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Waste • Facility Services • Laboratory

August 23, 2022

Town of South Windsor
1540 Sullivan Avenue
South Windsor, CT 06074

Attn: Ms. Michele Lipe & Mr. Jeffrey Folger

RE: 195 Governor's Highway Site Modifications
Conservation Review Application
Drainage Memo
Commission Number: 024DF2.01

Dear Recipients:

Loureiro Engineering Associates, Inc. (LEA) has been retained by Hyaxiom – A Doosan Company (Doosan) for the design and permitting of new site modifications at their facility located at 195 Governor's Highway. A USGS topographic quadrangle map showing the site location is attached. The intent of the site modifications is to provide improved access for trucks to the existing building, which will undergo interior renovations to support the new operations, for delivery and pick-up of manufactured products.

Background

The majority of the new work will occur within areas of existing impervious cover, and will not have any impact on the amount of runoff generated or the drainage characteristics of the subject property. One area of the project site, where a new paved driveway will be constructed within an area of existing lawn cover, will result in an increase in impervious coverage when compared to existing conditions. In order to satisfy the Town's requirements for a conservation review application, this drainage area was analyzed and the new grassed depression depicted on the drawings has been modeled and sized to ensure that it will be adequate enough to capture and store the Water Quality Volume (WQV) associated with this drainage area, and also be able to attenuate runoff from the new impervious areas.

Stormwater runoff from the majority of the project work area (existing buildings, existing and new parking lots and access drives, and lawn areas) will be collected by an existing stormwater management system, which consists of existing drainage structures and connected pipe networks which exist within and adjacent to the existing pavement areas. The existing drainage system will be maintained with minor modifications in the new conditions, and ultimately discharges to an existing drainage system located within Governor's Highway. Therefore, any runoff generated across the new driveway area, as well as the remainder of the site area, will be considered to be draining to this existing drainage system after passing through the existing paved parking areas.

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Analyzing the amount of runoff that enters the existing parking lot from the new driveway area therefore provides a viable point of study for impacts on the receiving existing drainage system.

Stormwater Evaluation

The overall work area associated with the project is approximately 2.5 acres, which includes areas that will not experience any change in cover type or drainage patterns as a result of the new work. However, for this drainage statement, only the proposed redevelopment area of approximately 1.9 acres in the vicinity of the new access drive and grassed depression was analyzed for pre and post runoff conditions, in order to provide sizing of the grassed depression as requested by the Town.

LEA evaluated the existing conditions of the approximately 1.9-acre study area and determined approximately 2% impervious cover across the area. The area's composite curve number, CN, is 80. The existing conditions were modeled as one watershed as depicted on the attached watershed map, Figure 2. The Natural Resources Conservation Service (NRCS, formerly SCS) characterized the pervious portions of the property as Urban Land. In general, Udorthents and Urban Land is classified as an area of developed land and is typically designated as a Type D soil site. A Type D soil has been used for the analysis.

The new improvements associated with the new paved access drive will result in an increase to impervious surfacing to approximately 21% over the study area. The composite CN in the new condition is 88. The new conditions were modeled as two watersheds as depicted on the attached watershed map, Figure 3. To mitigate the increase in imperviousness, a grassed depression will be created to store the contributing Water Quality Volume and provide attenuation of peak flow rates and volumes of discharge when compared to existing conditions. As shown in the summary table provided below, pre- and post-development flows associated with the study area were analyzed up to the 100-year storm event in accordance with Town regulations, and a reduction in peak flow rates of discharge was achieved for all analyzed storm events.

	2-Year Event		10-Year Event		25-Year Event		100-year Event	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Peak discharge (cfs) from study area to existing parking lot (to existing drainage system)	1.85	0.93	4.00	1.89	5.42	2.51	7.63	7.02

The grassed depression was sized to attenuate the discharge up to the 100-year storm event, which was the constraining factor on the design sizing of the depression. As a result, the design volume is far greater than the required Water Quality Volume storage capacity as calculated in accordance with Connecticut Department of Energy and Environmental Protection (DEEP) guidelines for stormwater discharge, and the Connecticut Stormwater Quality Manual (CTSWQM), which requires 100% of the first 1 inch of rainfall across the contributing area to be stored. As shown in

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the attached Water Quality Volume & Flow calculations worksheet, the required Water Quality Volume storage associated with the study area is 1,604 CF. The grassed depression as depicted on the revised drawings (submitted for this conservation review under separate cover) provides 12,604 CF of storage capacity.

The watershed analysis for the new development was completed using the HydroCAD Software Solutions computer program. The HydroCAD program runoff method selected for the watershed modeling is based on NRCS TR-20 methods. The methods described in the NRCS TR-55 manual were followed to calculate the curve number and time of concentration input data for this model. A curve number of CN 98 was used for all impervious surfaces. The pervious surfaces for the site were modeled using the prescribed curve number for good grass cover, CN 80. These values are associated with surfaces over Hydrological Group D soils per the NRCS TR-55 Drainage Manual. While it is expected that any ponded stormwater within the grassed depression will infiltrate into the native soils below within 24 – 72 hours after a rain event, no infiltration rate was applied to the model for the sizing of the grassed depression to provide a conservative analysis.

The output reports for the HydroCAD models for both the existing and new conditions are attached. These reports provide the information associated with the watershed characteristics, peak flow rates and volumes of discharge, rainfall data, and the storage capacity, peak ponding elevations, and outlet conditions for the grassed depression.

A plan was developed to establish erosion and sedimentation controls to stabilize the site during construction and protect receiving stormwater systems and off-site areas adjacent to the project. Designated stockpile areas, compost socks, silt sack inlet protection, and erosion control matting will be implemented and maintained to ensure proper site stabilization during construction.

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Conclusion

In conclusion, post-construction flows entering the existing drainage system will be reduced as a result of the incorporation of the grassed depression into the design to mitigate the addition of impervious area associated with the new paved access drive. The design provides a qualitative improvement to stormwater as well with the inclusion of the grassed depression to storm and infiltrate the WQV. Based on the results of the analysis described herein the project will not have an adverse impact on receiving watersheds or drainage systems. We are hopeful that this correspondence meets your requirements for the conservation review application and allows the project permitting process to continue forward towards obtaining an approval.

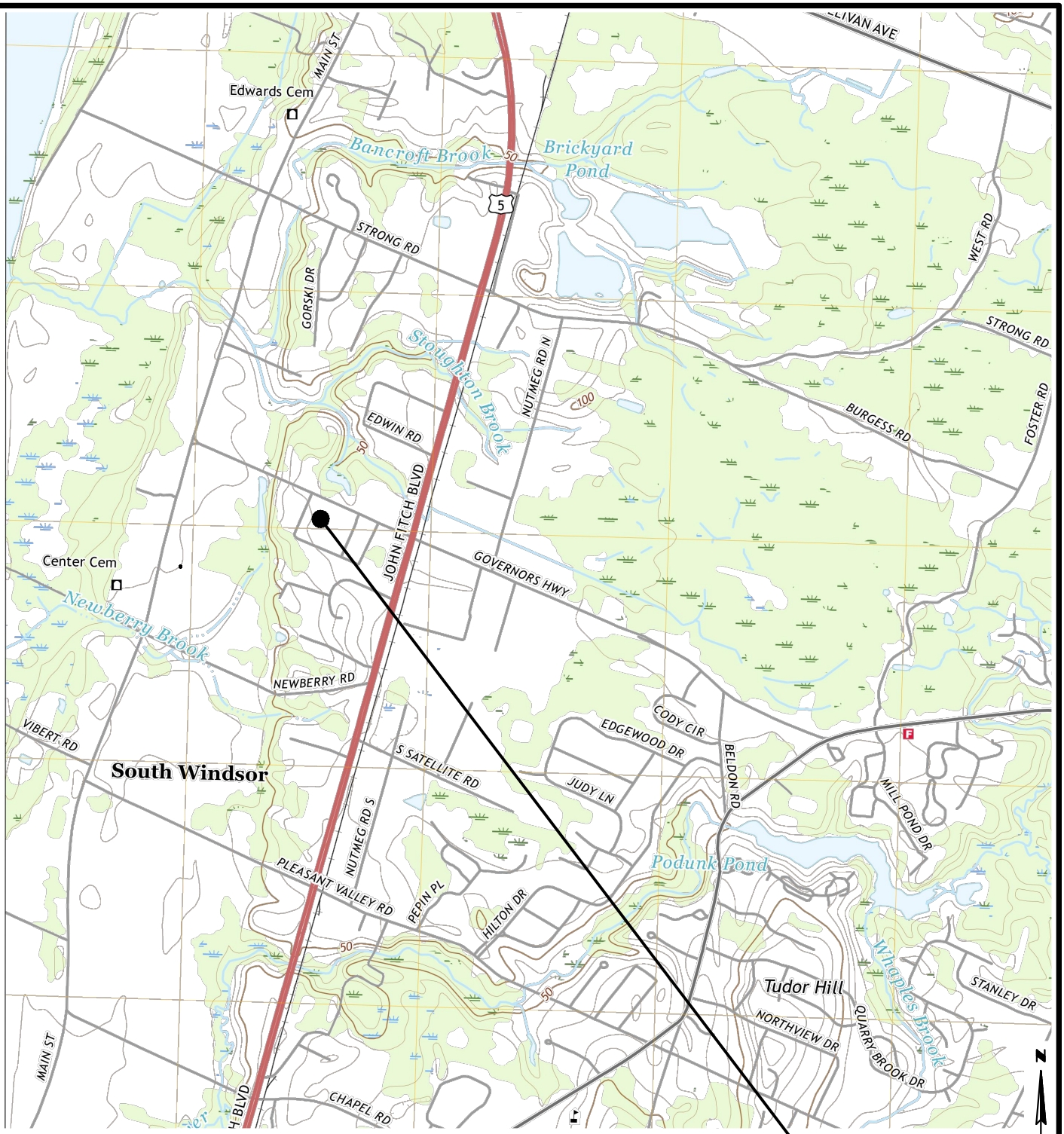
Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

Tristan Wallace, PE
Senior Project Manager

Attachments:

- USGS Site Location Map
- Watershed Area Maps
- Water Quality Flow & Volume Calculations
- HydroCAD Model Output Reports



MAP REFERENCE:
SECTION OF THE USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP FOR MANCHESTER, CT. MAP VERSION DATE 2021. USGS, THE NATIONAL MAP < https://viewer.nationalmap.gov/ >.

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SITE LOCATION MAP

SITE MODIFICATIONS
195 GOVERNOR'S HIGHWAY, SOUTH WINDSOR, CT
PREPARED FOR:
HYAXIOM - A DOOSAN COMPANY
195 GOVERNOR'S HIGHWAY, SOUTH WINDSOR, CT

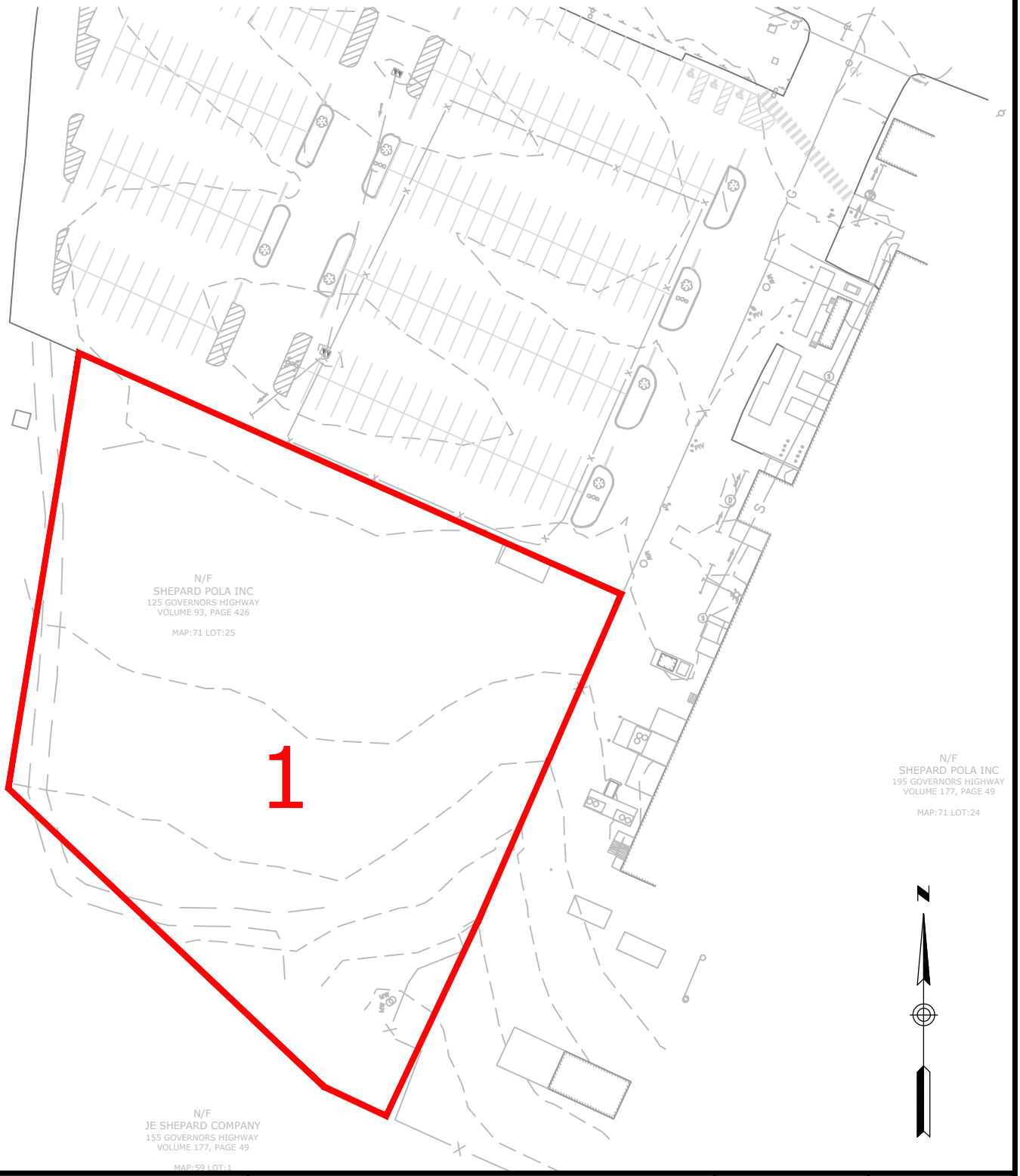
SCALE
1" = 2000'

COMM. NO.
024DF2.01

DATE
08/23/2022

FIGURE 1

V:\CT\SOUTH WINDSOR\GOVERNOR'S HIGHWAY - 195\SITE MODIFICATIONS 024DF2.01\DWGS\CIVIL\USGS.DWG Tab: F1 Saved: 8/23/2022 10:27 AM Plotted: 8/23/2022 10:28 AM



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EXISTING CONDITIONS WATERSHED MAP

195 GOVERNOR'S HIGHWAY
SITE MODIFICATIONS

PREPARED FOR:

