Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) For Construction Activities:

DRAFT

Project/Site Name:

Cammie Clagett Demolitions

Project Address/Location:
306 Highland Ave.
Spartanburg, SC 29306

Primary Permittee:

City of Spartanburg

Permittee/Owner Contact:
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C-SWPPP Preparation Date:

01 / 12 / 2018

Modification Dates:
Modification I: __ __ / __ __ / __ __ __ __
Modification II: __ __ / __ __ / __ __ __ __

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C-SWPPP is acronym for Comprehensive Storm Water Pollution Prevention Plan

OS-SWPPP is acronym for On-Site Storm Water Pollution Prevention Plan

Section 1 *Project Overview*

1.1 Narrative (Construction General Permit (CGP) Section 3.2.1)

Construction Activities and BMP Summary

The Cammie Clagett Demolition Project will demolish and remove existing multi-family structures sidewalks, and pavements located along Beacon Street, Highland Avenue, Concord Avenue, and Bethlehem Drive in Spartanburg, Spartanburg County, South Carolina. The sites are contained within Spartanburg County parcel numbers, 7-16-01-211-00, 7-16-01-299-00, 7-16-01-088-00, 7-16-01-152-00, 7-16-01-169-00, , 7-16-01-096-00, 7-16-01-325-00, 7-16-05-008-00, 7-16-05-007-00, 7-16-01-247-00 with a combined total acreage of 14.51 acres. The land disturbance area for the Cammie Clagett Demolition Project is expected to be 8.1 acres. A Location Map, Figure 1, is located in Appendix A.

The former multi-family structures and slabs will be demolished and removed as well as existing asphalt pavement, concrete pavement, and concrete sidewalks. Existing stormwater drainage systems will remain in place.

Perimeter control BMPs will consist of construction entrances, and silt fencing or sediment tubes. Silt fencing will be installed with J-hooks and silt fence outlets. Block and gravel inlet protection will be utilized at curb and grated inlets for sediment control. Temporary and permanent seeding will be used for final stabilization in areas not stabilized by other methods.

The Cammie Clagett Demolition Project will be conducted in two phases. Phase I consists of the demolition of Blocks 1, 2, 5, 8, and 9 and Phase II consists of the demolition of Blocks 3, 4, 6, and 7. Demolition is expected to begin on February 1, 2018 and seeding of the sites is expected to be complete by June 30, 2018. The erosion and sediment control BMP's will be installed in two phases. Construction entrances, block and gravel inlet protection and perimeter BMP's will be installed initially. Permanent grass seeding will be planted and matting will be installed on steep slopes upon the completion of demolition.

Existing Conditions

The site includes the former Cammie Clagett multi-family development. The site is developed with two story structures, sidewalks, parking areas, and concrete pads. The sites consists of approximately 3.73 acres impervious (pavement and roofs) and approximately 10.78 acres pervious (grassed). Some sites include an existing stormwater system. Runoff from the sites flows easterly to an unnamed tributary to Fairforest Creek and southwesterly and southerly to Fairforest Creek. The existing development drainage flow paths are shown on Figure 2, USGS Topographic Map located in Appendix A.

Soils types within the Cammie Clagett Demolition Project area include Urban Land-Cecil complex (UcC), two (2) to ten (10) percent slopes, and Cecil-Urban Land complex loam, ten (10) to 25 percent slopes. The USDA Soil Map, Figure 3, is located in Appendix A.

Post-Development Conditions

Post-demolition conditions for the project area will be similar to the pre-demolition conditions. The footprint of the existing structures, sidewalks and pavement will be vegetated. The post-demolition sites are expected to contain approximately no impervious (pavement) areas and approximately 14.51 acres of pervious areas (grassed and vegetation).

Since the site will be more pervious after demolition, stormwater runoff from the sites will decrease in quantity. Pre-developed, disturbed conditions, and post developed runoff rates for the nine sites are summarized in *Table 1, Summary of Hydrologic Analysis,* for the 2 year and 10 year storms. HydroCAD was utilized to calculate the stormwater runoff rates from the pre-developed sites, disturbed conditions sites, and post-developed sites. The modeling results, including input values, are located in Appendix D.

Since the stormwater drainage systems will remain, the drainage routes from existing to post-developed conditions will be unchanged. The post developed drainage flow path is shown on Figure 2, USGS Topographic Map. Vegetation will serve as post construction water quality measures.

Flooding Issues

The Cammie Clagett Demolition Sites are not located within a floodplain. FEMA Flood Insurance Rate Map Panel Number 45083C0254D and 45083C0262D are included in Appendix A as Figure 4. The site location is shown.

The owner is not cognizant of potential flooding problems within the surrounding area that may be a direct result of current site conditions or the proposed site demolition work.

1.2 Stormwater Management and Sediment Control (CGP Section 3.2.2)

Industrial Stormwater Discharges

Industrial stormwater discharges are not located within the disturbance limits of this project.

Water Quality BMPs, Erosion Prevention and Sediment Control BMPs

Permanent grassing will provide water quality, erosion prevention and sediment control for the disturbed areas not stabilized with other methods. The specifications for temporary and permanent grassing, as well as maintenance requirements are shown on Erosion and Sediment Control Detail Drawings.

Block and gravel inlet protection placed at the openings of existing grate inlet and curb inlet catch basins will provide sediment control. A detail showing proper block and

TABLE 1

SUMMARY OF HYDROLOGIC ANALYSIS
CAMMIE CLAGETT DEMOLITIONS
S&ME Project No. 4226-18-002

BLOCK NUMBER	TOTAL ACREAGE	DISTURBED ACREAGE	IMPERVIOUS ACREAGE	PRE DEVELOPED CFS	DISTURBED CFS	POST DEVELOPED CFS
BLOCK 1 - 2 YEAR	3.93	2.40	1.20	10.04	11.96	7.39
BLOCK 1 - 10 YEAR	3.93	2.40	1.20	18.34	21.19	15.46
BLOCK 2 - 2 YEAR	3.66	2.40	1.00	11.48	11.37	6.73
BLOCK 2 10 YEAR	3.66	2.40	1.00	20.63	19.90	14.11
BLOCK 3 - 2 YEAR	1.35	0.40	0.20	3.15	3.31	2.55
BLOCK 3 - 10 YEAR	1.35	0.40	0.20	6.12	6.32	5.33
BLOCK 4 - 2 YEAR	1.08	0.70	0.30	3.09	3.50	2.09
BLOCK 4 - 10 YEAR	1.08	0.70	0.30	5.63	6.04	4.35
BLOCK 5 - 2 YEAR	0.33	0.10	0.07	0.89	0.84	0.65
BLOCK 5 - 10 YEAR	0.33	0.10	0.07	1.66	1.61	1.36
BLOCK 6 - 2 YEAR	1.72	0.70	0.30	4.18	4.58	3.21
BLOCK 6 - 10 YEAR	1.72	0.70	0.30	7.98	8.48	6.72
BLOCK 7 - 2 YEAR	1.36	0.80	0.40	4.04	4.21	2.61
BLOCK 7 - 10 YEAR	1.36	0.80	0.40	7.25	7.45	5.44
BLOCK 8 - 2 YEAR	0.80	0.4	0.20	2.14	2.34	1.51
BLOCK 8 - 10 YEAR	0.80	0.4	0.20	3.97	4.20	3.15
BLOCK 9 - 2 YEAR	0.28	0.2	0.06	0.67	0.86	0.49
BLOCK 9 - 10 YEAR	0.28	0.2	0.06	1.26	1.49	1.03
	14.51	8.1				

Notes:

1.Total disturbed area for Cammie Clagett Demolitions is 14.51 acres.

2. Total disturbed area for Cammie Clagett Demolitions project is 8.1 acres..

3. 2 year peak flows and 10 year peak flows are reduced from pre developed conditions to post developed conditions at each site due to the reduction of impervious surfaces at each site.

gravel inlet protection installation and maintenance is shown on the Erosion and Sediment Control Detail Drawings.

Silt fencing or weighted sediment tubes will be installed to provide sediment control along the site perimeters. Details showing silt fence installation and maintenance and weighted sediment tube installation and maintenance are shown on the Erosion and Sediment Control Details Drawings. Drainage area maps demonstrating that the silt fencing meets the requirement of no more than ¼ acre drainage area per 100 linear feet of silt fence are contained in Appendix D.

Construction Entrances

All access areas into and out of the limits of disturbance as shown on the construction site plan are required to be equipped with a construction entrance. The use of this BMP will limit the amount of sediment being transported by construction vehicles onto existing roadways or other impervious areas. Any tracked sediment, along with any attached pollutants, deposited on impervious areas could be washed downstream during the next rain event. Each construction entrance must be installed in the location as shown on the Erosion and Sediment Control Site Plans, and in accordance with the Details Drawings.

If a new entrance or exit is required that is not shown on the plans, install the construction entrance as noted by the construction entrance detail, mark the location on the plans and make a record of this minor modification in the SWPPP's modification log, which is located within Appendix G of the on-site SWPPP.

Each stabilized construction entrance should be used in conjunction with Street Sweeping measures if it becomes apparent that sediment is still being tracked onto adjacent impervious areas, even with the use of the construction entrance.

Dust Control

During the demolition of the buildings, extremely dry conditions, drought, and/or excessive winds, the construction site should be treated for dust control to prevent the suspension of fine sediment particles into the air, being carried offsite, and deposited on adjacent properties or surface waters. This practice may not be directly called out for on the construction site plans. Fire hoses will be connected to an existing hydrant and a new hydrant to supply water for dust control. A portable tank (buffalo tank) and a water truck will also be used to spray the buildings and soil to prevent excessive dust at the demolition site.

Other Stormwater Management Procedures

Based on the nature, conditions, and/or procedures associated with this construction site, the following items must be followed and adopted by all those conducting land disturbing activities at this site:

- All construction debris must be stockpiled in designated areas, which have been provided with the proper BMPs to prevent the discharge of pollutants through stormwater runoff from building or other similar materials off-site or into surface

waters. Demolition wastes are expected to be hauled from the site without stockpiling. Metal may be stockpiled onsite.

- Any additional waste material or stockpile material (i.e., soil and mulch) must also be stored in the designated areas as shown on the Construction Site Plans or as the contractor, responsible for day-day activities at this site, deems appropriate. Silt fence or an approved equal shall surround all stockpiled materials. Soil is not expected to be stockpiled onsite.
- All parties conducting work at this construction site must be informed of and make note of pollutant sources, both industrial and construction, at this site, and be informed of all controls and measures the will be implemented to prevent the discharge of these pollutants in stormwater runoff. A spill kit will be kept onsite in the construction trailer.
- Any additional non-stormwater discharges, as referenced in the Construction General Permit (CGP), should be eliminated or reduced to the maximum extent feasible. All unpreventable non-stormwater discharges shall be treated through the approved stormwater management system before release off-site.

  Following is a list of allowable non-stormwater discharges. Non-stormwater discharges in bold are expected at the Cammie Clagett Demolition site.

  - Fire hydrant flushing
  - Wash water without detergents
  - **Water used for dust control**
  - **Potable water**
  - Building wash down water without detergents
  - Uncontaminated pavement wash water
  - Uncontaminated condensation from mechanical equipment
  - Uncontaminated ground or spring water
  - **Water from foundation or footing drains**
  - Uncontaminated excavation dewatering
  - Landscape irrigation.

1.3 Sequence of Construction

The following construction sequence shall be followed throughout the demolition process.

1. Receive SWPPP approval from City of Spartanburg and NPDES General Permit coverage from SCDHEC.
2. Attend pre-construction meeting with City of Spartanburg.
3. Notify City of Spartanburg 48 hours prior to beginning land-disturbing activities.
4. Install construction entrance.
5. Install perimeter controls (e.g., silt fence or filter sediment tubes).
6. Install block and gravel inlet protection at existing catch basins.
7. Demolish buildings, pavements, and sidewalks.
8. Provide temporary and permanent vegetation on disturbed areas in accordance with seeding specification.

9. Install synthetic or vegetative matting on slopes 3:1 or greater.
10. Upon achieving final stabilization, remove temporary sediment control BMPs.
11. Submit notice of termination to City of Spartanburg and SCDHEC.

1.4 Non-Numeric Effluent Limits

Stormwater Volume and Velocity Control

During the implementation of construction activities, all parties performing work at this construction site whose work may affect the implementation of the SWPPP must be informed of and directed on how to comply with this Non-Numeric Effluent Limit, which requires the management of stormwater runoff within the construction site and at each outfall. The purpose of this requirement is to control the stormwater volume and velocity at these locations to minimize erosion.

Specifically, each responsible party should be made aware of the practices that have been or should be implemented at the construction site to accomplish these particular stormwater management practices. Below is a list of practices that may be utilized within the disturbed area and at each outfall at construction sites to control stormwater volume and velocity:

Volume Control

- Limiting the amount of disturbed area and exposed soils
- Diverting off-site run on around the construction site through the existing stormwater drainage system;
- Controlling the Drainage Patterns within the Construction Site;
- Stabilization of Disturbed Areas.

Velocity Control

- Surface Roughening;
- Use of sediment tubes and inlet protection BMP's;
- Use of Erosion Control Blankets, Turf Reinforcement Mats, and other Non-Vegetative BMPs that can be used to Quickly Stabilize Disturbed Areas.

The SWPPP Preparer/Engineer should approve any modifications (additional BMPs or Changes to Existing BMPs) to address the management of stormwater volume and velocity prior to implementation. All approved SWPPPs that were issued coverage under the CGP should include ample BMPs and other control measures to address this specific Non-Numeric Effluent Limit.

Soil Exposure, Compaction and Preservation

Throughout construction activities, the amount of soil exposed during construction should be kept to a minimum. This may be accomplished by minimizing the amount the disturbed area within the permitted Limits of Disturbance (shown on the approved construction site plans) to only that which is necessary to complete the proposed work. For areas that have already been disturbed and where construction activities will not begin for a period of 14 days or more, temporary stabilization techniques must be implemented.

Prior to implementation of any major grading activities, topsoil is to be preserved by

placing it in areas designated for stockpiling until final grades are reached. Each stockpile must be equipped with proper sediment and erosion controls to preserve the topsoil and protect adjacent areas from impacts. Once final grades have been reached, the preserved topsoil should be utilized to apply to areas identified for stabilization. Topsoil contains nutrients and organisms that aid in the growth of vegetation.

The compaction of soil should also be minimized to the degree practicable during grading activities. This is especially important during the replacement of topsoil to aid in a quick establishment of vegetative cover. Compaction of soil may also reduce rainfall's ability to infiltrate into the soil, increasing the amount of stormwater runoff.

Soil Stabilization

Throughout construction activities, soil stabilization techniques are to be initiated as soon as practicable whenever any clearing, grading, excavating, or other land-disturbing activities have permanently or temporarily ceased on any portion of the construction site and will not resume for a period exceeding 14 calendar days. For areas where initiating stabilization measures is infeasible, (e.g., where snow cover, frozen ground, or drought conditions preclude stabilization), initiate vegetative or non-vegetative stabilization measures as soon as practicable.

Steep Slopes (Slopes of 30% grade or greater) Block 5

All disturbed steep slopes (30% grade, ~3H:1V, or greater), and steep slopes to be created through grading activities must be managed in a fashion that limits the potential of erosion along the slopes. All parties whose work is/was responsible for the creation/disturbance of steep slopes must comply with the following items:

- Minimize the Disturbance of all steep slopes, when possible.
- Divert Concentrated or Channelized Flows of stormwater away from and around steep slope disturbances.
- Use Specialized BMP Controls including temporary and permanent seeding with soil binders, erosion control blankets, surface roughening, reducing continuous slope length with terracing or diversions, gradient terraces, interceptor dikes and swales, grass-lined channels, pipe slope drains, subsurface drains, level spreaders, check dams, seep berms, and triangular silt dikes to minimize erosion.
- Initiate Stabilization Measures as soon as practicable on any disturbed steep slope areas where construction activities have permanently or temporarily ceased, and will not resume for a period exceeding seven (7) calendar days.
- A Vegetative and/or Non-Vegetative Cover must be established within three (3) working days from the time that stabilization measures were initiated.

Stabilization of steep slopes should be a priority for those performing work at the construction site. At the very least, runoff control BMPs should be implemented to transport stormwater runoff from the top of the slope to the toe of the slope. An example of this is to install diversion swales along the top of slope and direct the runoff towards pipe slopes drains to transports the runoff to the toe of the slope. All pipe slope drain outlets are to be equipped proper outlet protection.

Sediment Discharge Minimization

Permittees, Contractors, and all other parties responsible for conducting land-disturbing activities are required to install and maintain all erosion and sediment BMPs that are identified on the approved construction site plans. These BMPs have been designed and approved to address such factors as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soils particle sizes expected to be present on the construction site. Proper installation, inspection, and maintenance will allow these BMPs to operate at maximum efficiencies in order to minimize sediment discharges to the maximum extent practical.

Pollutant Discharge Minimization

Permittees, Contractors, and all other parties responsible for conducting land-disturbing activities are required to install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, the following items must be implemented:

- Minimize the discharge of pollutants from dewatering trenches and excavations by managing runoff with the appropriate controls. Otherwise these discharges are prohibited;
- Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- Minimize the exposure of building materials, building products, construction wastes, trash**,** landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and
- Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

Prohibited Discharges

Permittees, Contractors, and all other responsible parties for conducting land-disturbing activities are prohibited from discharging the following items from the construction site:

- Wastewater from washout of concrete, unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
- Soaps or solvents used in vehicle and equipment washing.

1.5 Buffer Zone Management (CGP Section 3.2.4.C.)

Buffer Zone Narrative

Section 3.2.4.C of the CGP requires a buffer zone when surface waters are located on or immediately adjacent to the construction site. Since surface waters are not located on or immediately adjacent to the Cammie Clagett demolition site, a buffer zone is not required.

1.6 Certification Statement

I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000."

Name _Frances Creel, P.E.___

Title__Senior Engineer_____

Date _____

(Signature and Seal)

Section 2 *Site Features And Sensitive Areas*

2.1 Sources of Pollution

Throughout construction activities, each permittee, contractor, and person responsible for conducting work will ensure that sources of pollution are managed to prevent their discharge from the construction site. Expected pollution sources during construction have been identified in Table 2.1, but due to the nature of construction activities, it is often tough to predict all pollution sources that may appear throughout the life of a construction project. For that reason, the following table has also been provided to help all those performing work at this construction site identify possible sources of pollution.

Stormwater runoff subjected to the identified pollution sources must be treated by the appropriate BMPs as directed by this SWPPP.

In the event that any additional sources of pollution are identified during construction, the person(s) with day-to-day operational control at the site is to add the new source(s) to **Table 2.1** and consult with the SWPPP Preparer to properly address this source and to prevent the discharge of its pollutant through stormwater runoff.

Table 2.1: Potential Sources of Pollution

Source	Material or Chemical	Location*	Appropriate Control Measures
Loose soil exposed/disturbed during demolition activities	Sediment	All areas within the Limits of Disturbance	As directed by the construction Plans. This includes construction entrance, inlet protection, silt fence, and grassing.
Demolition	Solid Waste	All areas within the Limits of Disturbance	Security fencing, and truck bed covers.
Material Delivery and Storage Areas	Nutrients, pH, Sediment, Heavy Metals, oils & grease	All areas used as storage areas	Inlet protection, grassing, and vegetative buffer
Equipment fueling and maintenance areas	Metals, hydrocarbons, oils and greases	Areas surrounding equipment	Provide Spill Kit onsite. Repair leaking and broken hoses.
Dust	Particulate Matter	All areas within the Limits of Disturbance	Water sprayed from fire hydrants, buffalo tank, and water truck

***Area where material/chemical is used**

2.2 Surface Waters

Stormwater runoff from the nine Sites flows overland and to the existing stormwater system grate inlets and curb inlets. The existing site stormwater systems discharge to the City of Spartanburg MS4 stormwater system along the City maintained streets. The stormwater drainage systems along the City maintained streets discharge to an unnamed tributary to Fairforest Creek and to Fairforest Creek. Fairforest Creek is outlined on Figure 1, USGS Topographic Map located in Appendix A.

2.3 Impairments and TMDLs (CGP Section 3.2.12)

The South Carolina Department of Health and Environmental Control's water quality tool was used to determine the nearest downstream water quality monitoring station from the Site. Station B-021 is located at the intersection of SC Highway 56 and Fairforest Creek. Monitoring station B-021 is listed on the 2016 SC 303d list of impaired waters for macroinvertebrate (BIO) and aquatic life use. Figure 5, SCDHEC Watershed and Water Quality Report, is located in Appendix A.

The Site is located within a TMDL watershed for fecal coliform. Monitoring station B-020 is the closest TMDL monitoring station to the Sites. It is located at the intersection of US Highway 221 and Fairforest Creek.

Impairments Effected by Construction Site Discharges and Methods to Control Potential Pollutants Causing or Contributing to the Impairments

1. BIO (Macroinvertebrate Community): A balanced and varied group of Macroinvertebrate organisms is an indicator of a healthy stream that supports aquatic life. A balanced community can be defined as a natural, diverse group of organisms (including Macroinvertebrate) characterized by the ability to sustain itself through season changes, presence of food chain species and a lack of domination by pollutant tolerant or invasive species. If these conditions do not exist, then the site may be considered impaired due to the presence of an undesirable or non-existent Macroinvertebrate community. Sediment from construction sites may further threaten the propagation of these organisms.

Examples to address controlling the amount of sediment entering a waterbody impaired by BIO include: limiting the amount of disturbed area, designing sediment control BMPs to remove the maximum amount of sediment possible, immediate stabilization of disturbed areas, and other practices may be utilized to control the discharge of sediment from construction sites.

Impairment Sources and Prevention

Construction sites can contribute to these impairments directly through the release of excess soil and/or nutrients within stormwater runoff. For this reason, proper sediment and erosion control BMPs should be implemented and the design of the stormwater management systems, during both construction and post-construction, should address the control of stormwater runoff. A reduction in the volume released or the rate at which this volume is released can significantly improve the quality of stormwater runoff and limit the amount of the pollutants that contribute to the above listed impairments.

Site-Specific Requirements

The Cammie Clagett Demolition project's stormwater discharges drain into WoS that is impaired for BIO (macroinvertebrate), and has an established TMDL for the Fecal Coliform. Due to the possibility of pollutants in construction stormwater discharges from this site that may contribute to any of these impairments, the following must be conducted throughout the lifespan of all land-disturbing activities at this site:

- Weekly inspections of all the primary sediment control BMPs;
- Employee training/acknowledgement during the Pre-Construction Meeting;
- Installation of additional BMPs to meet the water quality standards (as directed by the SWPPP preparer and as approved by the regulating agency); and
- Sediment control BMPs have been designed to meet or exceed an 80% trapping efficiency.

2.4 Critical Areas (CZC only)

This section is not applicable to the Cammie Clagett Demolition Project.

Section 3 *Compliance Requirements*

3.1 SWPPP Availability

A copy of the SWPPP (including a copy of the permit), NOI, and CGP coverage letter from SCDHEC must be retained at the construction Site (or other location easily accessible during normal business hours to: DHEC, EPA, tribal or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; and the Operator of a Municipal Separate Storm Sewer System (MS4) receiving discharges from the Site) from the date of commencement of construction activities to the date of final stabilization. If you have day-to-day operational control over SWPPP implementation, you must have a copy of the SWPPP available at a central location on-site for the use of all those identified as having responsibilities under the SWPPP whenever they are on the construction Site. If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance at the construction Site.

3.2 Pre-Construction Conference

A pre-construction meeting is required as a condition of the CGP. The pre-construction meeting is to follow the requirements outlined in SCR100000, Section 4.1. The pre-construction meeting is arranged with the City of Spartanburg Stormwater Engineer and is held at the site. All permittees/operators working on the project site are required to attend this meeting where this plan is to be thoroughly reviewed with the Primary Permittee and the SWPPP Preparer. Meeting minutes are required to be taken that identify the topics covered and the participants in attendance. The pre-construction meeting agenda, list of attendees, and minutes are included in Appendix C. The Contractor and Subcontractor Log is contained in Appendix C.

3.3 Inspection Requirements

Weekly documented inspections shall be performed in accordance with the General Permit Section 4.2, Inspections. An inspection is recommended within 24 hours of the end of a storm event of 0.5 inches or greater. A Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) shall perform the weekly documented inspections.

BMP's shall be inspected for effectiveness and condition. Deficiencies shall be documented in inspection reports and be brought to the attention of the Project Supervisor for correction.

Completed inspection forms shall be kept in the onsite SWPPP in the Contractor Field Office. Inspection records shall describe current conditions, repair or replacement requirements. Recommended actions related to the findings of inspections should be stated. Areas that have been temporarily or permanently stabilized shall be identified.

The inspection log and records are retained in Appendix E. A rain gauge shall be maintained at the Site and rainfall amounts shall be recorded daily in the rainfall log located in Appendix F

3.4 Maintenance Requirements

Best Management Practices (BMPs) must be maintained in effective operating condition. Weekly documented inspections shall be performed in accordance with the General Permit. Maintenance required as a result of inspections shall be performed within seven (7) calendar days by the primary permittee. Individual BMP maintenance procedures are shown as part of the BMP details on the Erosion and Sediment Control Details drawing.

Maintenance records shall describe repair, replacement, and maintenance of BMPs undertaken based on the inspections and maintenance procedures described above and the individual requirements of the BMPs. Actions related to the findings of inspections should reference the specific inspection report. Records should describe actions taken, dates completed, and note the party that completed the work.

The Project Supervisor shall document maintenance in the onsite SWPPP.

The maintenance records are retained in Appendix E.

3.5 Record Keeping

Various record keeping logs are contained within the Appendices. The Pre-Construction Meeting Attendance Log, the Contractor and Subcontractor Log, are contained within Appendix C. The Inspection Log is contained within Appendix E. The Rainfall log is contained within Appendix F. The SWPPP Modification Log, and the Soil Stabilization Log are contained within Appendix G.

3.6 Final Stabilization

Upon completion of the Cammie Clagett Demolition Project, permanent grassing and mulch shall be established on disturbed areas in accordance with the Grassing Specification on the Standard Details and Notes Drawing. Permanent vegetation shall address post construction water quality for this project. When the SWPPP preparer (professional engineer or landscape architect) has determined that a uniform permanent vegetative cover with a density of 70 percent has been established or equivalent permanent stabilization measures have been implemented to provide effective cover for exposed portions of the construction site not stabilized with permanent vegetation, temporary erosion and sediment control BMP's may be removed.

When major construction activities are completed on part of the site, document final stabilization efforts for that portion of the site. The Construction General Permit will allow you to then discontinue inspection activities in these areas.

The Soil Stabilization Log is contained in Appendix G to indicate areas that have achieved final stabilization. Once final stabilization has been reached on disturbed areas, the Notice of Termination is to be submitted.

