

PETITION FOR CHANGE TO CHAPTER 15, ZONING,  
OF THE  
CODE OF ORDINANCES OF THE CITY OF LA CROSSE  
AMENDMENT OF ZONING DISTRICT BOUNDARIES



Petitioner (name and address):  
David Heyer, Allegiant Property Management, LLC  
412 S. 3<sup>rd</sup> Street  
La Crescent, MN 55947 \_\_\_\_\_

Owner of site (name and address):  
Gundersen Health System  
1910 South Ave  
La Crosse, WI 54601 \_\_\_\_\_

Address of subject premises:  
5305 Mormon Coulee Road 5313 Mormon Coulee Road 5405 Mormon Coulee Road  
La Crosse, WI \_\_\_\_\_

Legal Description:  
See Attached \_\_\_\_\_  
\_\_\_\_\_ *Initials of Inspector* (TW)

Zoning District Classification: Traditional Neighborhood Development-General  
*Initials of Inspector* (TW)

Proposed Zoning Classification: ~~Multifamily-R-5~~ TND-Specific *Initials of Inspector* (TW)

Property is located in a floodplain zoning overlay district: Yes \_\_\_ No

Property is Presently Used For:  
Vacant land \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Property is Proposed to be Used For:  
construction of a 49 unit handicap accessible multifamily apartment complex \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Proposed Rezoning is Necessary Because (Detailed Answer):  
Zoning presently does not support proposed development \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Proposed Rezoning will not be Detrimental to the Neighborhood or Public Welfare Because (Detailed Answer): the proposed rezoning will not be detrimental to the neighborhood as there are other multifamily apartments in the area and it is anticipated that only 30% of the tenants will have their own transportation which will not be a large increase in local traffic \_\_\_\_\_

CITY OF LA CROSSE, WI

General Billing - 133999 - 2016

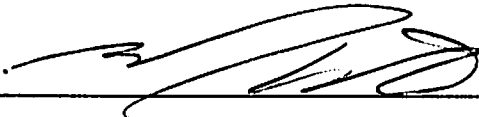
002622-0081 Paula G. 03/04/2016 11:02AM

176649 - ALLEGIANT PROPERTY MANAGEMENT,

Payment Amount: 700.00

The undersigned depose and state that I/we am/are the owner/lessee of the property involved in this petition and that said property was purchased/leased by me/us on the May 13<sup>th</sup> and July 2nd day of \_\_\_\_\_, 1998 \_\_\_\_\_.

I hereby certify that I am the owner or authorized agent of the owner (include affidavit signed by owner) and that I have read and understand the content of this petition and that the above statements and attachments submitted hereto are true and correct to the best of my knowledge and belief.

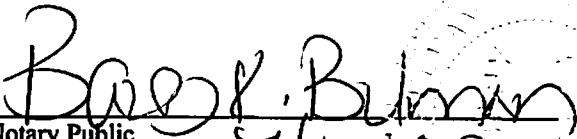
  
\_\_\_\_\_  
(signature)

608-775-0787  
(telephone)

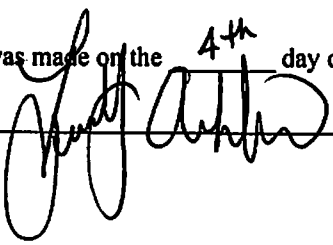
3/3/16  
(date)

STATE OF WISCONSIN     )  
  )ss.  
COUNTY OF LA CROSSE    )

Personally appeared before me this 3rd day of Mar, 2016 the above named individual, to me known to be the person who executed the foregoing instrument and acknowledged the same.

  
\_\_\_\_\_  
Notary Public  
My Commission Expires: 7/13/2018

**PETITIONER SHALL, BEFORE FILING, HAVE PETITION REVIEWED BY THE DIRECTOR OF CITY PLANNING.**

Review was made on the 4<sup>th</sup> day of March, 2016  
Signed:  Senior Plane, Director of City Planning



*[Faint, illegible handwritten text]*

**Legal Descriptions  
Christopherson Place**

**5305 and 5313 Mormon Coulee Rd**

**Lots 1 and 2 of Certified Survey Map filed August 9, 1985 in Volume 3 of Certified Survey Maps, Page 68 as Document No., being part of the SE 1/4 of the SW 1/4 of Section 22, Township 15 North, Range 7 West, City of La Crosse, La Crosse County, Wisconsin**

**5405 Mormon Coulee Rd**

**PRT SE-SW BEG INTER NW LN 33RD ST & NE LN MORMON COULEE RD N66D56ME  
160.44FT N31D30ME 21.67FT ALG NW LN 33RD ST S89D26MW 192.78FT TO NE  
LN MORMON COULEE RD S24D30ME ALG NE LN 86.34FT TO POB**

Relationships Between Proposed Development at 5305/5313/5405  
Mormon Coulee Road and Neighboring Properties  
Christopherson Place  
February 9, 2016

North

The property to the north of the proposed development is presently used as a self-storage facility and is described as commercial use. On the property is also located a cell phone tower. It is anticipated that tenants at the proposed development may indeed rent spaces from the owner of this property. There does not appear to be any potential conflicts with this property.

Property North of proposed development



East

East of the proposed development and across 33<sup>rd</sup> street, are two vacant lots.

