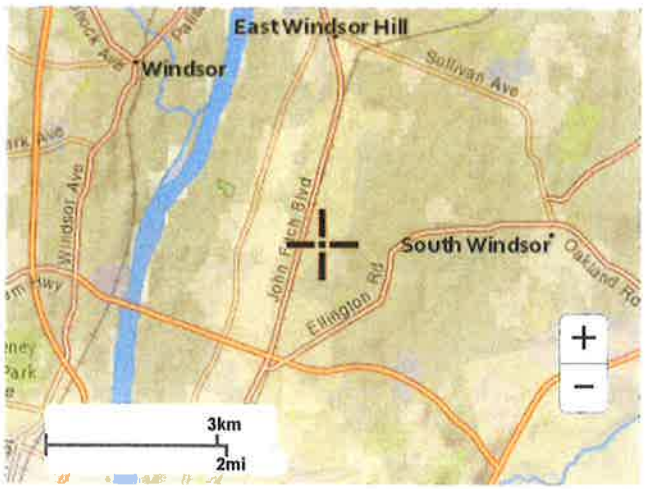
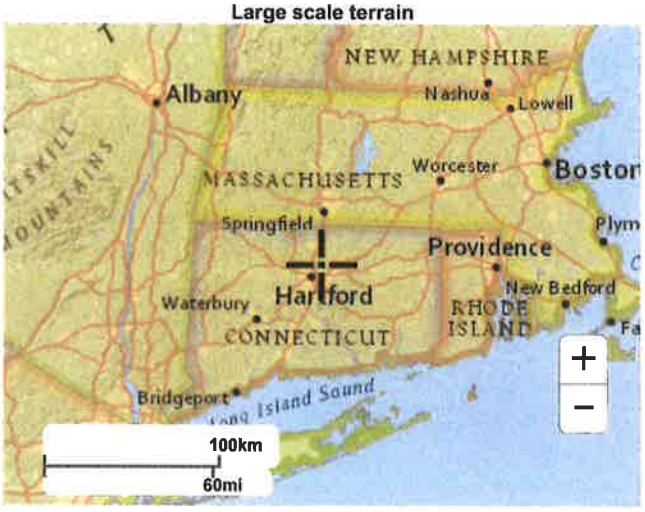
Maps & aerials

Small scale terrain



Large scale terrain



Large scale map

Large scale aerial

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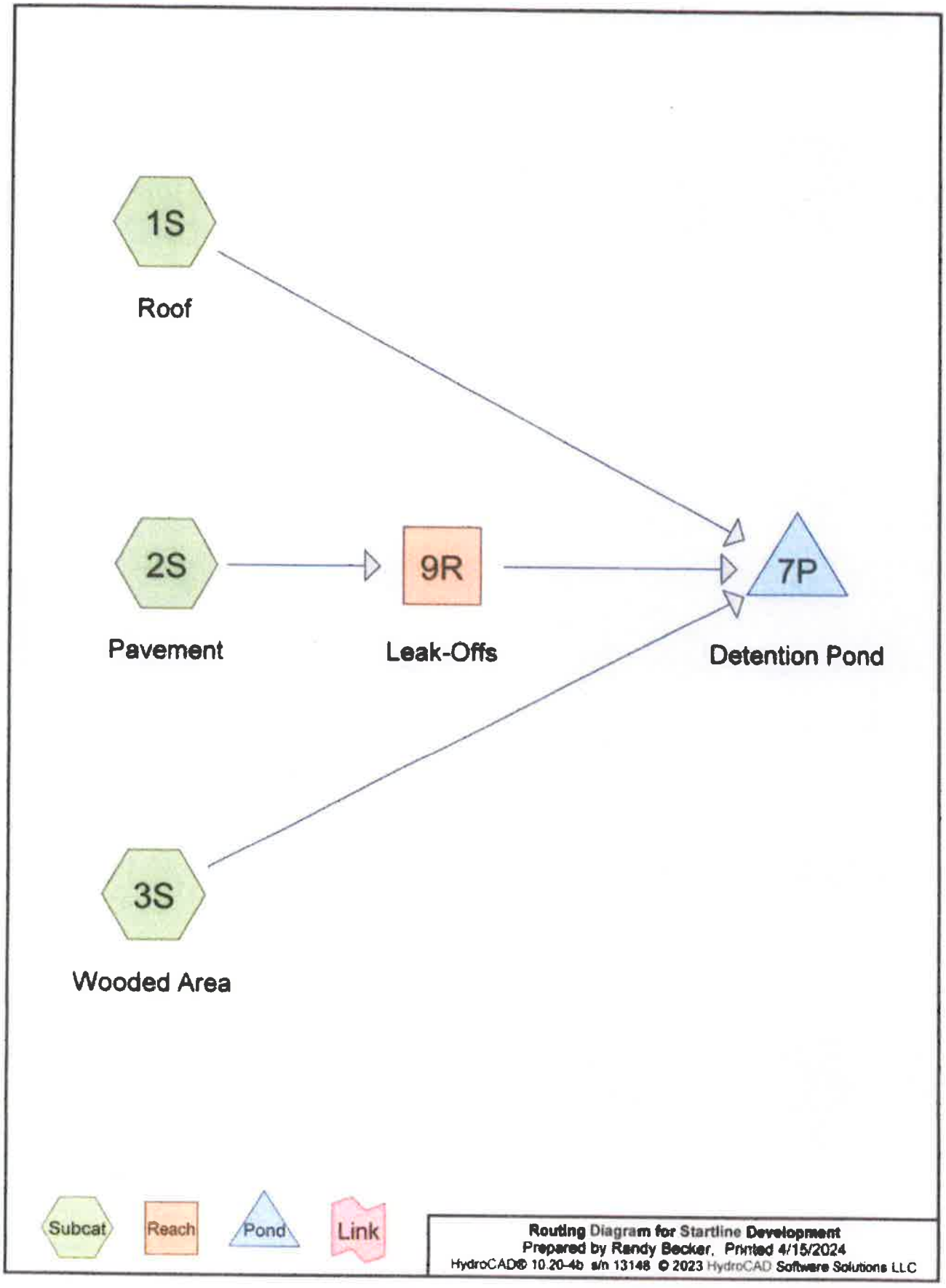