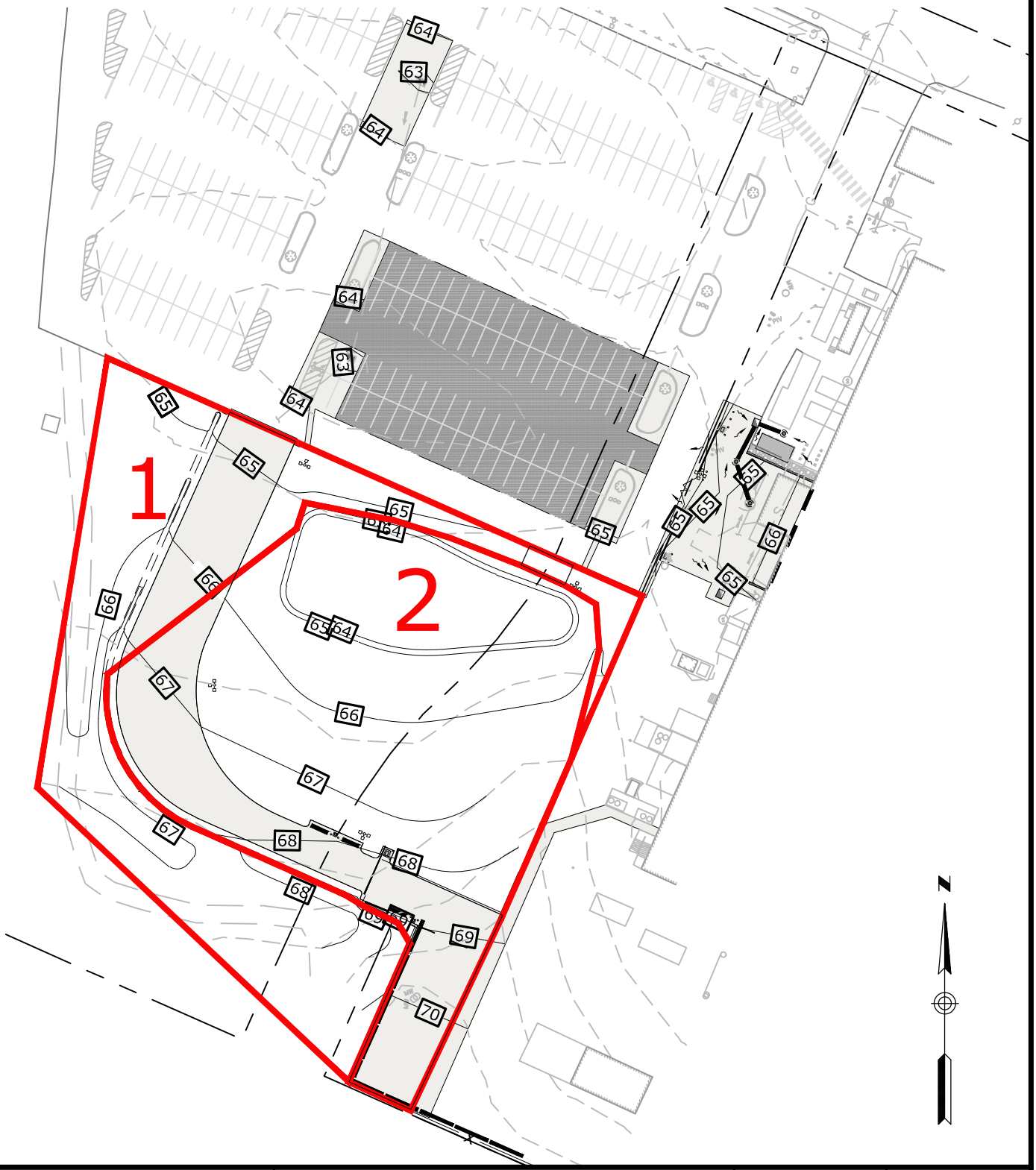
HYAXIOM - A DOOSAN COMPANY
195 GOVERNOR'S HIGHWAY, SOUTH WINDSOR, CT

SCALE
1" = 80'

COMM. NO.
024DF2.01

DATE
8/23/2022

FIGURE 2



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PROPOSED CONDITIONS WATERSHED MAP

195 GOVERNOR'S HIGHWAY SITE MODIFICATIONS

PREPARED FOR:

HYAXIOM - A DOOSAN COMPANY

195 GOVERNOR'S HIGHWAY, SOUTH WINDSOR, CT

SCALE
1" = 80'

COMM. NO.
024DF2.01

DATE
8/23/2022

FIGURE 3

V:\CT\SOUTH WINDSOR\GOVERNOR'S HIGHWAY - 195\SITE MODIFICATIONS 024DF2.01\DWGS\CIVIL\NON PLANSET DWG\DRAINAGE AREAS.DWG Tab: FIG 3 Saved: 8/23/2022 11:52 AM Plotted: 8/23/2022 12:00 PM

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Project:	195 Governor's Highway Site Modifications		
Calculated By:	Tim Griffing	**Date:**	**08/23/22**
Checked By:	Tristan Wallace	**Date:**	**08/23/22**

Water Quality Volume and Water Quality Flow Worksheet

Watershed:	PR-1 & PR-2
Condition:	Proposed

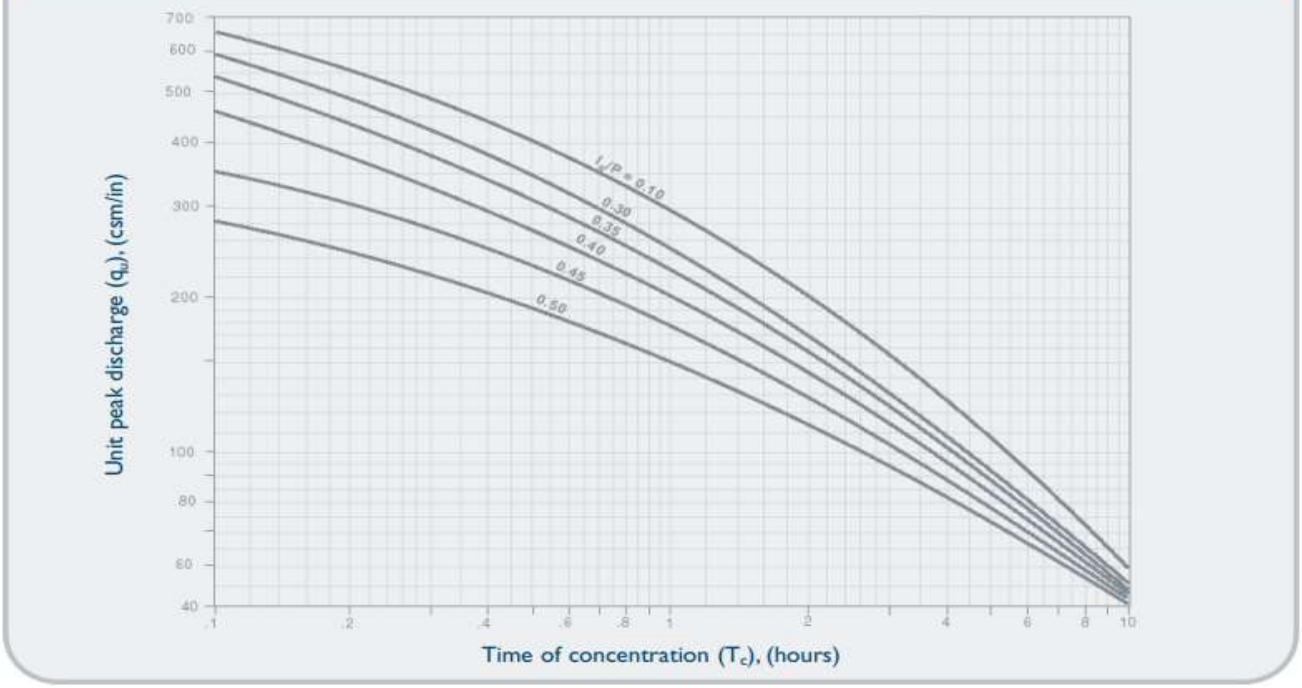
Water Quality Volume

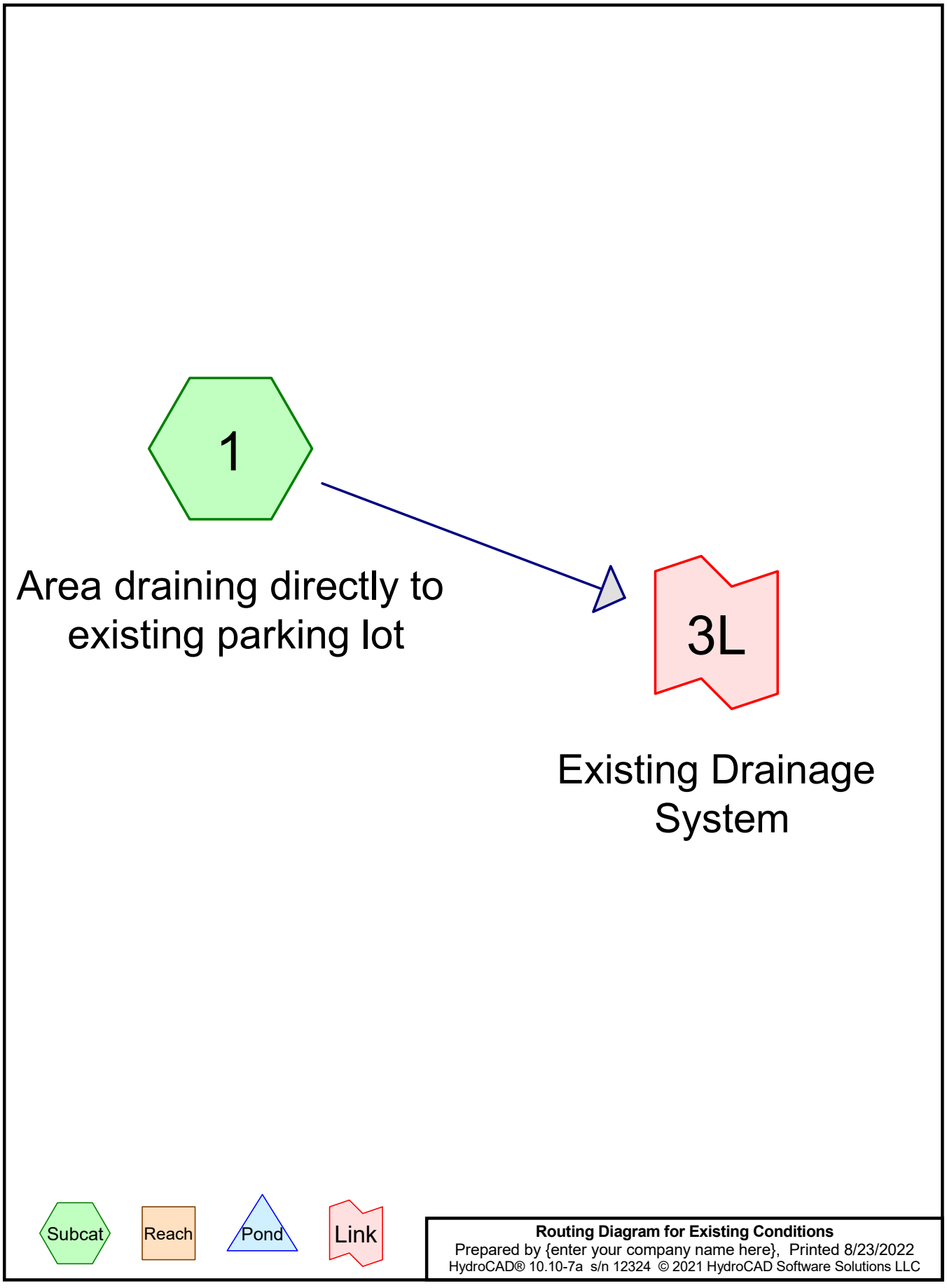
Design Precipitation, P:	1	*in*
Percent Impervious Cover, I:	21%	
Volumetric Runoff Coefficient, R:	*0.242*	
Area, A:	1.88	acres
Water Quality Volume, WQV:	***1,652***	C.F.

Water Quality Flow

Runoff Depth, Q:	*0.242*	*in*	
Runoff Curve Number, CN:	*88*		
Time of Concentration, Tc: (>=10 min)	10.0	*min*	
Time of Concentration, Tc:	0.167	*hr*	
Initial Abstraction, I_a:	*0.273*	*in*	
I_a/P:	*0.273*		
Unit Peak Discharge, q_u:	600	*csm/in*	(from Exhibit 4-111 below)
Area, A:	*0.00294*	mi^2	
Water Quality Flow, WQF:	***0.43***	*cfs*	

Exhibit 4-111 Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution




1
Area draining directly to existing parking lot
3L
Existing Drainage System
Subcat
Reach
Pond
Link
Routing Diagram for Existing Conditions
Prepared by {enter your company name here}, Printed 8/23/2022
HydroCAD® 10.10-7a s/n 12324 © 2021 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.11	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.94	2
3	25-YR	Type III 24-hr		Default	24.00	1	6.08	2
4	100-YR	Type III 24-hr		Default	24.00	1	7.84	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.851	80	>75% Grass cover, Good, HSG D (1)
0.029	98	Paved parking, HSG D (1)
1.881	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.881	HSG D	1
0.000	Other	
1.881		**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
0.000	0.000	0.000	1.851	0.000	1.851	>75% Grass cover, Good	1
0.000	0.000	0.000	0.029	0.000	0.029	Paved parking	1
0.000	**0.000**	**0.000**	**1.881**	**0.000**	**1.881**	**TOTAL AREA**	

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=81,923 sf 1.56% Impervious Runoff Depth=1.33"
Flow Length=343' Tc=22.6 min CN=80 Runoff=1.85 cfs 0.209 af

Link 3L: Existing Drainage System Inflow=1.85 cfs 0.209 af
Primary=1.85 cfs 0.209 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.209 af Average Runoff Depth = 1.33"
98.44% Pervious = 1.851 ac 1.56% Impervious = 0.029 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

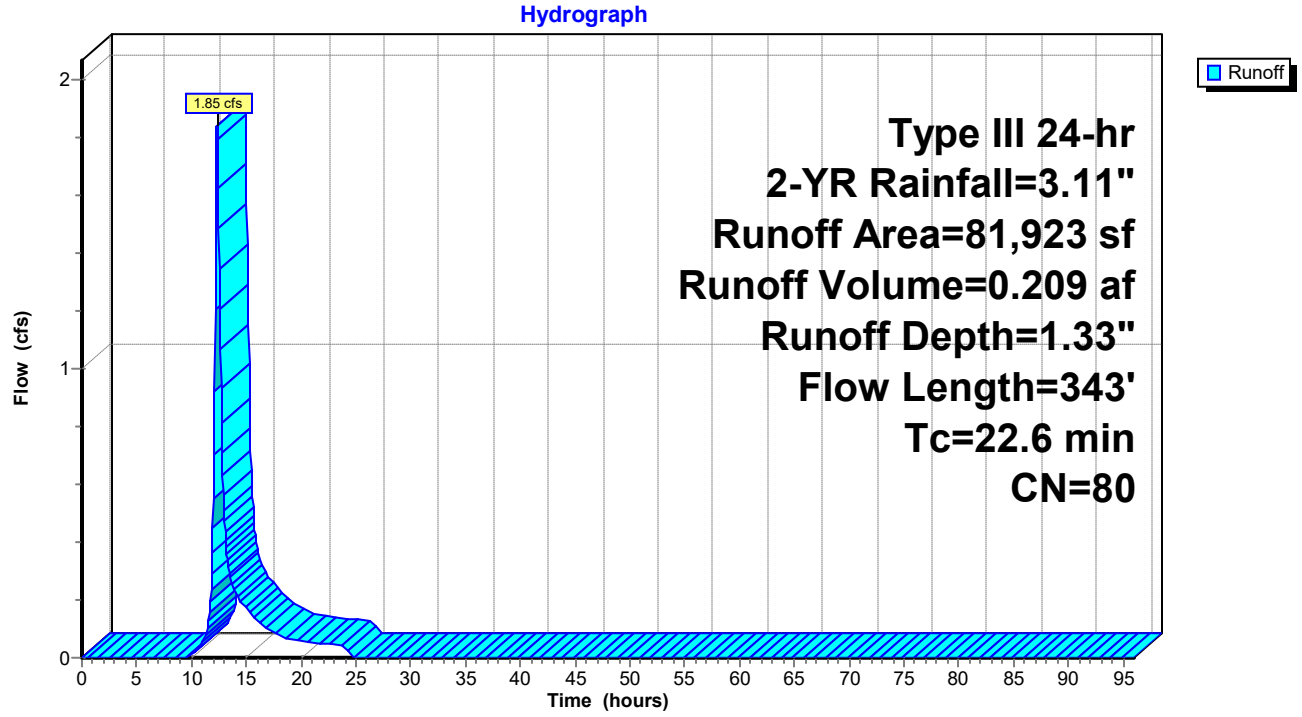
Runoff = 1.85 cfs @ 12.33 hrs, Volume= 0.209 af, Depth= 1.33"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.11"