West of the proposed development

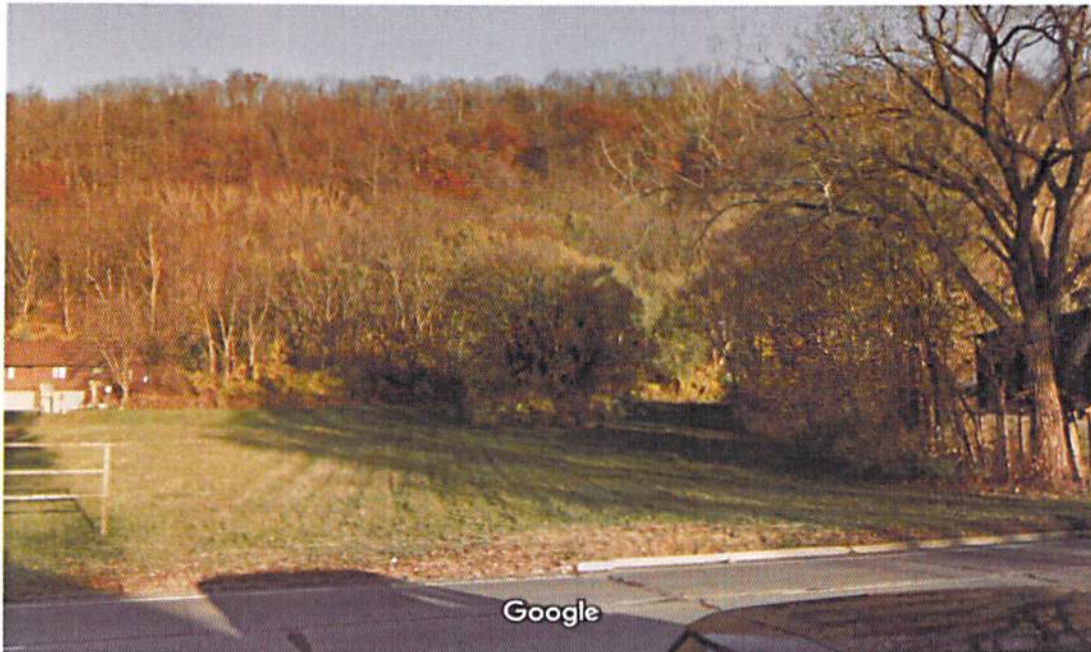


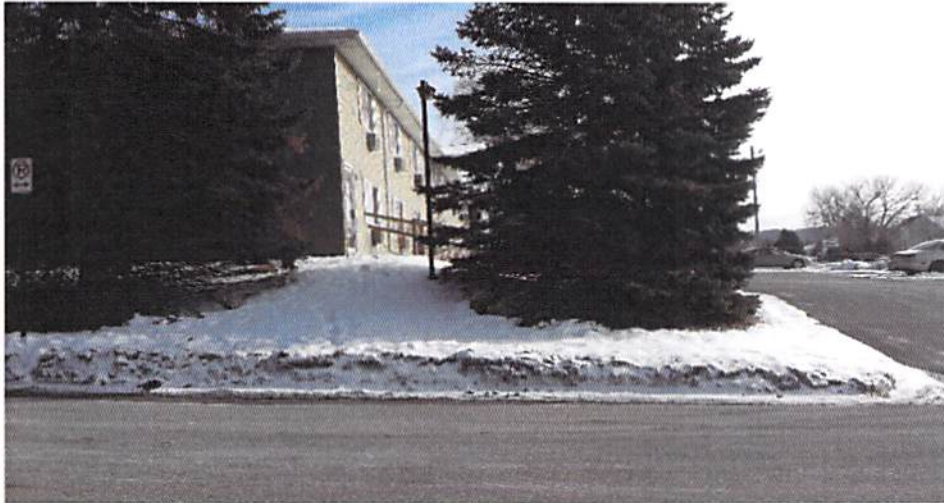
Image capture: Nov 2015 © 2016 Google

Further north on 33<sup>rd</sup> Street are two and three unit condominiums. Traffic on the street is minimal as most of the condominiums are owned by one or two car households. Traffic on this street will more than likely not change as the preferred route of traffic will be from Mormon Coulee Road. The addition of this development should not have a major impact as most of the intended tenants will be one or two person households with approximately 30% of them having vehicles.



## South

On the south side of the development, across 33<sup>rd</sup> street and across Mormon Coulee Road are other multifamily dwelling units. Increased usage of the MTU bus services with the addition of this proposed development should be expected. The demographic of the proposed development will be different from the demographics of the existing properties at these locations. The two existing locations are most likely younger households with jobs and perhaps families. The demographics for the proposed development will be physically handicapped and elderly households. The two different demographics should blend well.



Directly South of the Proposed Development



Southwest from the Proposed Development



## West

Across Mormon Coulee Road from the proposed development are commercial properties including a Hotel/Motel and a restaurant. There is not anticipated to be any conflict with the relationship between the proposed development and these establishments.

Property West of the proposed development



Image capture: Aug 2015 © 2016 Google

## Conclusion

The addition of this proposed development will blend in with the surrounding areas. We will do this by selecting neutral colors for the building and including landscaping that will help the building blend into the surroundings.

**Development Plan**  
**Christopherson Place**  
**33<sup>rd</sup>/Mormon Coulee Rd.**

1. See attached plans.
2. See attachment titled "Legal Descriptions".
3. See attachment titled "relationships between proposed developments and neighboring properties".
4. See attached plans.
5. See attached plans.
6. See attached plans.
7. See attached plans.
8. See attached plans.
9. See attached plans.
10. See attached plans.
11. See attached plans.
12. We anticipate that the site is primarily made up of sand and drainage should not be a problem. Black dirt for the green spaces will likely need to be brought to the site. Braun Intertec has been on-site to perform soil borings and we are awaiting their report.
13. See attached plans.
14. All sites around this site are currently developed as Apartments, Condos, and Mini-Storage. See attachment titled "relationships between proposed developments and neighboring properties".
15. Development is not planned to be staged.
16. N/A
17. See attached plans.