1S
Roof
2S
Pavement
9R
Leak-Offs
7P
Detention Pond
3S
Wooded Area
Subcat
Reach
Pond
Link
Routing Diagram for Startline Development
Prepared by Randy Becker, Printed 4/15/2024
HydroCAD® 10.20-4b s/n 13148 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type II 24-hr		Default	24.00	1	3.10	2
2	10-Year	Type II 24-hr		Default	24.00	1	4.92	2
3	25-Year	Type II 24-hr		Default	24.00	1	6.06	2
4	50-Year	Type II 24-hr		Default	24.00	1	6.89	2
5	100-Year	Type II 24-hr		Default	24.00	1	7.81	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.739	98	Paved parking, HSG A (2S)
0.693	98	Roofs, HSG A (1S)
2.887	43	Woods/grass comb., Fair, HSG A (3S)
4.319	**61**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
4.319	HSG A	1S, 2S, 3S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.319		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.739	0.000	0.000	0.000	0.000	0.739	Paved parking	2S
0.693	0.000	0.000	0.000	0.000	0.693	Roofs	1S
2.887	0.000	0.000	0.000	0.000	2.887	Woods/grass comb., Fair	3S
4.319	**0.000**	**0.000**	**0.000**	**0.000**	**4.319**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Roof Runoff Area=0.693 ac 100.00% Impervious Runoff Depth=7.57"
Flow Length=120' Slope=0.1250 '/' Tc=1.1 min CN=98 Runoff=8.95 cfs 0.437 af

Subcatchment 2S: Pavement Runoff Area=0.739 ac 100.00% Impervious Runoff Depth=7.57"
Flow Length=84' Slope=0.0200 '/' Tc=1.1 min CN=98 Runoff=9.55 cfs 0.466 af

Subcatchment 3S: Wooded Area Runoff Area=2.887 ac 0.00% Impervious Runoff Depth=1.45"
Flow Length=129' Slope=0.0130 '/' Tc=3.5 min CN=43 Runoff=7.51 cfs 0.348 af

Reach 9R: Leak-Offs Avg. Flow Depth=0.14' Max Vel=0.70 fps Inflow=9.55 cfs 0.466 af
n=0.069 L=13.0' S=0.0154 '/' Capacity=18.26 cfs Outflow=9.45 cfs 0.466 af

Pond 7P: Detention Pond Peak Elev=67.16' Storage=0.766 af Inflow=24.34 cfs 1.251 af
Outflow=1.17 cfs 0.731 af

Total Runoff Area = 4.319 ac Runoff Volume = 1.251 af Average Runoff Depth = 3.48"
66.84% Pervious = 2.887 ac 33.16% Impervious = 1.432 ac