Appendix A — *Site Maps*

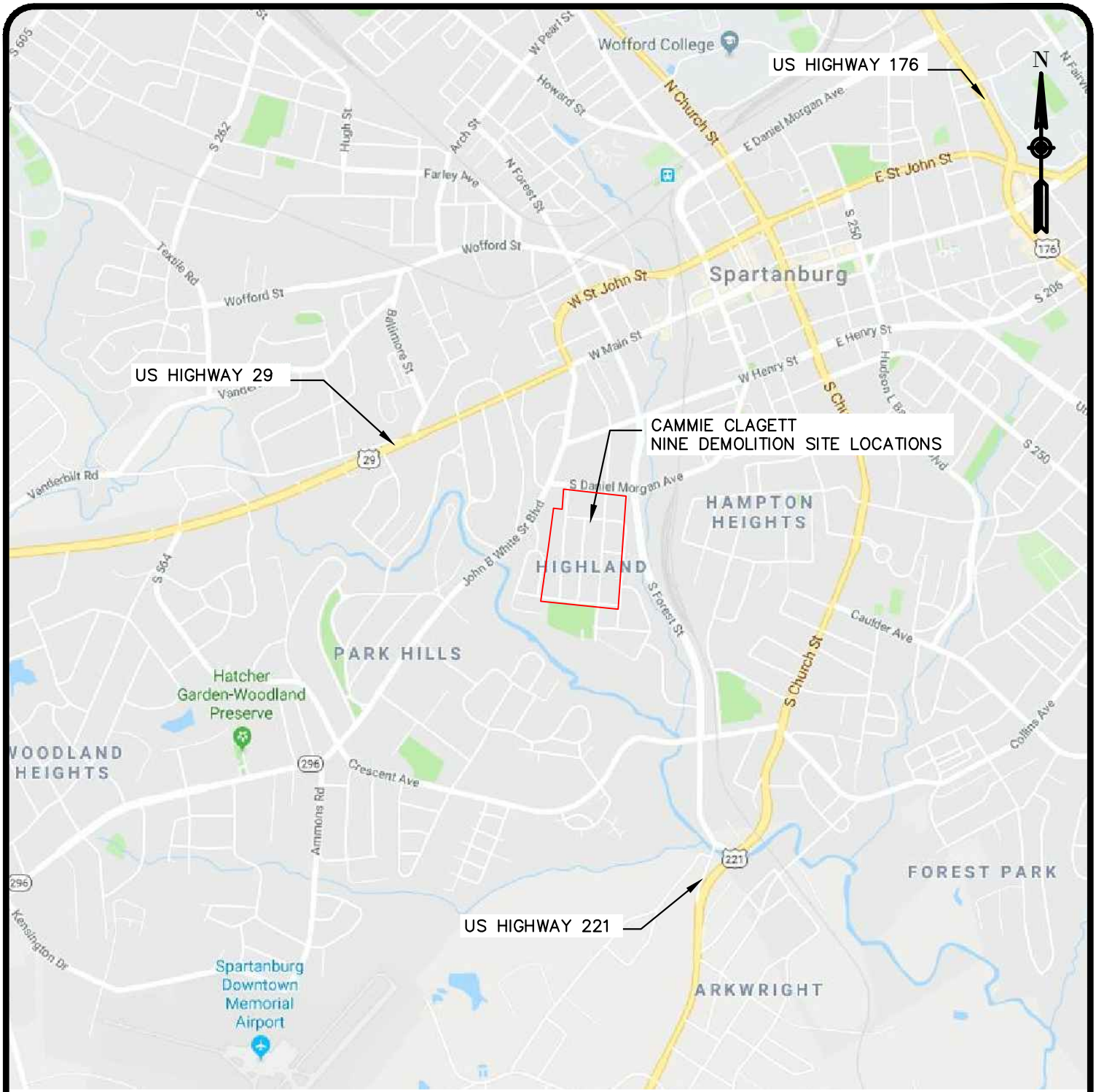
Figure 1 – Location Map

Figure 2 – USGS Topographic Map

Figure 3 – NRCS Soils Map

Figure 4A and 4B - FEMA FIRM Floodway Map

Figure 5 – SCDHEC Watershed and Water Quality Information



SOURCE: GOOGLE MAPS

0 2000 4000

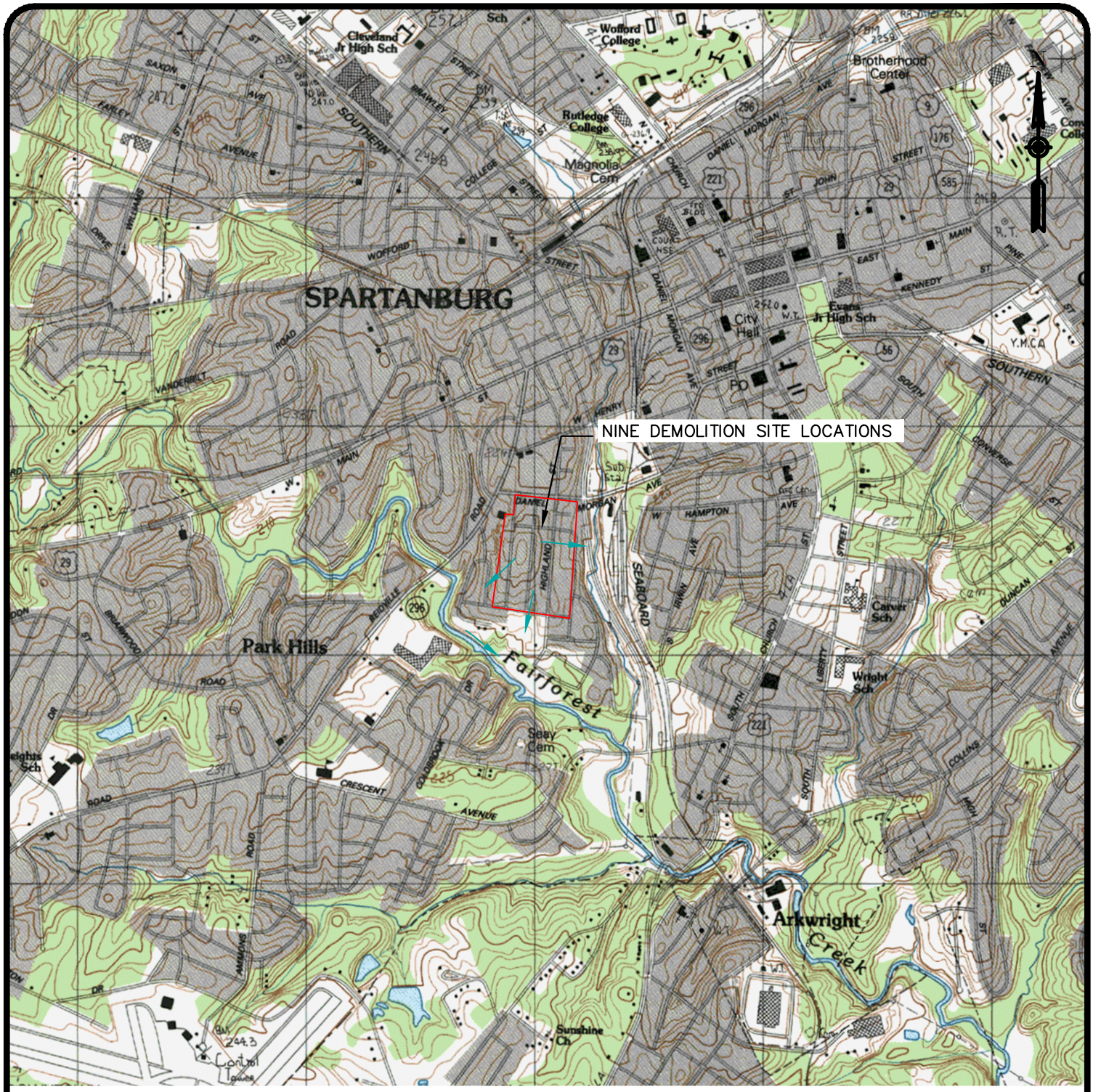
GRAPHIC SCALE (IN FEET)

Drawing Path: T:\Projects\2017\ENV\4226-17-130_City of Greenville Public Works SWPPP-SPCC\Graphics\topo and site location maps.dwg

LOCATION MAP

STORMWATER POLLUTION PREVENTION PLAN
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE:	FIGURE NO.
AS SHOWN	1
DATE:	
01/17/2018	
PROJECT NUMBER	
4226-18-002	



STORMWATER RUNOFF FROM THE WESTERN SITES FLOWS SOUTHWEST INTO FAIRFOREST CREEK AND STORMWATER FROM THE EASTERN SITES FLOWS SOUTHEAST INTO A TRIBUTARY OF FAIRFOREST CREEK.

SOURCE: USGS TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES
SPARTANBURG, SOUTH CAROLINA QUADRANGLE, 1983 EDITION

0 2000 4000
GRAPHIC SCALE (IN FEET)

USGS MAP

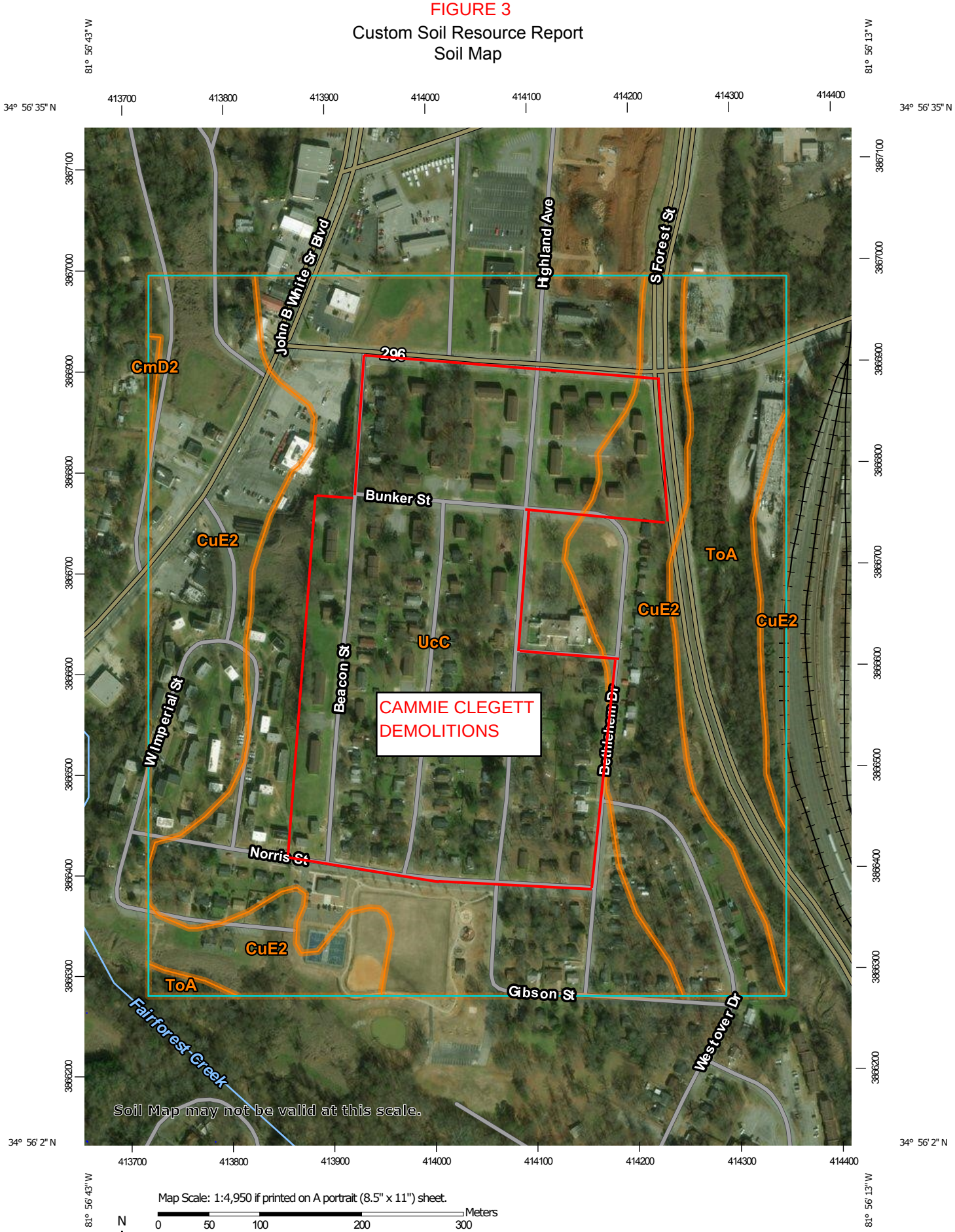
STORMWATER POLLUTION PREVENTION PLAN
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE:	FIGURE NO.
AS SHOWN	2
DATE:	
01/17/2018	
PROJECT NUMBER	
4226-18-002	

Drawing Path: T:\Projects\2017\ENV\4226-17-130_City of Greenville Public Works SWPPP-SPCC\Graphics\topo and site location maps.dwg

FIGURE 3

Custom Soil Resource Report
Soil Map



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Spartanburg County, South Carolina
Survey Area Data: Version 17, Oct 5, 2017

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

Date(s) aerial images were photographed: Jan 15, 2014—Jan 25, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CmD2	Cecil-Bethlehem complex, 10 to 15 percent slopes, moderately eroded	0.2	0.2%
CuE2	Cecil-Urban Land complex, 10 to 25 percent slopes, moderately eroded	37.0	32.5%
ToA	Toccoa fine sandy loam, 0 to 2 percent slopes, frequently flooded	13.4	11.8%
UcC	Urban Land-Cecil complex, 2 to 10 percent slopes	63.4	55.6%
Totals for Area of Interest		**114.0**	**100.0%**

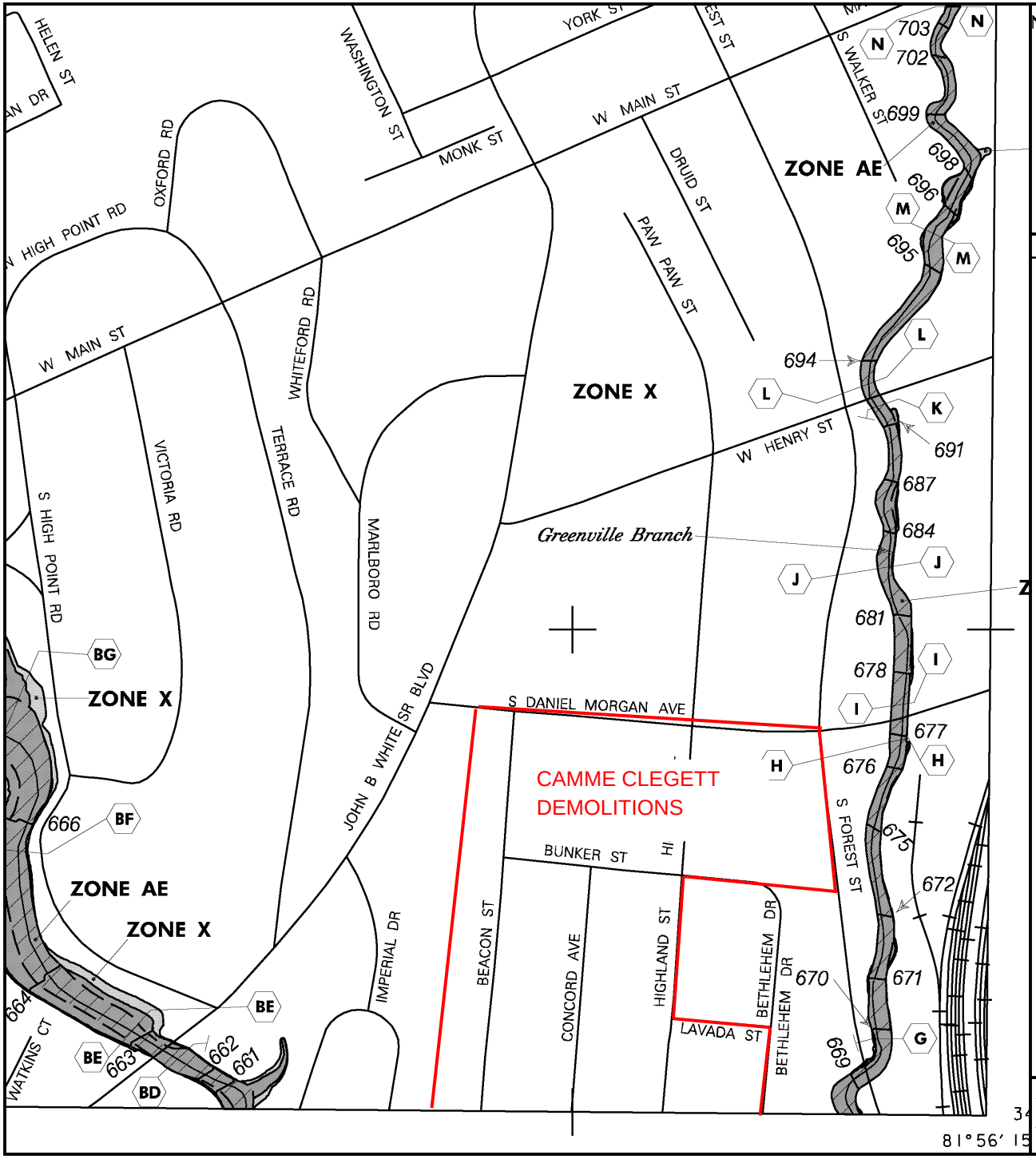
Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

FIGURE 4A



National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0254D

FIRM

FLOOD INSURANCE RATE MAP

SPARTANBURG COUNTY,
SOUTH CAROLINA
AND INCORPORATED AREAS

PANEL 254 OF 555

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SPARTANBURG, CITY OF	450181	0254	D
SPARTANBURG COUNTY	450176	0254	D

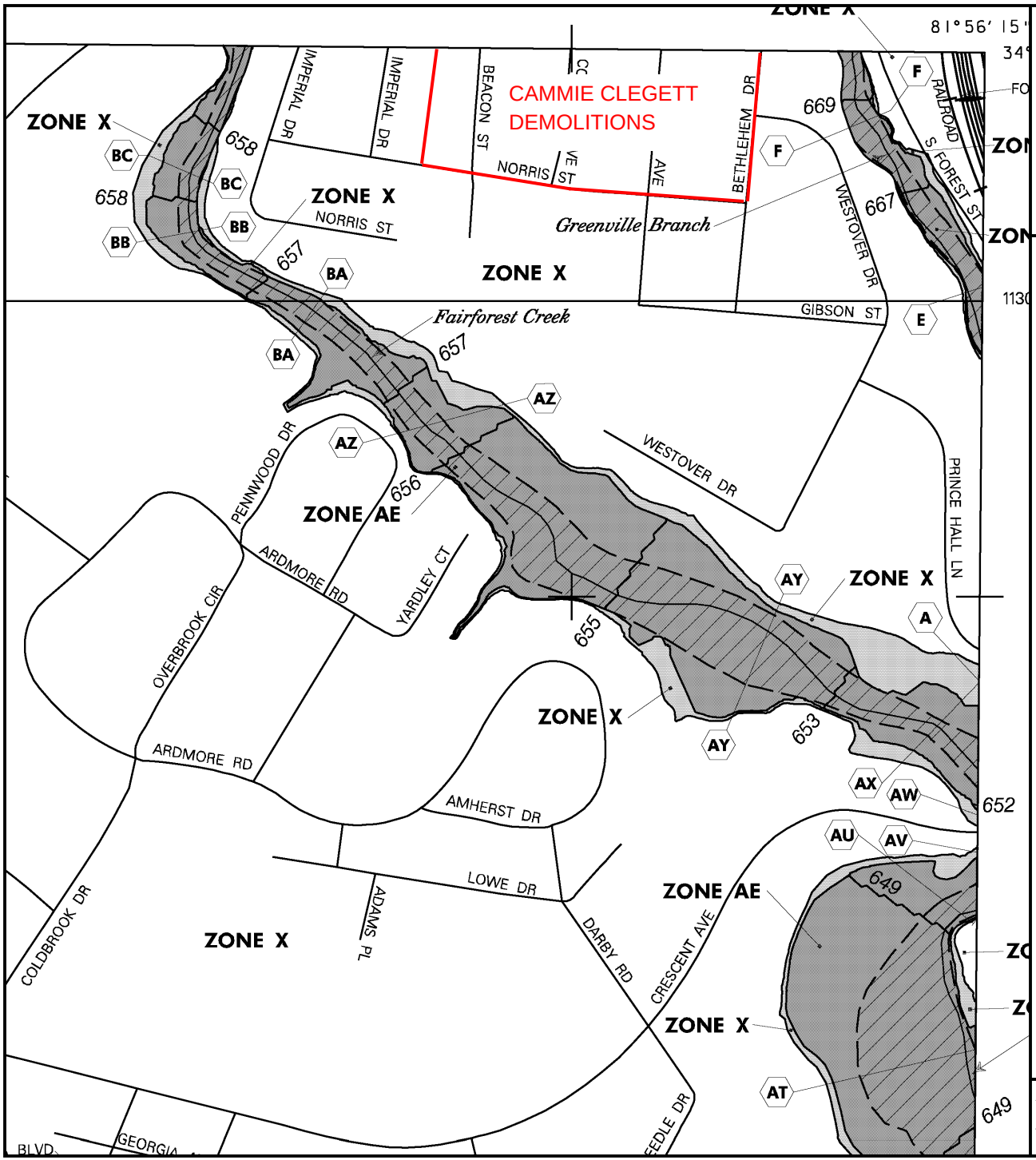
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
45083C0254D

EFFECTIVE DATE
JANUARY 6, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



National Flood Insurance Program at 1–800–638–6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0262D

FIRM

FLOOD INSURANCE RATE MAP

SPARTANBURG COUNTY,
SOUTH CAROLINA
AND INCORPORATED AREAS

PANEL 262 OF 555

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SPARTANBURG, CITY OF	450181	0262	D
SPARTANBURG COUNTY	450176	0262	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
45083C0262D

EFFECTIVE DATE
JANUARY 6, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FIGURE 4B

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

1/4/2018

FIGURE 5

Watershed and Water Quality Information

Genaral Information

Applicant Name: City of Spartanburg

Permit Type: Construction

Latitude: 34.9396

Longitude: -81.9408

MS4 Designation: Small MS4

Monitoring Station: B-021

Within Coastal Critical Area: NO

Water Classification (Provisional): FW

Waterbody Name: FAIRFOREST CREEK

Entered Waterbody Name:

Parameter Descriptions

NH3N	Ammonia	FC	Fecal Coliform
CR	Chromium	FCB	Fecal Coliform (Shellfish)
CU	Copper	BIO	Macroinvertebrates (Bio)
HG	Mercury	TP	(Lakes) Phosphorus
NI	Nickel	TN	(Lakes) Nitrogen
PB	Lead	CHLA	(Lakes) Chlorophyll a
ZN	Zinc	ENTERO	(Beach) Enterococcus
DO	Dissolved Oxygen	HGF	Mercury (Fish)
PH	pH	PCB	PCB (Fish)

Impaired Status (downstream sites)

Station	NH3N	CR	CU	HG	NI	PB	ZN	DO	PH	TURBIDITY	ECOLI	FCB	BIO	TP	TN	CHLA	ENTERO	HGF	PCB
B-021	X	X	X	X	X	X	X	X	X	X	T	A	N	X	X	X	X	X	X

F = Standards Fully Supported
A = Assessed at Upstream Station
T = Within TMDL Approved Watershed
N = Standards Not Supported
X = Parameter Not Assessed at Station

Parameters to be addressed (those not supporting standards)

ECOLI

BIO

Fish Consumption Advisory

TMDL Information - TMDL Parameters to be addressed

In TMDL Watershed: Yes

TMDL Site: B-020

TMDL Report No: 021-04

TMDL Parameter: Fecal

TMDL Document Link: http://www.scdhec.gov/HomeAndEnvironment/Docs/tmdl_tyger_fc.pdf

Appendix B

Notice Of Intent/Approvals

Appendix C

Pre-Construction Meeting/Certifications

SWPPP Pre-Construction Conference Attendance Log

Date & Time	Description/Outline and Name of the Presenter of SWPPP and Site Requirements

Name	Company	Signature

SWPPP Pre-Construction Conference Attendance Log (Continued)

Name	Company	Signature

SWPPP Contractor & Sub-Contractor Log

Name of Construction Site	Location of Construction Site

Company/Individual Name		Work Responsibilities
1.)		
Start Date:		
Completion Date:		
2.)		
Start Date:		
Completion Date:		
3.)		
Start Date:		
Completion Date:		
4.)		
Start Date:		
Completion Date:		
5.)		
Start Date:		
Completion Date:		
6.)		
Start Date:		
Completion Date:		
7.)		
Start Date:		
Completion Date:		
8.)		
Start Date:		
Completion Date:		
9.)		
Start Date:		
Completion Date:		
10.)		
Start Date:		
Completion Date:		

SWPPP Contractor & Sub-Contractor Log (Continued)

11.)		
Start Date:		
Completion Date:		
12.)		
Start Date:		
Completion Date:		
13.)		
Start Date:		
Completion Date:		
14.)		
Start Date:		
Completion Date:		
15.)		
Start Date:		
Completion Date:		
16.)		
Start Date:		
Completion Date:		
17.)		
Start Date:		
Completion Date:		
18.)		
Start Date:		
Completion Date:		
19.)		
Start Date:		
Completion Date:		
20.)		
Start Date:		
Completion Date:		
21.)		
Start Date:		
Completion Date:		

Appendix D

Engineering Reports

Summary for Subcatchment 1S: BLOCK 1

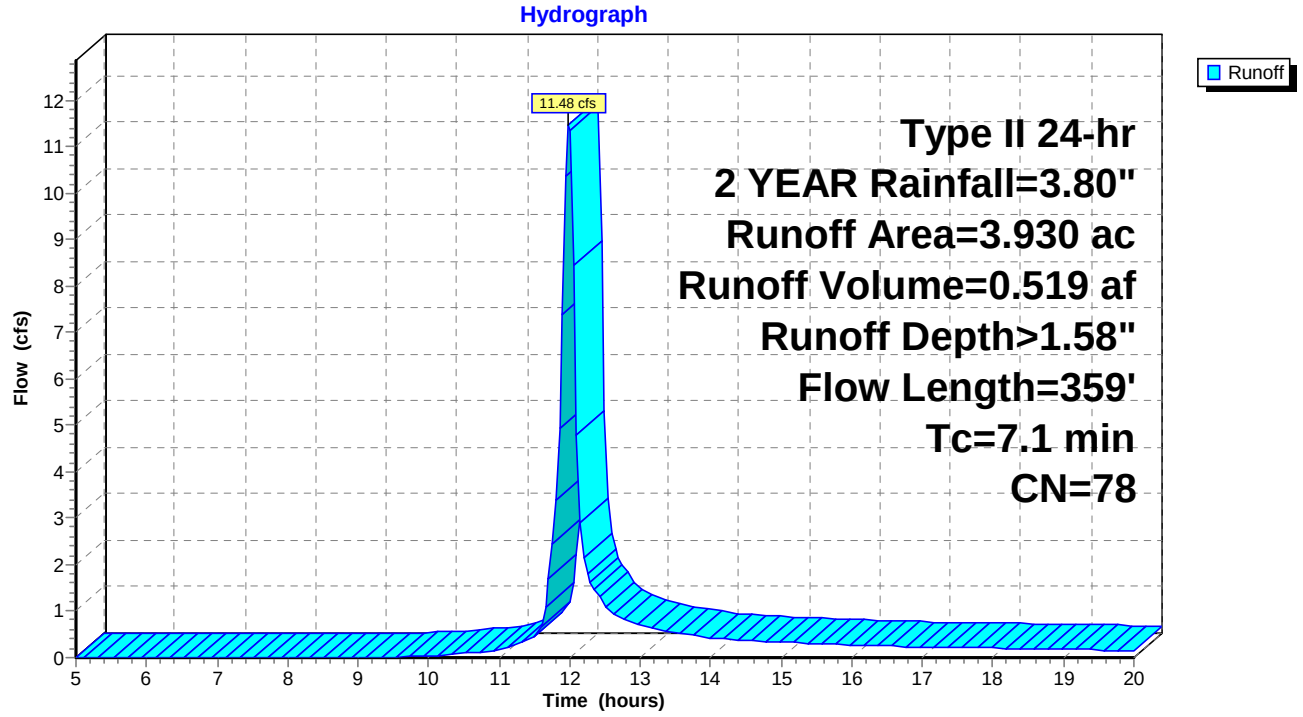
Runoff = 11.48 cfs @ 11.99 hrs, Volume= 0.519 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
1.200	98	Paved parking, HSG B
2.730	69	50-75% Grass cover, Fair, HSG B
3.930	78	Weighted Average
2.730		69.47% Pervious Area
1.200		30.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	157	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.1	102	0.0610	14.08	17.28	**Pipe Channel, 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.1	359	Total			