Area (sf)	CN	Description
966	98	Paved parking, HSG D
316	98	Paved parking, HSG D
80,642	80	>75% Grass cover, Good, HSG D
81,923	80	Weighted Average
80,642		98.44% Pervious Area
1,281		1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	113	0.0270	0.19		**Sheet Flow, Sheet flow on grass** Grass: Short n= 0.150 P2= 3.11"
11.3	87	0.0110	0.13		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
1.6	143	0.0090	1.53		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
22.6	343	Total			

Subcatchment 1: Area draining directly to existing parking lot

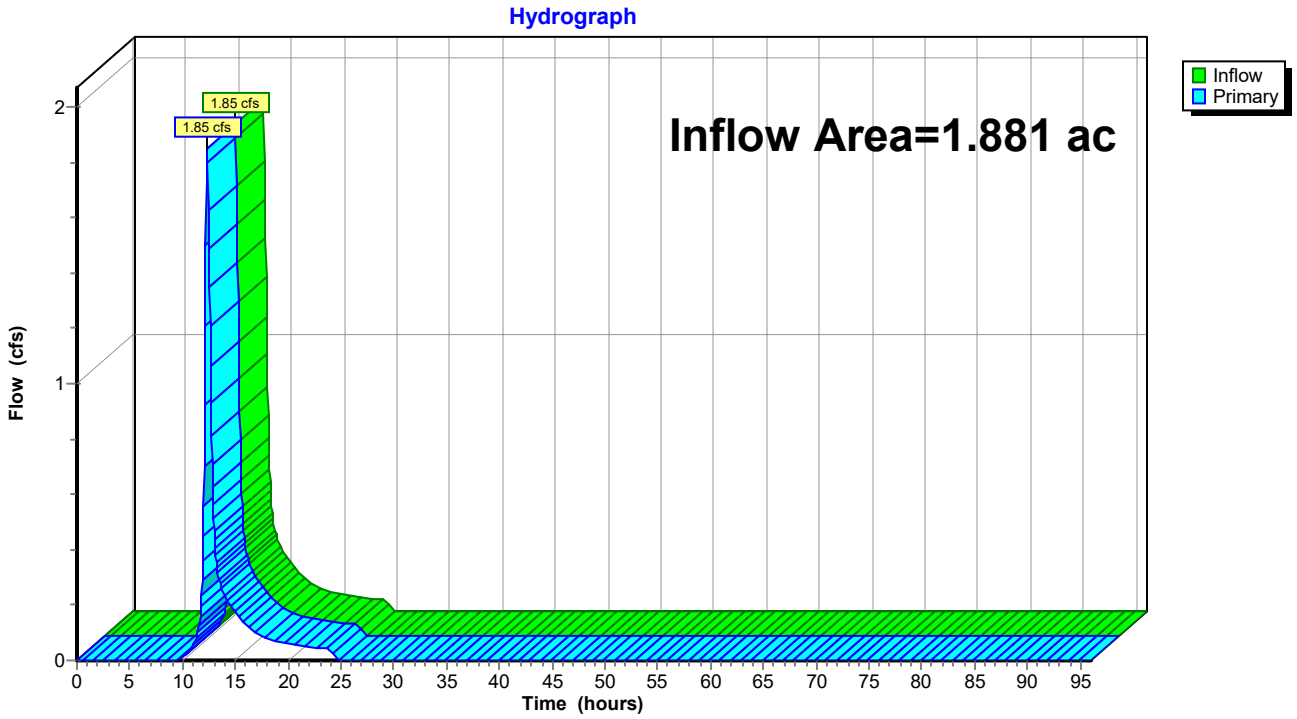


Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 1.56% Impervious, Inflow Depth = 1.33" for 2-YR event
Inflow = 1.85 cfs @ 12.33 hrs, Volume= 0.209 af
Primary = 1.85 cfs @ 12.33 hrs, Volume= 0.209 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=81,923 sf 1.56% Impervious Runoff Depth=2.84"
Flow Length=343' Tc=22.6 min CN=80 Runoff=4.00 cfs 0.445 af

Link 3L: Existing Drainage System Inflow=4.00 cfs 0.445 af
Primary=4.00 cfs 0.445 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.445 af Average Runoff Depth = 2.84"
98.44% Pervious = 1.851 ac 1.56% Impervious = 0.029 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

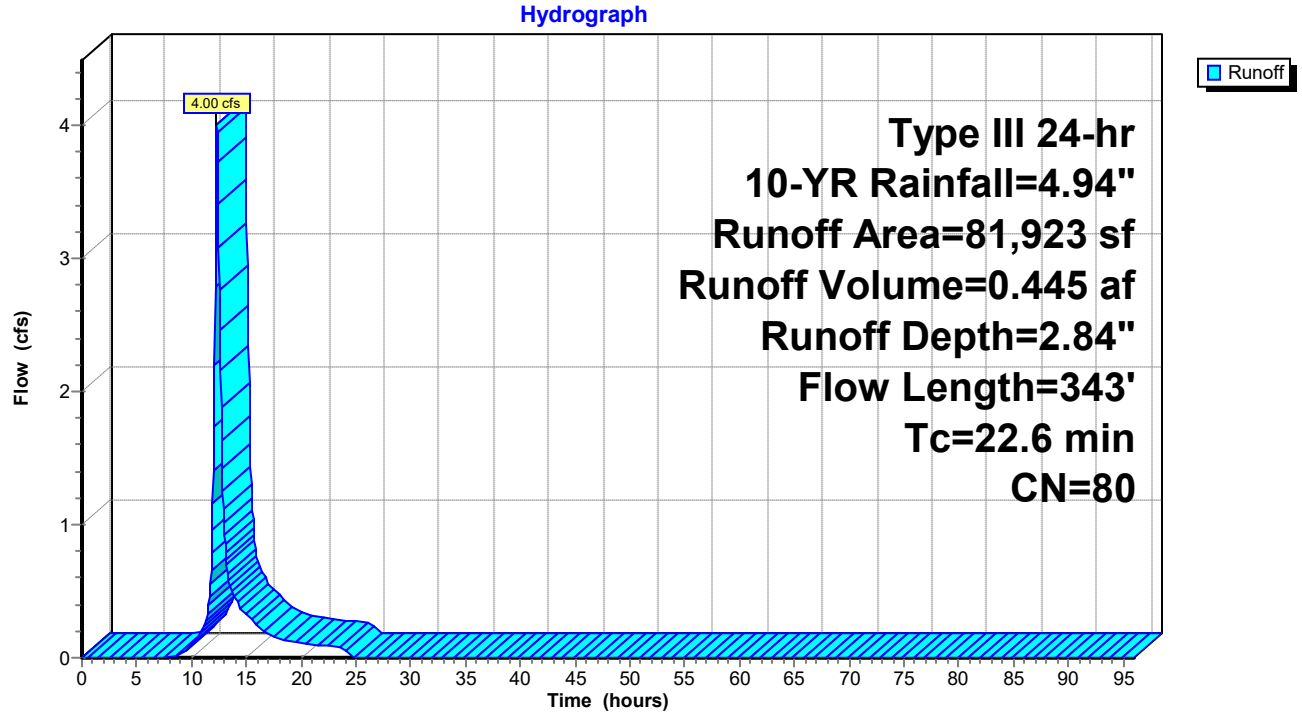
Runoff = 4.00 cfs @ 12.31 hrs, Volume= 0.445 af, Depth= 2.84"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.94"

Area (sf)	CN	Description
966	98	Paved parking, HSG D
316	98	Paved parking, HSG D
80,642	80	>75% Grass cover, Good, HSG D
81,923	80	Weighted Average
80,642		98.44% Pervious Area
1,281		1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	113	0.0270	0.19		**Sheet Flow, Sheet flow on grass** Grass: Short n= 0.150 P2= 3.11"
11.3	87	0.0110	0.13		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
1.6	143	0.0090	1.53		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
22.6	343	Total			

Subcatchment 1: Area draining directly to existing parking lot

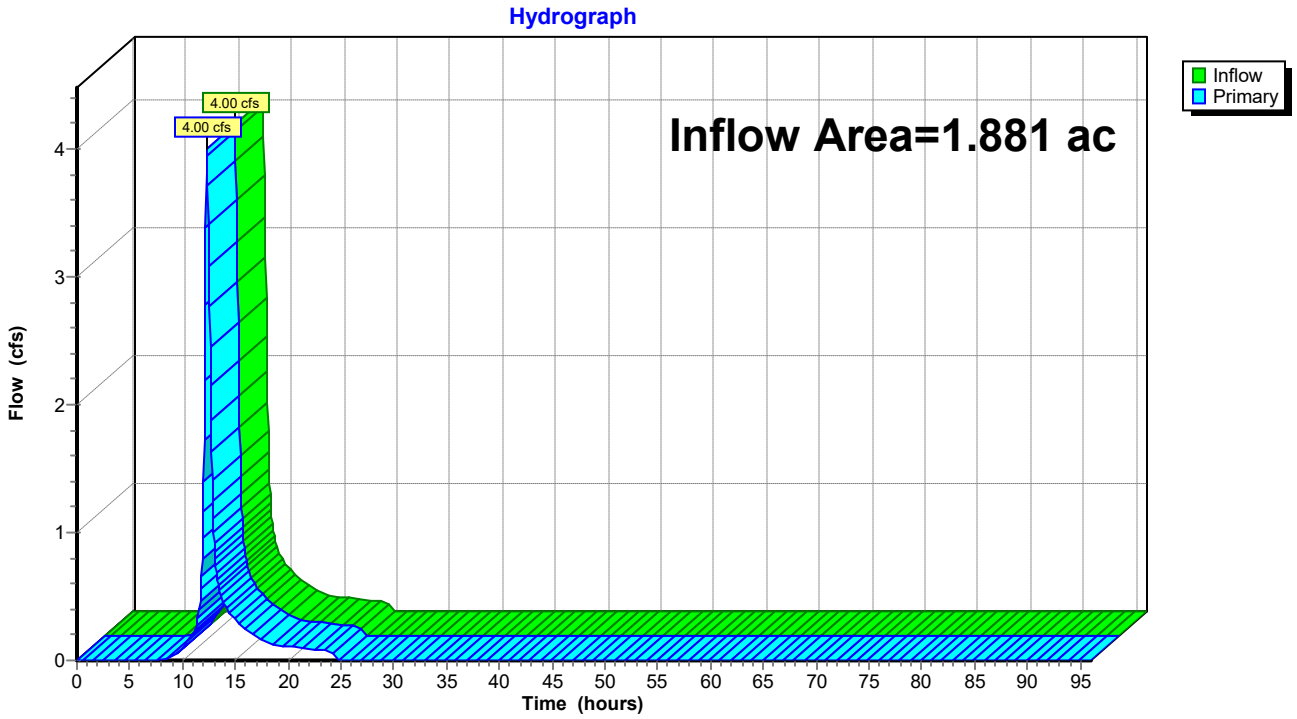


Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 1.56% Impervious, Inflow Depth = 2.84" for 10-YR event
Inflow = 4.00 cfs @ 12.31 hrs, Volume= 0.445 af
Primary = 4.00 cfs @ 12.31 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=81,923 sf 1.56% Impervious Runoff Depth=3.85"
Flow Length=343' Tc=22.6 min CN=80 Runoff=5.42 cfs 0.604 af

Link 3L: Existing Drainage System Inflow=5.42 cfs 0.604 af
Primary=5.42 cfs 0.604 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.604 af Average Runoff Depth = 3.85"
98.44% Pervious = 1.851 ac 1.56% Impervious = 0.029 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

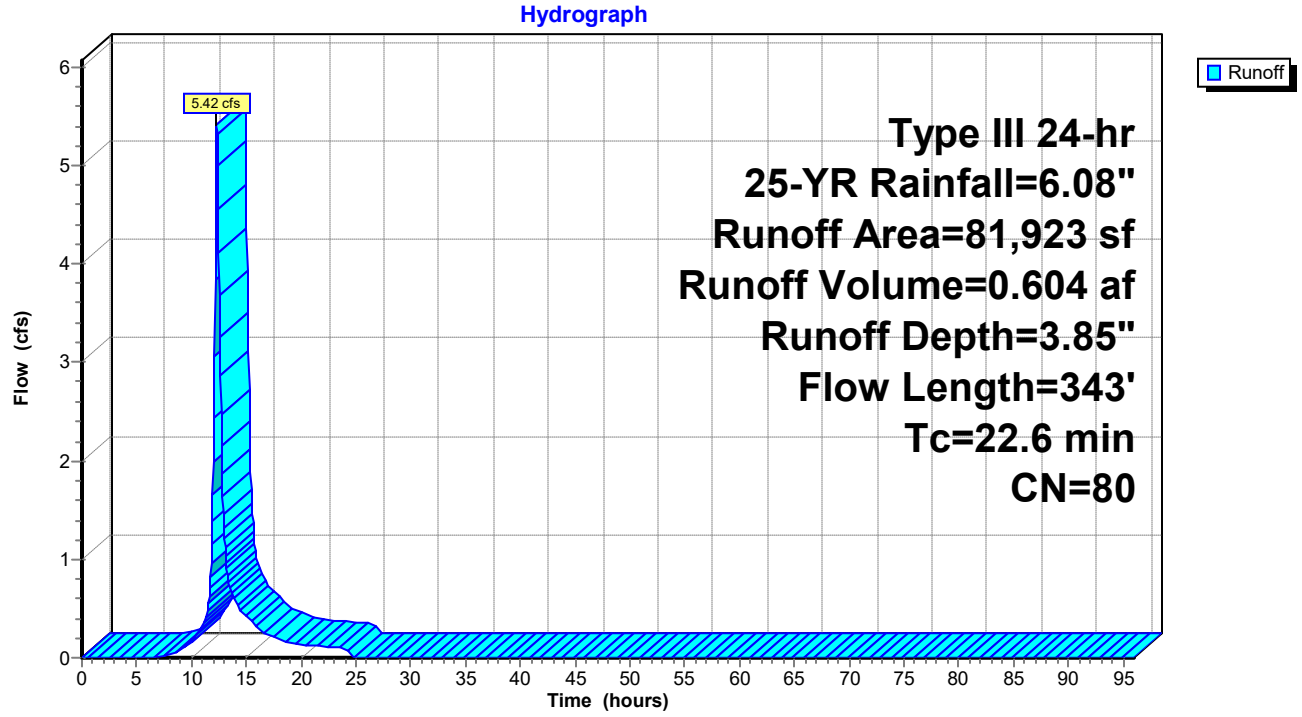
Runoff = 5.42 cfs @ 12.31 hrs, Volume= 0.604 af, Depth= 3.85"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=6.08"