Summary for Subcatchment 1S: Roof

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

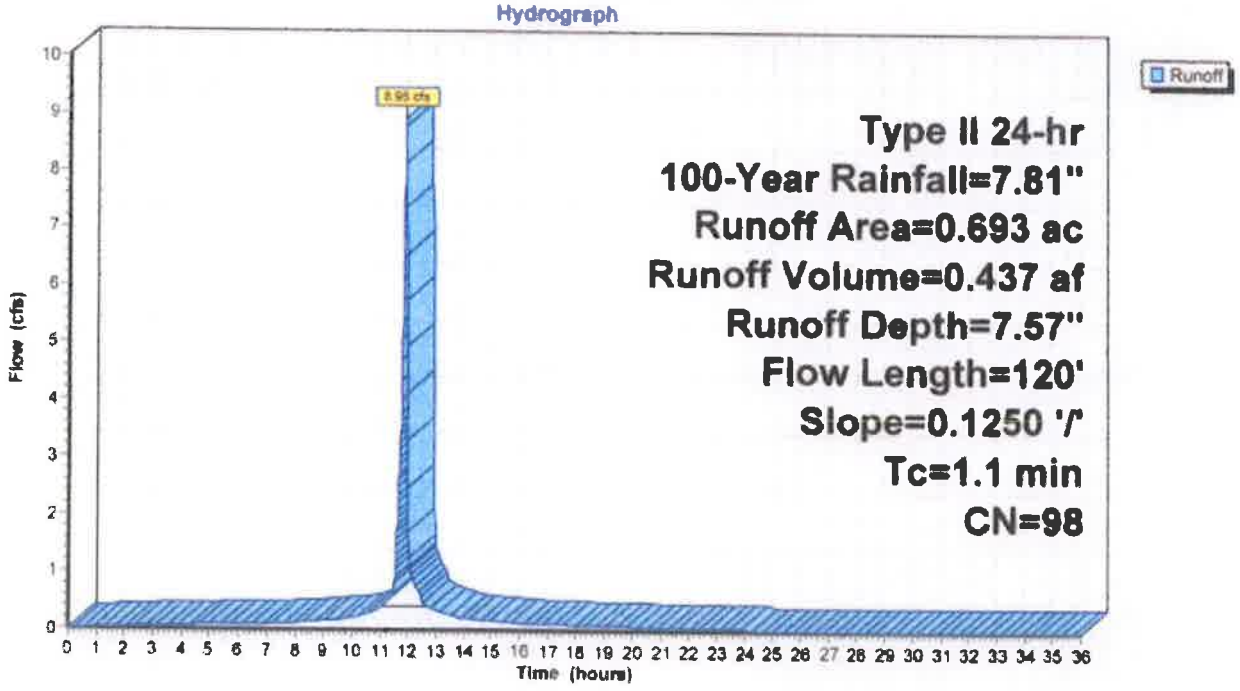
Runoff = 8.95 cfs @ 11.91 hrs, Volume= 0.437 af, Depth= 7.57"
Routed to Pond 7P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=7.81"

Area (ac)	CN	Description
0.693	98	Roofs, HSG A
0.693		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	120	0.1250	2.92		**Sheet Flow, Metal Roof** Smooth surfaces n= 0.011 P2= 3.10"
0.7	120	Total, Increased to minimum Tc = 1.1 min			