Subcatchment 1S: BLOCK 1



Summary for Subcatchment 1S: BLOCK 1

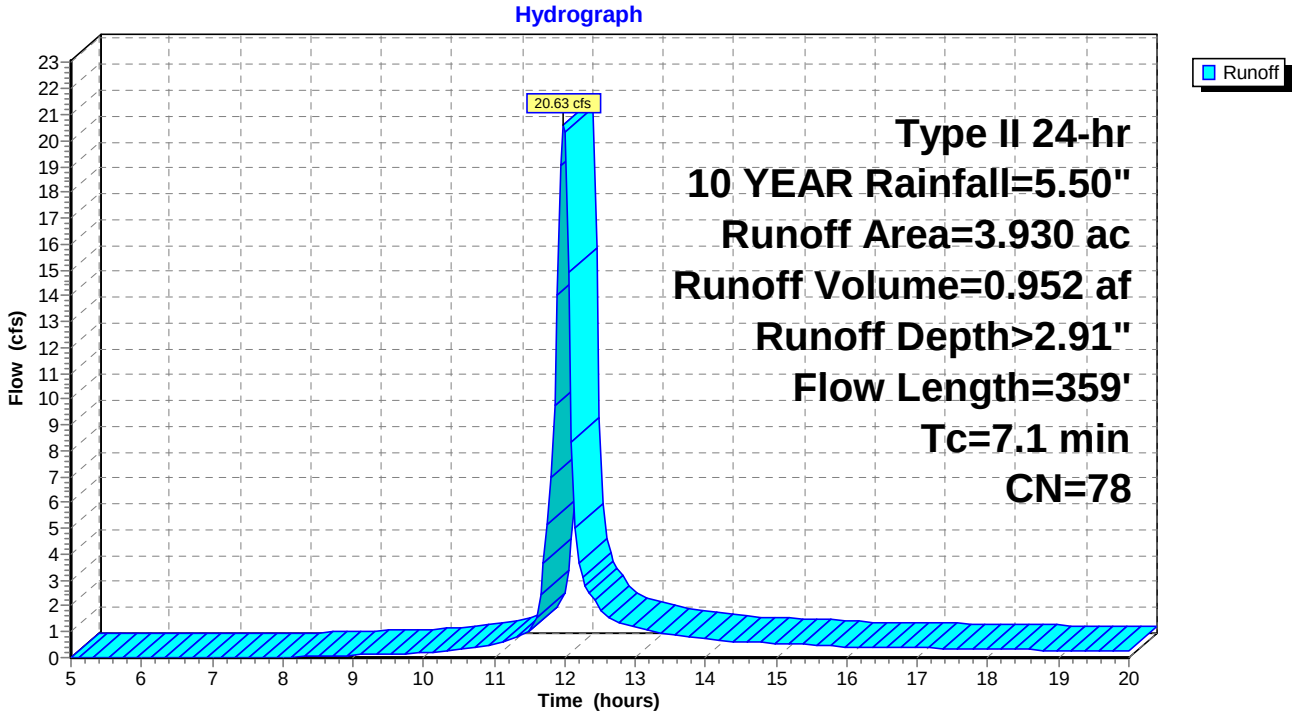
Runoff = 20.63 cfs @ 11.98 hrs, Volume= 0.952 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
1.200	98	Paved parking, HSG B
2.730	69	50-75% Grass cover, Fair, HSG B
3.930	78	Weighted Average
2.730		69.47% Pervious Area
1.200		30.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	157	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.1	102	0.0610	14.08	17.28	**Pipe Channel, 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.1	359	Total			

Subcatchment 1S: BLOCK 1



Summary for Subcatchment 2S: BLOCK 2

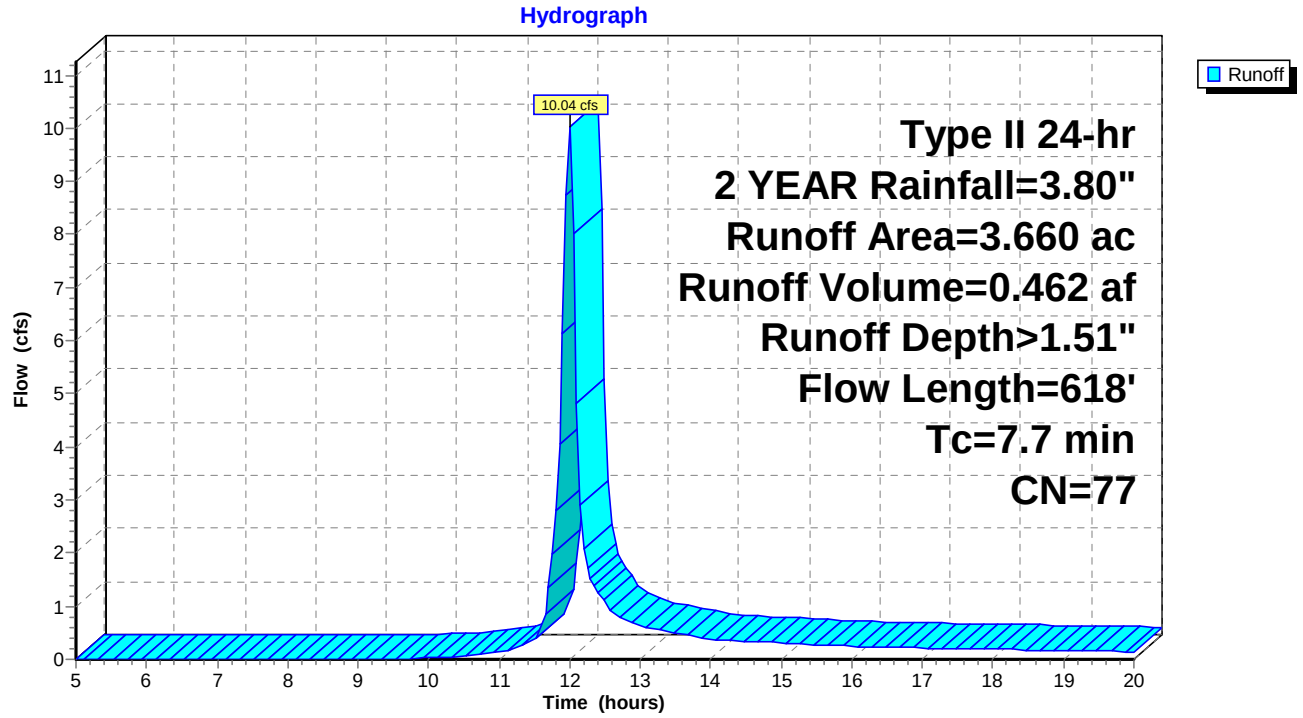
Runoff = 10.04 cfs @ 11.99 hrs, Volume= 0.462 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG B
2.660	69	50-75% Grass cover, Fair, HSG B
3.660	77	Weighted Average
2.660		72.68% Pervious Area
1.000		27.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.5	135	0.0890	4.80		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.4	105	0.0480	4.45		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
0.6	278	0.0190	7.86	9.65	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.7	618	Total			

Subcatchment 2S: BLOCK 2



Summary for Subcatchment 2S: BLOCK 2

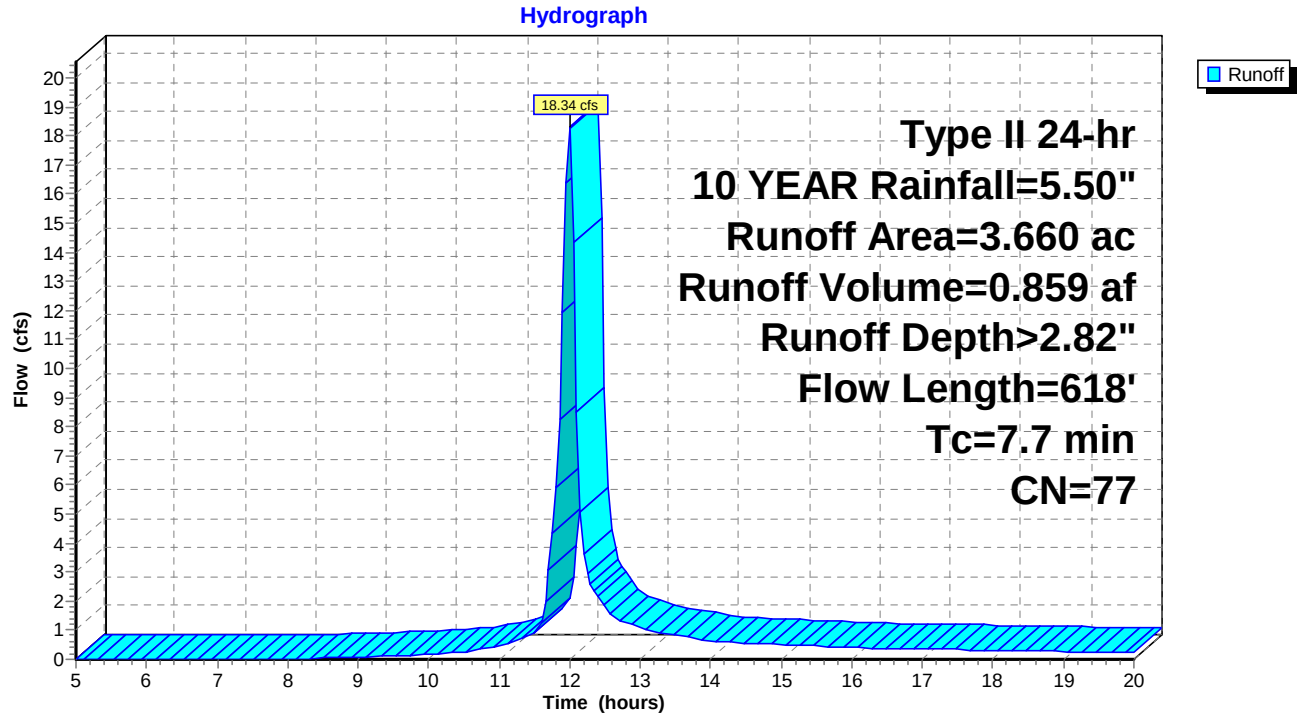
Runoff = 18.34 cfs @ 11.99 hrs, Volume= 0.859 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG B
2.660	69	50-75% Grass cover, Fair, HSG B
3.660	77	Weighted Average
2.660		72.68% Pervious Area
1.000		27.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.5	135	0.0890	4.80		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.4	105	0.0480	4.45		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
0.6	278	0.0190	7.86	9.65	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.7	618	Total			

Subcatchment 2S: BLOCK 2



Summary for Subcatchment 3S: BLOCK 3

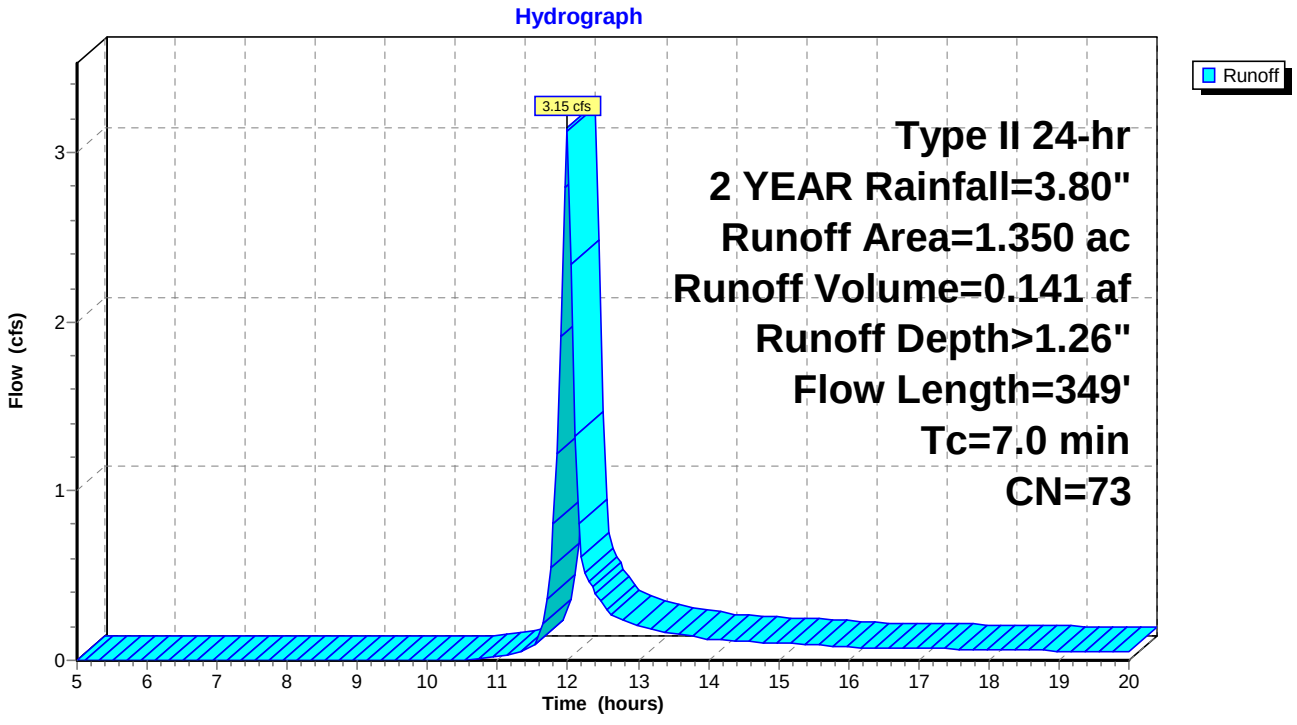
Runoff = 3.15 cfs @ 11.99 hrs, Volume= 0.141 af, Depth> 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
1.150	69	50-75% Grass cover, Fair, HSG B
1.350	73	Weighted Average
1.150		85.19% Pervious Area
0.200		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	249	0.1100	5.34		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.0	349	Total			

Subcatchment 3S: BLOCK 3



Summary for Subcatchment 3S: BLOCK 3

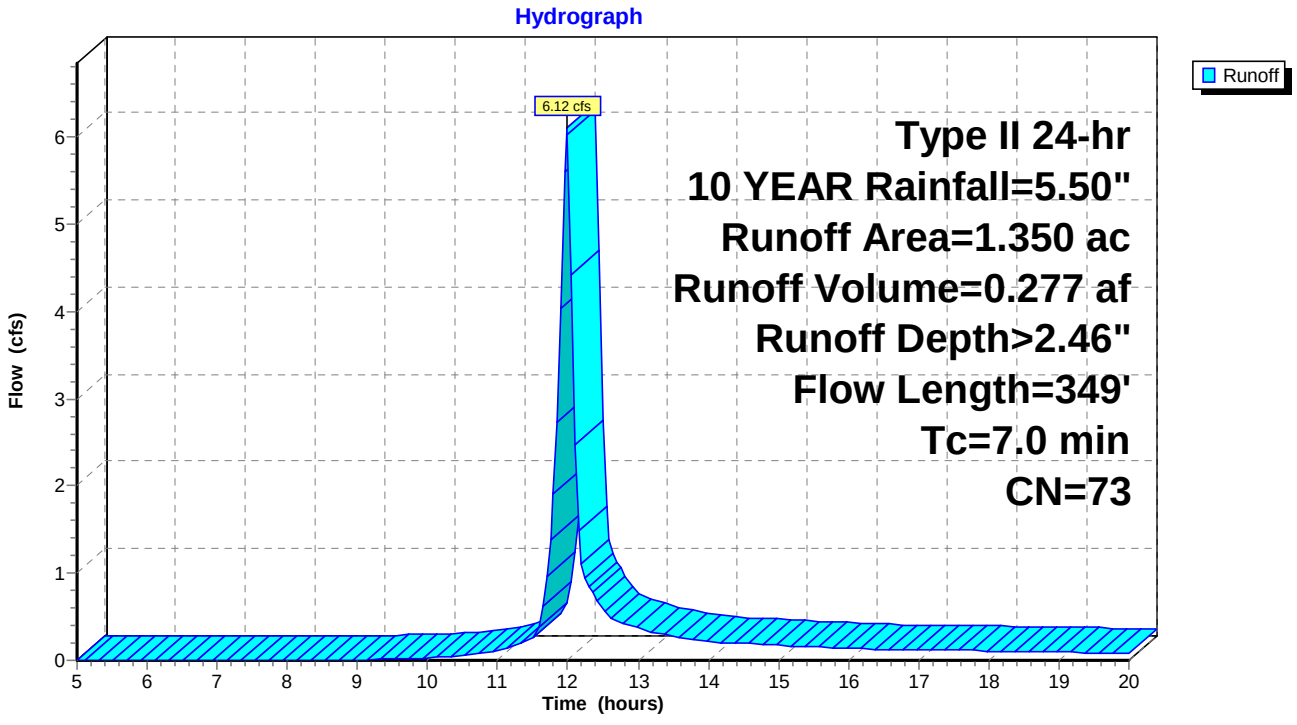
Runoff = 6.12 cfs @ 11.99 hrs, Volume= 0.277 af, Depth> 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
1.150	69	50-75% Grass cover, Fair, HSG B
1.350	73	Weighted Average
1.150		85.19% Pervious Area
0.200		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	249	0.1100	5.34		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.0	349	Total			

Subcatchment 3S: BLOCK 3



Summary for Subcatchment 4S: BLOCK 4

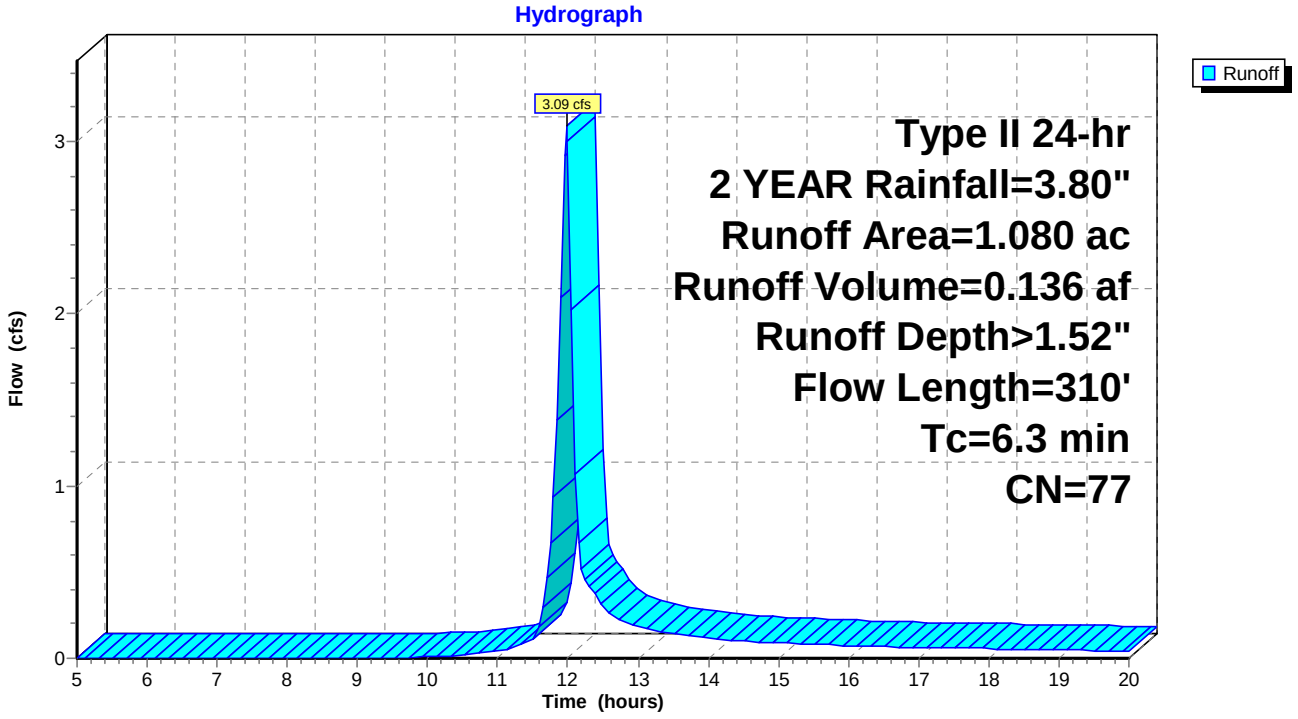
Runoff = 3.09 cfs @ 11.98 hrs, Volume= 0.136 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG B
0.780	69	50-75% Grass cover, Fair, HSG B
1.080	77	Weighted Average
0.780		72.22% Pervious Area
0.300		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.7	150	0.0470	3.49		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
6.3	310	Total			

Subcatchment 4S: BLOCK 4



Summary for Subcatchment 4S: BLOCK 4

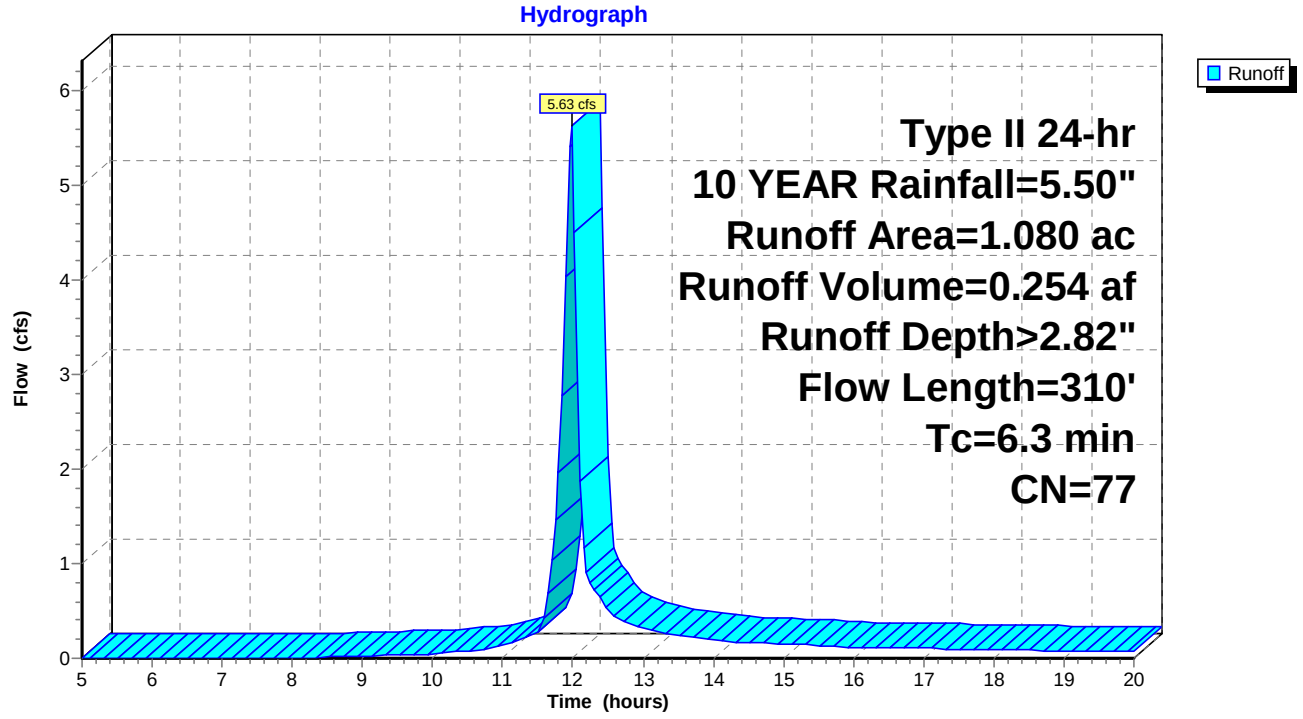
Runoff = 5.63 cfs @ 11.98 hrs, Volume= 0.254 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG B
0.780	69	50-75% Grass cover, Fair, HSG B
1.080	77	Weighted Average
0.780		72.22% Pervious Area
0.300		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.7	150	0.0470	3.49		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
6.3	310	Total			

Subcatchment 4S: BLOCK 4



Summary for Subcatchment 5S: BLOCK 5

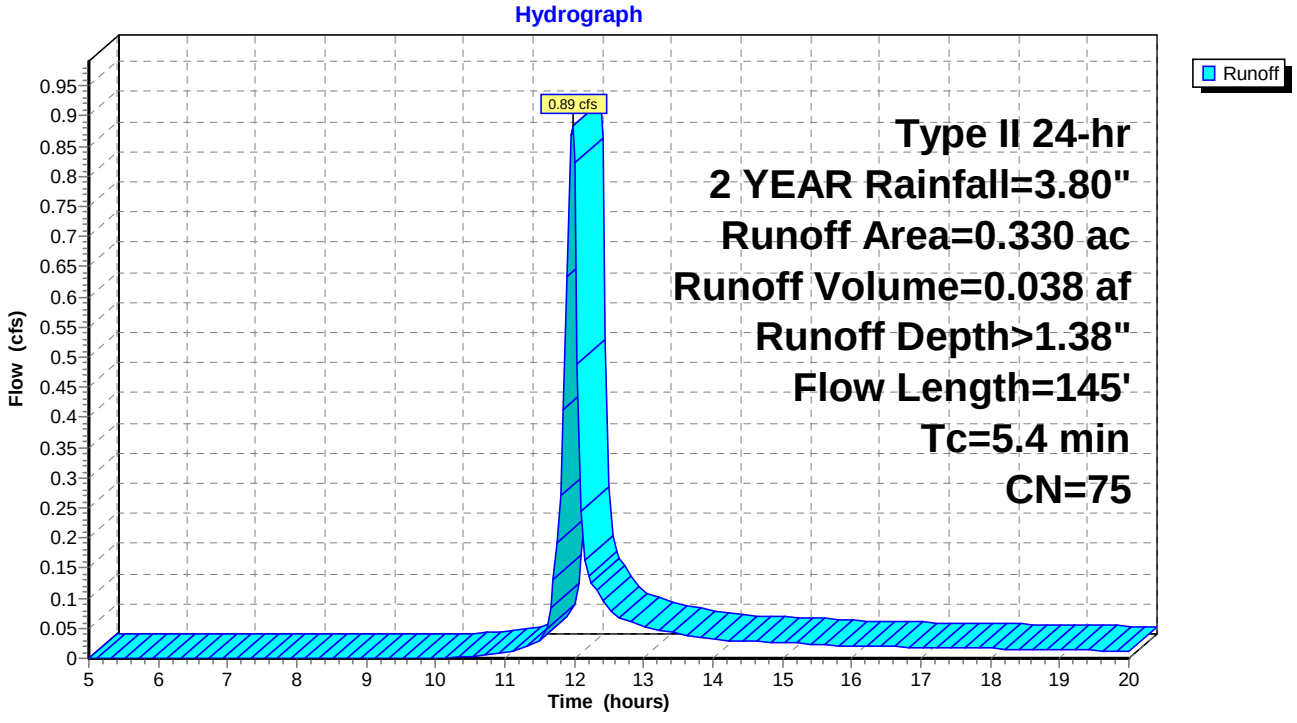
Runoff = 0.89 cfs @ 11.97 hrs, Volume= 0.038 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG B
0.260	69	50-75% Grass cover, Fair, HSG B
0.330	75	Weighted Average
0.260		78.79% Pervious Area
0.070		21.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0800	0.32		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.2	45	0.0900	4.83		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
5.4	145	Total			

Subcatchment 5S: BLOCK 5



Summary for Subcatchment 5S: BLOCK 5

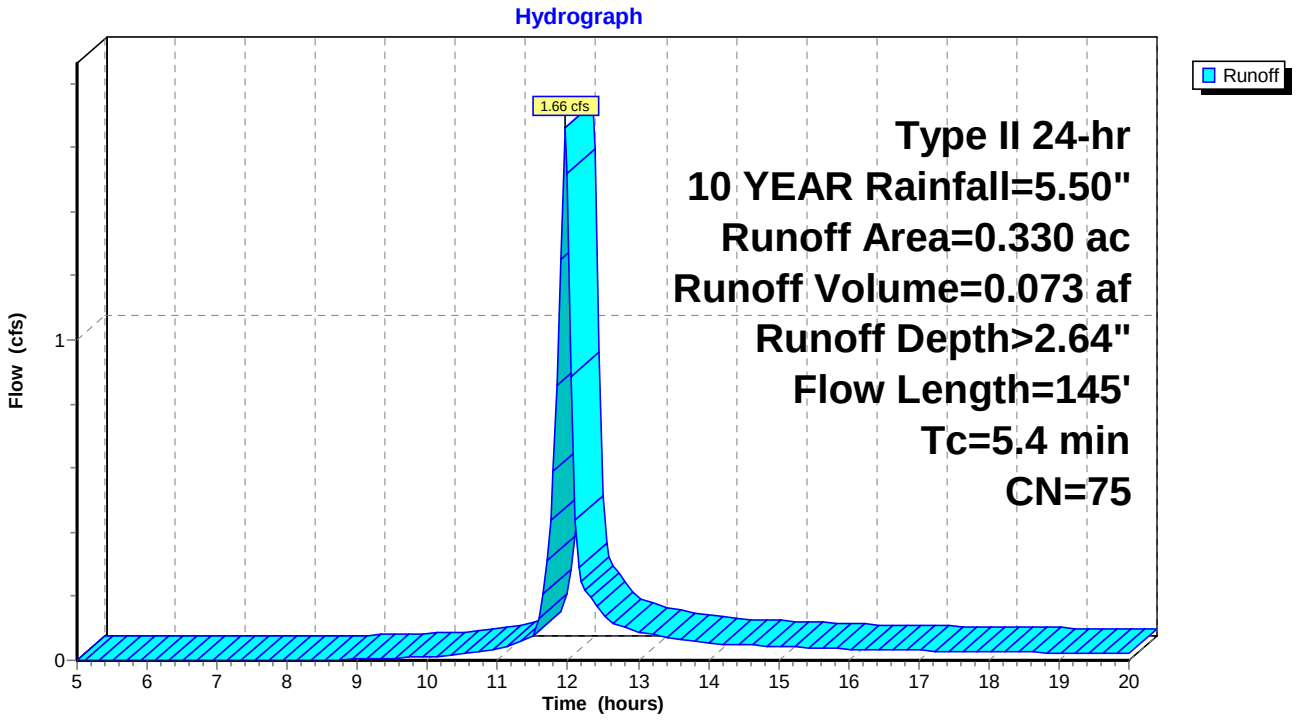
Runoff = 1.66 cfs @ 11.96 hrs, Volume= 0.073 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG B
0.260	69	50-75% Grass cover, Fair, HSG B
0.330	75	Weighted Average
0.260		78.79% Pervious Area
0.070		21.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0800	0.32		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.2	45	0.0900	4.83		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
5.4	145	Total			