Area (sf)	CN	Description
966	98	Paved parking, HSG D
316	98	Paved parking, HSG D
80,642	80	>75% Grass cover, Good, HSG D
81,923	80	Weighted Average
80,642		98.44% Pervious Area
1,281		1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	113	0.0270	0.19		**Sheet Flow, Sheet flow on grass** Grass: Short n= 0.150 P2= 3.11"
11.3	87	0.0110	0.13		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
1.6	143	0.0090	1.53		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
22.6	343	Total			

Subcatchment 1: Area draining directly to existing parking lot

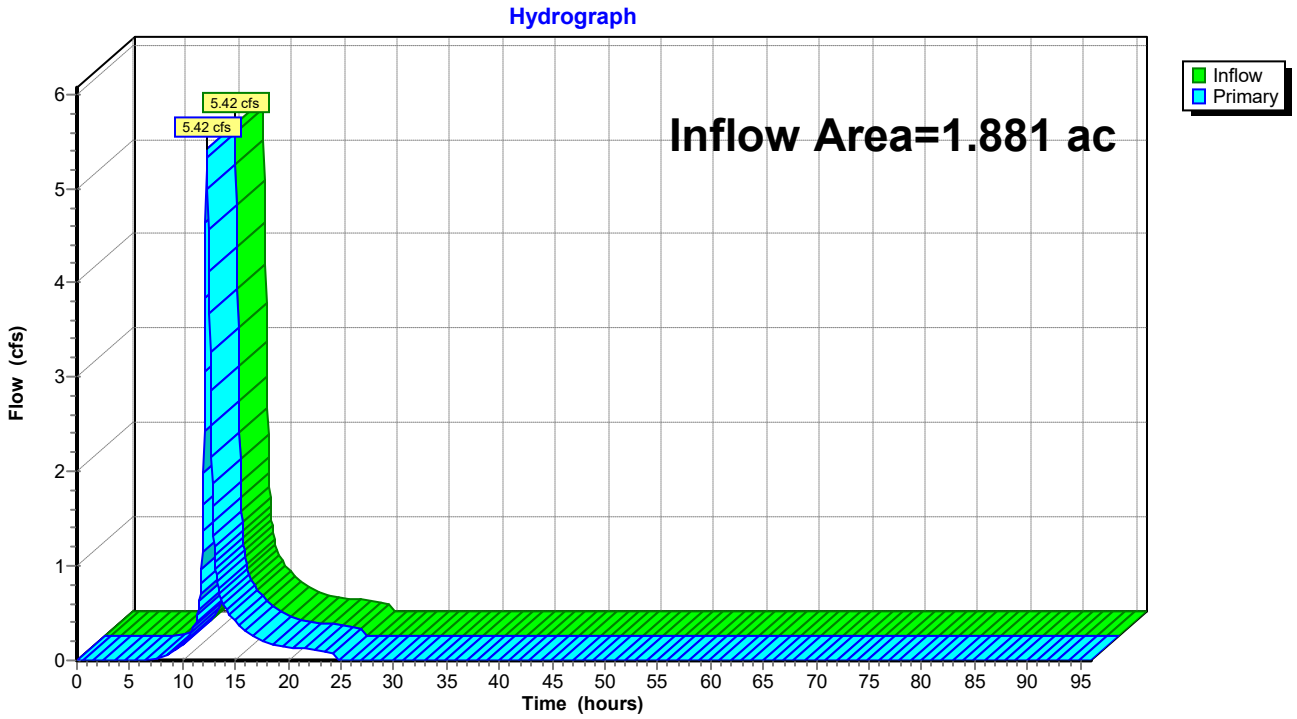


Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 1.56% Impervious, Inflow Depth = 3.85" for 25-YR event
Inflow = 5.42 cfs @ 12.31 hrs, Volume= 0.604 af
Primary = 5.42 cfs @ 12.31 hrs, Volume= 0.604 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=81,923 sf 1.56% Impervious Runoff Depth=5.48"
Flow Length=343' Tc=22.6 min CN=80 Runoff=7.63 cfs 0.858 af

Link 3L: Existing Drainage System Inflow=7.63 cfs 0.858 af
Primary=7.63 cfs 0.858 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.858 af Average Runoff Depth = 5.48"
98.44% Pervious = 1.851 ac 1.56% Impervious = 0.029 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

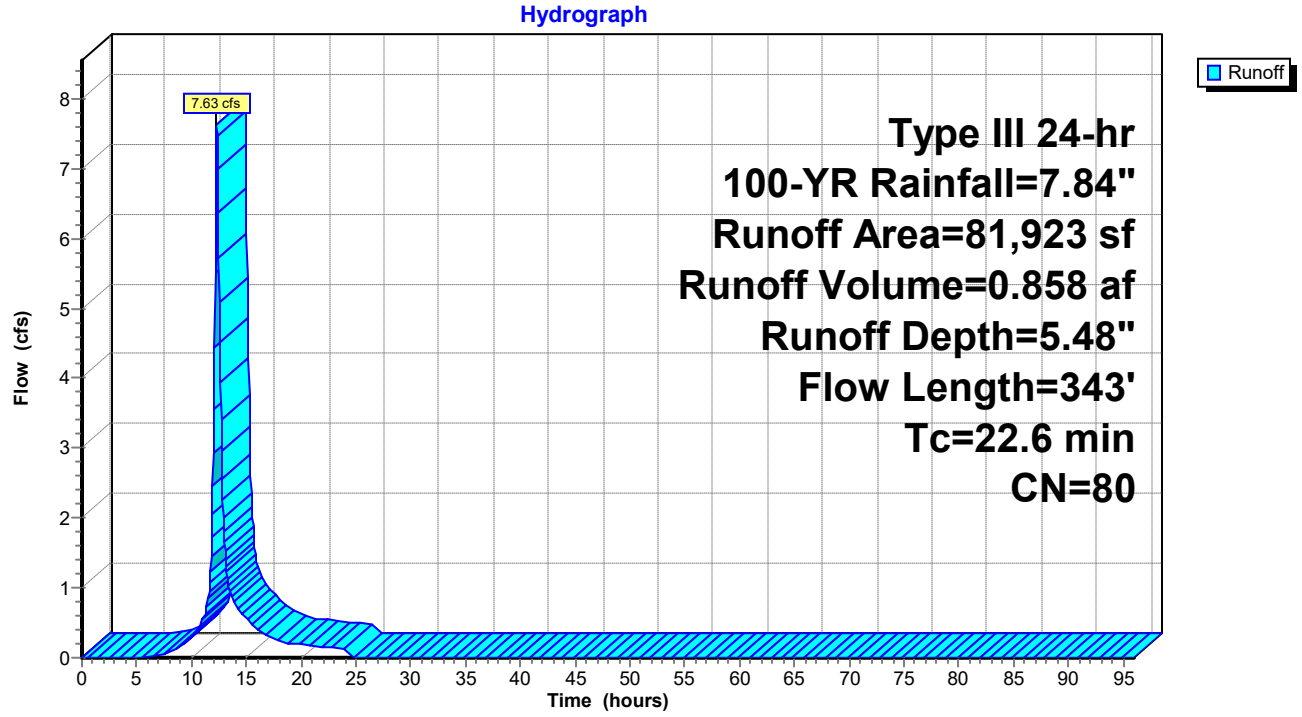
Runoff = 7.63 cfs @ 12.31 hrs, Volume= 0.858 af, Depth= 5.48"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=7.84"

Area (sf)	CN	Description
966	98	Paved parking, HSG D
316	98	Paved parking, HSG D
80,642	80	>75% Grass cover, Good, HSG D
81,923	80	Weighted Average
80,642		98.44% Pervious Area
1,281		1.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	113	0.0270	0.19		**Sheet Flow, Sheet flow on grass** Grass: Short n= 0.150 P2= 3.11"
11.3	87	0.0110	0.13		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
1.6	143	0.0090	1.53		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
22.6	343	Total			

Subcatchment 1: Area draining directly to existing parking lot

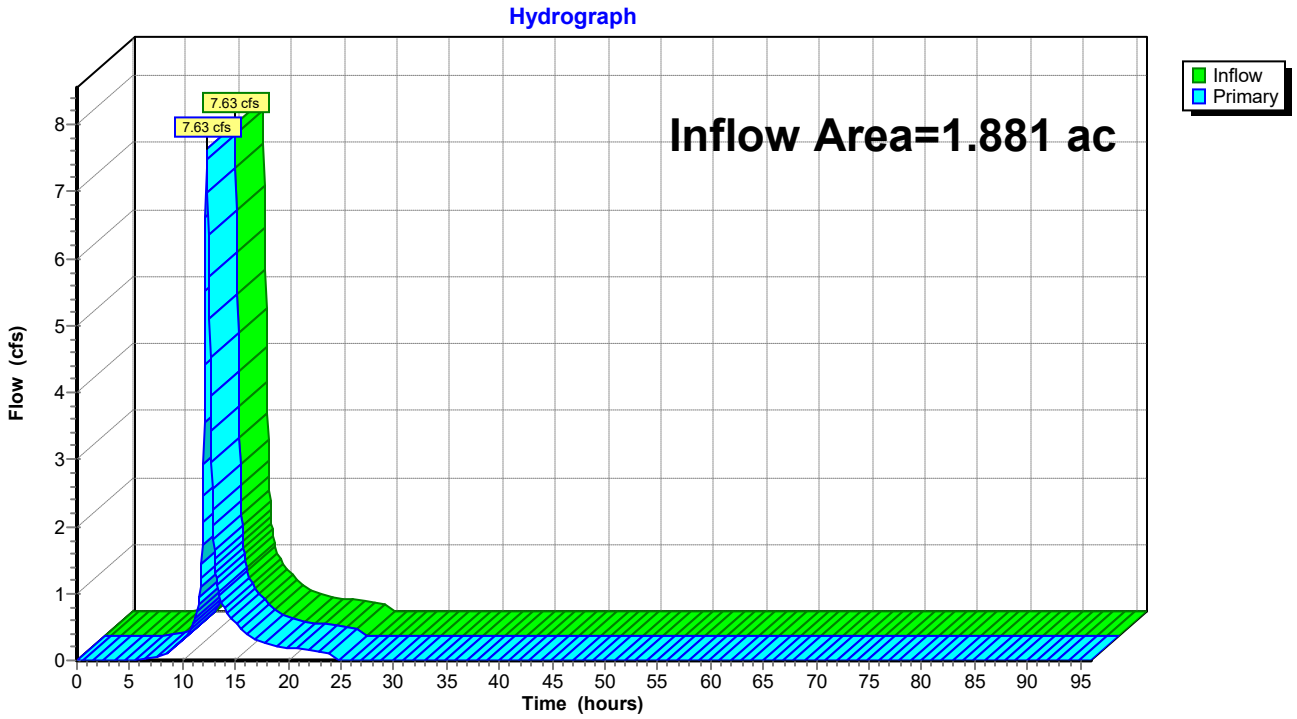


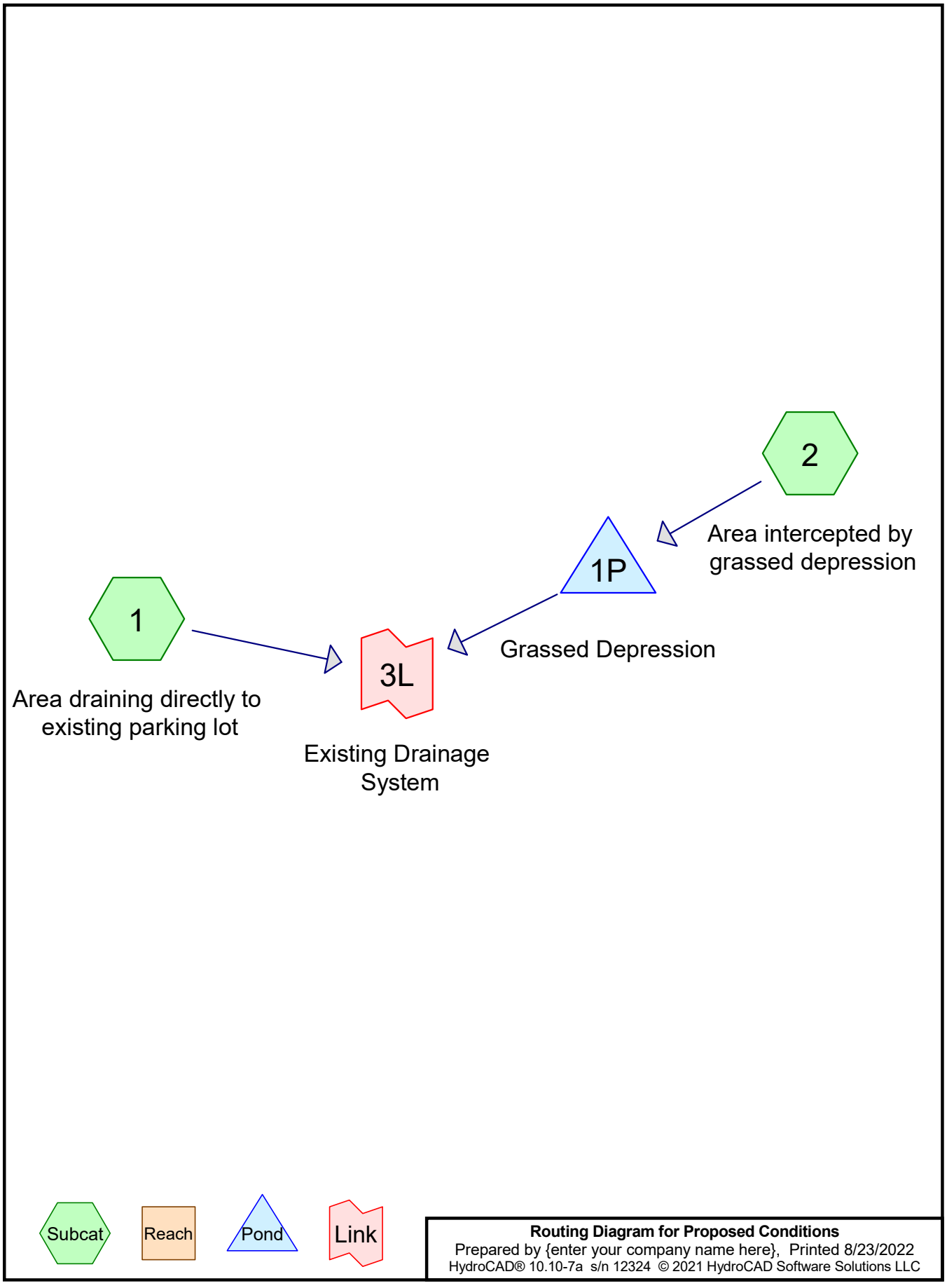
Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 1.56% Impervious, Inflow Depth = 5.48" for 100-YR event
Inflow = 7.63 cfs @ 12.31 hrs, Volume= 0.858 af
Primary = 7.63 cfs @ 12.31 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System