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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: Existing** Runoff Area=53,566 sf 0.00% Impervious Runoff Depth>0.63"  
Flow Length=200' Tc=5.6 min CN=61 Runoff=1.39 cfs 0.064 af

**Subcatchment 2S: North** Runoff Area=16,721 sf 34.33% Impervious Runoff Depth>1.31"  
Flow Length=260' Slope=0.0100 '/ Tc=18.5 min CN=74 Runoff=0.63 cfs 0.042 af

**Subcatchment 3S: East** Runoff Area=11,571 sf 25.84% Impervious Runoff Depth>0.86"  
Flow Length=110' Slope=0.0100 '/ Tc=15.3 min UI Adjusted CN=66 Runoff=0.30 cfs 0.019 af

**Subcatchment 5S: West** Runoff Area=25,274 sf 86.81% Impervious Runoff Depth>2.84"  
Flow Length=90' Tc=2.8 min CN=93 Runoff=3.10 cfs 0.137 af

**Pond 4P: East** Peak Elev=643.09' Storage=488 cf Inflow=0.30 cfs 0.019 af  
Discarded=0.00 cfs 0.001 af Primary=0.02 cfs 0.007 af Outflow=0.02 cfs 0.008 af

**Pond 6P: West** Peak Elev=642.42' Storage=285 cf Inflow=0.02 cfs 0.007 af  
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

**Pond 7P: North** Peak Elev=642.21' Storage=4,329 cf Inflow=3.34 cfs 0.179 af  
Discarded=0.01 cfs 0.008 af Primary=0.65 cfs 0.084 af Outflow=0.66 cfs 0.092 af

**Total Runoff Area = 2.459 ac Runoff Volume = 0.262 af Average Runoff Depth = 1.28"**  
**71.37% Pervious = 1.755 ac 28.63% Impervious = 0.704 ac**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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: Existing** Runoff Area=53,566 sf 0.00% Impervious Runoff Depth>0.86"  
Flow Length=200' Tc=5.6 min CN=61 Runoff=1.98 cfs 0.088 af

**Subcatchment 2S: North** Runoff Area=16,721 sf 34.33% Impervious Runoff Depth>1.65"  
Flow Length=260' Slope=0.0100 '/ Tc=18.5 min CN=74 Runoff=0.80 cfs 0.053 af

**Subcatchment 3S: East** Runoff Area=11,571 sf 25.84% Impervious Runoff Depth>1.13"  
Flow Length=110' Slope=0.0100 '/ Tc=15.3 min UI Adjusted CN=66 Runoff=0.40 cfs 0.025 af

**Subcatchment 5S: West** Runoff Area=25,274 sf 86.81% Impervious Runoff Depth>3.29"  
Flow Length=90' Tc=2.8 min CN=93 Runoff=3.56 cfs 0.159 af

**Pond 4P: East** Peak Elev=643.15' Storage=532 cf Inflow=0.40 cfs 0.025 af  
Discarded=0.00 cfs 0.001 af Primary=0.05 cfs 0.013 af Outflow=0.06 cfs 0.014 af

**Pond 6P: West** Peak Elev=642.76' Storage=419 cf Inflow=0.05 cfs 0.013 af  
Discarded=0.00 cfs 0.001 af Primary=0.01 cfs 0.003 af Outflow=0.01 cfs 0.003 af

**Pond 7P: North** Peak Elev=642.33' Storage=4,701 cf Inflow=3.89 cfs 0.215 af  
Discarded=0.01 cfs 0.008 af Primary=0.97 cfs 0.119 af Outflow=0.97 cfs 0.127 af

**Total Runoff Area = 2.459 ac Runoff Volume = 0.325 af Average Runoff Depth = 1.59"**  
**71.37% Pervious = 1.755 ac 28.63% Impervious = 0.704 ac**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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: Existing** Runoff Area=53,566 sf 0.00% Impervious Runoff Depth>1.17"  
Flow Length=200' Tc=5.6 min CN=61 Runoff=2.75 cfs 0.120 af

**Subcatchment 2S: North** Runoff Area=16,721 sf 34.33% Impervious Runoff Depth>2.09"  
Flow Length=260' Slope=0.0100 '/ Tc=18.5 min CN=74 Runoff=1.01 cfs 0.067 af

**Subcatchment 3S: East** Runoff Area=11,571 sf 25.84% Impervious Runoff Depth>1.49"  
Flow Length=110' Slope=0.0100 '/ Tc=15.3 min UI Adjusted CN=66 Runoff=0.54 cfs 0.033 af

**Subcatchment 5S: West** Runoff Area=25,274 sf 86.81% Impervious Runoff Depth>3.84"  
Flow Length=90' Tc=2.8 min CN=93 Runoff=4.10 cfs 0.186 af

**Pond 4P: East** Peak Elev=643.24' Storage=611 cf Inflow=0.54 cfs 0.033 af  
Discarded=0.00 cfs 0.002 af Primary=0.14 cfs 0.021 af Outflow=0.14 cfs 0.022 af

**Pond 6P: West** Peak Elev=642.78' Storage=428 cf Inflow=0.14 cfs 0.021 af  
Discarded=0.00 cfs 0.001 af Primary=0.04 cfs 0.010 af Outflow=0.04 cfs 0.011 af

**Pond 7P: North** Peak Elev=642.54' Storage=5,372 cf Inflow=4.54 cfs 0.263 af  
Discarded=0.01 cfs 0.008 af Primary=1.23 cfs 0.166 af Outflow=1.24 cfs 0.175 af

**Total Runoff Area = 2.459 ac Runoff Volume = 0.406 af Average Runoff Depth = 1.98"**  
**71.37% Pervious = 1.755 ac 28.63% Impervious = 0.704 ac**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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: Existing                      Runoff Area=53,566 sf 0.00% Impervious Runoff Depth>1.87"  
Flow Length=200' Tc=5.6 min CN=61 Runoff=4.42 cfs 0.192 af