Subcatchment 5S: BLOCK 5



Summary for Subcatchment 6S: B LOCK 6

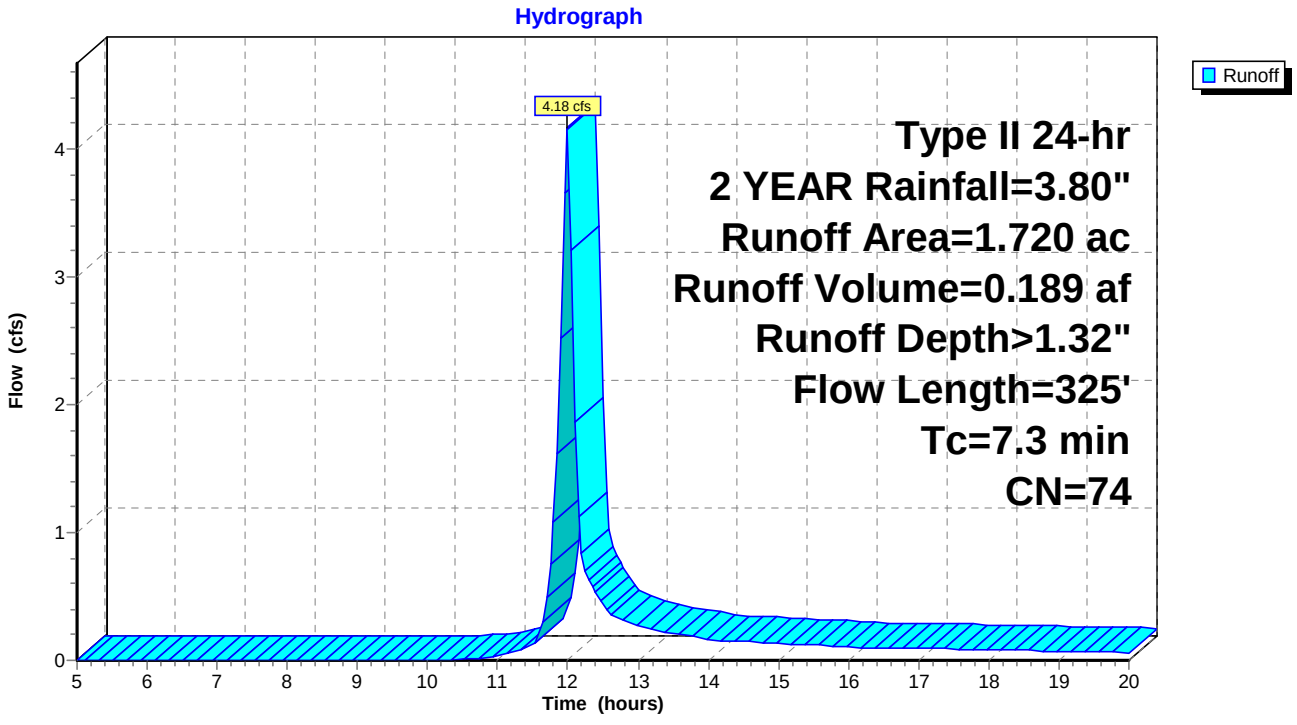
Runoff = 4.18 cfs @ 11.99 hrs, Volume= 0.189 af, Depth> 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG B
1.420	69	50-75% Grass cover, Fair, HSG B
1.720	74	Weighted Average
1.420		82.56% Pervious Area
0.300		17.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	225	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.3	325	Total			

Subcatchment 6S: B LOCK 6



Summary for Subcatchment 6S: B LOCK 6

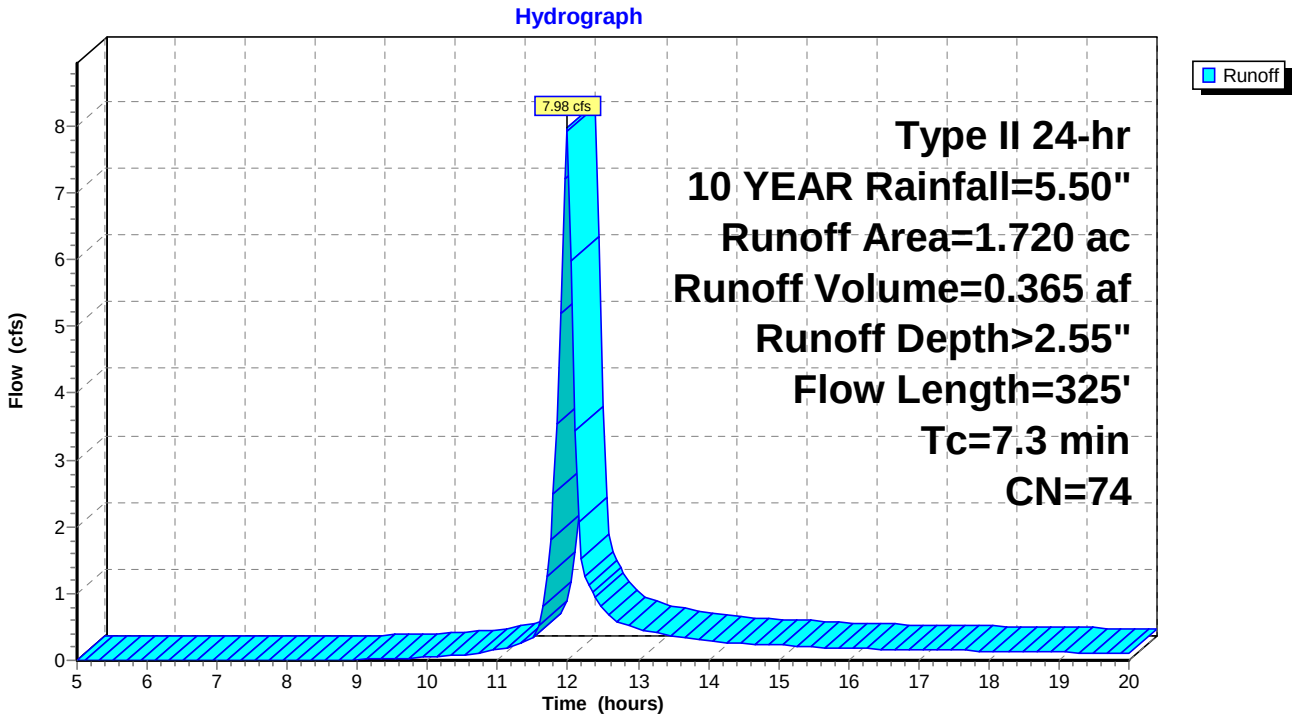
Runoff = 7.98 cfs @ 11.99 hrs, Volume= 0.365 af, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG B
1.420	69	50-75% Grass cover, Fair, HSG B
1.720	74	Weighted Average
1.420		82.56% Pervious Area
0.300		17.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	225	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.3	325	Total			

Subcatchment 6S: B LOCK 6



Summary for Subcatchment 7S: BLOCK 7

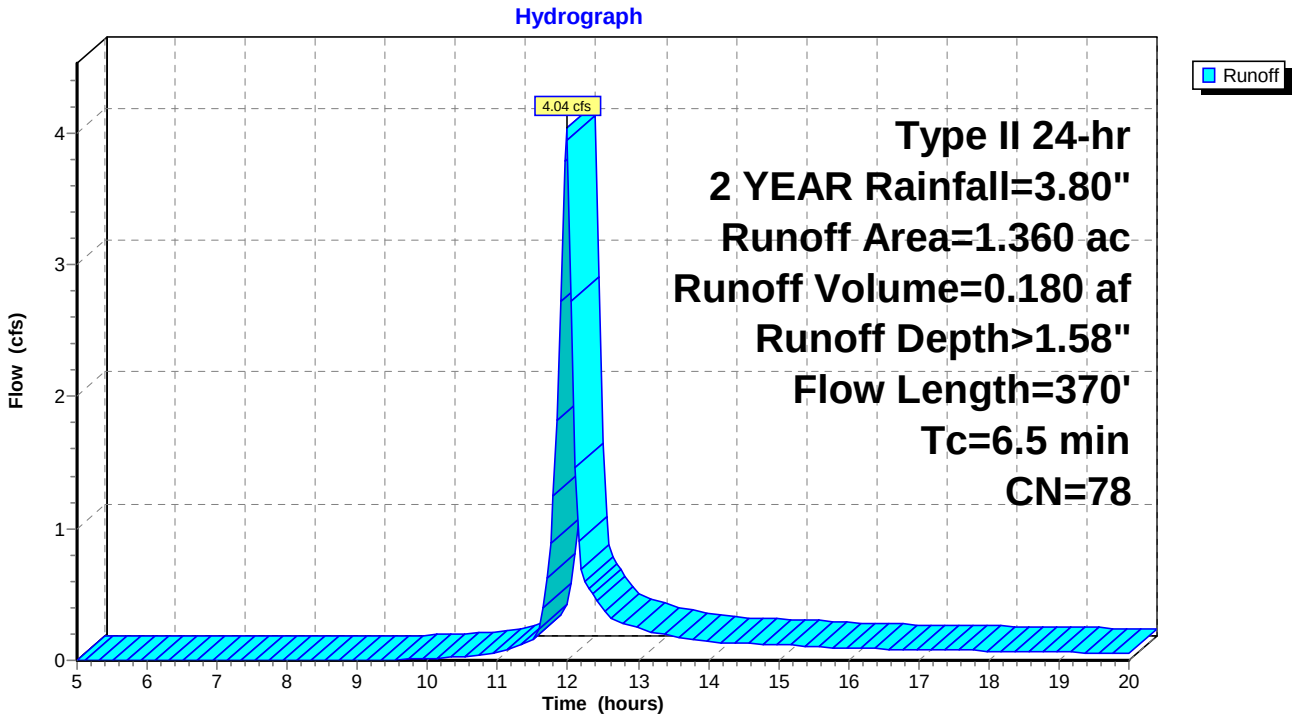
Runoff = 4.04 cfs @ 11.98 hrs, Volume= 0.180 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.400	98	Paved parking, HSG B
0.960	69	50-75% Grass cover, Fair, HSG B
1.360	78	Weighted Average
0.960		70.59% Pervious Area
0.400		29.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	270	0.0670	4.17		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
6.5	370	Total			

Subcatchment 7S: BLOCK 7



Summary for Subcatchment 7S: BLOCK 7

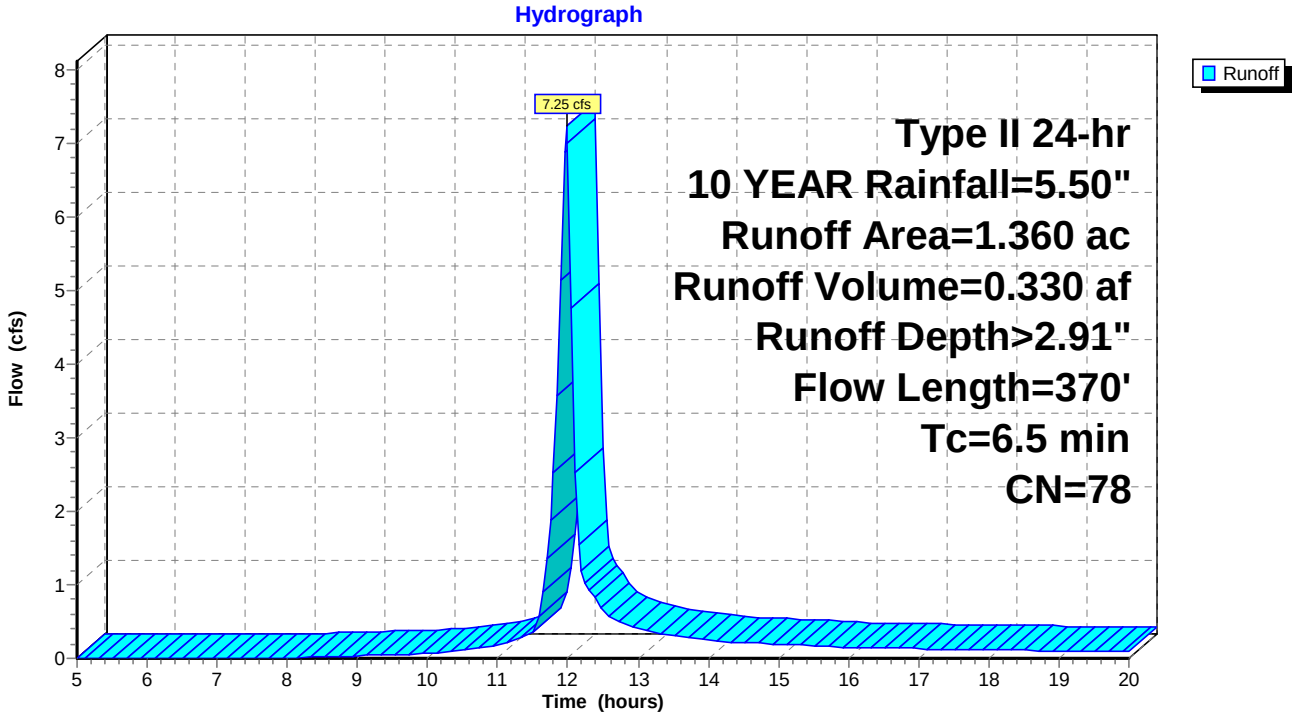
Runoff = 7.25 cfs @ 11.98 hrs, Volume= 0.330 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.400	98	Paved parking, HSG B
0.960	69	50-75% Grass cover, Fair, HSG B
1.360	78	Weighted Average
0.960		70.59% Pervious Area
0.400		29.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	270	0.0670	4.17		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
6.5	370	Total			

Subcatchment 7S: BLOCK 7



Summary for Subcatchment 8S: BLOCK 8

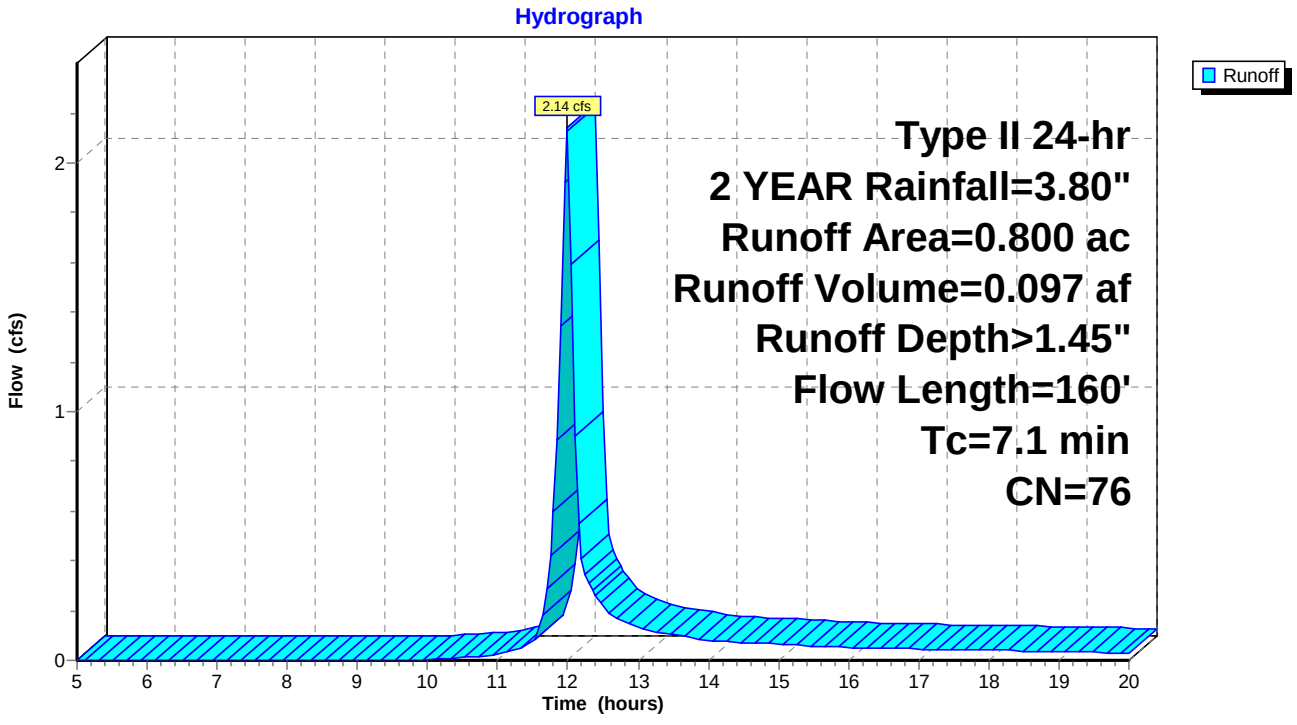
Runoff = 2.14 cfs @ 11.99 hrs, Volume= 0.097 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
0.600	69	50-75% Grass cover, Fair, HSG B
0.800	76	Weighted Average
0.600		75.00% Pervious Area
0.200		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	100	0.0400	0.24		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.3	60	0.0500	3.60		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.1	160	Total			

Subcatchment 8S: BLOCK 8



Summary for Subcatchment 8S: BLOCK 8

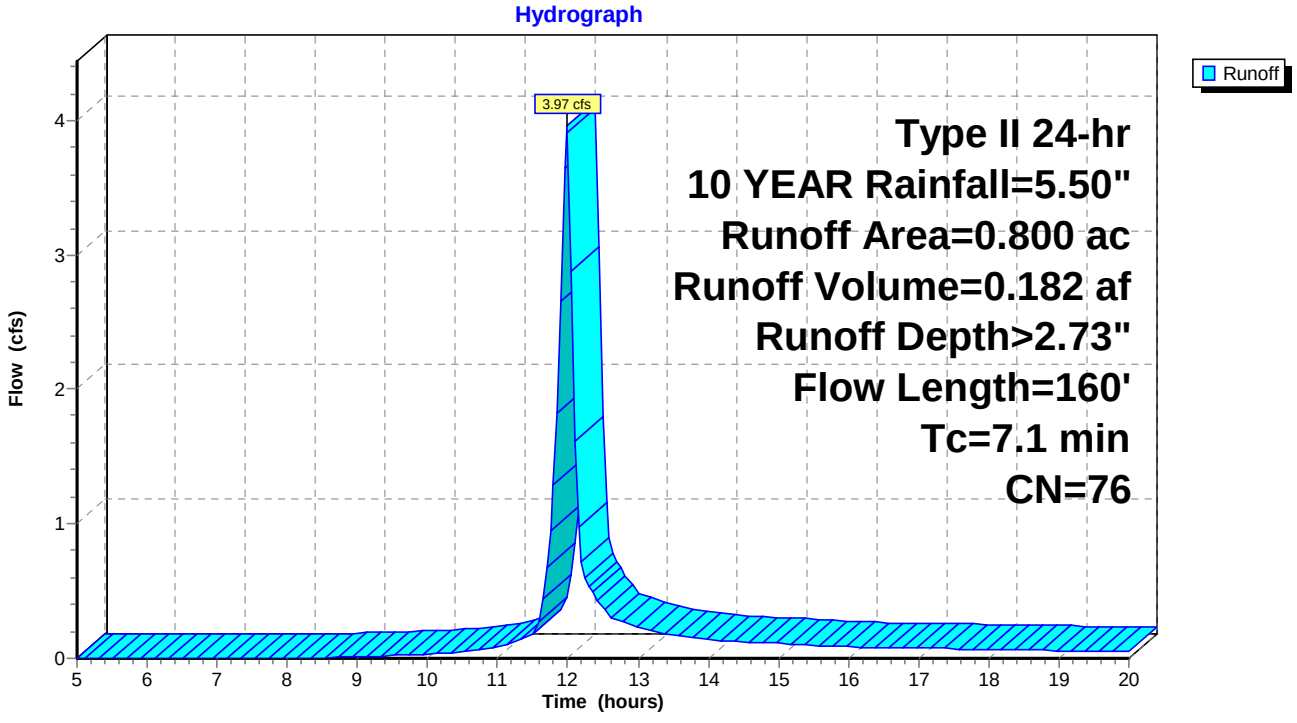
Runoff = 3.97 cfs @ 11.99 hrs, Volume= 0.182 af, Depth> 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.200	98	Paved parking, HSG B
0.600	69	50-75% Grass cover, Fair, HSG B
0.800	76	Weighted Average
0.600		75.00% Pervious Area
0.200		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	100	0.0400	0.24		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.3	60	0.0500	3.60		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.1	160	Total			

Subcatchment 8S: BLOCK 8



Summary for Subcatchment 9S: BLOCK 9

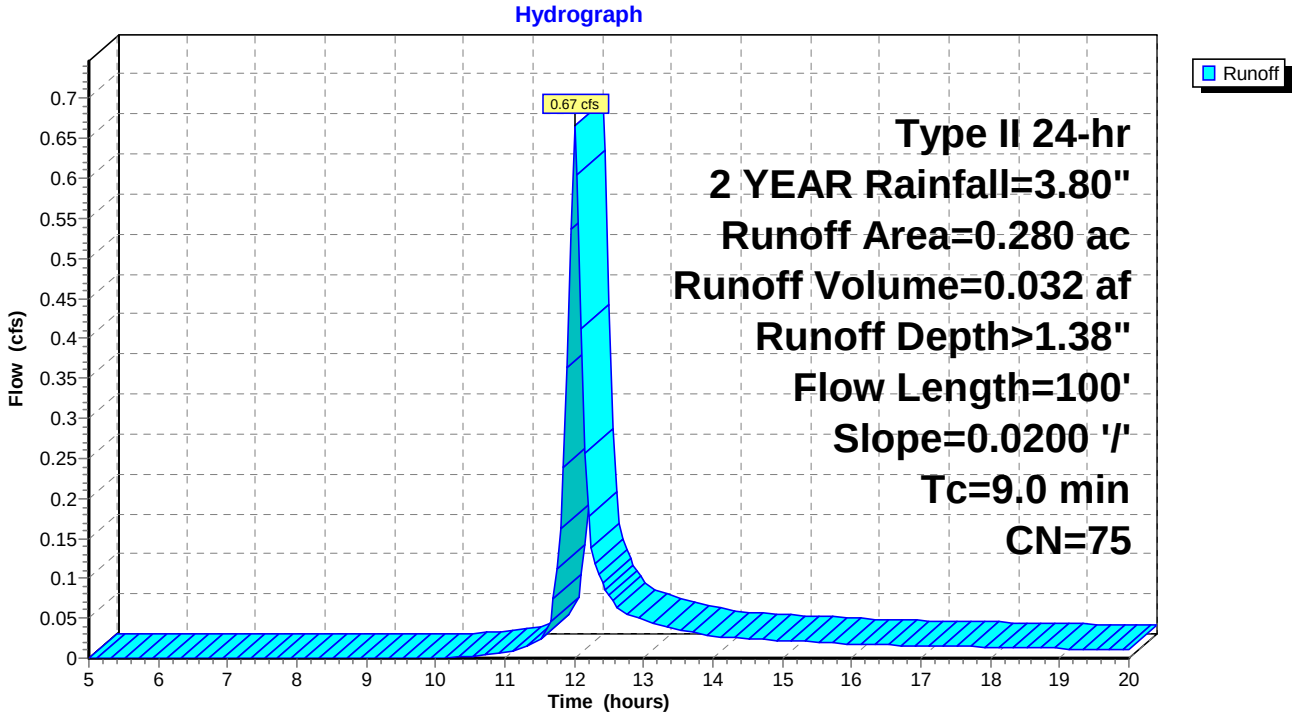
Runoff = 0.67 cfs @ 12.01 hrs, Volume= 0.032 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.060	98	Paved parking, HSG B
0.220	69	50-75% Grass cover, Fair, HSG B
0.280	75	Weighted Average
0.220		78.57% Pervious Area
0.060		21.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0200	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.80"

Subcatchment 9S: BLOCK 9



Summary for Subcatchment 9S: BLOCK 9

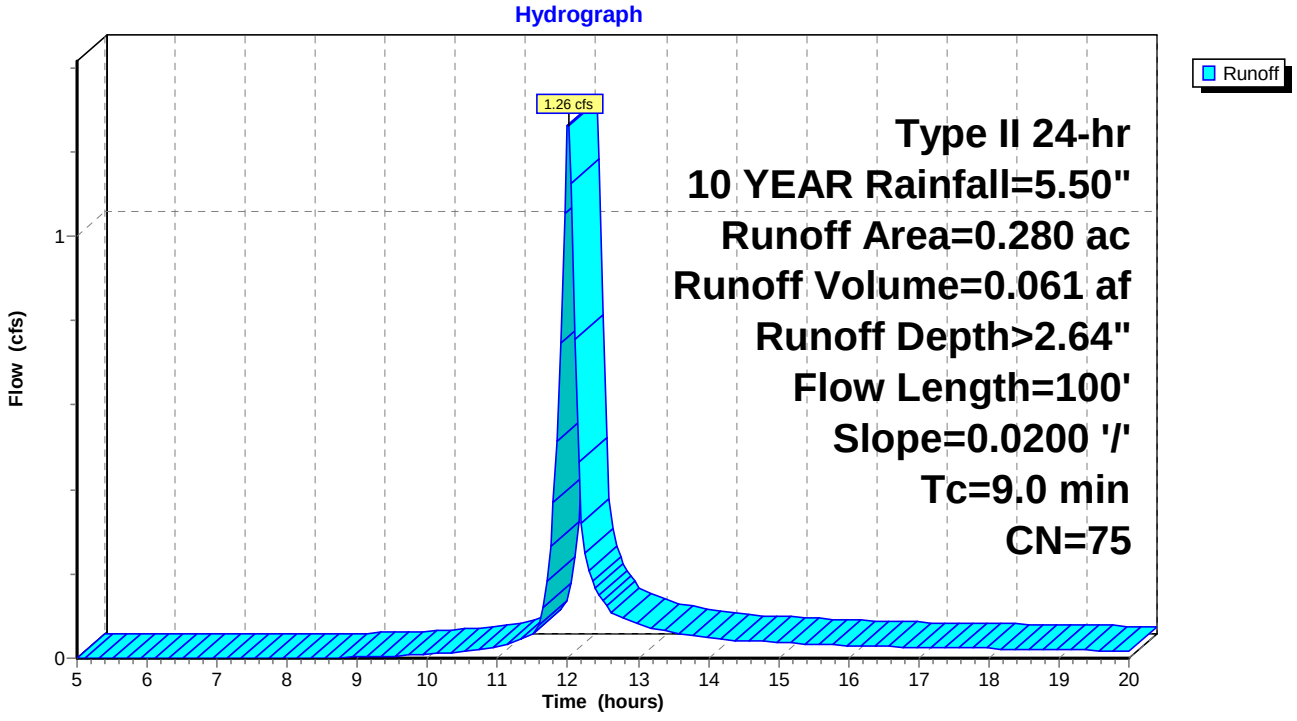
Runoff = 1.26 cfs @ 12.00 hrs, Volume= 0.061 af, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.060	98	Paved parking, HSG B
0.220	69	50-75% Grass cover, Fair, HSG B
0.280	75	Weighted Average
0.220		78.57% Pervious Area
0.060		21.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0200	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.80"