Subcatchment 1S: Roof



Summary for Subcatchment 2S: Pavement

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

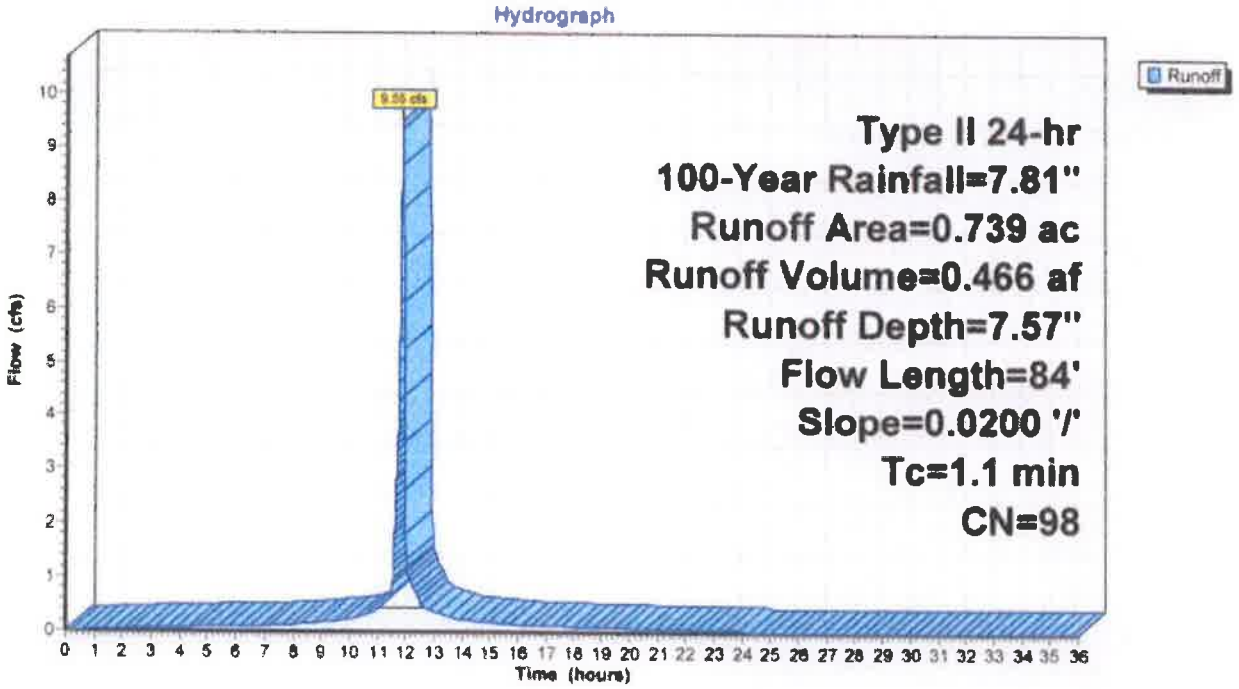
Runoff = 9.55 cfs @ 11.91 hrs, Volume= 0.466 af, Depth= 7.57"
Routed to Reach 9R : Leak-Offs

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=7.81"

Area (ac)	CN	Description
0.739	98	Paved parking, HSG A
0.739		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	84	0.0200	1.31		**Sheet Flow, Asphalt Pavement** Smooth surfaces n= 0.011 P2= 3.10"

Subcatchment 2S: Pavement



Summary for Subcatchment 3S: Wooded Area

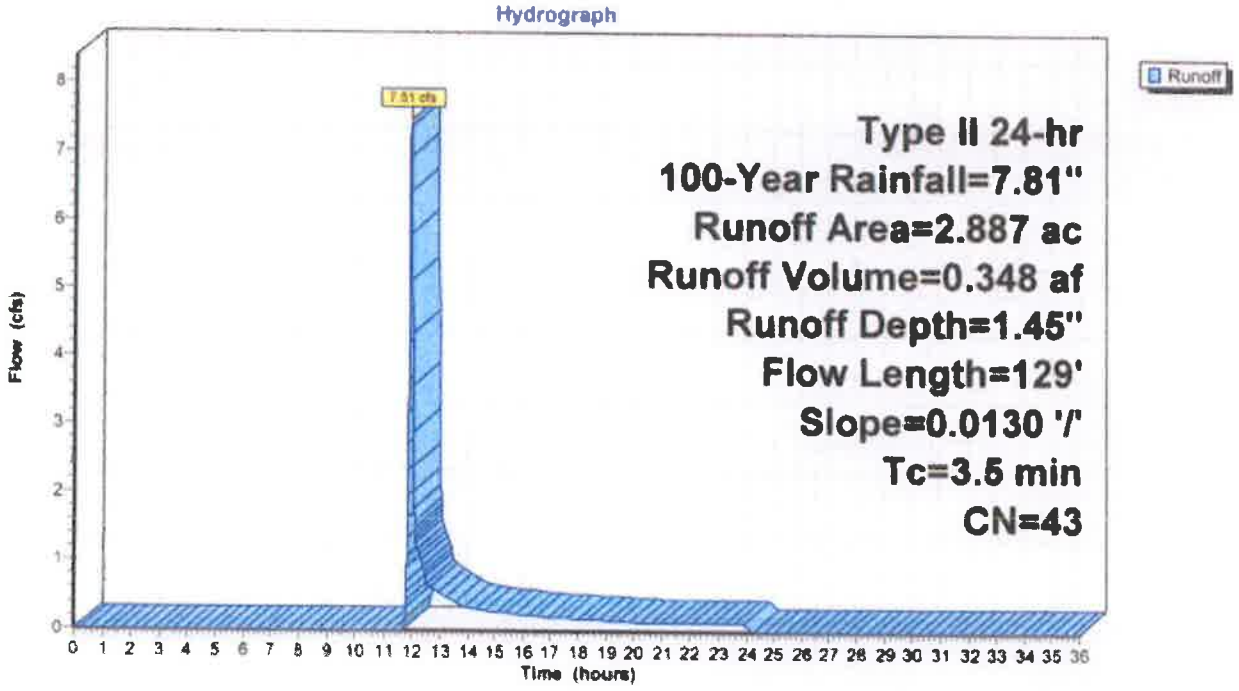
Runoff = 7.51 cfs @ 11.96 hrs, Volume= 0.348 af, Depth= 1.45"
Routed to Pond 7P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=7.81"

