

STORMWATER MANAGEMENT REPORT
PROPOSED MIXED-USE DEVELOPMENT
8-10, 18 CENTRAL AVENUE
BLOCK 9, LOTS 32 & 36
TOWNSHIP OF WEST ORANGE, ESSEX COUNTY, NEW JERSEY

MATRIX**NEW****WORLD**
Engineering Progress

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December 16, 2020
Revised February 25, 2021

MATRIX NO. LD19-153



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1.0 PROJECT DESCRIPTION

Alpert Group LLC (The Applicant) is proposing to construct a five-story mixed use development located along Central Avenue, with additional access from Mitchell Street. The site is bounded by residential and commercial structures to the west, Central Avenue to the north, residential structures and Mitchell Street to the south, and multi-family residential development to the east. The site is designated as Lots 32 and 36, Block 9 as shown on the current Tax Assessment Map for the City of West Orange and is located within the Central Valley Corridor Redevelopment Zone, and the underlying zone is Industrial.

In existing conditions, the site contains one building along the western property line with a pavement area adjacent to it. The site previously had an additional building along the eastern property line; however, this building has been demolished. Along Mitchell Street there were two small structures and pavement areas, which have also been demolished. The site has been analyzed in existing conditions assuming the building which has been demolished is still on site. Under these conditions, the majority of the development, which contains the two buildings, flows toward Central Avenue. The smaller section that fronts Mitchell Street flows to Mitchell Street.

The Applicant is proposing the development of 94 dwelling unit, 1,223 square feet of amenity space and 3,640 square feet of commercial within one 5-story building with surface parking. The building will oversized pipes and two outlet structures that will discharge flows to Central Ave and Mitchell Street at a controlled rate. The proposed site improvements are shown on drawings submitted as part of the Preliminary/Final Site Plan Application and are entitled "Preliminary & Final Major Site Plan, Proposed Mixed-Use Development, Block 9, Lots 32 & 36, Situated in City of West Orange, Essex County, New Jersey" prepared by Matrix New World Engineering, PC, dated 12/16/2020.

2.0 METHODOLOGY AND SOFTWARE

A detailed drainage study is described in the following sections of this report. The stormwater runoff flows that were determined for pre- and post-development conditions were calculated using the USDA Natural Resources conservation Service Methodology, as described in Technical Release 55 – Urban Hydrology for Small Watersheds (TR-55). Hydrographs and stormwater management basin routings have been developed in accordance with TR-20 methodology. These modeling techniques are incorporated in the HydroCAD V 10.00 software package which was used to analyze the pre- and post-development flows and basin routings.

New Jersey 24-Hour Rainfall Frequency Data for the subject site, made available by National Oceanic and Atmospheric Administration (NOAA) was utilized in the stormwater management design (Appendix B). The pre- and post-development hydrologic characteristics for the design of the stormwater management system are based upon the 2-, 10-, and 100-year frequency storm events. To adequately demonstrate stormwater management control and compliance, peak reduction factors of 50%, 75%, and 80% were applied to the 2-, 10-, and 100-year pre-development peak runoff rates, respectively.

3.0 STORMWATER QUANTITY

This development meets the criteria of a “major development” per NJAC 7:8-1.2 due to the disturbance of one (1) of more acres which would instigate the regulations listed in NJAC 5:21-7.1. As stated in NJAC 5:21-7.5, stormwater management for quantity control shall comply with the Stormwater Management rules at NJAC 7:8-5 and -6.

The proposed development contains two stormwater detention systems. Each system is designed with oversized pipes and outlet structures to control outflow. These detention systems are designed to reduce the total site post-development peak flow rates to less than or equal to 50%, 75%, and 80% of the total site pre-development peak flow rates for the 2-, 10-, and 100-year storm events, respectively.

3.1 PRE-DEVELOPMENT SITE CONDITIONS AND ALLOWABLE PEAK RATES

Please refer to the Pre-Development Drainage Area Map within this report (Appendix F). The total pre-development drainage area of study is approximately 2.17 acres.

As stated previously, the site was analyzed in Pre-Development Conditions as containing two buildings. The site was analyzed using 4 drainage areas. The first drainage area is the onsite drainage area that flows towards Central Avenue. This drainage area is the largest at 1.51 acres and is mostly impervious area as it contained the two buildings. The second drainage area is the small offsite site frontage along Central Avenue. This area is 0.19 acres and contains the sidewalk as well as driveway aprons. The third drainage area consists of the onsite area that flows towards Mitchell Street. This area consists of 0.36 acres and is located to the south of the former Selecto-Flash Building that has been demolished and Mitchell Street. This area previously had a small garage building and pavement areas and has since been demolished. The fourth drainage area consists of the offsite area along the site frontage that flows to Mitchell Street. The area consists of 0.03 acres and mostly contains existing sidewalks. Tabled 1-3 below show existing flows to Central Avenue, Mitchell Street and the Site Total, respectively.

Resultant pre-development and allowable peak flow rates are tabulated below in Tables 1 through Table 3.

Table 1 – Pre-Development Flow Rates to Central Avenue

Storm	Pre-Development Peak Flow Rate (cfs)	Off-Site Peak Flow Rate (cfs)	Total Peak Flow Rate (cfs)
2-yr	5.29	0.45	4.84
10-yr	8.29	0.77	7.52
100-yr	14.10	1.40	12.70

Table 2 – Pre-Development and Allowable Peak Flow Rates to Mitchell Street

Storm	Pre-Development Peak Flow Rate (cfs)	Off-Site Peak Flow Rate (cfs)	Total Peak Flow Rate (cfs)
2-yr	1.01	0.15	0.86
10-yr	1.72	0.25	1.47
100-yr	3.10	0.45	2.65

Table 3 – Pre-Development and Allowable Peak Flow Rates Site Summation

Storm	Pre-Development Peak Flow Rate (cfs)	Off-Site Peak Flow Rate (cfs)	Resultant Peak Flow Rate (cfs)	Peak Flow Rate Reduction Factor	Allowable Peak Flow Rate (cfs)
2-yr	6.31	- 0.60	= 5.71	x 0.50	= 2.85
10-yr	10.01	- 1.02	= 8.99	x 0.75	= 6.74
100-yr	17.20	- 1.84	= 15.36	x 0.80	= 12.28

Please refer to Appendix D for pre-development 2-, 10-year, and 100-year storm event calculations.

3.2 POST-DEVELOPMENT SITE CONDITIONS AND PROPOSED PEAK RATES

Please refer to the Post-Development Drainage Area Map enclosed within this report (Appendix F).

The overall post-development drainage area of study matches that of pre-development conditions at approximately 2.17 acres. In post-development conditions the stormwater runoff is divided into four drainage areas similar to Pre-Development Conditions. The first area consists of the onsite areas that flow towards Central Avenue. This area is 1.47 acres and consists of 3 sub-areas. These areas are the proposed building, most of the surface parking area, and unattenuated areas that bypass the proposed drainage improvements. The second drainage area is the offsite area that is located along the site frontage to Central Avenue. This area is 0.19 acres and contains the proposed sidewalk along the site frontage. The third is the onsite area that flows toward Mitchell Street. This area is 0.32 acres and contains the onsite area of the surface parking as well as a small offsite area from the neighboring property to the east. The fourth area is the offsite area located along the site frontage. The area is 0.03 acres and contains the proposed sidewalk frontage.

There are two proposed drainage systems for this development. These systems are designed to not increase flows to either Central Avenue or Mitchell Street, while meeting the required reductions as previously stated are required for the site total flows. Both drainage systems contain oversized pipes at a minimal slope that act as pipe storage. Each system contains an outlet structure that is downstream of the last onsite inlet. These outlet structures contain a series of weirs and orifices that help detain and attenuate stormwater at a reduced rate.

Tabulated below in Tables 4 through Table 6 are allowable and resultant post-development peak flow rates for the subject site.

Table 4 – Allowable & Post-Development Peak Flow Rates to Central Avenue

Storm	Allowable Peak Flow Rate (cfs)	Total Post-Development Peak Flow Rate (cfs)	Offsite Post-Development Peak Flow Rate (cfs)	Proposed Post-Development Peak Flow Rate (cfs)
2-yr	4.84	2.79	0.49	2.30
10-yr	7.52	4.44	0.81	3.63
100-yr	12.70	6.77	1.43	5.34

Table 5 – Allowable & Post-Development Peak Flow Rates to Mitchell Street

Storm	Allowable Peak Flow Rate (cfs)	Total Post-Development Peak Flow Rate (cfs)	Offsite Post-Development Peak Flow Rate (cfs)	Proposed Post-Development Peak Flow Rate (cfs)
2-yr	0.86	0.51	0.14	0.37
10-yr	1.47	1.42	0.24	1.18
100-yr	2.65	3.03	0.43	2.60

Table 6 – Allowable & Post-Development Peak Flow Rates Site Summation

Storm	Allowable Peak Flow Rate (cfs)	Total Post-Development Peak Flow Rate (cfs)	Offsite Post-Development Peak Flow Rate (cfs)	Proposed Post-Development Peak Flow Rate (cfs)
2-yr	2.85	3.30	0.63	2.67
10-yr	6.74	5.85	1.05	4.80
100-yr	12.28	9.79	1.87	7.92

As shown in Tables 4 through Table 6 above, the total post development peak flow rates are below the allowable peak flow rates for all storm events.

Please refer to Appendix E for post-development 2-, 10-, and 100-year storm proposed event calculations.

4.0 STORMWATER QUALITY

The property was previously developed with 1.59 acres of impervious coverage on site. The proposed development will contain 1.67 acres of impervious coverage. This increase in impervious is less than the required 0.25 acres with NJAC 7:8 to qualify for water quality standards.

Based on the above, it has been determined that water quality requirements are not applicable to this project.

5.0 GROUNDWATER RECHARGE

The subject site is located in an area that consists entirely of urban land, a coverage that strongly reduces groundwater recharge. The BMP states that urban redevelopment projects are exempt from groundwater recharge requirements.

Based on the above, it has been determined that groundwater recharge requirements are not applicable to this project.

6.0 CONCLUSION

The Applicant is proposing a development consisting one 5-story mixed use building. In existing conditions, the site contains an abandoned, and previously had another building that has since been demolished. The majority of the site drains toward Central Avenue, with a smaller portion that drains toward Mitchell Street. In proposed conditions the stormwater runoff quantity requirements have been met with the design oversized stormwater pipes and an outlet structure downstream of the last inlet which reduces the stormwater peak flow runoff in post-development conditions to less than the required 50%, 75%, and 80% of the pre-development 2-, 10-, and 100-year storm events. Stormwater quality requirements are not applicable due the fact that the site will not increase impervious coverage from pre-existing conditions more than the required 0.25 acres. Groundwater recharge requirements are not required due to the site containing uncontrolled urban land fill.

Based on the above, it is Matrix New World Engineering's opinion that the proposed development will not have a negative impact on the surrounding area or on the existing storm sewer systems.

APPENDIX A

USGS QUAD MAP

APPENDIX B

NEW JERSEY 24-HOUR RAINFALL FREQUENCY DATA

NEW JERSEY 24 HOUR RAINFALL FREQUENCY DATA

Rainfall amounts in Inches

County	1 year	2 year	5 year	10 year	25 year	50 year	100 year
Atlantic	2.72	3.31	4.30	5.16	6.46	7.61	8.90
Bergen	2.75	3.34	4.27	5.07	6.28	7.32	8.47
Burlington	2.77	3.36	4.34	5.18	6.45	7.56	8.81
Camden	2.73	3.31	4.25	5.06	6.28	7.34	8.52
Cape May	2.67	3.25	4.22	5.07	6.34	7.47	8.73
Cumberland	2.69	3.27	4.25	5.09	6.37	7.49	8.76
Essex	2.85	3.44	4.40	5.22	6.44	7.49	8.66
Gloucester	2.71	3.29	4.24	5.05	6.29	7.36	8.55
Hudson	2.73	3.31	4.23	5.02	6.19	7.20	8.31
Hunterdon	2.80	3.38	4.26	5.00	6.09	7.02	8.03
Mercer	2.74	3.31	4.23	5.01	6.19	7.20	8.33
Middlesex	2.76	3.35	4.30	5.12	6.36	7.43	8.63
Monmouth	2.79	3.38	4.38	5.23	6.53	7.66	8.94
Morris	2.94	3.54	4.47	5.24	6.37	7.32	8.35
Ocean	2.81	3.42	4.45	5.33	6.68	7.87	9.20
Passaic	2.87	3.47	4.42	5.23	6.43	7.47	8.62
Salem	2.69	3.26	4.20	5.00	6.22	7.28	8.45
Somerset	2.76	3.34	4.25	5.01	6.15	7.13	8.21
Sussex	2.68	3.22	4.02	4.70	5.72	6.60	7.58
Union	2.80	3.39	4.35	5.17	6.42	7.49	8.69
Warren	2.78	3.34	4.18	4.89	5.93	6.83	7.82

Notes: The average point rainfall amounts listed above were developed from data contained in NOAA Atlas 14 Volume 2.

Point rainfall estimates for specific locations may be obtained from the Precipitation Frequency Data Server located at <http://www.nws.noaa.gov/ohd/hdsc/>

For most hydrologic design procedures, the rainfall amounts listed above may be rounded to the nearest tenth of an inch.

APPENDIX C

USDA Web Soil Survey

Hydrologic Soil Group—Essex County, New Jersey

Map Scale: 1:5,070 if printed on A landscape (11" x 8.5") sheet.

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

Soil Map may not be valid at this scale.

Streets shown: Pine St, Rollinson, Nutman Pl, Bowler, USBOOC, Central, URDUNB, USBOOC, New England Ter, USBOOB, Scotland, St. James St, Tompkins St, Freeman St, Forest St.

Coordinates: 40° 45' 53" N, 74° 15' 4" W, 74° 14' 17" W, 45° 13' 00" W, 45° 13' 30" W, 45° 14' 00" W, 45° 14' 30" W, 45° 15' 00" W, 45° 15' 30" W, 45° 16' 00" W, 45° 16' 30" W, 45° 17' 00" W, 45° 17' 30" W, 45° 18' 00" W, 45° 18' 30" W, 45° 19' 00" W, 45° 19' 30" W, 45° 20' 00" W, 45° 20' 30" W, 45° 21' 00" W, 45° 21' 30" W, 45° 22' 00" W, 45° 22' 30" W, 45° 23' 00" W, 45° 23' 30" W, 45° 24' 00" W, 45° 24' 30" W, 45° 25' 00" W, 45° 25' 30" W, 45° 26' 00" W, 45° 26' 30" W, 45° 27' 00" W, 45° 27' 30" W, 45° 28' 00" W, 45° 28' 30" W, 45° 29' 00" W, 45° 29' 30" W, 45° 30' 00" W, 45° 30' 30" W, 45° 31' 00" W, 45° 31' 30" W, 45° 32' 00" W, 45° 32' 30" W, 45° 33' 00" W, 45° 33' 30" W, 45° 34' 00" W, 45° 34' 30" W, 45° 35' 00" W, 45° 35' 30" W, 45° 36' 00" W, 45° 36' 30" W, 45° 37' 00" W, 45° 37' 30" W, 45° 38' 00" W, 45° 38' 30" W, 45° 39' 00" W, 45° 39' 30" W, 45° 40' 00" W, 45° 40' 30" W, 45° 41' 00" W, 45° 41' 30" W, 45° 42' 00" W, 45° 42' 30" W, 45° 43' 00" W, 45° 43' 30" W, 45° 44' 00" W, 45° 44' 30" W, 45° 45' 00" W, 45° 45' 30" W, 45° 46' 00" W, 45° 46' 30" W, 45° 47' 00" W, 45° 47' 30" W, 45° 48' 00" W, 45° 48' 30" W, 45° 49' 00" W, 45° 49' 30" W, 45° 50' 00" W, 45° 50' 30" W, 45° 51' 00" W, 45° 51' 30" W, 45° 52' 00" W, 45° 52' 30" W, 45° 53' 00" W, 45° 53' 30" W, 45° 54' 00" W, 45° 54' 30" W, 45° 55' 00" W, 45° 55' 30" W, 45° 56' 00" W, 45° 56' 30" W, 45° 57' 00" W, 45° 57' 30" W, 45° 58' 00" W, 45° 58' 30" W, 45° 59' 00" W, 45° 59' 30" W, 46° 0' 00" W, 46° 0' 30" W, 46° 1' 00" W, 46° 1' 30" W, 46° 2' 00" W, 46° 2' 30" W, 46° 3' 00" W, 46° 3' 30" W, 46° 4' 00" W, 46° 4' 30" W, 46° 5' 00" W, 46° 5' 30" W, 46° 6' 00" W, 46° 6' 30" W, 46° 7' 00" W, 46° 7' 30" W, 46° 8' 00" W, 46° 8' 30" W, 46° 9' 00" W, 46° 9' 30" W, 46° 10' 00" W, 46° 10' 30" W, 46° 11' 00" W, 46° 11' 30" W, 46° 12' 00" W, 46° 12' 30" W, 46° 13' 00" W, 46° 13' 30" W, 46° 14' 00" W, 46° 14' 30" W, 46° 15' 00" W, 46° 15' 30" W, 46° 16' 00" W, 46° 16' 30" W, 46° 17' 00" W, 46° 17' 30" W, 46° 18' 00" W, 46° 18' 30" W, 46° 19' 00" W, 46° 19' 30" W, 46° 20' 00" W, 46° 20' 30" W, 46° 21' 00" W, 46° 21' 30" W, 46° 22' 00" W, 46° 22' 30" W, 46° 23' 00" W, 46° 23' 30" W, 46° 24' 00" W, 46° 24' 30" W, 46° 25' 00" W, 46° 25' 30" W, 46° 26' 00" W, 46° 26' 30" W, 46° 27' 00" W, 46° 27' 30" W, 46° 28' 00" W, 46° 28' 30" W, 46° 29' 00" W, 46° 29' 30" W, 46° 30' 00" W, 46° 30' 30" W, 46° 31' 00" W, 46° 31' 30" W, 46° 32' 00" W, 46° 32' 30" W, 46° 33' 00" W, 46° 33' 30" W, 46° 34' 00" W, 46° 34' 30" W, 46° 35' 00" W, 46° 35' 30" W, 46° 36' 00" W, 46° 36' 30" W, 46° 37' 00" W, 46° 37' 30" W, 46° 38' 00" W, 46° 38' 30" W, 46° 39' 00" W, 46° 39' 30" W, 46° 40' 00" W, 46° 40' 30" W, 46° 41' 00" W, 46° 41' 30" W, 46° 42' 00" W, 46° 42' 30" W, 46° 43' 00" W, 46° 43' 30" W, 46° 44' 00" W, 46° 44' 30" W, 46° 45' 00" W, 46° 45' 30" W, 46° 46' 00" W, 46° 46' 30" W, 46° 47' 00" W, 46° 47' 30" W, 46° 48' 00" W, 46° 48' 30" W, 46° 49' 00" W, 46° 49' 30" W, 46° 50' 00" W, 46° 50' 30" W, 46° 51' 00" W, 46° 51' 30" W, 46° 52' 00" W, 46° 52' 30" W, 46° 53' 00" W, 46° 53' 30" W, 46° 54' 00" W, 46° 54' 30" W, 46° 55' 00" W, 46° 55' 30" W, 46° 56' 00" W, 46° 56' 30" W, 46° 57' 00" W, 46° 57' 30" W, 46° 58' 00" W, 46° 58' 30" W, 46° 59' 00" W, 46° 59' 30" W, 47° 0' 00" W, 47° 0' 30" W, 47° 1' 00" W, 47° 1' 30" W, 47° 2' 00" W, 47° 2' 30" W, 47° 3' 00" W, 47° 3' 30" W, 47° 4' 00" W, 47° 4' 30" W, 47° 5' 00" W, 47° 5' 30" W, 47° 6' 00" W, 47° 6' 30" W, 47° 7' 00" W, 47° 7' 30" W, 47° 8' 00" W, 47° 8' 30" W, 47° 9' 00" W, 47° 9' 30" W, 47° 10' 00" W, 47° 10' 30" W, 47° 11' 00" W, 47° 11' 30" W, 47° 12' 00" W, 47° 12' 30" W, 47° 13' 00" W, 47° 13' 30" W, 47° 14' 00" W, 47° 14' 30" W, 47° 15' 00" W, 47° 15' 30" W, 47° 16' 00" W, 47° 16' 30" W, 47° 17' 00" W, 47° 17' 30" W, 47° 18' 00" W, 47° 18' 30" W, 47° 19' 00" W, 47° 19' 30" W, 47° 20' 00" W, 47° 20' 30" W, 47° 21' 00" W, 47° 21' 30" W, 47° 22' 00" W, 47° 22' 30" W, 47° 23' 00" W, 47° 23' 30" W, 47° 24' 00" W, 47° 24' 30" W, 47° 25' 00" W, 47° 25' 30" W, 47° 26' 00" W, 47° 26' 30" W, 47° 27' 00" W, 47° 27' 30" W, 47° 28' 00" W, 47° 28' 30" W, 47° 29' 00" W, 47° 29' 30" W, 47° 30' 00" W, 47° 30' 30" W, 47° 31' 00" W, 47° 31' 30

Map Scale: 1:5,070 if printed on A landscape (11" x 8.5") sheet.

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)		☐ C
Area of Interest (AOI)		☐ C/D
Soils		☐ D
Soil Rating Polygons		☐ Not rated or not available
☐ A		
☐ A/D		
☐ B		
☐ B/D		
☐ C		
☐ C/D		
☐ D		
☐ Not rated or not available		
Soil Rating Lines		
☐ A		
☐ A/D		
☐ B		
☐ B/D		
☐ C		
☐ C/D		
☐ D		
☐ Not rated or not available		
Soil Rating Points		
☐ A		
☐ A/D		
☐ B		
☐ B/D		

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: Essex County, New Jersey
Survey Area Data: Version 16, Jun 1, 2020

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

Date(s) aerial images were photographed: Aug 25, 2014—Sep 27, 2014

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BowrB	Boonton - Urban land, Boonton substratum complex, red sandstone lowland, 0 to 8 percent slopes	C	0.0	0.0%
URDUNB	Urban land, Dunellen substratum, 0 to 8 percent slopes		53.2	47.3%
USBOOB	Urban land, Boonton substratum - Boonton complex, red sandstone lowland, 0 to 8 percent slopes		0.2	0.2%
USBOOC	Urban land, Boonton substratum - Boonton complex, red sandstone lowland, 8 to 15 percent slopes		16.6	14.7%
USDUNB	Urban land, Dunellen substratum - Dunellen complex, 0 to 8 percent slopes		42.5	37.8%
Totals for Area of Interest			112.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

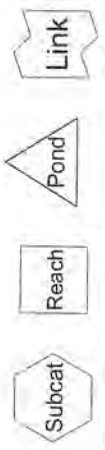
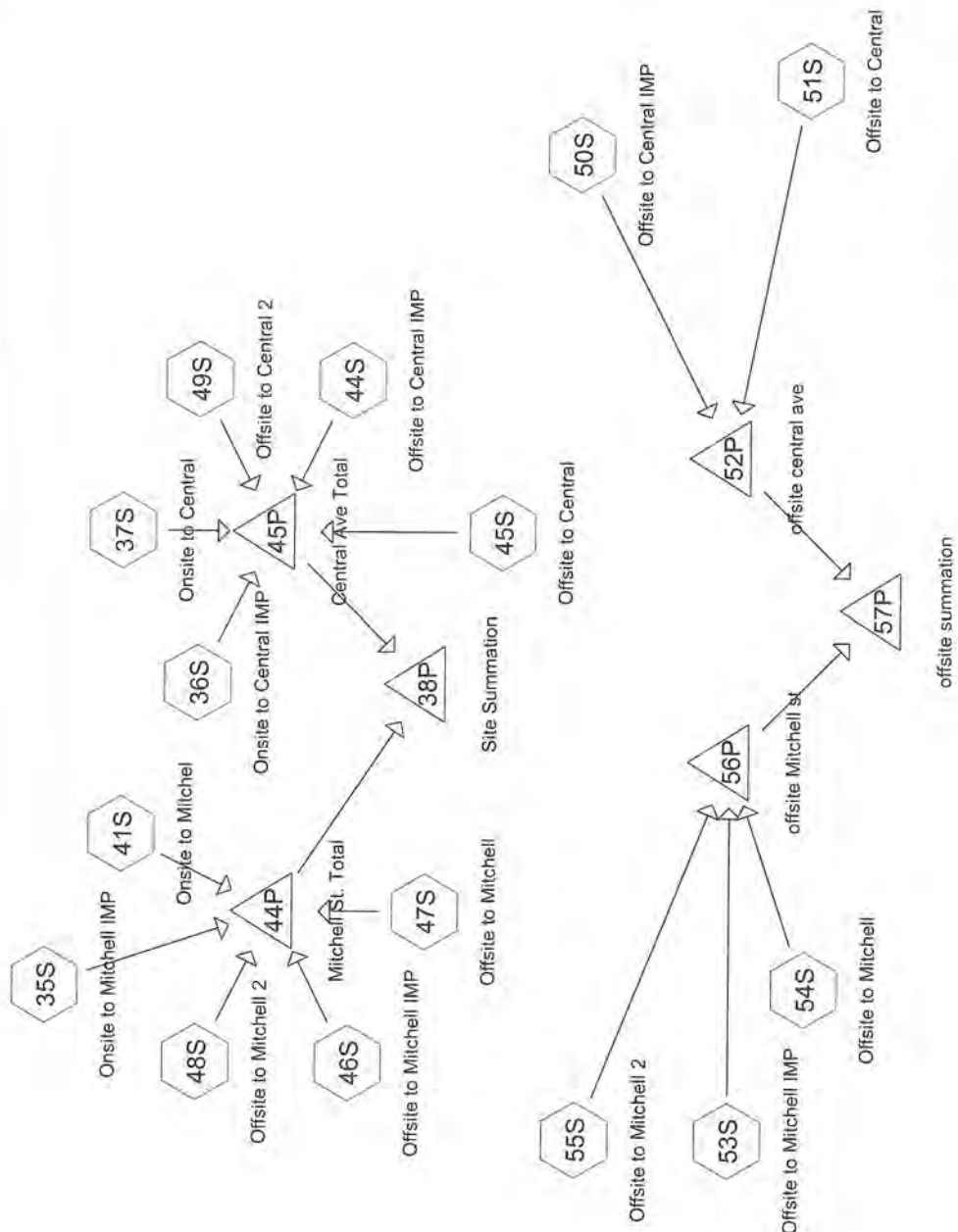
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX D

PRE-DEVELOPMENT 2-, 10-, AND 100-YEAR STORM EVENT CALCULATIONS



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 35S: Onsite to Mitchell IMP

Runoff = 0.51 cfs @ 12.13 hrs, Volume= 0.043 af, Depth= 3.21"

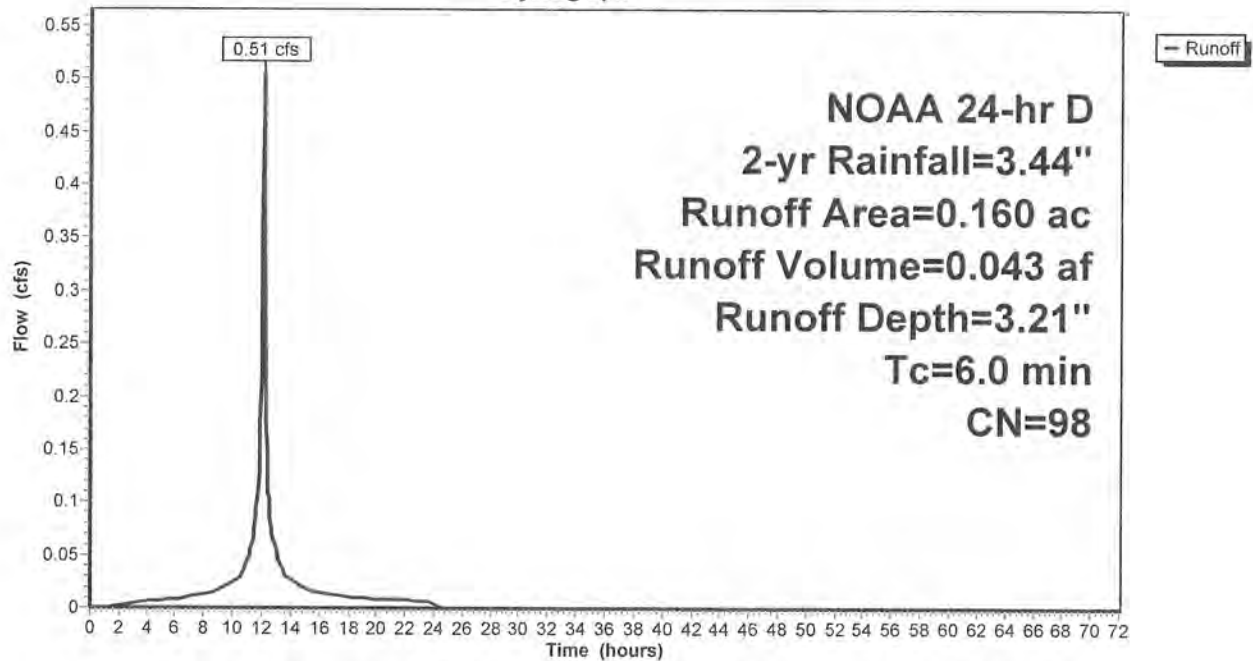
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.160	98	Paved parking, HSG D
0.160		100.00% Impervious Area

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

Subcatchment 35S: Onsite to Mitchell IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 36S: Onsite to Central IMP

Runoff = 4.52 cfs @ 12.13 hrs, Volume= 0.382 af, Depth= 3.21"

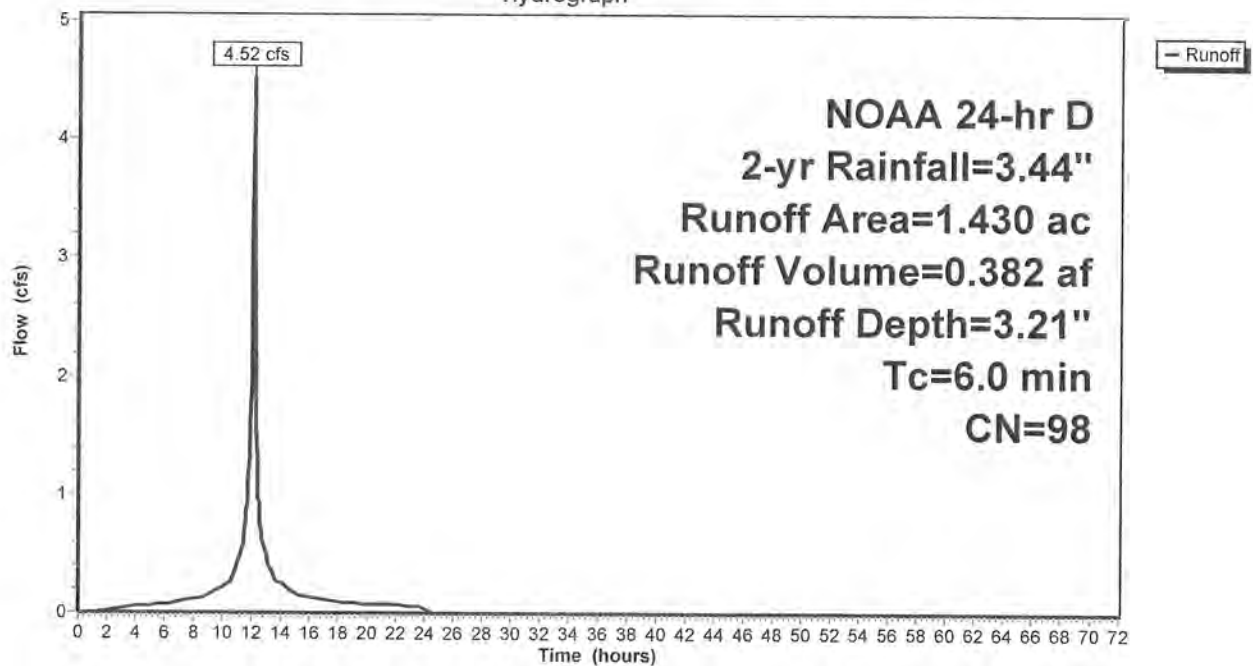
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
1.430	98	Paved parking, HSG D
1.430		100.00% Impervious Area

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

Subcatchment 36S: Onsite to Central IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 37S: Onsite to Central

Runoff = 0.29 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 1.59"

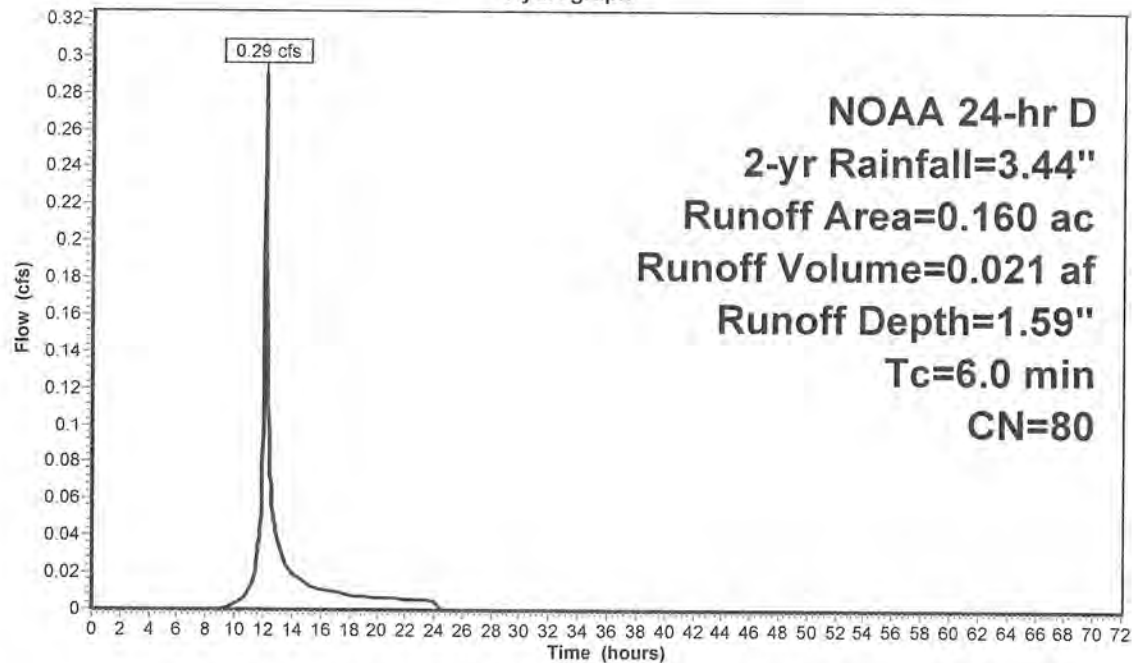
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.160	80	>75% Grass cover, Good, HSG D
0.160		100.00% Pervious Area

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

Subcatchment 37S: Onsite to Central

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 41S: Onsite to Mitchel

Runoff = 0.36 cfs @ 12.13 hrs, Volume= 0.026 af, Depth= 1.59"

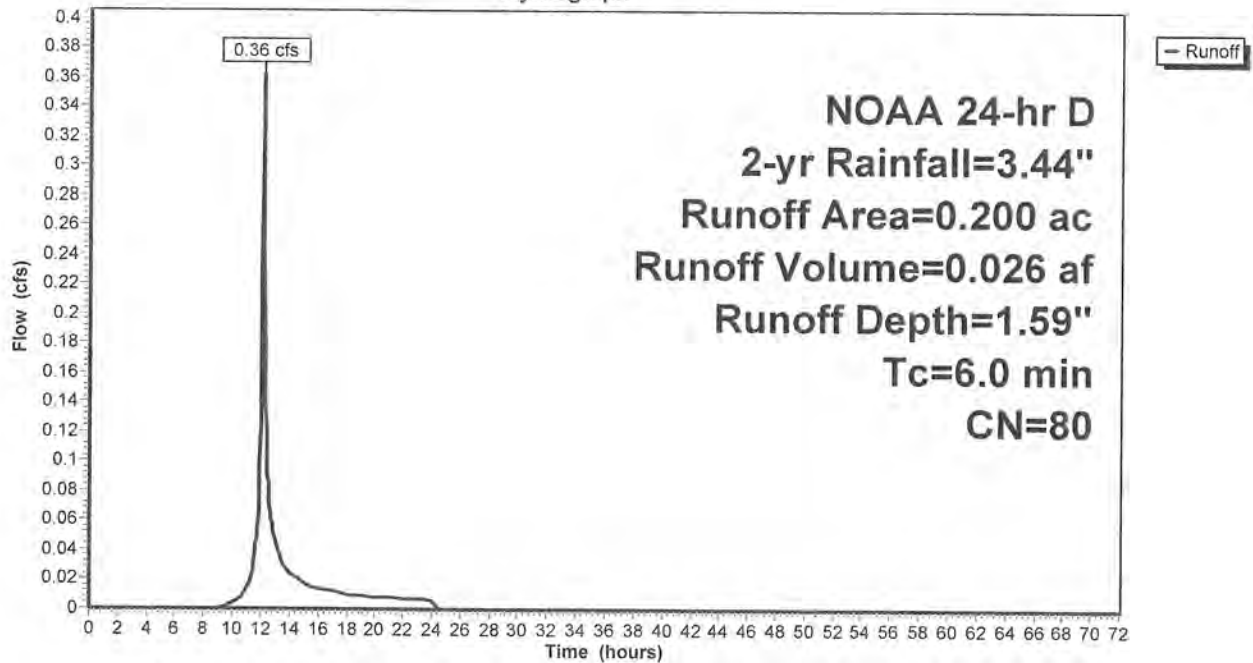
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.200	80	>75% Grass cover, Good, HSG D
0.200		100.00% Pervious Area

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

Subcatchment 41S: Onsite to Mitchel

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 44S: Offsite to Central IMP

Runoff = 0.25 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 3.21"

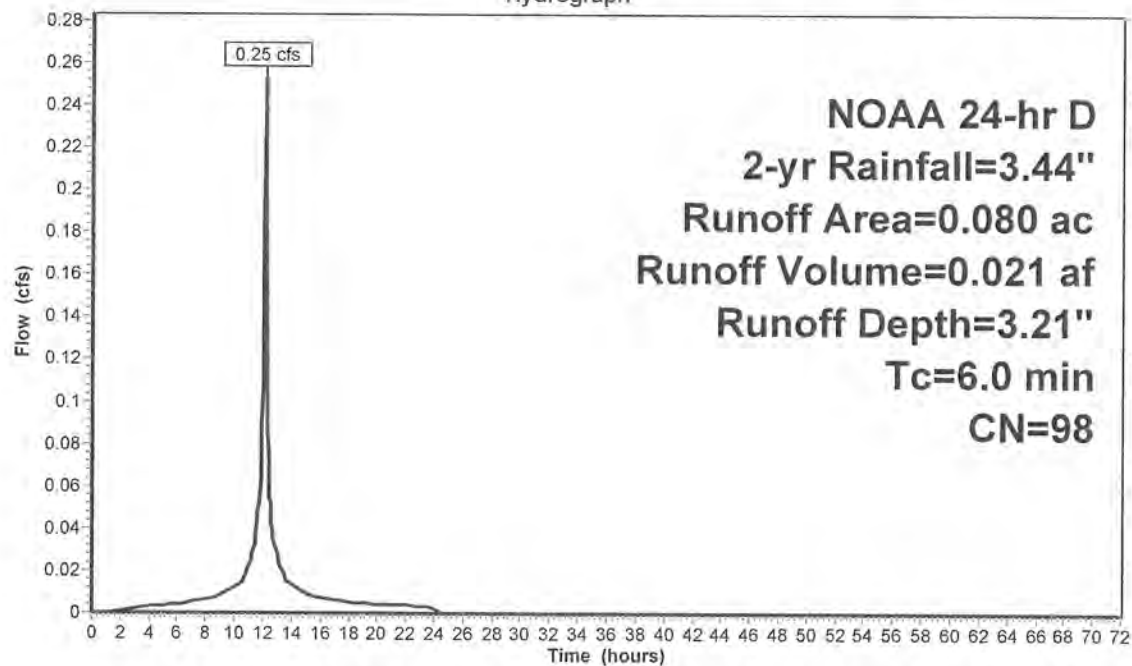
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.080	98	Paved parking, HSG D
0.080		100.00% Impervious Area

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

Subcatchment 44S: Offsite to Central IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 45S: Offsite to Central

Runoff = 0.20 cfs @ 12.13 hrs, Volume= 0.015 af, Depth= 1.59"

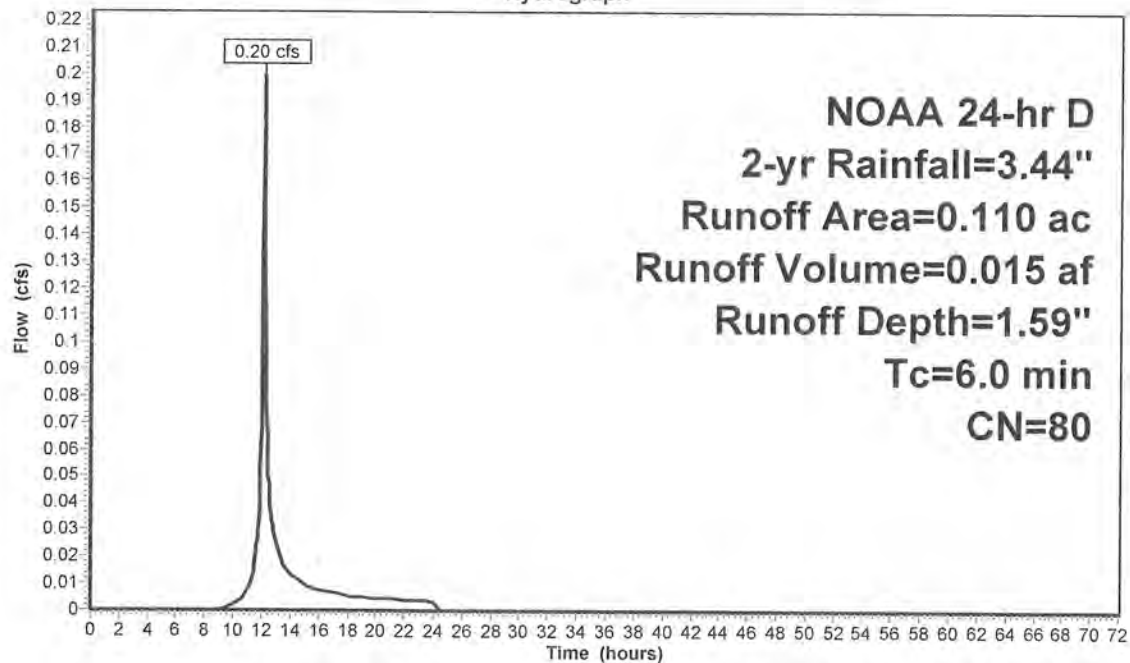
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.110	80	>75% Grass cover, Good, HSG D
0.110		100.00% Pervious Area

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

Subcatchment 45S: Offsite to Central

Hydrograph



Pre-Development-Central

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 46S: Offsite to Mitchell IMP

Runoff = 0.09 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 3.21"

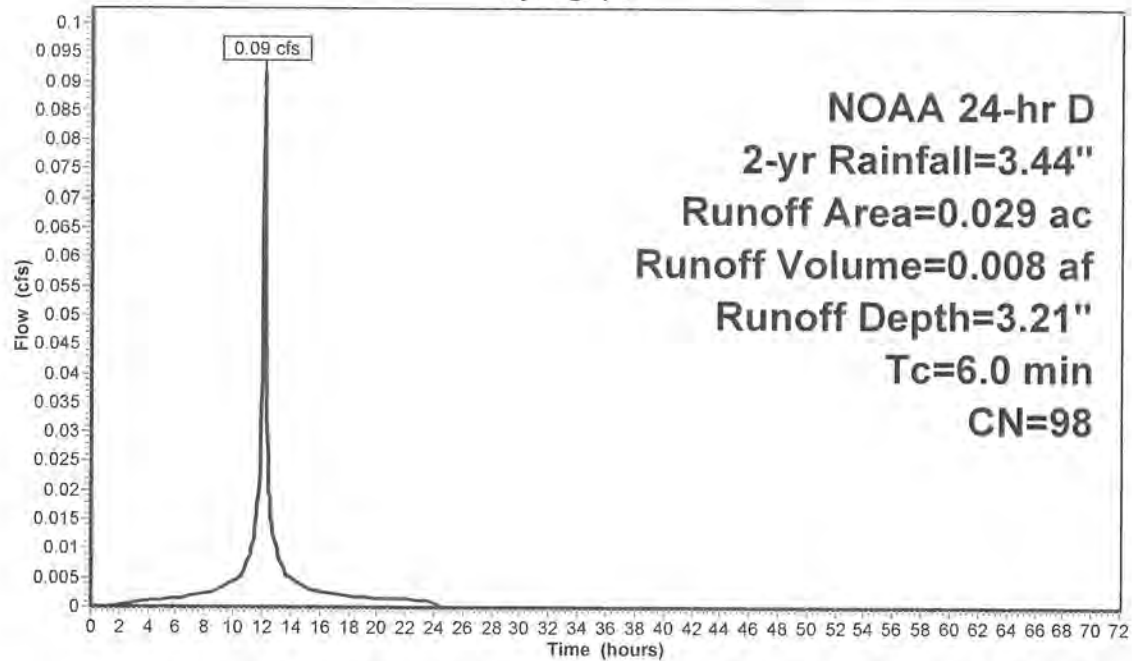
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG D
0.029		100.00% Impervious Area

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

Subcatchment 46S: Offsite to Mitchell IMP

Hydrograph



HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

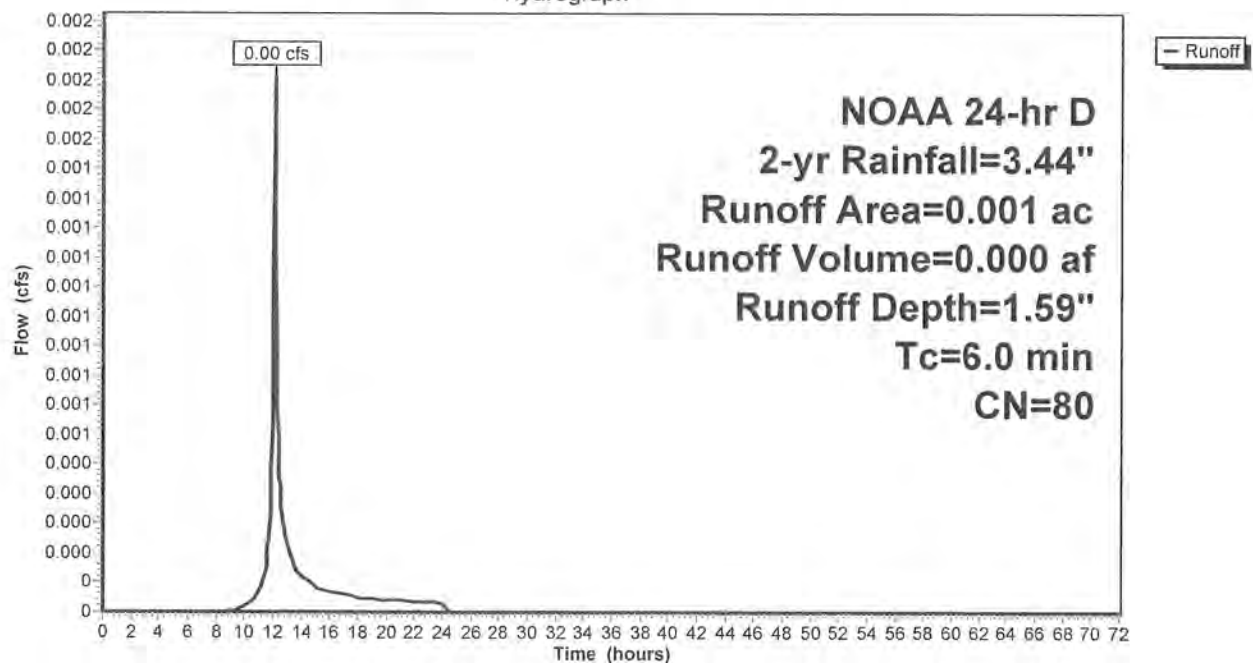
Printed 2/19/2021

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
0.001		100.00% Pervious Area

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

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 48S: Offsite to Mitchell 2

Runoff = 0.05 cfs @ 12.13 hrs, Volume= 0.004 af, Depth= 1.59"

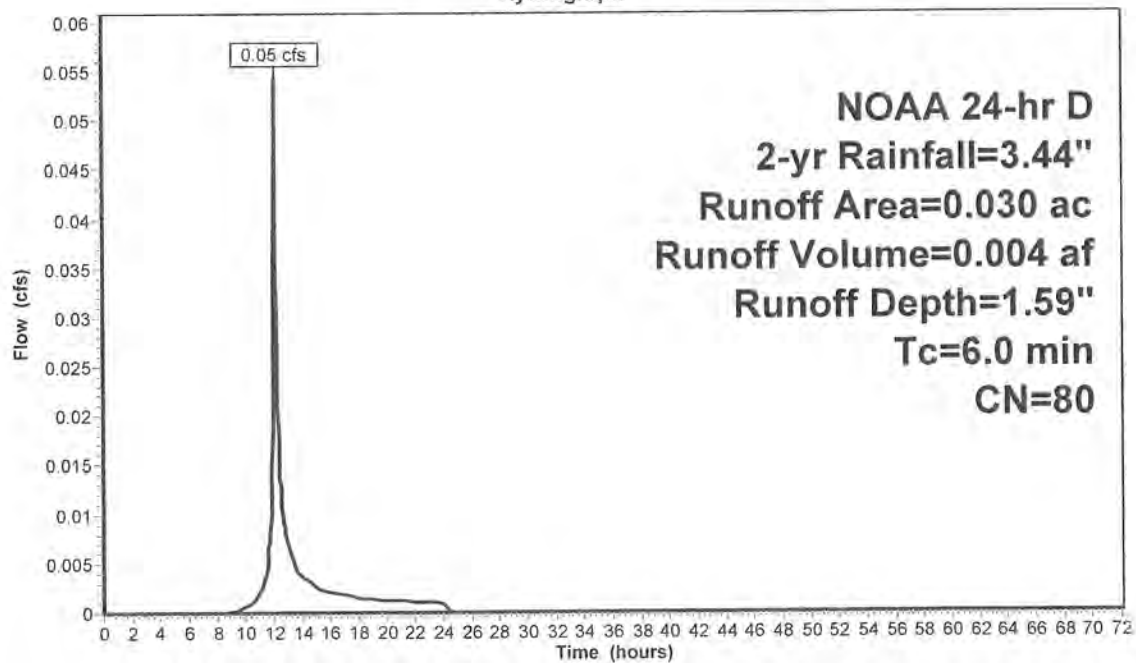
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 48S: Offsite to Mitchell 2

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 49S: Offsite to Central 2

Runoff = 0.04 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 1.59"

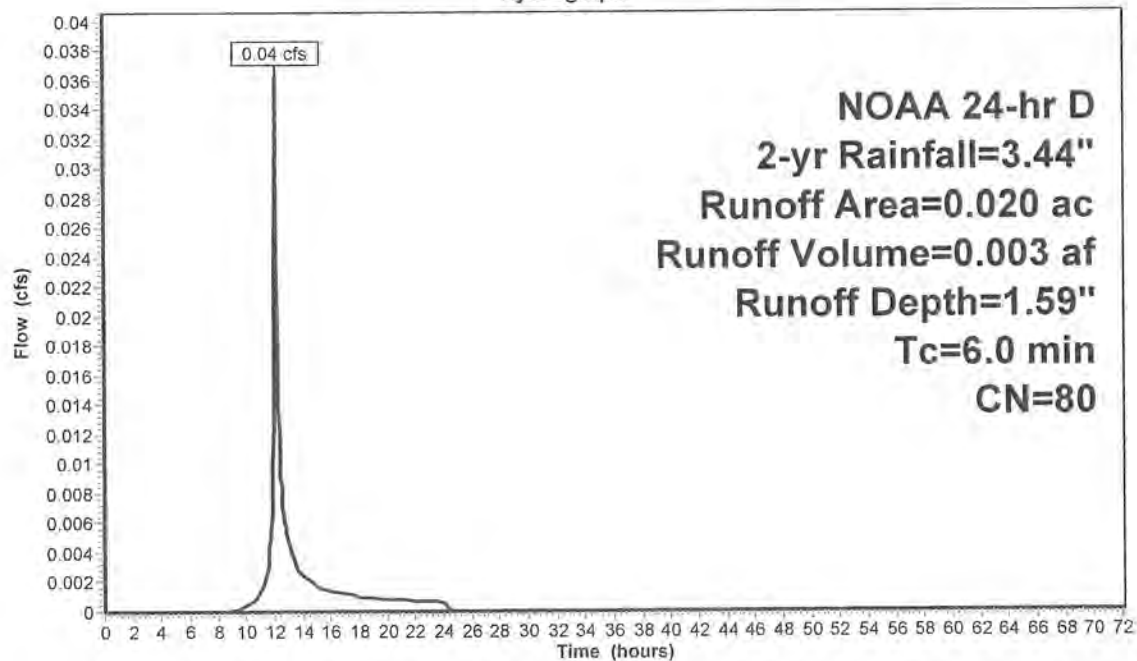
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.020	80	>75% Grass cover, Good, HSG D
0.020		100.00% Pervious Area