Subcatchment 9S: BLOCK 9



Summary for Subcatchment 1S: BLOCK 1

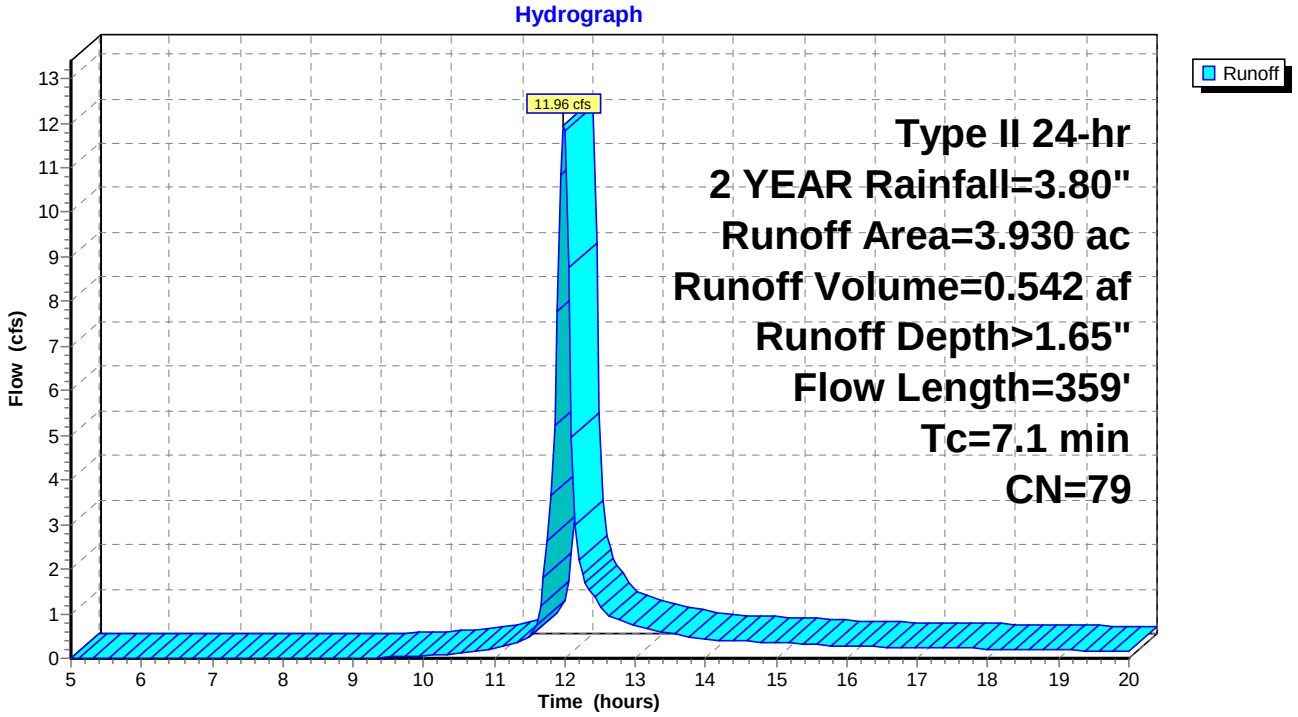
Runoff = 11.96 cfs @ 11.99 hrs, Volume= 0.542 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
2.400	86	Fallow, bare soil, HSG B
1.530	69	50-75% Grass cover, Fair, HSG B
3.930	79	Weighted Average
3.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	157	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.1	102	0.0610	14.08	17.28	**Pipe Channel, 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.1	359	Total			

Subcatchment 1S: BLOCK 1



Summary for Subcatchment 1S: BLOCK 1

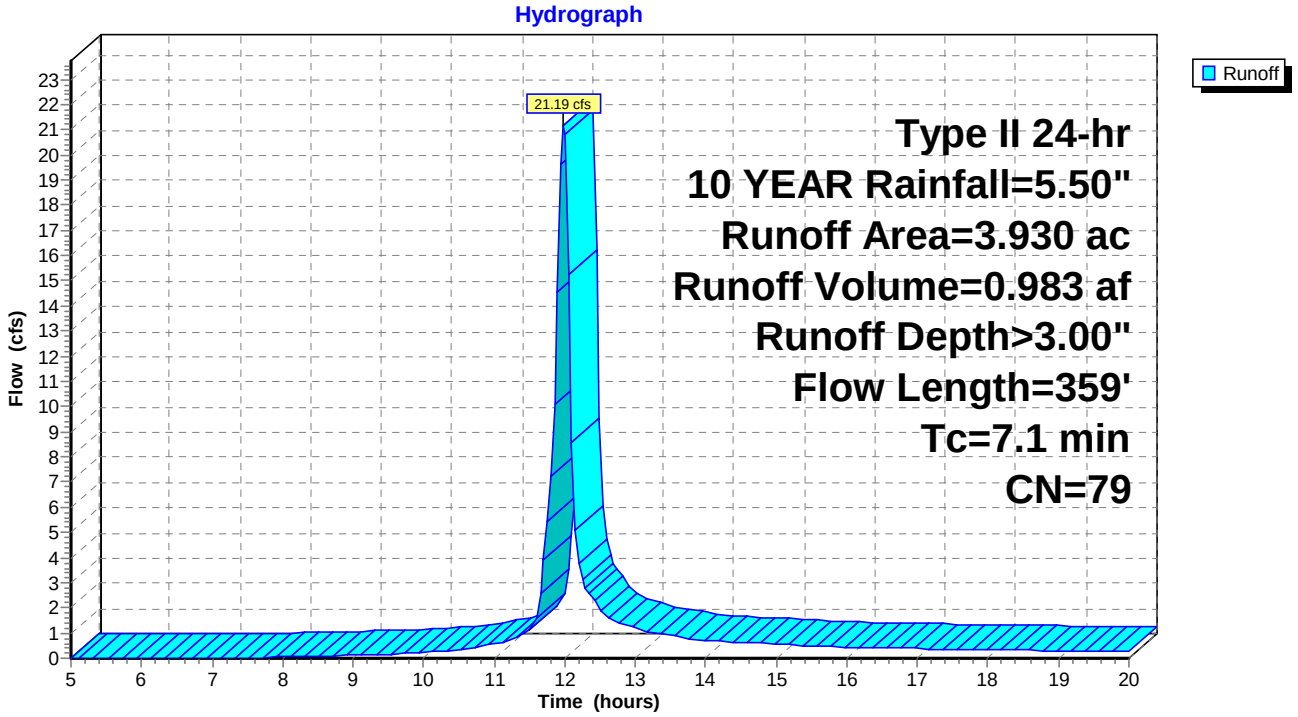
Runoff = 21.19 cfs @ 11.98 hrs, Volume= 0.983 af, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
2.400	86	Fallow, bare soil, HSG B
1.530	69	50-75% Grass cover, Fair, HSG B
3.930	79	Weighted Average
3.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	157	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.1	102	0.0610	14.08	17.28	**Pipe Channel, 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.1	359	Total			

Subcatchment 1S: BLOCK 1



Summary for Subcatchment 2S: BLOCK 2

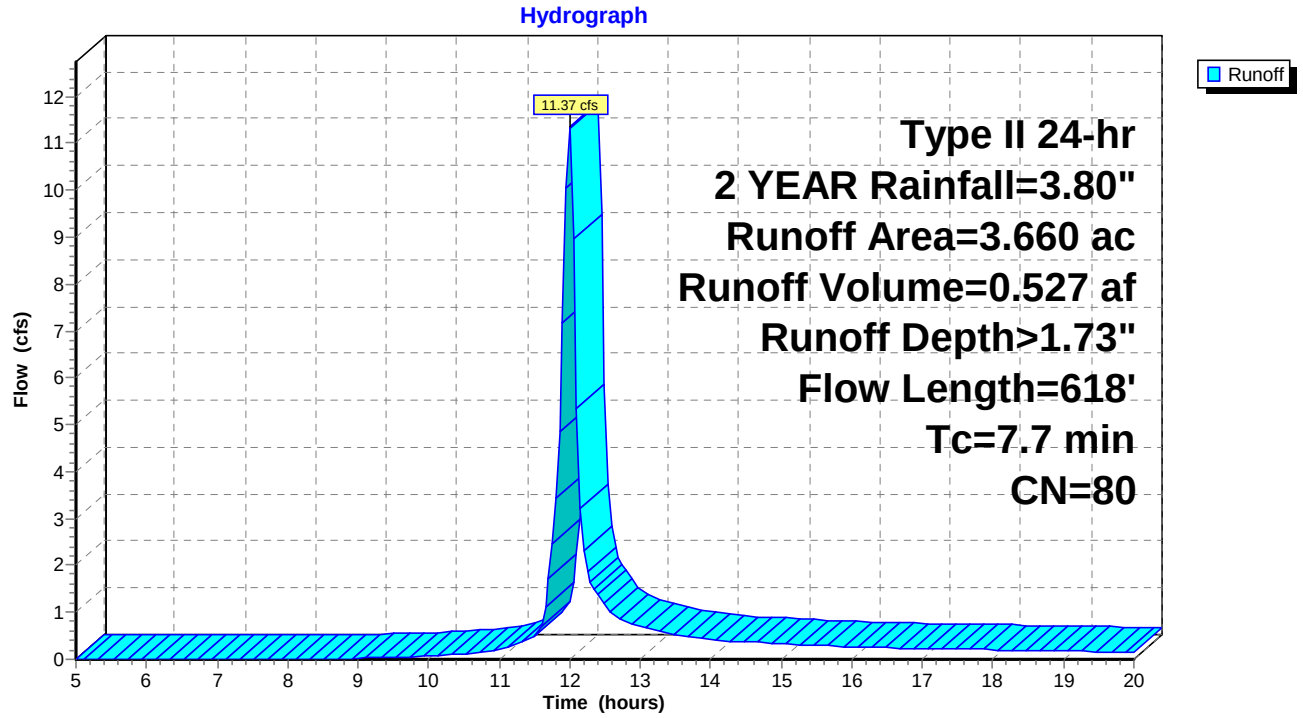
Runoff = 11.37 cfs @ 11.99 hrs, Volume= 0.527 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
2.400	86	Fallow, bare soil, HSG B
1.260	69	50-75% Grass cover, Fair, HSG B
3.660	80	Weighted Average
3.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.5	135	0.0890	4.80		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.4	105	0.0480	4.45		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
0.6	278	0.0190	7.86	9.65	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.7	618	Total			

Subcatchment 2S: BLOCK 2



Summary for Subcatchment 2S: BLOCK 2

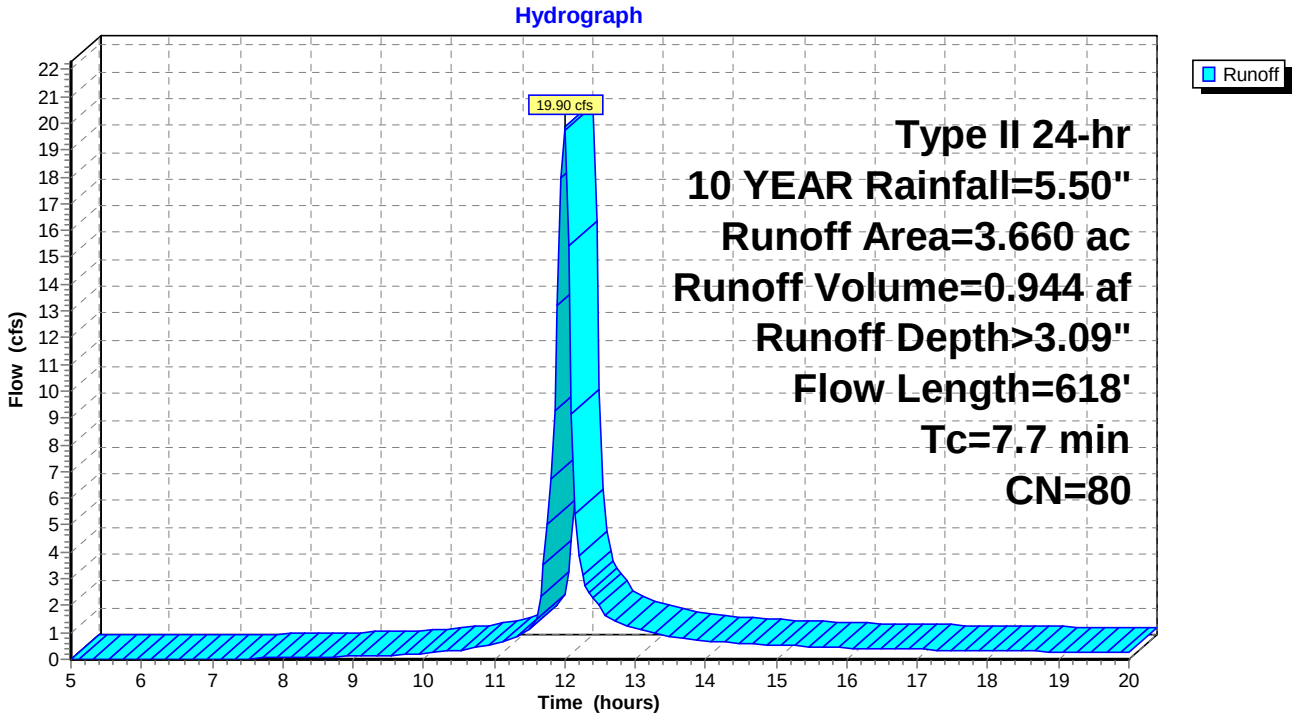
Runoff = 19.90 cfs @ 11.99 hrs, Volume= 0.944 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
2.400	86	Fallow, bare soil, HSG B
1.260	69	50-75% Grass cover, Fair, HSG B
3.660	80	Weighted Average
3.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.5	135	0.0890	4.80		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.4	105	0.0480	4.45		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
0.6	278	0.0190	7.86	9.65	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.7	618	Total			

Subcatchment 2S: BLOCK 2



Summary for Subcatchment 3S: BLOCK 3 DEMO

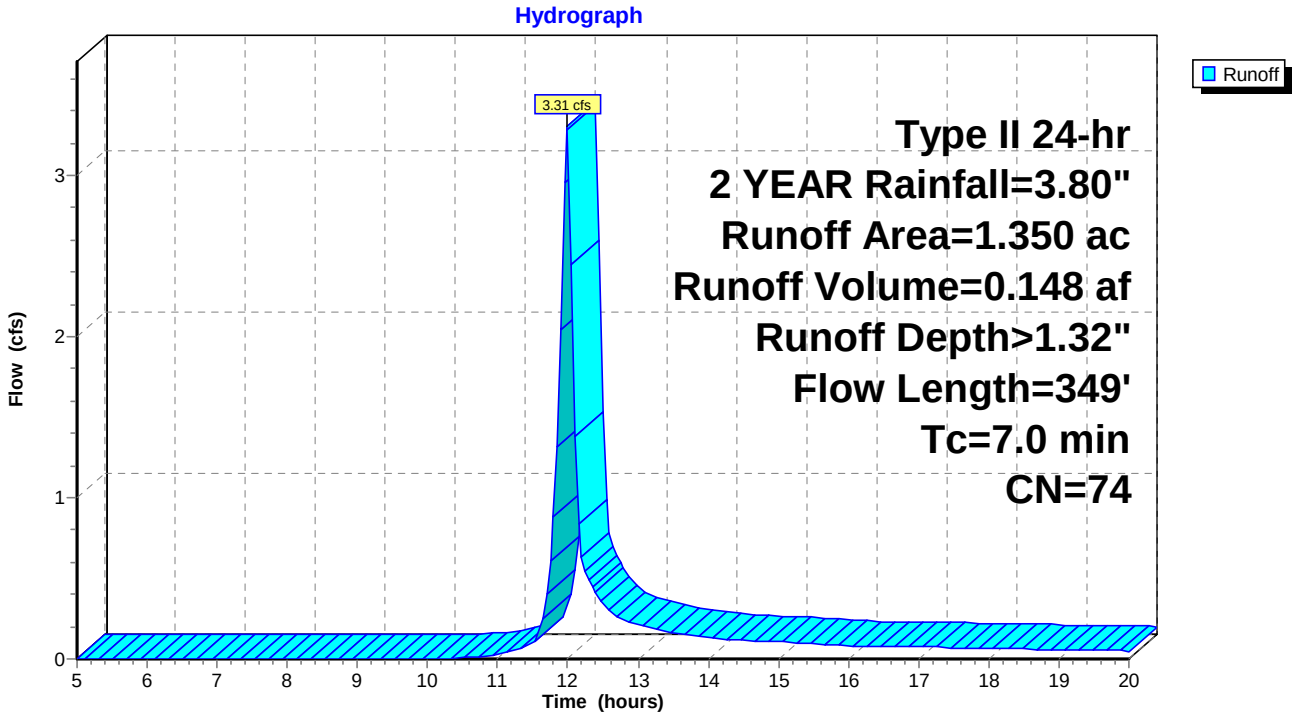
Runoff = 3.31 cfs @ 11.99 hrs, Volume= 0.148 af, Depth> 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.400	86	Fallow, bare soil, HSG B
0.950	69	50-75% Grass cover, Fair, HSG B
1.350	74	Weighted Average
1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	249	0.1100	5.34		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.0	349	Total			

Subcatchment 3S: BLOCK 3 DEMO



Summary for Subcatchment 3S: BLOCK 3 DEMO

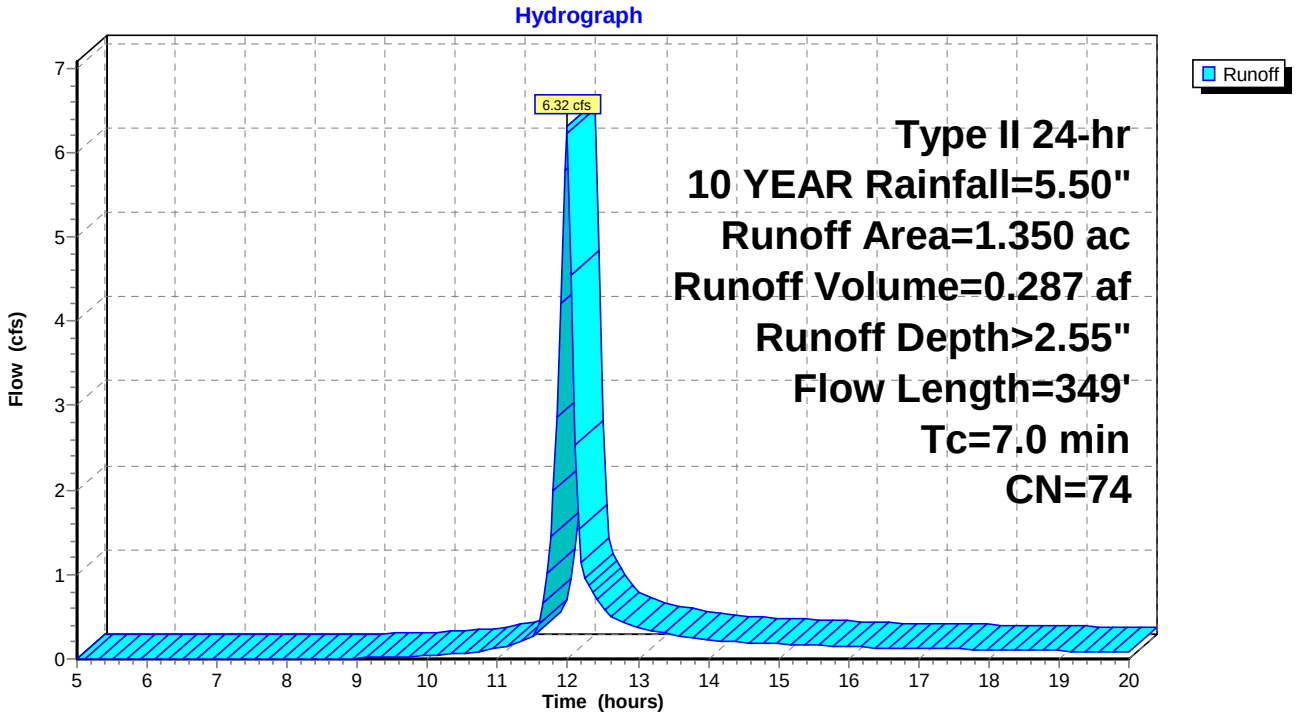
Runoff = 6.32 cfs @ 11.99 hrs, Volume= 0.287 af, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.400	86	Fallow, bare soil, HSG B
0.950	69	50-75% Grass cover, Fair, HSG B
1.350	74	Weighted Average
1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	249	0.1100	5.34		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.0	349	Total			

Subcatchment 3S: BLOCK 3 DEMO



Summary for Subcatchment 4S: BLOCK 4 DEMOLITION

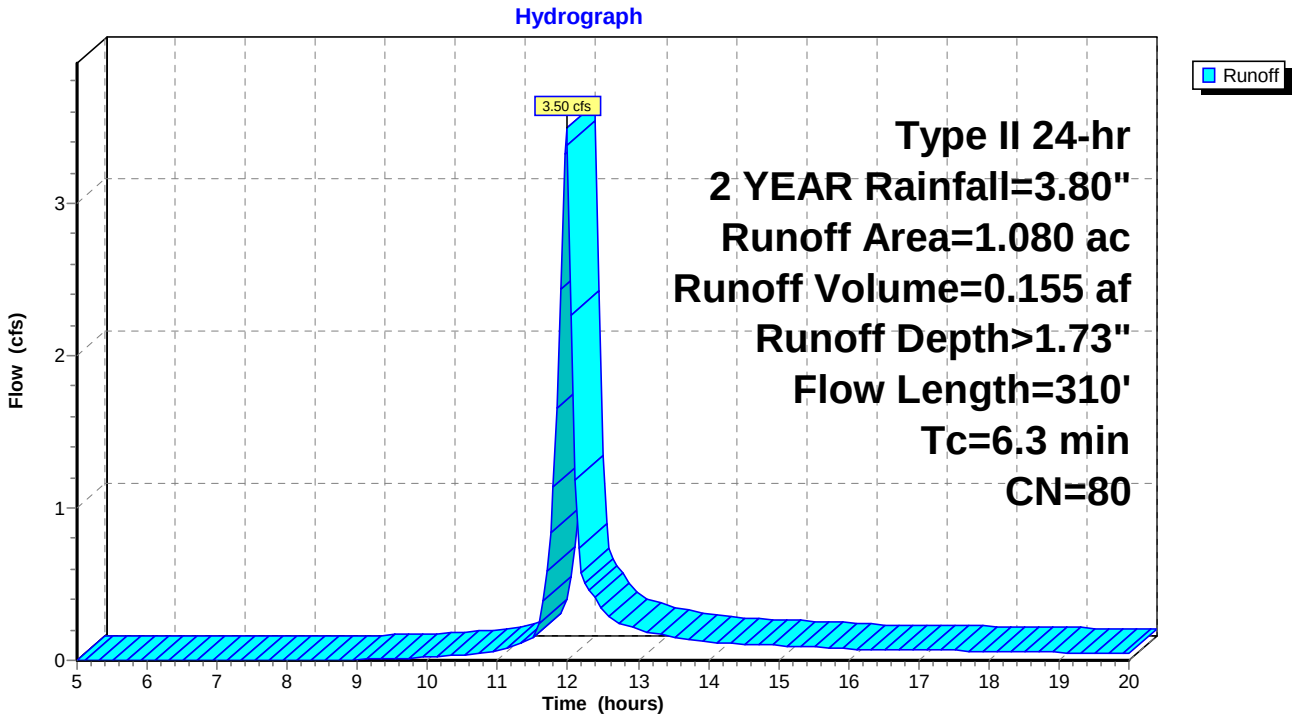
Runoff = 3.50 cfs @ 11.98 hrs, Volume= 0.155 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.700	86	Fallow, bare soil, HSG B
0.380	69	50-75% Grass cover, Fair, HSG B
1.080	80	Weighted Average
1.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.7	150	0.0470	3.49		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
6.3	310	Total			

Subcatchment 4S: BLOCK 4 DEMOLITION



Summary for Subcatchment 4S: BLOCK 4 DEMOLITION

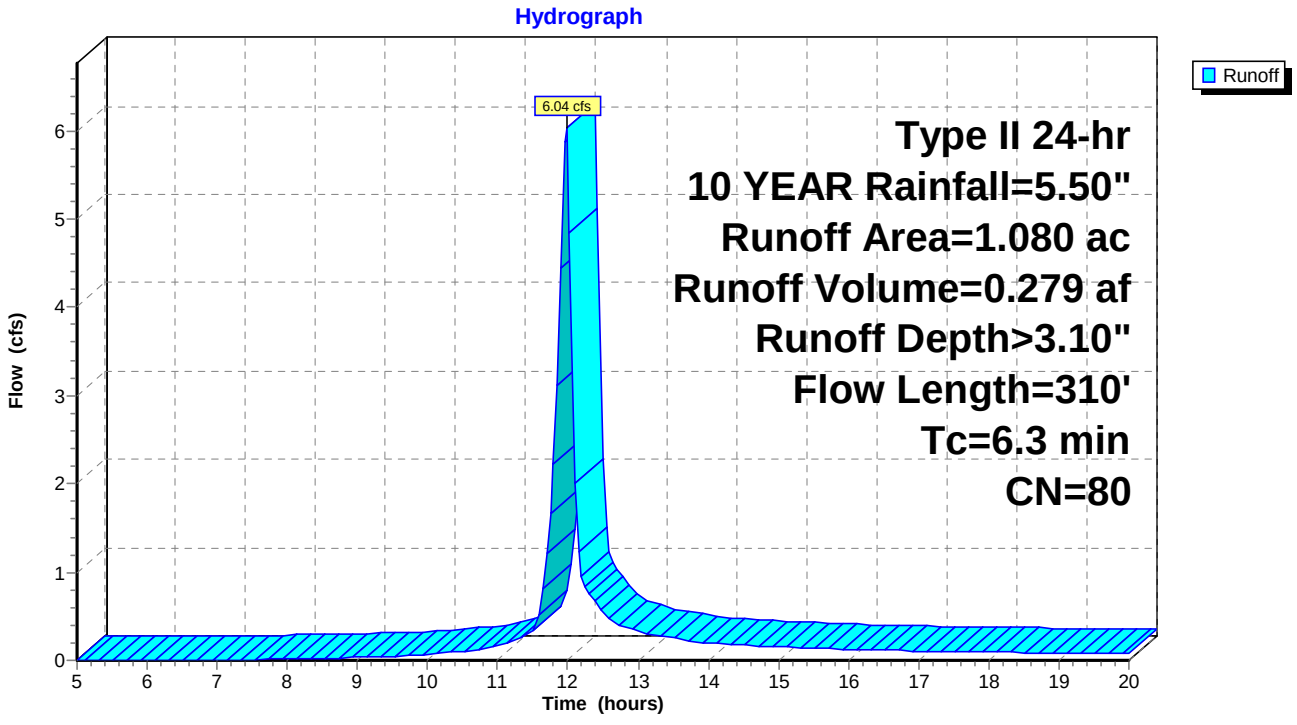
Runoff = 6.04 cfs @ 11.97 hrs, Volume= 0.279 af, Depth> 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.700	86	Fallow, bare soil, HSG B
0.380	69	50-75% Grass cover, Fair, HSG B
1.080	80	Weighted Average
1.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.7	150	0.0470	3.49		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
6.3	310	Total			

Subcatchment 4S: BLOCK 4 DEMOLITION



Summary for Subcatchment 5S: BLOCK 5 DEMOLITION

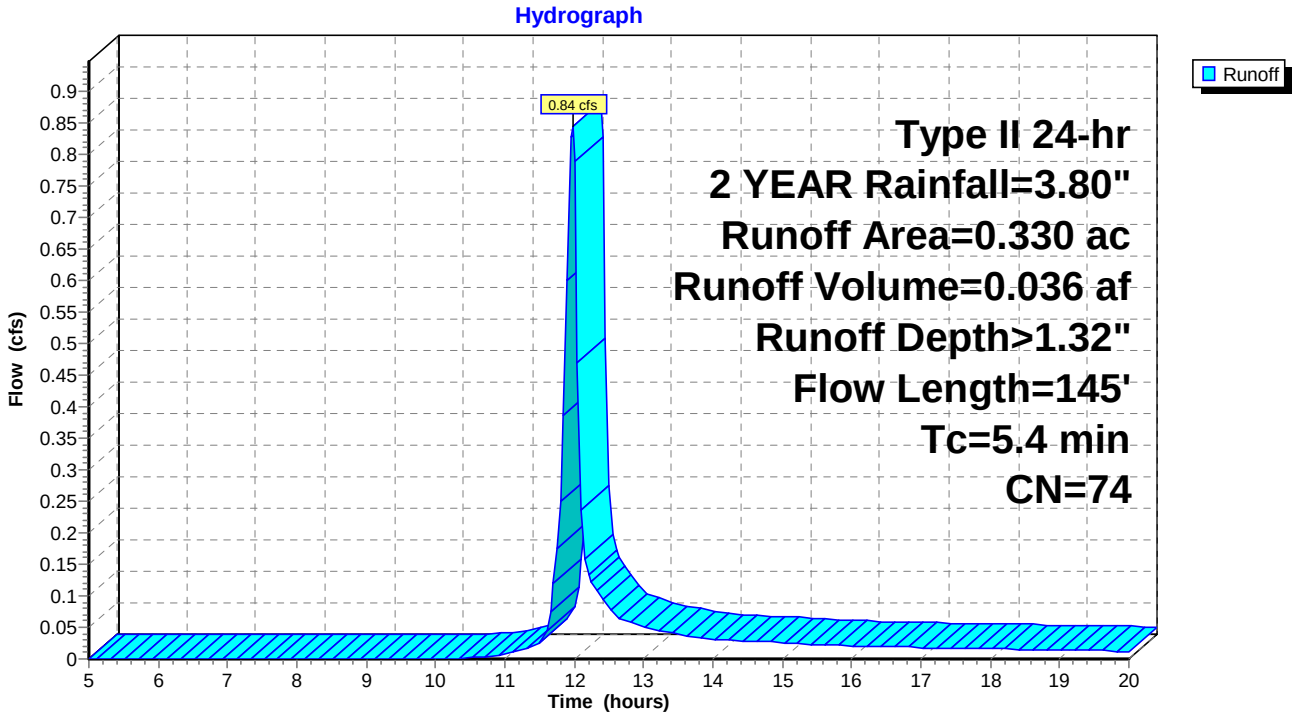
Runoff = 0.84 cfs @ 11.97 hrs, Volume= 0.036 af, Depth> 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.100	86	Fallow, bare soil, HSG B
0.230	69	50-75% Grass cover, Fair, HSG B
0.330	74	Weighted Average
0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0800	0.32		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.2	45	0.0900	4.83		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
5.4	145	Total			