Area (ac)	CN	Description
2.887	43	Woods/grass comb., Fair, HSG A
2.887		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	129	0.0130	0.61		Kirpich Method, Woods & Grass General overland flow k= 2.00

Subcatchment 3S: Wooded Area



Summary for Reach 9R: Leak-Offs

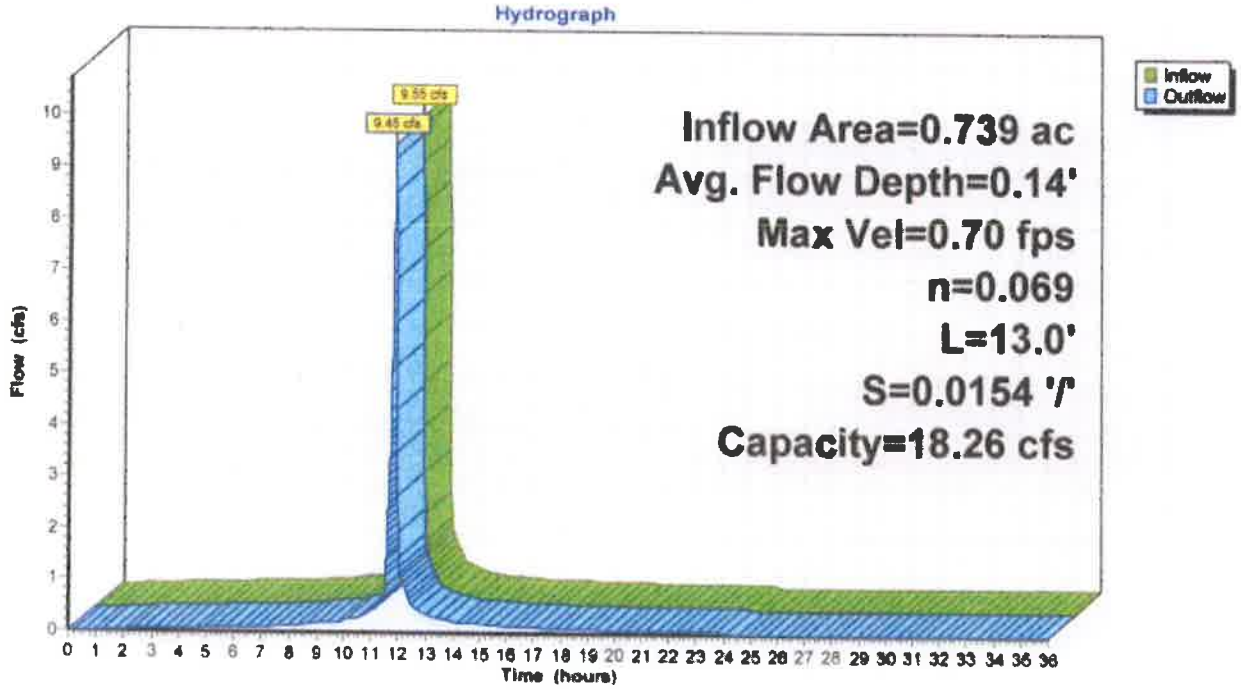
Inflow Area = 0.739 ac,100.00% Impervious, Inflow Depth = 7.57" for 100-Year event
Inflow = 9.55 cfs @ 11.91 hrs, Volume= 0.466 af
Outflow = 9.45 cfs @ 11.92 hrs, Volume= 0.466 af, Atten= 1%, Lag= 0.5 min
Routed to Pond 7P : Detention Pond

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.70 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.13 fps, Avg. Travel Time= 1.7 min