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

Subcatchment 49S: Offsite to Central 2

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

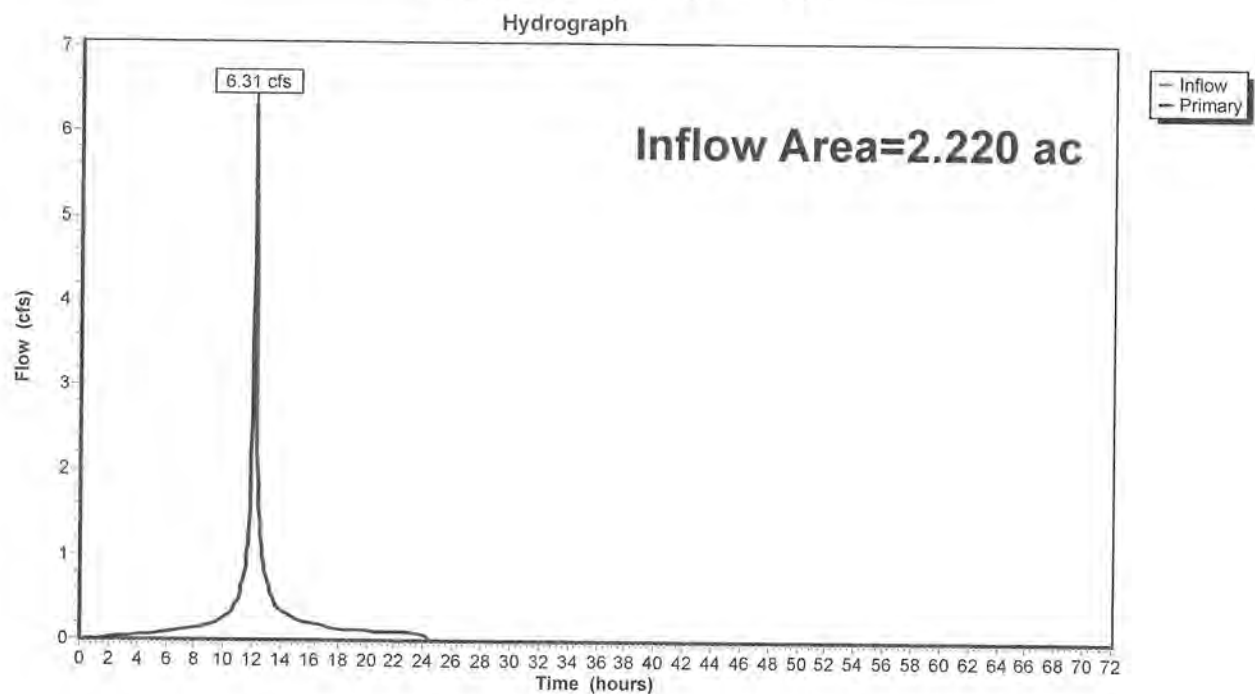
Printed 2/19/2021

Summary for Pond 38P: Site Summation

Inflow Area = 2.220 ac, 76.53% Impervious, Inflow Depth = 2.83" for 2-yr event
Inflow = 6.31 cfs @ 12.13 hrs, Volume= 0.523 af
Primary = 6.31 cfs @ 12.13 hrs, Volume= 0.523 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 38P: Site Summation



Pre-Development-Central

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Hydrograph for Pond 38P: Site Summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.00		0.00	54.00	0.00		0.00
2.00	0.02		0.02	55.00	0.00		0.00
3.00	0.04		0.04	56.00	0.00		0.00
4.00	0.06		0.06	57.00	0.00		0.00
5.00	0.07		0.07	58.00	0.00		0.00
6.00	0.08		0.08	59.00	0.00		0.00
7.00	0.11		0.11	60.00	0.00		0.00
8.00	0.14		0.14	61.00	0.00		0.00
9.00	0.17		0.17	62.00	0.00		0.00
10.00	0.27		0.27	63.00	0.00		0.00
11.00	0.50		0.50	64.00	0.00		0.00
12.00	3.51		3.51	65.00	0.00		0.00
13.00	0.70		0.70	66.00	0.00		0.00
14.00	0.35		0.35	67.00	0.00		0.00
15.00	0.24		0.24	68.00	0.00		0.00
16.00	0.20		0.20	69.00	0.00		0.00
17.00	0.16		0.16	70.00	0.00		0.00
18.00	0.13		0.13	71.00	0.00		0.00
19.00	0.12		0.12	72.00	0.00		0.00
20.00	0.11		0.11				
21.00	0.10		0.10				
22.00	0.10		0.10				
23.00	0.09		0.09				
24.00	0.08		0.08				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

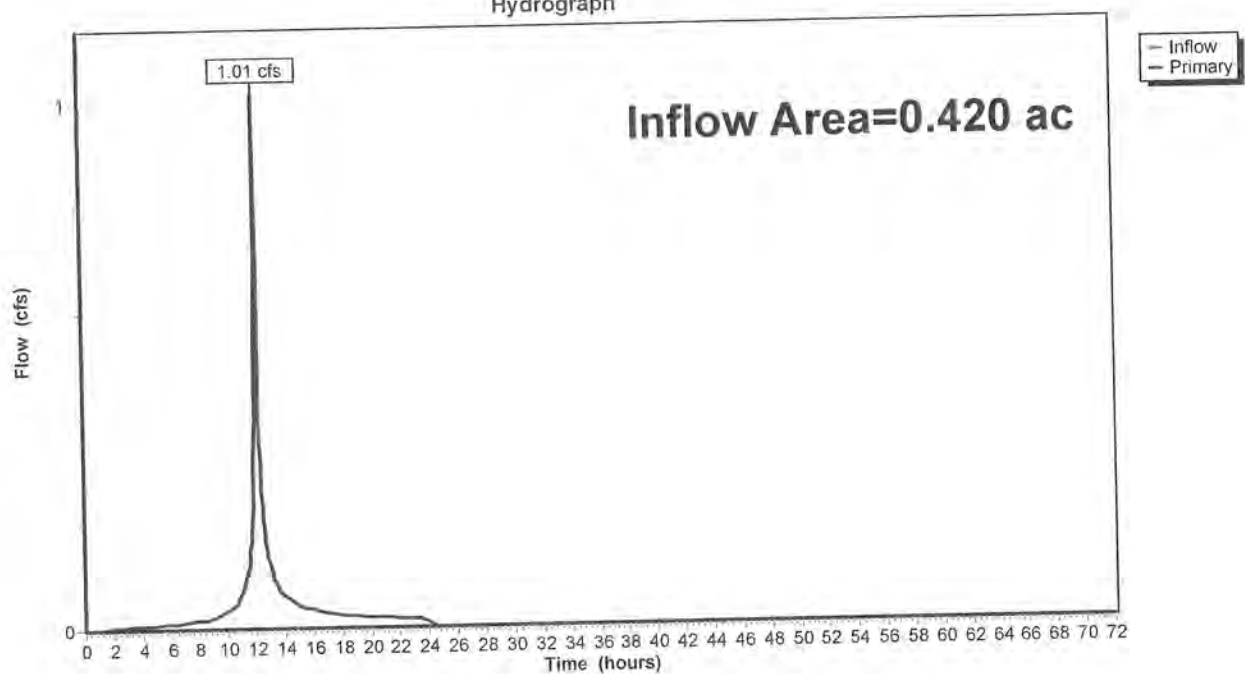
Summary for Pond 44P: Mitchell St. Total

Inflow Area = 0.420 ac, 45.00% Impervious, Inflow Depth = 2.32" for 2-yr event
Inflow = 1.01 cfs @ 12.13 hrs, Volume= 0.081 af
Primary = 1.01 cfs @ 12.13 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 44P: Mitchell St. Total

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Hydrograph for Pond 44P: Mitchell St. Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.00		0.00	54.00	0.00		0.00
2.00	0.00		0.00	55.00	0.00		0.00
3.00	0.00		0.00	56.00	0.00		0.00
4.00	0.01		0.01	57.00	0.00		0.00
5.00	0.01		0.01	58.00	0.00		0.00
6.00	0.01		0.01	59.00	0.00		0.00
7.00	0.01		0.01	60.00	0.00		0.00
8.00	0.02		0.02	61.00	0.00		0.00
9.00	0.02		0.02	62.00	0.00		0.00
10.00	0.03		0.03	63.00	0.00		0.00
11.00	0.07		0.07	64.00	0.00		0.00
12.00	0.54		0.54	65.00	0.00		0.00
13.00	0.12		0.12	66.00	0.00		0.00
14.00	0.06		0.06	67.00	0.00		0.00
15.00	0.04		0.04	68.00	0.00		0.00
16.00	0.03		0.03	69.00	0.00		0.00
17.00	0.03		0.03	70.00	0.00		0.00
18.00	0.02		0.02	71.00	0.00		0.00
19.00	0.02		0.02	72.00	0.00		0.00
20.00	0.02		0.02				
21.00	0.02		0.02				
22.00	0.02		0.02				
23.00	0.02		0.02				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

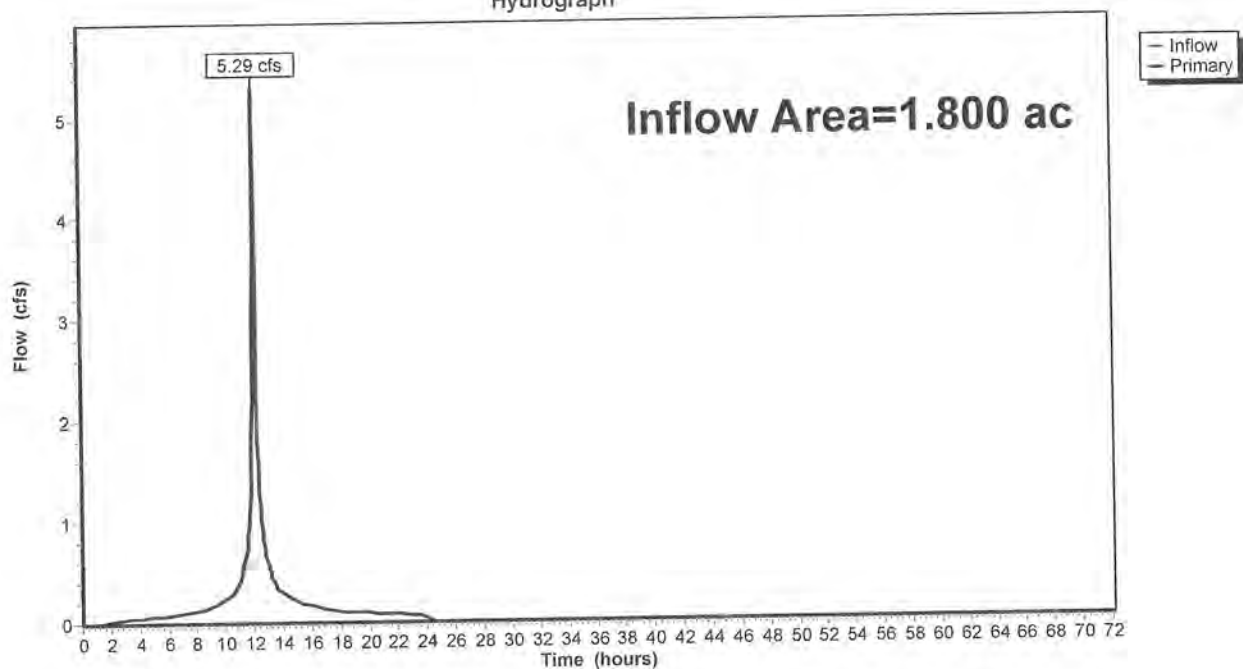
Summary for Pond 45P: Central Ave Total

Inflow Area = 1.800 ac, 83.89% Impervious, Inflow Depth = 2.95" for 2-yr event
Inflow = 5.29 cfs @ 12.13 hrs, Volume= 0.442 af
Primary = 5.29 cfs @ 12.13 hrs, Volume= 0.442 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 45P: Central Ave Total

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Hydrograph for Pond 45P: Central Ave Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.00		0.00	54.00	0.00		0.00
2.00	0.02		0.02	55.00	0.00		0.00
3.00	0.04		0.04	56.00	0.00		0.00
4.00	0.05		0.05	57.00	0.00		0.00
5.00	0.06		0.06	58.00	0.00		0.00
6.00	0.07		0.07	59.00	0.00		0.00
7.00	0.10		0.10	60.00	0.00		0.00
8.00	0.12		0.12	61.00	0.00		0.00
9.00	0.15		0.15	62.00	0.00		0.00
10.00	0.23		0.23	63.00	0.00		0.00
11.00	0.43		0.43	64.00	0.00		0.00
12.00	2.97		2.97	65.00	0.00		0.00
13.00	0.58		0.58	66.00	0.00		0.00
14.00	0.29		0.29	67.00	0.00		0.00
15.00	0.20		0.20	68.00	0.00		0.00
16.00	0.16		0.16	69.00	0.00		0.00
17.00	0.14		0.14	70.00	0.00		0.00
18.00	0.11		0.11	71.00	0.00		0.00
19.00	0.10		0.10	72.00	0.00		0.00
20.00	0.09		0.09				
21.00	0.09		0.09				
22.00	0.08		0.08				
23.00	0.07		0.07				
24.00	0.07		0.07				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 35S: Onsite to Mitchell IMP

Runoff = 0.77 cfs @ 12.13 hrs, Volume= 0.066 af, Depth= 4.98"

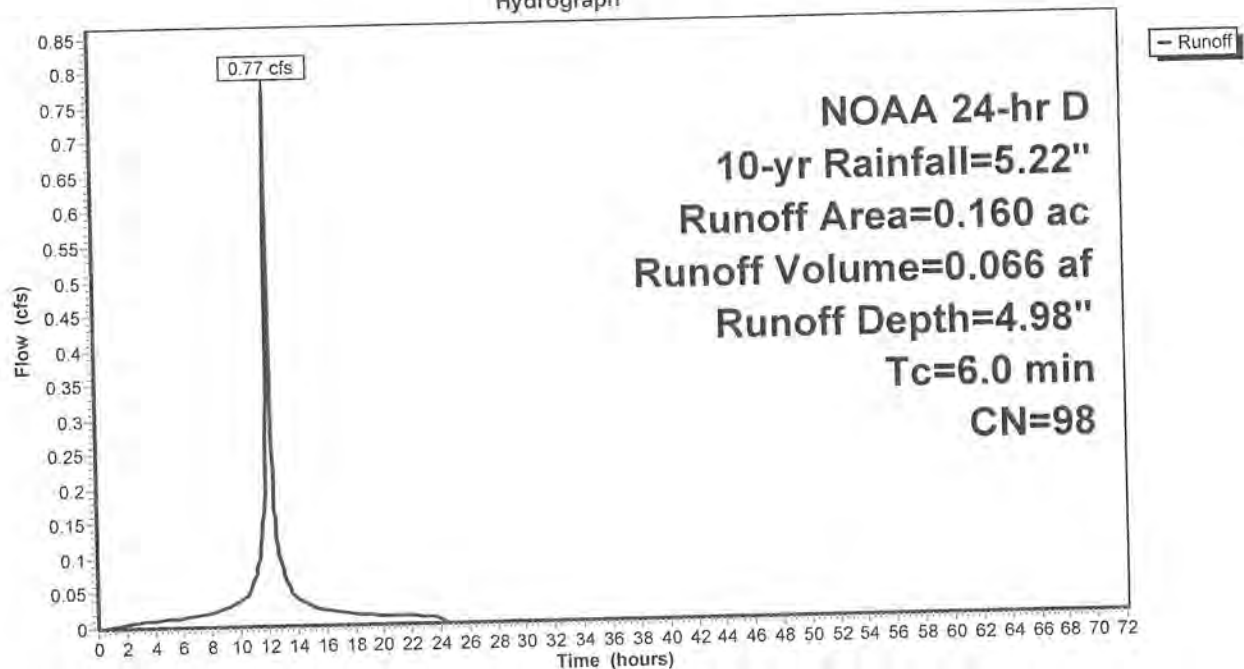
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.160	98	Paved parking, HSG D
0.160		100.00% Impervious Area

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

Subcatchment 35S: Onsite to Mitchell IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 36S: Onsite to Central IMP

Runoff = 6.89 cfs @ 12.13 hrs, Volume= 0.594 af, Depth= 4.98"

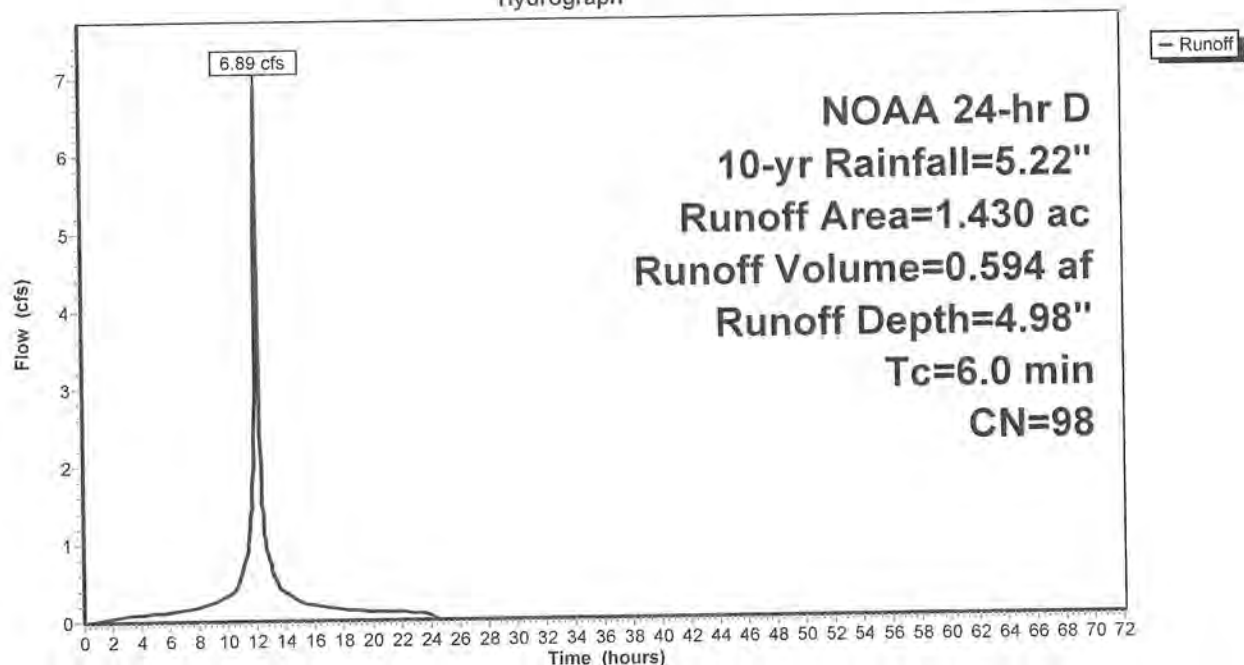
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
1.430	98	Paved parking, HSG D
1.430		100.00% Impervious Area

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

Subcatchment 36S: Onsite to Central IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 37S: Onsite to Central

Runoff = 0.56 cfs @ 12.13 hrs, Volume= 0.041 af, Depth= 3.09"

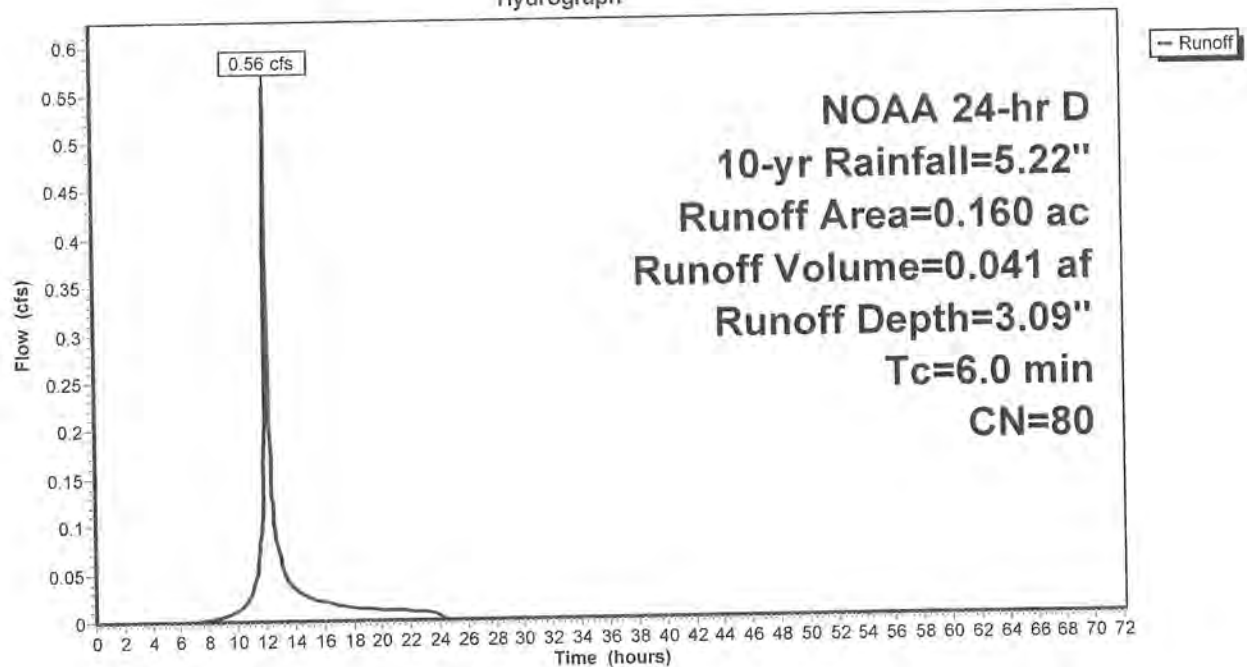
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.160	80	>75% Grass cover, Good, HSG D
0.160		100.00% Pervious Area

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

Subcatchment 37S: Onsite to Central

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 41S: Onsite to Mitchel

Runoff = 0.70 cfs @ 12.13 hrs, Volume= 0.051 af, Depth= 3.09"

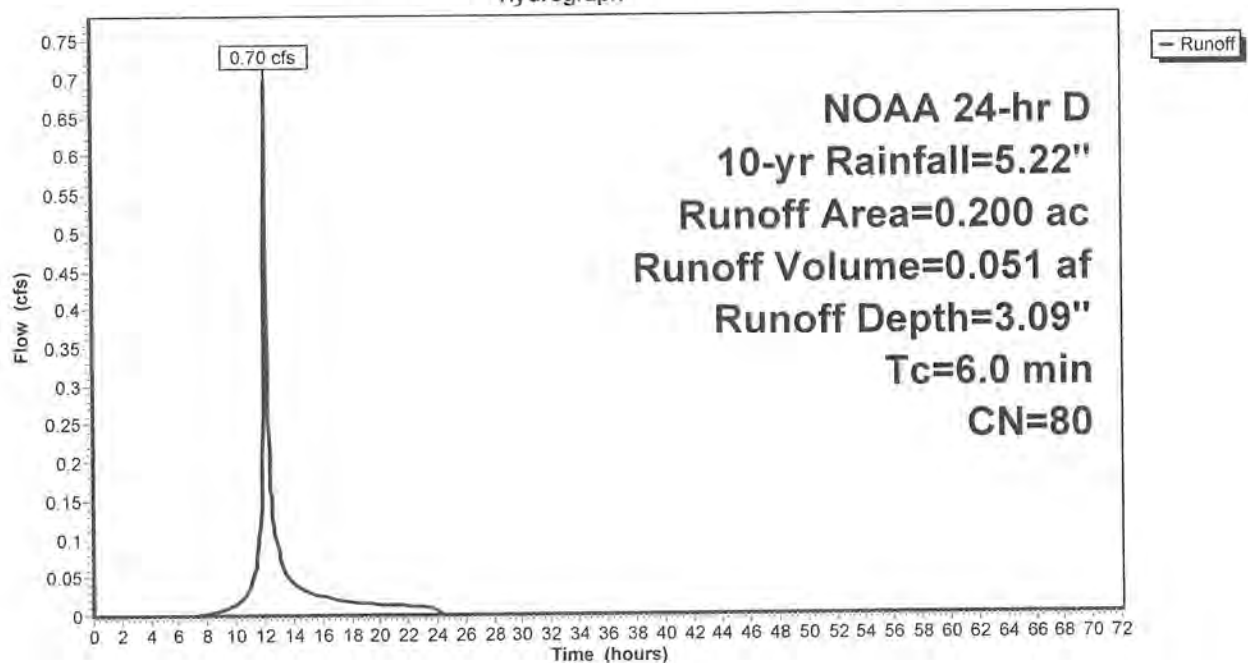
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.200	80	>75% Grass cover, Good, HSG D
0.200		100.00% Pervious Area

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

Subcatchment 41S: Onsite to Mitchel

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 44S: Offsite to Central IMP

Runoff = 0.39 cfs @ 12.13 hrs, Volume= 0.033 af, Depth= 4.98"

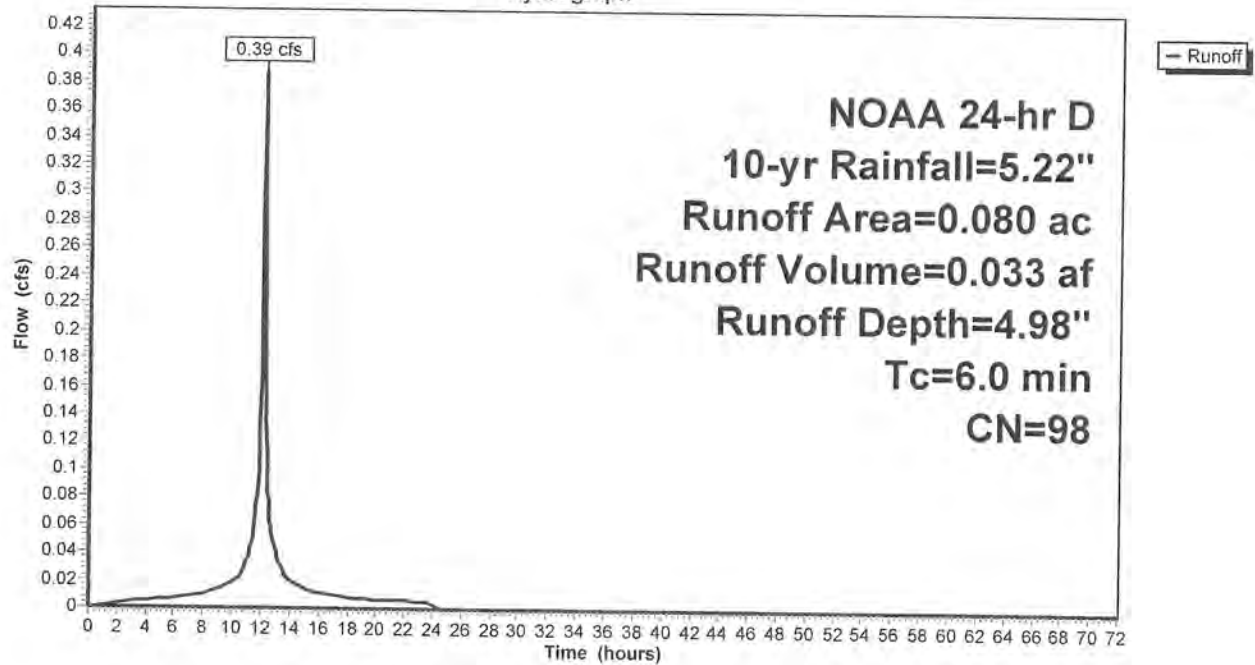
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.080	98	Paved parking, HSG D
0.080		100.00% Impervious Area

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

Subcatchment 44S: Offsite to Central IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 45S: Offsite to Central

Runoff = 0.38 cfs @ 12.13 hrs, Volume= 0.028 af, Depth= 3.09"

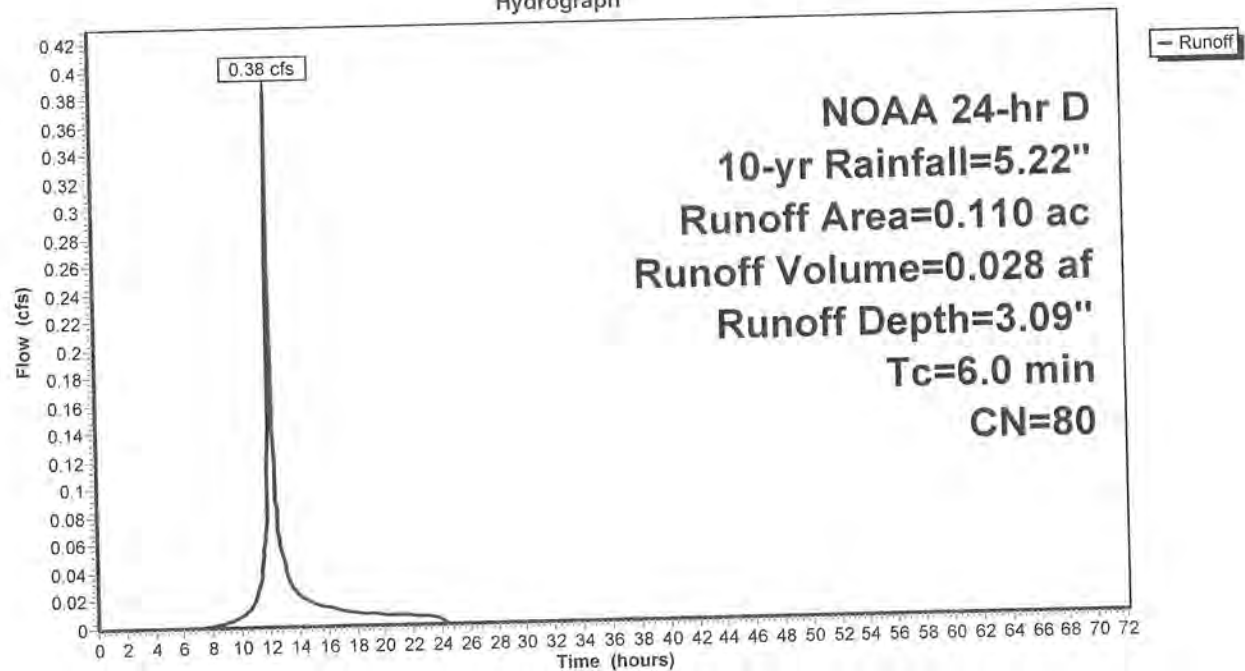
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.110	80	>75% Grass cover, Good, HSG D
0.110		100.00% Pervious Area

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

Subcatchment 45S: Offsite to Central

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 46S: Offsite to Mitchell IMP

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.012 af, Depth= 4.98"

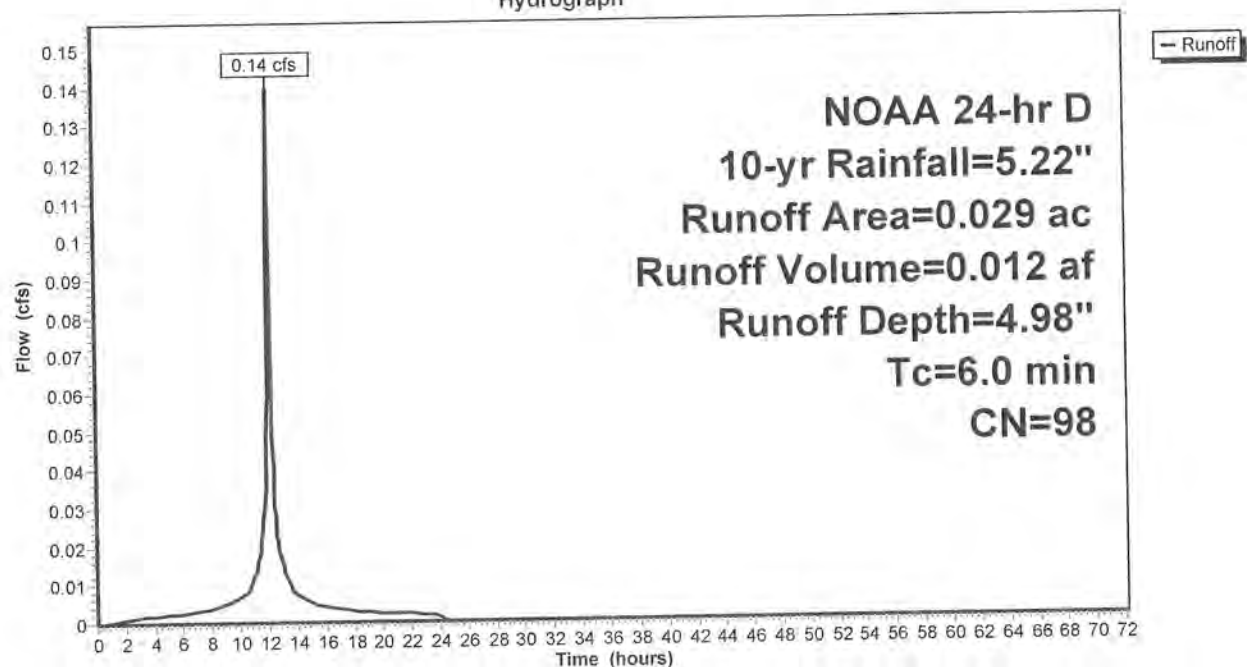
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG D
0.029		100.00% Impervious Area

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

Subcatchment 46S: Offsite to Mitchell IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 47S: Offsite to Mitchell

Runoff = 0.00 cfs @ 12.13 hrs, Volume= 0.000 af, Depth= 3.09"

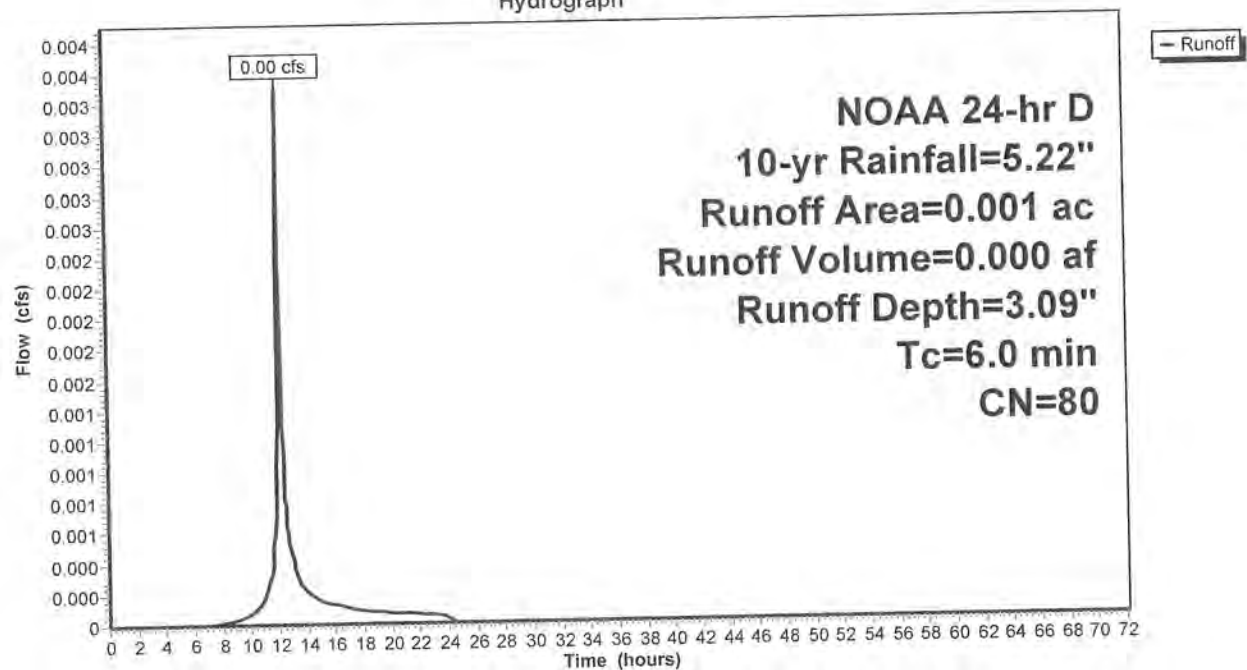
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
0.001		100.00% Pervious Area

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

Subcatchment 47S: Offsite to Mitchell

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 48S: Offsite to Mitchell 2

Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 3.09"

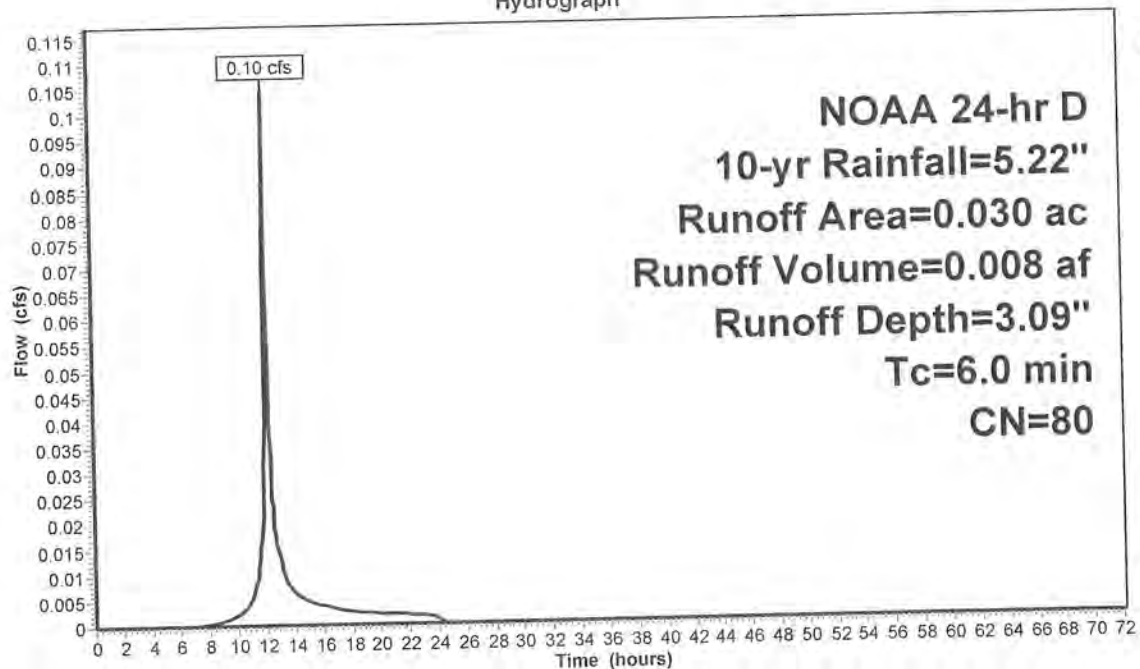
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 48S: Offsite to Mitchell 2

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 49S: Offsite to Central 2

Runoff = 0.07 cfs @ 12.13 hrs, Volume= 0.005 af, Depth= 3.09"

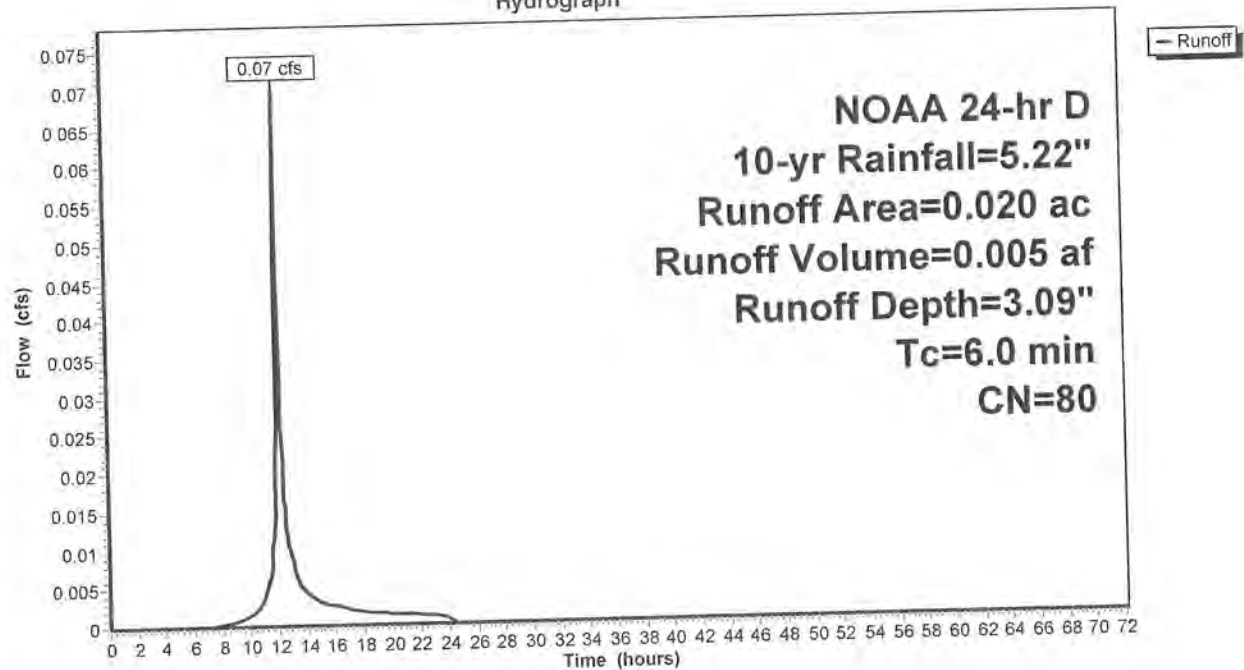
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.020	80	>75% Grass cover, Good, HSG D
0.020		100.00% Pervious Area

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

Subcatchment 49S: Offsite to Central 2

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

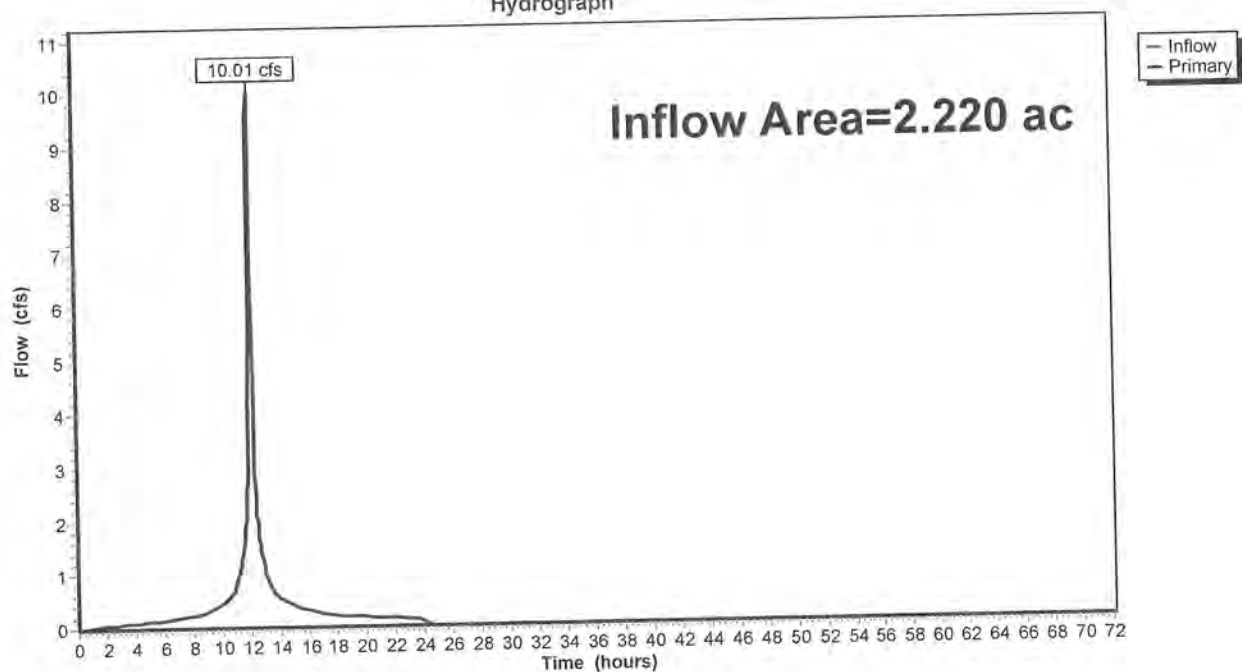
Summary for Pond 38P: Site Summation

Inflow Area = 2.220 ac, 76.53% Impervious, Inflow Depth = 4.54" for 10-yr event
Inflow = 10.01 cfs @ 12.13 hrs, Volume= 0.839 af
Primary = 10.01 cfs @ 12.13 hrs, Volume= 0.839 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 38P: Site Summation

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

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Hydrograph for Pond 38P: Site Summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.01		0.01	54.00	0.00		0.00
2.00	0.06		0.06	55.00	0.00		0.00
3.00	0.08		0.08	56.00	0.00		0.00
4.00	0.11		0.11	57.00	0.00		0.00
5.00	0.12		0.12	58.00	0.00		0.00
6.00	0.14		0.14	59.00	0.00		0.00
7.00	0.18		0.18	60.00	0.00		0.00
8.00	0.23		0.23	61.00	0.00		0.00
9.00	0.28		0.28	62.00	0.00		0.00
10.00	0.44		0.44	63.00	0.00		0.00
11.00	0.81		0.81	64.00	0.00		0.00
12.00	5.61		5.61	65.00	0.00		0.00
13.00	1.09		1.09	66.00	0.00		0.00
14.00	0.55		0.55	67.00	0.00		0.00
15.00	0.37		0.37	68.00	0.00		0.00
16.00	0.30		0.30	69.00	0.00		0.00
17.00	0.25		0.25	70.00	0.00		0.00
18.00	0.21		0.21	71.00	0.00		0.00
19.00	0.19		0.19	72.00	0.00		0.00
20.00	0.17		0.17				
21.00	0.16		0.16				
22.00	0.15		0.15				
23.00	0.14		0.14				
24.00	0.13		0.13				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

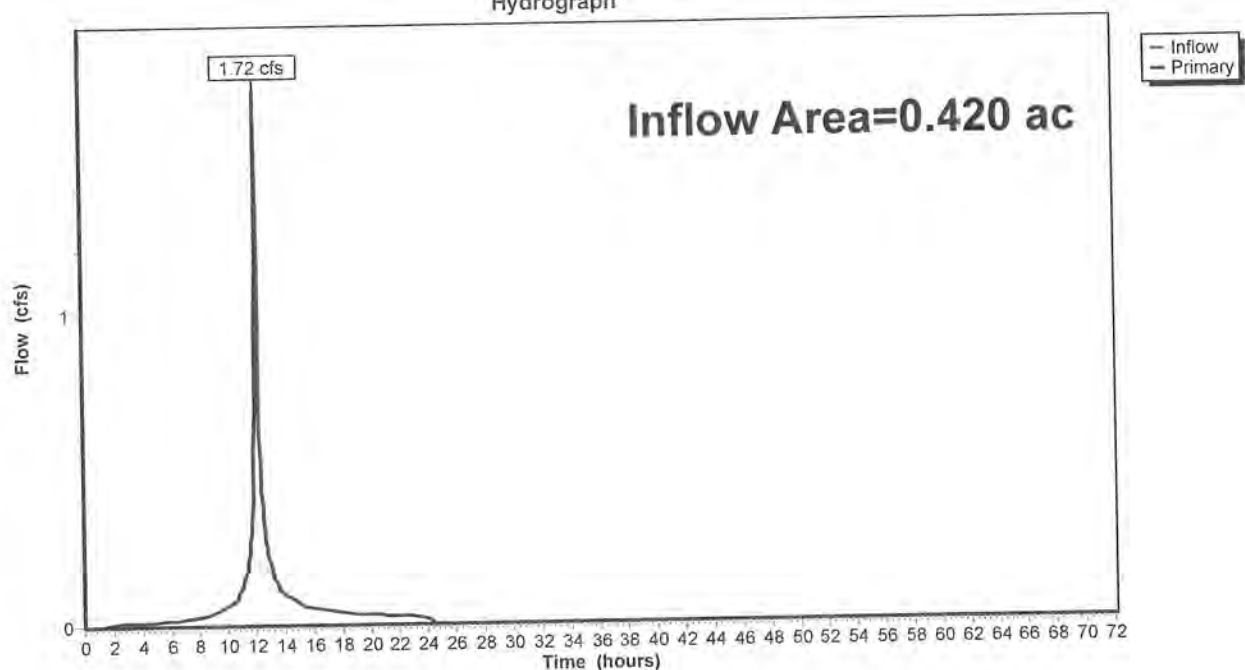
Summary for Pond 44P: Mitchell St. Total

Inflow Area = 0.420 ac, 45.00% Impervious, Inflow Depth = 3.94" for 10-yr event
Inflow = 1.72 cfs @ 12.13 hrs, Volume= 0.138 af
Primary = 1.72 cfs @ 12.13 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 44P: Mitchell St. Total

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Hydrograph for Pond 44P: Mitchell St. Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.00		0.00	54.00	0.00		0.00
2.00	0.01		0.01	55.00	0.00		0.00
3.00	0.01		0.01	56.00	0.00		0.00
4.00	0.01		0.01	57.00	0.00		0.00
5.00	0.01		0.01	58.00	0.00		0.00
6.00	0.02		0.02	59.00	0.00		0.00
7.00	0.02		0.02	60.00	0.00		0.00
8.00	0.03		0.03	61.00	0.00		0.00
9.00	0.04		0.04	62.00	0.00		0.00
10.00	0.06		0.06	63.00	0.00		0.00
11.00	0.12		0.12	64.00	0.00		0.00
12.00	0.94		0.94	65.00	0.00		0.00
13.00	0.19		0.19	66.00	0.00		0.00
14.00	0.10		0.10	67.00	0.00		0.00
15.00	0.07		0.07	68.00	0.00		0.00
16.00	0.05		0.05	69.00	0.00		0.00
17.00	0.05		0.05	70.00	0.00		0.00
18.00	0.04		0.04	71.00	0.00		0.00
19.00	0.03		0.03	72.00	0.00		0.00
20.00	0.03		0.03				
21.00	0.03		0.03				
22.00	0.03		0.03				
23.00	0.02		0.02				
24.00	0.02		0.02				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 10-yr Rainfall=5.22"

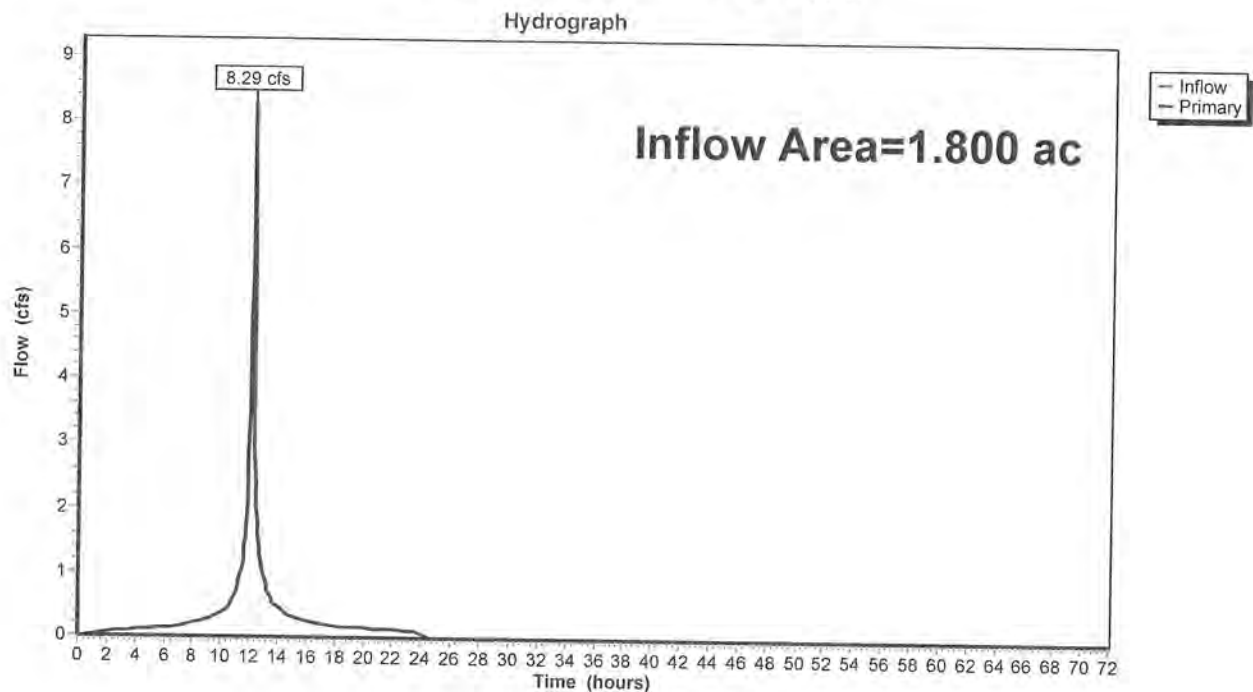
Printed 2/19/2021

Summary for Pond 45P: Central Ave Total

Inflow Area = 1.800 ac, 83.89% Impervious, Inflow Depth = 4.68" for 10-yr event
Inflow = 8.29 cfs @ 12.13 hrs, Volume= 0.702 af
Primary = 8.29 cfs @ 12.13 hrs, Volume= 0.702 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 45P: Central Ave Total