Subcatchment 2S: North                      Runoff Area=16,721 sf 34.33% Impervious Runoff Depth>3.01"  
Flow Length=260' Slope=0.0100 '/ Tc=18.5 min CN=74 Runoff=1.45 cfs 0.096 af

Subcatchment 3S: East                      Runoff Area=11,571 sf 25.84% Impervious Runoff Depth>2.29"  
Flow Length=110' Slope=0.0100 '/ Tc=15.3 min UI Adjusted CN=66 Runoff=0.84 cfs 0.051 af

Subcatchment 5S: West                      Runoff Area=25,274 sf 86.81% Impervious Runoff Depth>4.94"  
Flow Length=90' Tc=2.8 min CN=93 Runoff=5.20 cfs 0.239 af

Pond 4P: East                      Peak Elev=643.44' Storage=797 cf Inflow=0.84 cfs 0.051 af  
Discarded=0.00 cfs 0.002 af Primary=0.40 cfs 0.038 af Outflow=0.40 cfs 0.040 af

Pond 6P: West                      Peak Elev=642.86' Storage=463 cf Inflow=0.40 cfs 0.038 af  
Discarded=0.00 cfs 0.001 af Primary=0.26 cfs 0.027 af Outflow=0.26 cfs 0.028 af

Pond 7P: North                      Peak Elev=642.97' Storage=6,894 cf Inflow=5.87 cfs 0.362 af  
Discarded=0.01 cfs 0.009 af Primary=1.66 cfs 0.265 af Outflow=1.67 cfs 0.273 af

Total Runoff Area = 2.459 ac Runoff Volume = 0.578 af Average Runoff Depth = 2.82"  
71.37% Pervious = 1.755 ac 28.63% Impervious = 0.704 ac



Existing



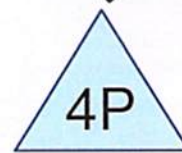
East



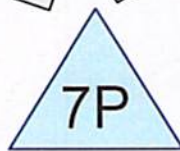
North



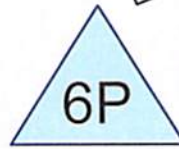
West



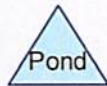
East



North



West



**Routing Diagram for Mormon\_Apt**

Prepared by {enter your company name here}; Printed 2/19/2016  
HydroCAD® 10.00-15 s/n 08124 © 2015 HydroCAD Software Solutions LLC

**Area Listing (all nodes)**

<b>Area (acres)</b>	<b>CN</b>	<b>Description (subcatchment-numbers)</b>
1.755	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 5S)
0.348	98	Paved parking, HSG B (5S)
0.155	98	Roofs, HSG B (5S)
0.132	98	Unconnected pavement, HSG B (2S)
0.069	98	Unconnected roofs, HSG B (3S)
<b>2.459</b>	<b>72</b>	<b>TOTAL AREA</b>



**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.459	HSG B	1S, 2S, 3S, 5S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
<b>2.459</b>		<b>TOTAL AREA</b>

**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	1.755	0.000	0.000	0.000	1.755	>75% Grass cover, Good	1S, 2S, 3S, 5S
0.000	0.348	0.000	0.000	0.000	0.348	Paved parking	5S
0.000	0.155	0.000	0.000	0.000	0.155	Roofs	5S
0.000	0.132	0.000	0.000	0.000	0.132	Unconnected pavement	2S
0.000	0.069	0.000	0.000	0.000	0.069	Unconnected roofs	3S
0.000	2.459	0.000	0.000	0.000	2.459	<b>TOTAL AREA</b>	

**Pipe Listing (all nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	4P	643.00	642.80	32.0	0.0063	0.013	8.0	0.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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: Existing** Runoff Area=53,566 sf 0.00% Impervious Runoff Depth>0.28"  
Flow Length=200' Tc=5.6 min CN=61 Runoff=0.50 cfs 0.029 af

**Subcatchment 2S: North** Runoff Area=16,721 sf 34.33% Impervious Runoff Depth>0.75"  
Flow Length=260' Slope=0.0100 '/ Tc=18.5 min CN=74 Runoff=0.35 cfs 0.024 af

**Subcatchment 3S: East** Runoff Area=11,571 sf 25.84% Impervious Runoff Depth>0.43"  
Flow Length=110' Slope=0.0100 '/ Tc=15.3 min UI Adjusted CN=66 Runoff=0.13 cfs 0.010 af

**Subcatchment 5S: West** Runoff Area=25,274 sf 86.81% Impervious Runoff Depth>2.02"  
Flow Length=90' Tc=2.8 min CN=93 Runoff=2.26 cfs 0.098 af

**Pond 4P: East** Peak Elev=642.91' Storage=368 cf Inflow=0.13 cfs 0.010 af  
Discarded=0.00 cfs 0.001 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.001 af

**Pond 6P: West** Peak Elev=641.00' Storage=0 cf Inflow=0.00 cfs 0.000 af  
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

**Pond 7P: North** Peak Elev=642.05' Storage=3,871 cf Inflow=2.38 cfs 0.122 af  
Discarded=0.01 cfs 0.007 af Primary=0.08 cfs 0.028 af Outflow=0.09 cfs 0.035 af

**Total Runoff Area = 2.459 ac Runoff Volume = 0.160 af Average Runoff Depth = 0.78"**  
**71.37% Pervious = 1.755 ac 28.63% Impervious = 0.704 ac**

**Summary for Subcatchment 1S: Existing**

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

Runoff = 0.50 cfs @ 12.00 hrs, Volume= 0.029 af, Depth> 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 2 yr Rainfall=2.90"