Routing Diagram for Proposed Conditions
Prepared by {enter your company name here}, Printed 8/23/2022

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-YR	Type III 24-hr		Default	24.00	1	3.11	2
2	10-YR	Type III 24-hr		Default	24.00	1	4.94	2
3	25-YR	Type III 24-hr		Default	24.00	1	6.08	2
4	100-YR	Type III 24-hr		Default	24.00	1	7.84	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.479	80	>75% Grass cover, Good, HSG D (1, 2)
0.401	98	Paved parking, HSG D (1, 2)
1.881	**84**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
1.881	HSG D	1, 2
0.000	Other	
1.881		**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
0.000	0.000	0.000	1.479	0.000	1.479	>75% Grass cover, Good	1, 2
0.000	0.000	0.000	0.401	0.000	0.401	Paved parking	1, 2
0.000	**0.000**	**0.000**	**1.881**	**0.000**	**1.881**	**TOTAL AREA**	

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=33,243 sf 15.31% Impervious Runoff Depth=1.54"
Flow Length=428' Tc=19.6 min CN=83 Runoff=0.93 cfs 0.098 af

Subcatchment 2: Area intercepted by Runoff Area=48,679 sf 25.46% Impervious Runoff Depth=1.68"
Flow Length=257' Tc=8.9 min CN=85 Runoff=1.95 cfs 0.157 af

Pond 1P: Grassed Depression Peak Elev=64.83' Storage=6,819 cf Inflow=1.95 cfs 0.157 af
Outflow=0.00 cfs 0.000 af

Link 3L: Existing Drainage System Inflow=0.93 cfs 0.098 af
Primary=0.93 cfs 0.098 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.254 af Average Runoff Depth = 1.62"
78.66% Pervious = 1.479 ac 21.34% Impervious = 0.401 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

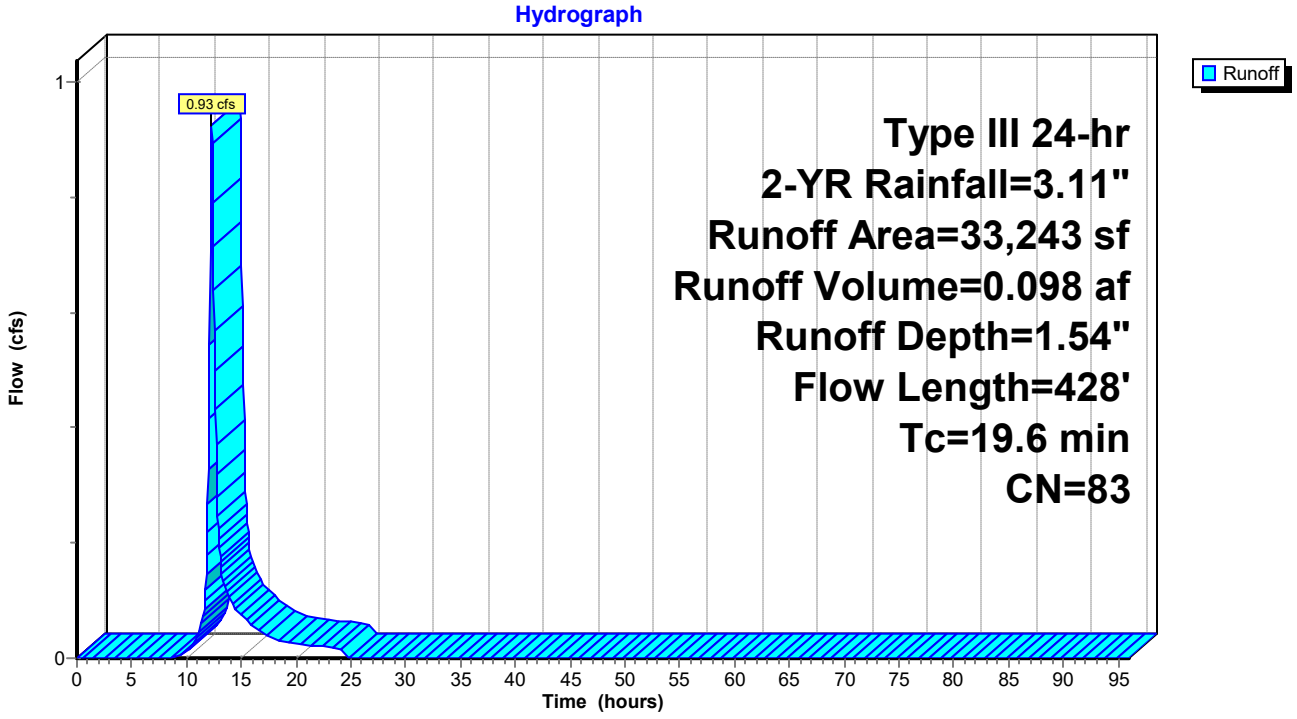
Runoff = 0.93 cfs @ 12.28 hrs, Volume= 0.098 af, Depth= 1.54"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.11"

Area (sf)	CN	Description
4,744	80	>75% Grass cover, Good, HSG D
23,409	80	>75% Grass cover, Good, HSG D
316	98	Paved parking, HSG D
4,774	98	Paved parking, HSG D
33,243	83	Weighted Average
28,153		84.69% Pervious Area
5,090		15.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	198	0.0200	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
2.4	230	0.0100	1.61		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
19.6	428	Total			

Subcatchment 1: Area draining directly to existing parking lot



Summary for Subcatchment 2: Area intercepted by grassed depression

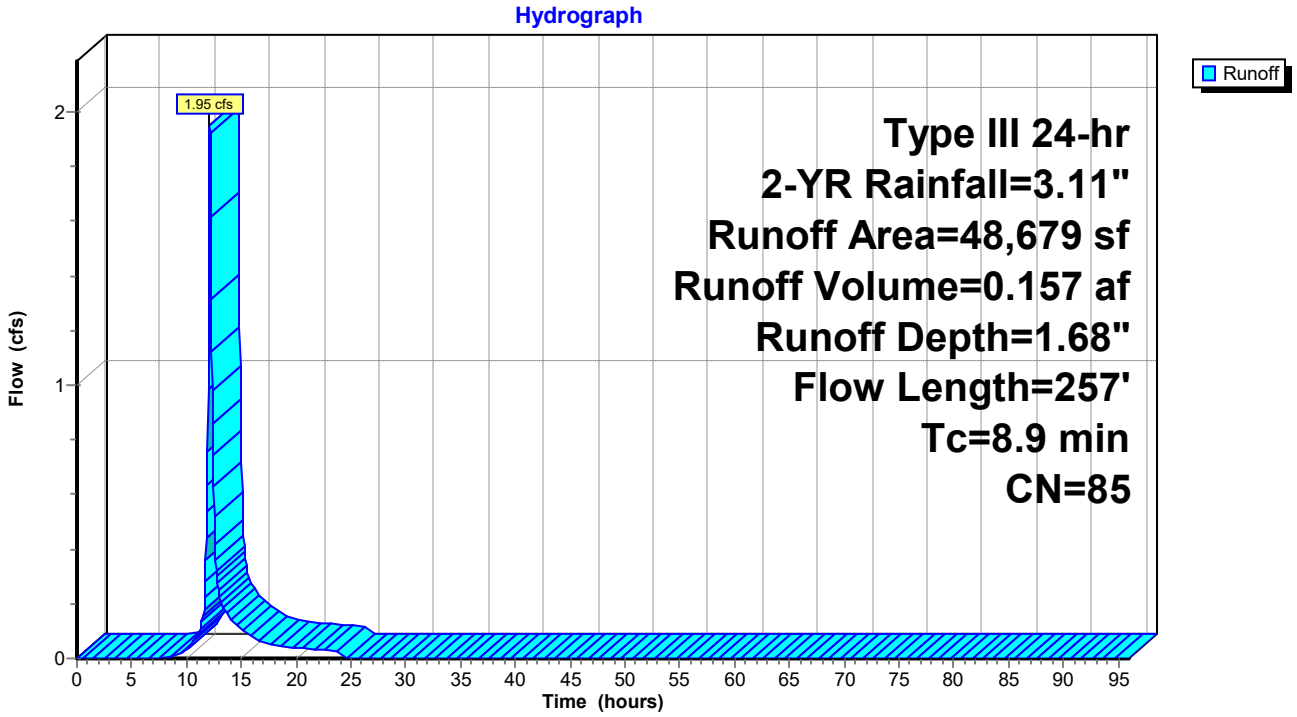
Runoff = 1.95 cfs @ 12.13 hrs, Volume= 0.157 af, Depth= 1.68"
Routed to Pond 1P : Grassed Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.11"

Area (sf)	CN	Description
1,291	80	>75% Grass cover, Good, HSG D
34,977	80	>75% Grass cover, Good, HSG D
12	80	>75% Grass cover, Good, HSG D
5	80	>75% Grass cover, Good, HSG D
12,394	98	Paved parking, HSG D
48,679	85	Weighted Average
36,285		74.54% Pervious Area
12,394		25.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	120	0.0230	1.49		**Sheet Flow, Sheet flow across pavement** Smooth surfaces n= 0.011 P2= 3.11"
7.2	80	0.0290	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
0.4	57	0.0220	2.39		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
8.9	257	Total			

Subcatchment 2: Area intercepted by grassed depression



Summary for Pond 1P: Grassed Depression

Inflow Area = 1.118 ac, 25.46% Impervious, Inflow Depth = 1.68" for 2-YR event
Inflow = 1.95 cfs @ 12.13 hrs, Volume= 0.157 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 3L : Existing Drainage System

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 64.83' @ 24.55 hrs Surf.Area= 8,731 sf Storage= 6,819 cf
Flood Elev= 65.40' Surf.Area= 12,366 sf Storage= 12,604 cf

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

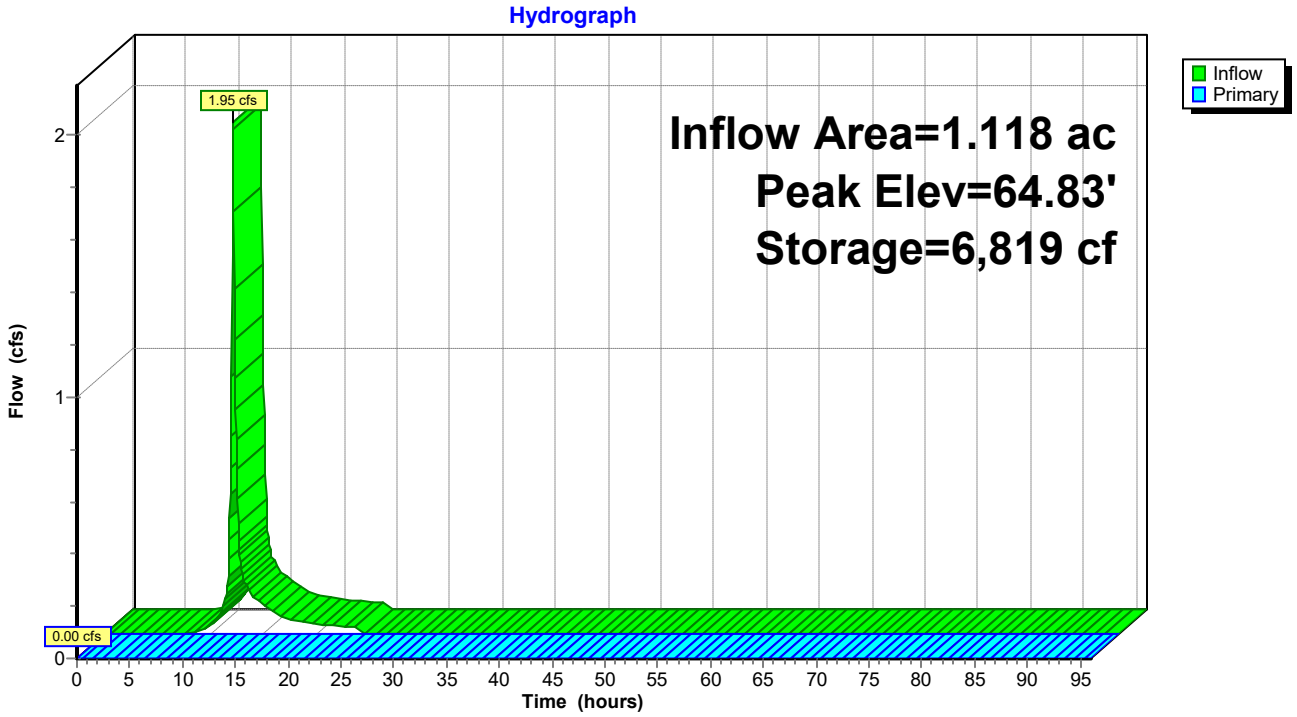
Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	12,604 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	7,752	0	0
65.00	8,935	8,344	8,344
65.40	12,366	4,260	12,604

Device	Routing	Invert	Outlet Devices
#1	Primary	65.30'	**94.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=64.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Grassed Depression

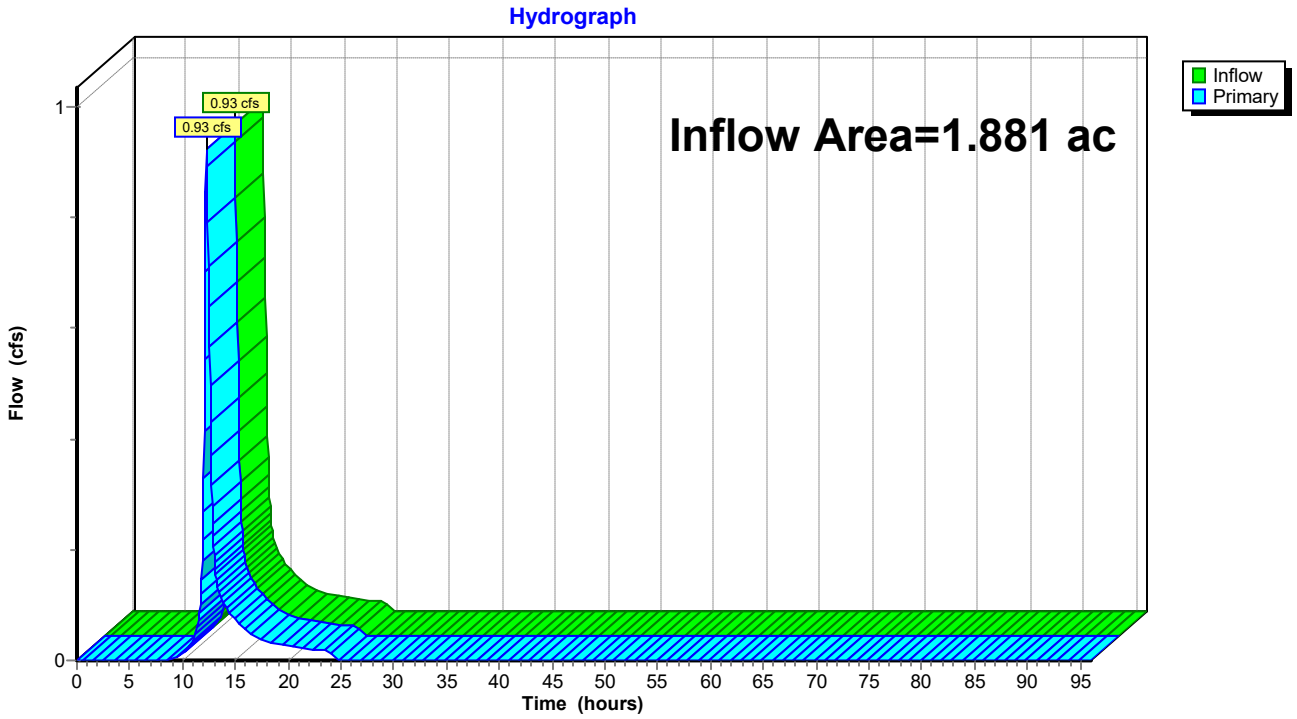


Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 21.34% Impervious, Inflow Depth = 0.62" for 2-YR event
Inflow = 0.93 cfs @ 12.28 hrs, Volume= 0.098 af
Primary = 0.93 cfs @ 12.28 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=33,243 sf 15.31% Impervious Runoff Depth=3.12"
Flow Length=428' Tc=19.6 min CN=83 Runoff=1.89 cfs 0.198 af