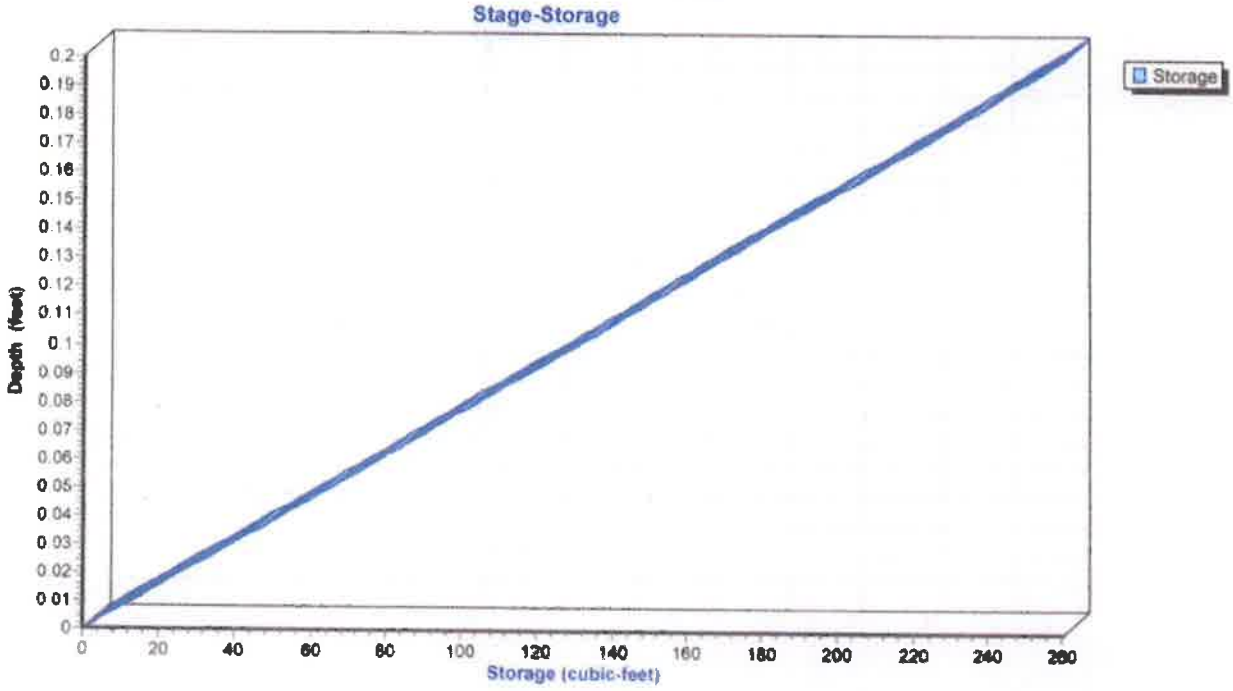
Peak Storage= 176 cf @ 11.92 hrs
Average Depth at Peak Storage= 0.14', Surface Width= 100.27'
Bank-Full Depth= 0.20' Flow Area= 20.0 sf, Capacity= 18.26 cfs

100.00' x 0.20' deep channel, n= 0.069 Riprap, 6-inch
Side Slope Z-value= 1.0 '/' Top Width= 100.40'
Length= 13.0' Slope= 0.0154 '/'
Inlet Invert= 68.00', Outlet Invert= 67.80'

Reach 9R: Leak-Offs



Reach 9R: Leak-Offs



Stage-Area-Storage for Reach 9R: Leak-Offs

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
68.00	0.0	0
68.01	1.0	13
68.02	2.0	26
68.03	3.0	39
68.04	4.0	52
68.05	5.0	65
68.06	6.0	78
68.07	7.0	91
68.08	8.0	104
68.09	9.0	117
68.10	10.0	130
68.11	11.0	143
68.12	12.0	156
68.13	13.0	169
68.14	14.0	182
68.15	15.0	195
68.16	16.0	208
68.17	17.0	221
68.18	18.0	234
68.19	19.0	247
68.20	20.0	261

Summary for Pond 7P: Detention Pond

Inflow Area = 4.319 ac, 33.16% Impervious, Inflow Depth = 3.48" for 100-Year event
Inflow = 24.34 cfs @ 11.92 hrs, Volume= 1.251 af
Outflow = 1.17 cfs @ 13.09 hrs, Volume= 0.731 af, Atten= 95%, Lag= 69.9 min
Primary = 1.17 cfs @ 13.09 hrs, Volume= 0.731 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 67.16' @ 13.09 hrs Surf.Area= 0.542 ac Storage= 0.766 af