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Hydrograph for Pond 45P: Central Ave Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.01		0.01	54.00	0.00		0.00
2.00	0.05		0.05	55.00	0.00		0.00
3.00	0.07		0.07	56.00	0.00		0.00
4.00	0.09		0.09	57.00	0.00		0.00
5.00	0.11		0.11	58.00	0.00		0.00
6.00	0.12		0.12	59.00	0.00		0.00
7.00	0.16		0.16	60.00	0.00		0.00
8.00	0.20		0.20	61.00	0.00		0.00
9.00	0.24		0.24	62.00	0.00		0.00
10.00	0.38		0.38	63.00	0.00		0.00
11.00	0.69		0.69	64.00	0.00		0.00
12.00	4.67		4.67	65.00	0.00		0.00
13.00	0.90		0.90	66.00	0.00		0.00
14.00	0.45		0.45	67.00	0.00		0.00
15.00	0.31		0.31	68.00	0.00		0.00
16.00	0.25		0.25	69.00	0.00		0.00
17.00	0.21		0.21	70.00	0.00		0.00
18.00	0.17		0.17	71.00	0.00		0.00
19.00	0.15		0.15	72.00	0.00		0.00
20.00	0.14		0.14				
21.00	0.13		0.13				
22.00	0.12		0.12				
23.00	0.11		0.11				
24.00	0.10		0.10				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 35S: Onsite to Mitchell IMP

Runoff = 1.28 cfs @ 12.13 hrs, Volume= 0.112 af, Depth= 8.42"

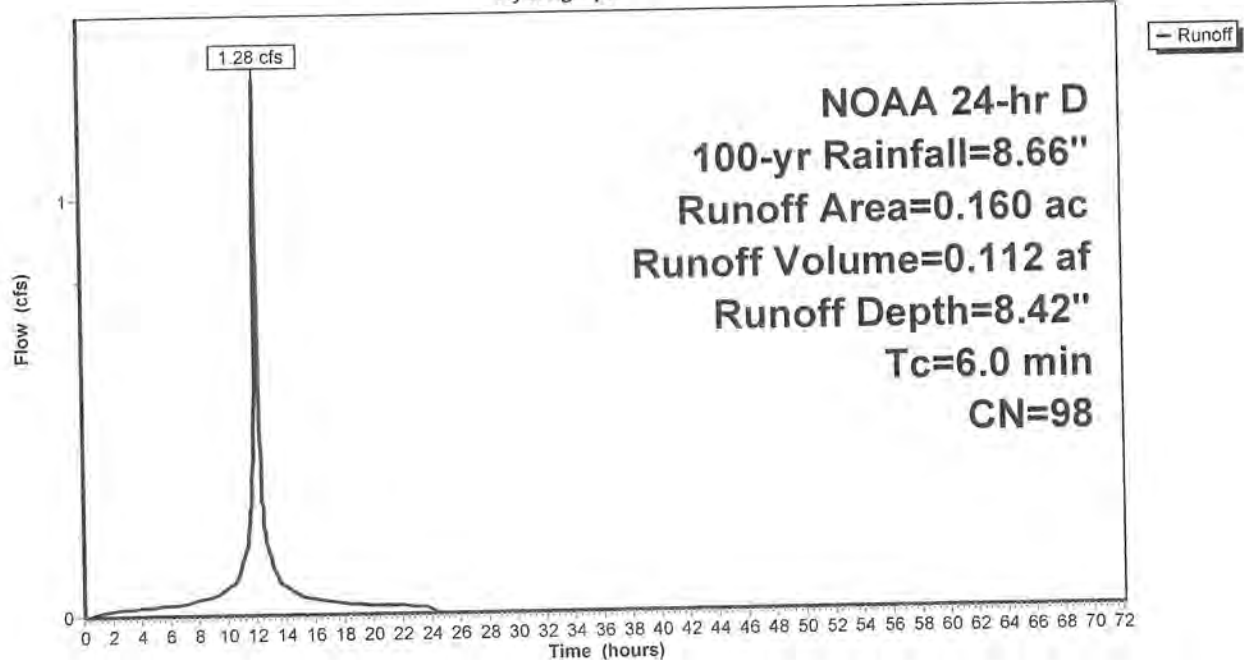
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.160	98	Paved parking, HSG D
0.160		100.00% Impervious Area

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

Subcatchment 35S: Onsite to Mitchell IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 36S: Onsite to Central IMP

Runoff = 11.47 cfs @ 12.13 hrs, Volume= 1.003 af, Depth= 8.42"

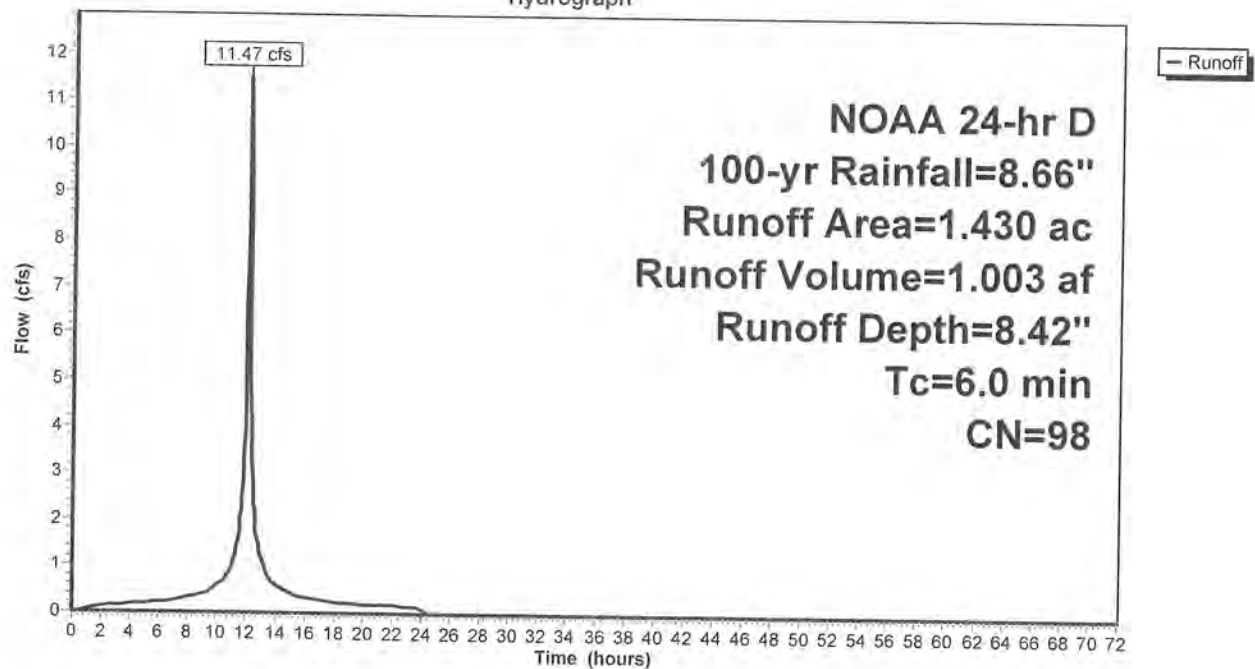
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
1.430	98	Paved parking, HSG D
1.430		100.00% Impervious Area

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

Subcatchment 36S: Onsite to Central IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 37S: Onsite to Central

Runoff = 1.10 cfs @ 12.13 hrs, Volume= 0.083 af, Depth= 6.25"

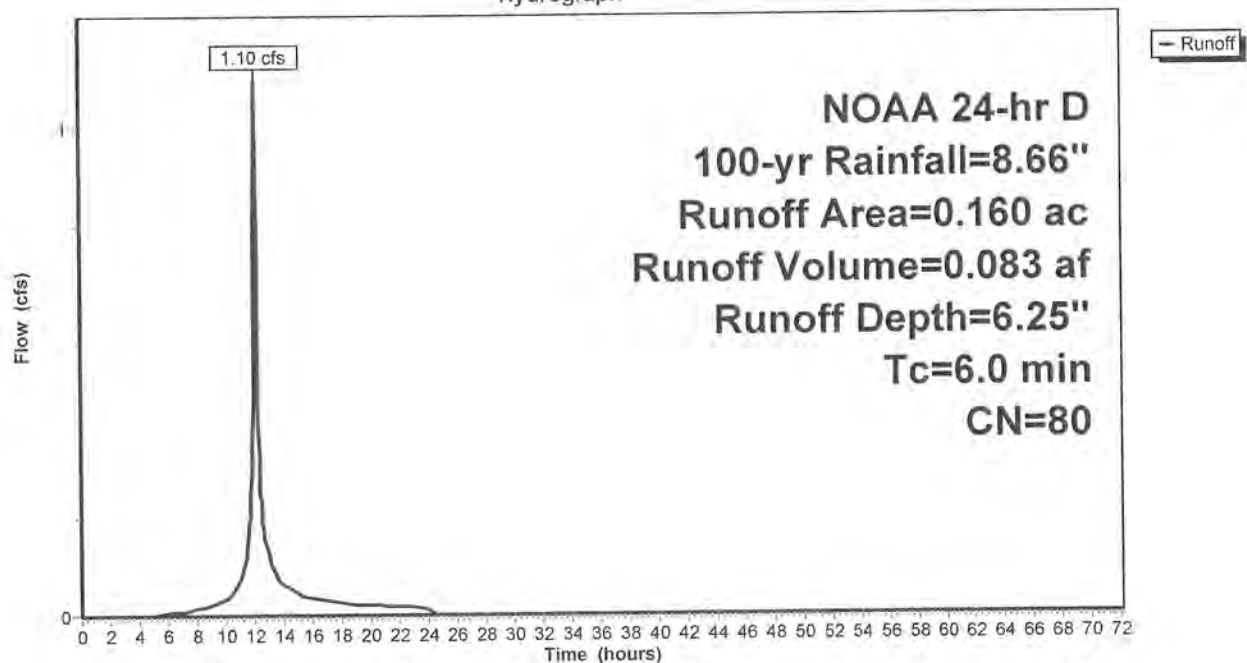
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.160	80	>75% Grass cover, Good, HSG D
0.160		100.00% Pervious Area

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

Subcatchment 37S: Onsite to Central

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 41S: Onsite to Mitchel

Runoff = 1.37 cfs @ 12.13 hrs, Volume= 0.104 af, Depth= 6.25"

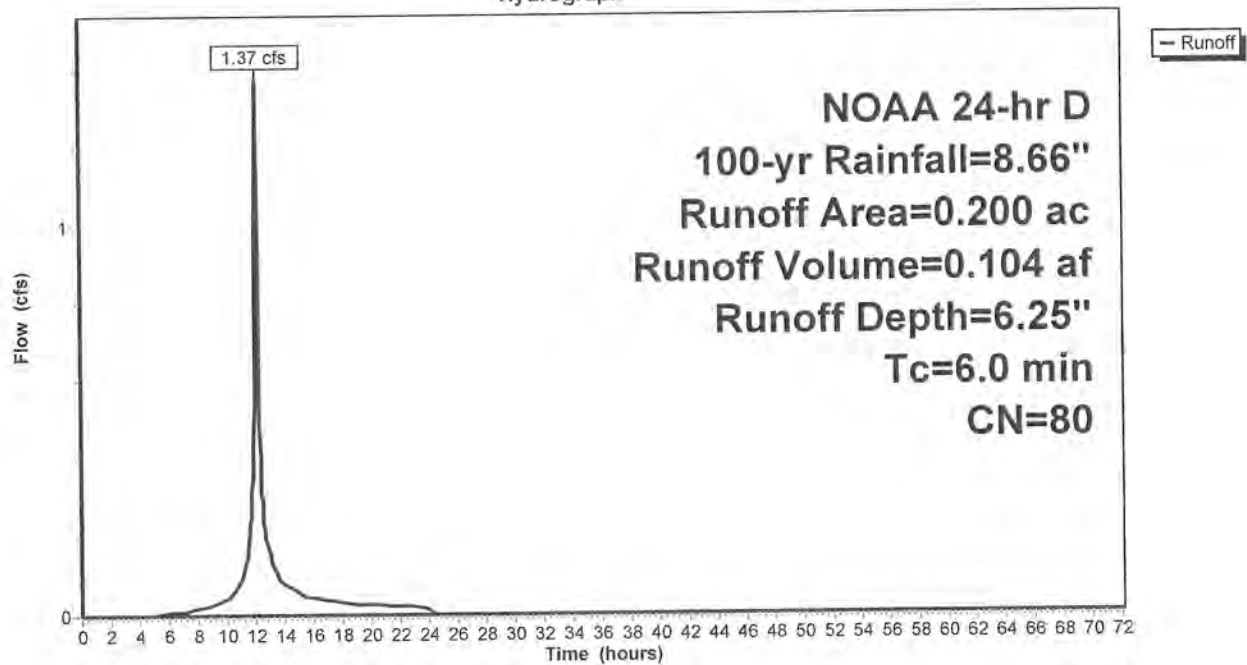
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.200	80	>75% Grass cover, Good, HSG D
0.200		100.00% Pervious Area

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

Subcatchment 41S: Onsite to Mitchel

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 44S: Offsite to Central IMP

Runoff = 0.64 cfs @ 12.13 hrs, Volume= 0.056 af, Depth= 8.42"

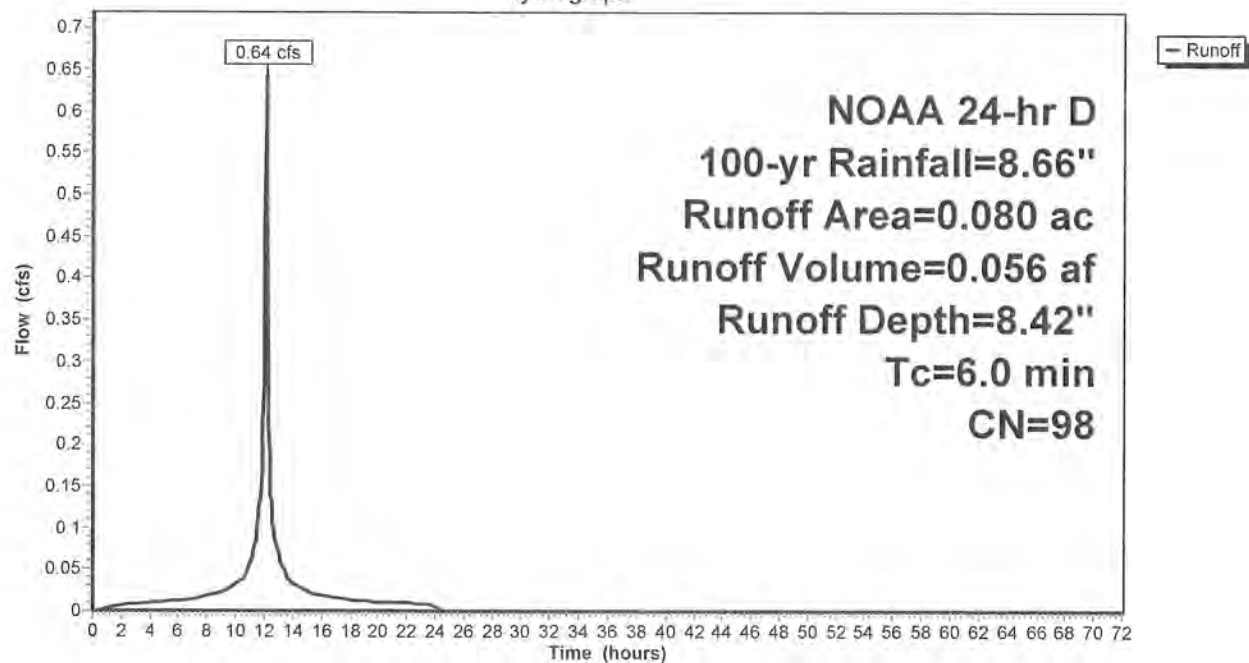
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.080	98	Paved parking, HSG D
0.080		100.00% Impervious Area

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

Subcatchment 44S: Offsite to Central IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 45S: Offsite to Central

Runoff = 0.75 cfs @ 12.13 hrs, Volume= 0.057 af, Depth= 6.25"

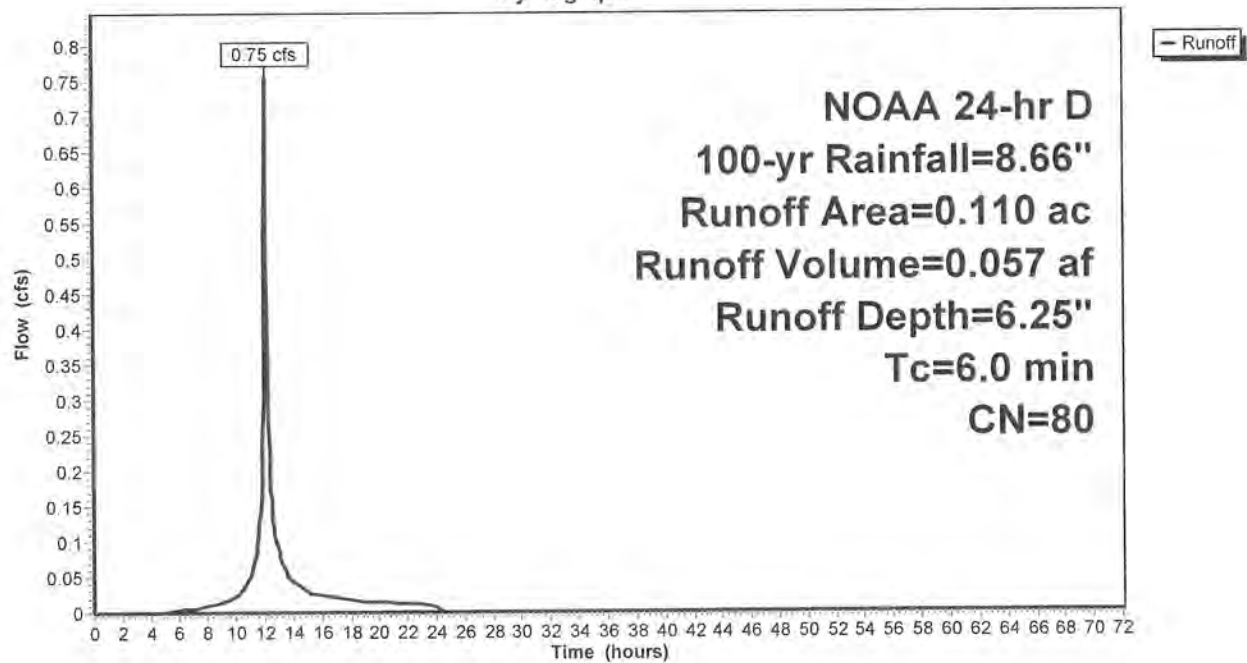
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.110	80	>75% Grass cover, Good, HSG D
0.110		100.00% Pervious Area

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

Subcatchment 45S: Offsite to Central

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 46S: Offsite to Mitchell IMP

Runoff = 0.23 cfs @ 12.13 hrs, Volume= 0.020 af, Depth= 8.42"

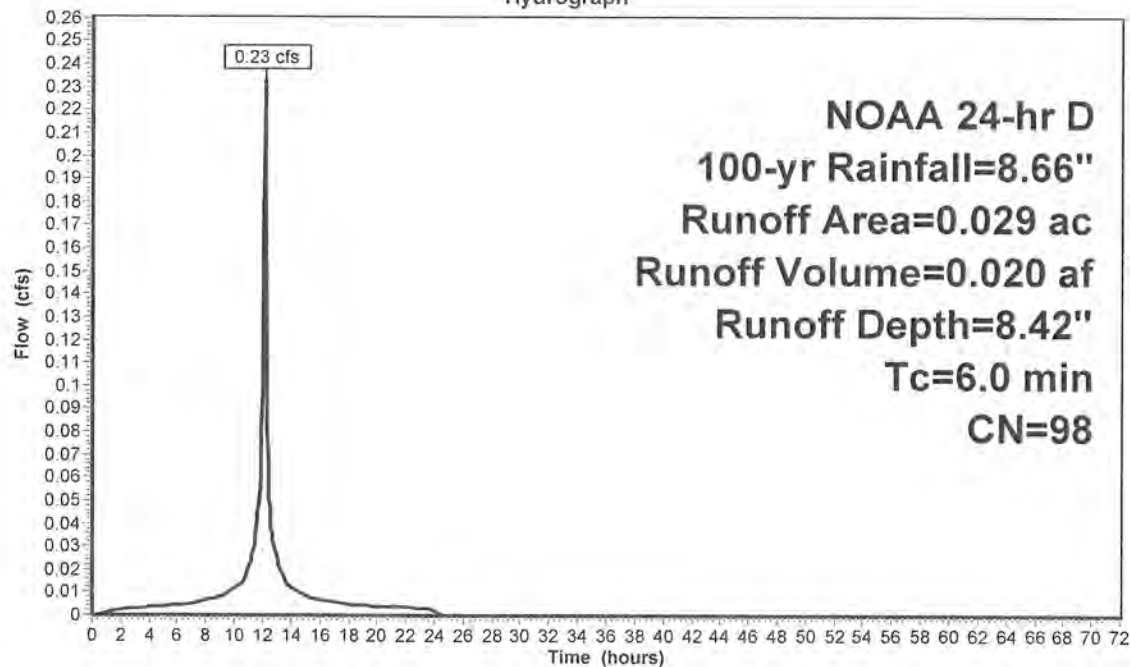
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG D
0.029		100.00% Impervious Area

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

Subcatchment 46S: Offsite to Mitchell IMP

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 47S: Offsite to Mitchell

Runoff = 0.01 cfs @ 12.13 hrs, Volume= 0.001 af, Depth= 6.25"

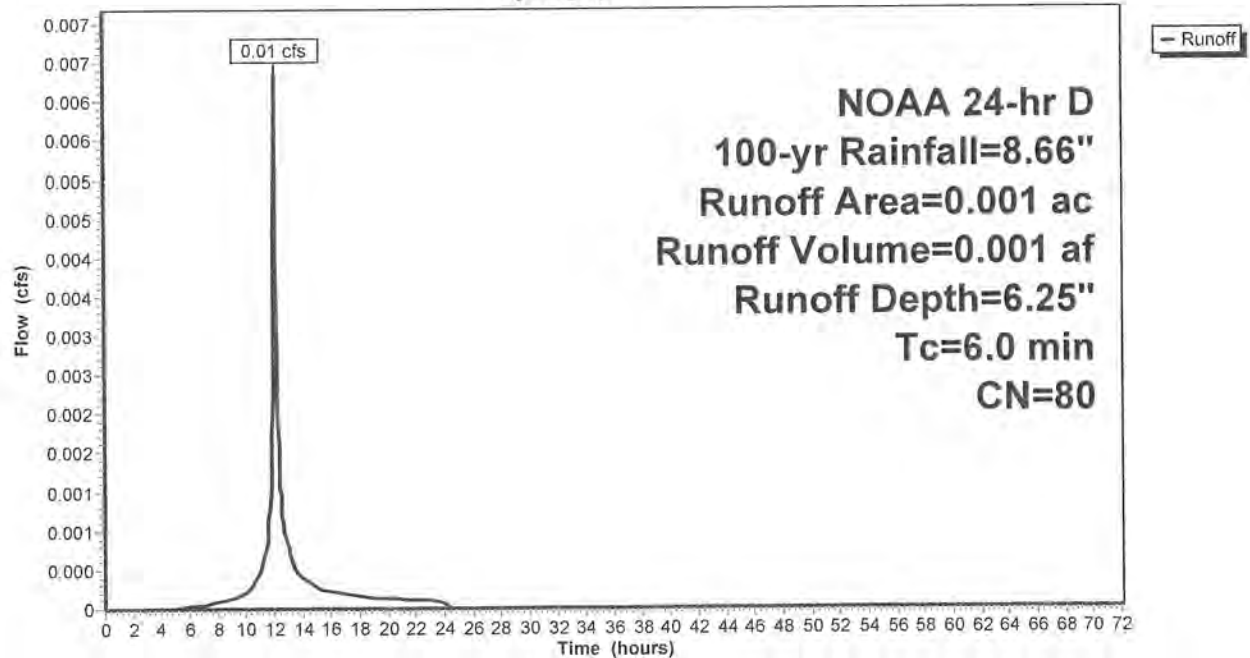
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.001	80	>75% Grass cover, Good, HSG D
0.001		100.00% Pervious Area

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

Subcatchment 47S: Offsite to Mitchell

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 48S: Offsite to Mitchell 2

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.016 af, Depth= 6.25"

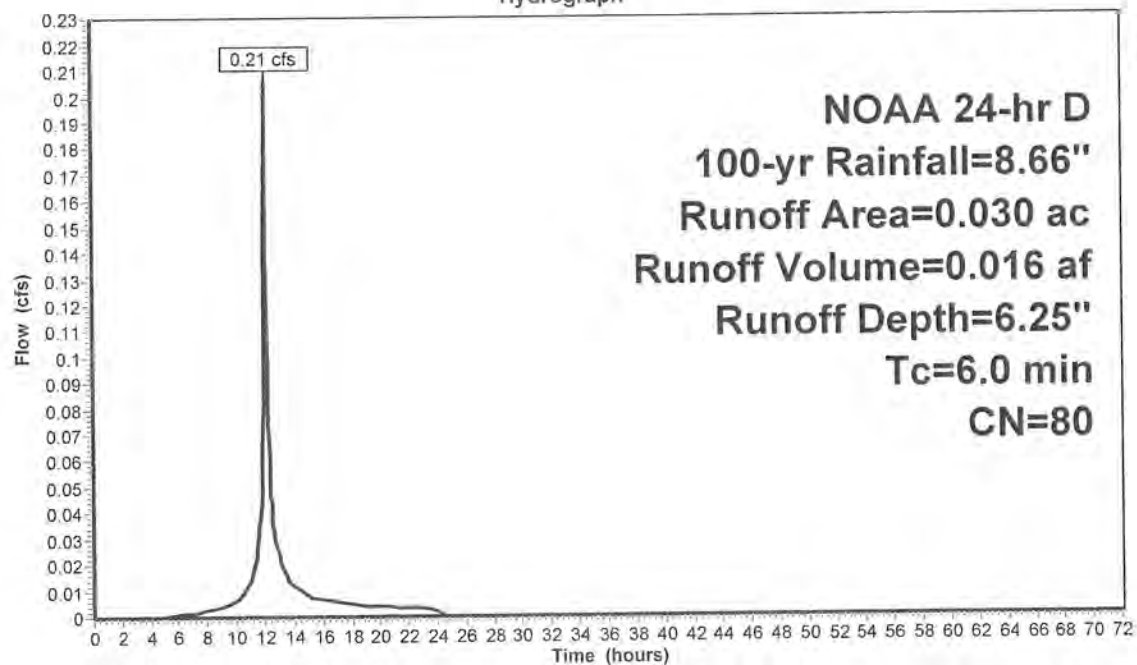
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 48S: Offsite to Mitchell 2

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 49S: Offsite to Central 2

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.010 af, Depth= 6.25"

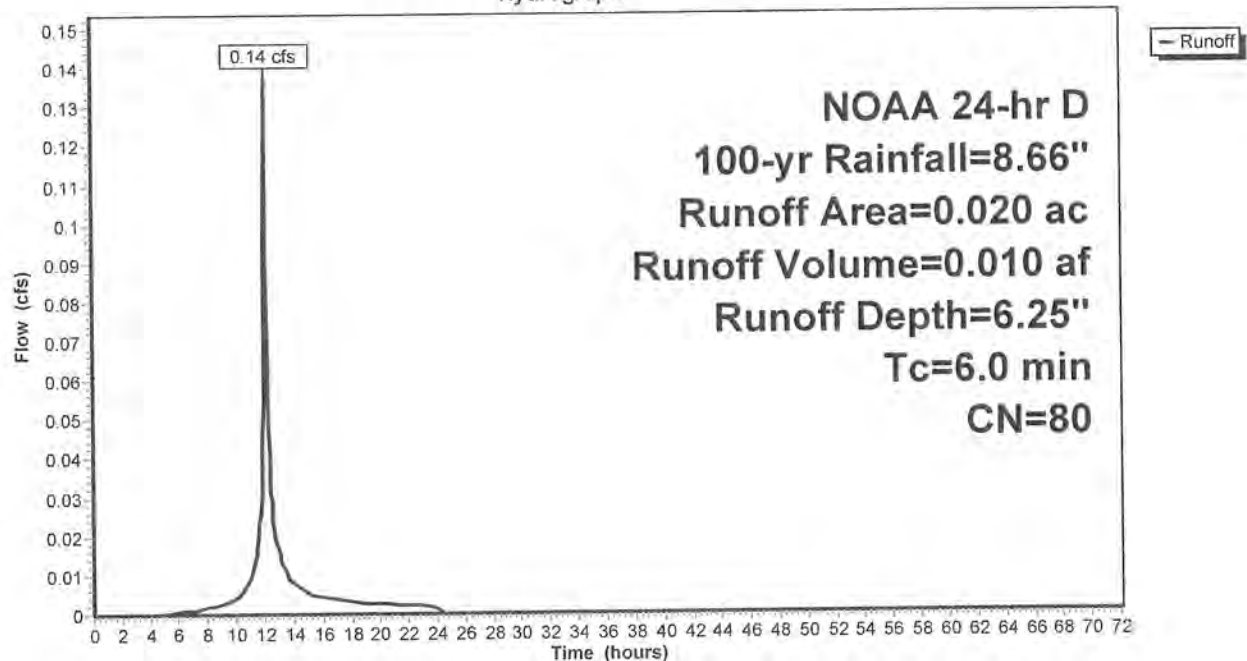
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.020	80	>75% Grass cover, Good, HSG D
0.020		100.00% Pervious Area

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

Subcatchment 49S: Offsite to Central 2

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

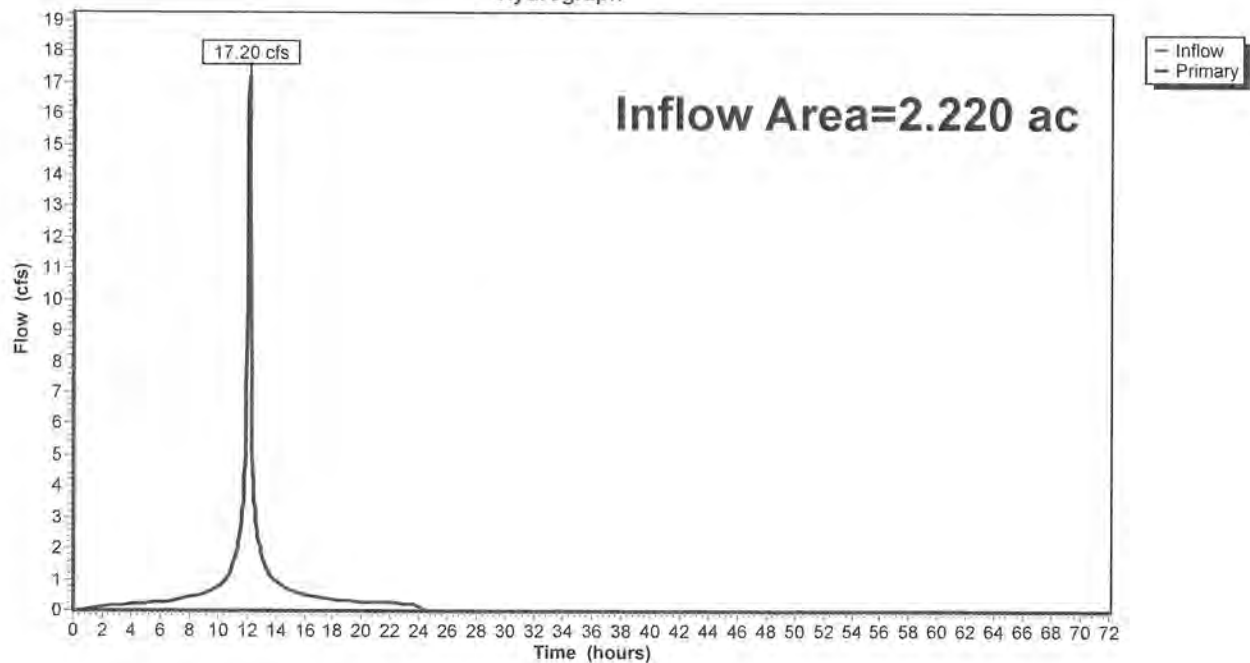
Summary for Pond 38P: Site Summation

Inflow Area = 2.220 ac, 76.53% Impervious, Inflow Depth = 7.91" for 100-yr event
Inflow = 17.20 cfs @ 12.13 hrs, Volume= 1.463 af
Primary = 17.20 cfs @ 12.13 hrs, Volume= 1.463 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 38P: Site Summation

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Hydrograph for Pond 38P: Site Summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.06		0.06	54.00	0.00		0.00
2.00	0.13		0.13	55.00	0.00		0.00
3.00	0.17		0.17	56.00	0.00		0.00
4.00	0.20		0.20	57.00	0.00		0.00
5.00	0.23		0.23	58.00	0.00		0.00
6.00	0.26		0.26	59.00	0.00		0.00
7.00	0.34		0.34	60.00	0.00		0.00
8.00	0.42		0.42	61.00	0.00		0.00
9.00	0.51		0.51	62.00	0.00		0.00
10.00	0.79		0.79	63.00	0.00		0.00
11.00	1.43		1.43	64.00	0.00		0.00
12.00	9.72		9.72	65.00	0.00		0.00
13.00	1.86		1.86	66.00	0.00		0.00
14.00	0.93		0.93	67.00	0.00		0.00
15.00	0.63		0.63	68.00	0.00		0.00
16.00	0.52		0.52	69.00	0.00		0.00
17.00	0.43		0.43	70.00	0.00		0.00
18.00	0.35		0.35	71.00	0.00		0.00
19.00	0.32		0.32	72.00	0.00		0.00
20.00	0.29		0.29				
21.00	0.27		0.27				
22.00	0.25		0.25				
23.00	0.23		0.23				
24.00	0.21		0.21				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

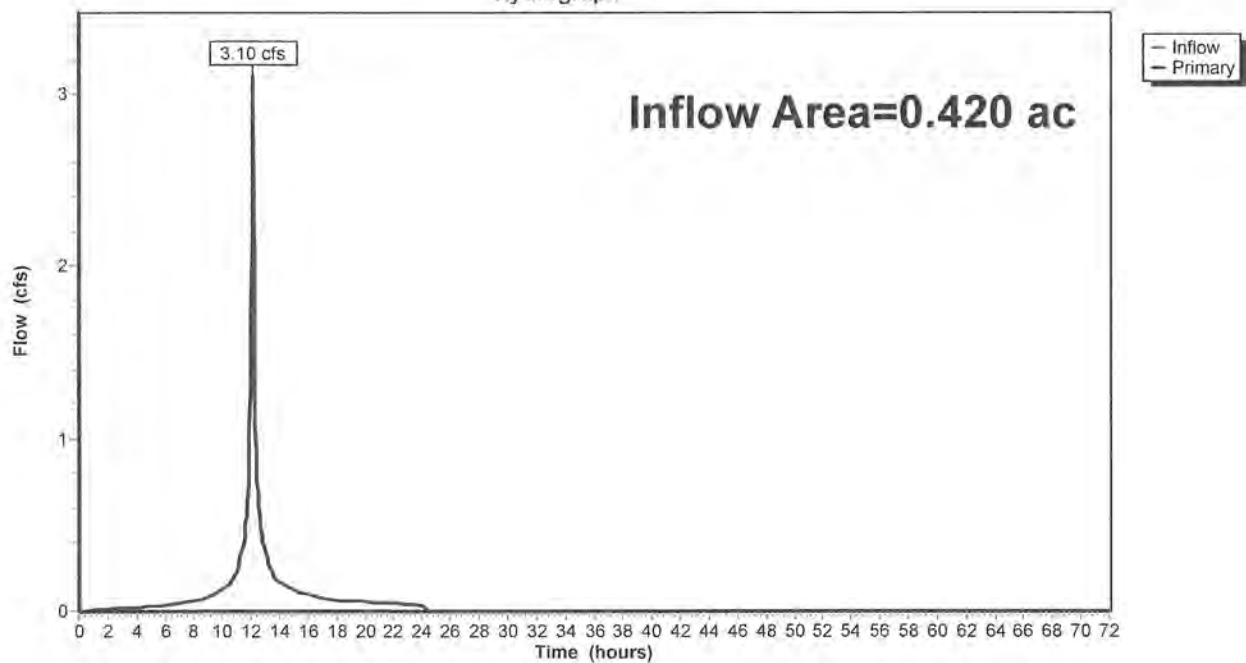
Summary for Pond 44P: Mitchell St. Total

Inflow Area = 0.420 ac, 45.00% Impervious, Inflow Depth = 7.22" for 100-yr event
Inflow = 3.10 cfs @ 12.13 hrs, Volume= 0.253 af
Primary = 3.10 cfs @ 12.13 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 44P: Mitchell St. Total

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Hydrograph for Pond 44P: Mitchell St. Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.01		0.01	54.00	0.00		0.00
2.00	0.01		0.01	55.00	0.00		0.00
3.00	0.02		0.02	56.00	0.00		0.00
4.00	0.02		0.02	57.00	0.00		0.00
5.00	0.03		0.03	58.00	0.00		0.00
6.00	0.03		0.03	59.00	0.00		0.00
7.00	0.05		0.05	60.00	0.00		0.00
8.00	0.06		0.06	61.00	0.00		0.00
9.00	0.08		0.08	62.00	0.00		0.00
10.00	0.13		0.13	63.00	0.00		0.00
11.00	0.24		0.24	64.00	0.00		0.00
12.00	1.72		1.72	65.00	0.00		0.00
13.00	0.34		0.34	66.00	0.00		0.00
14.00	0.17		0.17	67.00	0.00		0.00
15.00	0.12		0.12	68.00	0.00		0.00
16.00	0.10		0.10	69.00	0.00		0.00
17.00	0.08		0.08	70.00	0.00		0.00
18.00	0.06		0.06	71.00	0.00		0.00
19.00	0.06		0.06	72.00	0.00		0.00
20.00	0.05		0.05				
21.00	0.05		0.05				
22.00	0.05		0.05				
23.00	0.04		0.04				
24.00	0.04		0.04				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

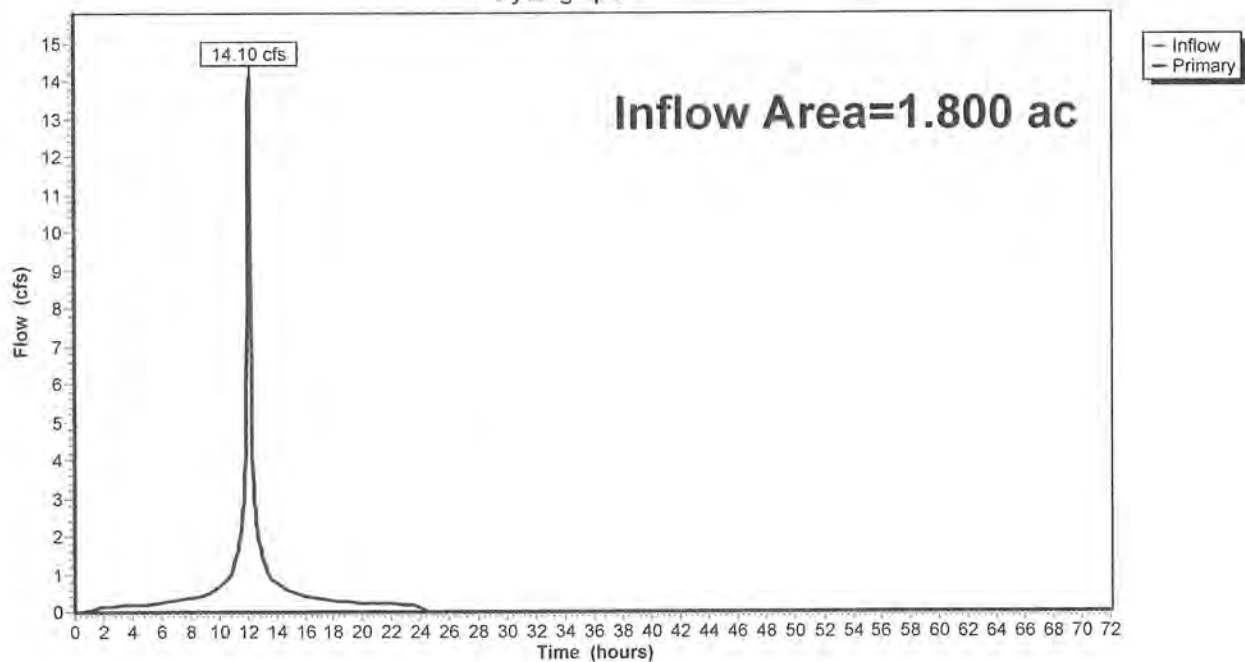
Summary for Pond 45P: Central Ave Total

Inflow Area = 1.800 ac, 83.89% Impervious, Inflow Depth = 8.07" for 100-yr event
Inflow = 14.10 cfs @ 12.13 hrs, Volume= 1.210 af
Primary = 14.10 cfs @ 12.13 hrs, Volume= 1.210 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 45P: Central Ave Total

Hydrograph



Pre-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Hydrograph for Pond 45P: Central Ave Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	53.00	0.00		0.00
1.00	0.05		0.05	54.00	0.00		0.00
2.00	0.12		0.12	55.00	0.00		0.00
3.00	0.15		0.15	56.00	0.00		0.00
4.00	0.18		0.18	57.00	0.00		0.00
5.00	0.20		0.20	58.00	0.00		0.00
6.00	0.23		0.23	59.00	0.00		0.00
7.00	0.29		0.29	60.00	0.00		0.00
8.00	0.36		0.36	61.00	0.00		0.00
9.00	0.43		0.43	62.00	0.00		0.00
10.00	0.66		0.66	63.00	0.00		0.00
11.00	1.20		1.20	64.00	0.00		0.00
12.00	7.99		7.99	65.00	0.00		0.00
13.00	1.51		1.51	66.00	0.00		0.00
14.00	0.76		0.76	67.00	0.00		0.00
15.00	0.51		0.51	68.00	0.00		0.00
16.00	0.42		0.42	69.00	0.00		0.00
17.00	0.35		0.35	70.00	0.00		0.00
18.00	0.28		0.28	71.00	0.00		0.00
19.00	0.26		0.26	72.00	0.00		0.00
20.00	0.24		0.24				
21.00	0.22		0.22				
22.00	0.21		0.21				
23.00	0.19		0.19				
24.00	0.17		0.17				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				
52.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

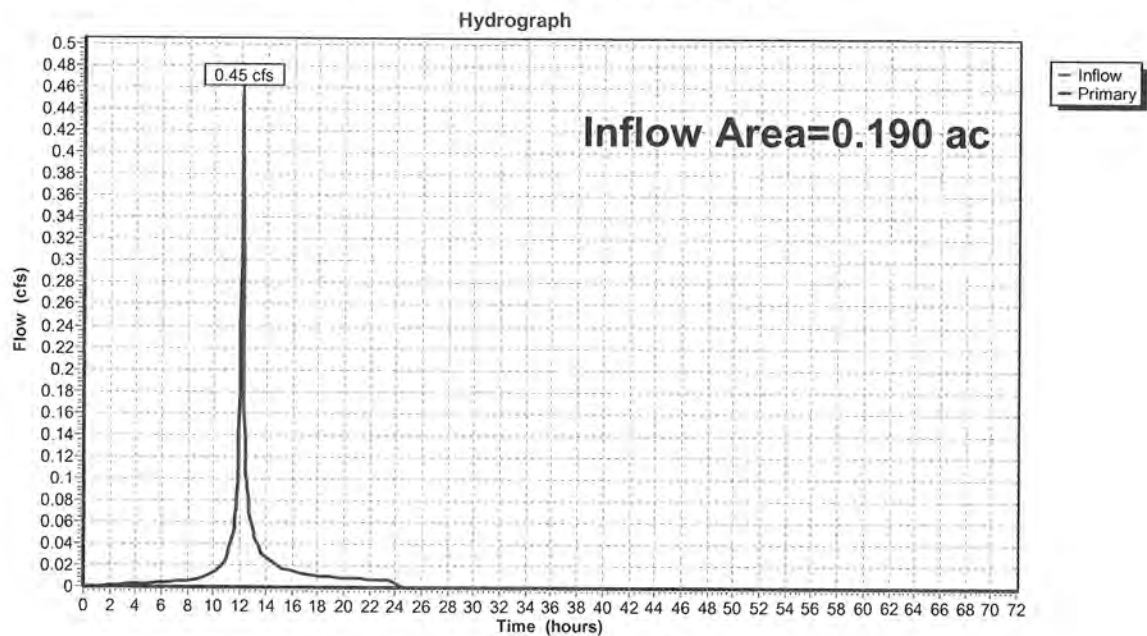
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Summary for Pond 52P: offsite central ave

Inflow Area = 0.190 ac, 42.11% Impervious, Inflow Depth = 2.27" for 2-yr event
Inflow = 0.45 cfs @ 12.13 hrs, Volume= 0.036 af
Primary = 0.45 cfs @ 12.13 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 52P: offsite central ave



Pre-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 52P: offsite central ave

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.00		0.00	53.00	0.00		0.00
4.00	0.00		0.00	54.00	0.00		0.00
5.00	0.00		0.00	55.00	0.00		0.00
6.00	0.00		0.00	56.00	0.00		0.00
7.00	0.01		0.01	57.00	0.00		0.00
8.00	0.01		0.01	58.00	0.00		0.00
9.00	0.01		0.01	59.00	0.00		0.00
10.00	0.01		0.01	60.00	0.00		0.00
11.00	0.03		0.03	61.00	0.00		0.00
12.00	0.24		0.24	62.00	0.00		0.00
13.00	0.05		0.05	63.00	0.00		0.00
14.00	0.03		0.03	64.00	0.00		0.00
15.00	0.02		0.02	65.00	0.00		0.00
16.00	0.02		0.02	66.00	0.00		0.00
17.00	0.01		0.01	67.00	0.00		0.00
18.00	0.01		0.01	68.00	0.00		0.00
19.00	0.01		0.01	69.00	0.00		0.00
20.00	0.01		0.01	70.00	0.00		0.00
21.00	0.01		0.01	71.00	0.00		0.00
22.00	0.01		0.01	72.00	0.00		0.00
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 2-yr Rainfall=3.44"

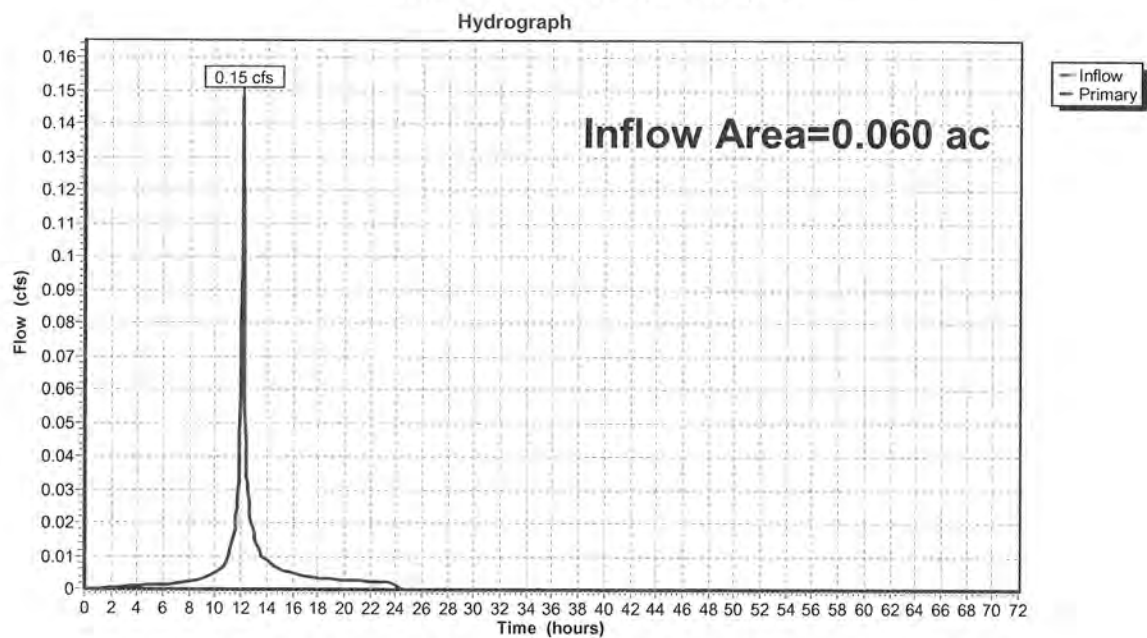
Printed 3/1/2021

Summary for Pond 56P: offsite Mitchell st

Inflow Area = 0.060 ac, 48.33% Impervious, Inflow Depth = 2.37" for 2-yr event
Inflow = 0.15 cfs @ 12.13 hrs, Volume= 0.012 af
Primary = 0.15 cfs @ 12.13 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 56P: offsite Mitchell st



Pre-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 56P: offsite Mitchell st

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.00		0.00	53.00	0.00		0.00
4.00	0.00		0.00	54.00	0.00		0.00
5.00	0.00		0.00	55.00	0.00		0.00
6.00	0.00		0.00	56.00	0.00		0.00
7.00	0.00		0.00	57.00	0.00		0.00
8.00	0.00		0.00	58.00	0.00		0.00
9.00	0.00		0.00	59.00	0.00		0.00
10.00	0.00		0.00	60.00	0.00		0.00
11.00	0.01		0.01	61.00	0.00		0.00
12.00	0.08		0.08	62.00	0.00		0.00
13.00	0.02		0.02	63.00	0.00		0.00
14.00	0.01		0.01	64.00	0.00		0.00
15.00	0.01		0.01	65.00	0.00		0.00
16.00	0.00		0.00	66.00	0.00		0.00
17.00	0.00		0.00	67.00	0.00		0.00
18.00	0.00		0.00	68.00	0.00		0.00
19.00	0.00		0.00	69.00	0.00		0.00
20.00	0.00		0.00	70.00	0.00		0.00
21.00	0.00		0.00	71.00	0.00		0.00
22.00	0.00		0.00	72.00	0.00		0.00
23.00	0.00		0.00				
24.00	0.00		0.00				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 2-yr Rainfall=3.44"