Subcatchment 2: Area intercepted by Runoff Area=48,679 sf 25.46% Impervious Runoff Depth=3.31"
Flow Length=257' Tc=8.9 min CN=85 Runoff=3.84 cfs 0.308 af

Pond 1P: Grassed Depression Peak Elev=65.30' Storage=11,464 cf Inflow=3.84 cfs 0.308 af
Outflow=0.12 cfs 0.047 af

Link 3L: Existing Drainage System Inflow=1.89 cfs 0.245 af
Primary=1.89 cfs 0.245 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.507 af Average Runoff Depth = 3.23"
78.66% Pervious = 1.479 ac 21.34% Impervious = 0.401 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

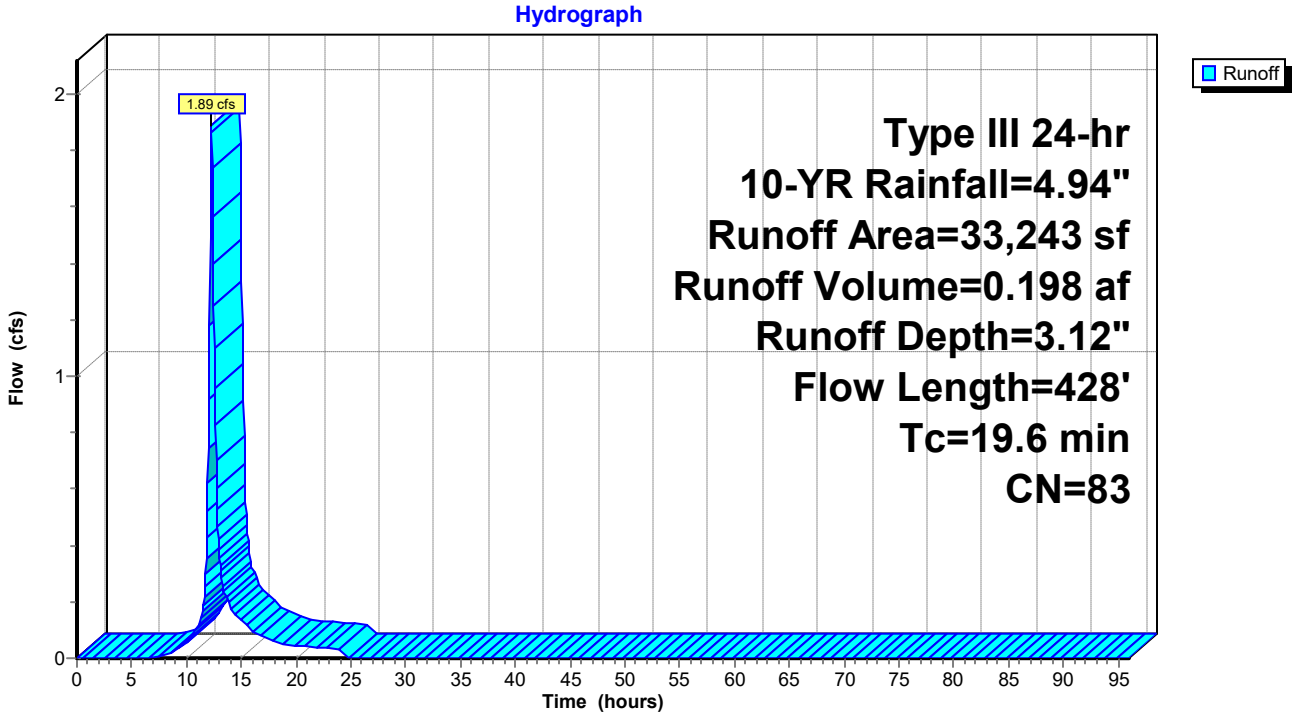
Runoff = 1.89 cfs @ 12.27 hrs, Volume= 0.198 af, Depth= 3.12"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.94"

Area (sf)	CN	Description
4,744	80	>75% Grass cover, Good, HSG D
23,409	80	>75% Grass cover, Good, HSG D
316	98	Paved parking, HSG D
4,774	98	Paved parking, HSG D
33,243	83	Weighted Average
28,153		84.69% Pervious Area
5,090		15.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	198	0.0200	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
2.4	230	0.0100	1.61		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
19.6	428	Total			

Subcatchment 1: Area draining directly to existing parking lot



Summary for Subcatchment 2: Area intercepted by grassed depression

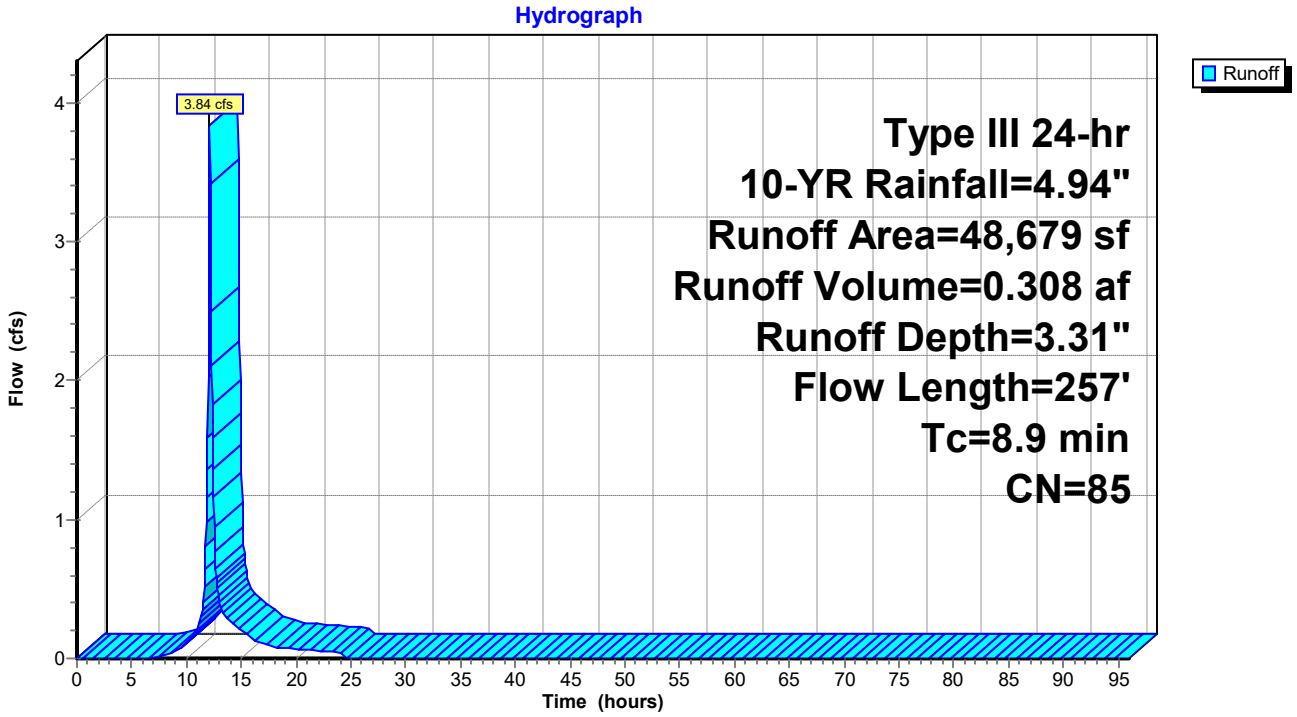
Runoff = 3.84 cfs @ 12.12 hrs, Volume= 0.308 af, Depth= 3.31"
Routed to Pond 1P : Grassed Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.94"

Area (sf)	CN	Description
1,291	80	>75% Grass cover, Good, HSG D
34,977	80	>75% Grass cover, Good, HSG D
12	80	>75% Grass cover, Good, HSG D
5	80	>75% Grass cover, Good, HSG D
12,394	98	Paved parking, HSG D
48,679	85	Weighted Average
36,285		74.54% Pervious Area
12,394		25.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	120	0.0230	1.49		**Sheet Flow, Sheet flow across pavement** Smooth surfaces n= 0.011 P2= 3.11"
7.2	80	0.0290	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
0.4	57	0.0220	2.39		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
8.9	257	Total			

Subcatchment 2: Area intercepted by grassed depression



Summary for Pond 1P: Grassed Depression

Inflow Area = 1.118 ac, 25.46% Impervious, Inflow Depth = 3.31" for 10-YR event
Inflow = 3.84 cfs @ 12.12 hrs, Volume= 0.308 af
Outflow = 0.12 cfs @ 16.68 hrs, Volume= 0.047 af, Atten= 97%, Lag= 273.4 min
Primary = 0.12 cfs @ 16.68 hrs, Volume= 0.047 af
Routed to Link 3L : Existing Drainage System

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 65.30' @ 16.68 hrs Surf.Area= 11,549 sf Storage= 11,464 cf
Flood Elev= 65.40' Surf.Area= 12,366 sf Storage= 12,604 cf

Plug-Flow detention time= 548.8 min calculated for 0.047 af (15% of inflow)
Center-of-Mass det. time= 371.9 min (1,182.6 - 810.7)

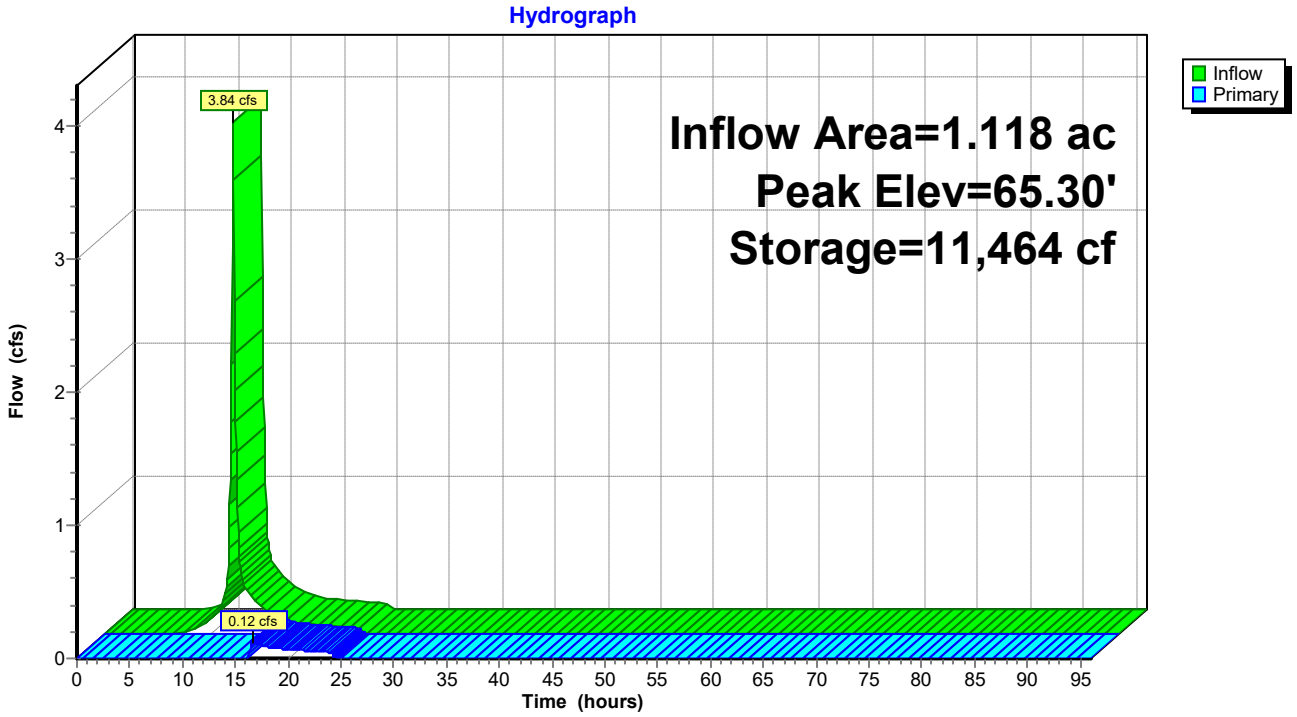
Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	12,604 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	7,752	0	0
65.00	8,935	8,344	8,344
65.40	12,366	4,260	12,604

Device	Routing	Invert	Outlet Devices
#1	Primary	65.30'	**94.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.08 cfs @ 16.68 hrs HW=65.30' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.08 cfs @ 0.18 fps)