Subcatchment 5S: BLOCK 5 DEMOLITION



Summary for Subcatchment 5S: BLOCK 5 DEMOLITION

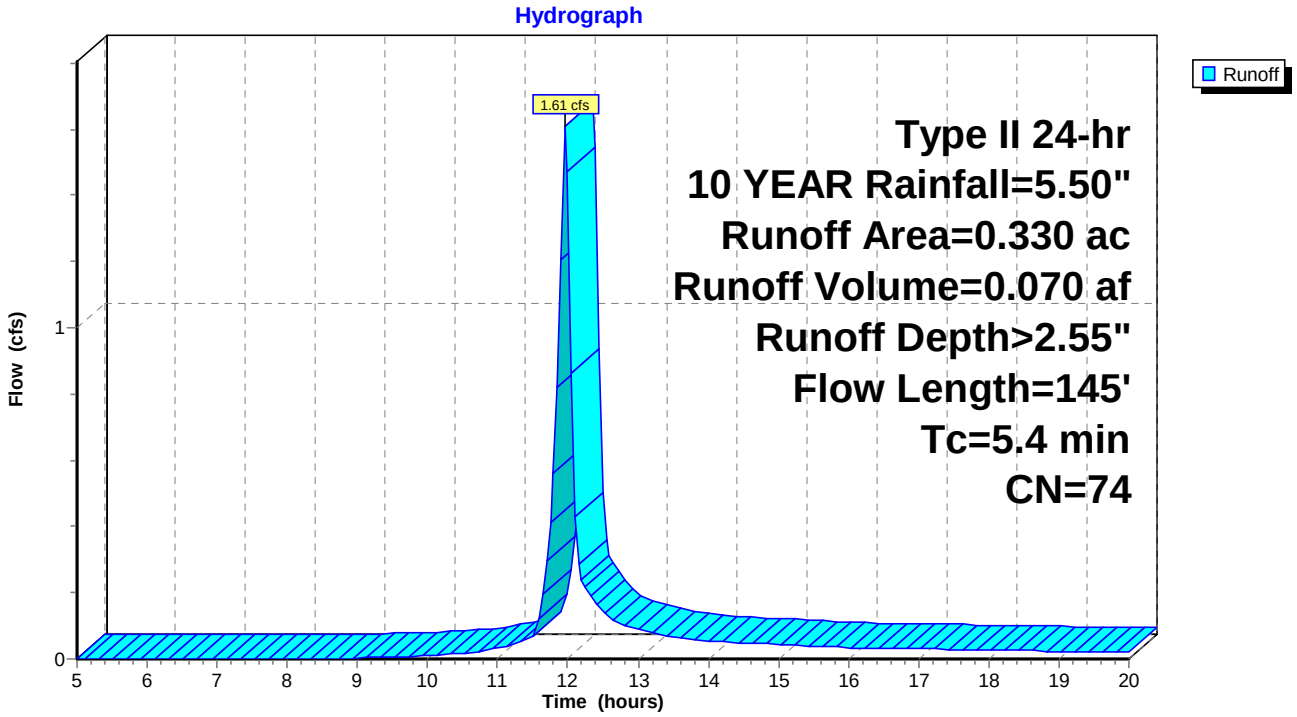
Runoff = 1.61 cfs @ 11.96 hrs, Volume= 0.070 af, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.100	86	Fallow, bare soil, HSG B
0.230	69	50-75% Grass cover, Fair, HSG B
0.330	74	Weighted Average
0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0800	0.32		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.2	45	0.0900	4.83		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
5.4	145	Total			

Subcatchment 5S: BLOCK 5 DEMOLITION



Summary for Subcatchment 6S: B LOCK 6

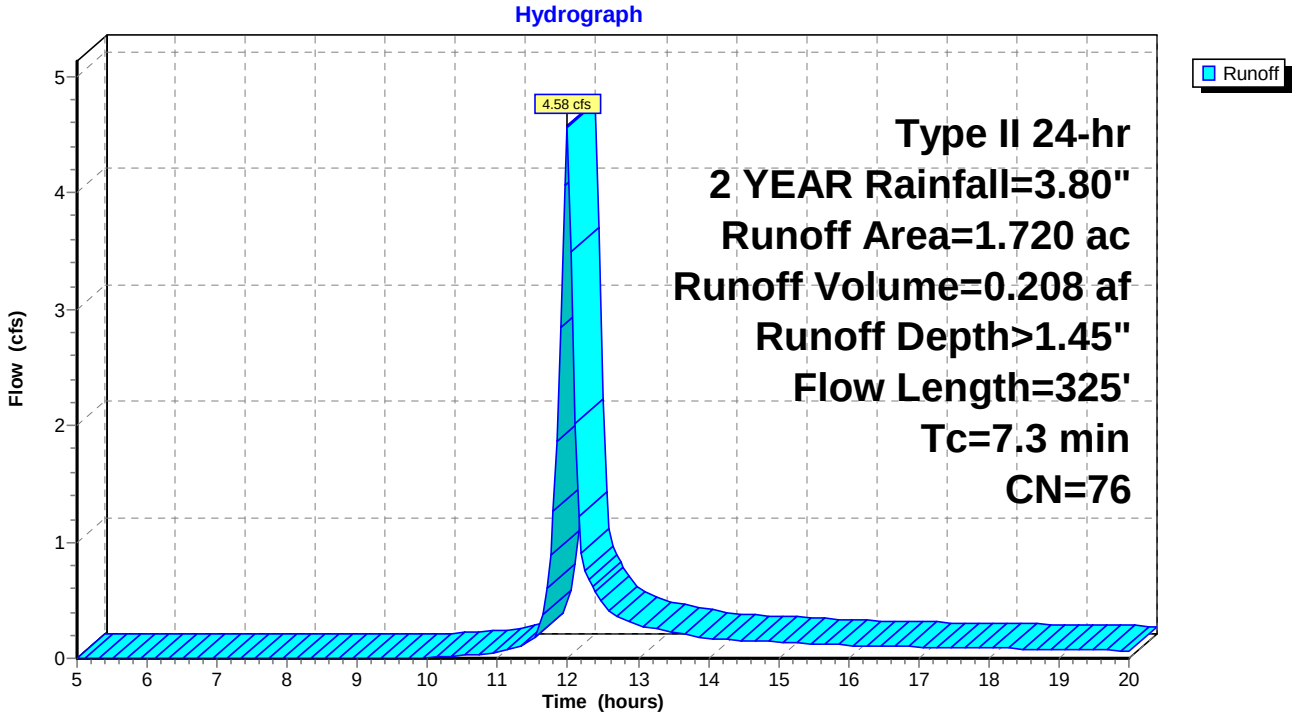
Runoff = 4.58 cfs @ 11.99 hrs, Volume= 0.208 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.700	86	Fallow, bare soil, HSG B
1.020	69	50-75% Grass cover, Fair, HSG B
1.720	76	Weighted Average
1.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	225	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.3	325	Total			

Subcatchment 6S: B LOCK 6



Summary for Subcatchment 6S: B LOCK 6

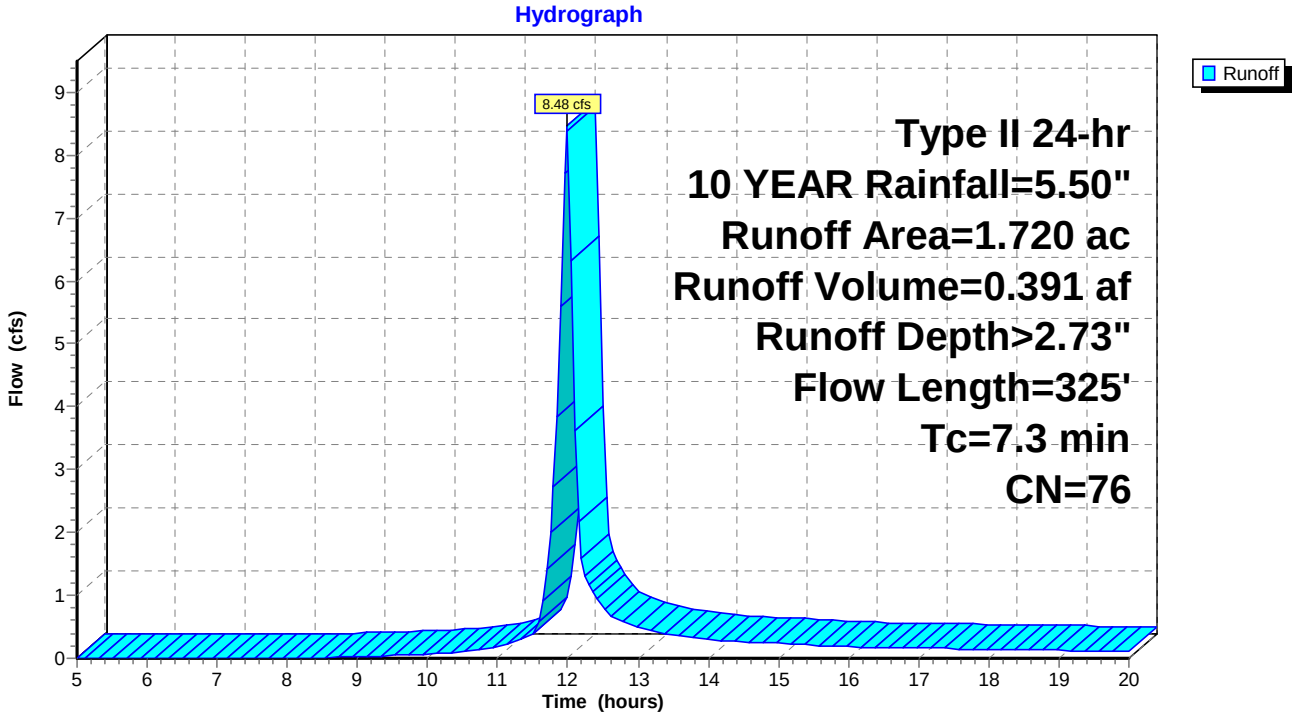
Runoff = 8.48 cfs @ 11.99 hrs, Volume= 0.391 af, Depth> 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.700	86	Fallow, bare soil, HSG B
1.020	69	50-75% Grass cover, Fair, HSG B
1.720	76	Weighted Average
1.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	225	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.3	325	Total			

Subcatchment 6S: B LOCK 6



Summary for Subcatchment 7S: BLOCK 7 DEMOLITION

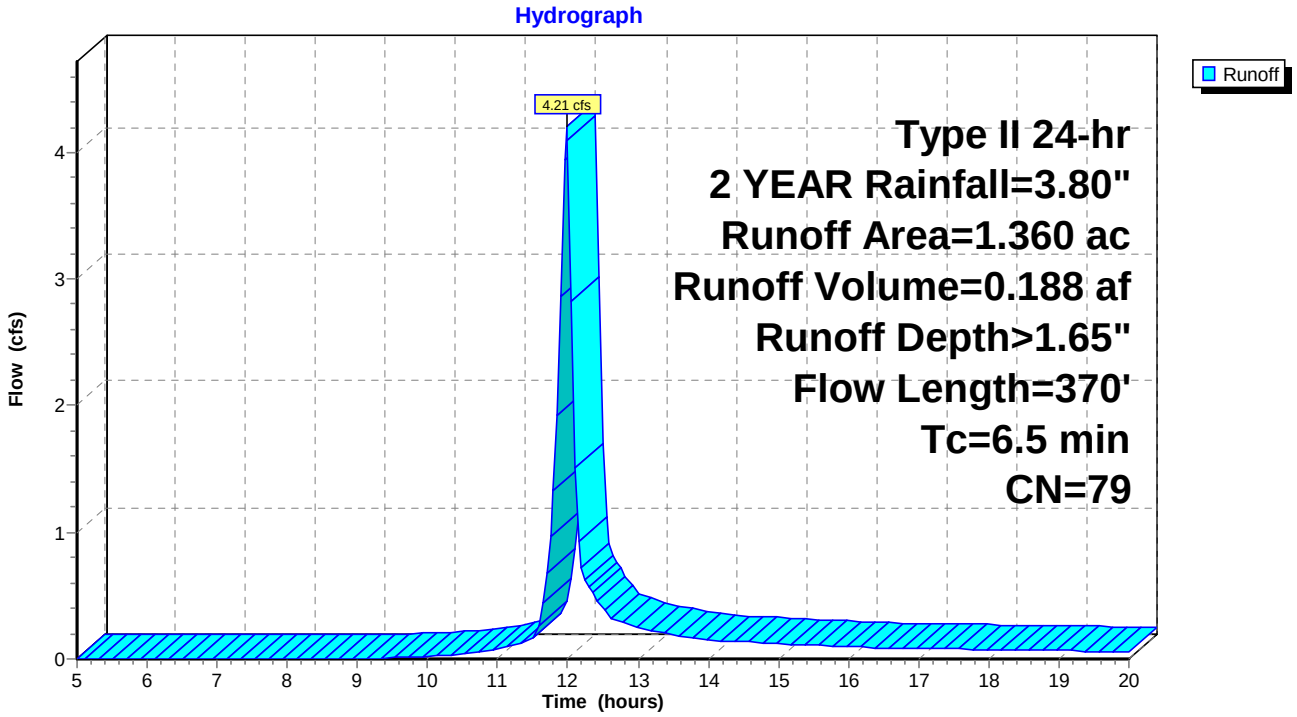
Runoff = 4.21 cfs @ 11.98 hrs, Volume= 0.188 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.800	86	Fallow, bare soil, HSG B
0.560	69	50-75% Grass cover, Fair, HSG B
1.360	79	Weighted Average
1.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	270	0.0670	4.17		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
6.5	370	Total			

Subcatchment 7S: BLOCK 7 DEMOLITION



Summary for Subcatchment 7S: BLOCK 7 DEMOLITION

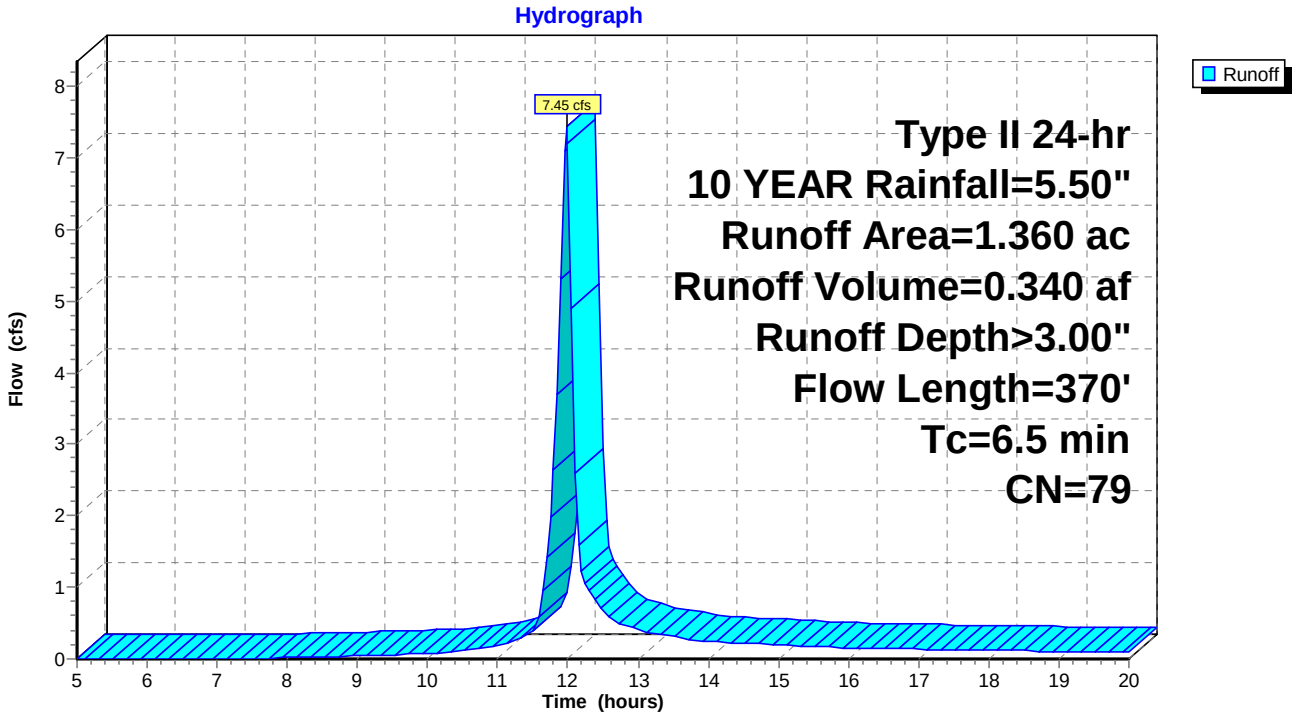
Runoff = 7.45 cfs @ 11.98 hrs, Volume= 0.340 af, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.800	86	Fallow, bare soil, HSG B
0.560	69	50-75% Grass cover, Fair, HSG B
1.360	79	Weighted Average
1.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	270	0.0670	4.17		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
6.5	370	Total			

Subcatchment 7S: BLOCK 7 DEMOLITION



Summary for Subcatchment 8S: BLOCK 8 DEMOLITION

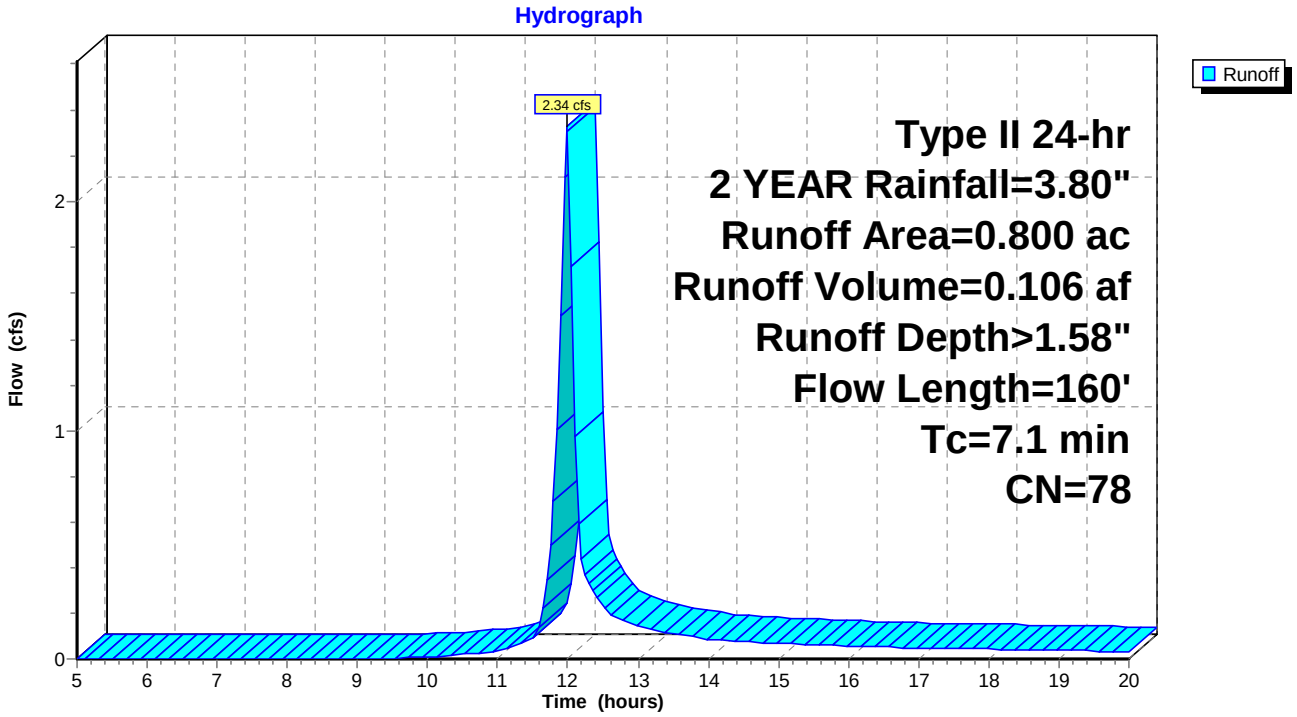
Runoff = 2.34 cfs @ 11.99 hrs, Volume= 0.106 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.400	86	Fallow, bare soil, HSG B
0.400	69	50-75% Grass cover, Fair, HSG B
0.800	78	Weighted Average
0.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	100	0.0400	0.24		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.3	60	0.0500	3.60		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.1	160	Total			

Subcatchment 8S: BLOCK 8 DEMOLITION



Summary for Subcatchment 8S: BLOCK 8 DEMOLITION

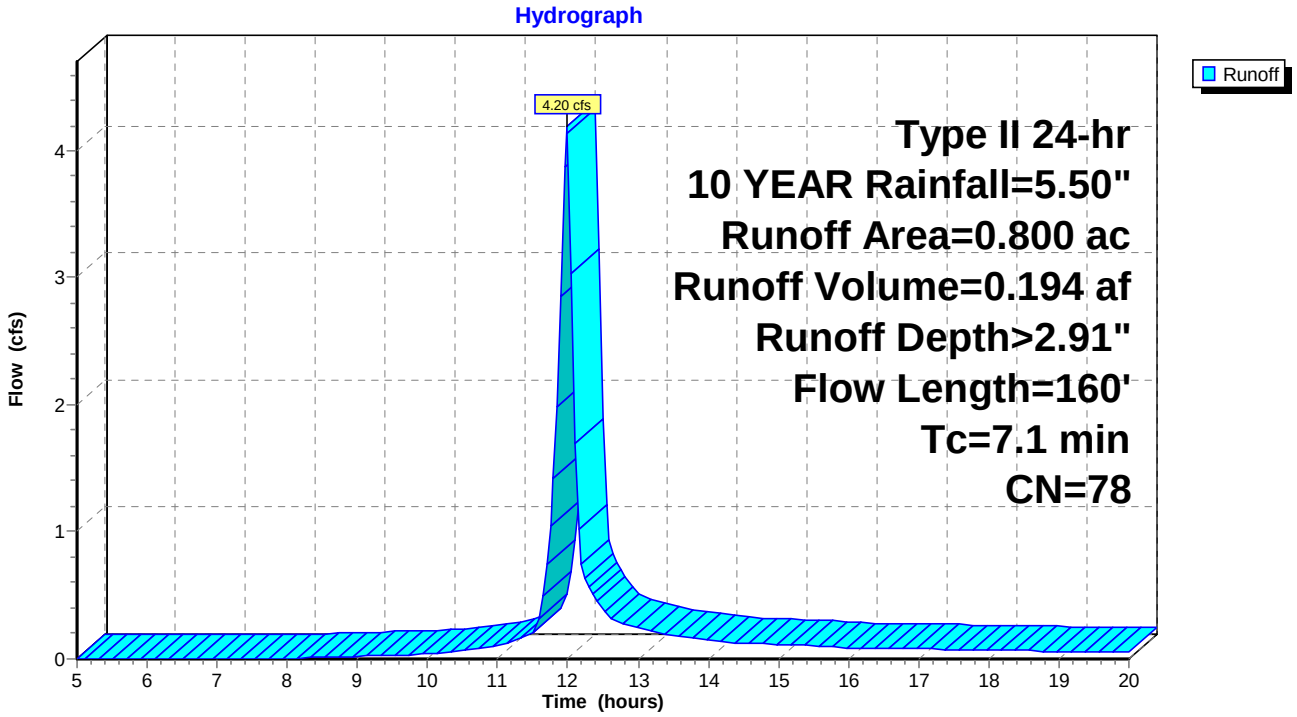
Runoff = 4.20 cfs @ 11.98 hrs, Volume= 0.194 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.400	86	Fallow, bare soil, HSG B
0.400	69	50-75% Grass cover, Fair, HSG B
0.800	78	Weighted Average
0.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	100	0.0400	0.24		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.3	60	0.0500	3.60		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.1	160	Total			

Subcatchment 8S: BLOCK 8 DEMOLITION



Summary for Subcatchment 9S: BLOCK 9 DEMOLITION

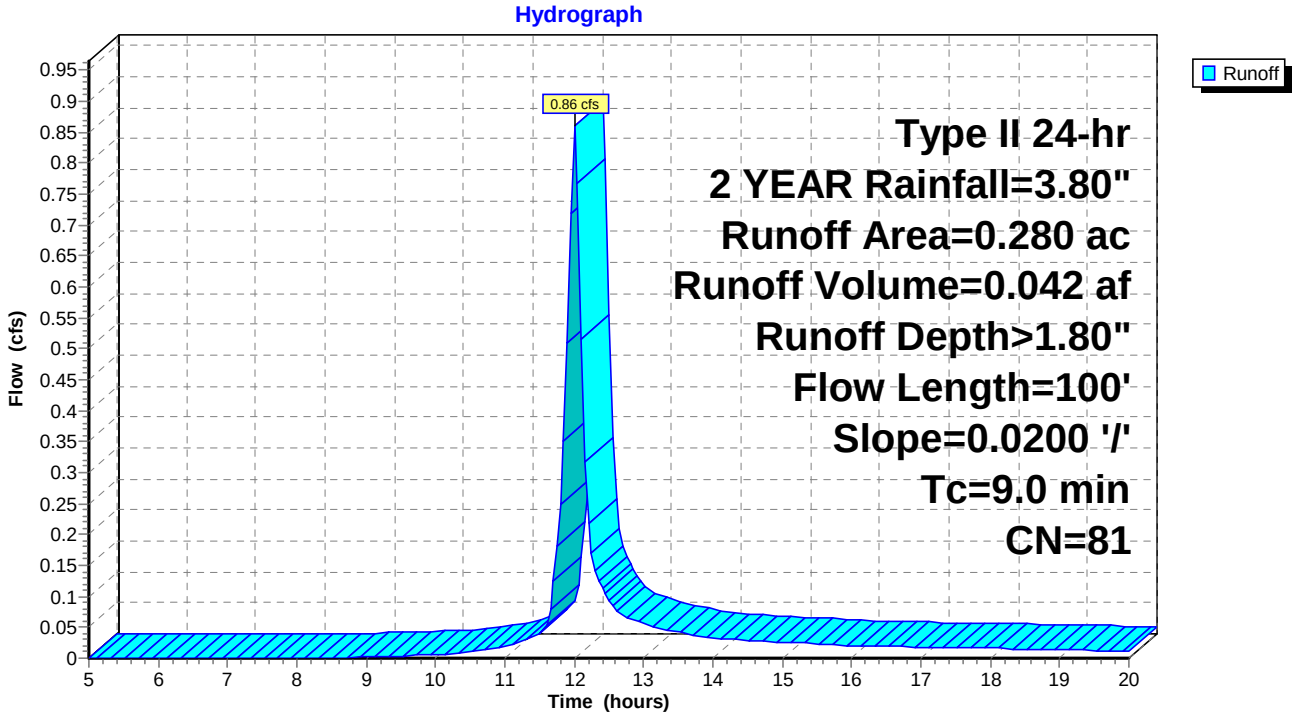
Runoff = 0.86 cfs @ 12.01 hrs, Volume= 0.042 af, Depth> 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.200	86	Fallow, bare soil, HSG B
0.080	69	50-75% Grass cover, Fair, HSG B
0.280	81	Weighted Average
0.280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0200	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.80"