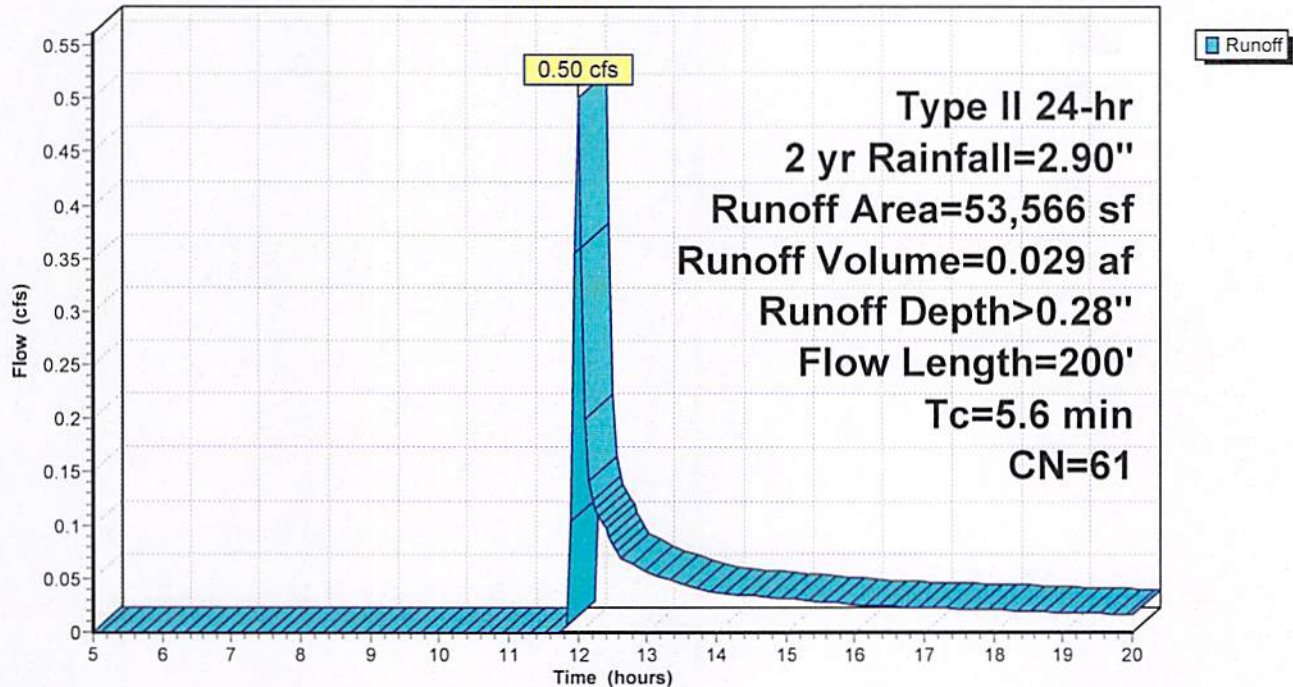
Area (sf)	CN	Description
53,566	61	>75% Grass cover, Good, HSG B
53,566		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	60	0.1160	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 2.90"
0.7	140	0.0500	3.35		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
5.6	200	Total			

**Subcatchment 1S: Existing**

Hydrograph



### Summary for Subcatchment 2S: North

Runoff = 0.35 cfs @ 12.13 hrs, Volume= 0.024 af, Depth> 0.75"

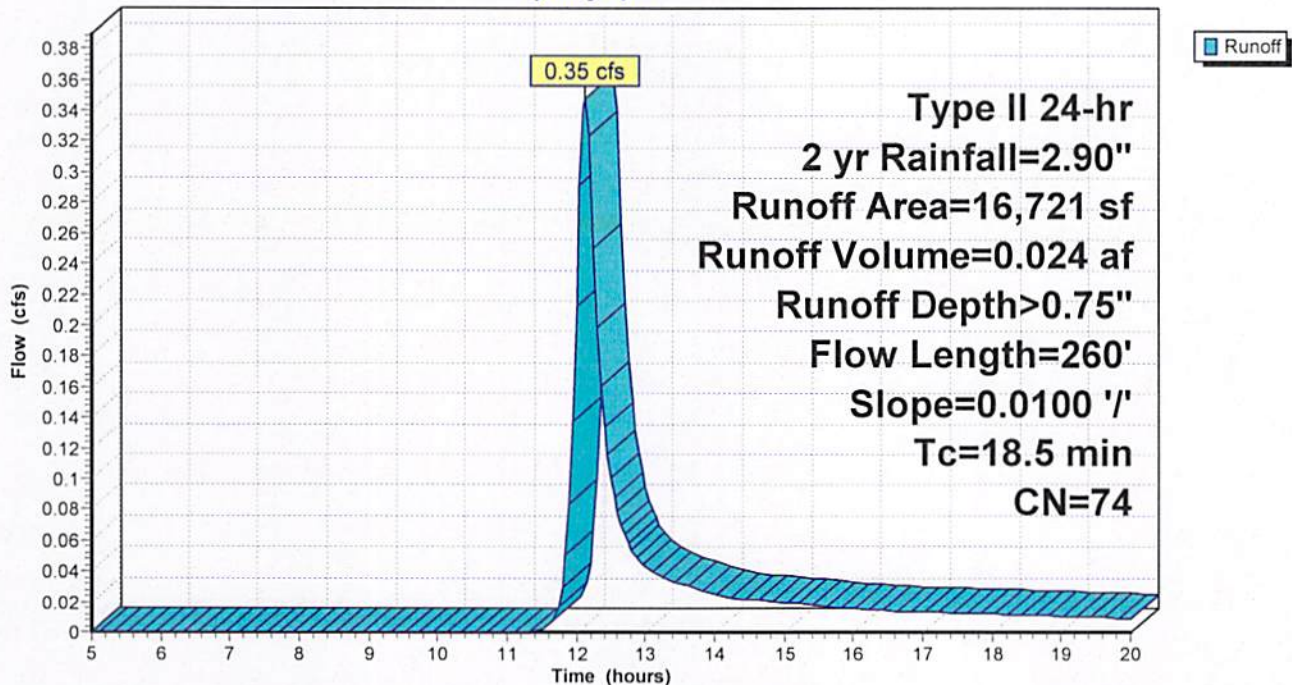
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 2 yr Rainfall=2.90"