Plug-Flow detention time= 426.6 min calculated for 0.731 af (58% of inflow)
Center-of-Mass det. time= 294.5 min (1,071.9 - 777.4)

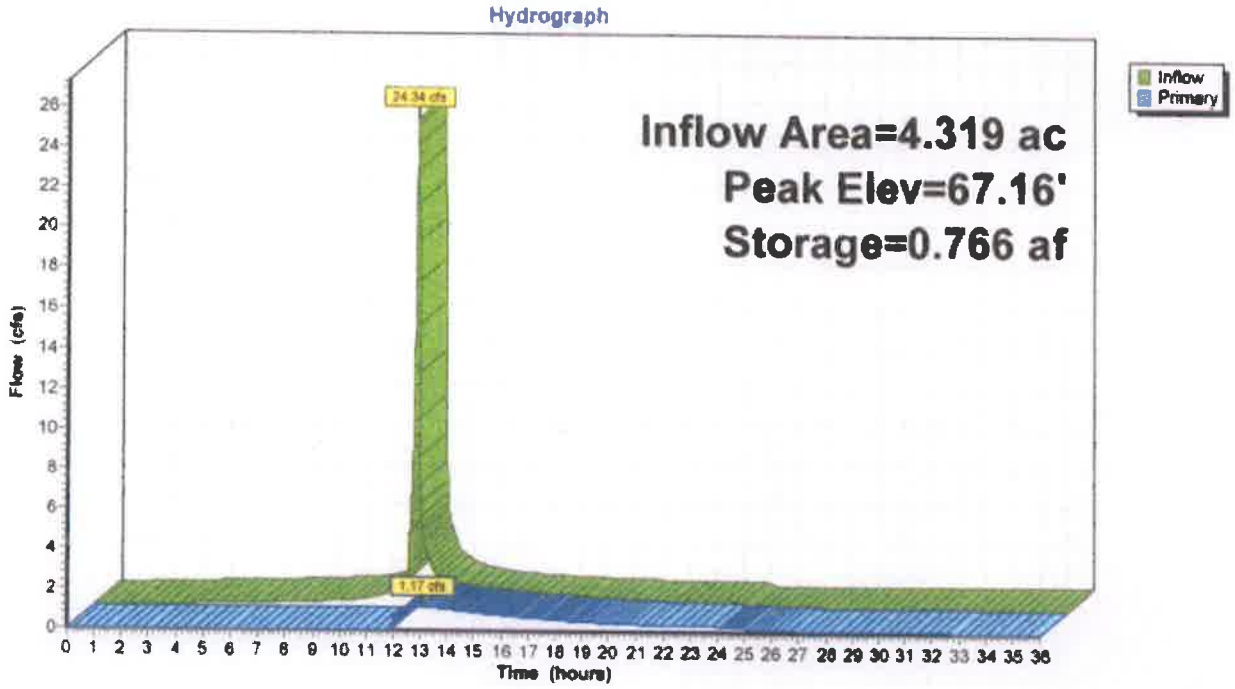
Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	1.251 af	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
65.00	0.000	0.000	0.000
66.00	0.409	0.205	0.205
67.00	0.524	0.467	0.671
68.00	0.635	0.580	1.251