Pond 1P: Grassed Depression

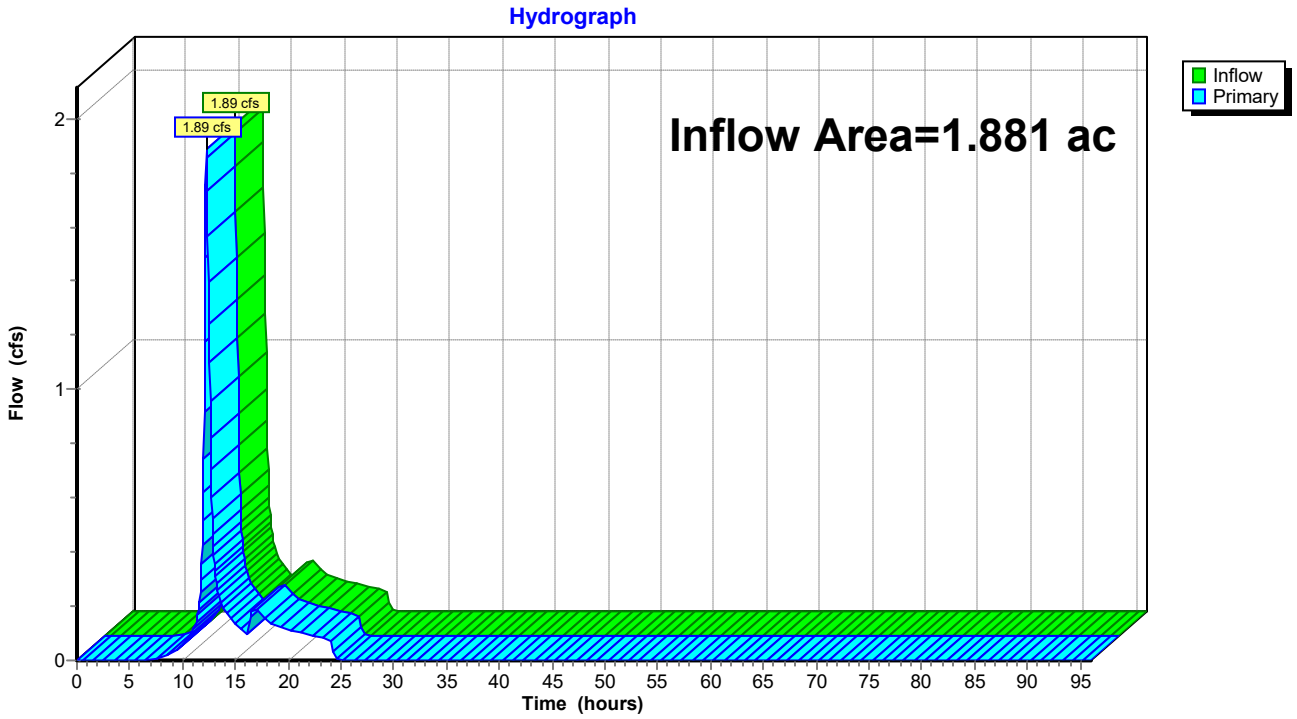


Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 21.34% Impervious, Inflow Depth = 1.56" for 10-YR event
Inflow = 1.89 cfs @ 12.27 hrs, Volume= 0.245 af
Primary = 1.89 cfs @ 12.27 hrs, Volume= 0.245 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=33,243 sf 15.31% Impervious Runoff Depth=4.17"
Flow Length=428' Tc=19.6 min CN=83 Runoff=2.51 cfs 0.265 af

Subcatchment 2: Area intercepted by Runoff Area=48,679 sf 25.46% Impervious Runoff Depth=4.38"
Flow Length=257' Tc=8.9 min CN=85 Runoff=5.03 cfs 0.408 af

Pond 1P: Grassed Depression Peak Elev=65.32' Storage=11,590 cf Inflow=5.03 cfs 0.408 af
Outflow=0.50 cfs 0.146 af

Link 3L: Existing Drainage System Inflow=2.51 cfs 0.411 af
Primary=2.51 cfs 0.411 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.673 af Average Runoff Depth = 4.29"
78.66% Pervious = 1.479 ac 21.34% Impervious = 0.401 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

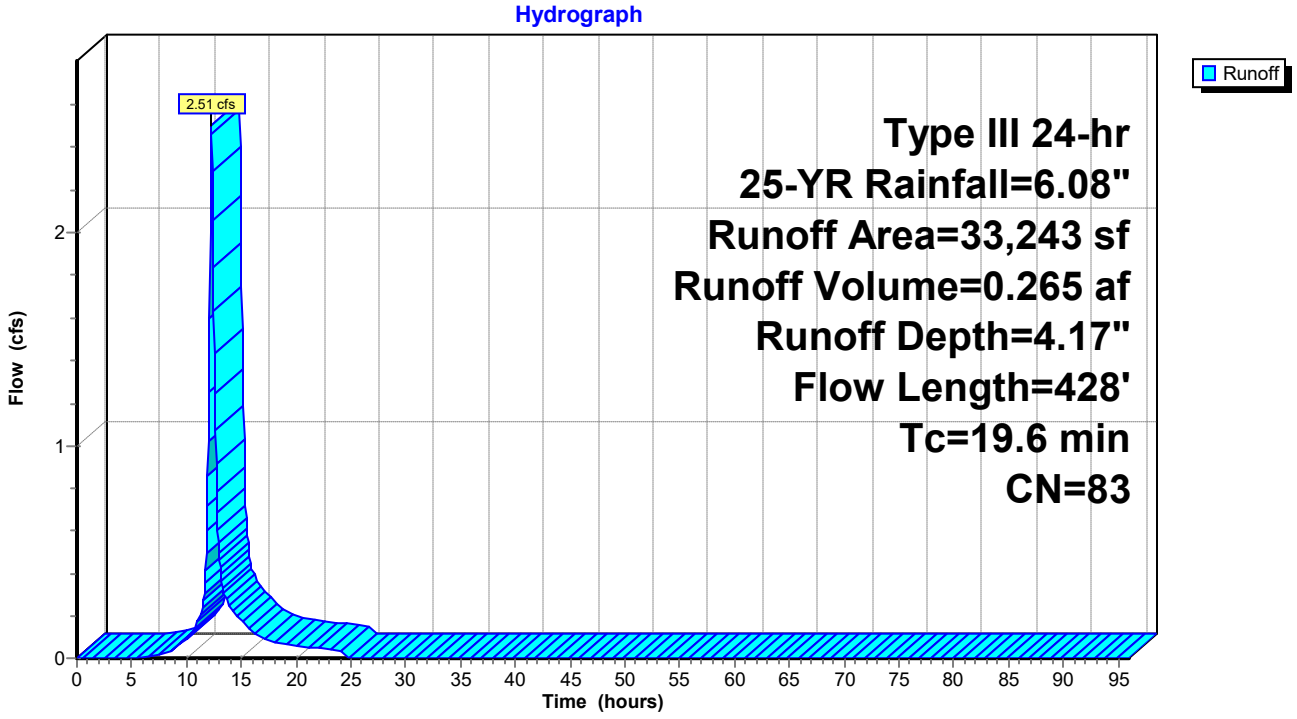
Runoff = 2.51 cfs @ 12.27 hrs, Volume= 0.265 af, Depth= 4.17"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=6.08"

Area (sf)	CN	Description
4,744	80	>75% Grass cover, Good, HSG D
23,409	80	>75% Grass cover, Good, HSG D
316	98	Paved parking, HSG D
4,774	98	Paved parking, HSG D
33,243	83	Weighted Average
28,153		84.69% Pervious Area
5,090		15.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	198	0.0200	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
2.4	230	0.0100	1.61		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
19.6	428	Total			

Subcatchment 1: Area draining directly to existing parking lot



Summary for Subcatchment 2: Area intercepted by grassed depression

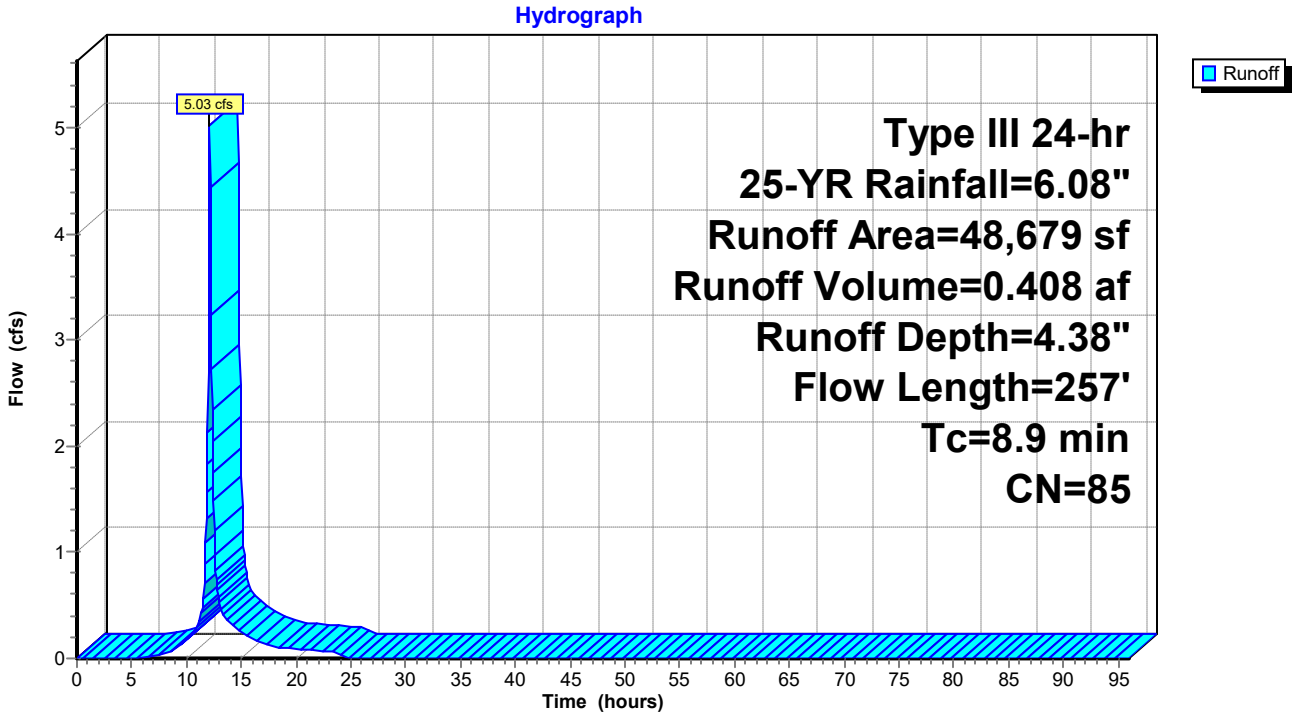
Runoff = 5.03 cfs @ 12.12 hrs, Volume= 0.408 af, Depth= 4.38"
Routed to Pond 1P : Grassed Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=6.08"

Area (sf)	CN	Description
1,291	80	>75% Grass cover, Good, HSG D
34,977	80	>75% Grass cover, Good, HSG D
12	80	>75% Grass cover, Good, HSG D
5	80	>75% Grass cover, Good, HSG D
12,394	98	Paved parking, HSG D
48,679	85	Weighted Average
36,285		74.54% Pervious Area
12,394		25.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	120	0.0230	1.49		**Sheet Flow, Sheet flow across pavement** Smooth surfaces n= 0.011 P2= 3.11"
7.2	80	0.0290	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
0.4	57	0.0220	2.39		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
8.9	257	Total			

Subcatchment 2: Area intercepted by grassed depression



Summary for Pond 1P: Grassed Depression

Inflow Area = 1.118 ac, 25.46% Impervious, Inflow Depth = 4.38" for 25-YR event
Inflow = 5.03 cfs @ 12.12 hrs, Volume= 0.408 af
Outflow = 0.50 cfs @ 13.07 hrs, Volume= 0.146 af, Atten= 90%, Lag= 57.0 min
Primary = 0.50 cfs @ 13.07 hrs, Volume= 0.146 af
Routed to Link 3L : Existing Drainage System

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 65.32' @ 13.07 hrs Surf.Area= 11,642 sf Storage= 11,590 cf
Flood Elev= 65.40' Surf.Area= 12,366 sf Storage= 12,604 cf

Plug-Flow detention time= 316.5 min calculated for 0.146 af (36% of inflow)
Center-of-Mass det. time= 186.1 min (989.0 - 802.8)

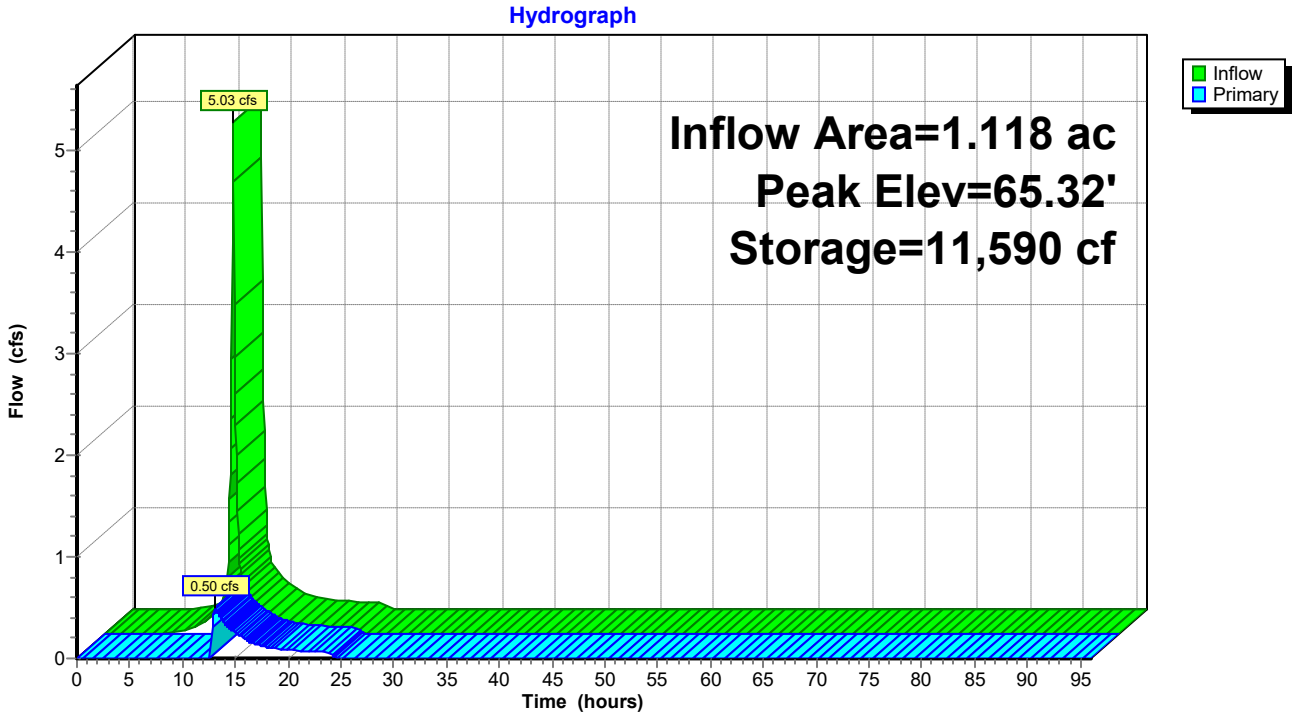
Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	12,604 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	7,752	0	0
65.00	8,935	8,344	8,344
65.40	12,366	4,260	12,604

Device	Routing	Invert	Outlet Devices
#1	Primary	65.30'	**94.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=0.49 cfs @ 13.07 hrs HW=65.32' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.49 cfs @ 0.34 fps)