Area (sf)	CN	Description
5,740	98	Unconnected pavement, HSG B
10,981	61	>75% Grass cover, Good, HSG B
16,721	74	Weighted Average
10,981		65.67% Pervious Area
5,740		34.33% Impervious Area
5,740		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	80	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 2.90"
2.0	180	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
18.5	260	Total			

### Subcatchment 2S: North

Hydrograph



**Summary for Subcatchment 3S: East**

Runoff = 0.13 cfs @ 12.11 hrs, Volume= 0.010 af, Depth> 0.43"

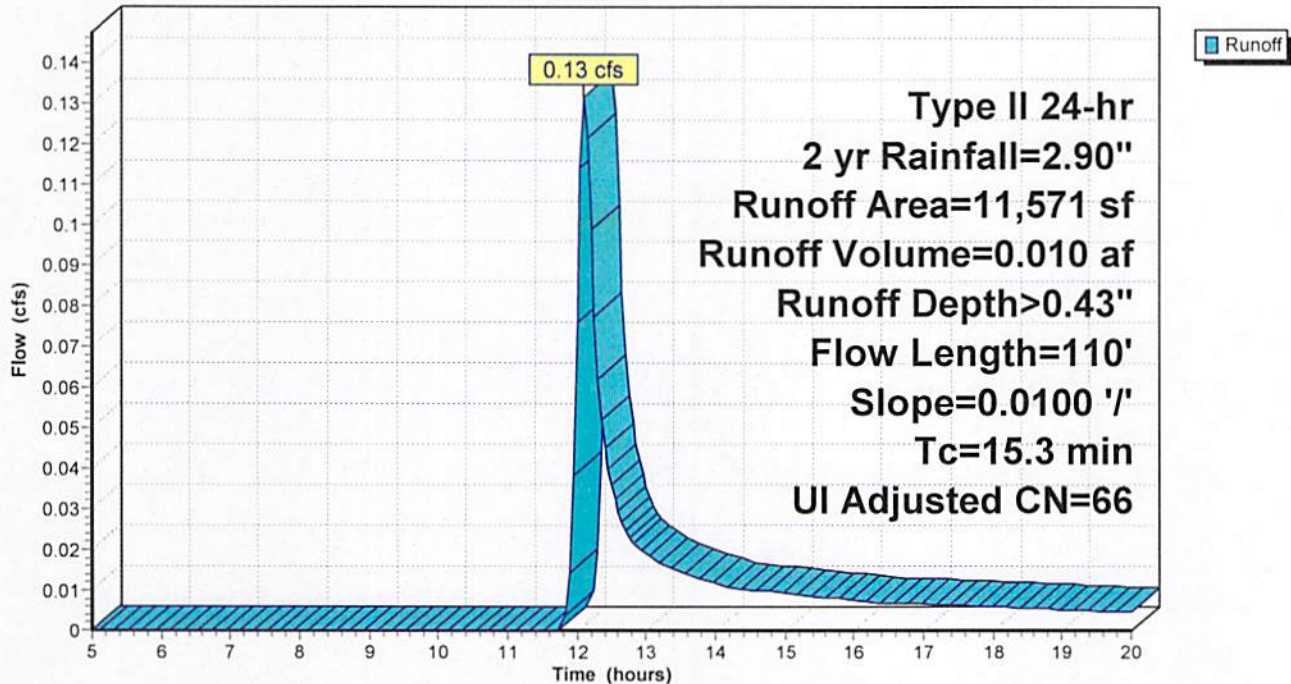
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2 yr Rainfall=2.90"

Area (sf)	CN	Adj	Description
2,990	98		Unconnected roofs, HSG B
8,581	61		>75% Grass cover, Good, HSG B
11,571	71	66	Weighted Average, UI Adjusted
8,581			74.16% Pervious Area
2,990			25.84% Impervious Area
2,990			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9	70	0.0100	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 2.90"
0.4	40	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
15.3	110	Total			