Subcatchment 9S: BLOCK 9 DEMOLITION



Summary for Subcatchment 9S: BLOCK 9 DEMOLITION

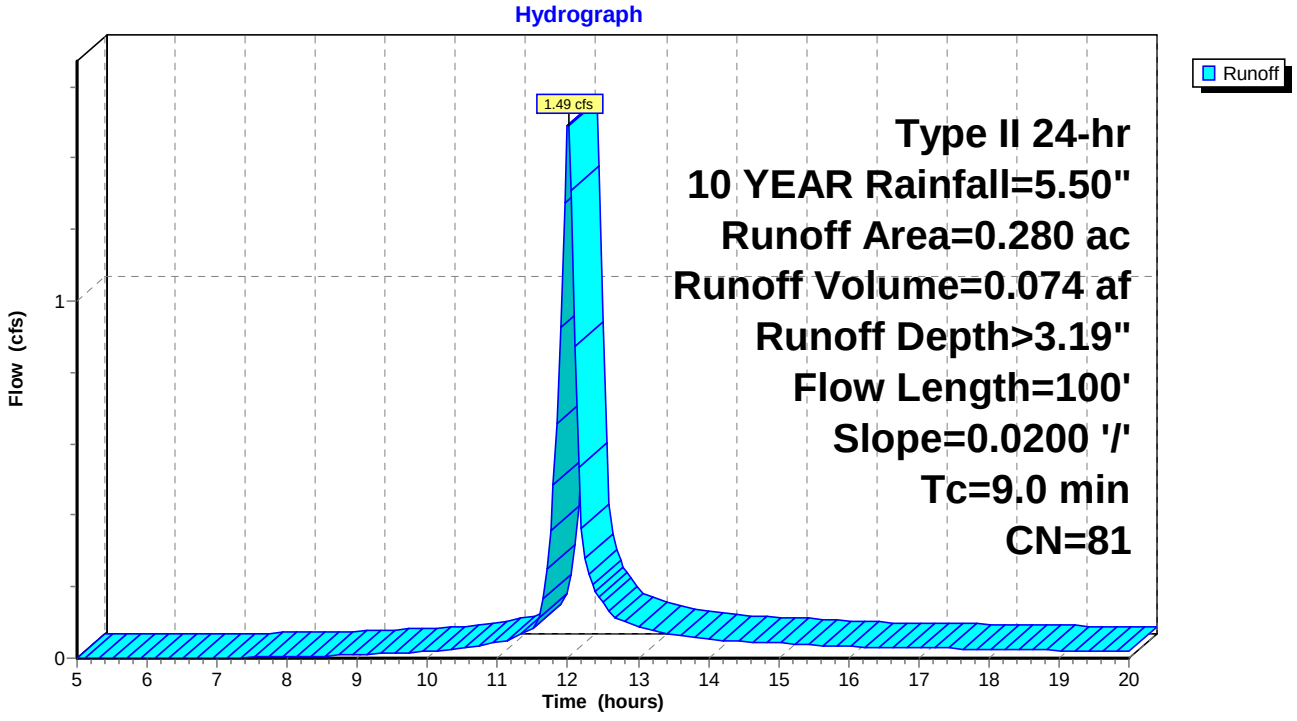
Runoff = 1.49 cfs @ 12.00 hrs, Volume= 0.074 af, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.200	86	Fallow, bare soil, HSG B
0.080	69	50-75% Grass cover, Fair, HSG B
0.280	81	Weighted Average
0.280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0200	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.80"

Subcatchment 9S: BLOCK 9 DEMOLITION



Summary for Subcatchment 1S: BLOCK 1 POST

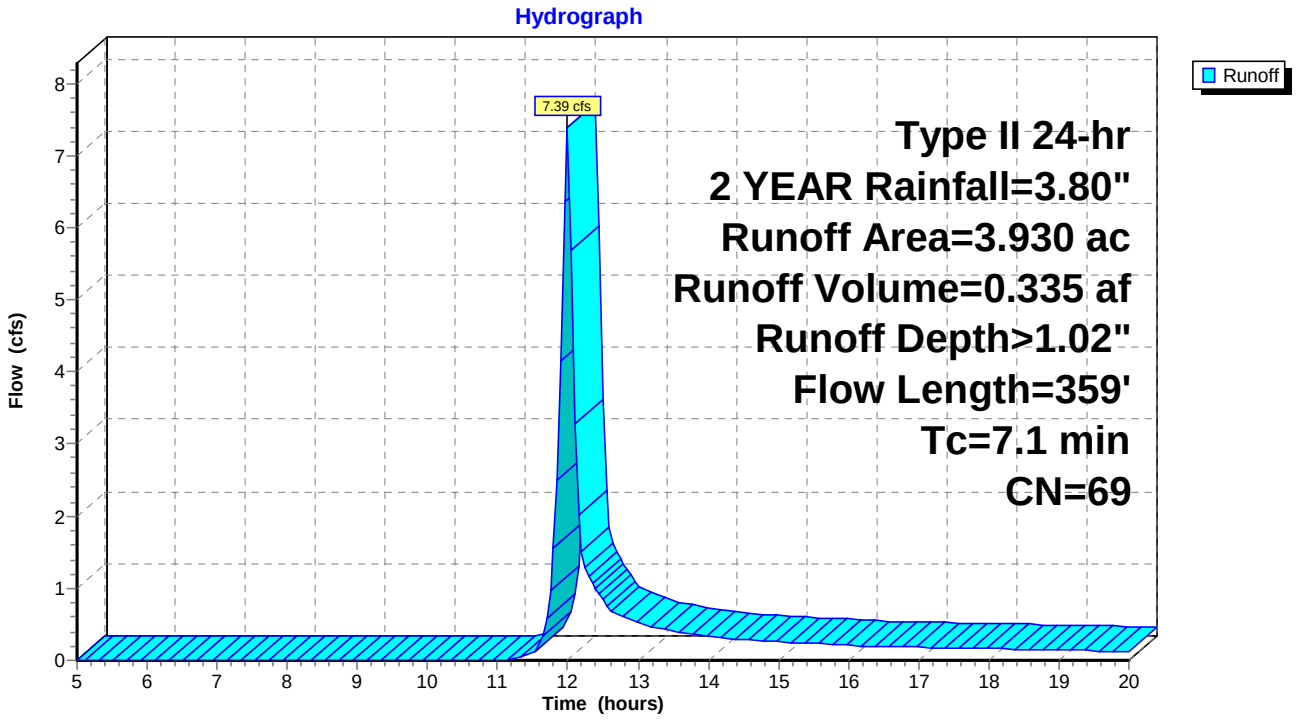
Runoff = 7.39 cfs @ 11.99 hrs, Volume= 0.335 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
3.930	69	50-75% Grass cover, Fair, HSG B
3.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	157	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.1	102	0.0610	14.08	17.28	**Pipe Channel, 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.1	359	Total			

Subcatchment 1S: BLOCK 1 POST



Summary for Subcatchment 1S: BLOCK 1 POST

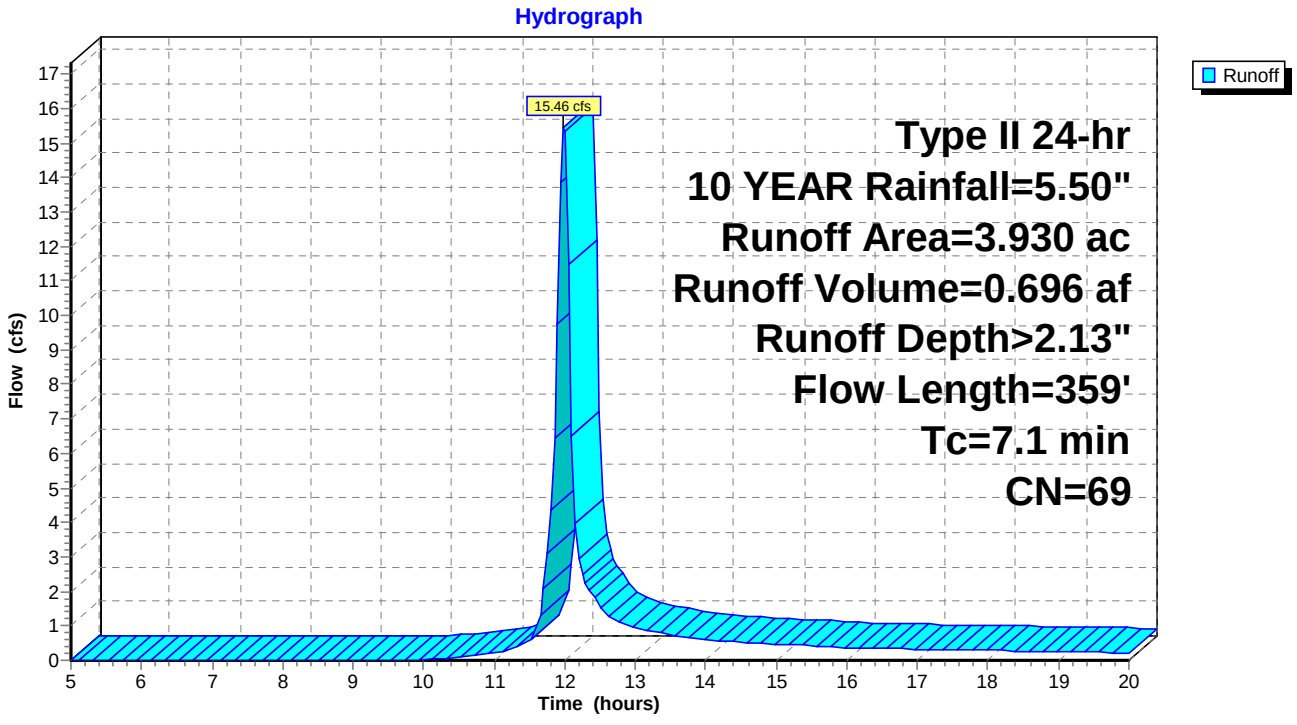
Runoff = 15.46 cfs @ 11.99 hrs, Volume= 0.696 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
3.930	69	50-75% Grass cover, Fair, HSG B
3.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	157	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.1	102	0.0610	14.08	17.28	**Pipe Channel, 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.1	359	Total			

Subcatchment 1S: BLOCK 1 POST



Summary for Subcatchment 2S: BLOCK 2 POST

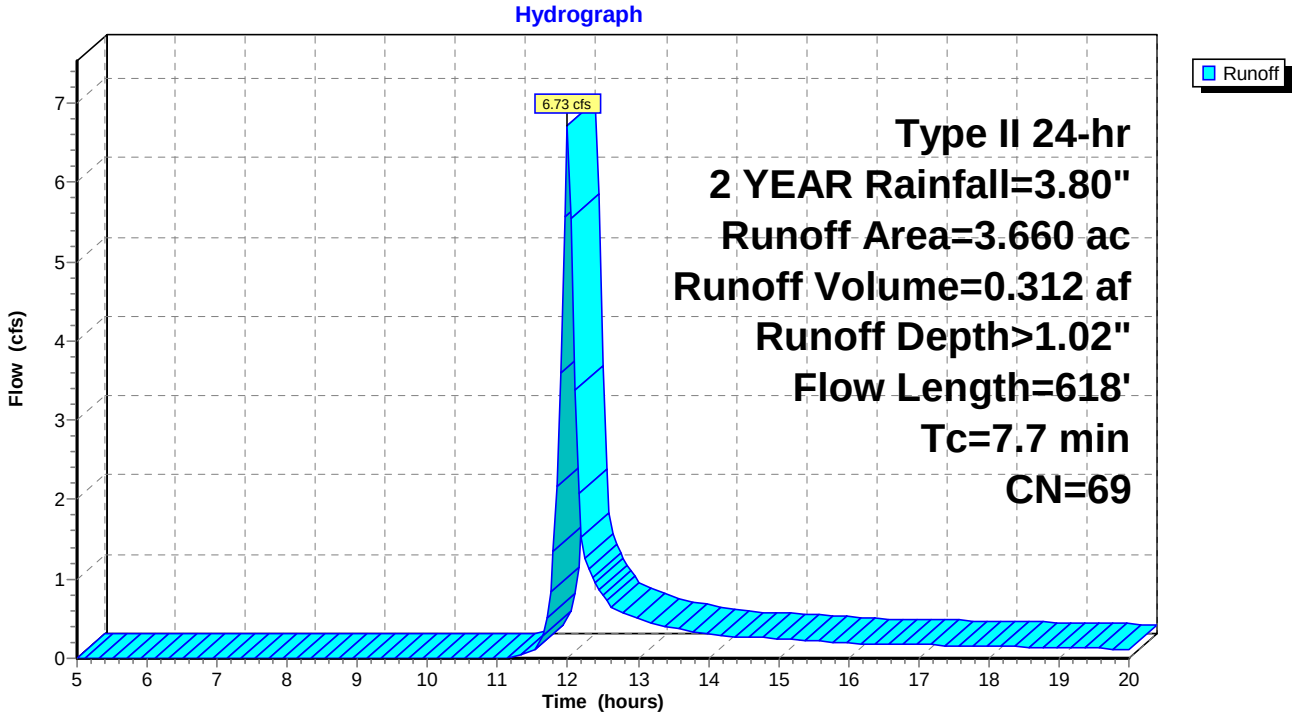
Runoff = 6.73 cfs @ 12.00 hrs, Volume= 0.312 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
3.660	69	50-75% Grass cover, Fair, HSG B
3.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.5	135	0.0890	4.80		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.4	105	0.0480	4.45		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
0.6	278	0.0190	7.86	9.65	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.7	618	Total			

Subcatchment 2S: BLOCK 2 POST



Summary for Subcatchment 2S: BLOCK 2 POST

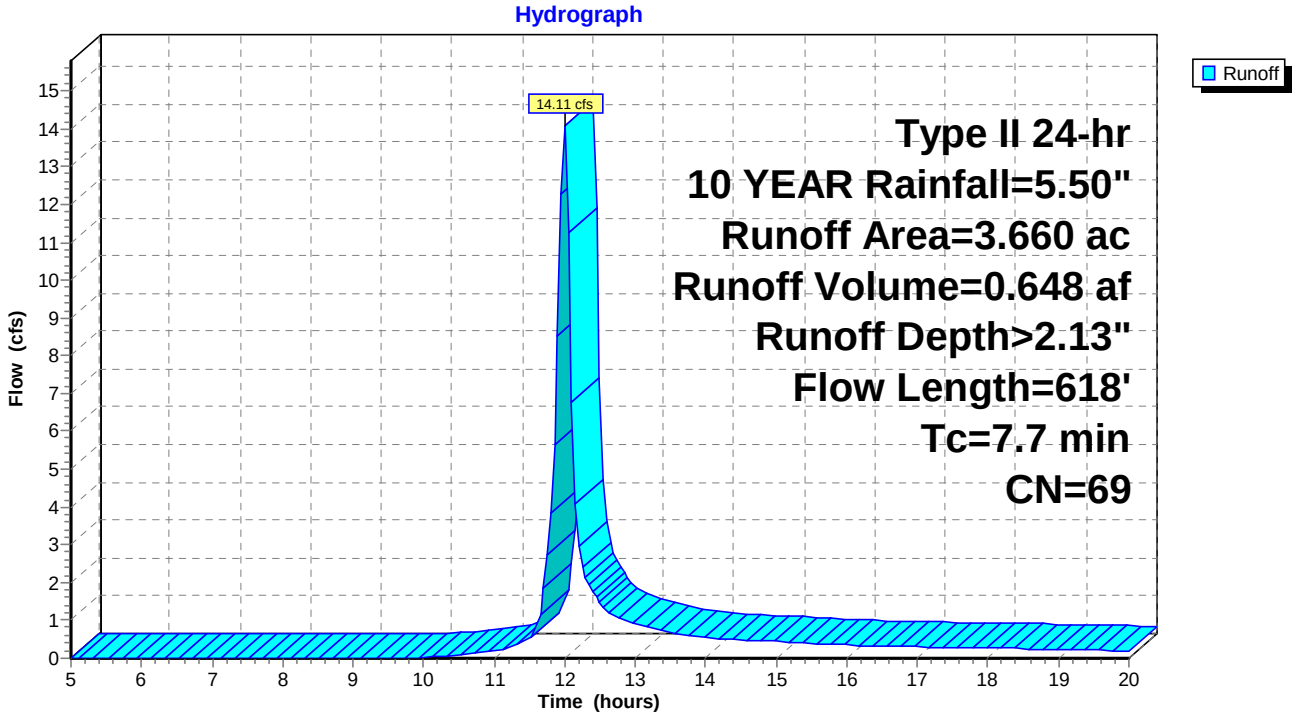
Runoff = 14.11 cfs @ 11.99 hrs, Volume= 0.648 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
3.660	69	50-75% Grass cover, Fair, HSG B
3.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.5	135	0.0890	4.80		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.4	105	0.0480	4.45		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
0.6	278	0.0190	7.86	9.65	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Concrete pipe, finished
7.7	618	Total			

Subcatchment 2S: BLOCK 2 POST



Summary for Subcatchment 3S: BLOCK 3 POST

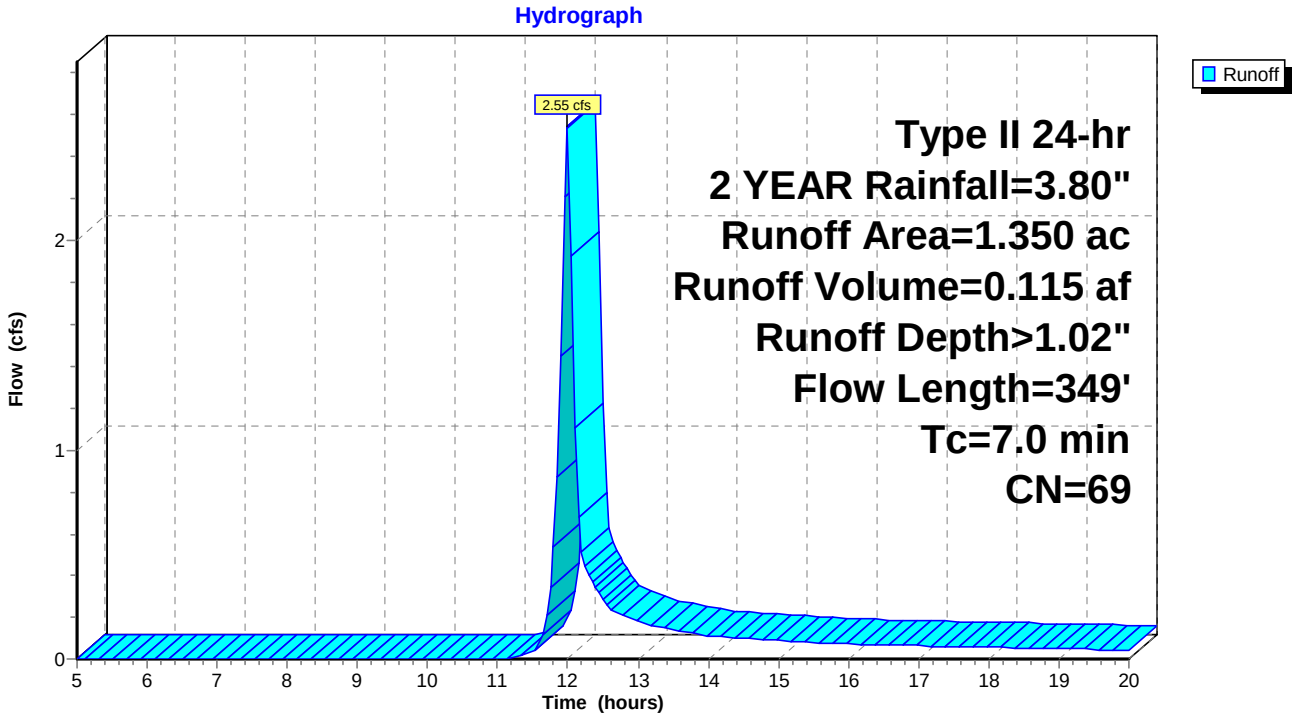
Runoff = 2.55 cfs @ 11.99 hrs, Volume= 0.115 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
1.350	69	50-75% Grass cover, Fair, HSG B
1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	249	0.1100	5.34		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.0	349	Total			

Subcatchment 3S: BLOCK 3 POST



Summary for Subcatchment 3S: BLOCK 3 POST

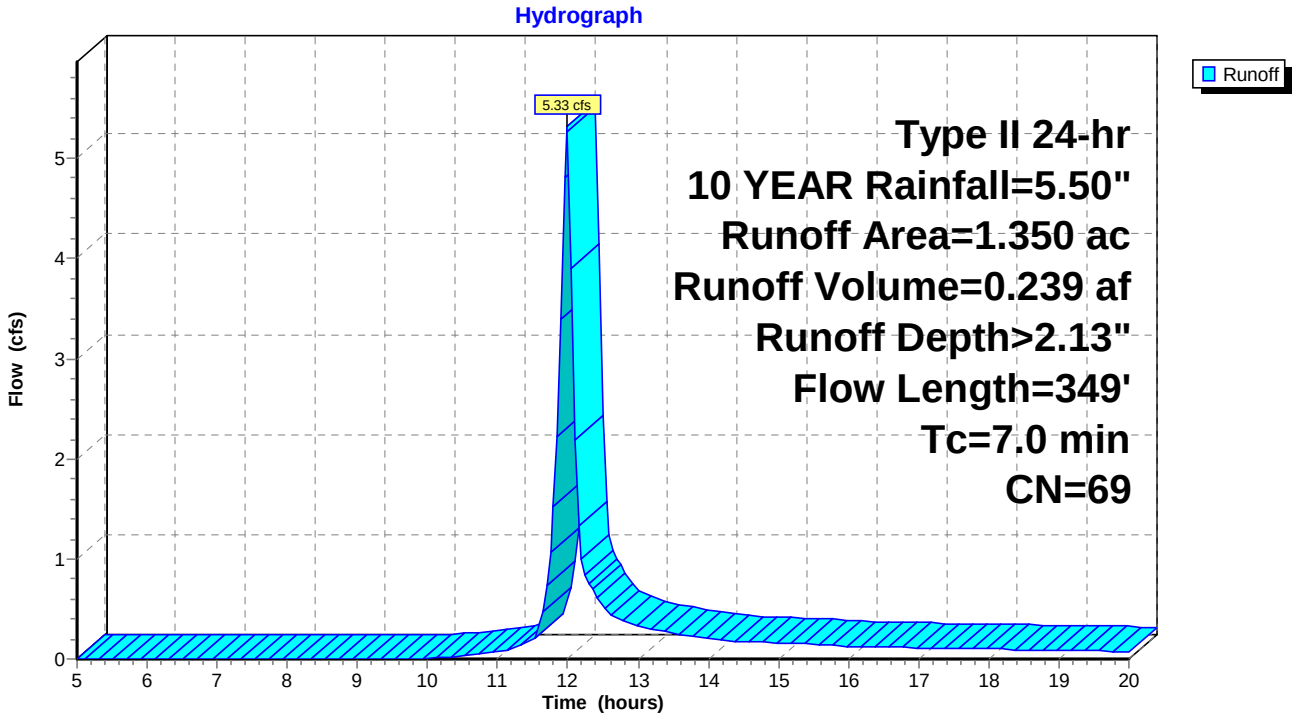
Runoff = 5.33 cfs @ 11.99 hrs, Volume= 0.239 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
1.350	69	50-75% Grass cover, Fair, HSG B
1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.8	249	0.1100	5.34		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.0	349	Total			

Subcatchment 3S: BLOCK 3 POST



Summary for Subcatchment 4S: BLOCK 4 POST

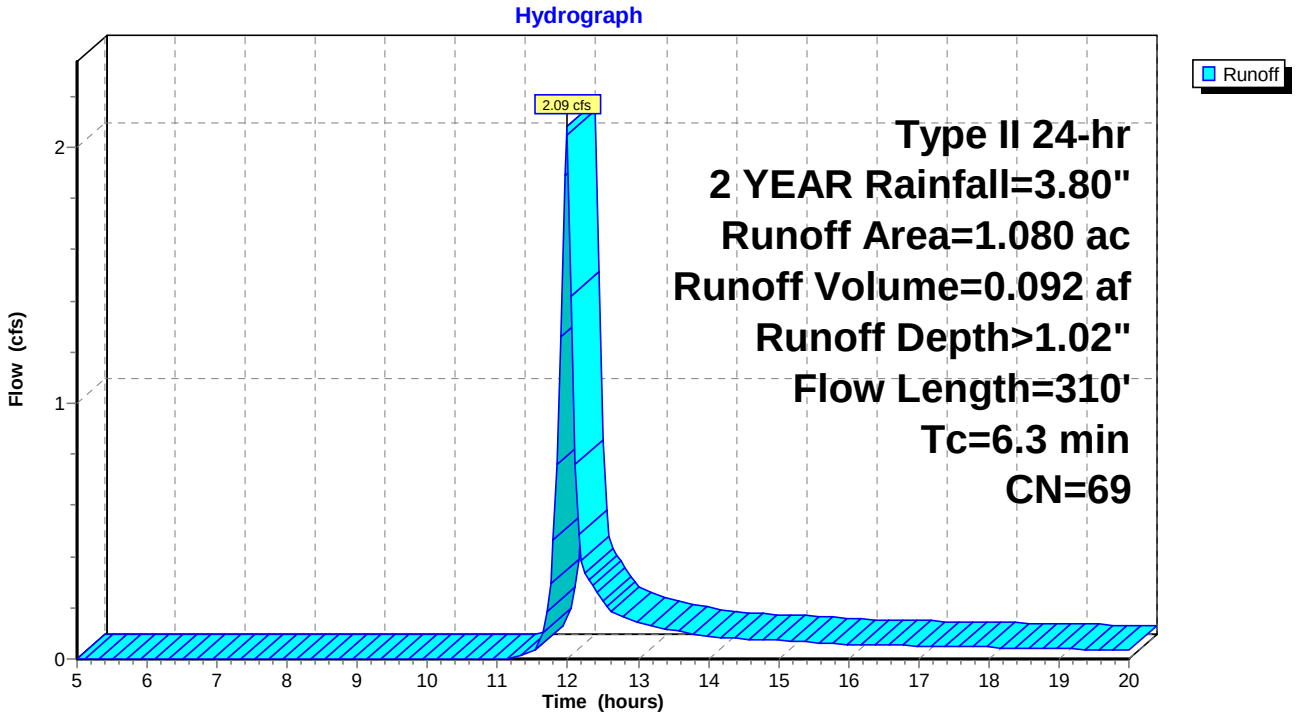
Runoff = 2.09 cfs @ 11.99 hrs, Volume= 0.092 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
1.080	69	50-75% Grass cover, Fair, HSG B
1.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.7	150	0.0470	3.49		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
6.3	310	Total			