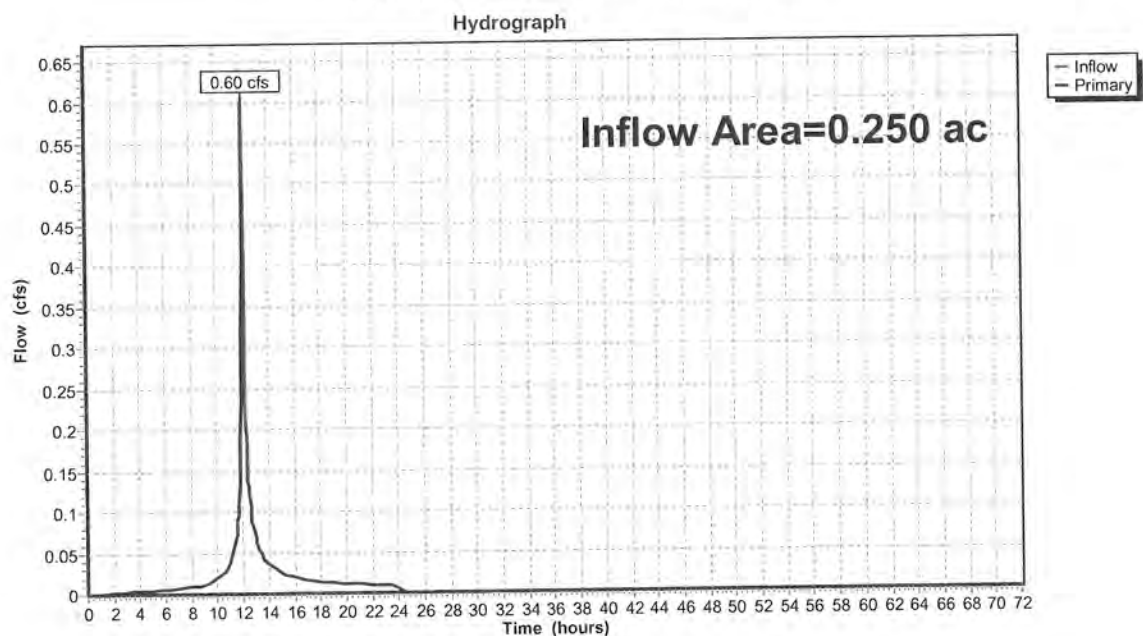
Printed 3/1/2021

Summary for Pond 57P: offsite summation

Inflow Area = 0.250 ac, 43.60% Impervious, Inflow Depth = 2.29" for 2-yr event
Inflow = 0.60 cfs @ 12.13 hrs, Volume= 0.048 af
Primary = 0.60 cfs @ 12.13 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 57P: offsite summation



Pre-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 57P: offsite summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.00		0.00	53.00	0.00		0.00
4.00	0.00		0.00	54.00	0.00		0.00
5.00	0.00		0.00	55.00	0.00		0.00
6.00	0.01		0.01	56.00	0.00		0.00
7.00	0.01		0.01	57.00	0.00		0.00
8.00	0.01		0.01	58.00	0.00		0.00
9.00	0.01		0.01	59.00	0.00		0.00
10.00	0.02		0.02	60.00	0.00		0.00
11.00	0.04		0.04	61.00	0.00		0.00
12.00	0.32		0.32	62.00	0.00		0.00
13.00	0.07		0.07	63.00	0.00		0.00
14.00	0.04		0.04	64.00	0.00		0.00
15.00	0.02		0.02	65.00	0.00		0.00
16.00	0.02		0.02	66.00	0.00		0.00
17.00	0.02		0.02	67.00	0.00		0.00
18.00	0.01		0.01	68.00	0.00		0.00
19.00	0.01		0.01	69.00	0.00		0.00
20.00	0.01		0.01	70.00	0.00		0.00
21.00	0.01		0.01	71.00	0.00		0.00
22.00	0.01		0.01	72.00	0.00		0.00
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

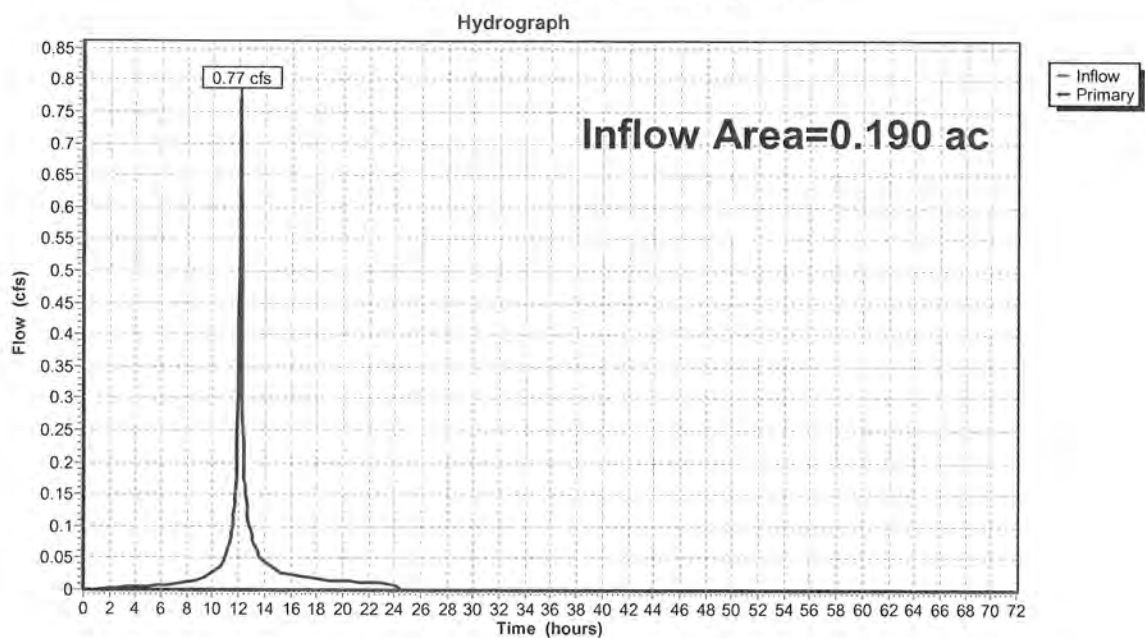
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Summary for Pond 52P: offsite central ave

Inflow Area = 0.190 ac, 42.11% Impervious, Inflow Depth = 3.88" for 10-yr event
Inflow = 0.77 cfs @ 12.13 hrs, Volume= 0.062 af
Primary = 0.77 cfs @ 12.13 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 52P: offsite central ave



Pre-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 52P: offsite central ave

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.00		0.00	53.00	0.00		0.00
4.00	0.00		0.00	54.00	0.00		0.00
5.00	0.01		0.01	55.00	0.00		0.00
6.00	0.01		0.01	56.00	0.00		0.00
7.00	0.01		0.01	57.00	0.00		0.00
8.00	0.01		0.01	58.00	0.00		0.00
9.00	0.02		0.02	59.00	0.00		0.00
10.00	0.03		0.03	60.00	0.00		0.00
11.00	0.05		0.05	61.00	0.00		0.00
12.00	0.42		0.42	62.00	0.00		0.00
13.00	0.09		0.09	63.00	0.00		0.00
14.00	0.04		0.04	64.00	0.00		0.00
15.00	0.03		0.03	65.00	0.00		0.00
16.00	0.02		0.02	66.00	0.00		0.00
17.00	0.02		0.02	67.00	0.00		0.00
18.00	0.02		0.02	68.00	0.00		0.00
19.00	0.02		0.02	69.00	0.00		0.00
20.00	0.01		0.01	70.00	0.00		0.00
21.00	0.01		0.01	71.00	0.00		0.00
22.00	0.01		0.01	72.00	0.00		0.00
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

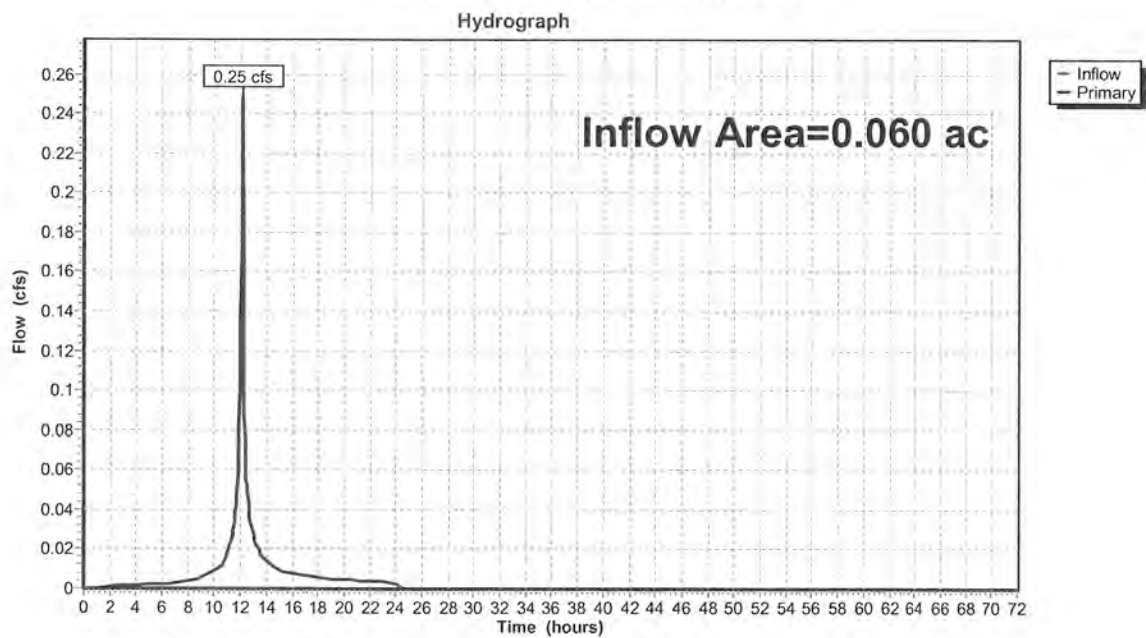
Printed 3/1/2021

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Summary for Pond 56P: offsite Mitchell st

Inflow Area = 0.060 ac, 48.33% Impervious, Inflow Depth = 4.00" for 10-yr event
Inflow = 0.25 cfs @ 12.13 hrs, Volume= 0.020 af
Primary = 0.25 cfs @ 12.13 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 56P: offsite Mitchell st

Pre-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 56P: offsite Mitchell st

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.00		0.00	53.00	0.00		0.00
4.00	0.00		0.00	54.00	0.00		0.00
5.00	0.00		0.00	55.00	0.00		0.00
6.00	0.00		0.00	56.00	0.00		0.00
7.00	0.00		0.00	57.00	0.00		0.00
8.00	0.00		0.00	58.00	0.00		0.00
9.00	0.01		0.01	59.00	0.00		0.00
10.00	0.01		0.01	60.00	0.00		0.00
11.00	0.02		0.02	61.00	0.00		0.00
12.00	0.14		0.14	62.00	0.00		0.00
13.00	0.03		0.03	63.00	0.00		0.00
14.00	0.01		0.01	64.00	0.00		0.00
15.00	0.01		0.01	65.00	0.00		0.00
16.00	0.01		0.01	66.00	0.00		0.00
17.00	0.01		0.01	67.00	0.00		0.00
18.00	0.01		0.01	68.00	0.00		0.00
19.00	0.00		0.00	69.00	0.00		0.00
20.00	0.00		0.00	70.00	0.00		0.00
21.00	0.00		0.00	71.00	0.00		0.00
22.00	0.00		0.00	72.00	0.00		0.00
23.00	0.00		0.00				
24.00	0.00		0.00				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

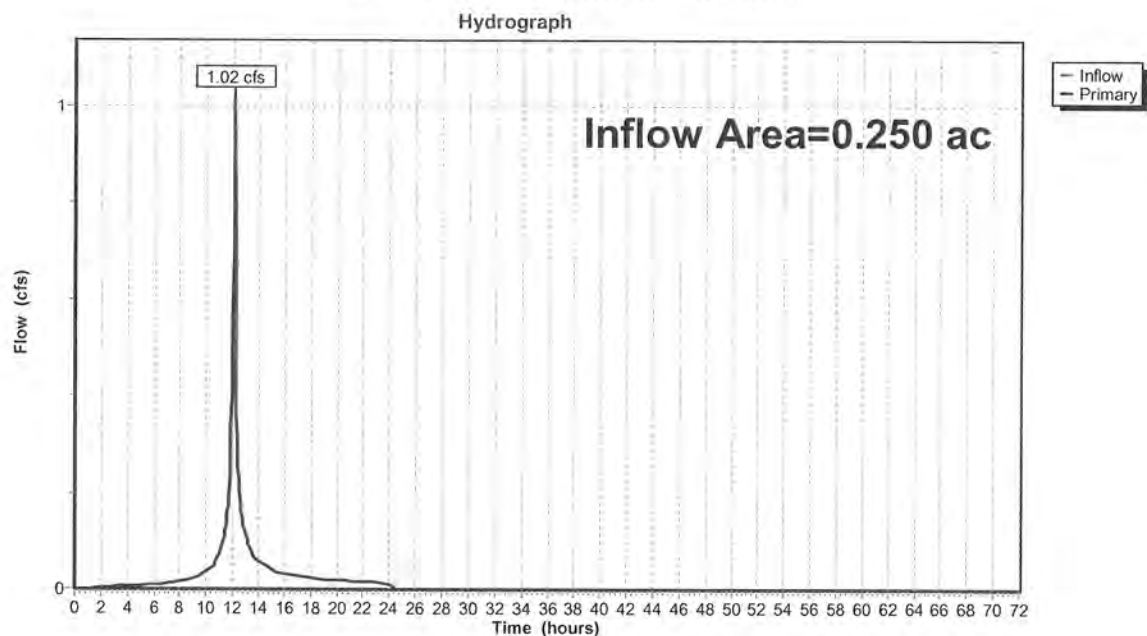
Printed 3/1/2021

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Summary for Pond 57P: offsite summation

Inflow Area = 0.250 ac, 43.60% Impervious, Inflow Depth = 3.91" for 10-yr event
Inflow = 1.02 cfs @ 12.13 hrs, Volume= 0.082 af
Primary = 1.02 cfs @ 12.13 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 57P: offsite summation

Pre-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 57P: offsite summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.01		0.01	53.00	0.00		0.00
4.00	0.01		0.01	54.00	0.00		0.00
5.00	0.01		0.01	55.00	0.00		0.00
6.00	0.01		0.01	56.00	0.00		0.00
7.00	0.01		0.01	57.00	0.00		0.00
8.00	0.02		0.02	58.00	0.00		0.00
9.00	0.02		0.02	59.00	0.00		0.00
10.00	0.04		0.04	60.00	0.00		0.00
11.00	0.07		0.07	61.00	0.00		0.00
12.00	0.55		0.55	62.00	0.00		0.00
13.00	0.12		0.12	63.00	0.00		0.00
14.00	0.06		0.06	64.00	0.00		0.00
15.00	0.04		0.04	65.00	0.00		0.00
16.00	0.03		0.03	66.00	0.00		0.00
17.00	0.03		0.03	67.00	0.00		0.00
18.00	0.02		0.02	68.00	0.00		0.00
19.00	0.02		0.02	69.00	0.00		0.00
20.00	0.02		0.02	70.00	0.00		0.00
21.00	0.02		0.02	71.00	0.00		0.00
22.00	0.02		0.02	72.00	0.00		0.00
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

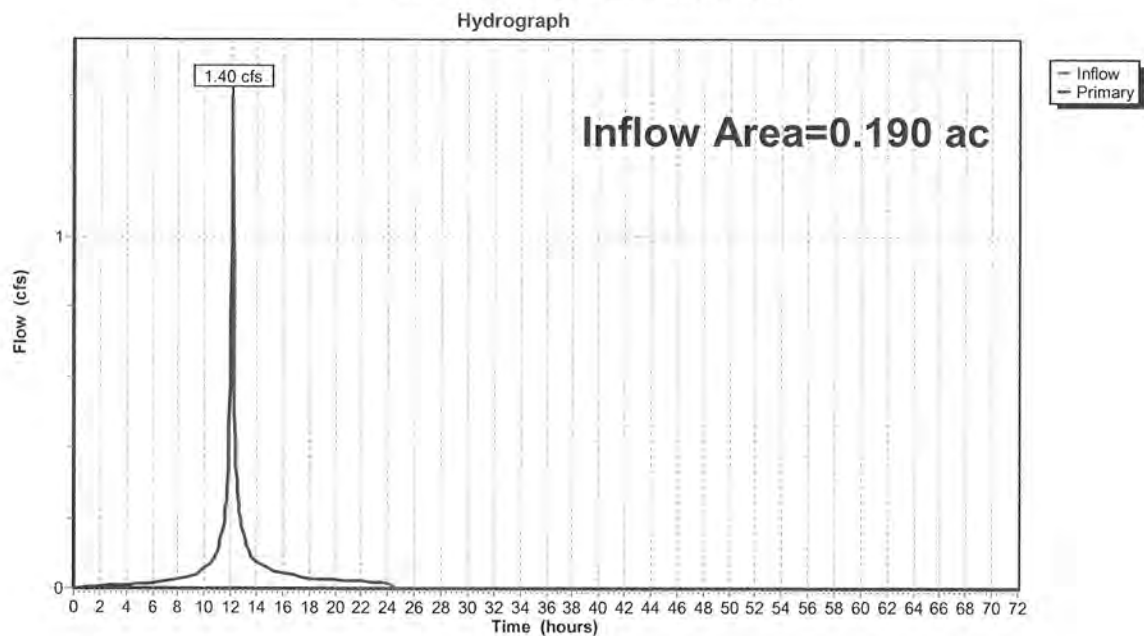
Printed 3/1/2021

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Summary for Pond 52P: offsite central ave

Inflow Area = 0.190 ac, 42.11% Impervious, Inflow Depth = 7.16" for 100-yr event
Inflow = 1.40 cfs @ 12.13 hrs, Volume= 0.113 af
Primary = 1.40 cfs @ 12.13 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 52P: offsite central ave

Pre-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 52P: offsite central ave

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.01		0.01	52.00	0.00		0.00
3.00	0.01		0.01	53.00	0.00		0.00
4.00	0.01		0.01	54.00	0.00		0.00
5.00	0.01		0.01	55.00	0.00		0.00
6.00	0.01		0.01	56.00	0.00		0.00
7.00	0.02		0.02	57.00	0.00		0.00
8.00	0.03		0.03	58.00	0.00		0.00
9.00	0.03		0.03	59.00	0.00		0.00
10.00	0.06		0.06	60.00	0.00		0.00
11.00	0.11		0.11	61.00	0.00		0.00
12.00	0.77		0.77	62.00	0.00		0.00
13.00	0.15		0.15	63.00	0.00		0.00
14.00	0.08		0.08	64.00	0.00		0.00
15.00	0.05		0.05	65.00	0.00		0.00
16.00	0.04		0.04	66.00	0.00		0.00
17.00	0.04		0.04	67.00	0.00		0.00
18.00	0.03		0.03	68.00	0.00		0.00
19.00	0.03		0.03	69.00	0.00		0.00
20.00	0.02		0.02	70.00	0.00		0.00
21.00	0.02		0.02	71.00	0.00		0.00
22.00	0.02		0.02	72.00	0.00		0.00
23.00	0.02		0.02				
24.00	0.02		0.02				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

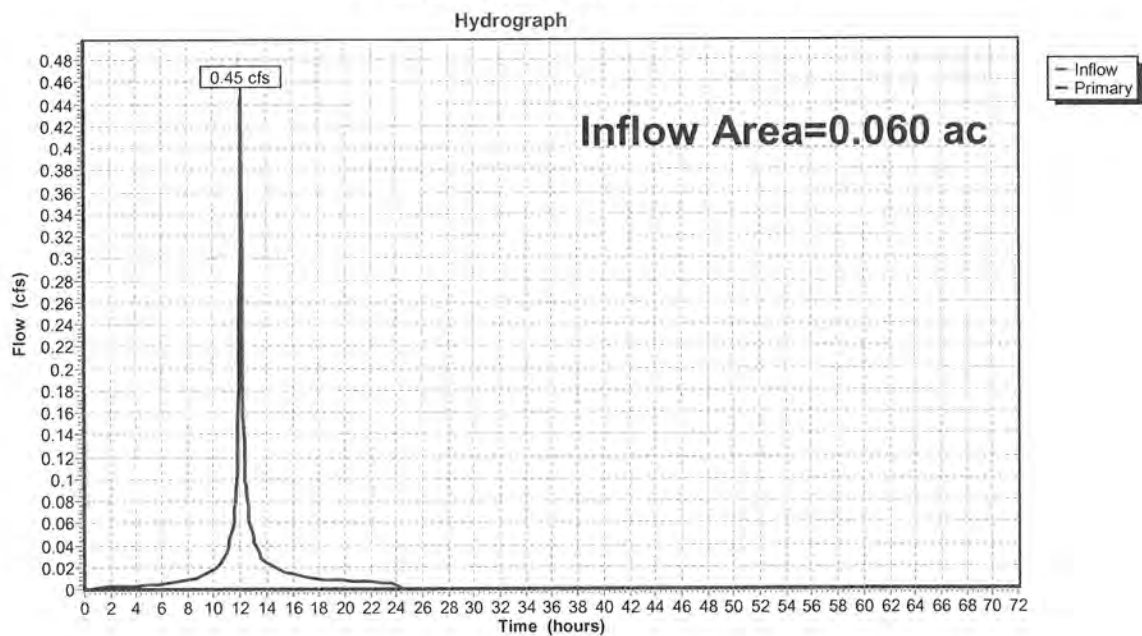
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Summary for Pond 56P: offsite Mitchell st

Inflow Area = 0.060 ac, 48.33% Impervious, Inflow Depth = 7.30" for 100-yr event
Inflow = 0.45 cfs @ 12.13 hrs, Volume= 0.036 af
Primary = 0.45 cfs @ 12.13 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 56P: offsite Mitchell st

Pre-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

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Hydrograph for Pond 56P: offsite Mitchell st

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.00		0.00	52.00	0.00		0.00
3.00	0.00		0.00	53.00	0.00		0.00
4.00	0.00		0.00	54.00	0.00		0.00
5.00	0.00		0.00	55.00	0.00		0.00
6.00	0.00		0.00	56.00	0.00		0.00
7.00	0.01		0.01	57.00	0.00		0.00
8.00	0.01		0.01	58.00	0.00		0.00
9.00	0.01		0.01	59.00	0.00		0.00
10.00	0.02		0.02	60.00	0.00		0.00
11.00	0.03		0.03	61.00	0.00		0.00
12.00	0.25		0.25	62.00	0.00		0.00
13.00	0.05		0.05	63.00	0.00		0.00
14.00	0.02		0.02	64.00	0.00		0.00
15.00	0.02		0.02	65.00	0.00		0.00
16.00	0.01		0.01	66.00	0.00		0.00
17.00	0.01		0.01	67.00	0.00		0.00
18.00	0.01		0.01	68.00	0.00		0.00
19.00	0.01		0.01	69.00	0.00		0.00
20.00	0.01		0.01	70.00	0.00		0.00
21.00	0.01		0.01	71.00	0.00		0.00
22.00	0.01		0.01	72.00	0.00		0.00
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

Pre-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

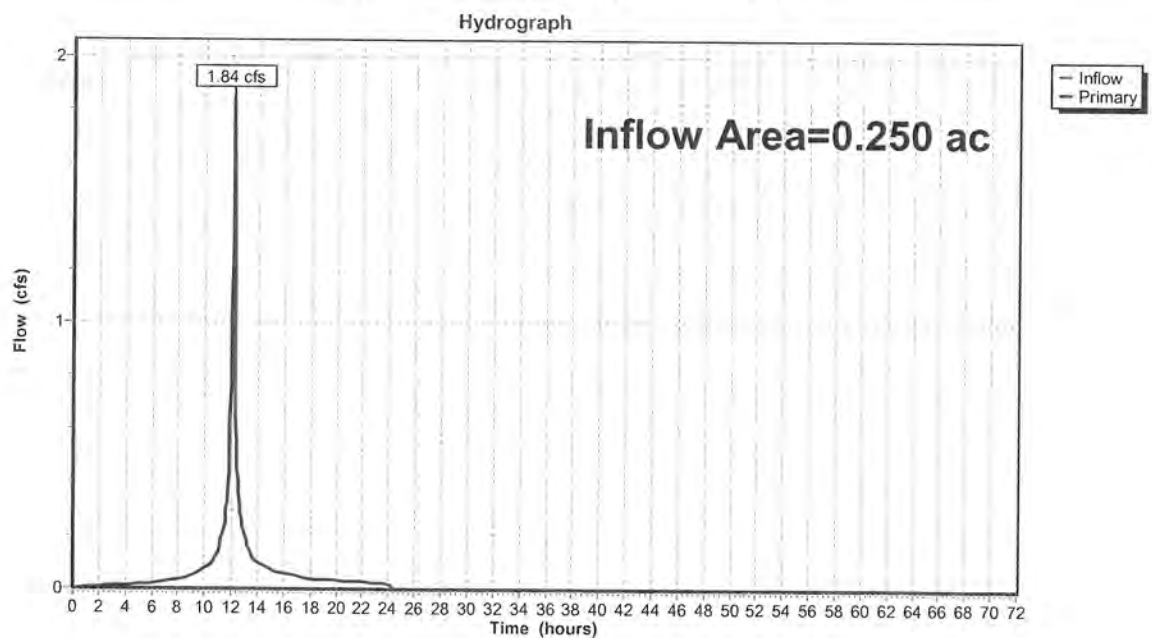
Printed 3/1/2021

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Summary for Pond 57P: offsite summation

Inflow Area = 0.250 ac, 43.60% Impervious, Inflow Depth = 7.19" for 100-yr event
Inflow = 1.84 cfs @ 12.13 hrs, Volume= 0.150 af
Primary = 1.84 cfs @ 12.13 hrs, Volume= 0.150 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 57P: offsite summation

Pre-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

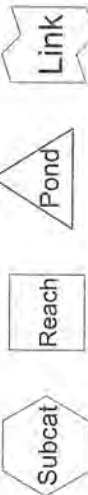
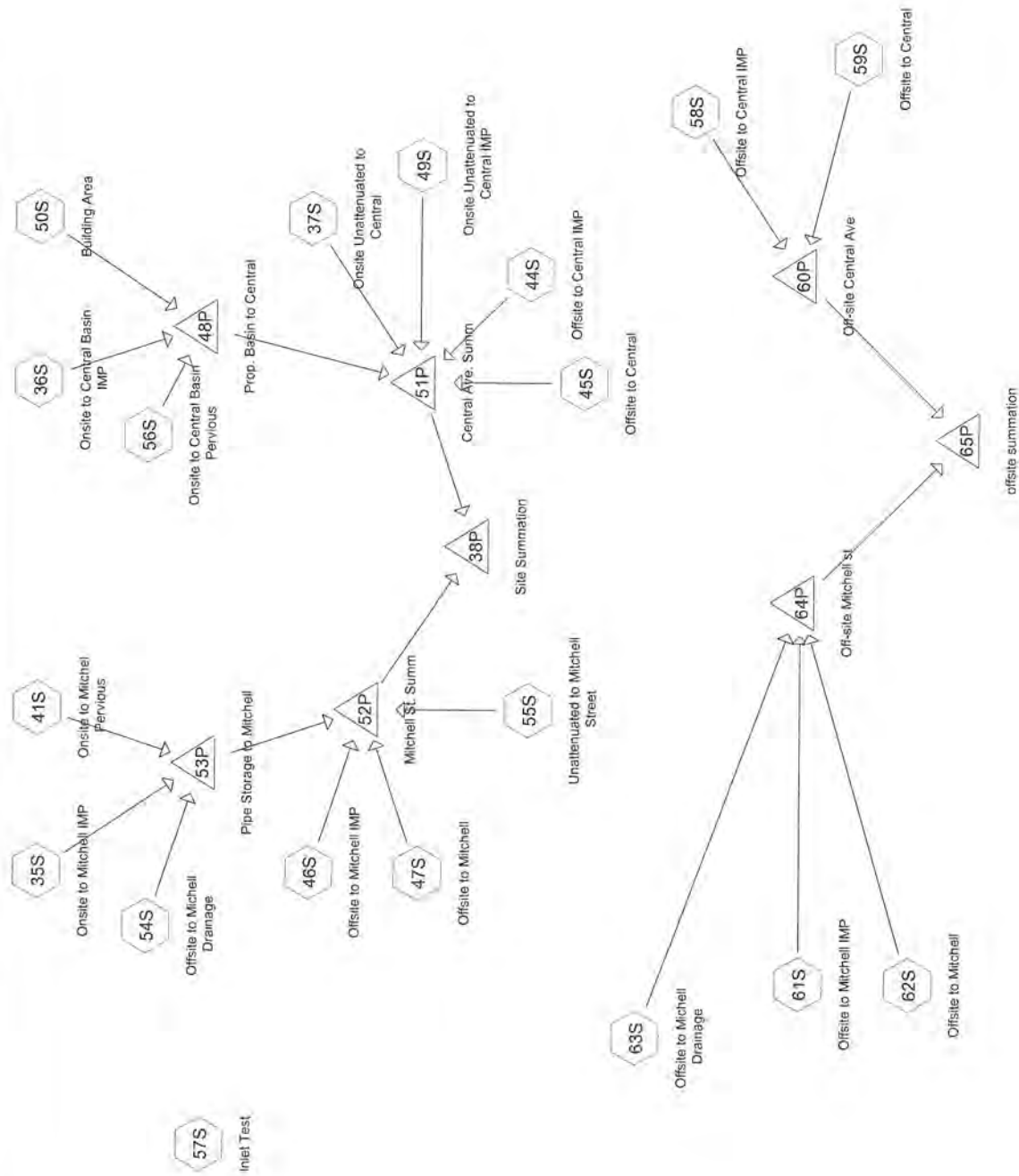
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Hydrograph for Pond 57P: offsite summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	50.00	0.00		0.00
1.00	0.00		0.00	51.00	0.00		0.00
2.00	0.01		0.01	52.00	0.00		0.00
3.00	0.01		0.01	53.00	0.00		0.00
4.00	0.01		0.01	54.00	0.00		0.00
5.00	0.02		0.02	55.00	0.00		0.00
6.00	0.02		0.02	56.00	0.00		0.00
7.00	0.03		0.03	57.00	0.00		0.00
8.00	0.04		0.04	58.00	0.00		0.00
9.00	0.05		0.05	59.00	0.00		0.00
10.00	0.07		0.07	60.00	0.00		0.00
11.00	0.14		0.14	61.00	0.00		0.00
12.00	1.02		1.02	62.00	0.00		0.00
13.00	0.20		0.20	63.00	0.00		0.00
14.00	0.10		0.10	64.00	0.00		0.00
15.00	0.07		0.07	65.00	0.00		0.00
16.00	0.06		0.06	66.00	0.00		0.00
17.00	0.05		0.05	67.00	0.00		0.00
18.00	0.04		0.04	68.00	0.00		0.00
19.00	0.03		0.03	69.00	0.00		0.00
20.00	0.03		0.03	70.00	0.00		0.00
21.00	0.03		0.03	71.00	0.00		0.00
22.00	0.03		0.03	72.00	0.00		0.00
23.00	0.03		0.03				
24.00	0.02		0.02				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				

APPENDIX E

POST-DEVELOPMENT 2-, 10-, AND 100-YEAR STORM EVENT CALCULATIONS



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 35S: Onsite to Mitchell IMP

Runoff = 0.95 cfs @ 12.13 hrs, Volume= 0.080 af, Depth= 3.21"

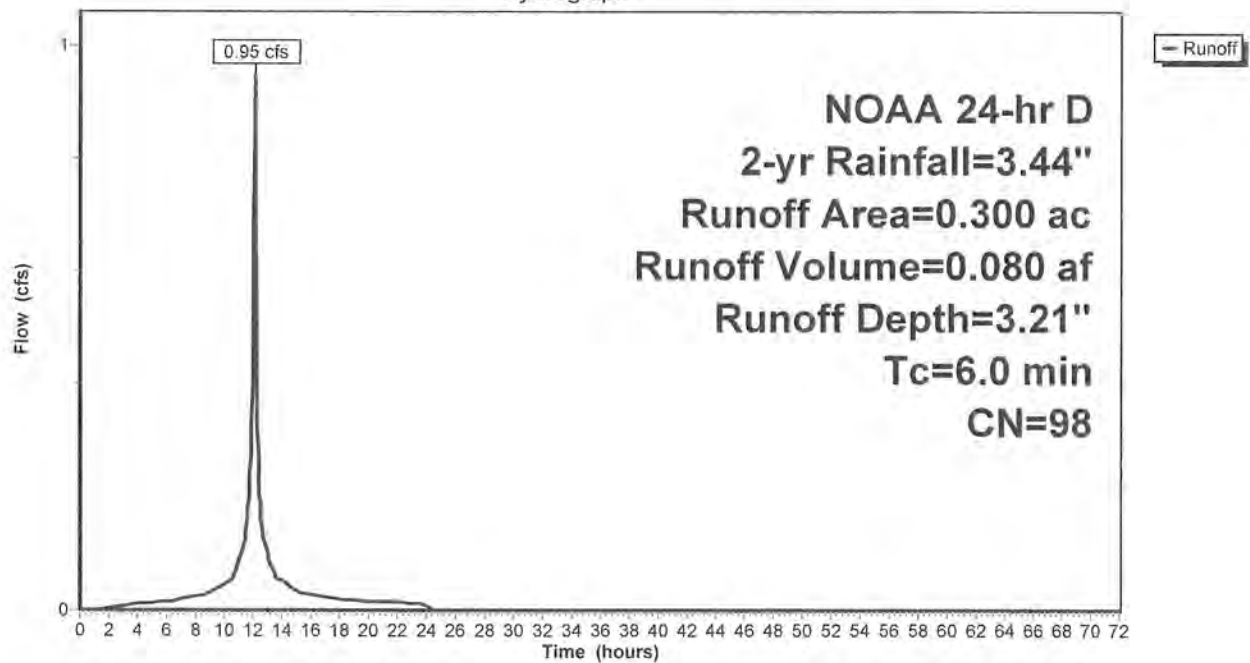
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.300		100.00% Impervious Area

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

Subcatchment 35S: Onsite to Mitchell IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 36S: Onsite to Central Basin IMP

Runoff = 2.59 cfs @ 12.13 hrs, Volume= 0.219 af, Depth= 3.21"

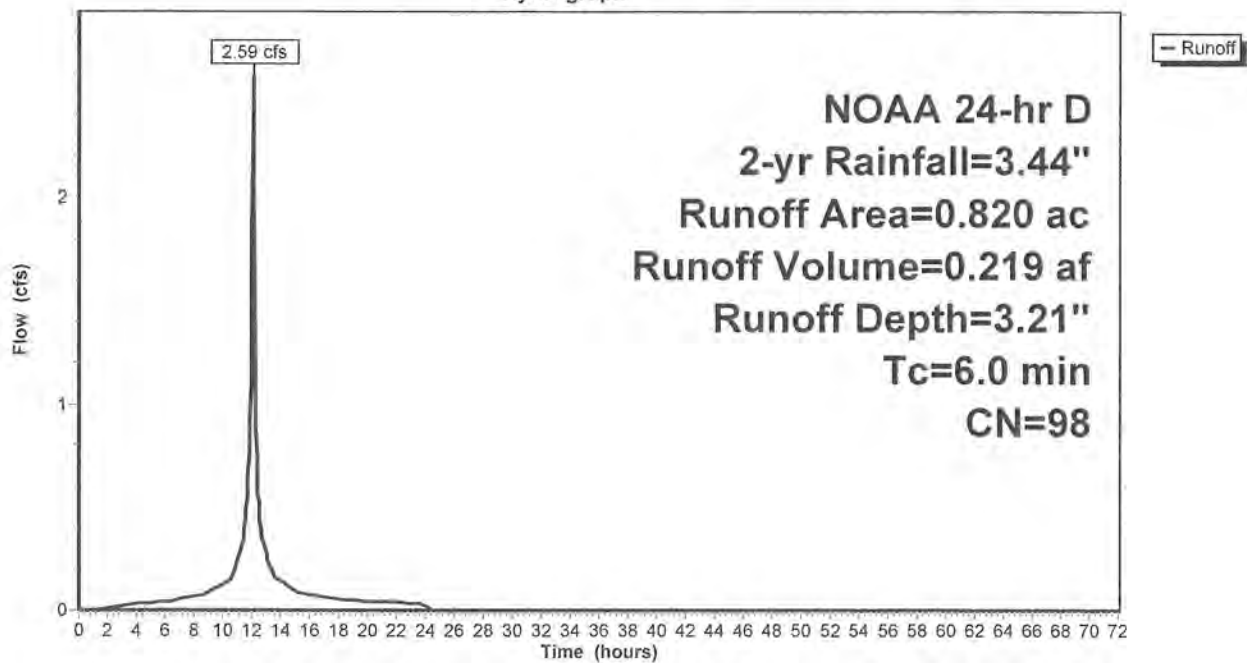
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.820	98	Paved parking, HSG D
0.820		100.00% Impervious Area

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

Subcatchment 36S: Onsite to Central Basin IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 37S: Onsite Unattenuated to Central

Runoff = 0.20 cfs @ 12.13 hrs, Volume= 0.015 af, Depth= 1.59"

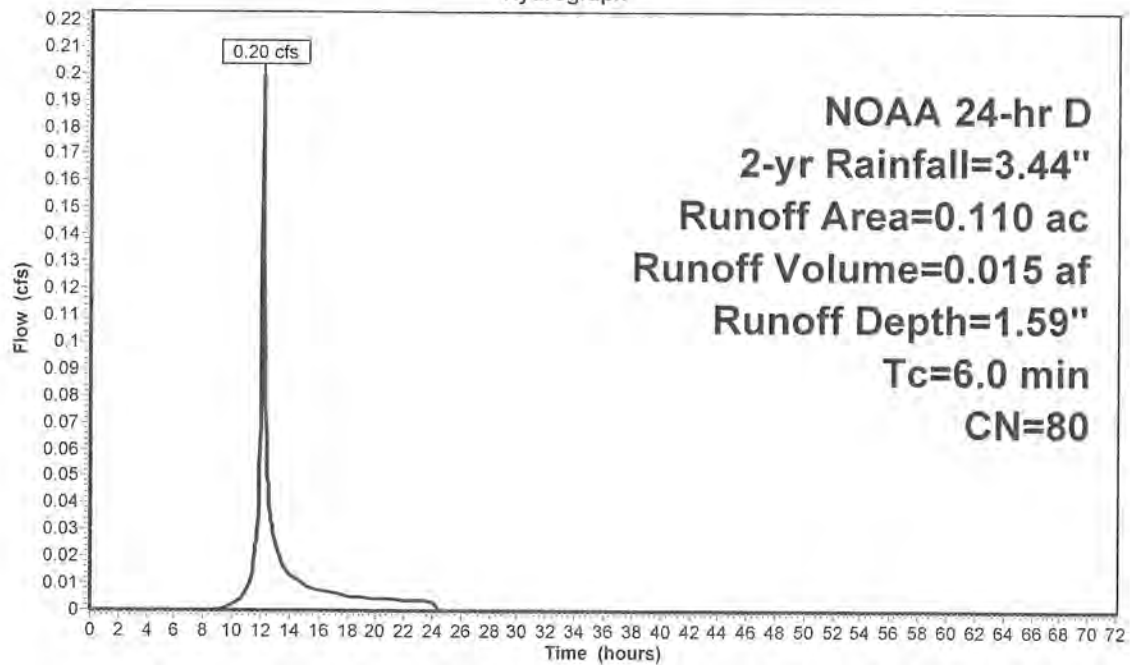
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.110	80	>75% Grass cover, Good, HSG D
0.110		100.00% Pervious Area

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

Subcatchment 37S: Onsite Unattenuated to Central

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 41S: Onsite to Mitchel Pervious

Runoff = 0.04 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 1.59"

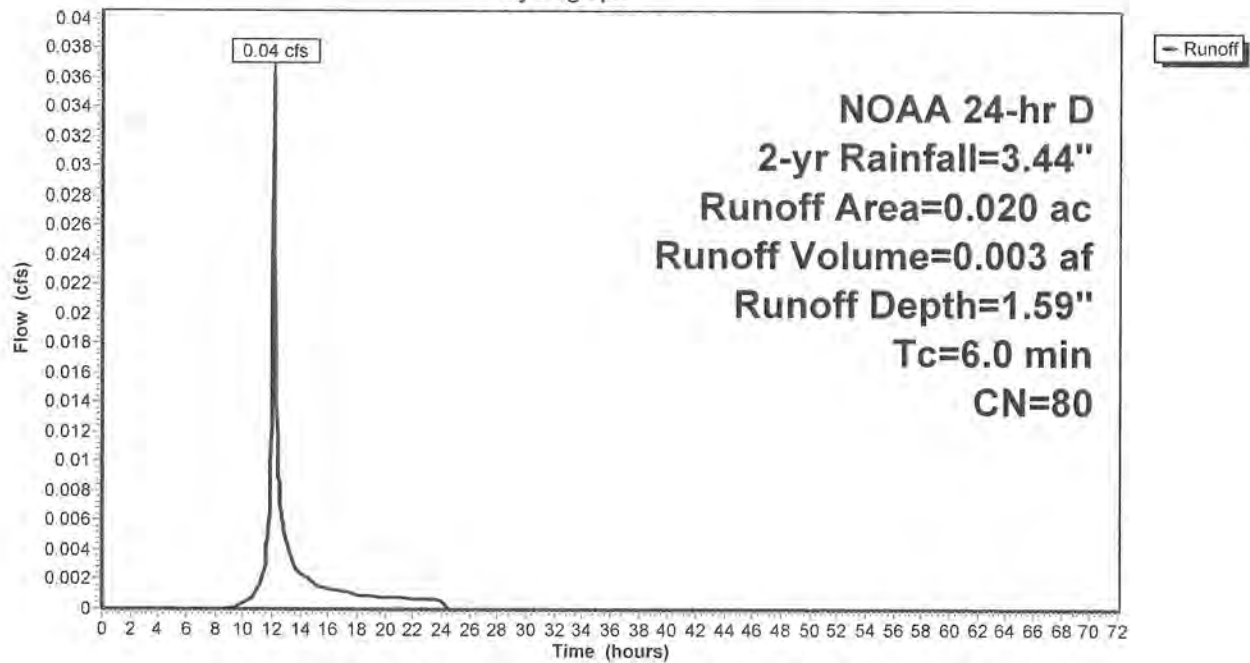
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.020	80	>75% Grass cover, Good, HSG D
0.020		100.00% Pervious Area

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

Subcatchment 41S: Onsite to Mitchel Pervious

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 44S: Offsite to Central IMP

Runoff = 0.35 cfs @ 12.13 hrs, Volume= 0.029 af, Depth= 3.21"

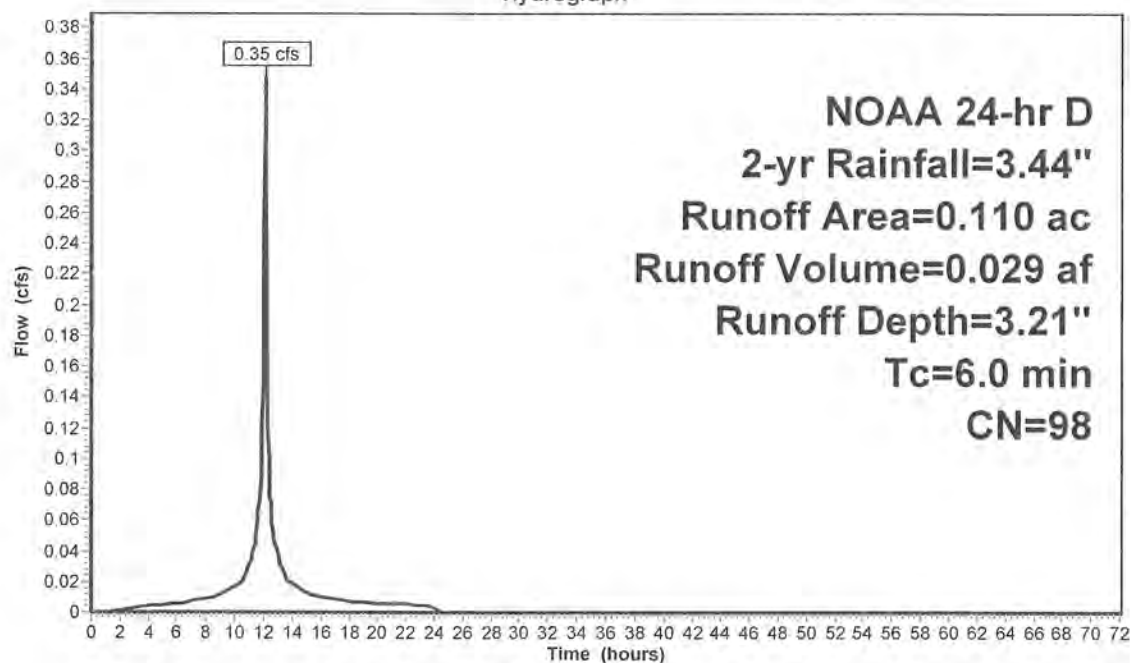
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

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

Subcatchment 44S: Offsite to Central IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

HydroCAD® 10.00-22 s/n 03376 © 2018 HydroCAD Software Solutions LLC

NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 45S: Offsite to Central

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.011 af, Depth= 1.59"

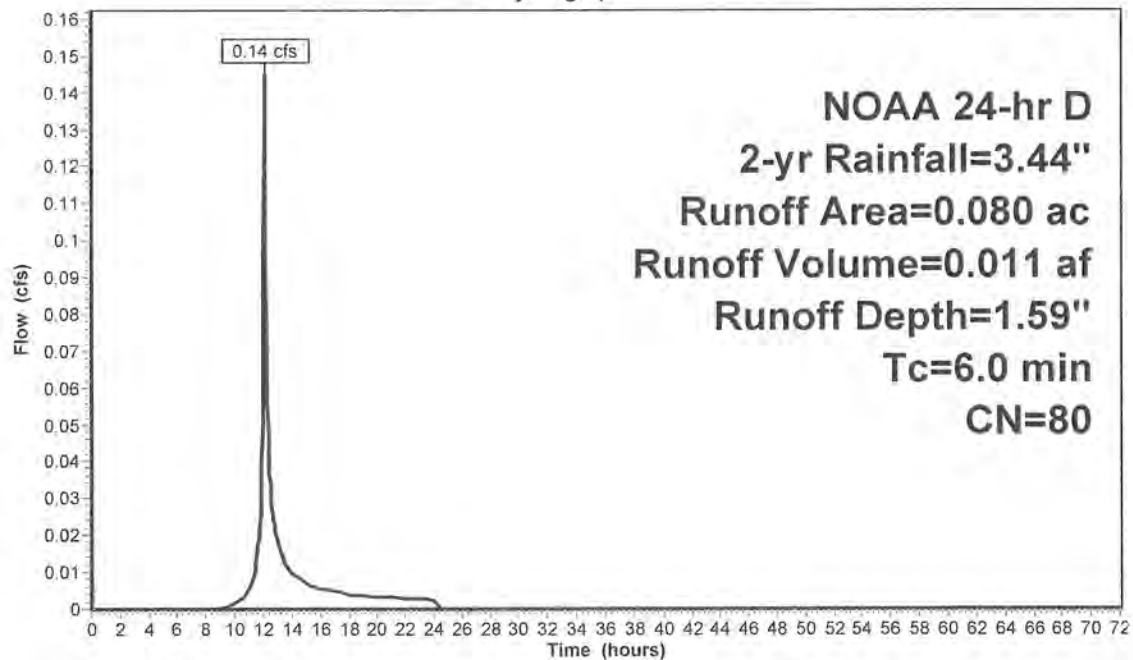
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.080	80	>75% Grass cover, Good, HSG D
0.080		100.00% Pervious Area

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

Subcatchment 45S: Offsite to Central

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 46S: Offsite to Mitchell IMP

Runoff = 0.06 cfs @ 12.13 hrs, Volume= 0.005 af, Depth= 3.21"

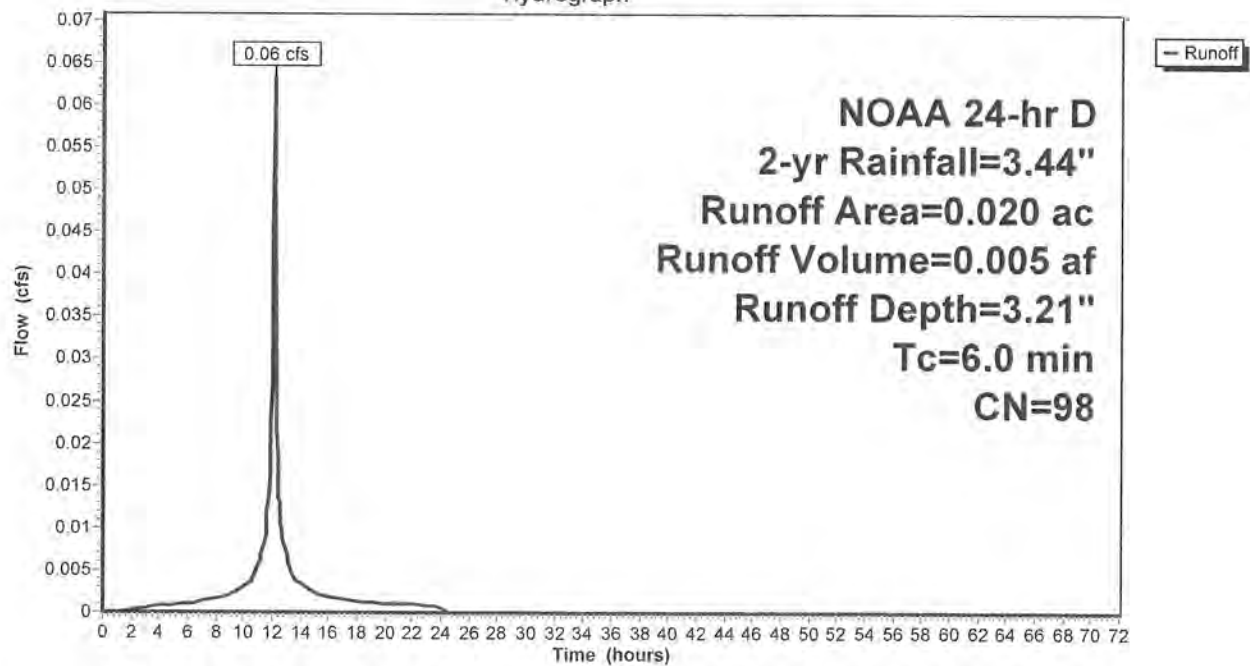
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG D
0.020		100.00% Impervious Area

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

Subcatchment 46S: Offsite to Mitchell IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 47S: Offsite to Mitchell

Runoff = 0.02 cfs @ 12.13 hrs, Volume= 0.001 af, Depth= 1.59"

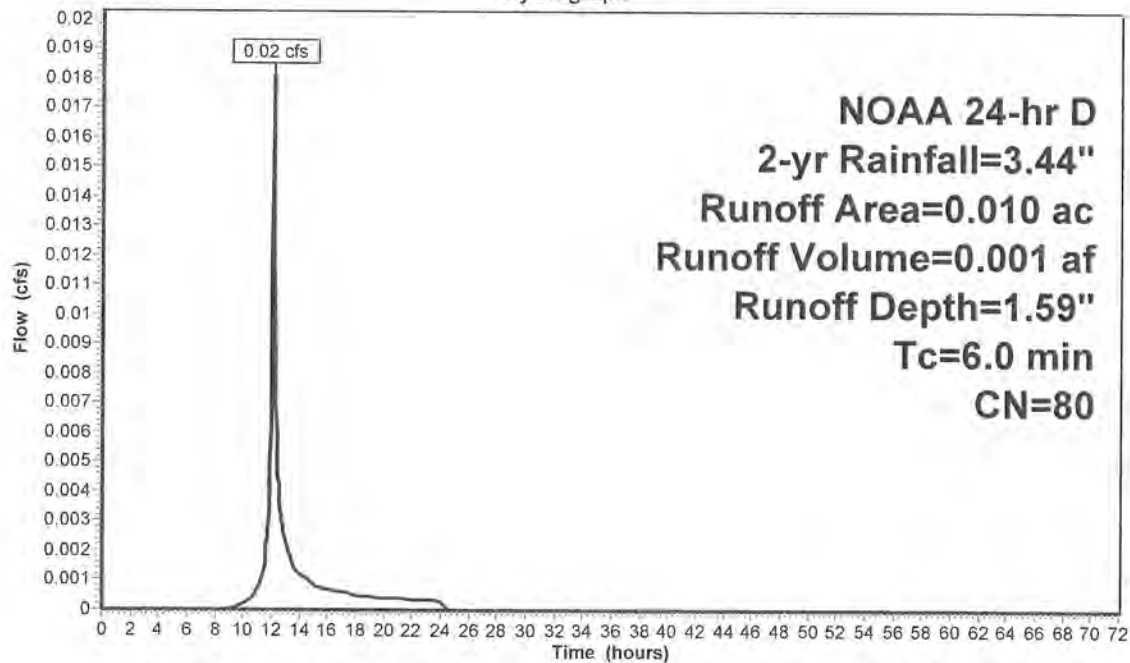
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.010	80	>75% Grass cover, Good, HSG D
0.010		100.00% Pervious Area

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

Subcatchment 47S: Offsite to Mitchell

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 49S: Onsite Unattenuated to Central IMP

Runoff = 0.09 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 3.21"