**Subcatchment 3S: East**

Hydrograph



**Summary for Subcatchment 5S: West**

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

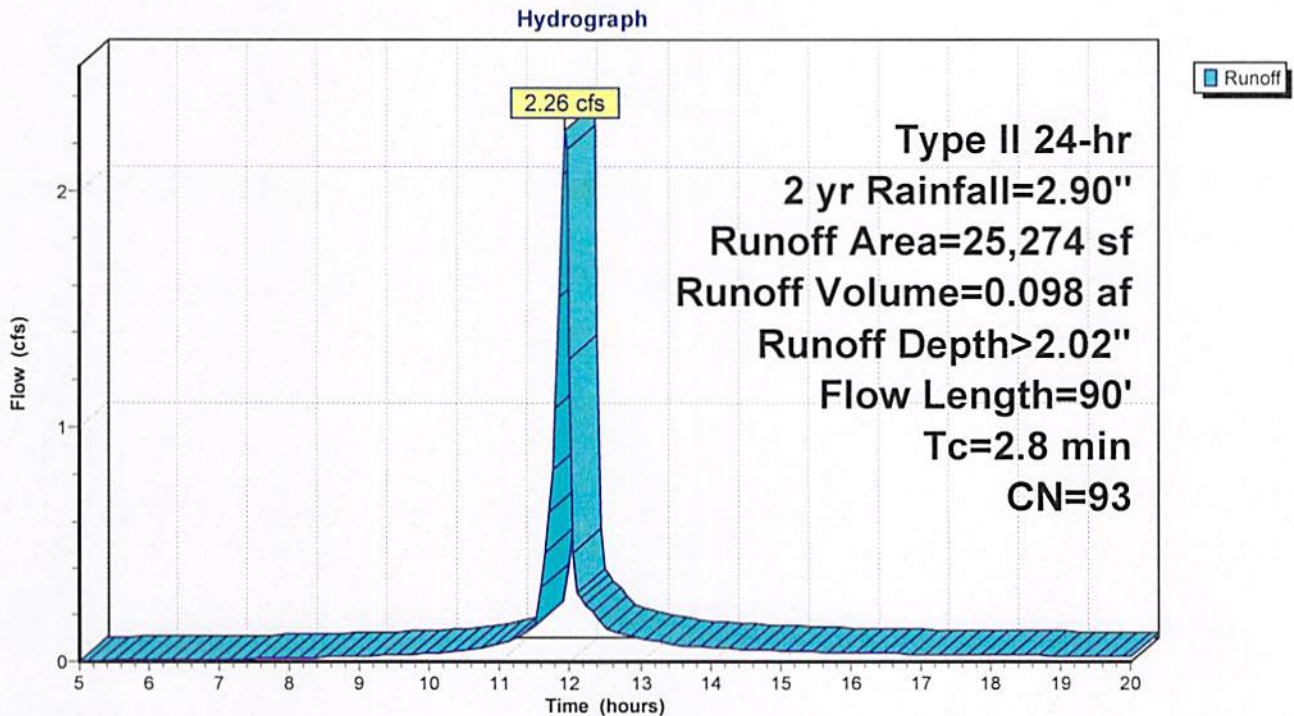
Runoff = 2.26 cfs @ 11.93 hrs, Volume= 0.098 af, Depth> 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 2 yr Rainfall=2.90"

Area (sf)	CN	Description
6,772	98	Roofs, HSG B
15,169	98	Paved parking, HSG B
3,333	61	>75% Grass cover, Good, HSG B
25,274	93	Weighted Average
3,333		13.19% Pervious Area
21,941		86.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	10	0.0200	0.07		Sheet Flow, Grass: Dense n= 0.240 P2= 2.90"
0.4	80	0.0300	3.52		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.8	90	Total			

**Subcatchment 5S: West**





**Summary for Pond 4P: East**

Inflow Area = 0.266 ac, 25.84% Impervious, Inflow Depth > 0.43" for 2 yr event  
 Inflow = 0.13 cfs @ 12.11 hrs, Volume= 0.010 af  
 Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.001 af, Atten= 99%, Lag= 473.6 min  
 Discarded = 0.00 cfs @ 20.00 hrs, Volume= 0.001 af  
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 642.91' @ 20.00 hrs Surf.Area= 620 sf Storage= 368 cf

Plug-Flow detention time= 253.2 min calculated for 0.001 af (12% of inflow)  
 Center-of-Mass det. time= 131.5 min ( 974.7 - 843.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	642.00'	1,507 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
642.00	188	0	0
643.00	663	426	426
644.00	1,500	1,082	1,507

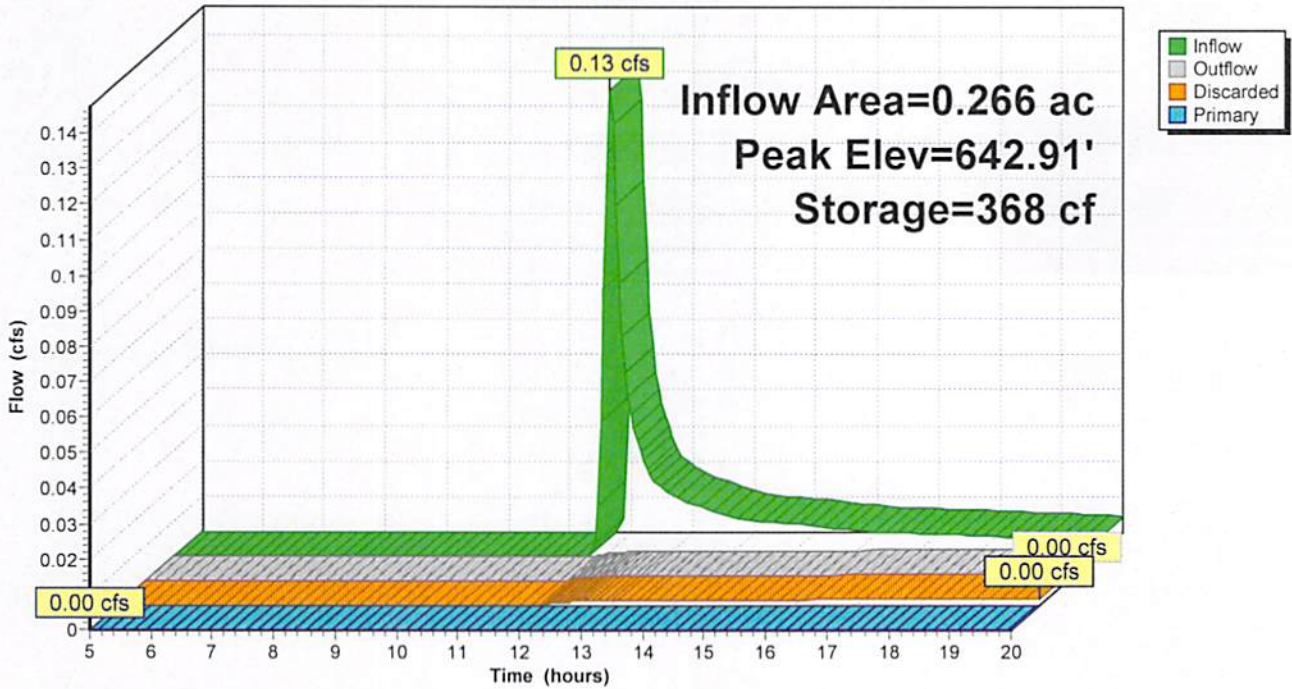
Device	Routing	Invert	Outlet Devices
#1	Discarded	642.00'	0.130 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'
#2	Primary	643.00'	8.0" Round Culvert L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 643.00' / 642.80' S= 0.0063 ' S= 0.0063 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#3	Primary	643.70'	5.0' long x 5.0' 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 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.00 cfs @ 20.00 hrs HW=642.91' (Free Discharge)  
 ↑1=Exfiltration ( Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=642.00' (Free Discharge)  
 ↑2=Culvert ( Controls 0.00 cfs)  
 ↑3=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