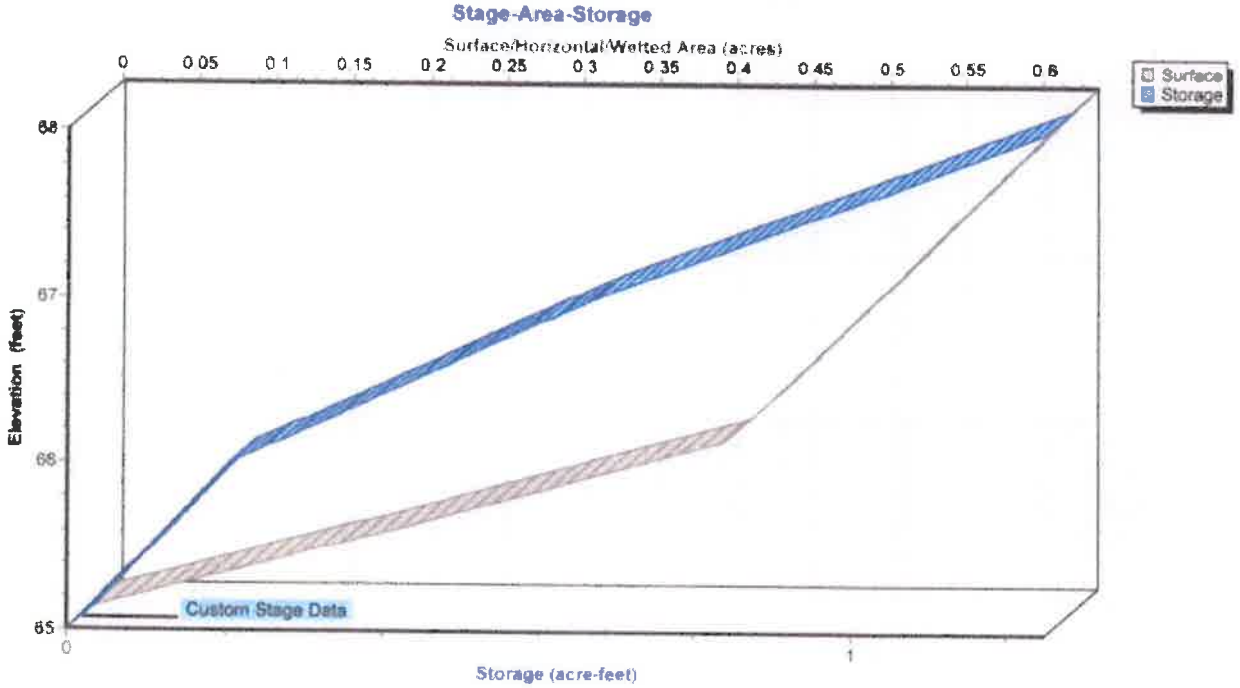
Device	Routing	Invert	Outlet Devices
#1	Primary	66.60'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 13.09 hrs HW=67.16' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 1.17 cfs @ 2.56 fps)

Pond 7P: Detention Pond



Pond 7P: Detention Pond



Events for Pond 7P: Detention Pond

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year	7.17	0.00	66.30	0.346
10-Year	11.55	0.13	66.77	0.564
25-Year	15.97	0.38	66.90	0.626
50-Year	19.81	0.70	67.02	0.683
100-Year	**24.34**	**1.17**	**67.16**	**0.766**

Stage-Area-Storage for Pond 7P: Detention Pond

Elevation (feet)	Surface (acres)	Storage (acre-feet)
65.00	0.000	0.000
65.05	0.020	0.010
65.10	0.041	0.020
65.15	0.061	0.031
65.20	0.082	0.041
65.25	0.102	0.051
65.30	0.123	0.061
65.35	0.143	0.072
65.40	0.164	0.082
65.45	0.184	0.092
65.50	0.205	0.102
65.55	0.225	0.112
65.60	0.245	0.123
65.65	0.266	0.133
65.70	0.286	0.143
65.75	0.307	0.153
65.80	0.327	0.164
65.85	0.348	0.174
65.90	0.368	0.184
65.95	0.389	0.194
66.00	0.409	0.205
66.05	0.415	0.228
66.10	0.420	0.251
66.15	0.426	0.274
66.20	0.432	0.298
66.25	0.438	0.321
66.30	0.443	0.344
66.35	0.449	0.368
66.40	0.455	0.391
66.45	0.461	0.414
66.50	0.467	0.438
66.55	0.472	0.461
66.60	0.478	0.484
66.65	0.484	0.508
66.70	0.490	0.531
66.75	0.495	0.554
66.80	0.501	0.578
66.85	0.507	0.601
66.90	0.513	0.624
66.95	0.518	0.648
67.00	0.524	0.671
67.05	0.530	0.700
67.10	0.535	0.729
67.15	0.541	0.758
67.20	0.546	0.787
67.25	0.552	0.816
67.30	0.557	0.845
67.35	0.563	0.874
67.40	0.568	0.903
67.45	0.574	0.932
67.50	0.580	0.961
67.55	0.585	0.990
67.60	0.591	1.019
67.65	0.596	1.048
67.70	0.602	1.077
67.75	0.607	1.106
67.80	0.613	1.135
67.85	0.618	1.164
67.90	0.624	1.193
67.95	0.629	1.222
68.00	**0.635**	**1.251**

Soil Map—State of Connecticut, Western Part

Map Scale: 1:1,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Western Part
Survey Area Data: Version 1, Sep 15, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	0.7	6.0%
13	Walpole sandy loam, 0 to 3 percent slopes	5.9	47.5%
23A	Sudbury sandy loam, 0 to 5 percent slopes	2.9	23.1%
306	Udorthents-Urban land complex	2.5	19.9%
307	Urban land	0.4	3.5%
Totals for Area of Interest		**12.4**	**100.0%**