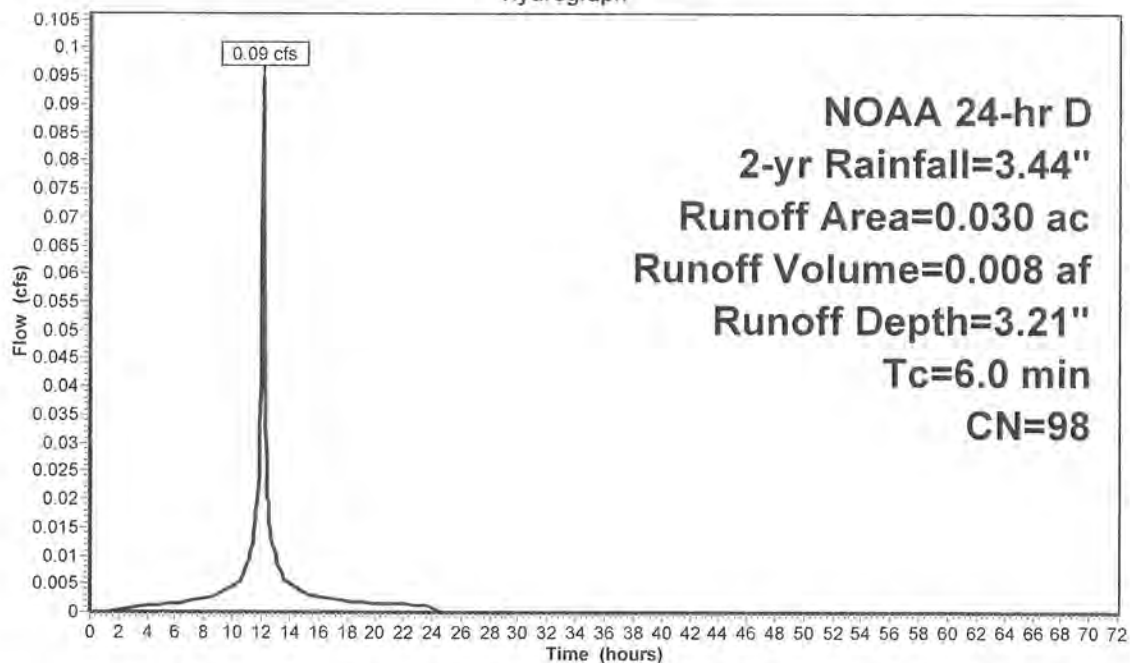
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.030		100.00% Impervious Area

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

Subcatchment 49S: Onsite Unattenuated to Central IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 50S: Building Area

Runoff = 1.55 cfs @ 12.13 hrs, Volume= 0.131 af, Depth= 3.21"

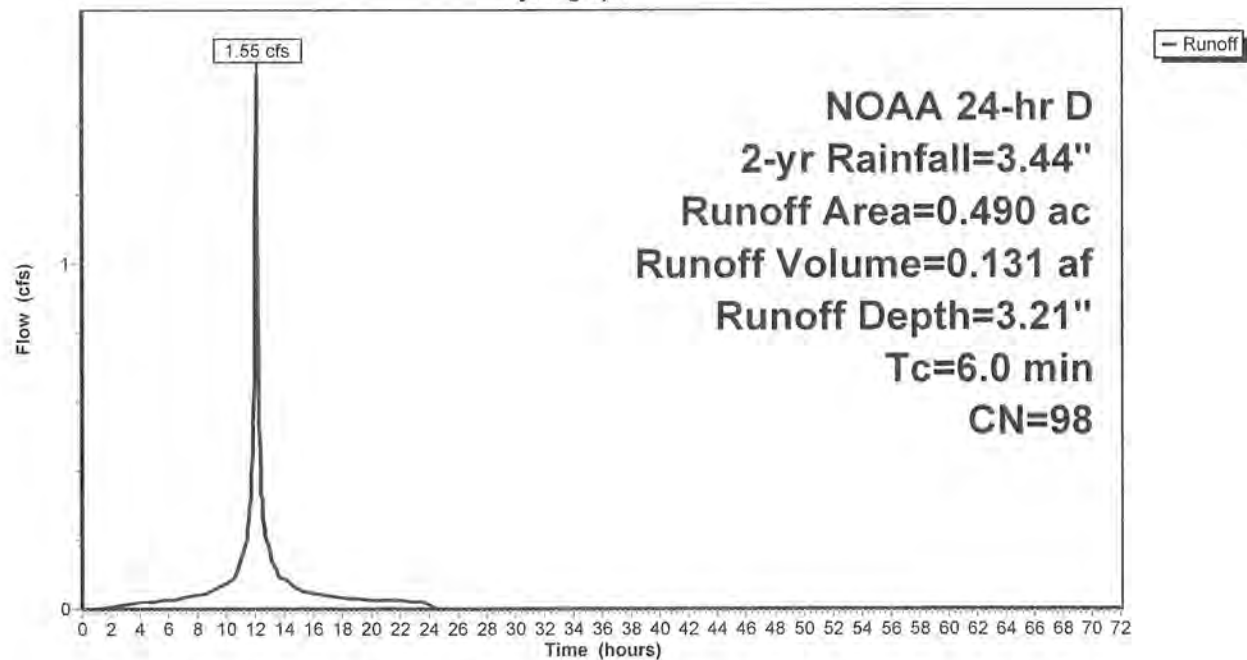
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.490	98	Roofs, HSG D
0.490		100.00% Impervious Area

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

Subcatchment 50S: Building Area

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 54S: Offsite to Michell Drainage

Runoff = 0.05 cfs @ 12.13 hrs, Volume= 0.004 af, Depth= 1.59"

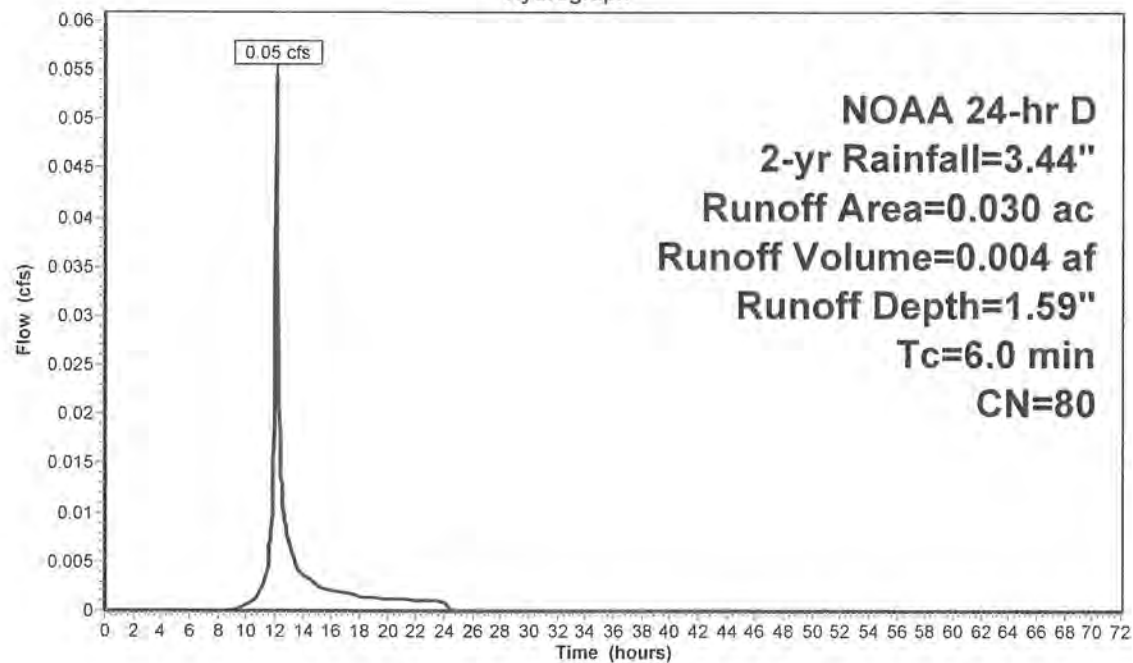
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 54S: Offsite to Michell Drainage

Hydrograph



Post-Development-Central

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 55S: Unattenuated to Mitchell Street

Runoff = 0.05 cfs @ 12.13 hrs, Volume= 0.004 af, Depth= 1.59"

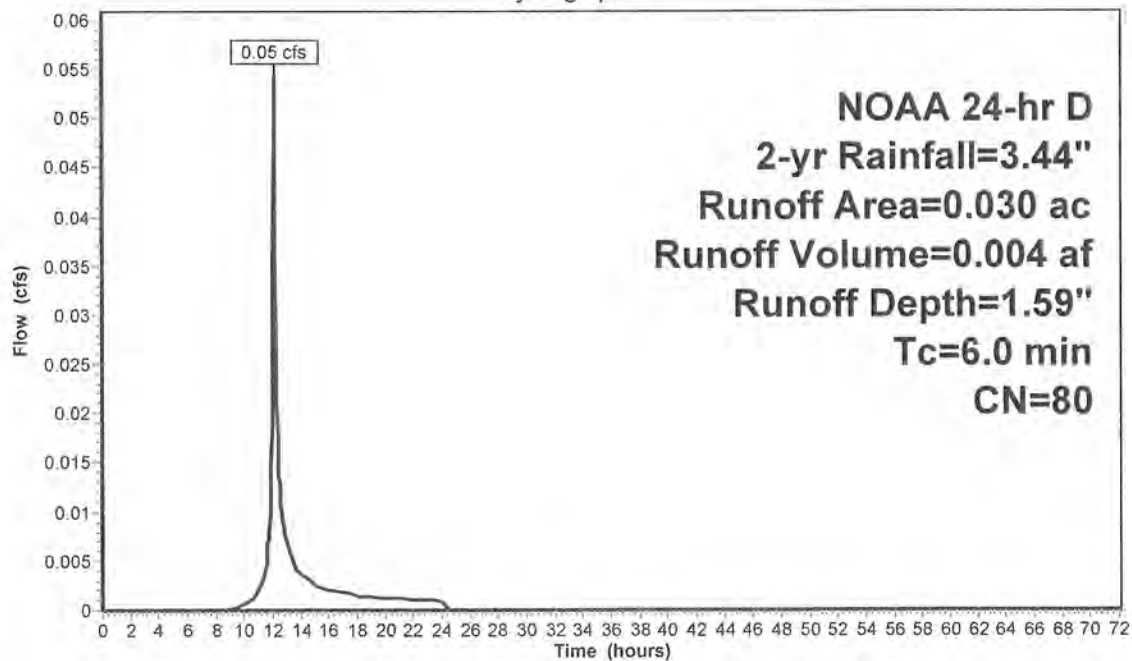
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 55S: Unattenuated to Mitchell Street

Hydrograph



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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 2/19/2021

Summary for Subcatchment 56S: Onsite to Central Basin Pervious

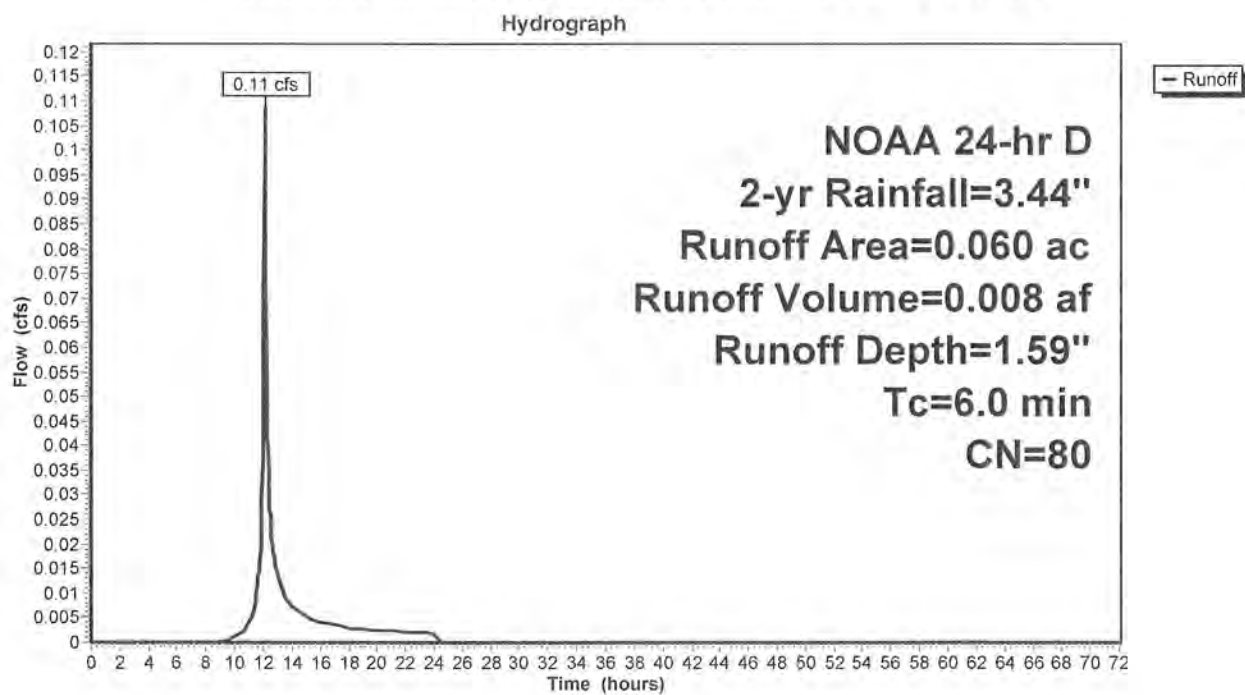
Runoff = 0.11 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-yr Rainfall=3.44"

Area (ac)	CN	Description
0.060	80	>75% Grass cover, Good, HSG D
0.060		100.00% Pervious Area

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

Subcatchment 56S: Onsite to Central Basin Pervious



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NOAA 24-hr D 2-yr Rainfall=3.44"

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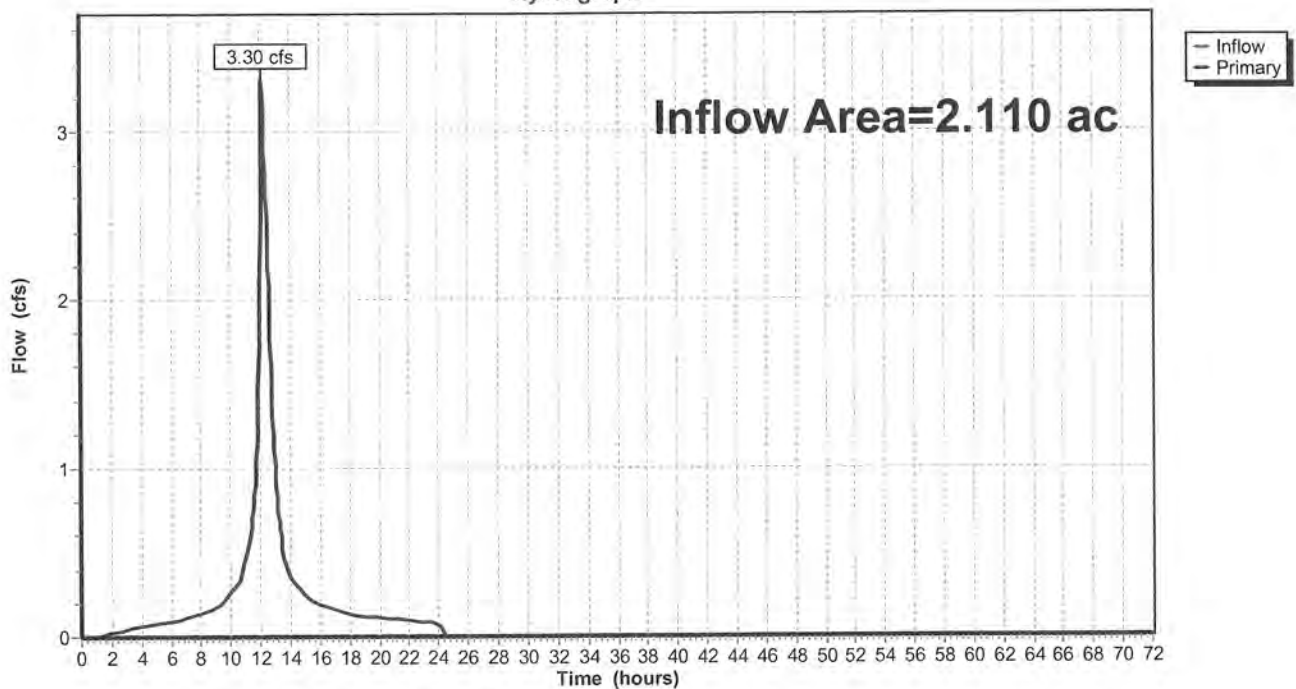
Summary for Pond 38P: Site Summation

Inflow Area = 2.110 ac, 83.89% Impervious, Inflow Depth = 2.95" for 2-yr event
Inflow = 3.30 cfs @ 12.16 hrs, Volume= 0.518 af
Primary = 3.30 cfs @ 12.16 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 38P: Site Summation

Hydrograph



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NOAA 24-hr D 2-yr Rainfall=3.44"

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Hydrograph for Pond 38P: Site Summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.02		0.02	54.00	0.00		0.00
3.00	0.04		0.04	55.00	0.00		0.00
4.00	0.06		0.06	56.00	0.00		0.00
5.00	0.07		0.07	57.00	0.00		0.00
6.00	0.08		0.08	58.00	0.00		0.00
7.00	0.11		0.11	59.00	0.00		0.00
8.00	0.14		0.14	60.00	0.00		0.00
9.00	0.17		0.17	61.00	0.00		0.00
10.00	0.26		0.26	62.00	0.00		0.00
11.00	0.45		0.45	63.00	0.00		0.00
12.00	2.10		2.10	64.00	0.00		0.00
13.00	1.03		1.03	65.00	0.00		0.00
14.00	0.36		0.36	66.00	0.00		0.00
15.00	0.24		0.24	67.00	0.00		0.00
16.00	0.19		0.19	68.00	0.00		0.00
17.00	0.16		0.16	69.00	0.00		0.00
18.00	0.13		0.13	70.00	0.00		0.00
19.00	0.12		0.12	71.00	0.00		0.00
20.00	0.11		0.11	72.00	0.00		0.00
21.00	0.10		0.10				
22.00	0.09		0.09				
23.00	0.09		0.09				
24.00	0.08		0.08				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

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Summary for Pond 48P: Prop. Basin to Central

Inflow Area = 1.370 ac, 95.62% Impervious, Inflow Depth = 3.14" for 2-yr event
 Inflow = 4.25 cfs @ 12.13 hrs, Volume= 0.358 af
 Outflow = 2.16 cfs @ 12.24 hrs, Volume= 0.358 af, Atten= 49%, Lag= 6.9 min
 Primary = 2.16 cfs @ 12.24 hrs, Volume= 0.358 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 170.58' @ 12.24 hrs Surf.Area= 0.061 ac Storage= 0.048 af
 Flood Elev= 172.35' Surf.Area= 0.031 ac Storage= 0.147 af

Plug-Flow detention time= 8.2 min calculated for 0.358 af (100% of inflow)
 Center-of-Mass det. time= 8.2 min (767.0 - 758.8)

Volume	Invert	Avail.Storage	Storage Description
#1	169.35'	0.047 af	36.0" Round Pipe Storage L= 289.4' S= 0.0010 '/
#2	169.37'	0.047 af	36.0" Round Pipe Storage L= 287.2' S= 0.0010 '/
#3	169.47'	0.023 af	36.0" Round Pipe Storage L= 142.4' S= 0.0010 '/
#4	169.53'	0.023 af	36.0" Round Pipe Storage L= 142.1' S= 0.0010 '/
#5	169.66'	0.019 af	3.50'W x 4.00'L x 4.54'H Prismaoid x 13
		0.159 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	169.35'	12.0" Round Culvert L= 134.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 169.35' / 168.95' S= 0.0030 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	169.35'	9.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	170.63'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	171.20'	1.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.16 cfs @ 12.24 hrs HW=170.57' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 2.16 cfs of 2.72 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 2.16 cfs @ 4.38 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Post-Development-Central

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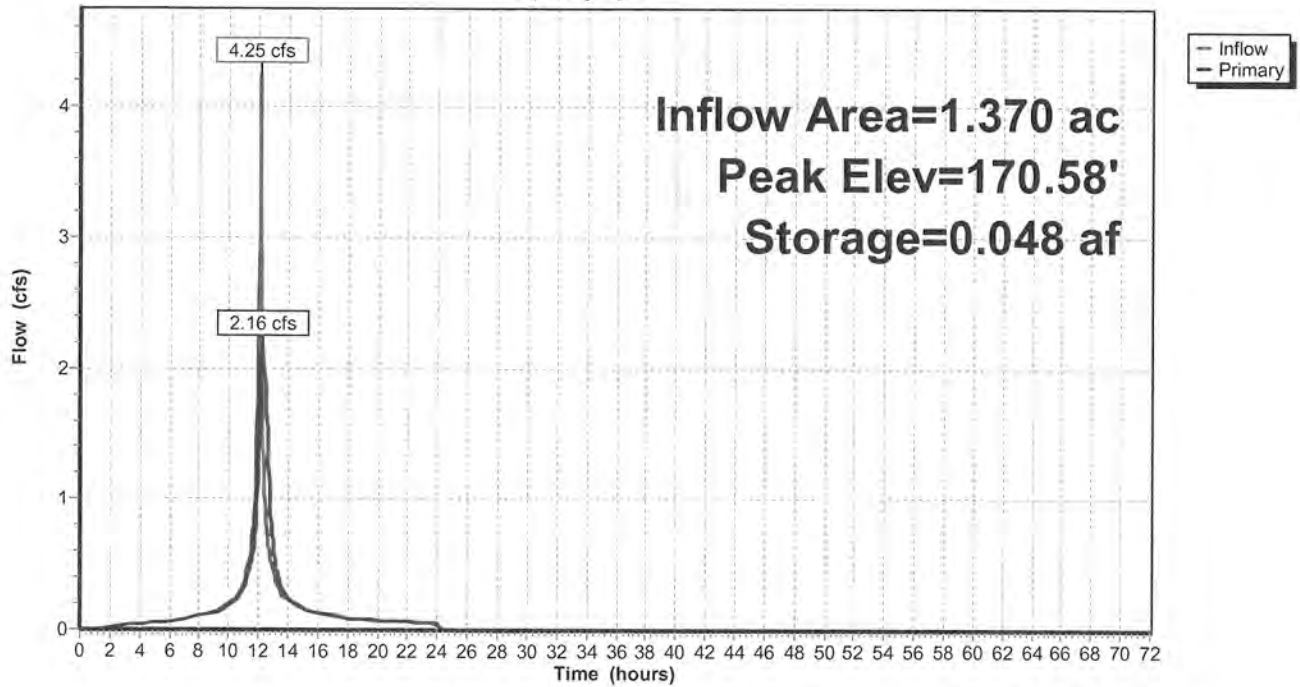
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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 3/1/2021

Pond 48P: Prop. Basin to Central

Hydrograph



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

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Hydrograph for Pond 48P: Prop. Basin to Central

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	169.35	0.00
2.50	0.02	0.000	169.44	0.02
5.00	0.05	0.000	169.48	0.05
7.50	0.09	0.000	169.53	0.09
10.00	0.20	0.001	169.60	0.19
12.50	0.87	0.031	170.30	1.77
15.00	0.15	0.001	169.58	0.16
17.50	0.10	0.001	169.53	0.10
20.00	0.07	0.000	169.51	0.07
22.50	0.06	0.000	169.49	0.06
25.00	0.00	0.000	169.35	0.00
27.50	0.00	0.000	169.35	0.00
30.00	0.00	0.000	169.35	0.00
32.50	0.00	0.000	169.35	0.00
35.00	0.00	0.000	169.35	0.00
37.50	0.00	0.000	169.35	0.00
40.00	0.00	0.000	169.35	0.00
42.50	0.00	0.000	169.35	0.00
45.00	0.00	0.000	169.35	0.00
47.50	0.00	0.000	169.35	0.00
50.00	0.00	0.000	169.35	0.00
52.50	0.00	0.000	169.35	0.00
55.00	0.00	0.000	169.35	0.00
57.50	0.00	0.000	169.35	0.00
60.00	0.00	0.000	169.35	0.00
62.50	0.00	0.000	169.35	0.00
65.00	0.00	0.000	169.35	0.00
67.50	0.00	0.000	169.35	0.00
70.00	0.00	0.000	169.35	0.00

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NOAA 24-hr D 2-yr Rainfall=3.44"

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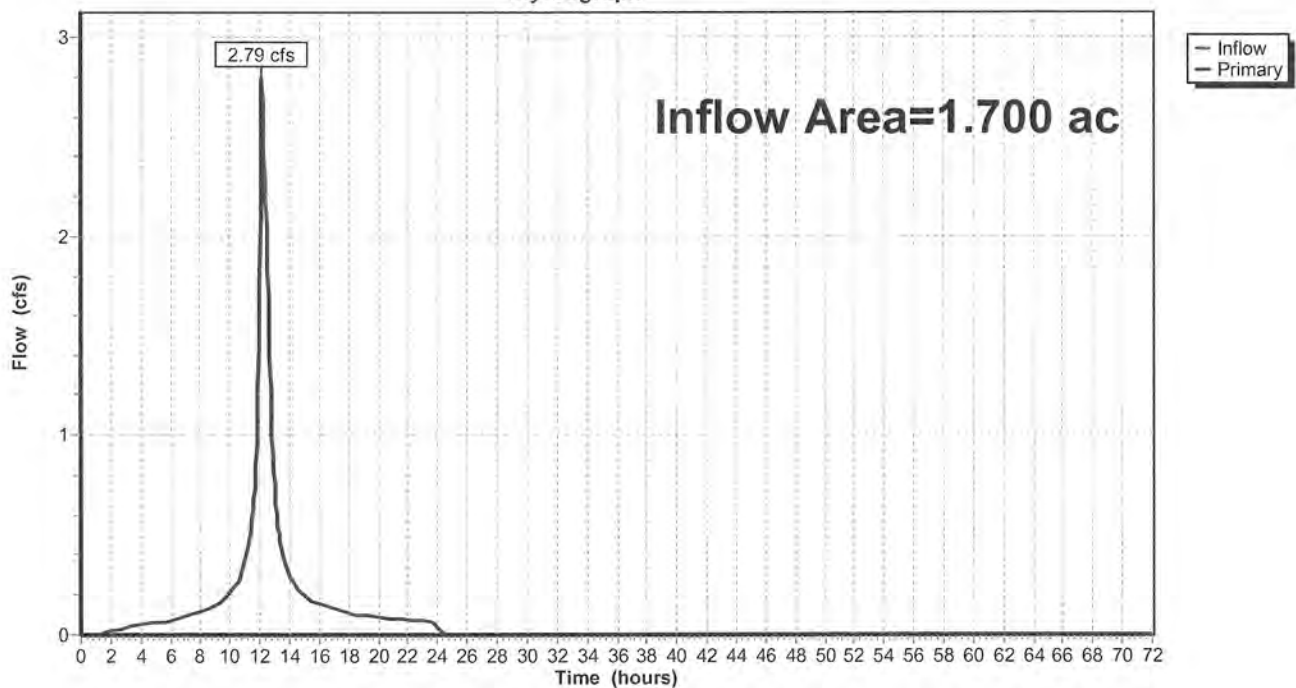
Summary for Pond 51P: Central Ave. Summ

Inflow Area = 1.700 ac, 85.29% Impervious, Inflow Depth = 2.97" for 2-yr event
Inflow = 2.79 cfs @ 12.16 hrs, Volume= 0.421 af
Primary = 2.79 cfs @ 12.16 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 51P: Central Ave. Summ

Hydrograph



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

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Hydrograph for Pond 51P: Central Ave. Summ

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.02		0.02	54.00	0.00		0.00
3.00	0.03		0.03	55.00	0.00		0.00
4.00	0.05		0.05	56.00	0.00		0.00
5.00	0.06		0.06	57.00	0.00		0.00
6.00	0.07		0.07	58.00	0.00		0.00
7.00	0.09		0.09	59.00	0.00		0.00
8.00	0.11		0.11	60.00	0.00		0.00
9.00	0.14		0.14	61.00	0.00		0.00
10.00	0.21		0.21	62.00	0.00		0.00
11.00	0.37		0.37	63.00	0.00		0.00
12.00	1.77		1.77	64.00	0.00		0.00
13.00	0.76		0.76	65.00	0.00		0.00
14.00	0.29		0.29	66.00	0.00		0.00
15.00	0.20		0.20	67.00	0.00		0.00
16.00	0.16		0.16	68.00	0.00		0.00
17.00	0.13		0.13	69.00	0.00		0.00
18.00	0.10		0.10	70.00	0.00		0.00
19.00	0.09		0.09	71.00	0.00		0.00
20.00	0.09		0.09	72.00	0.00		0.00
21.00	0.08		0.08				
22.00	0.08		0.08				
23.00	0.07		0.07				
24.00	0.06		0.06				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

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NOAA 24-hr D 2-yr Rainfall=3.44"

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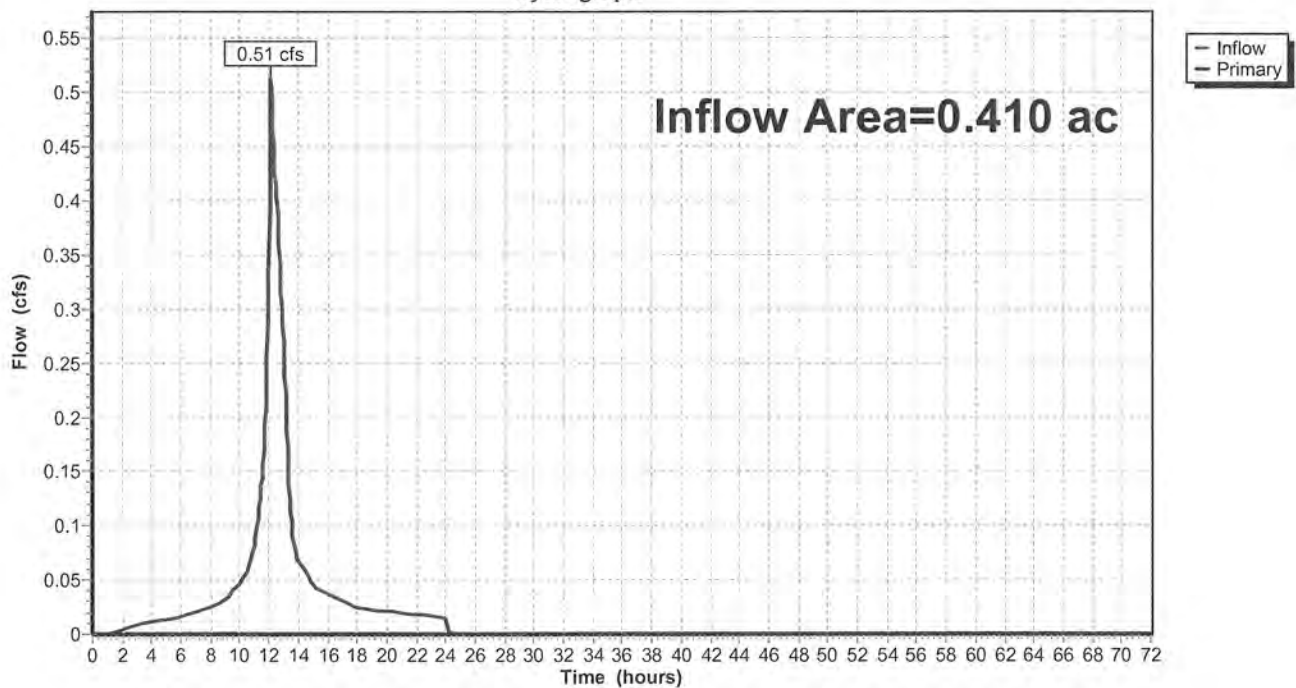
Summary for Pond 52P: Mitchell St. Summ

Inflow Area = 0.410 ac, 78.05% Impervious, Inflow Depth = 2.85" for 2-yr event
Inflow = 0.51 cfs @ 12.16 hrs, Volume= 0.097 af
Primary = 0.51 cfs @ 12.16 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 52P: Mitchell St. Summ

Hydrograph



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

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Hydrograph for Pond 52P: Mitchell St. Summ

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.01		0.01	55.00	0.00		0.00
4.00	0.01		0.01	56.00	0.00		0.00
5.00	0.01		0.01	57.00	0.00		0.00
6.00	0.02		0.02	58.00	0.00		0.00
7.00	0.02		0.02	59.00	0.00		0.00
8.00	0.03		0.03	60.00	0.00		0.00
9.00	0.03		0.03	61.00	0.00		0.00
10.00	0.05		0.05	62.00	0.00		0.00
11.00	0.08		0.08	63.00	0.00		0.00
12.00	0.33		0.33	64.00	0.00		0.00
13.00	0.27		0.27	65.00	0.00		0.00
14.00	0.07		0.07	66.00	0.00		0.00
15.00	0.05		0.05	67.00	0.00		0.00
16.00	0.04		0.04	68.00	0.00		0.00
17.00	0.03		0.03	69.00	0.00		0.00
18.00	0.02		0.02	70.00	0.00		0.00
19.00	0.02		0.02	71.00	0.00		0.00
20.00	0.02		0.02	72.00	0.00		0.00
21.00	0.02		0.02				
22.00	0.02		0.02				
23.00	0.02		0.02				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

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Summary for Pond 53P: Pipe Storage to Mitchell

Inflow Area = 0.350 ac, 85.71% Impervious, Inflow Depth = 2.98" for 2-yr event
 Inflow = 1.04 cfs @ 12.13 hrs, Volume= 0.087 af
 Outflow = 0.41 cfs @ 12.28 hrs, Volume= 0.087 af, Atten= 60%, Lag= 9.1 min
 Primary = 0.41 cfs @ 12.28 hrs, Volume= 0.087 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 170.73' @ 12.28 hrs Surf.Area= 0.017 ac Storage= 0.014 af
 Flood Elev= 172.09' Surf.Area= 0.006 ac Storage= 0.033 af

Plug-Flow detention time= 10.4 min calculated for 0.087 af (100% of inflow)
 Center-of-Mass det. time= 10.4 min (774.3 - 763.8)

Volume	Invert	Avail.Storage	Storage Description
#1	169.59'	0.016 af	30.0" Round Pipe Storage L= 138.2' S= 0.0010 '/'
#2	169.59'	0.015 af	30.0" Round Pipe Storage L= 134.3' S= 0.0010 '/'
#3	169.73'	0.007 af	3.50'W x 4.00'L x 5.27'H Prismaoid x 4
		0.037 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	169.59'	12.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 169.59' / 169.34' S= 0.0025 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	169.59'	4.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	170.80'	2.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	171.35'	3.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.41 cfs @ 12.28 hrs HW=170.73' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.41 cfs of 2.29 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.41 cfs @ 4.75 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Post-Development-Central

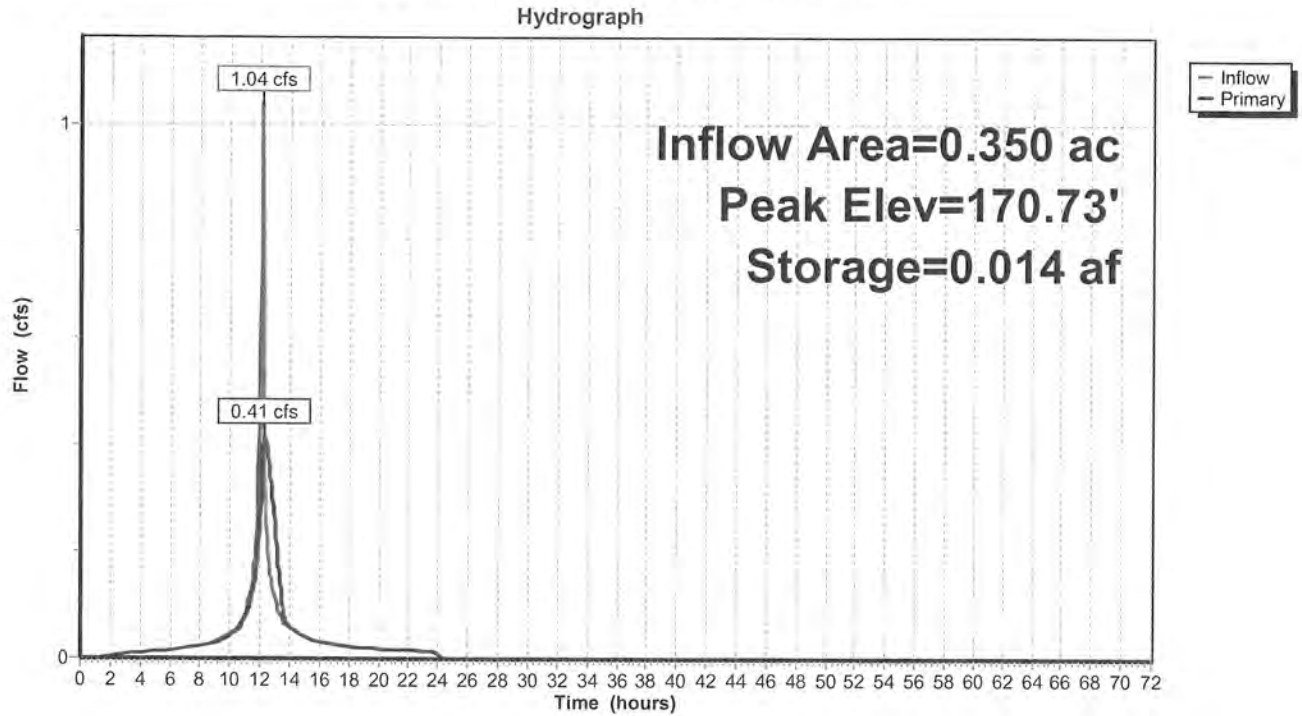
Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 2-yr Rainfall=3.44"

Printed 3/1/2021

Pond 53P: Pipe Storage to Mitchell



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 53P: Pipe Storage to Mitchell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	169.59	0.00
2.50	0.01	0.000	169.64	0.01
5.00	0.01	0.000	169.66	0.01
7.50	0.02	0.000	169.68	0.02
10.00	0.05	0.000	169.73	0.04
12.50	0.21	0.012	170.60	0.38
15.00	0.04	0.000	169.72	0.04
17.50	0.02	0.000	169.69	0.02
20.00	0.02	0.000	169.68	0.02
22.50	0.01	0.000	169.67	0.01
25.00	0.00	0.000	169.59	0.00
27.50	0.00	0.000	169.59	0.00
30.00	0.00	0.000	169.59	0.00
32.50	0.00	0.000	169.59	0.00
35.00	0.00	0.000	169.59	0.00
37.50	0.00	0.000	169.59	0.00
40.00	0.00	0.000	169.59	0.00
42.50	0.00	0.000	169.59	0.00
45.00	0.00	0.000	169.59	0.00
47.50	0.00	0.000	169.59	0.00
50.00	0.00	0.000	169.59	0.00
52.50	0.00	0.000	169.59	0.00
55.00	0.00	0.000	169.59	0.00
57.50	0.00	0.000	169.59	0.00
60.00	0.00	0.000	169.59	0.00
62.50	0.00	0.000	169.59	0.00
65.00	0.00	0.000	169.59	0.00
67.50	0.00	0.000	169.59	0.00
70.00	0.00	0.000	169.59	0.00

Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 35S: Onsite to Mitchell IMP

Runoff = 1.45 cfs @ 12.13 hrs, Volume= 0.125 af, Depth= 4.98"

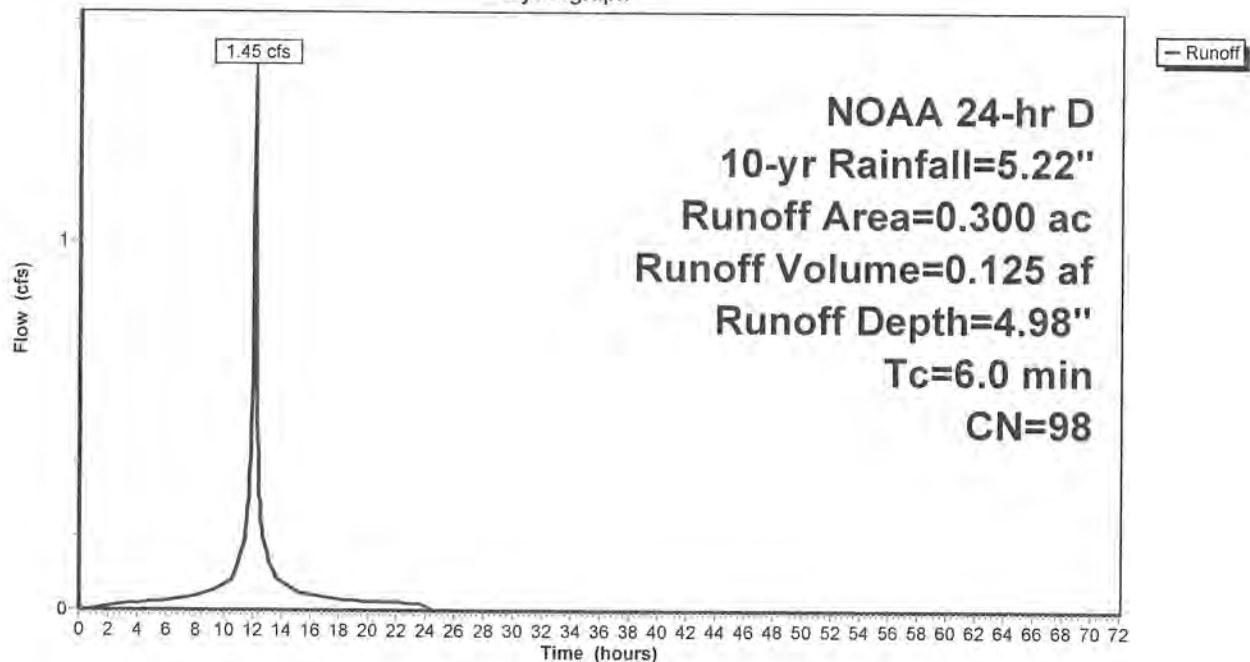
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.300		100.00% Impervious Area

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

Subcatchment 35S: Onsite to Mitchell IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

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Summary for Subcatchment 36S: Onsite to Central Basin IMP

Runoff = 3.95 cfs @ 12.13 hrs, Volume= 0.340 af, Depth= 4.98"

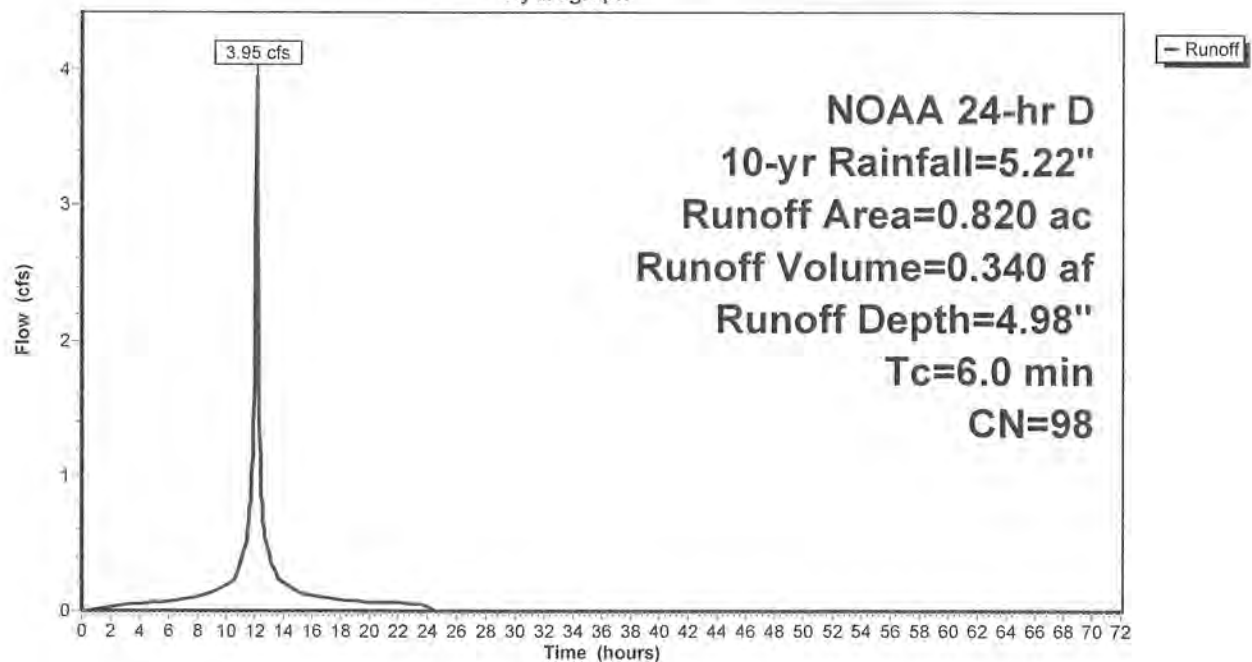
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.820	98	Paved parking, HSG D
0.820		100.00% Impervious Area

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

Subcatchment 36S: Onsite to Central Basin IMP

Hydrograph



Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 37S: Onsite Unattenuated to Central

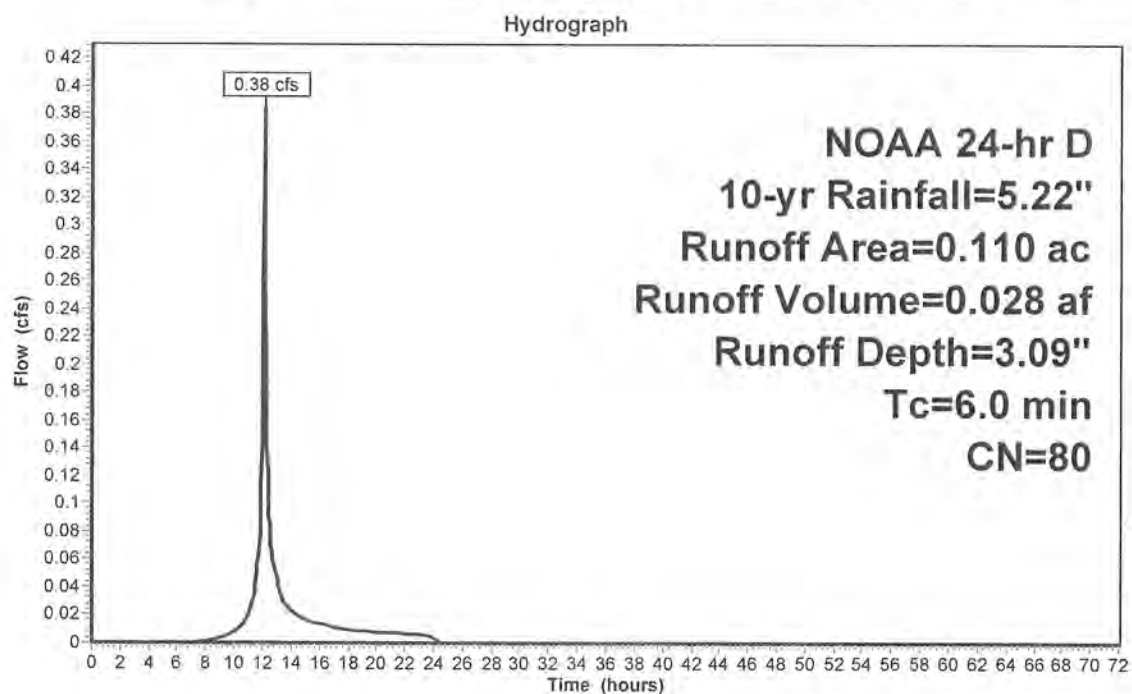
Runoff = 0.38 cfs @ 12.13 hrs, Volume= 0.028 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.110	80	>75% Grass cover, Good, HSG D
0.110		100.00% Pervious Area

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

Subcatchment 37S: Onsite Unattenuated to Central



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NOAA 24-hr D 10-yr Rainfall=5.22"

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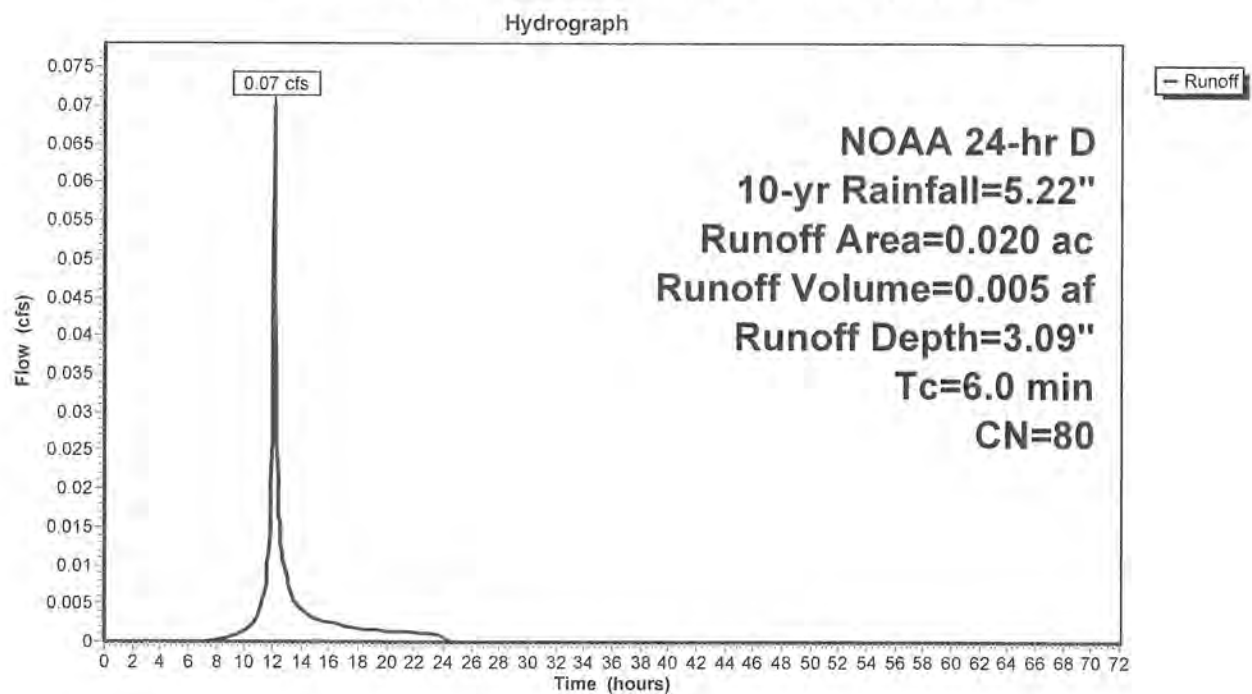
Summary for Subcatchment 41S: Onsite to Mitchel Pervious

Runoff = 0.07 cfs @ 12.13 hrs, Volume= 0.005 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.020	80	>75% Grass cover, Good, HSG D
0.020		100.00% Pervious Area

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

Subcatchment 41S: Onsite to Mitchel Pervious

Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 44S: Offsite to Central IMP

Runoff = 0.53 cfs @ 12.13 hrs, Volume= 0.046 af, Depth= 4.98"

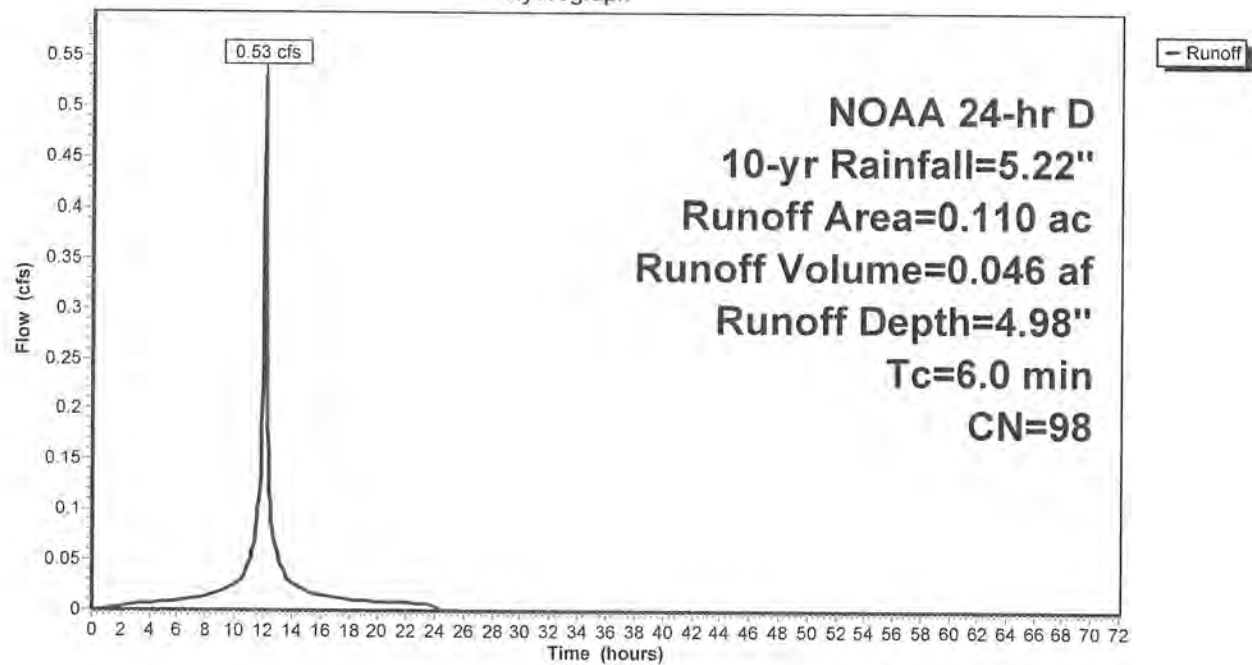
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