Pond 1P: Grassed Depression

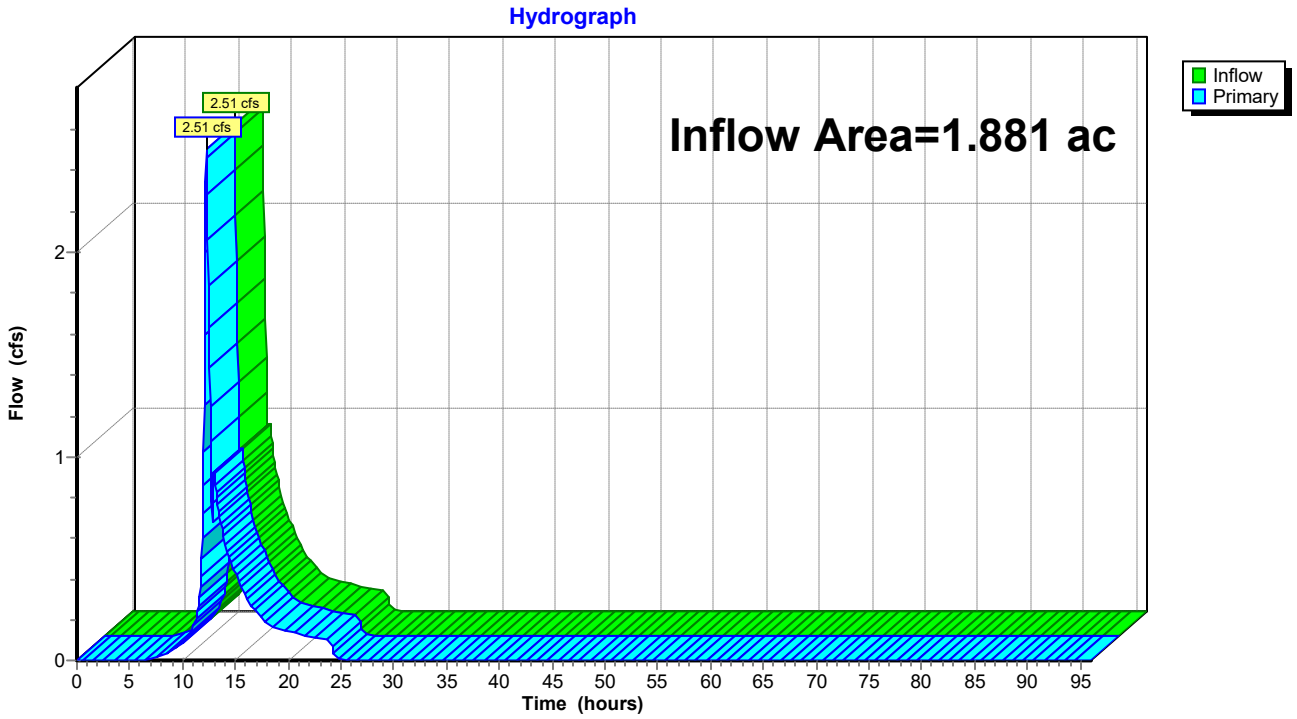


Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 21.34% Impervious, Inflow Depth = 2.62" for 25-YR event
Inflow = 2.51 cfs @ 12.27 hrs, Volume= 0.411 af
Primary = 2.51 cfs @ 12.27 hrs, Volume= 0.411 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 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 1: Area draining directly to Runoff Area=33,243 sf 15.31% Impervious Runoff Depth=5.82"
Flow Length=428' Tc=19.6 min CN=83 Runoff=3.46 cfs 0.370 af

Subcatchment 2: Area intercepted by Runoff Area=48,679 sf 25.46% Impervious Runoff Depth=6.06"
Flow Length=257' Tc=8.9 min CN=85 Runoff=6.86 cfs 0.564 af

Pond 1P: Grassed Depression Peak Elev=65.36' Storage=12,117 cf Inflow=6.86 cfs 0.564 af
Outflow=3.70 cfs 0.302 af

Link 3L: Existing Drainage System Inflow=7.02 cfs 0.673 af
Primary=7.02 cfs 0.673 af

Total Runoff Area = 1.881 ac Runoff Volume = 0.935 af Average Runoff Depth = 5.96"
78.66% Pervious = 1.479 ac 21.34% Impervious = 0.401 ac

Summary for Subcatchment 1: Area draining directly to existing parking lot

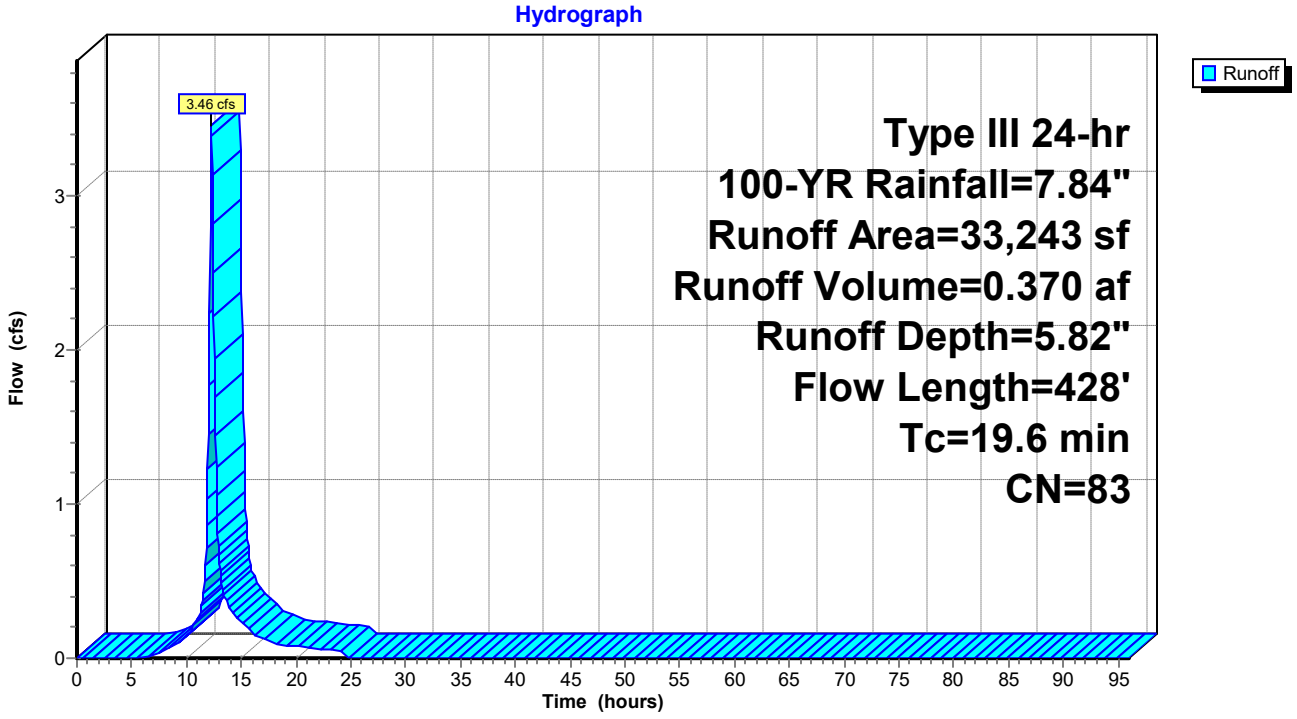
Runoff = 3.46 cfs @ 12.26 hrs, Volume= 0.370 af, Depth= 5.82"
Routed to Link 3L : Existing Drainage System

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=7.84"

Area (sf)	CN	Description
4,744	80	>75% Grass cover, Good, HSG D
23,409	80	>75% Grass cover, Good, HSG D
316	98	Paved parking, HSG D
4,774	98	Paved parking, HSG D
33,243	83	Weighted Average
28,153		84.69% Pervious Area
5,090		15.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	198	0.0200	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
2.4	230	0.0100	1.61		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
19.6	428	Total			

Subcatchment 1: Area draining directly to existing parking lot



Summary for Subcatchment 2: Area intercepted by grassed depression

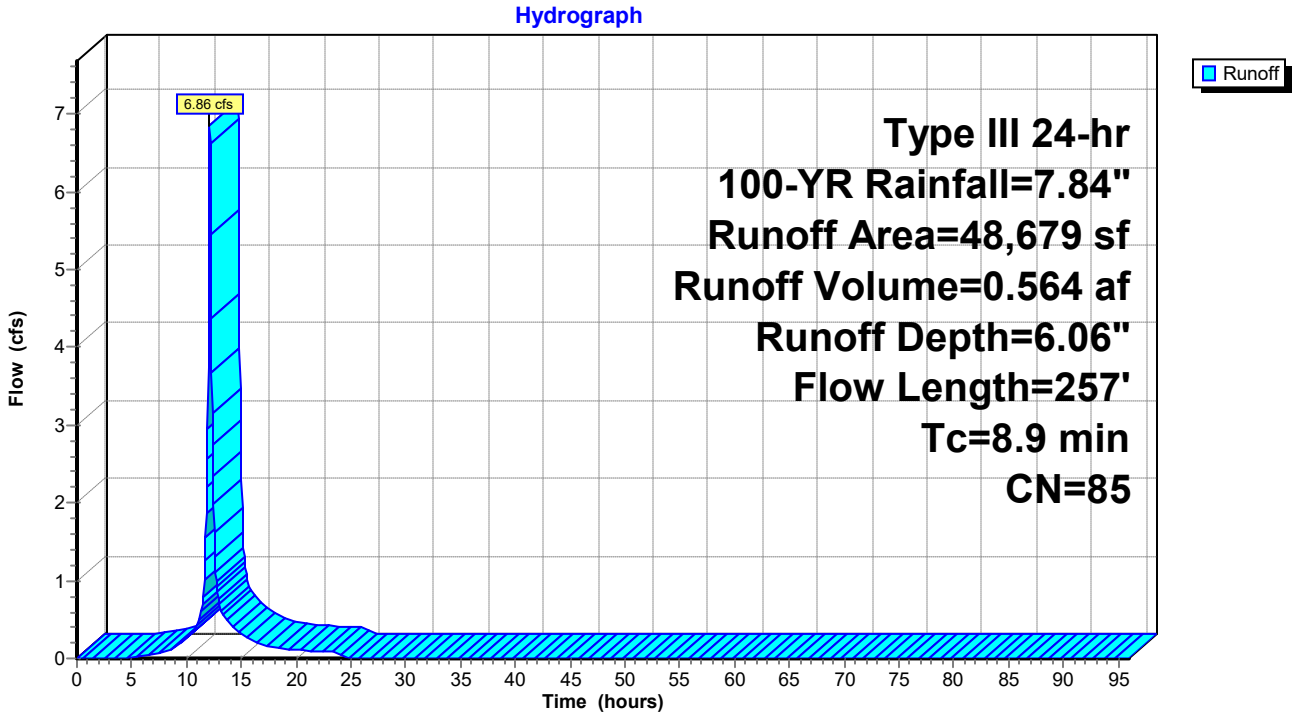
Runoff = 6.86 cfs @ 12.12 hrs, Volume= 0.564 af, Depth= 6.06"
Routed to Pond 1P : Grassed Depression

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=7.84"

Area (sf)	CN	Description
1,291	80	>75% Grass cover, Good, HSG D
34,977	80	>75% Grass cover, Good, HSG D
12	80	>75% Grass cover, Good, HSG D
5	80	>75% Grass cover, Good, HSG D
12,394	98	Paved parking, HSG D
48,679	85	Weighted Average
36,285		74.54% Pervious Area
12,394		25.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	120	0.0230	1.49		**Sheet Flow, Sheet flow across pavement** Smooth surfaces n= 0.011 P2= 3.11"
7.2	80	0.0290	0.19		**Sheet Flow, Sheet flow across grass** Grass: Short n= 0.150 P2= 3.11"
0.4	57	0.0220	2.39		**Shallow Concentrated Flow, Flow across grass** Unpaved Kv= 16.1 fps
8.9	257	Total			

Subcatchment 2: Area intercepted by grassed depression



Summary for Pond 1P: Grassed Depression

Inflow Area = 1.118 ac, 25.46% Impervious, Inflow Depth = 6.06" for 100-YR event
Inflow = 6.86 cfs @ 12.12 hrs, Volume= 0.564 af
Outflow = 3.70 cfs @ 12.32 hrs, Volume= 0.302 af, Atten= 46%, Lag= 12.0 min
Primary = 3.70 cfs @ 12.32 hrs, Volume= 0.302 af
Routed to Link 3L : Existing Drainage System

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 65.36' @ 12.32 hrs Surf.Area= 12,023 sf Storage= 12,117 cf
Flood Elev= 65.40' Surf.Area= 12,366 sf Storage= 12,604 cf

Plug-Flow detention time= 216.9 min calculated for 0.302 af (54% of inflow)
Center-of-Mass det. time= 107.6 min (901.5 - 793.8)

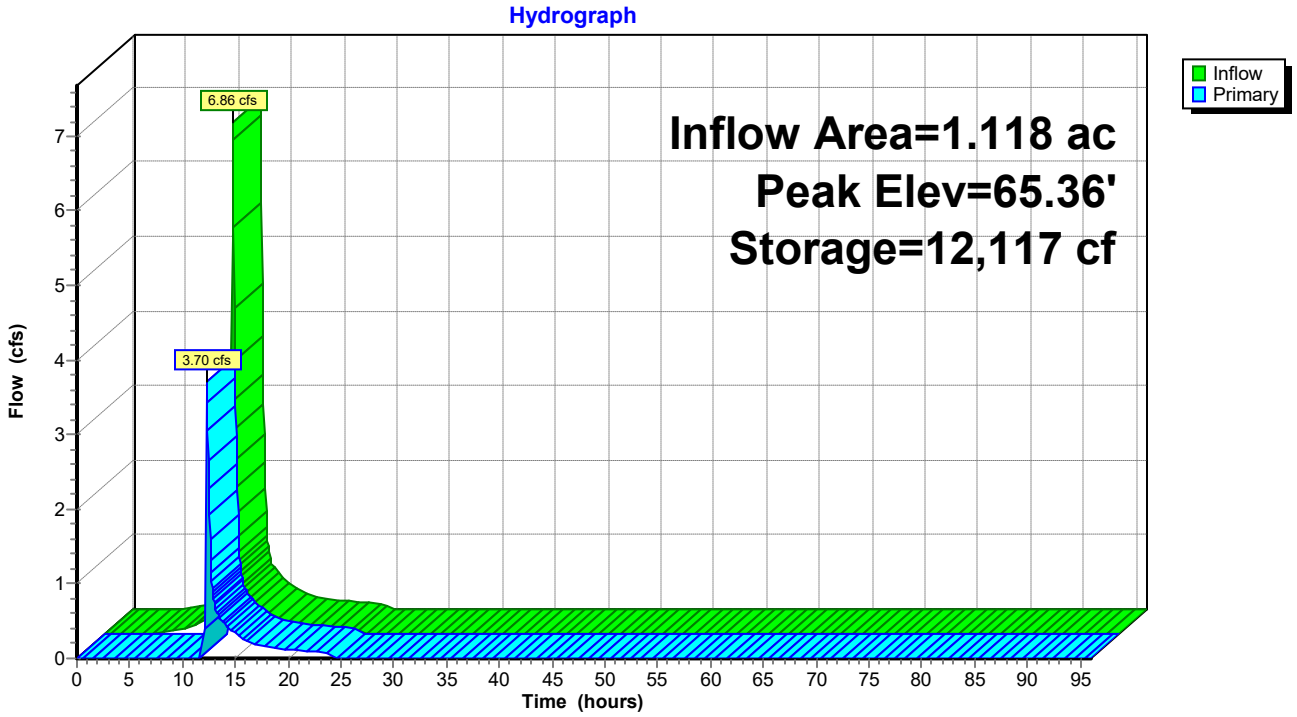
Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	12,604 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	7,752	0	0
65.00	8,935	8,344	8,344
65.40	12,366	4,260	12,604

Device	Routing	Invert	Outlet Devices
#1	Primary	65.30'	**94.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=3.50 cfs @ 12.32 hrs HW=65.36' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 3.50 cfs @ 0.65 fps)

Pond 1P: Grassed Depression



Summary for Link 3L: Existing Drainage System

Inflow Area = 1.881 ac, 21.34% Impervious, Inflow Depth = 4.29" for 100-YR event
Inflow = 7.02 cfs @ 12.32 hrs, Volume= 0.673 af
Primary = 7.02 cfs @ 12.32 hrs, Volume= 0.673 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 3L: Existing Drainage System