Pond 4P: East

Hydrograph



**Summary for Pond 6P: West**

Inflow Area = 0.266 ac, 25.84% Impervious, Inflow Depth = 0.00" for 2 yr event  
 Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min  
 Discarded = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af  
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 641.00' @ 5.00 hrs Surf.Area= 64 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	641.00'	530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
641.00	64	0	0
642.00	250	157	157
643.00	496	373	530

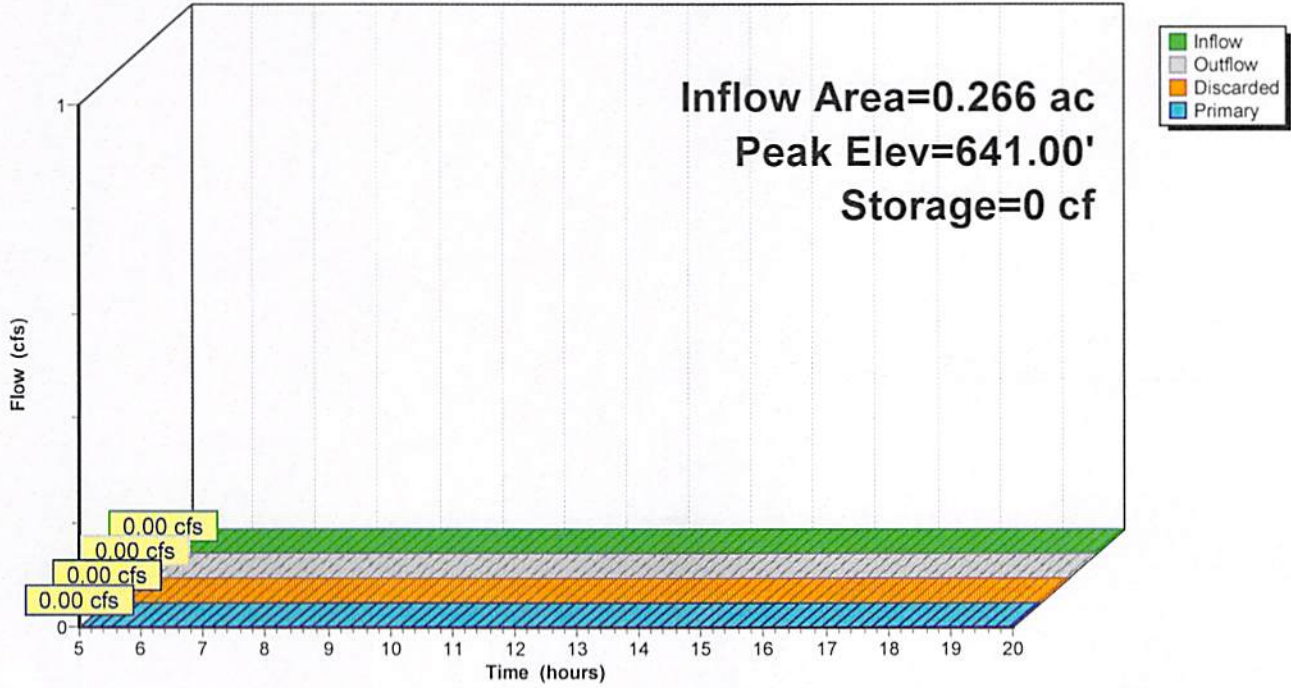
Device	Routing	Invert	Outlet Devices
#1	Discarded	641.00'	0.130 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'
#2	Primary	642.75'	3.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=641.00' (Free Discharge)  
 ↑1=Exfiltration (Passes 0.00 cfs of 0.00 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=641.00' (Free Discharge)  
 ↑2=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

Pond 6P: West

Hydrograph



**Summary for Pond 7P: North**

Inflow Area = 1.230 ac, 57.26% Impervious, Inflow Depth > 1.19" for 2 yr event  
 Inflow = 2.38 cfs @ 11.93 hrs, Volume= 0.122 af  
 Outflow = 0.09 cfs @ 13.83 hrs, Volume= 0.035 af, Atten= 96%, Lag= 114.1 min  
 Discarded = 0.01 cfs @ 13.83 hrs, Volume= 0.007 af  
 Primary = 0.08 cfs @ 13.83 hrs, Volume= 0.028 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 642.05' @ 13.83 hrs Surf.Area= 2,863 sf Storage= 3,871 cf

Plug-Flow detention time= 276.7 min calculated for 0.035 af (29% of inflow)  
 Center-of-Mass det. time= 167.8 min ( 936.5 - 768.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	640.00'	7,004 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
640.00	1,050	0	0
641.00	1,790	1,420	1,420
642.00	2,814	2,302	3,722
643.00	3,750	3,282	7,004

Device	Routing	Invert	Outlet Devices
#1	Discarded	640.00'	0.130 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00'
#2	Primary	642.00'	8.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 13.83 hrs HW=642.05' (Free Discharge)  
 ↑1=Exfiltration ( Controls 0.01 cfs)

Primary OutFlow Max=0.08 cfs @ 13.83 hrs HW=642.05' (Free Discharge)  
 ↑2=Orifice/Grate (Weir Controls 0.08 cfs @ 0.75 fps)

Pond 7P: North

Hydrograph