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

Subcatchment 44S: Offsite to Central IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 45S: Offsite to Central

Runoff = 0.28 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 3.09"

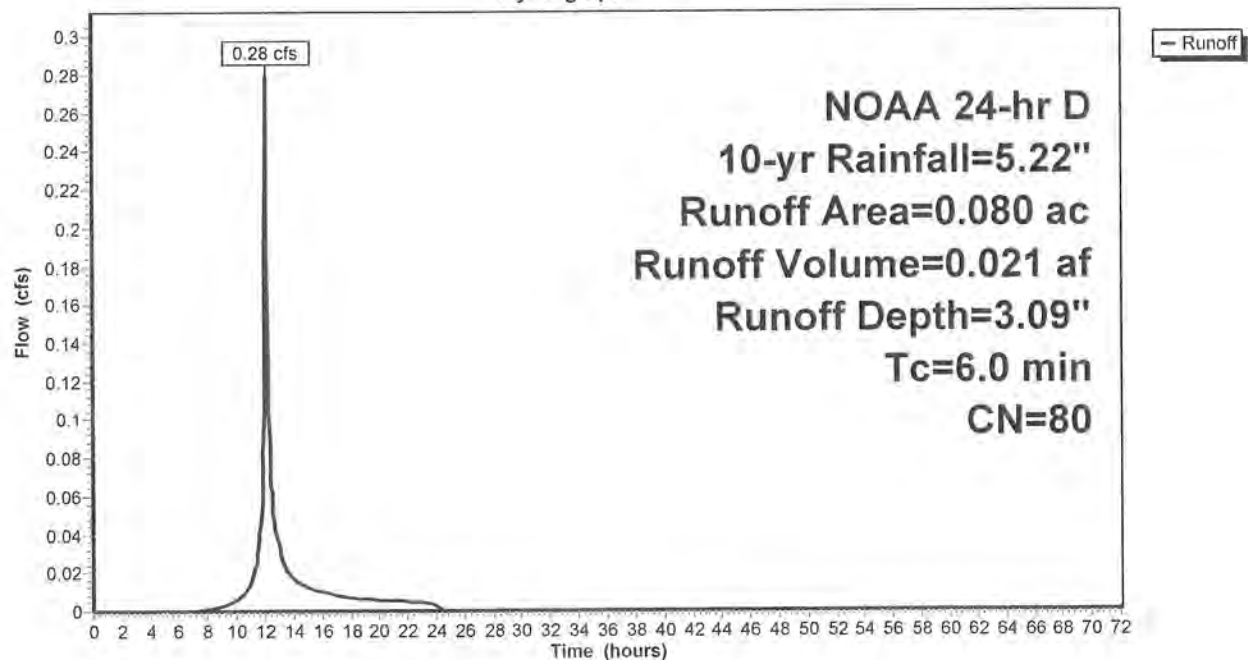
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.080	80	>75% Grass cover, Good, HSG D
0.080		100.00% Pervious Area

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

Subcatchment 45S: Offsite to Central

Hydrograph



Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

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Summary for Subcatchment 46S: Offsite to Mitchell IMP

Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 4.98"

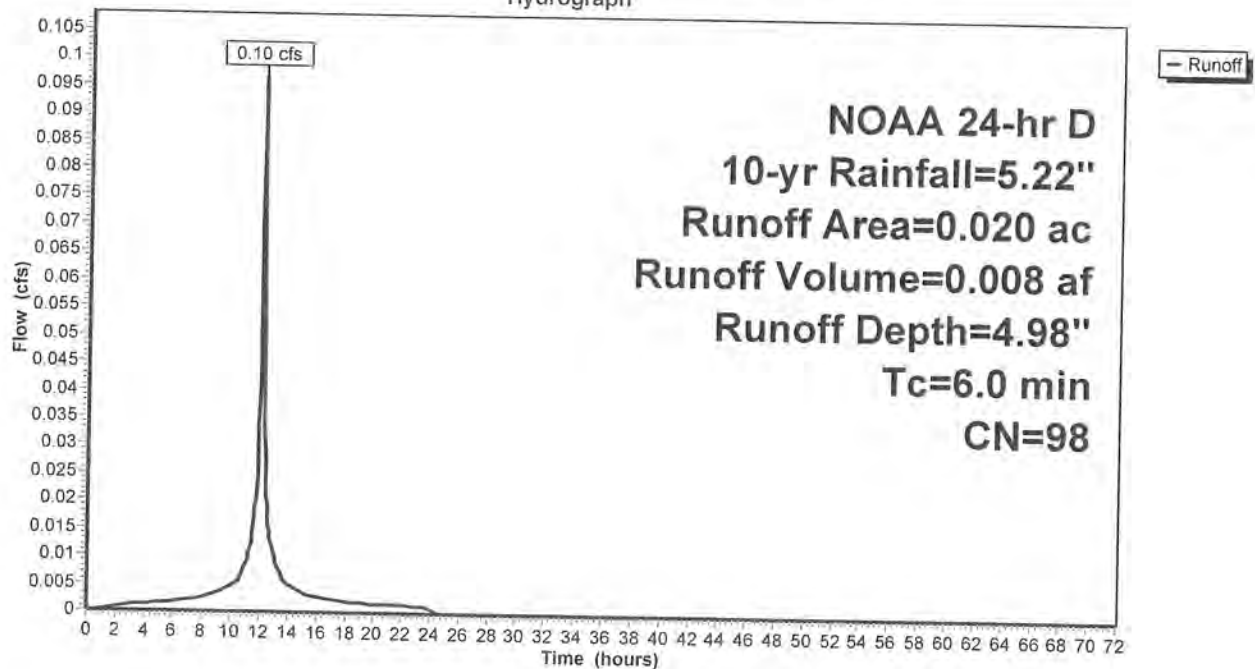
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG D
0.020		100.00% Impervious Area

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

Subcatchment 46S: Offsite to Mitchell IMP

Hydrograph



Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 47S: Offsite to Mitchell

Runoff = 0.03 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 3.09"

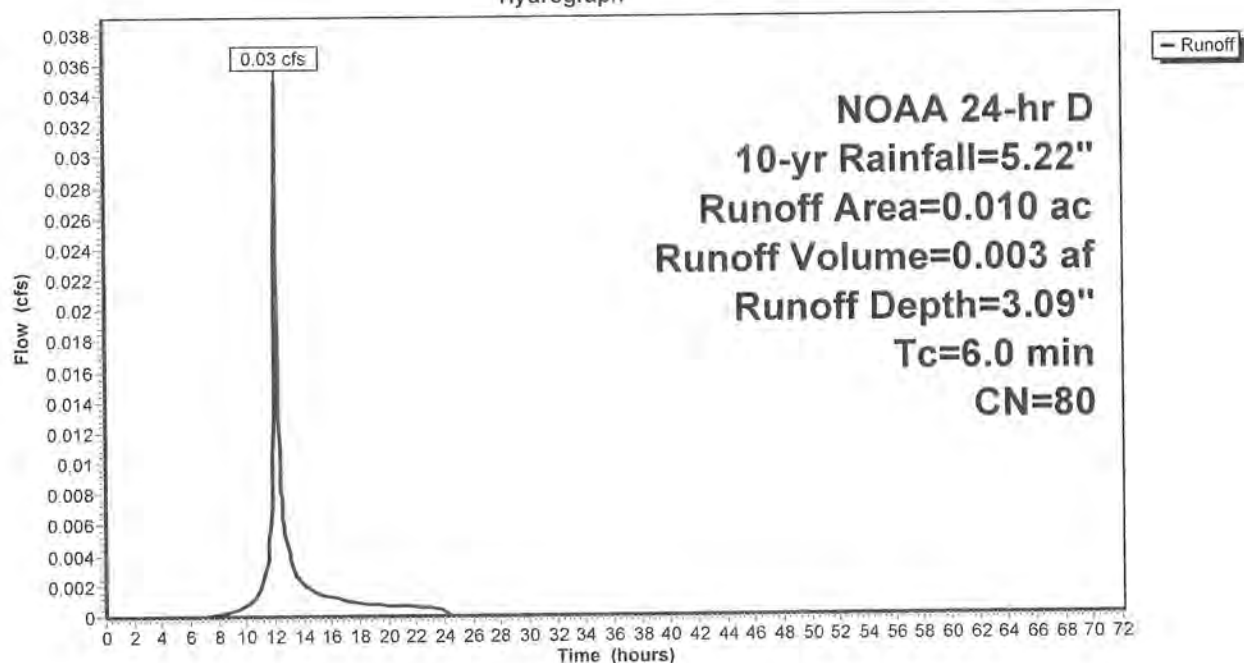
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.010	80	>75% Grass cover, Good, HSG D
0.010		100.00% Pervious Area

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

Subcatchment 47S: Offsite to Mitchell

Hydrograph



Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

Summary for Subcatchment 49S: Onsite Unattenuated to Central IMP

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.012 af, Depth= 4.98"

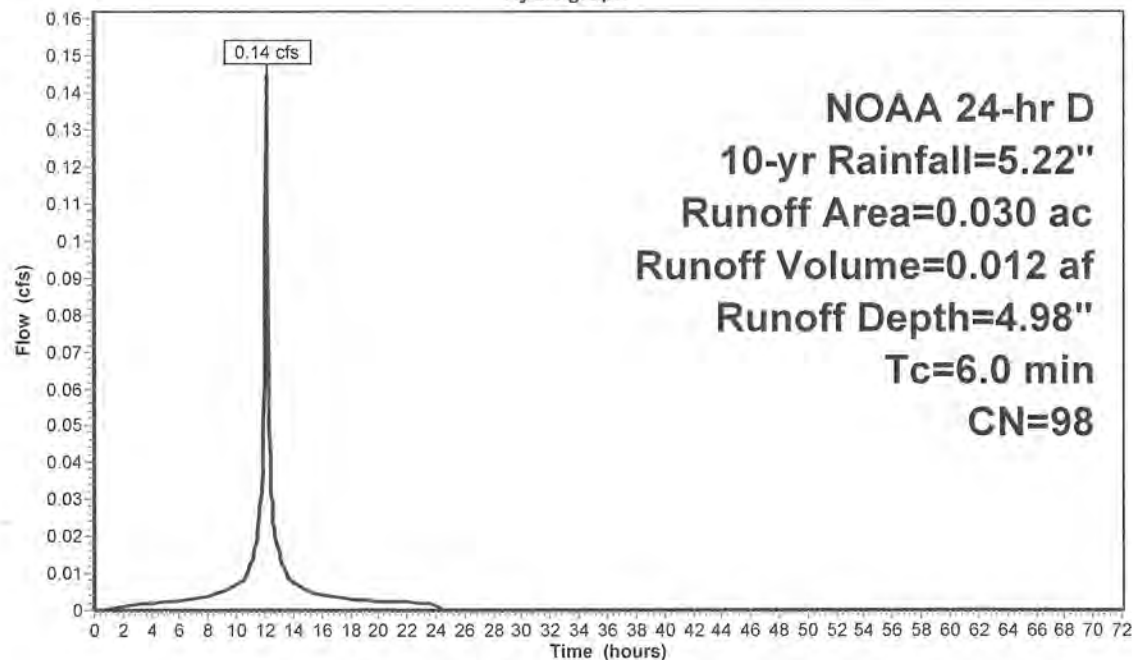
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.030		100.00% Impervious Area

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

Subcatchment 49S: Onsite Unattenuated to Central IMP

Hydrograph



Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

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Summary for Subcatchment 50S: Building Area

Runoff = 2.36 cfs @ 12.13 hrs, Volume= 0.203 af, Depth= 4.98"

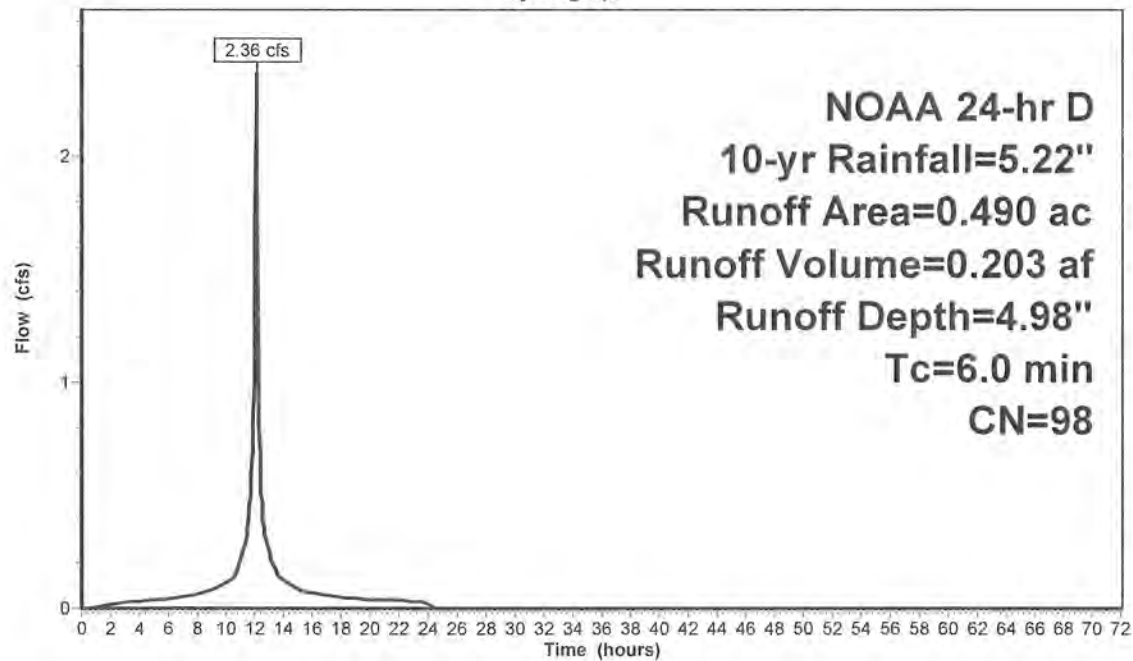
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.490	98	Roofs, HSG D
0.490		100.00% Impervious Area

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

Subcatchment 50S: Building Area

Hydrograph



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NOAA 24-hr D 10-yr Rainfall=5.22"

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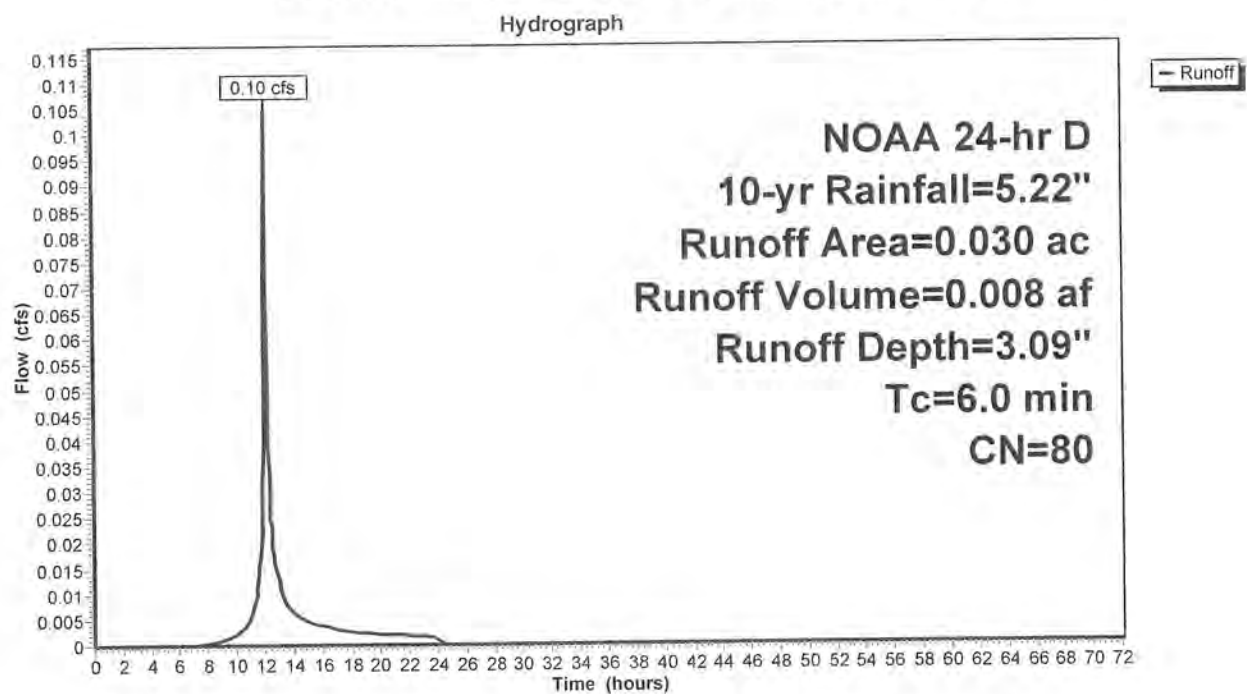
Summary for Subcatchment 54S: Offsite to Michell Drainage

Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 54S: Offsite to Michell Drainage

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 2/19/2021

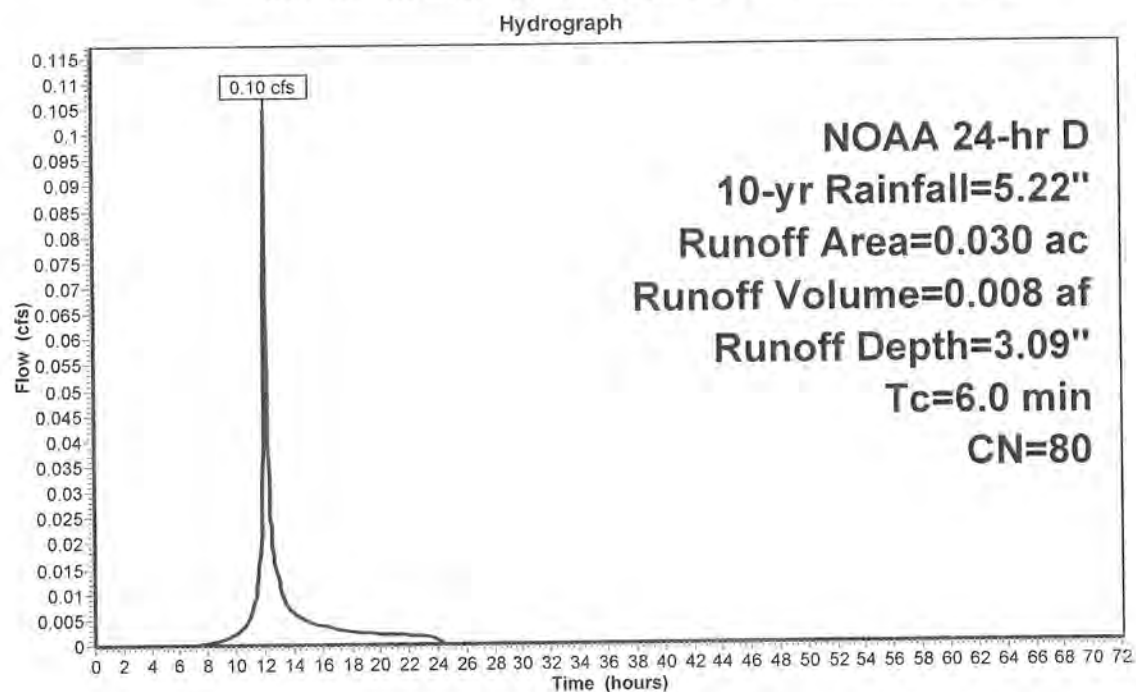
Summary for Subcatchment 55S: Unattenuated to Mitchell Street

Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.008 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 55S: Unattenuated to Mitchell Street

Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

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Summary for Subcatchment 56S: Onsite to Central Basin Pervious

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.015 af, Depth= 3.09"

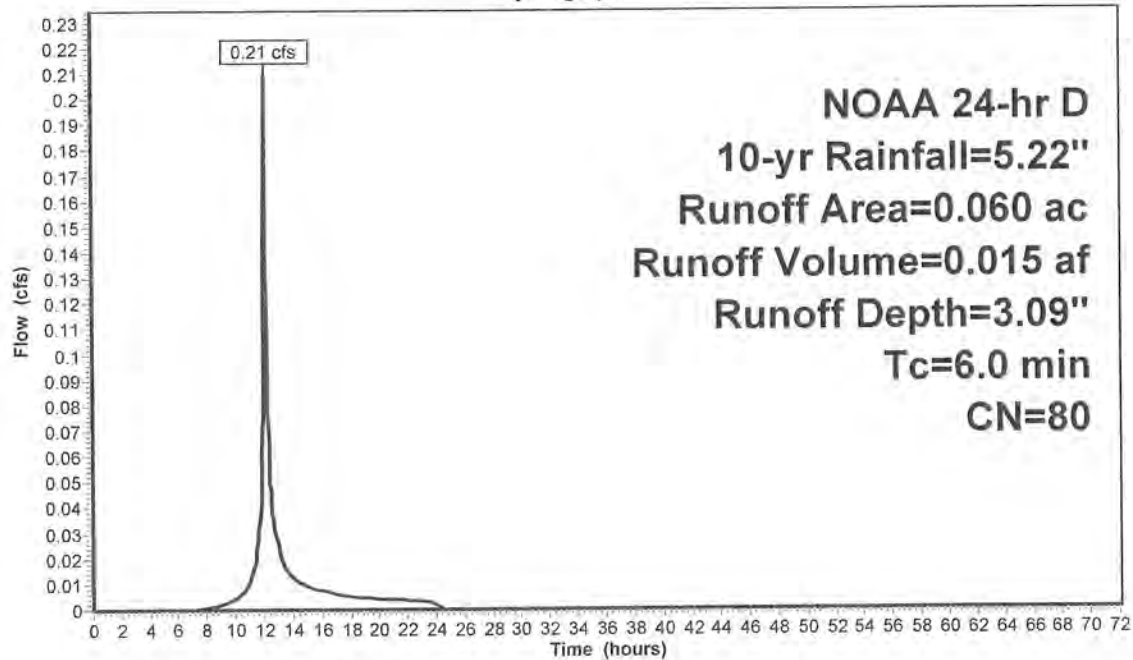
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-yr Rainfall=5.22"

Area (ac)	CN	Description
0.060	80	>75% Grass cover, Good, HSG D
0.060		100.00% Pervious Area

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

Subcatchment 56S: Onsite to Central Basin Pervious

Hydrograph



Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

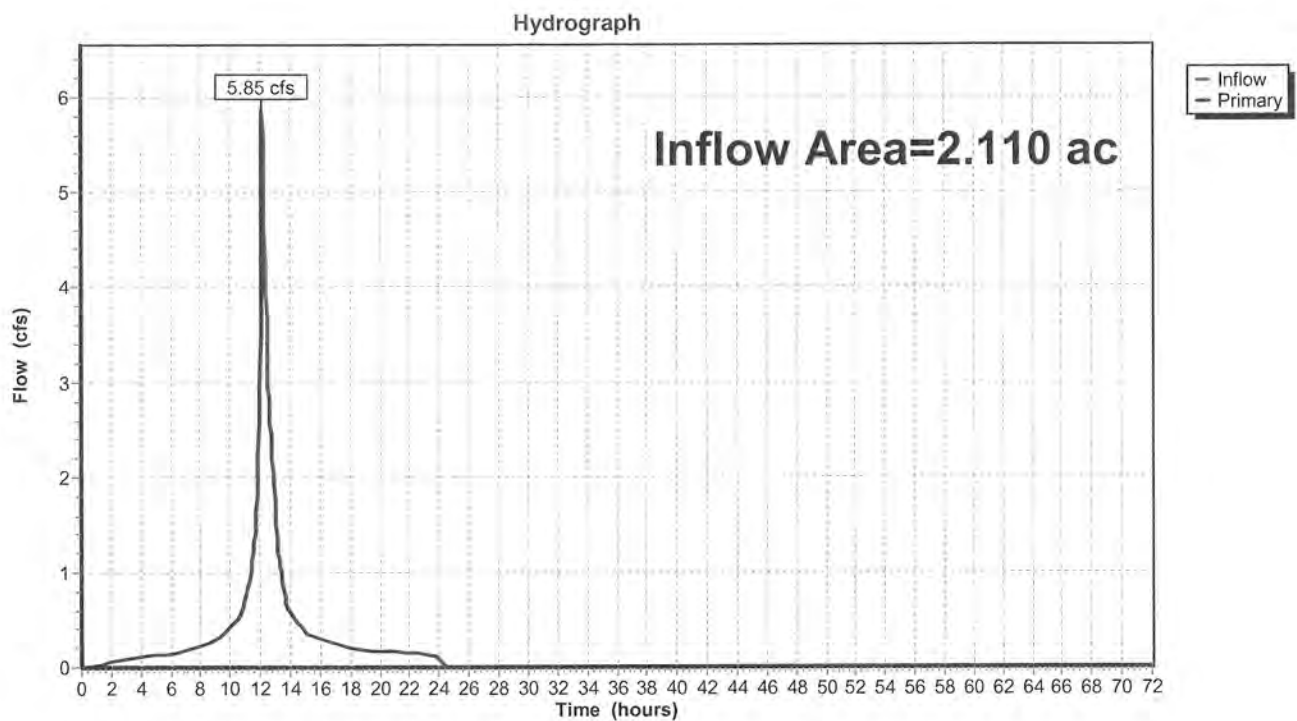
Printed 3/1/2021

Summary for Pond 38P: Site Summation

Inflow Area = 2.110 ac, 83.89% Impervious, Inflow Depth = 4.68" for 10-yr event
Inflow = 5.85 cfs @ 12.17 hrs, Volume= 0.822 af
Primary = 5.85 cfs @ 12.17 hrs, Volume= 0.822 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 38P: Site Summation



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 38P: Site Summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.01		0.01	53.00	0.00		0.00
2.00	0.06		0.06	54.00	0.00		0.00
3.00	0.09		0.09	55.00	0.00		0.00
4.00	0.11		0.11	56.00	0.00		0.00
5.00	0.13		0.13	57.00	0.00		0.00
6.00	0.14		0.14	58.00	0.00		0.00
7.00	0.18		0.18	59.00	0.00		0.00
8.00	0.23		0.23	60.00	0.00		0.00
9.00	0.28		0.28	61.00	0.00		0.00
10.00	0.42		0.42	62.00	0.00		0.00
11.00	0.72		0.72	63.00	0.00		0.00
12.00	2.99		2.99	64.00	0.00		0.00
13.00	1.77		1.77	65.00	0.00		0.00
14.00	0.57		0.57	66.00	0.00		0.00
15.00	0.38		0.38	67.00	0.00		0.00
16.00	0.30		0.30	68.00	0.00		0.00
17.00	0.25		0.25	69.00	0.00		0.00
18.00	0.20		0.20	70.00	0.00		0.00
19.00	0.18		0.18	71.00	0.00		0.00
20.00	0.17		0.17	72.00	0.00		0.00
21.00	0.16		0.16				
22.00	0.14		0.14				
23.00	0.13		0.13				
24.00	0.12		0.12				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

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Summary for Pond 48P: Prop. Basin to Central

Inflow Area = 1.370 ac, 95.62% Impervious, Inflow Depth = 4.90" for 10-yr event
 Inflow = 6.53 cfs @ 12.13 hrs, Volume= 0.559 af
 Outflow = 3.35 cfs @ 12.24 hrs, Volume= 0.559 af, Atten= 49%, Lag= 6.8 min
 Primary = 3.35 cfs @ 12.24 hrs, Volume= 0.559 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 171.08' @ 12.24 hrs Surf.Area= 0.063 ac Storage= 0.079 af
 Flood Elev= 172.35' Surf.Area= 0.031 ac Storage= 0.147 af

Plug-Flow detention time= 9.6 min calculated for 0.559 af (100% of inflow)
 Center-of-Mass det. time= 9.6 min (760.3 - 750.7)

Volume	Invert	Avail.Storage	Storage Description
#1	169.35'	0.047 af	36.0" Round Pipe Storage L= 289.4' S= 0.0010 '/
#2	169.37'	0.047 af	36.0" Round Pipe Storage L= 287.2' S= 0.0010 '/
#3	169.47'	0.023 af	36.0" Round Pipe Storage L= 142.4' S= 0.0010 '/
#4	169.53'	0.023 af	36.0" Round Pipe Storage L= 142.1' S= 0.0010 '/
#5	169.66'	0.019 af	3.50'W x 4.00'L x 4.54'H Prismaoid x 13
		0.159 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	169.35'	12.0" Round Culvert L= 134.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 169.35' / 168.95' S= 0.0030 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	169.35'	9.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	170.63'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	171.20'	1.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=3.34 cfs @ 12.24 hrs HW=171.07' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Barrel Controls 3.34 cfs @ 4.26 fps)
- 2=Orifice/Grate (Passes < 2.73 cfs potential flow)
- 3=Broad-Crested Rectangular Weir (Passes < 3.47 cfs potential flow)
- 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

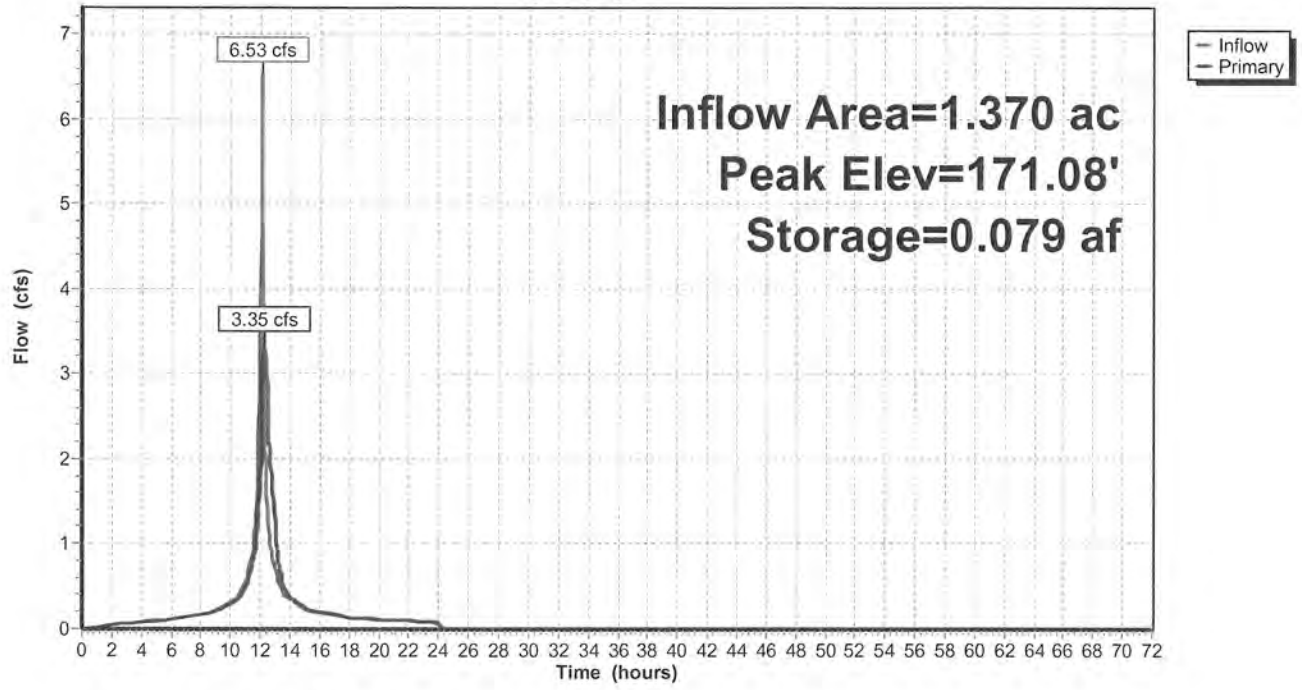
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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 3/1/2021

Pond 48P: Prop. Basin to Central

Hydrograph



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

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Hydrograph for Pond 48P: Prop. Basin to Central

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	169.35	0.00
2.50	0.05	0.000	169.48	0.05
5.00	0.09	0.000	169.53	0.09
7.50	0.15	0.001	169.57	0.15
10.00	0.31	0.003	169.66	0.29
12.50	1.33	0.054	170.69	2.45
15.00	0.24	0.002	169.64	0.25
17.50	0.15	0.001	169.57	0.15
20.00	0.11	0.001	169.54	0.11
22.50	0.09	0.000	169.52	0.09
25.00	0.00	0.000	169.35	0.00
27.50	0.00	0.000	169.35	0.00
30.00	0.00	0.000	169.35	0.00
32.50	0.00	0.000	169.35	0.00
35.00	0.00	0.000	169.35	0.00
37.50	0.00	0.000	169.35	0.00
40.00	0.00	0.000	169.35	0.00
42.50	0.00	0.000	169.35	0.00
45.00	0.00	0.000	169.35	0.00
47.50	0.00	0.000	169.35	0.00
50.00	0.00	0.000	169.35	0.00
52.50	0.00	0.000	169.35	0.00
55.00	0.00	0.000	169.35	0.00
57.50	0.00	0.000	169.35	0.00
60.00	0.00	0.000	169.35	0.00
62.50	0.00	0.000	169.35	0.00
65.00	0.00	0.000	169.35	0.00
67.50	0.00	0.000	169.35	0.00
70.00	0.00	0.000	169.35	0.00

Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

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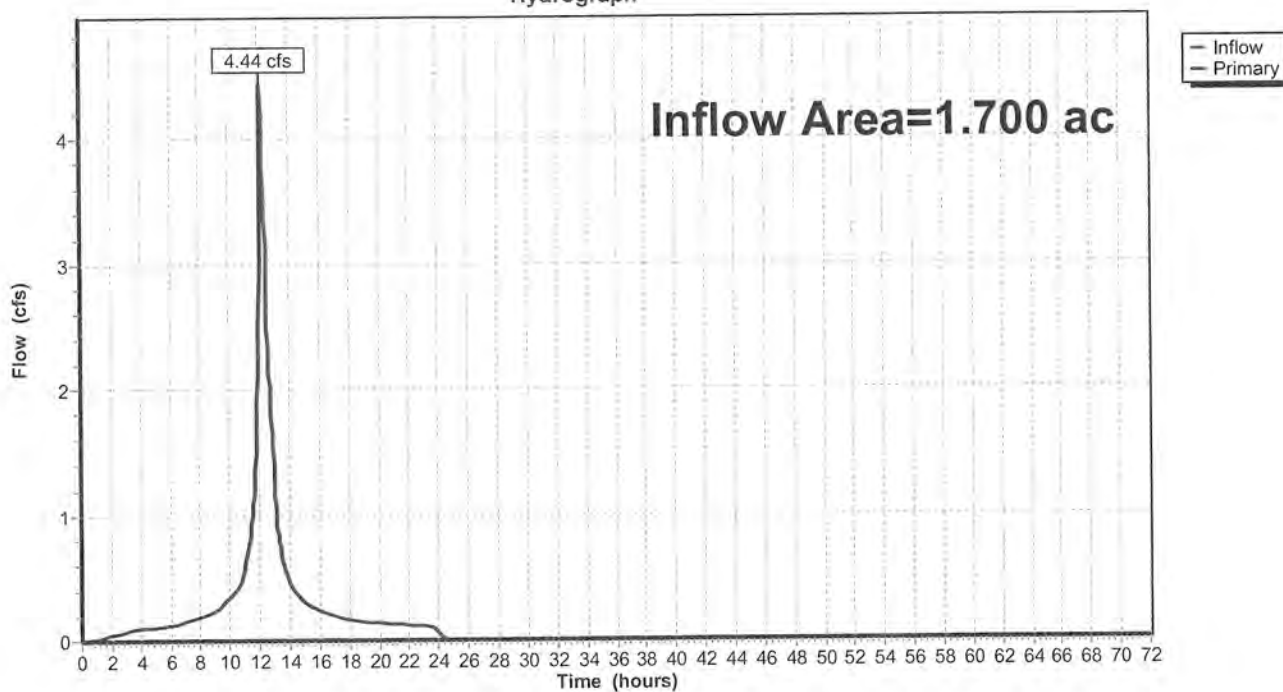
Summary for Pond 51P: Central Ave. Summ

Inflow Area = 1.700 ac, 85.29% Impervious, Inflow Depth = 4.70" for 10-yr event
Inflow = 4.44 cfs @ 12.16 hrs, Volume= 0.666 af
Primary = 4.44 cfs @ 12.16 hrs, Volume= 0.666 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 51P: Central Ave. Summ

Hydrograph



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

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Hydrograph for Pond 51P: Central Ave. Summ

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.01		0.01	53.00	0.00		0.00
2.00	0.05		0.05	54.00	0.00		0.00
3.00	0.07		0.07	55.00	0.00		0.00
4.00	0.09		0.09	56.00	0.00		0.00
5.00	0.10		0.10	57.00	0.00		0.00
6.00	0.12		0.12	58.00	0.00		0.00
7.00	0.15		0.15	59.00	0.00		0.00
8.00	0.19		0.19	60.00	0.00		0.00
9.00	0.23		0.23	61.00	0.00		0.00
10.00	0.34		0.34	62.00	0.00		0.00
11.00	0.58		0.58	63.00	0.00		0.00
12.00	2.52		2.52	64.00	0.00		0.00
13.00	1.40		1.40	65.00	0.00		0.00
14.00	0.46		0.46	66.00	0.00		0.00
15.00	0.31		0.31	67.00	0.00		0.00
16.00	0.24		0.24	68.00	0.00		0.00
17.00	0.20		0.20	69.00	0.00		0.00
18.00	0.16		0.16	70.00	0.00		0.00
19.00	0.15		0.15	71.00	0.00		0.00
20.00	0.14		0.14	72.00	0.00		0.00
21.00	0.13		0.13				
22.00	0.12		0.12				
23.00	0.11		0.11				
24.00	0.10		0.10				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

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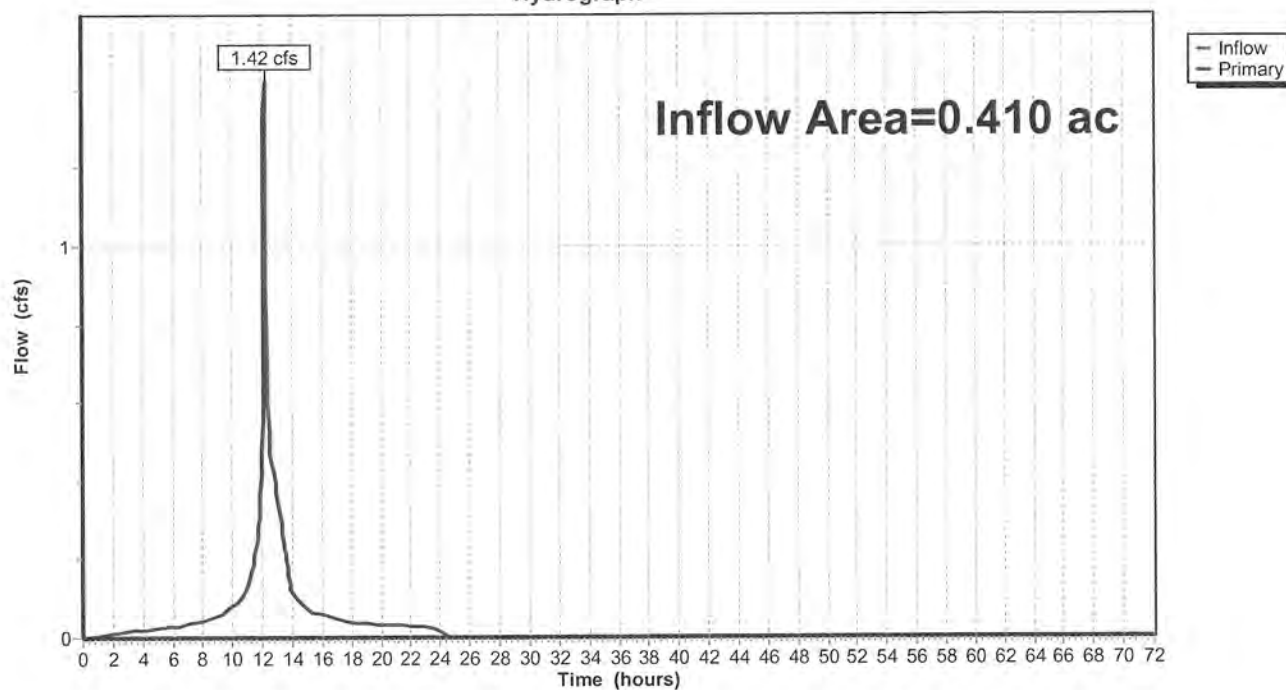
Summary for Pond 52P: Mitchell St. Summ

Inflow Area = 0.410 ac, 78.05% Impervious, Inflow Depth = 4.57" for 10-yr event
Inflow = 1.42 cfs @ 12.19 hrs, Volume= 0.156 af
Primary = 1.42 cfs @ 12.19 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 52P: Mitchell St. Summ

Hydrograph



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

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Hydrograph for Pond 52P: Mitchell St. Summ

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.01		0.01	54.00	0.00		0.00
3.00	0.02		0.02	55.00	0.00		0.00
4.00	0.02		0.02	56.00	0.00		0.00
5.00	0.02		0.02	57.00	0.00		0.00
6.00	0.03		0.03	58.00	0.00		0.00
7.00	0.03		0.03	59.00	0.00		0.00
8.00	0.04		0.04	60.00	0.00		0.00
9.00	0.05		0.05	61.00	0.00		0.00
10.00	0.08		0.08	62.00	0.00		0.00
11.00	0.14		0.14	63.00	0.00		0.00
12.00	0.48		0.48	64.00	0.00		0.00
13.00	0.37		0.37	65.00	0.00		0.00
14.00	0.11		0.11	66.00	0.00		0.00
15.00	0.07		0.07	67.00	0.00		0.00
16.00	0.06		0.06	68.00	0.00		0.00
17.00	0.05		0.05	69.00	0.00		0.00
18.00	0.04		0.04	70.00	0.00		0.00
19.00	0.03		0.03	71.00	0.00		0.00
20.00	0.03		0.03	72.00	0.00		0.00
21.00	0.03		0.03				
22.00	0.03		0.03				
23.00	0.03		0.03				
24.00	0.02		0.02				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

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Summary for Pond 53P: Pipe Storage to Mitchell

Inflow Area = 0.350 ac, 85.71% Impervious, Inflow Depth = 4.71" for 10-yr event
 Inflow = 1.62 cfs @ 12.13 hrs, Volume= 0.137 af
 Outflow = 1.25 cfs @ 12.19 hrs, Volume= 0.137 af, Atten= 23%, Lag= 4.1 min
 Primary = 1.25 cfs @ 12.19 hrs, Volume= 0.137 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 171.06' @ 12.19 hrs Surf.Area= 0.017 ac Storage= 0.020 af
 Flood Elev= 172.09' Surf.Area= 0.006 ac Storage= 0.033 af

Plug-Flow detention time= 11.1 min calculated for 0.137 af (100% of inflow)
 Center-of-Mass det. time= 11.1 min (767.1 - 756.0)

Volume	Invert	Avail.Storage	Storage Description
#1	169.59'	0.016 af	30.0" Round Pipe Storage L= 138.2' S= 0.0010 '/
#2	169.59'	0.015 af	30.0" Round Pipe Storage L= 134.3' S= 0.0010 '/
#3	169.73'	0.007 af	3.50'W x 4.00'L x 5.27'H Prismaoid x 4
		0.037 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	169.59'	12.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 169.59' / 169.34' S= 0.0025 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	169.59'	4.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	170.80'	2.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	171.35'	3.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.23 cfs @ 12.19 hrs HW=171.06' TW=0.00' (Dynamic Tailwater)

- ↑ 1=Culvert (Passes 1.23 cfs of 2.76 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.48 cfs @ 5.50 fps)
- ↑ 3=Broad-Crested Rectangular Weir (Weir Controls 0.75 cfs @ 1.45 fps)
- ↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

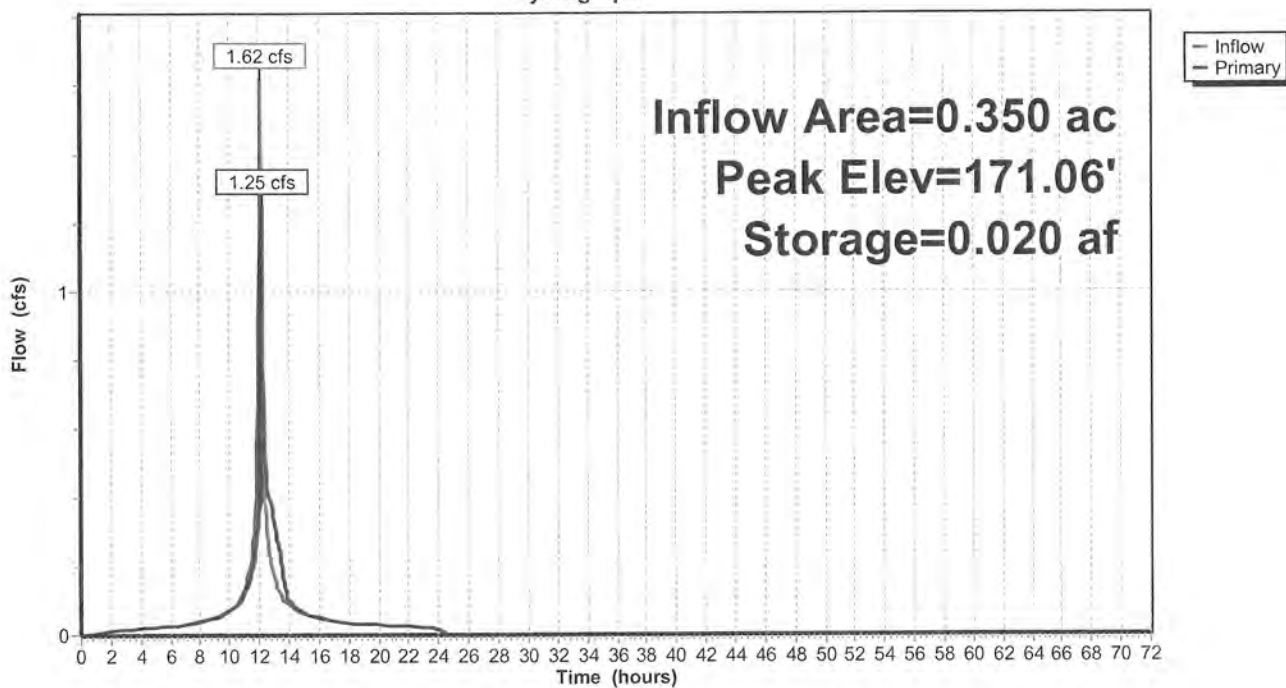
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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 3/1/2021

Pond 53P: Pipe Storage to Mitchell

Hydrograph



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 53P: Pipe Storage to Mitchell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	169.59	0.00
2.50	0.01	0.000	169.66	0.01
5.00	0.02	0.000	169.68	0.02
7.50	0.04	0.000	169.71	0.03
10.00	0.07	0.001	169.77	0.07
12.50	0.33	0.015	170.81	0.43
15.00	0.06	0.000	169.76	0.06
17.50	0.04	0.000	169.72	0.04
20.00	0.03	0.000	169.70	0.03
22.50	0.02	0.000	169.69	0.02
25.00	0.00	0.000	169.59	0.00
27.50	0.00	0.000	169.59	0.00
30.00	0.00	0.000	169.59	0.00
32.50	0.00	0.000	169.59	0.00
35.00	0.00	0.000	169.59	0.00
37.50	0.00	0.000	169.59	0.00
40.00	0.00	0.000	169.59	0.00
42.50	0.00	0.000	169.59	0.00
45.00	0.00	0.000	169.59	0.00
47.50	0.00	0.000	169.59	0.00
50.00	0.00	0.000	169.59	0.00
52.50	0.00	0.000	169.59	0.00
55.00	0.00	0.000	169.59	0.00
57.50	0.00	0.000	169.59	0.00
60.00	0.00	0.000	169.59	0.00
62.50	0.00	0.000	169.59	0.00
65.00	0.00	0.000	169.59	0.00
67.50	0.00	0.000	169.59	0.00
70.00	0.00	0.000	169.59	0.00

Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 35S: Onsite to Mitchell IMP

Runoff = 2.41 cfs @ 12.13 hrs, Volume= 0.210 af, Depth= 8.42"

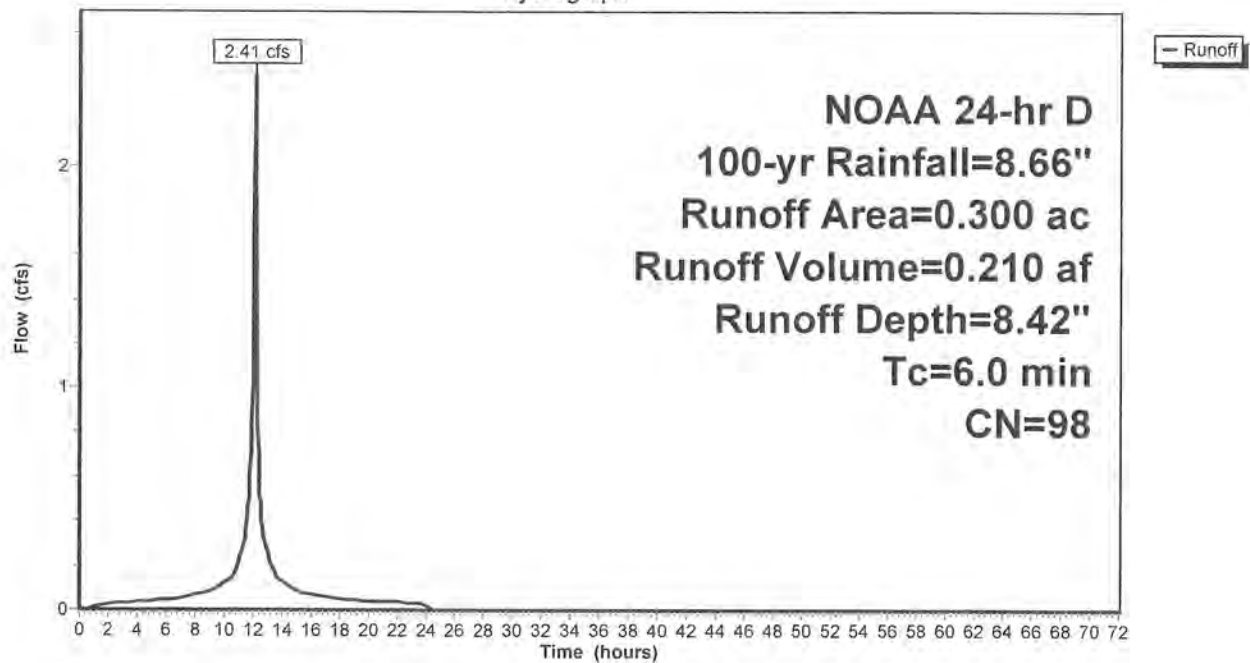
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG D
0.300		100.00% Impervious Area

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

Subcatchment 35S: Onsite to Mitchell IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 36S: Onsite to Central Basin IMP

Runoff = 6.58 cfs @ 12.13 hrs, Volume= 0.575 af, Depth= 8.42"

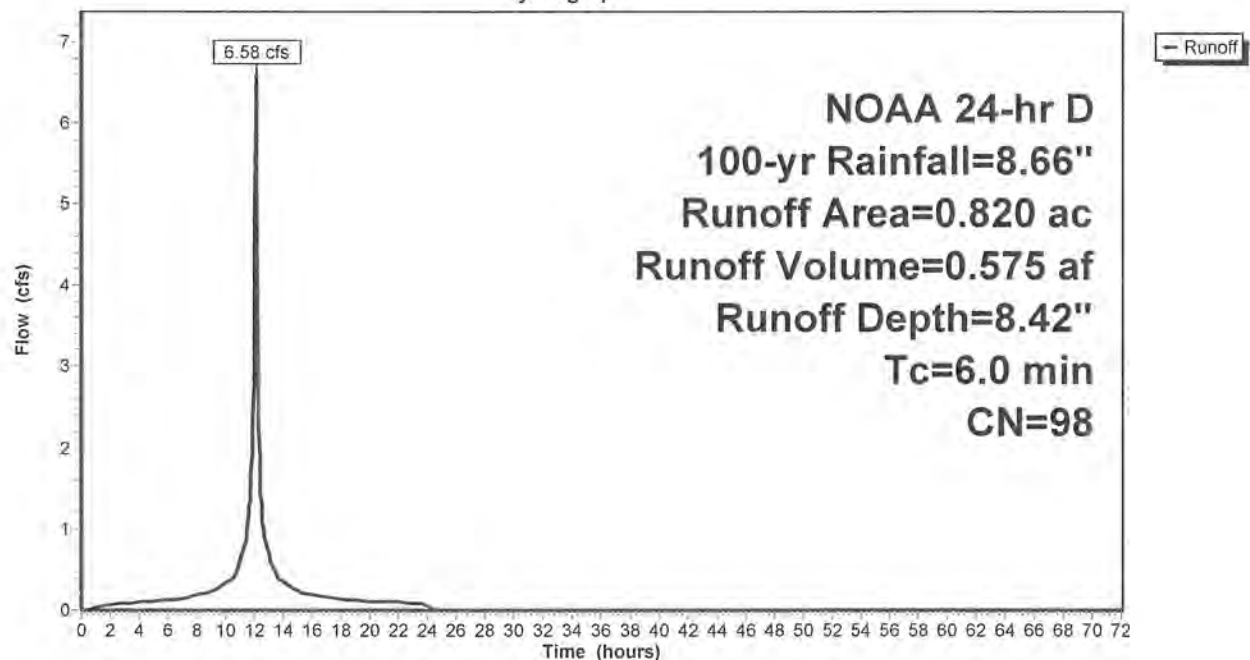
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.820	98	Paved parking, HSG D
0.820		100.00% Impervious Area

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

Subcatchment 36S: Onsite to Central Basin IMP

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 37S: Onsite Unattenuated to Central

Runoff = 0.75 cfs @ 12.13 hrs, Volume= 0.057 af, Depth= 6.25"

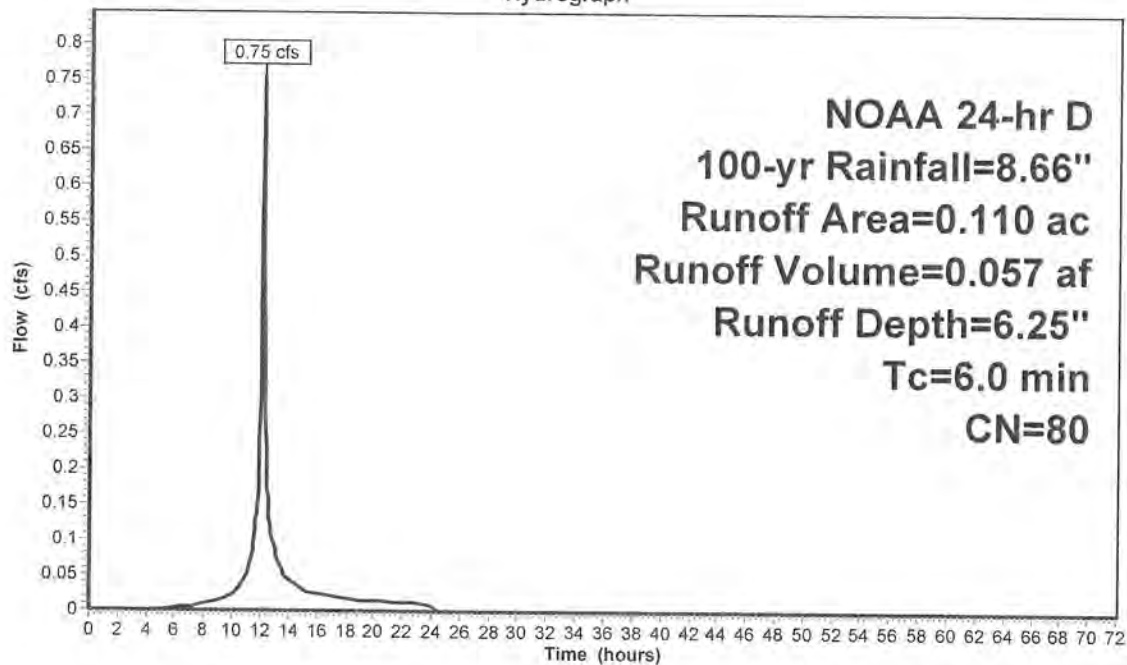
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.110	80	>75% Grass cover, Good, HSG D
0.110		100.00% Pervious Area

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

Subcatchment 37S: Onsite Unattenuated to Central

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 41S: Onsite to Mitchel Pervious

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.010 af, Depth= 6.25"

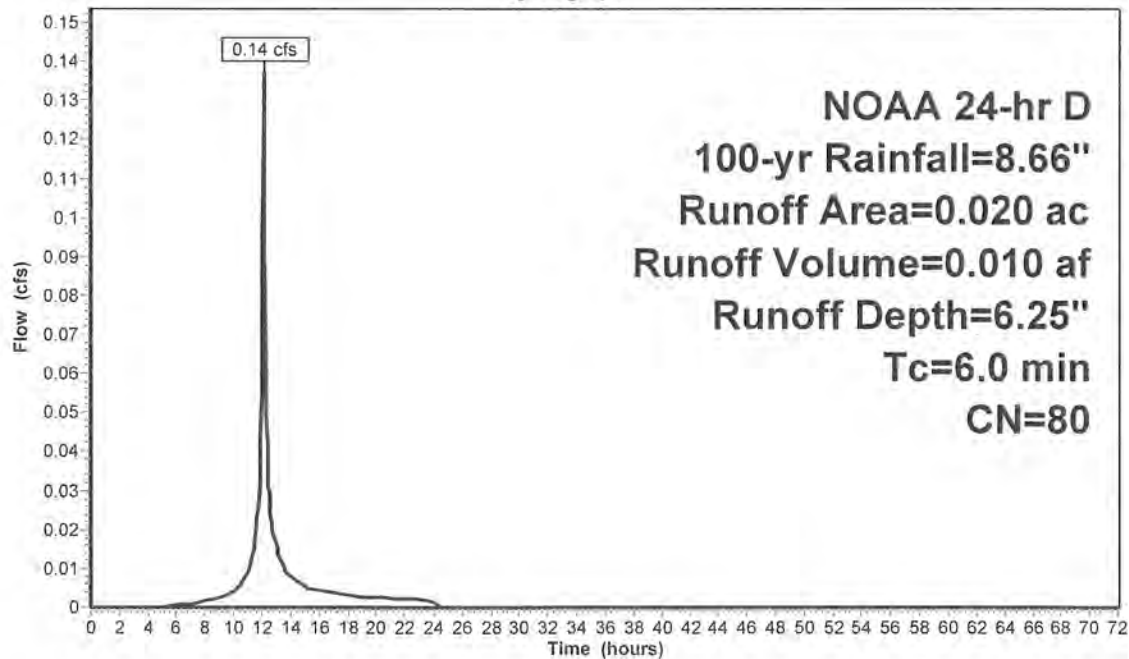
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.020	80	>75% Grass cover, Good, HSG D
0.020		100.00% Pervious Area

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

Subcatchment 41S: Onsite to Mitchel Pervious

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 44S: Offsite to Central IMP

Runoff = 0.88 cfs @ 12.13 hrs, Volume= 0.077 af, Depth= 8.42"

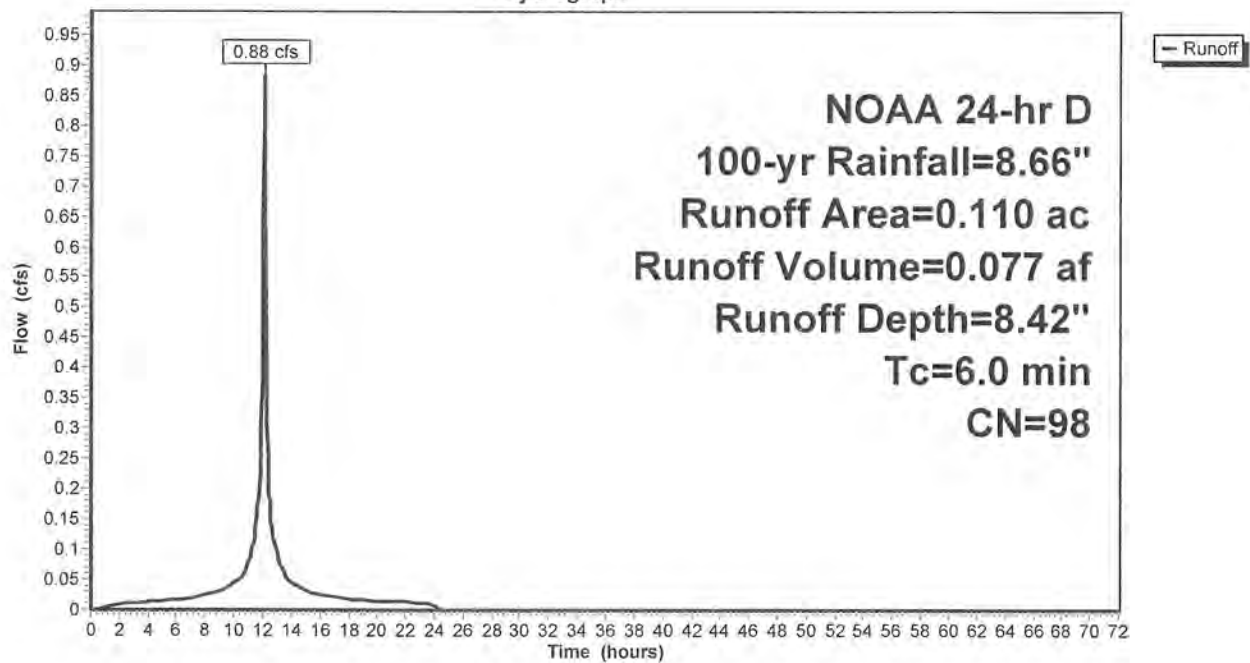
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

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

Subcatchment 44S: Offsite to Central IMP

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 45S: Offsite to Central

Runoff = 0.55 cfs @ 12.13 hrs, Volume= 0.042 af, Depth= 6.25"

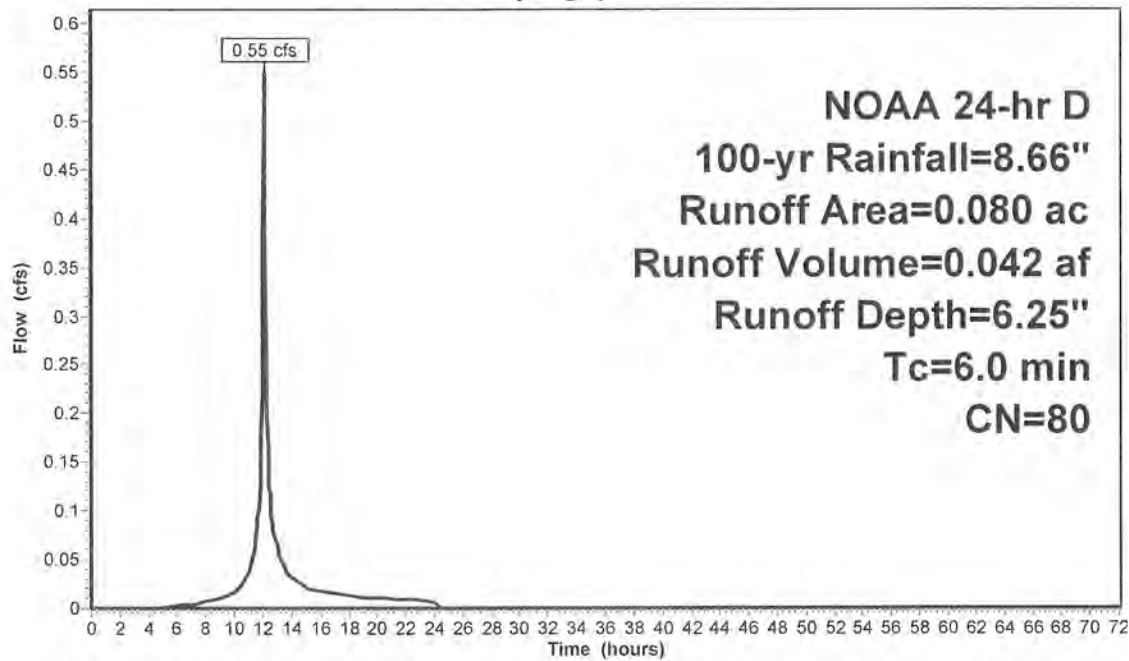
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.080	80	>75% Grass cover, Good, HSG D
0.080		100.00% Pervious Area

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

Subcatchment 45S: Offsite to Central

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 46S: Offsite to Mitchell IMP

Runoff = 0.16 cfs @ 12.13 hrs, Volume= 0.014 af, Depth= 8.42"

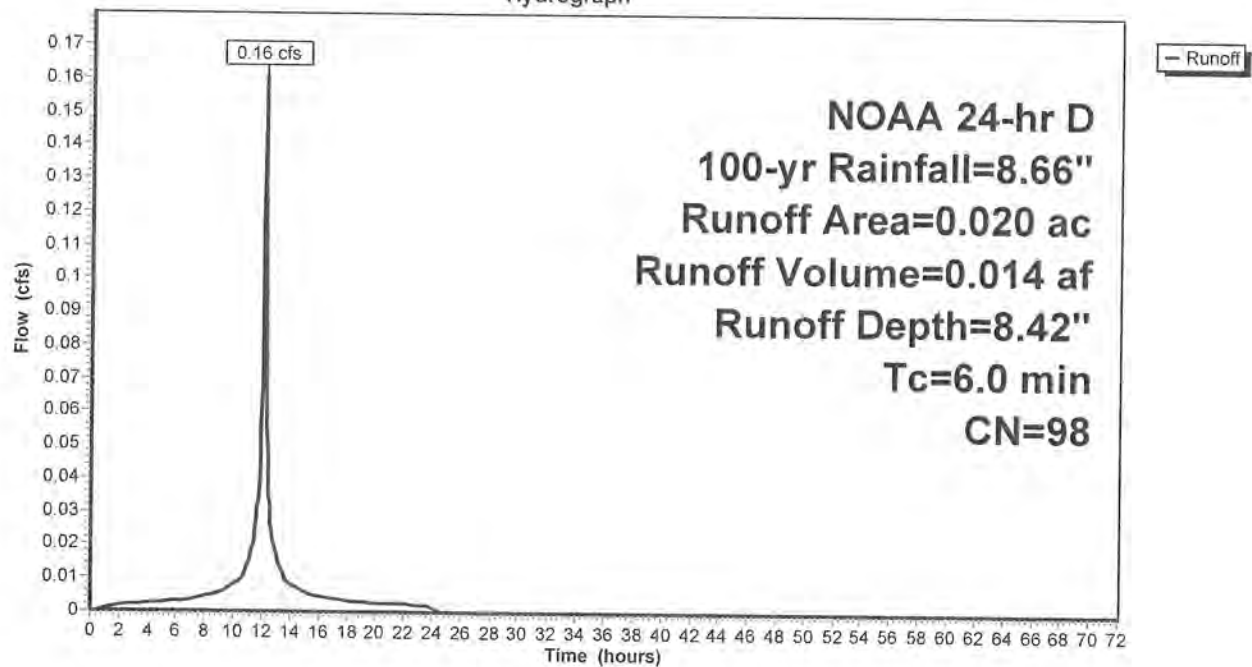
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.020	98	Paved parking, HSG D
0.020		100.00% Impervious Area

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

Subcatchment 46S: Offsite to Mitchell IMP

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 47S: Offsite to Mitchell

Runoff = 0.07 cfs @ 12.13 hrs, Volume= 0.005 af, Depth= 6.25"

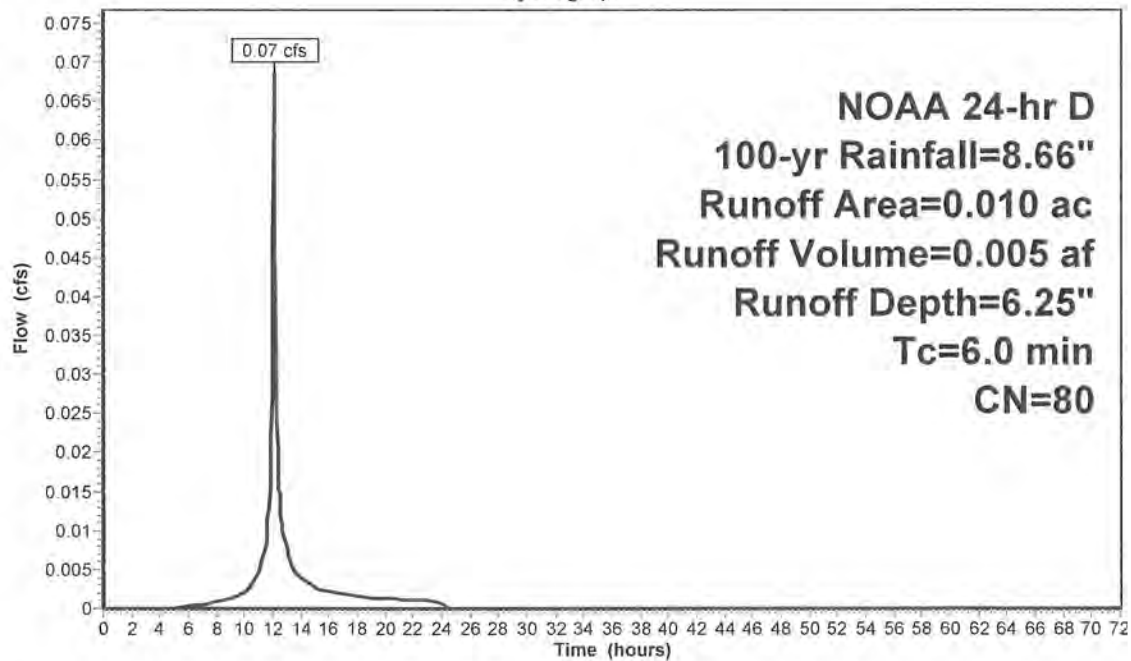
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.010	80	>75% Grass cover, Good, HSG D
0.010		100.00% Pervious Area

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

Subcatchment 47S: Offsite to Mitchell

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 49S: Onsite Unattenuated to Central IMP

Runoff = 0.24 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 8.42"

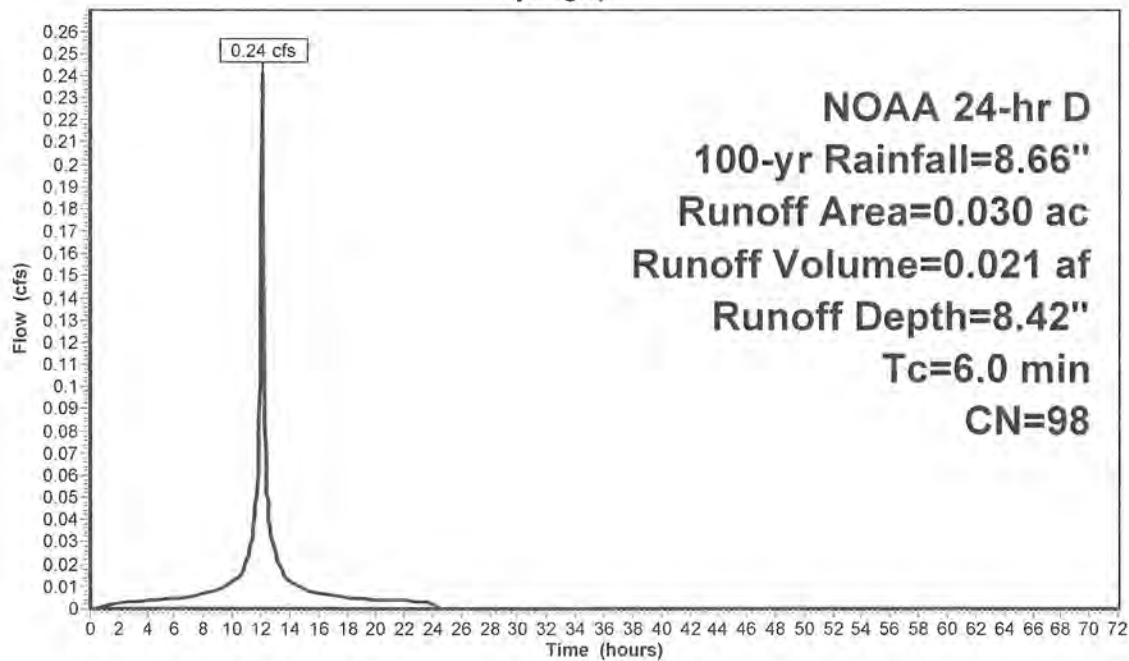
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.030		100.00% Impervious Area

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

Subcatchment 49S: Onsite Unattenuated to Central IMP

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

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Summary for Subcatchment 50S: Building Area

Runoff = 3.93 cfs @ 12.13 hrs, Volume= 0.344 af, Depth= 8.42"

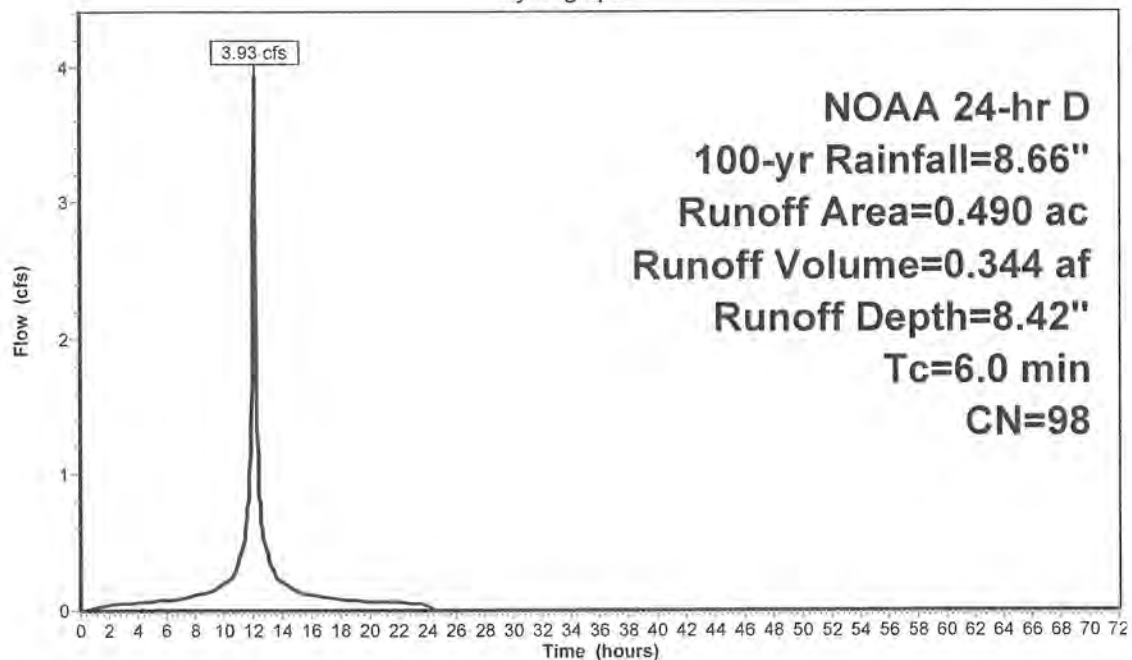
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.490	98	Roofs, HSG D
0.490		100.00% Impervious Area

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

Subcatchment 50S: Building Area

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

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Summary for Subcatchment 54S: Offsite to Michell Drainage

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.016 af, Depth= 6.25"

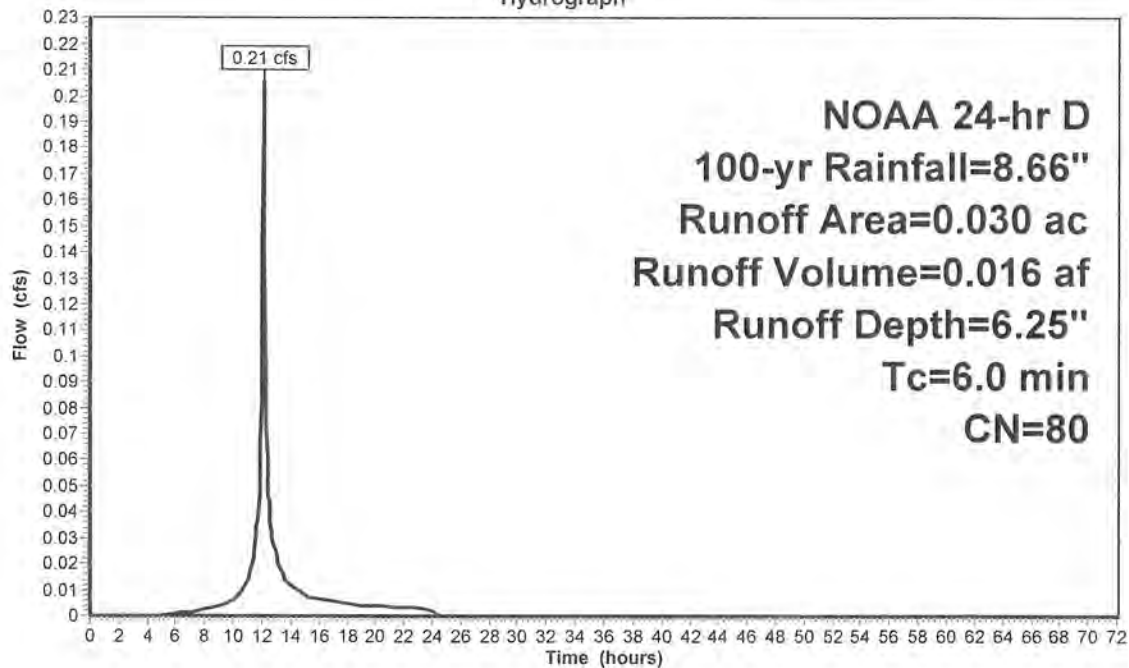
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 54S: Offsite to Michell Drainage

Hydrograph



Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

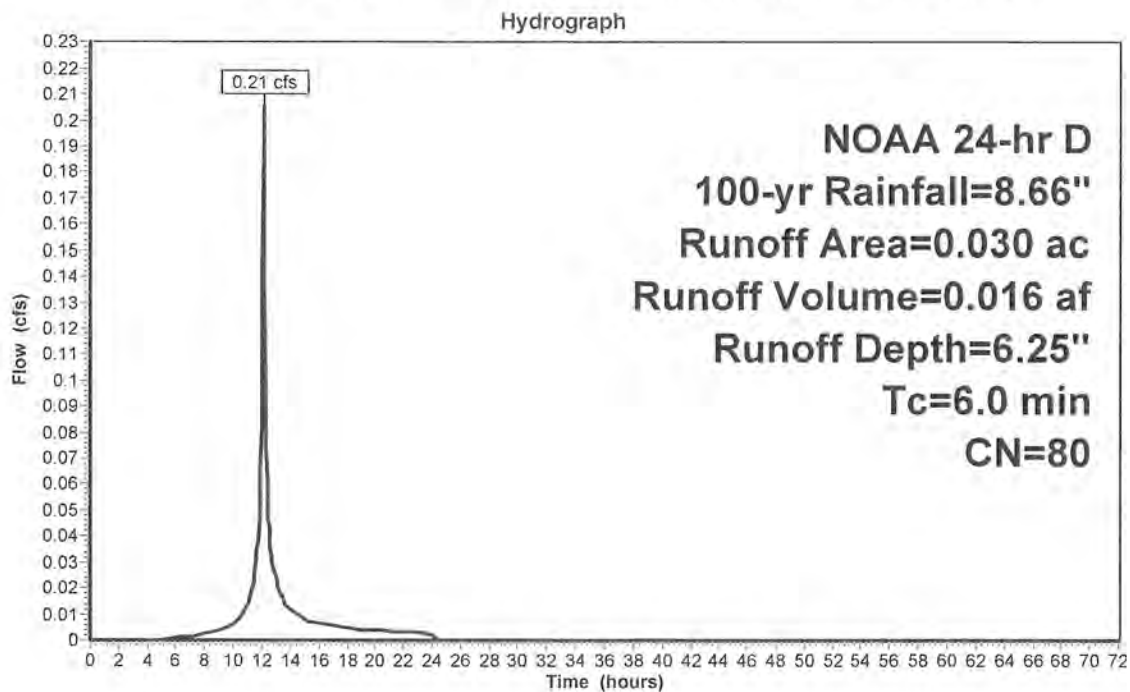
Summary for Subcatchment 55S: Unattenuated to Mitchell Street

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.016 af, Depth= 6.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.030	80	>75% Grass cover, Good, HSG D
0.030		100.00% Pervious Area

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

Subcatchment 55S: Unattenuated to Mitchell Street

Post-Development-Central

Prepared by Matrix New World Engineering

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 2/19/2021

Summary for Subcatchment 56S: Onsite to Central Basin Pervious

Runoff = 0.41 cfs @ 12.13 hrs, Volume= 0.031 af, Depth= 6.25"

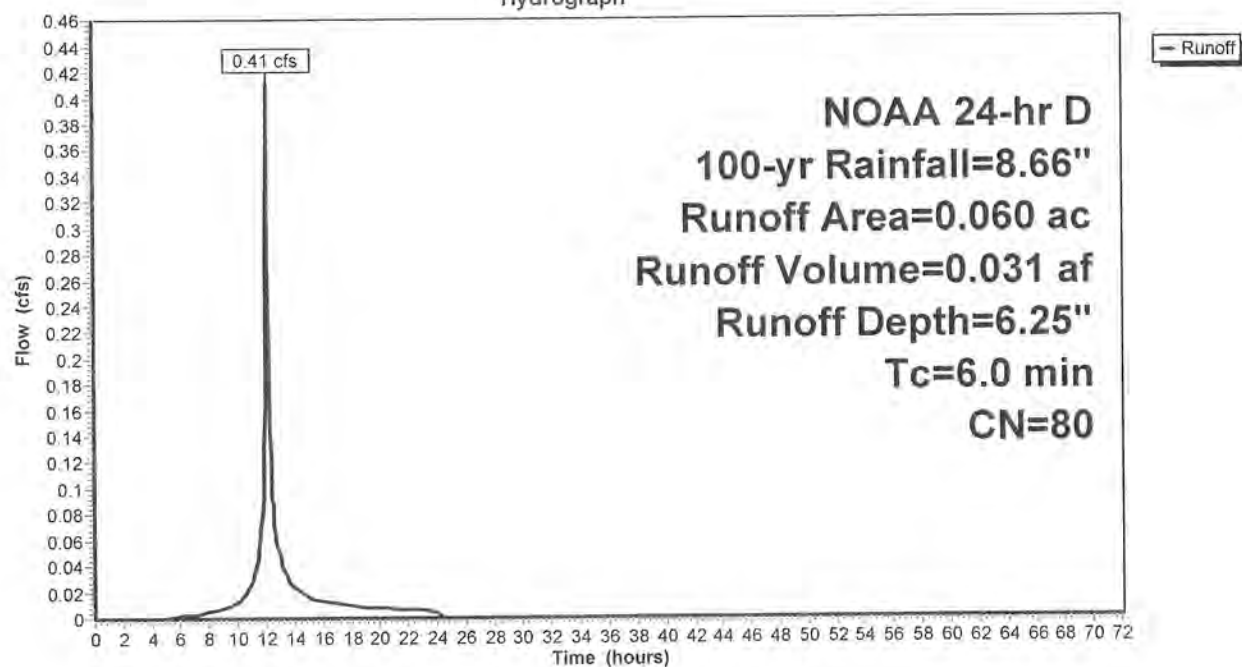
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-yr Rainfall=8.66"

Area (ac)	CN	Description
0.060	80	>75% Grass cover, Good, HSG D
0.060		100.00% Pervious Area

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

Subcatchment 56S: Onsite to Central Basin Pervious

Hydrograph



Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

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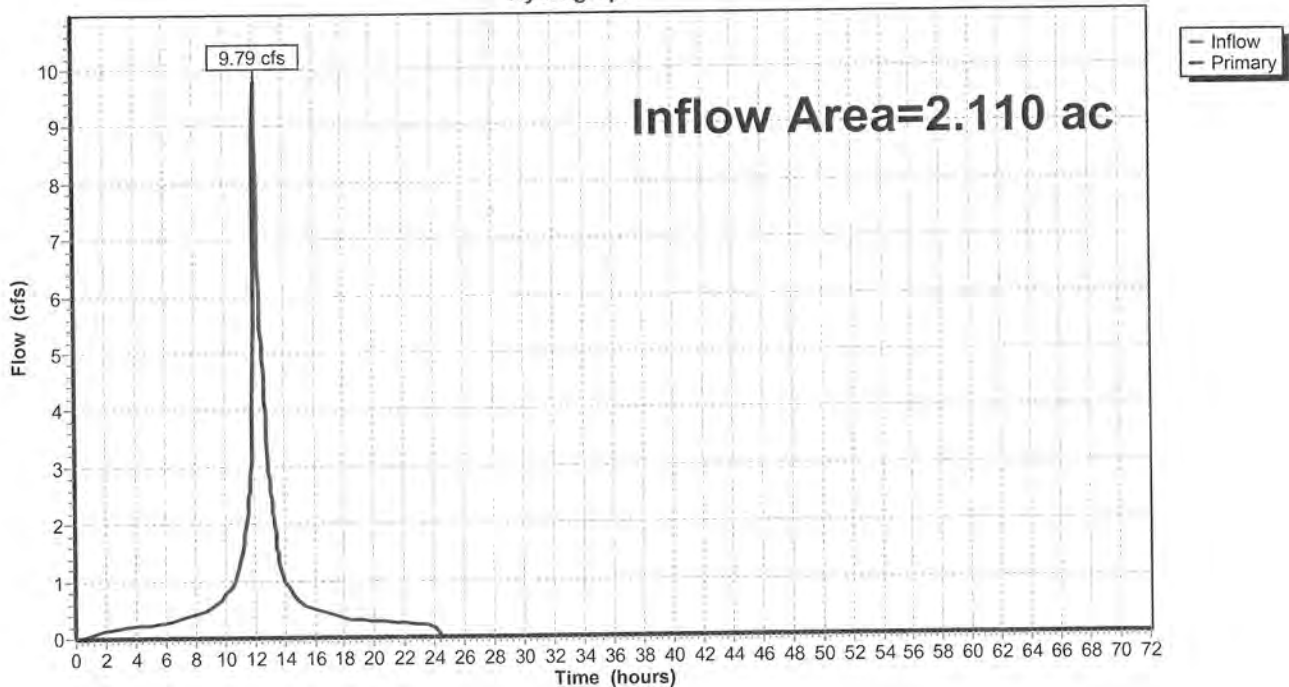
Summary for Pond 38P: Site Summation

Inflow Area = 2.110 ac, 83.89% Impervious, Inflow Depth = 8.07" for 100-yr event
Inflow = 9.79 cfs @ 12.15 hrs, Volume= 1.419 af
Primary = 9.79 cfs @ 12.15 hrs, Volume= 1.419 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 38P: Site Summation

Hydrograph



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

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Hydrograph for Pond 38P: Site Summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.06		0.06	53.00	0.00		0.00
2.00	0.13		0.13	54.00	0.00		0.00
3.00	0.18		0.18	55.00	0.00		0.00
4.00	0.21		0.21	56.00	0.00		0.00
5.00	0.23		0.23	57.00	0.00		0.00
6.00	0.26		0.26	58.00	0.00		0.00
7.00	0.33		0.33	59.00	0.00		0.00
8.00	0.41		0.41	60.00	0.00		0.00
9.00	0.49		0.49	61.00	0.00		0.00
10.00	0.73		0.73	62.00	0.00		0.00
11.00	1.24		1.24	63.00	0.00		0.00
12.00	5.56		5.56	64.00	0.00		0.00
13.00	2.89		2.89	65.00	0.00		0.00
14.00	1.03		1.03	66.00	0.00		0.00
15.00	0.65		0.65	67.00	0.00		0.00
16.00	0.50		0.50	68.00	0.00		0.00
17.00	0.42		0.42	69.00	0.00		0.00
18.00	0.34		0.34	70.00	0.00		0.00
19.00	0.30		0.30	71.00	0.00		0.00
20.00	0.28		0.28	72.00	0.00		0.00
21.00	0.26		0.26				
22.00	0.24		0.24				
23.00	0.22		0.22				
24.00	0.20		0.20				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

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Summary for Pond 48P: Prop. Basin to Central

Inflow Area = 1.370 ac, 95.62% Impervious, Inflow Depth = 8.32" for 100-yr event
 Inflow = 10.92 cfs @ 12.13 hrs, Volume= 0.950 af
 Outflow = 5.00 cfs @ 12.26 hrs, Volume= 0.950 af, Atten= 54%, Lag= 7.8 min
 Primary = 5.00 cfs @ 12.26 hrs, Volume= 0.950 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 172.46' @ 12.26 hrs Surf.Area= 0.020 ac Storage= 0.150 af
 Flood Elev= 172.35' Surf.Area= 0.031 ac Storage= 0.147 af

Plug-Flow detention time= 12.0 min calculated for 0.950 af (100% of inflow)
 Center-of-Mass det. time= 12.0 min (755.2 - 743.2)

Volume	Invert	Avail.Storage	Storage Description
#1	169.35'	0.047 af	36.0" Round Pipe Storage L= 289.4' S= 0.0010 '/'
#2	169.37'	0.047 af	36.0" Round Pipe Storage L= 287.2' S= 0.0010 '/'
#3	169.47'	0.023 af	36.0" Round Pipe Storage L= 142.4' S= 0.0010 '/'
#4	169.53'	0.023 af	36.0" Round Pipe Storage L= 142.1' S= 0.0010 '/'
#5	169.66'	0.019 af	3.50'W x 4.00'L x 4.54'H Prismatic x 13
		0.159 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	169.35'	12.0" Round Culvert L= 134.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 169.35' / 168.95' S= 0.0030 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	169.35'	9.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	170.63'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	171.20'	1.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=4.99 cfs @ 12.26 hrs HW=172.45' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Barrel Controls 4.99 cfs @ 6.35 fps)
- 2=Orifice/Grate (Passes < 3.90 cfs potential flow)
- 3=Broad-Crested Rectangular Weir (Passes < 32.54 cfs potential flow)
- 4=Broad-Crested Rectangular Weir (Passes < 4.63 cfs potential flow)

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

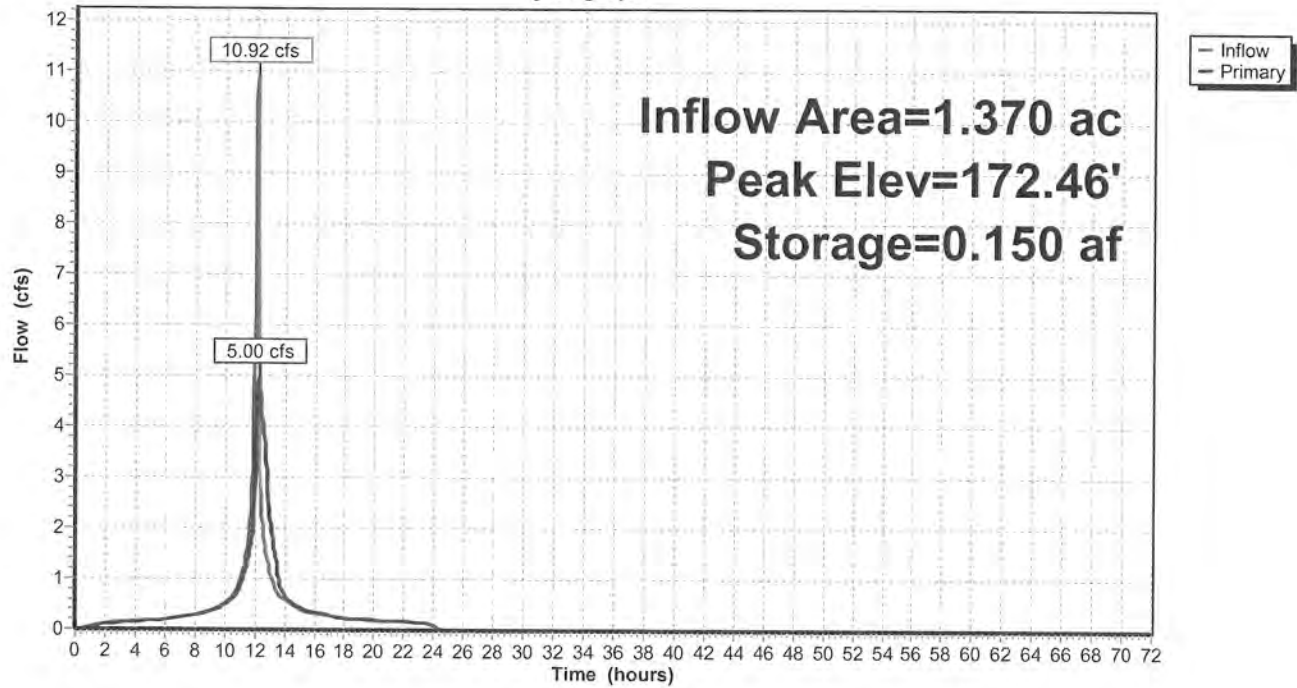
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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 3/1/2021

Pond 48P: Prop. Basin to Central

Hydrograph



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

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Hydrograph for Pond 48P: Prop. Basin to Central

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	169.35	0.00
2.50	0.12	0.001	169.55	0.12
5.00	0.17	0.001	169.59	0.17
7.50	0.27	0.002	169.64	0.26
10.00	0.53	0.006	169.76	0.50
12.50	2.22	0.118	171.73	4.21
15.00	0.39	0.005	169.73	0.43
17.50	0.24	0.002	169.64	0.25
20.00	0.18	0.001	169.60	0.19
22.50	0.15	0.001	169.57	0.15
25.00	0.00	0.000	169.35	0.00
27.50	0.00	0.000	169.35	0.00
30.00	0.00	0.000	169.35	0.00
32.50	0.00	0.000	169.35	0.00
35.00	0.00	0.000	169.35	0.00
37.50	0.00	0.000	169.35	0.00
40.00	0.00	0.000	169.35	0.00
42.50	0.00	0.000	169.35	0.00
45.00	0.00	0.000	169.35	0.00
47.50	0.00	0.000	169.35	0.00
50.00	0.00	0.000	169.35	0.00
52.50	0.00	0.000	169.35	0.00
55.00	0.00	0.000	169.35	0.00
57.50	0.00	0.000	169.35	0.00
60.00	0.00	0.000	169.35	0.00
62.50	0.00	0.000	169.35	0.00
65.00	0.00	0.000	169.35	0.00
67.50	0.00	0.000	169.35	0.00
70.00	0.00	0.000	169.35	0.00

Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

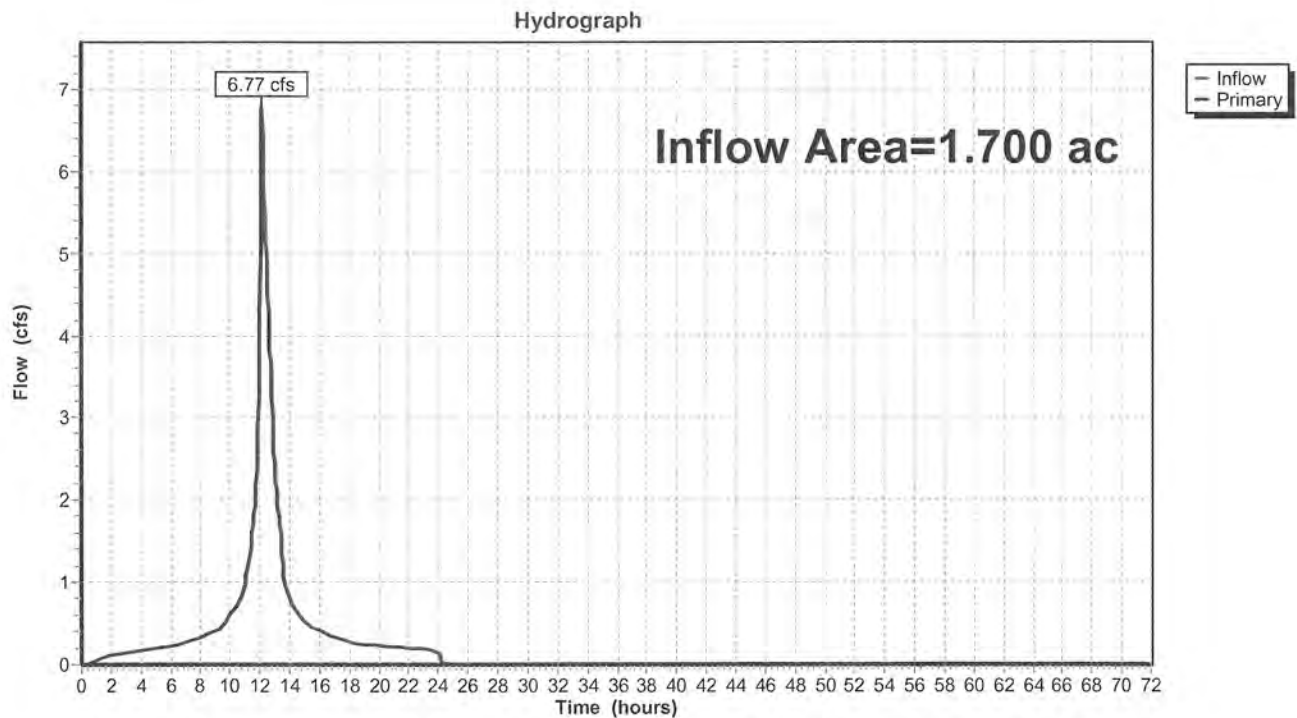
Printed 3/1/2021

Summary for Pond 51P: Central Ave. Summ

Inflow Area = 1.700 ac, 85.29% Impervious, Inflow Depth = 8.10" for 100-yr event
Inflow = 6.77 cfs @ 12.16 hrs, Volume= 1.148 af
Primary = 6.77 cfs @ 12.16 hrs, Volume= 1.148 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 51P: Central Ave. Summ



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

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Hydrograph for Pond 51P: Central Ave. Summ

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.05		0.05	53.00	0.00		0.00
2.00	0.11		0.11	54.00	0.00		0.00
3.00	0.14		0.14	55.00	0.00		0.00
4.00	0.17		0.17	56.00	0.00		0.00
5.00	0.19		0.19	57.00	0.00		0.00
6.00	0.21		0.21	58.00	0.00		0.00
7.00	0.27		0.27	59.00	0.00		0.00
8.00	0.34		0.34	60.00	0.00		0.00
9.00	0.40		0.40	61.00	0.00		0.00
10.00	0.59		0.59	62.00	0.00		0.00
11.00	1.01		1.01	63.00	0.00		0.00
12.00	4.30		4.30	64.00	0.00		0.00
13.00	2.43		2.43	65.00	0.00		0.00
14.00	0.79		0.79	66.00	0.00		0.00
15.00	0.52		0.52	67.00	0.00		0.00
16.00	0.41		0.41	68.00	0.00		0.00
17.00	0.34		0.34	69.00	0.00		0.00
18.00	0.27		0.27	70.00	0.00		0.00
19.00	0.25		0.25	71.00	0.00		0.00
20.00	0.23		0.23	72.00	0.00		0.00
21.00	0.21		0.21				
22.00	0.20		0.20				
23.00	0.18		0.18				
24.00	0.16		0.16				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

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NOAA 24-hr D 100-yr Rainfall=8.66"

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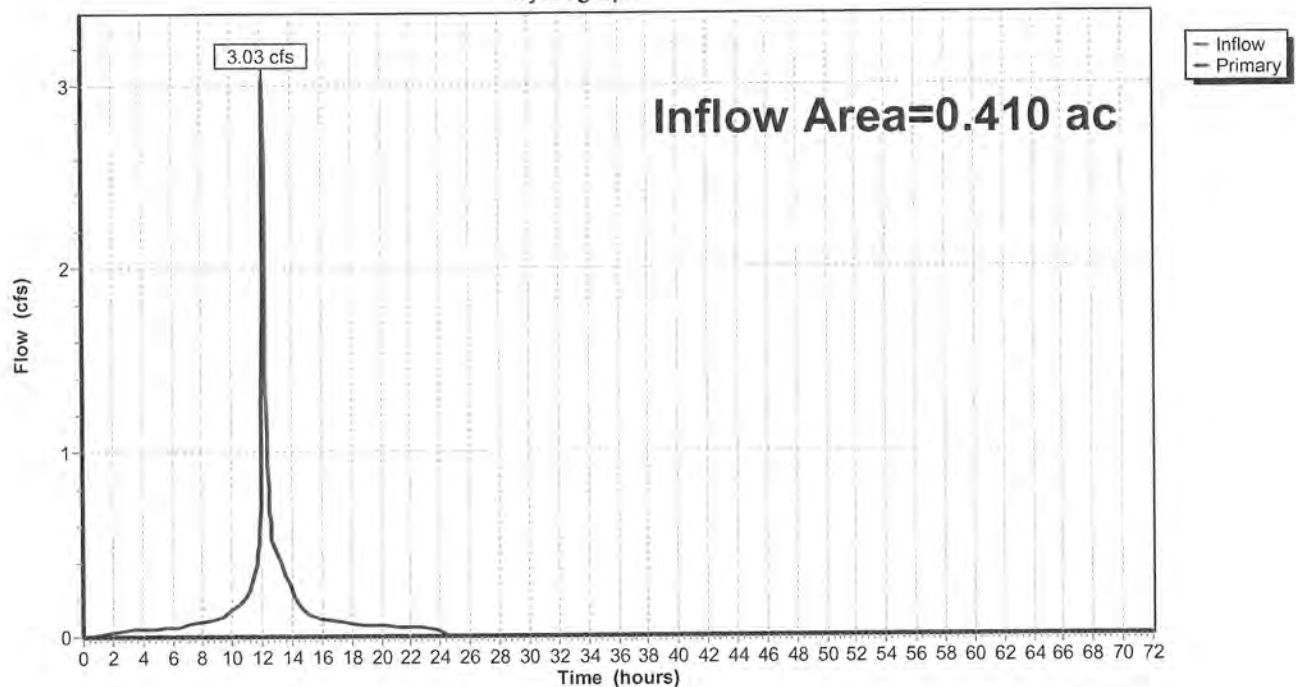
Summary for Pond 52P: Mitchell St. Summ

Inflow Area = 0.410 ac, 78.05% Impervious, Inflow Depth = 7.94" for 100-yr event
Inflow = 3.03 cfs @ 12.15 hrs, Volume= 0.271 af
Primary = 3.03 cfs @ 12.15 hrs, Volume= 0.271 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 52P: Mitchell St. Summ

Hydrograph



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 52P: Mitchell St. Summ

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.01		0.01	53.00	0.00		0.00
2.00	0.02		0.02	54.00	0.00		0.00
3.00	0.03		0.03	55.00	0.00		0.00
4.00	0.04		0.04	56.00	0.00		0.00
5.00	0.04		0.04	57.00	0.00		0.00
6.00	0.05		0.05	58.00	0.00		0.00
7.00	0.06		0.06	59.00	0.00		0.00
8.00	0.08		0.08	60.00	0.00		0.00
9.00	0.09		0.09	61.00	0.00		0.00
10.00	0.14		0.14	62.00	0.00		0.00
11.00	0.23		0.23	63.00	0.00		0.00
12.00	1.25		1.25	64.00	0.00		0.00
13.00	0.46		0.46	65.00	0.00		0.00
14.00	0.25		0.25	66.00	0.00		0.00
15.00	0.12		0.12	67.00	0.00		0.00
16.00	0.10		0.10	68.00	0.00		0.00
17.00	0.08		0.08	69.00	0.00		0.00
18.00	0.07		0.07	70.00	0.00		0.00
19.00	0.06		0.06	71.00	0.00		0.00
20.00	0.05		0.05	72.00	0.00		0.00
21.00	0.05		0.05				
22.00	0.05		0.05				
23.00	0.04		0.04				
24.00	0.04		0.04				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Summary for Pond 53P: Pipe Storage to Mitchell

Inflow Area = 0.350 ac, 85.71% Impervious, Inflow Depth = 8.11" for 100-yr event
 Inflow = 2.75 cfs @ 12.13 hrs, Volume= 0.237 af
 Outflow = 2.61 cfs @ 12.15 hrs, Volume= 0.237 af, Atten= 5%, Lag= 1.6 min
 Primary = 2.61 cfs @ 12.15 hrs, Volume= 0.237 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 171.29' @ 12.15 hrs Surf.Area= 0.016 ac Storage= 0.023 af
 Flood Elev= 172.09' Surf.Area= 0.006 ac Storage= 0.033 af

Plug-Flow detention time= 10.9 min calculated for 0.236 af (100% of inflow)
 Center-of-Mass det. time= 10.9 min (759.1 - 748.2)

Volume	Invert	Avail.Storage	Storage Description
#1	169.59'	0.016 af	30.0" Round Pipe Storage L= 138.2' S= 0.0010 '/
#2	169.59'	0.015 af	30.0" Round Pipe Storage L= 134.3' S= 0.0010 '/
#3	169.73'	0.007 af	3.50'W x 4.00'L x 5.27'H Prismaoid x 4
		0.037 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	169.59'	12.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 169.59' / 169.34' S= 0.0025 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf
#2	Device 1	169.59'	4.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	170.80'	2.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	171.35'	3.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.59 cfs @ 12.15 hrs HW=171.29' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 2.59 cfs of 3.17 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.52 cfs @ 5.97 fps)
- 3=Broad-Crested Rectangular Weir (Weir Controls 2.07 cfs @ 2.10 fps)
- 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Post-Development-Central

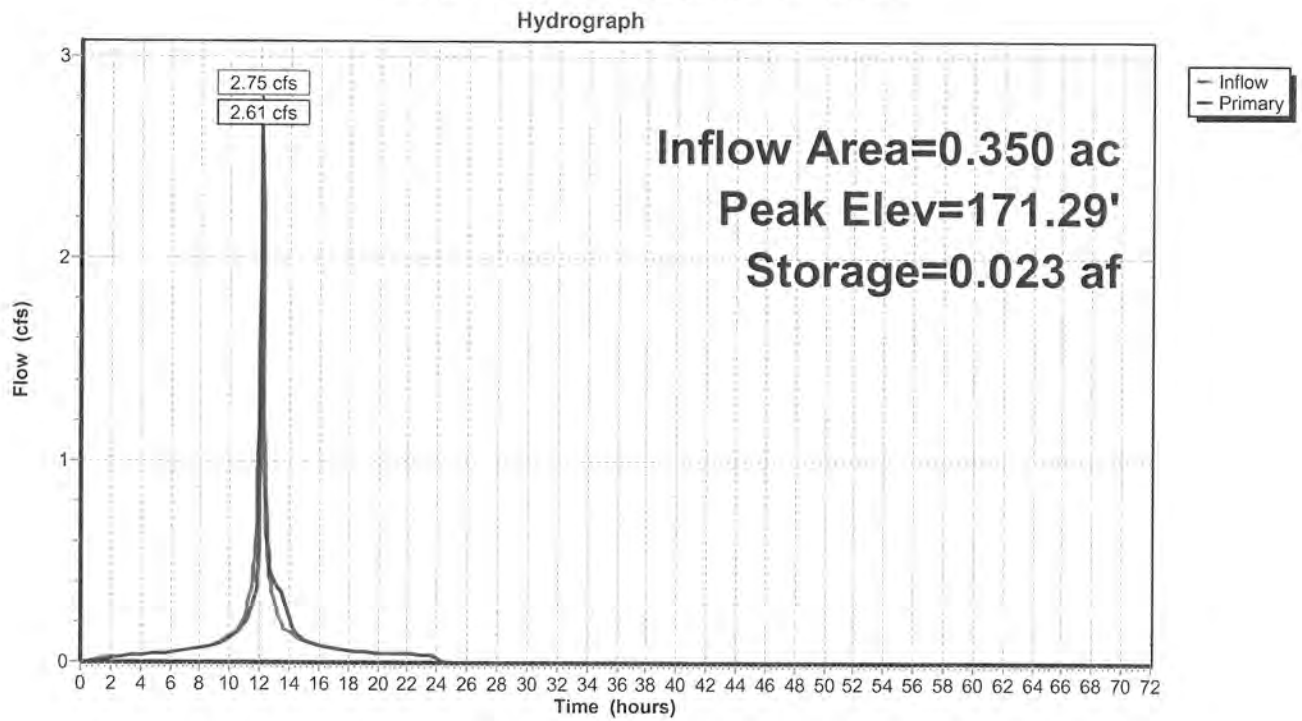
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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 3/1/2021

Pond 53P: Pipe Storage to Mitchell



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 53P: Pipe Storage to Mitchell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	169.59	0.00
2.50	0.03	0.000	169.70	0.03
5.00	0.04	0.000	169.72	0.04
7.50	0.06	0.000	169.76	0.06
10.00	0.13	0.001	169.84	0.12
12.50	0.56	0.017	170.90	0.64
15.00	0.10	0.001	169.82	0.11
17.50	0.06	0.000	169.76	0.06
20.00	0.05	0.000	169.73	0.05
22.50	0.04	0.000	169.72	0.04
25.00	0.00	0.000	169.59	0.00
27.50	0.00	0.000	169.59	0.00
30.00	0.00	0.000	169.59	0.00
32.50	0.00	0.000	169.59	0.00
35.00	0.00	0.000	169.59	0.00
37.50	0.00	0.000	169.59	0.00
40.00	0.00	0.000	169.59	0.00
42.50	0.00	0.000	169.59	0.00
45.00	0.00	0.000	169.59	0.00
47.50	0.00	0.000	169.59	0.00
50.00	0.00	0.000	169.59	0.00
52.50	0.00	0.000	169.59	0.00
55.00	0.00	0.000	169.59	0.00
57.50	0.00	0.000	169.59	0.00
60.00	0.00	0.000	169.59	0.00
62.50	0.00	0.000	169.59	0.00
65.00	0.00	0.000	169.59	0.00
67.50	0.00	0.000	169.59	0.00
70.00	0.00	0.000	169.59	0.00

Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

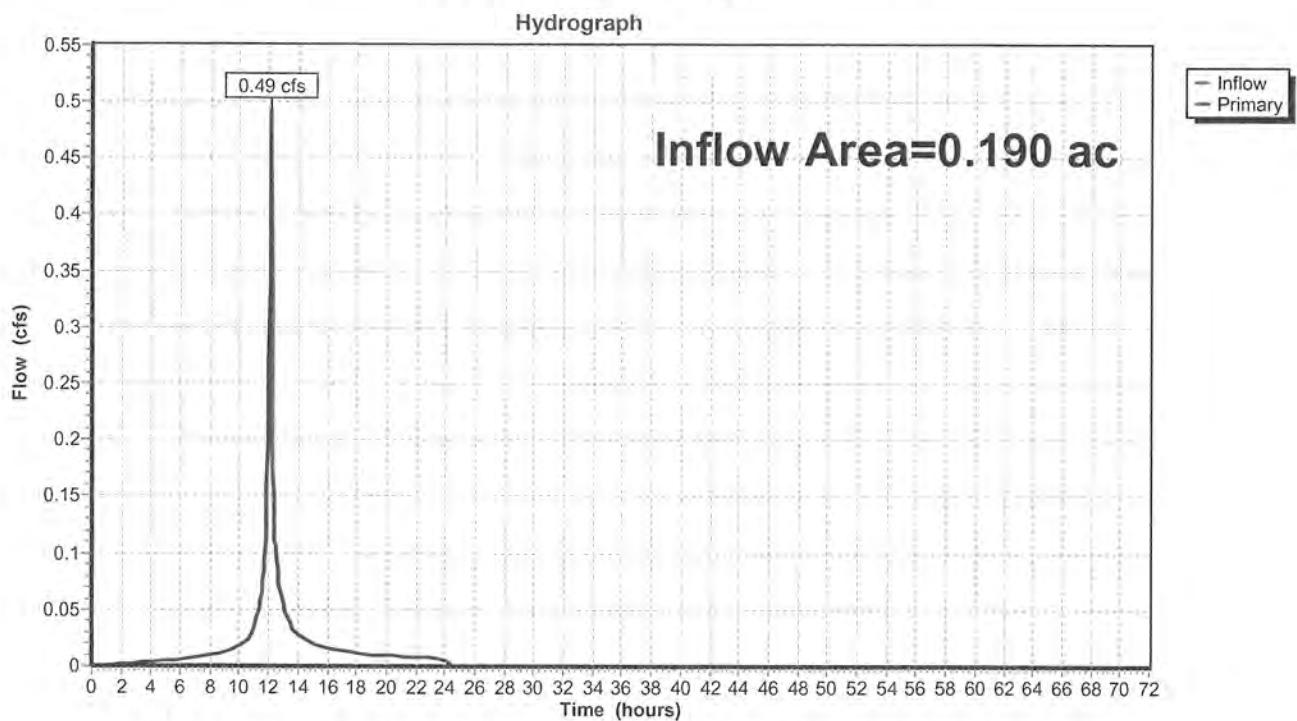
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Summary for Pond 60P: Off-site Central Ave

Inflow Area = 0.190 ac, 57.89% Impervious, Inflow Depth = 2.53" for 2-yr event
Inflow = 0.49 cfs @ 12.13 hrs, Volume= 0.040 af
Primary = 0.49 cfs @ 12.13 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 60P: Off-site Central Ave



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 60P: Off-site Central Ave

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.00		0.00	55.00	0.00		0.00
4.00	0.00		0.00	56.00	0.00		0.00
5.00	0.00		0.00	57.00	0.00		0.00
6.00	0.01		0.01	58.00	0.00		0.00
7.00	0.01		0.01	59.00	0.00		0.00
8.00	0.01		0.01	60.00	0.00		0.00
9.00	0.01		0.01	61.00	0.00		0.00
10.00	0.02		0.02	62.00	0.00		0.00
11.00	0.04		0.04	63.00	0.00		0.00
12.00	0.27		0.27	64.00	0.00		0.00
13.00	0.06		0.06	65.00	0.00		0.00
14.00	0.03		0.03	66.00	0.00		0.00
15.00	0.02		0.02	67.00	0.00		0.00
16.00	0.02		0.02	68.00	0.00		0.00
17.00	0.01		0.01	69.00	0.00		0.00
18.00	0.01		0.01	70.00	0.00		0.00
19.00	0.01		0.01	71.00	0.00		0.00
20.00	0.01		0.01	72.00	0.00		0.00
21.00	0.01		0.01				
22.00	0.01		0.01				
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 2-yr Rainfall=3.44"

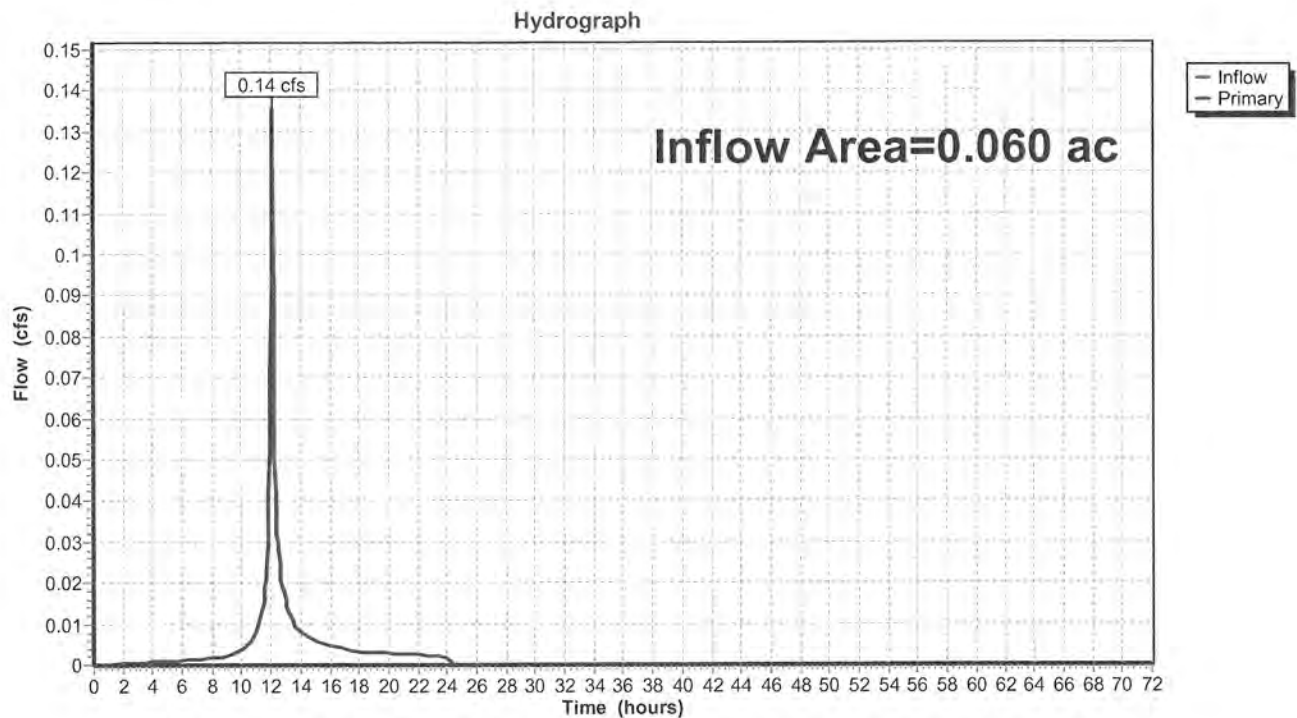
Printed 3/1/2021

Summary for Pond 64P: Off-site Mitchell st

Inflow Area = 0.060 ac, 33.33% Impervious, Inflow Depth = 2.13" for 2-yr event
Inflow = 0.14 cfs @ 12.13 hrs, Volume= 0.011 af
Primary = 0.14 cfs @ 12.13 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 64P: Off-site Mitchell st



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

Prepared by Matrix New World Engineering, P.C.

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Hydrograph for Pond 64P: Off-site Mitchell st

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.00		0.00	55.00	0.00		0.00
4.00	0.00		0.00	56.00	0.00		0.00
5.00	0.00		0.00	57.00	0.00		0.00
6.00	0.00		0.00	58.00	0.00		0.00
7.00	0.00		0.00	59.00	0.00		0.00
8.00	0.00		0.00	60.00	0.00		0.00
9.00	0.00		0.00	61.00	0.00		0.00
10.00	0.00		0.00	62.00	0.00		0.00
11.00	0.01		0.01	63.00	0.00		0.00
12.00	0.07		0.07	64.00	0.00		0.00
13.00	0.02		0.02	65.00	0.00		0.00
14.00	0.01		0.01	66.00	0.00		0.00
15.00	0.01		0.01	67.00	0.00		0.00
16.00	0.00		0.00	68.00	0.00		0.00
17.00	0.00		0.00	69.00	0.00		0.00
18.00	0.00		0.00	70.00	0.00		0.00
19.00	0.00		0.00	71.00	0.00		0.00
20.00	0.00		0.00	72.00	0.00		0.00
21.00	0.00		0.00				
22.00	0.00		0.00				
23.00	0.00		0.00				
24.00	0.00		0.00				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

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NOAA 24-hr D 2-yr Rainfall=3.44"

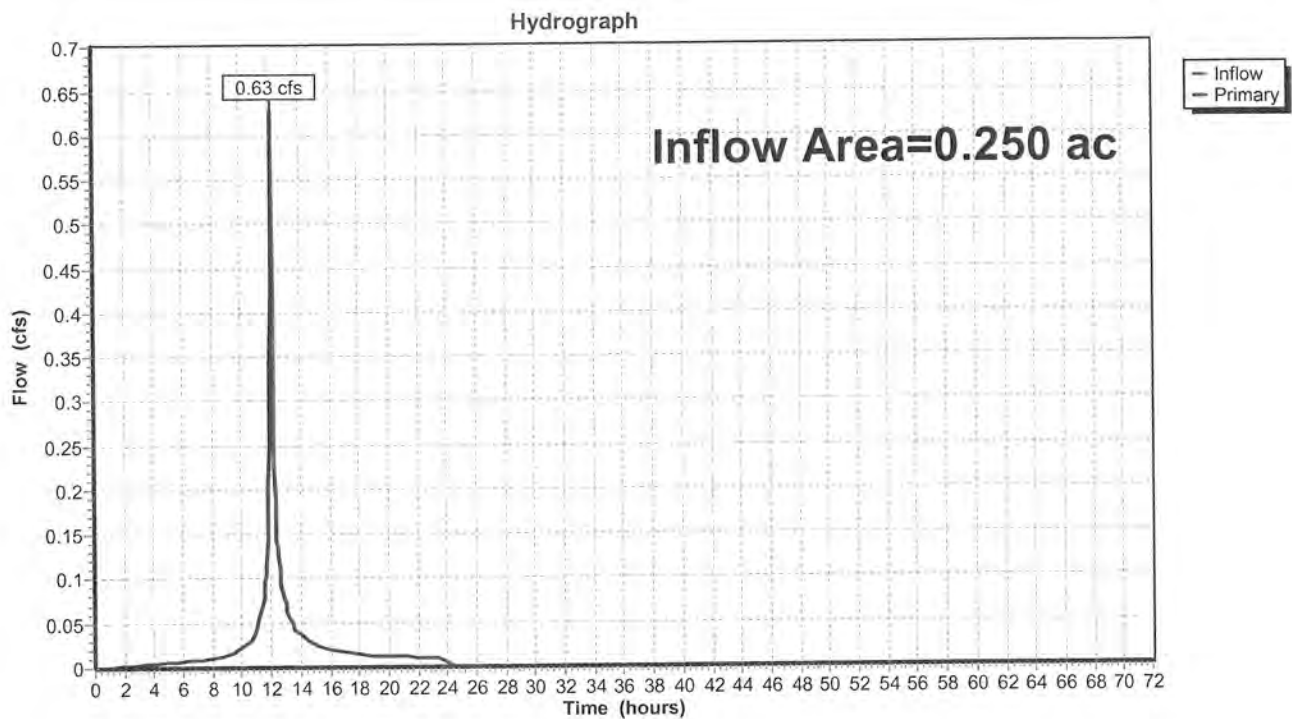
Printed 3/1/2021

Summary for Pond 65P: offsite summation

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 2.43" for 2-yr event
Inflow = 0.63 cfs @ 12.13 hrs, Volume= 0.051 af
Primary = 0.63 cfs @ 12.13 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 65P: offsite summation



Post-Development-Central

NOAA 24-hr D 2-yr Rainfall=3.44"

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Hydrograph for Pond 65P: offsite summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.00		0.00	55.00	0.00		0.00
4.00	0.00		0.00	56.00	0.00		0.00
5.00	0.01		0.01	57.00	0.00		0.00
6.00	0.01		0.01	58.00	0.00		0.00
7.00	0.01		0.01	59.00	0.00		0.00
8.00	0.01		0.01	60.00	0.00		0.00
9.00	0.01		0.01	61.00	0.00		0.00
10.00	0.02		0.02	62.00	0.00		0.00
11.00	0.04		0.04	63.00	0.00		0.00
12.00	0.34		0.34	64.00	0.00		0.00
13.00	0.07		0.07	65.00	0.00		0.00
14.00	0.04		0.04	66.00	0.00		0.00
15.00	0.03		0.03	67.00	0.00		0.00
16.00	0.02		0.02	68.00	0.00		0.00
17.00	0.02		0.02	69.00	0.00		0.00
18.00	0.01		0.01	70.00	0.00		0.00
19.00	0.01		0.01	71.00	0.00		0.00
20.00	0.01		0.01	72.00	0.00		0.00
21.00	0.01		0.01				
22.00	0.01		0.01				
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

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NOAA 24-hr D 10-yr Rainfall=5.22"

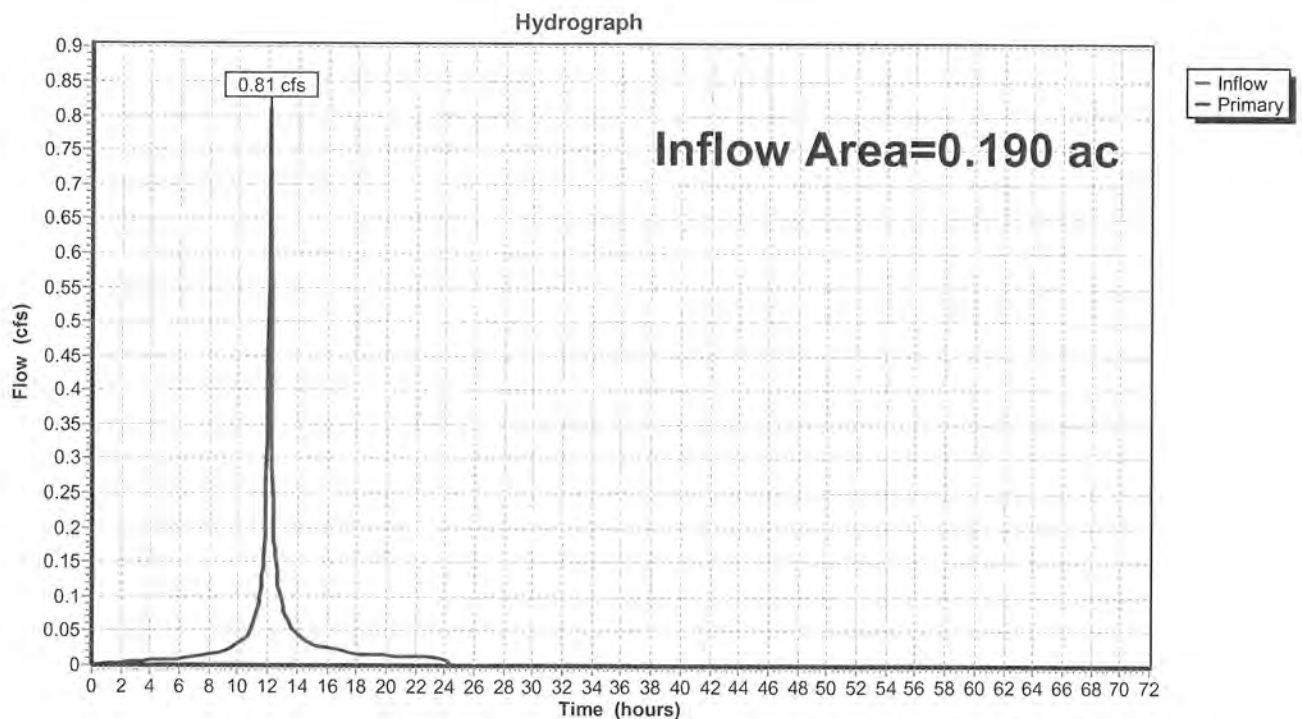
Printed 3/1/2021

Summary for Pond 60P: Off-site Central Ave

Inflow Area = 0.190 ac, 57.89% Impervious, Inflow Depth = 4.18" for 10-yr event
Inflow = 0.81 cfs @ 12.13 hrs, Volume= 0.066 af
Primary = 0.81 cfs @ 12.13 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 60P: Off-site Central Ave



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

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Hydrograph for Pond 60P: Off-site Central Ave

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.01		0.01	55.00	0.00		0.00
4.00	0.01		0.01	56.00	0.00		0.00
5.00	0.01		0.01	57.00	0.00		0.00
6.00	0.01		0.01	58.00	0.00		0.00
7.00	0.01		0.01	59.00	0.00		0.00
8.00	0.02		0.02	60.00	0.00		0.00
9.00	0.02		0.02	61.00	0.00		0.00
10.00	0.03		0.03	62.00	0.00		0.00
11.00	0.06		0.06	63.00	0.00		0.00
12.00	0.45		0.45	64.00	0.00		0.00
13.00	0.09		0.09	65.00	0.00		0.00
14.00	0.05		0.05	66.00	0.00		0.00
15.00	0.03		0.03	67.00	0.00		0.00
16.00	0.03		0.03	68.00	0.00		0.00
17.00	0.02		0.02	69.00	0.00		0.00
18.00	0.02		0.02	70.00	0.00		0.00
19.00	0.02		0.02	71.00	0.00		0.00
20.00	0.01		0.01	72.00	0.00		0.00
21.00	0.01		0.01				
22.00	0.01		0.01				
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 10-yr Rainfall=5.22"

Printed 3/1/2021

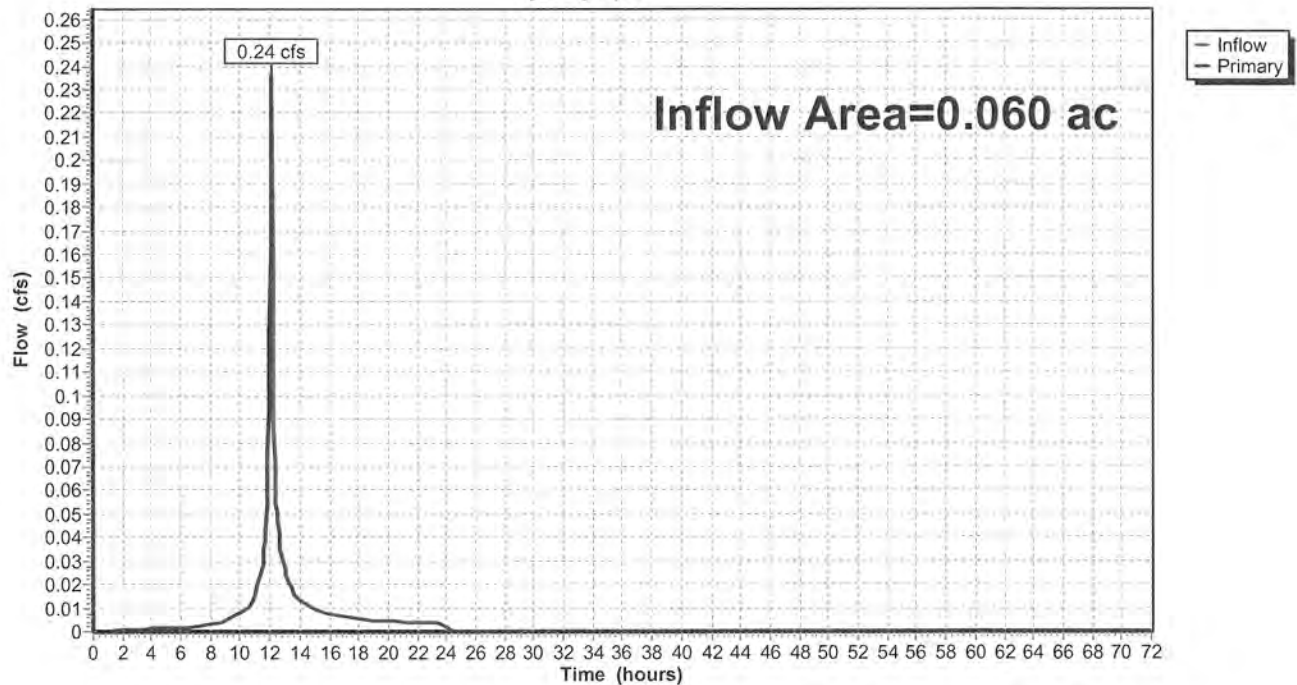
Summary for Pond 64P: Off-site Mitchell st

Inflow Area = 0.060 ac, 33.33% Impervious, Inflow Depth = 3.72" for 10-yr event
Inflow = 0.24 cfs @ 12.13 hrs, Volume= 0.019 af
Primary = 0.24 cfs @ 12.13 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 64P: Off-site Mitchell st

Hydrograph



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 64P: Off-site Mitchell st

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.00		0.00	55.00	0.00		0.00
4.00	0.00		0.00	56.00	0.00		0.00
5.00	0.00		0.00	57.00	0.00		0.00
6.00	0.00		0.00	58.00	0.00		0.00
7.00	0.00		0.00	59.00	0.00		0.00
8.00	0.00		0.00	60.00	0.00		0.00
9.00	0.00		0.00	61.00	0.00		0.00
10.00	0.01		0.01	62.00	0.00		0.00
11.00	0.02		0.02	63.00	0.00		0.00
12.00	0.13		0.13	64.00	0.00		0.00
13.00	0.03		0.03	65.00	0.00		0.00
14.00	0.01		0.01	66.00	0.00		0.00
15.00	0.01		0.01	67.00	0.00		0.00
16.00	0.01		0.01	68.00	0.00		0.00
17.00	0.01		0.01	69.00	0.00		0.00
18.00	0.01		0.01	70.00	0.00		0.00
19.00	0.00		0.00	71.00	0.00		0.00
20.00	0.00		0.00	72.00	0.00		0.00
21.00	0.00		0.00				
22.00	0.00		0.00				
23.00	0.00		0.00				
24.00	0.00		0.00				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 10-yr Rainfall=5.22"

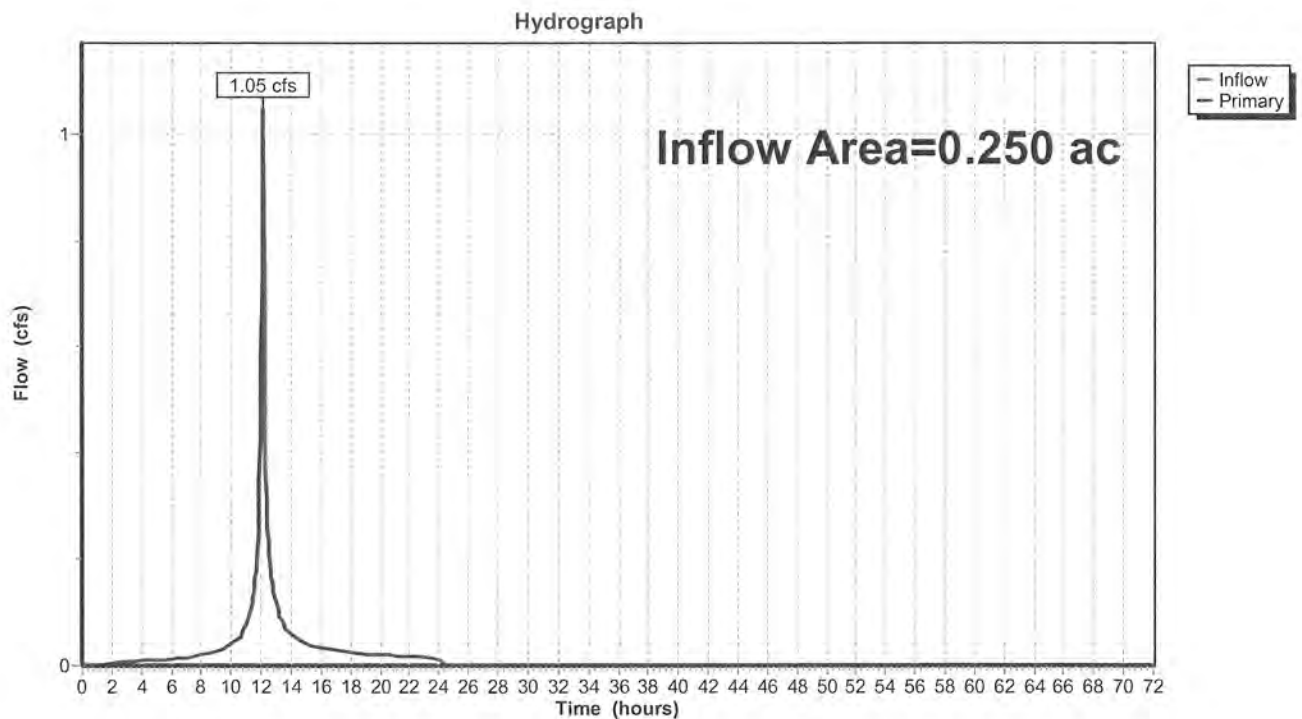
Printed 3/1/2021

Summary for Pond 65P: offsite summation

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 4.07" for 10-yr event
Inflow = 1.05 cfs @ 12.13 hrs, Volume= 0.085 af
Primary = 1.05 cfs @ 12.13 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 65P: offsite summation



Post-Development-Central

NOAA 24-hr D 10-yr Rainfall=5.22"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 65P: offsite summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.01		0.01	55.00	0.00		0.00
4.00	0.01		0.01	56.00	0.00		0.00
5.00	0.01		0.01	57.00	0.00		0.00
6.00	0.01		0.01	58.00	0.00		0.00
7.00	0.01		0.01	59.00	0.00		0.00
8.00	0.02		0.02	60.00	0.00		0.00
9.00	0.02		0.02	61.00	0.00		0.00
10.00	0.04		0.04	62.00	0.00		0.00
11.00	0.08		0.08	63.00	0.00		0.00
12.00	0.57		0.57	64.00	0.00		0.00
13.00	0.12		0.12	65.00	0.00		0.00
14.00	0.06		0.06	66.00	0.00		0.00
15.00	0.04		0.04	67.00	0.00		0.00
16.00	0.03		0.03	68.00	0.00		0.00
17.00	0.03		0.03	69.00	0.00		0.00
18.00	0.02		0.02	70.00	0.00		0.00
19.00	0.02		0.02	71.00	0.00		0.00
20.00	0.02		0.02	72.00	0.00		0.00
21.00	0.02		0.02				
22.00	0.02		0.02				
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 3/1/2021

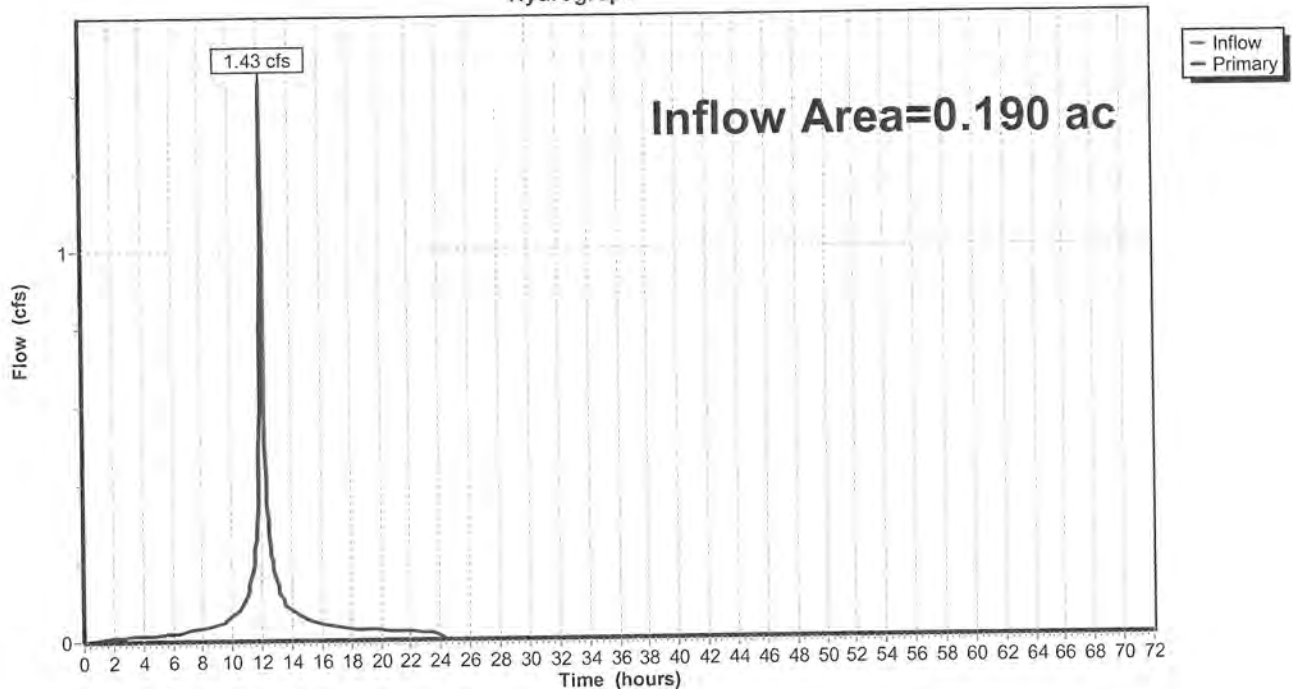
Summary for Pond 60P: Off-site Central Ave

Inflow Area = 0.190 ac, 57.89% Impervious, Inflow Depth = 7.50" for 100-yr event
Inflow = 1.43 cfs @ 12.13 hrs, Volume= 0.119 af
Primary = 1.43 cfs @ 12.13 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 60P: Off-site Central Ave

Hydrograph



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 60P: Off-site Central Ave

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.01		0.01	54.00	0.00		0.00
3.00	0.01		0.01	55.00	0.00		0.00
4.00	0.01		0.01	56.00	0.00		0.00
5.00	0.02		0.02	57.00	0.00		0.00
6.00	0.02		0.02	58.00	0.00		0.00
7.00	0.02		0.02	59.00	0.00		0.00
8.00	0.03		0.03	60.00	0.00		0.00
9.00	0.04		0.04	61.00	0.00		0.00
10.00	0.06		0.06	62.00	0.00		0.00
11.00	0.11		0.11	63.00	0.00		0.00
12.00	0.80		0.80	64.00	0.00		0.00
13.00	0.16		0.16	65.00	0.00		0.00
14.00	0.08		0.08	66.00	0.00		0.00
15.00	0.05		0.05	67.00	0.00		0.00
16.00	0.04		0.04	68.00	0.00		0.00
17.00	0.04		0.04	69.00	0.00		0.00
18.00	0.03		0.03	70.00	0.00		0.00
19.00	0.03		0.03	71.00	0.00		0.00
20.00	0.02		0.02	72.00	0.00		0.00
21.00	0.02		0.02				
22.00	0.02		0.02				
23.00	0.02		0.02				
24.00	0.02		0.02				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 100-yr Rainfall=8.66"

Printed 3/1/2021

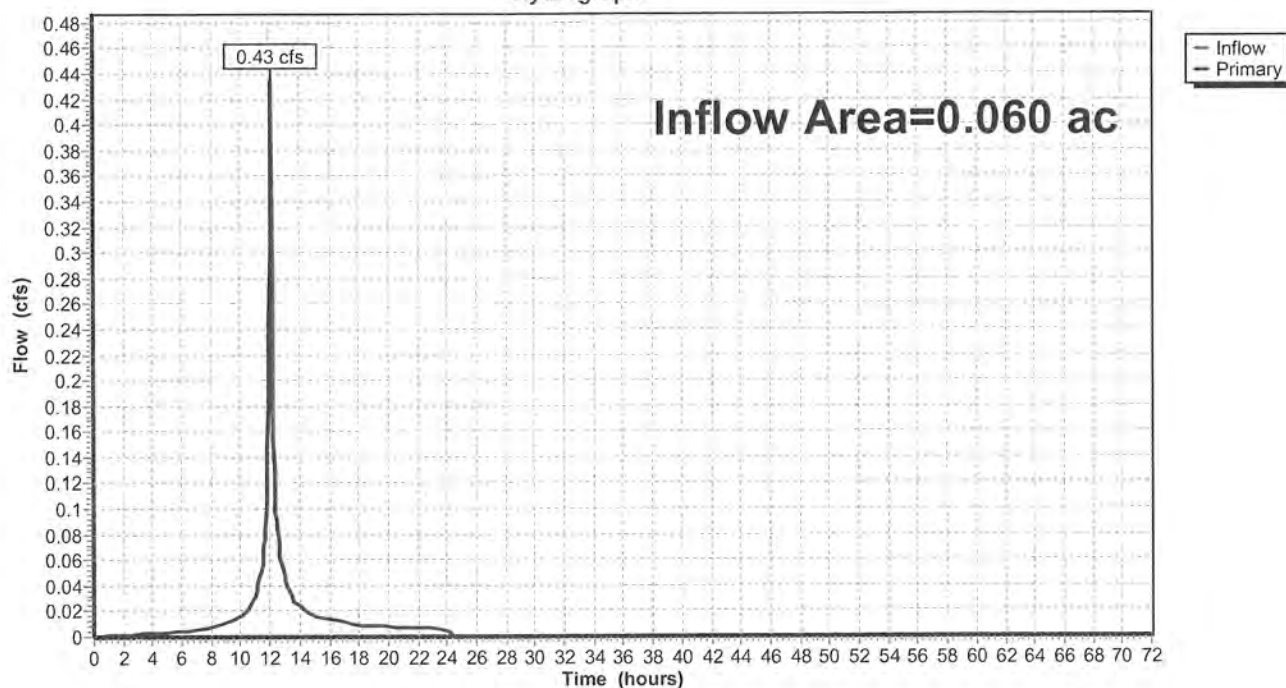
Summary for Pond 64P: Off-site Mitchell st

Inflow Area = 0.060 ac, 33.33% Impervious, Inflow Depth = 6.97" for 100-yr event
Inflow = 0.43 cfs @ 12.13 hrs, Volume= 0.035 af
Primary = 0.43 cfs @ 12.13 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 64P: Off-site Mitchell st

Hydrograph



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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Hydrograph for Pond 64P: Off-site Mitchell st

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.00		0.00	54.00	0.00		0.00
3.00	0.00		0.00	55.00	0.00		0.00
4.00	0.00		0.00	56.00	0.00		0.00
5.00	0.00		0.00	57.00	0.00		0.00
6.00	0.00		0.00	58.00	0.00		0.00
7.00	0.01		0.01	59.00	0.00		0.00
8.00	0.01		0.01	60.00	0.00		0.00
9.00	0.01		0.01	61.00	0.00		0.00
10.00	0.02		0.02	62.00	0.00		0.00
11.00	0.03		0.03	63.00	0.00		0.00
12.00	0.24		0.24	64.00	0.00		0.00
13.00	0.05		0.05	65.00	0.00		0.00
14.00	0.02		0.02	66.00	0.00		0.00
15.00	0.02		0.02	67.00	0.00		0.00
16.00	0.01		0.01	68.00	0.00		0.00
17.00	0.01		0.01	69.00	0.00		0.00
18.00	0.01		0.01	70.00	0.00		0.00
19.00	0.01		0.01	71.00	0.00		0.00
20.00	0.01		0.01	72.00	0.00		0.00
21.00	0.01		0.01				
22.00	0.01		0.01				
23.00	0.01		0.01				
24.00	0.01		0.01				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

Post-Development-Central

Prepared by Matrix New World Engineering, P.C.

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NOAA 24-hr D 100-yr Rainfall=8.66"

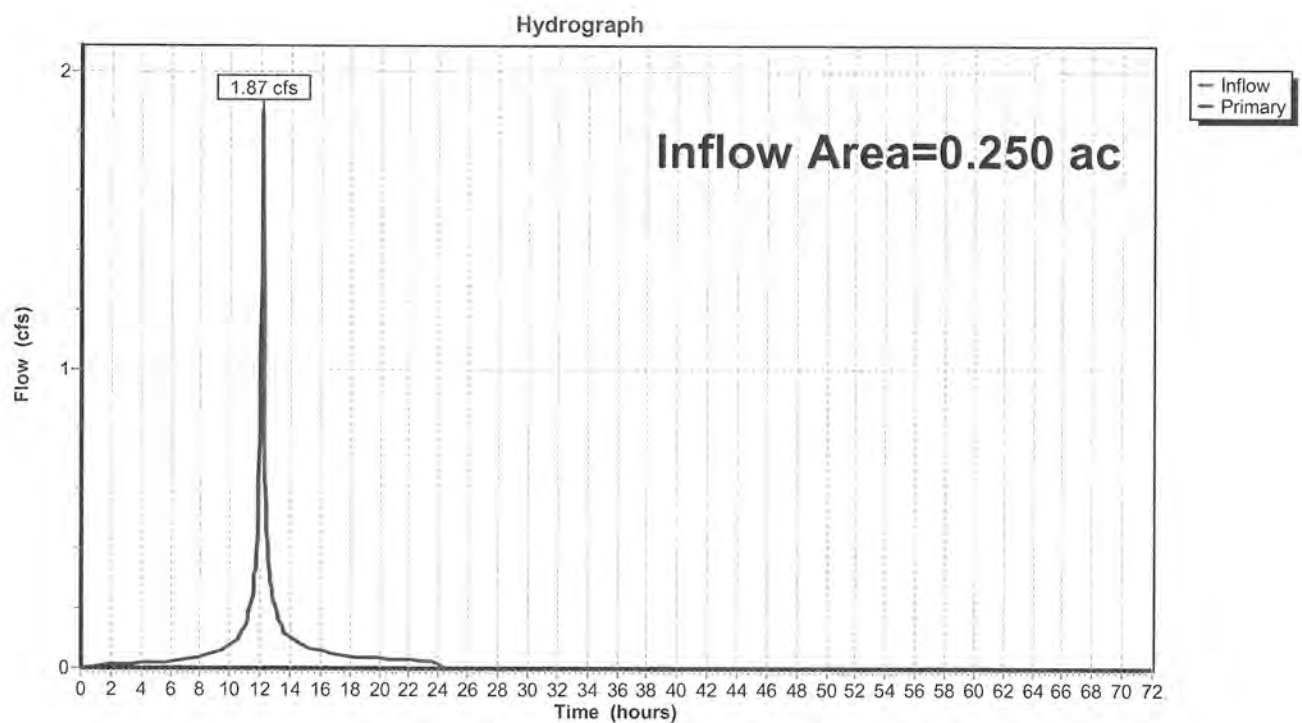
Printed 3/1/2021

Summary for Pond 65P: offsite summation

Inflow Area = 0.250 ac, 52.00% Impervious, Inflow Depth = 7.38" for 100-yr event
Inflow = 1.87 cfs @ 12.13 hrs, Volume= 0.154 af
Primary = 1.87 cfs @ 12.13 hrs, Volume= 0.154 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond 65P: offsite summation



Post-Development-Central

NOAA 24-hr D 100-yr Rainfall=8.66"

Prepared by Matrix New World Engineering, P.C.

Printed 3/1/2021

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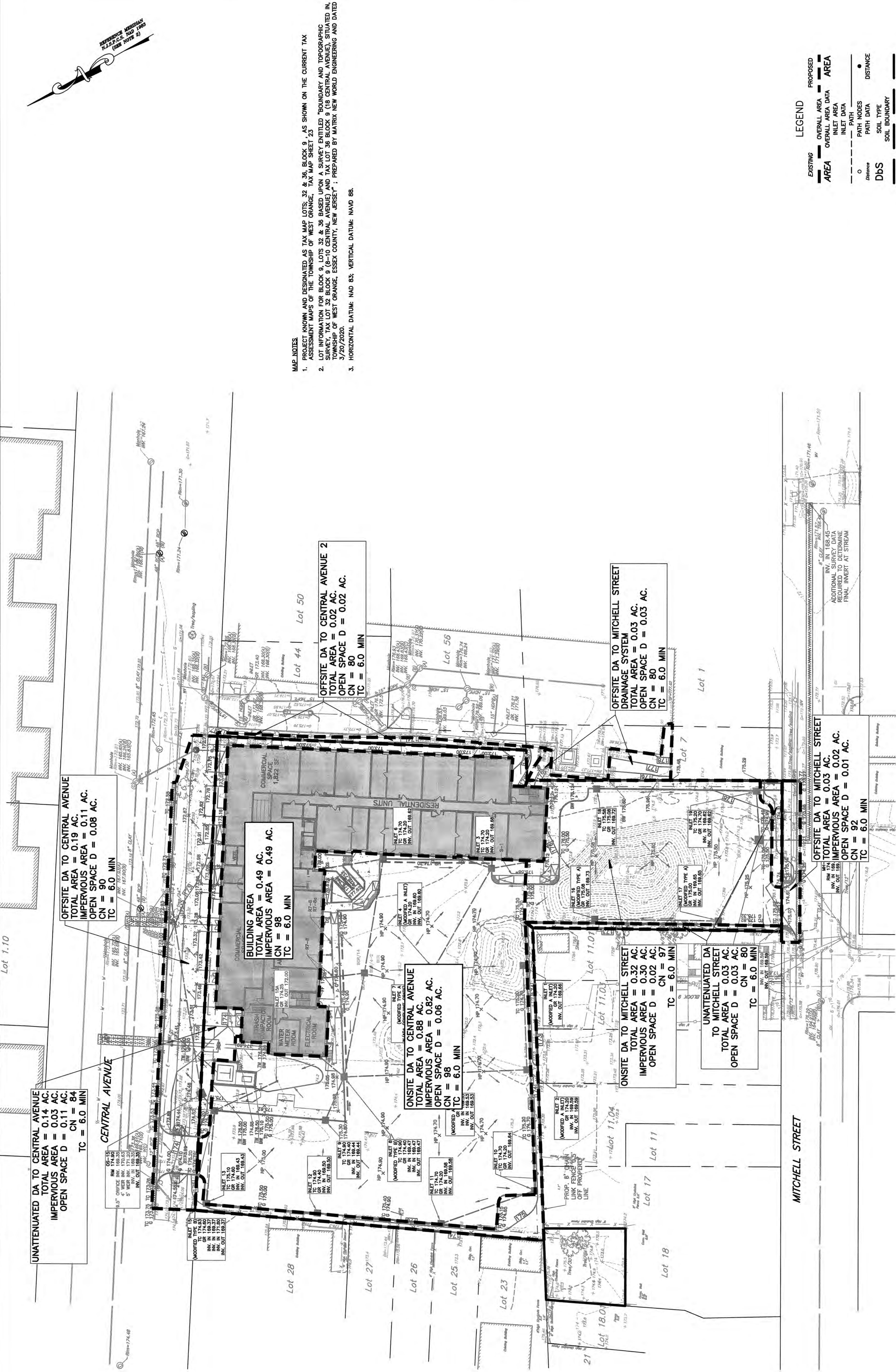
Hydrograph for Pond 65P: offsite summation

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00	52.00	0.00		0.00
1.00	0.00		0.00	53.00	0.00		0.00
2.00	0.01		0.01	54.00	0.00		0.00
3.00	0.01		0.01	55.00	0.00		0.00
4.00	0.02		0.02	56.00	0.00		0.00
5.00	0.02		0.02	57.00	0.00		0.00
6.00	0.02		0.02	58.00	0.00		0.00
7.00	0.03		0.03	59.00	0.00		0.00
8.00	0.04		0.04	60.00	0.00		0.00
9.00	0.05		0.05	61.00	0.00		0.00
10.00	0.08		0.08	62.00	0.00		0.00
11.00	0.15		0.15	63.00	0.00		0.00
12.00	1.04		1.04	64.00	0.00		0.00
13.00	0.20		0.20	65.00	0.00		0.00
14.00	0.10		0.10	66.00	0.00		0.00
15.00	0.07		0.07	67.00	0.00		0.00
16.00	0.06		0.06	68.00	0.00		0.00
17.00	0.05		0.05	69.00	0.00		0.00
18.00	0.04		0.04	70.00	0.00		0.00
19.00	0.04		0.04	71.00	0.00		0.00
20.00	0.03		0.03	72.00	0.00		0.00
21.00	0.03		0.03				
22.00	0.03		0.03				
23.00	0.03		0.03				
24.00	0.02		0.02				
25.00	0.00		0.00				
26.00	0.00		0.00				
27.00	0.00		0.00				
28.00	0.00		0.00				
29.00	0.00		0.00				
30.00	0.00		0.00				
31.00	0.00		0.00				
32.00	0.00		0.00				
33.00	0.00		0.00				
34.00	0.00		0.00				
35.00	0.00		0.00				
36.00	0.00		0.00				
37.00	0.00		0.00				
38.00	0.00		0.00				
39.00	0.00		0.00				
40.00	0.00		0.00				
41.00	0.00		0.00				
42.00	0.00		0.00				
43.00	0.00		0.00				
44.00	0.00		0.00				
45.00	0.00		0.00				
46.00	0.00		0.00				
47.00	0.00		0.00				
48.00	0.00		0.00				
49.00	0.00		0.00				
50.00	0.00		0.00				
51.00	0.00		0.00				

APPENDIX F
DRAINAGE AREA MAPS

OBJECT NUMBER:LD19-153

Matrix New World Engineering, Land Surveying
and Landscape Architecture, P.C.
442 State Route 35, Second Floor
Eatontown, New Jersey 07724
WBE / DBE
NEW JERSEY CERTIFICATE OF AUTHORIZATION NO. 24G47/96230

[illegible]

1. PROJECT KNOWN AND DESIGNATED AS TAX MAP LOTS 32 & 36, BLOCK 9, AS SHOWN ON THE CURRENT TAX ASSESSMENT MAPS OF THE TOWNSHIP OF WEST GORDON. TAX MAP SHEET 23

2. LOT INFORMATION FOR BLOCK 9, LOTS 32 & 36 BASED UPON A SURVEY ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, TAX LOT 32 BLOCK 9 (8-10 CENTRAL AVENUE), TAX LOT 36 BLOCK 9 (18 CENTRAL AVENUE), SITUATED IN THE TOWNSHIP OF WEST GORDON (NEW JERSEY)"; PREPARED BY MATRIX NEW WORLD ENGINEERING AND DATED 3/20/2020.

HORIZONTAL DATUM: NAD 83; VERTICAL DATUM: NAVD 88.

LEGEND

	EXISTING		PROPOSED
	AREA		OVERALL AREA
	DATA		OVERALL AREA DATA
	INLET DATA		INLET DATA
	PATH		PATH
	Distance		Distance
	Soil Boundary		Soil Type
	Soil Boundary		Soil Type