Subcatchment 4S: BLOCK 4 POST



Summary for Subcatchment 4S: BLOCK 4 POST

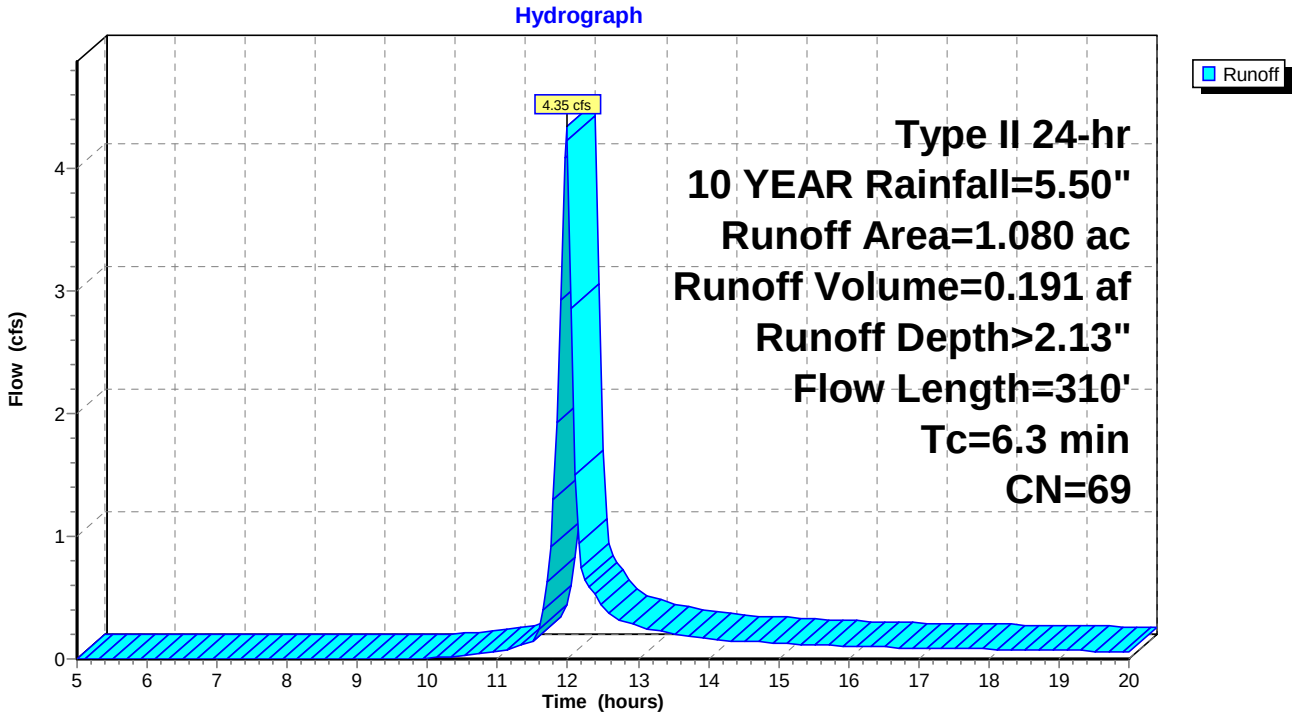
Runoff = 4.35 cfs @ 11.98 hrs, Volume= 0.191 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
1.080	69	50-75% Grass cover, Fair, HSG B
1.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.7	150	0.0470	3.49		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
0.2	60	0.0500	4.54		**Shallow Concentrated Flow, PAVED** Paved Kv= 20.3 fps
6.3	310	Total			

Subcatchment 4S: BLOCK 4 POST



Summary for Subcatchment 5S: BLOCK 5 POST

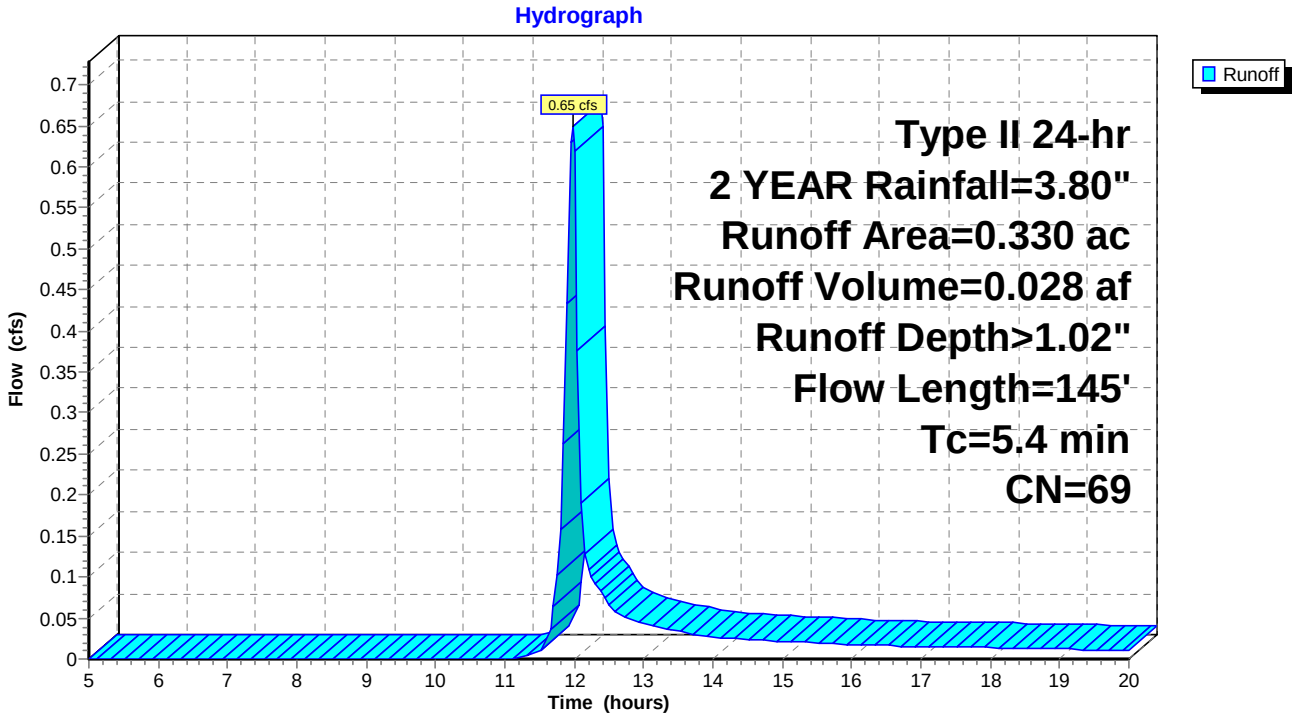
Runoff = 0.65 cfs @ 11.97 hrs, Volume= 0.028 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.330	69	50-75% Grass cover, Fair, HSG B
0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0800	0.32		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.2	45	0.0900	4.83		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
5.4	145	Total			

Subcatchment 5S: BLOCK 5 POST



Summary for Subcatchment 5S: BLOCK 5 POST

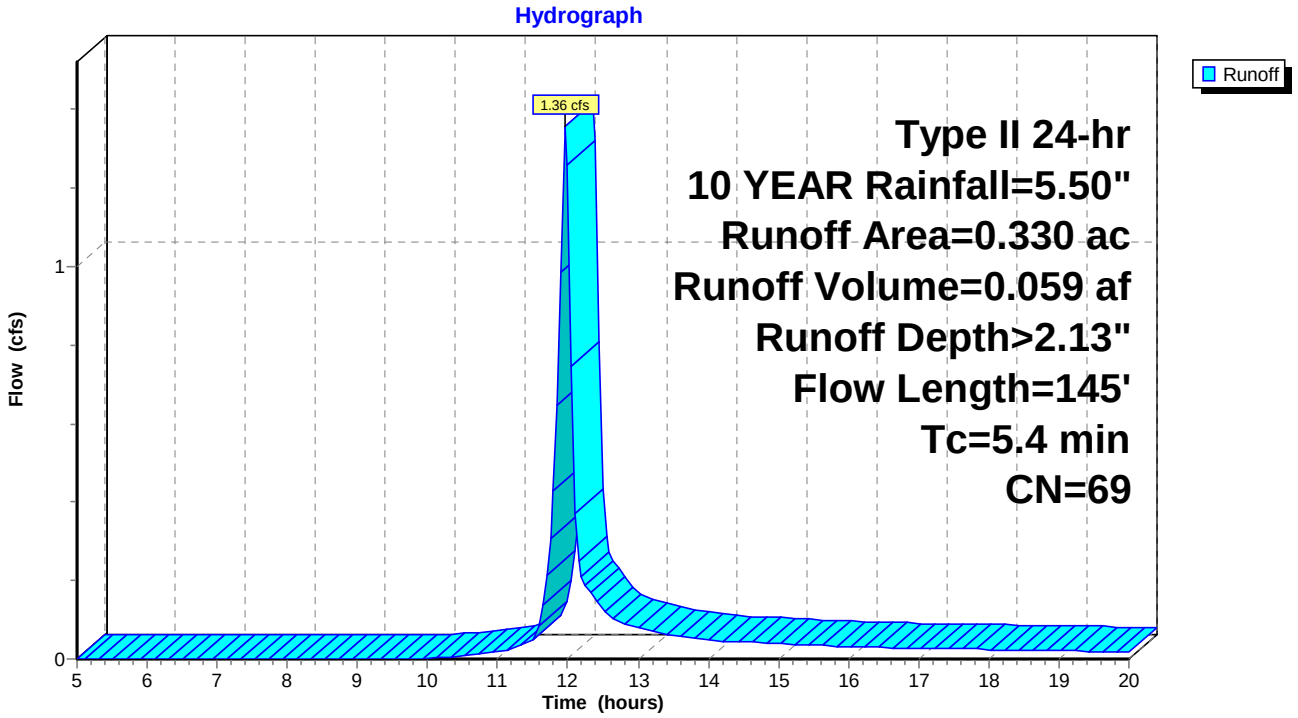
Runoff = 1.36 cfs @ 11.97 hrs, Volume= 0.059 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.330	69	50-75% Grass cover, Fair, HSG B
0.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	100	0.0800	0.32		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.2	45	0.0900	4.83		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
5.4	145	Total			

Subcatchment 5S: BLOCK 5 POST



Summary for Subcatchment 6S: BLOCK 6 POST

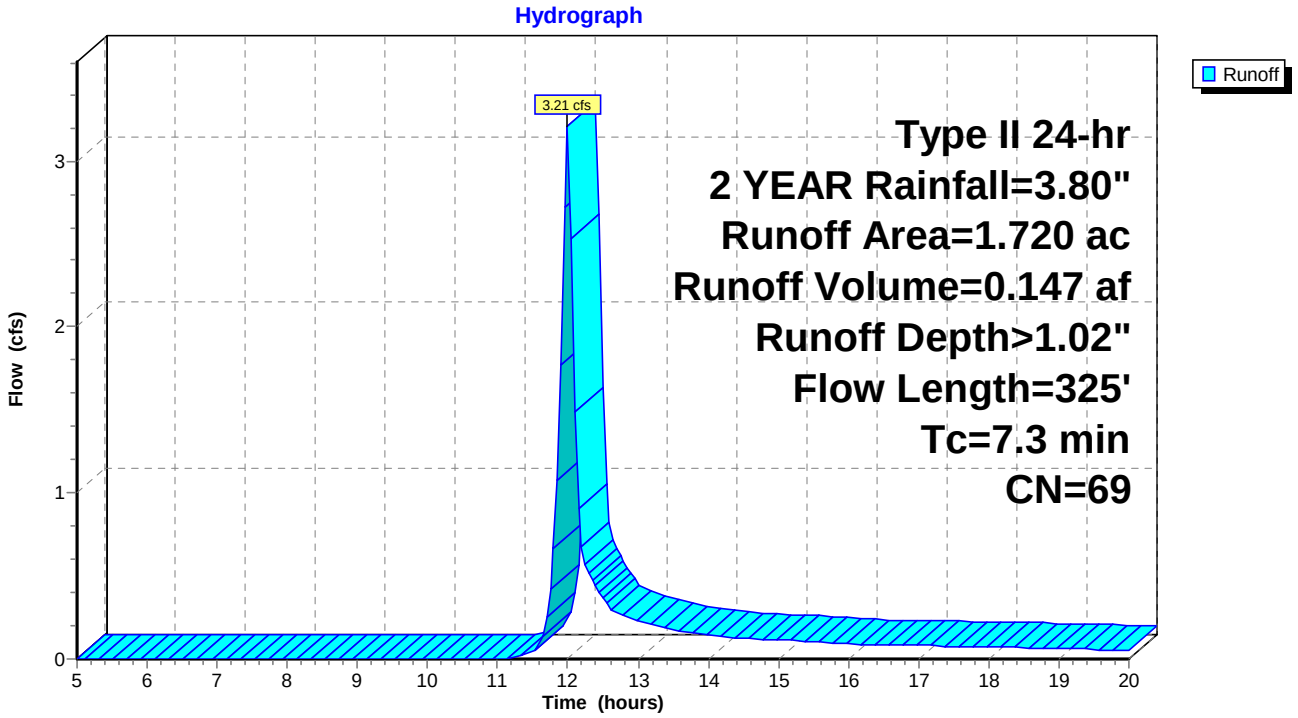
Runoff = 3.21 cfs @ 12.00 hrs, Volume= 0.147 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
1.720	69	50-75% Grass cover, Fair, HSG B
1.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	225	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.3	325	Total			

Subcatchment 6S: BLOCK 6 POST



Summary for Subcatchment 6S: BLOCK 6 POST

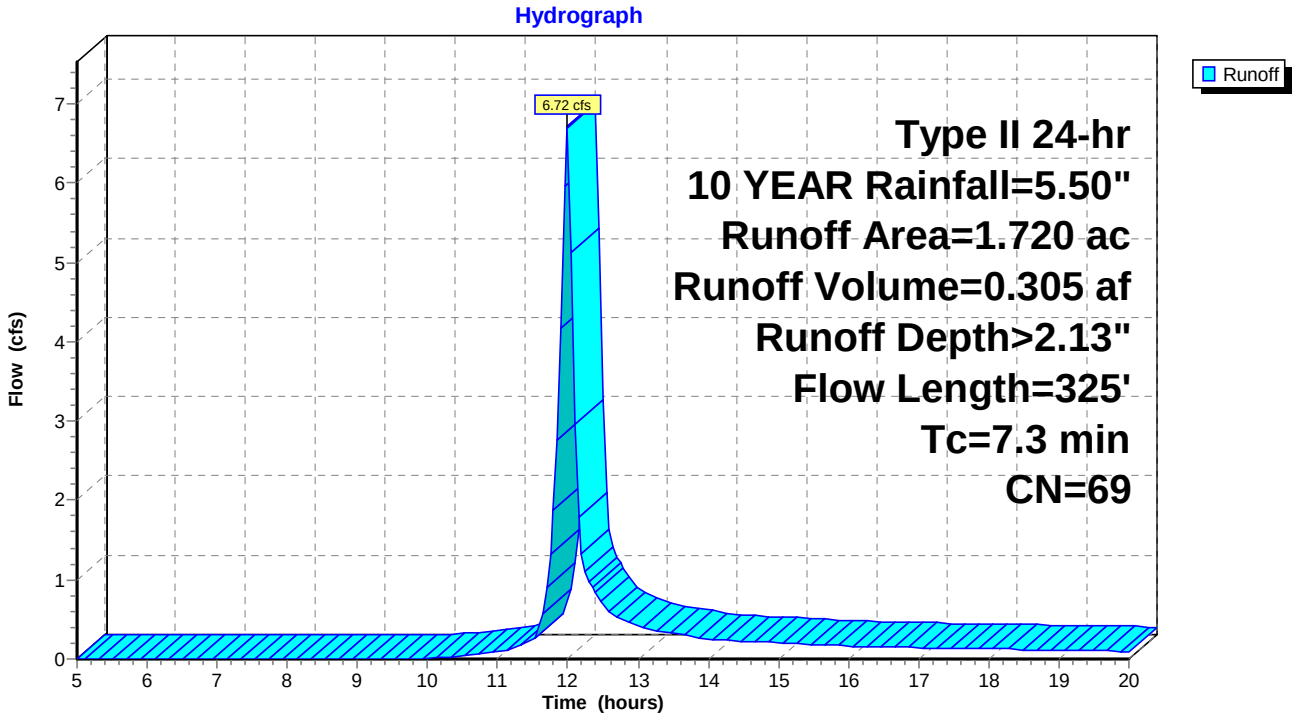
Runoff = 6.72 cfs @ 11.99 hrs, Volume= 0.305 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
1.720	69	50-75% Grass cover, Fair, HSG B
1.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	100	0.0500	0.27		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	225	0.0440	3.38		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.3	325	Total			

Subcatchment 6S: BLOCK 6 POST



Summary for Subcatchment 7S: BLOCK 7 POST

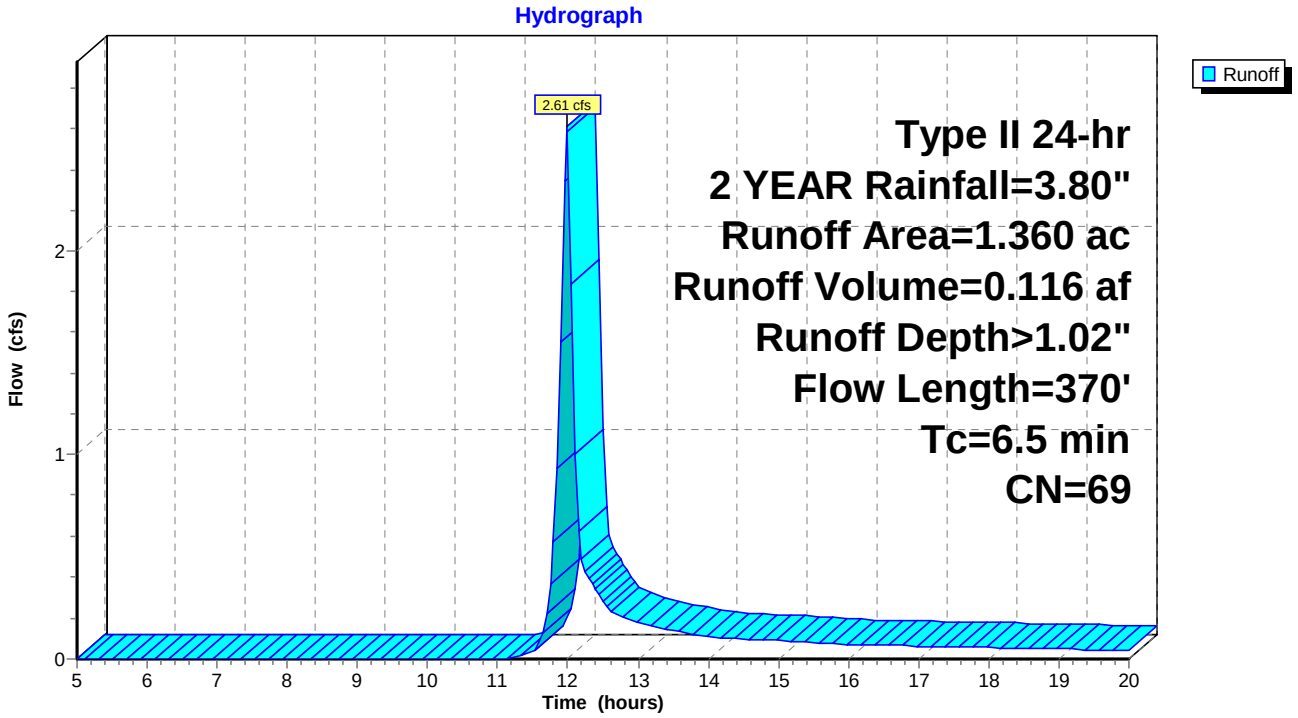
Runoff = 2.61 cfs @ 11.99 hrs, Volume= 0.116 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
1.360	69	50-75% Grass cover, Fair, HSG B
1.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	270	0.0670	4.17		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
6.5	370	Total			

Subcatchment 7S: BLOCK 7 POST



Summary for Subcatchment 7S: BLOCK 7 POST

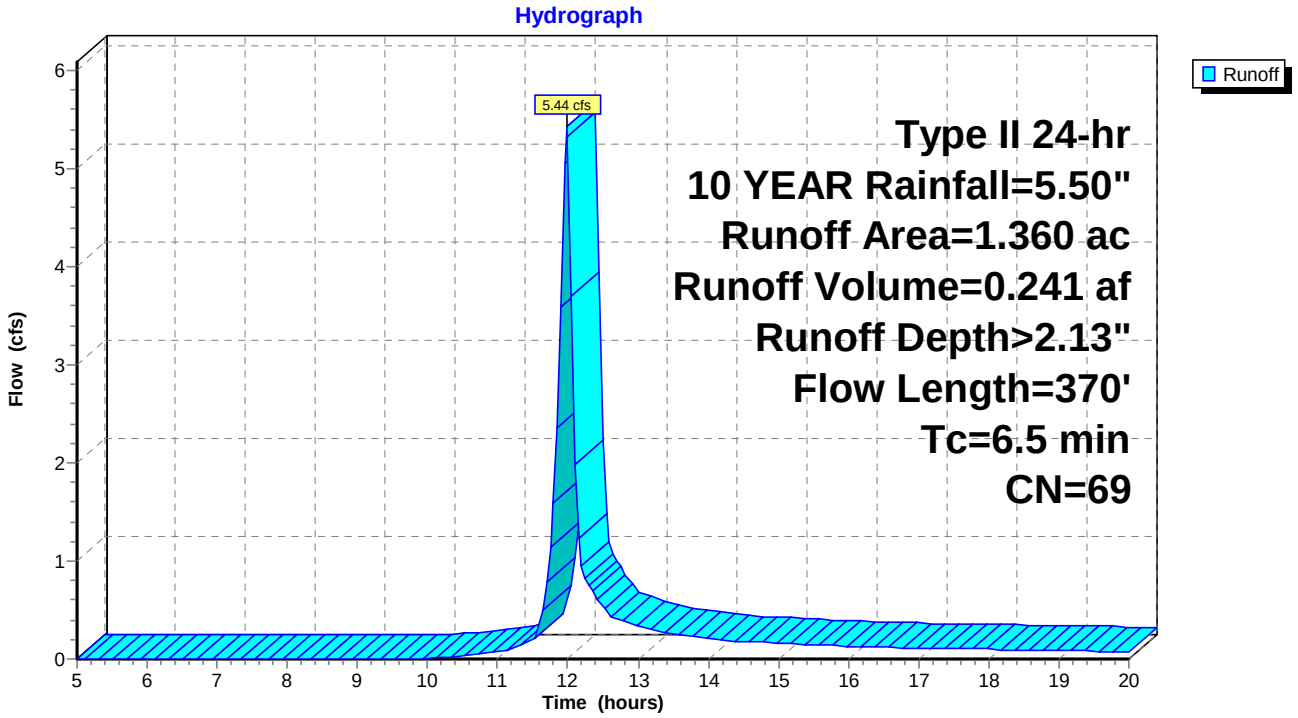
Runoff = 5.44 cfs @ 11.98 hrs, Volume= 0.241 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
1.360	69	50-75% Grass cover, Fair, HSG B
1.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0700	0.31		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
1.1	270	0.0670	4.17		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
6.5	370	Total			

Subcatchment 7S: BLOCK 7 POST



Summary for Subcatchment 8S: BLOCK 8 POST

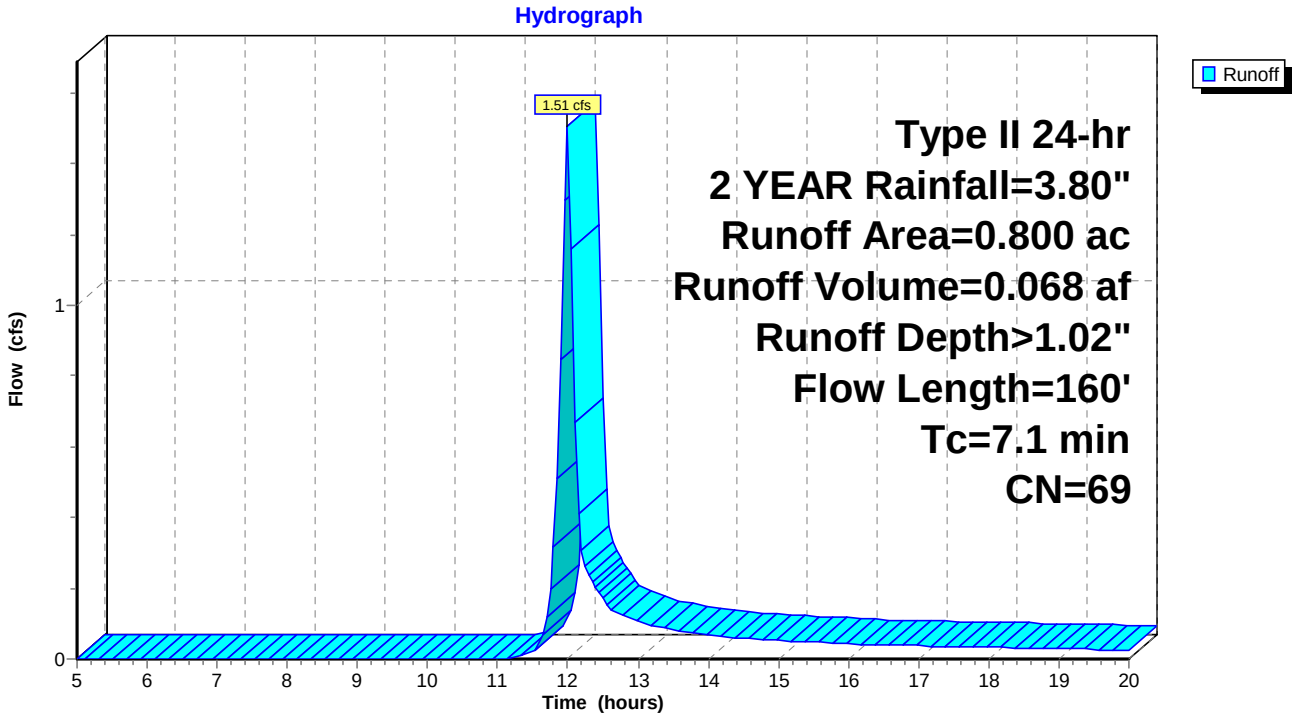
Runoff = 1.51 cfs @ 11.99 hrs, Volume= 0.068 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.800	69	50-75% Grass cover, Fair, HSG B
0.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	100	0.0400	0.24		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.3	60	0.0500	3.60		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.1	160	Total			

Subcatchment 8S: BLOCK 8 POST



Summary for Subcatchment 8S: BLOCK 8 POST

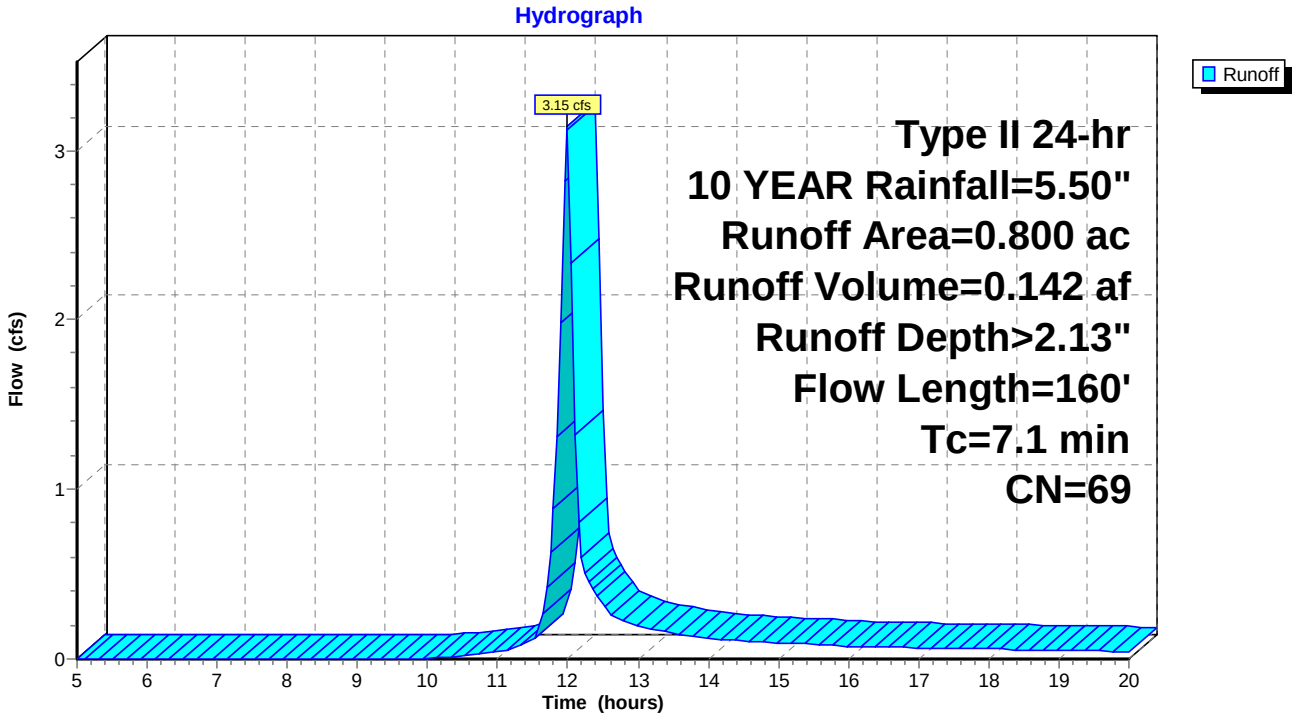
Runoff = 3.15 cfs @ 11.99 hrs, Volume= 0.142 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.800	69	50-75% Grass cover, Fair, HSG B
0.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	100	0.0400	0.24		**Sheet Flow, GRASS** Grass: Short n= 0.150 P2= 3.80"
0.3	60	0.0500	3.60		**Shallow Concentrated Flow, GRASS** Unpaved Kv= 16.1 fps
7.1	160	Total			

Subcatchment 8S: BLOCK 8 POST



Summary for Subcatchment 9S: BLOCK 9 POST

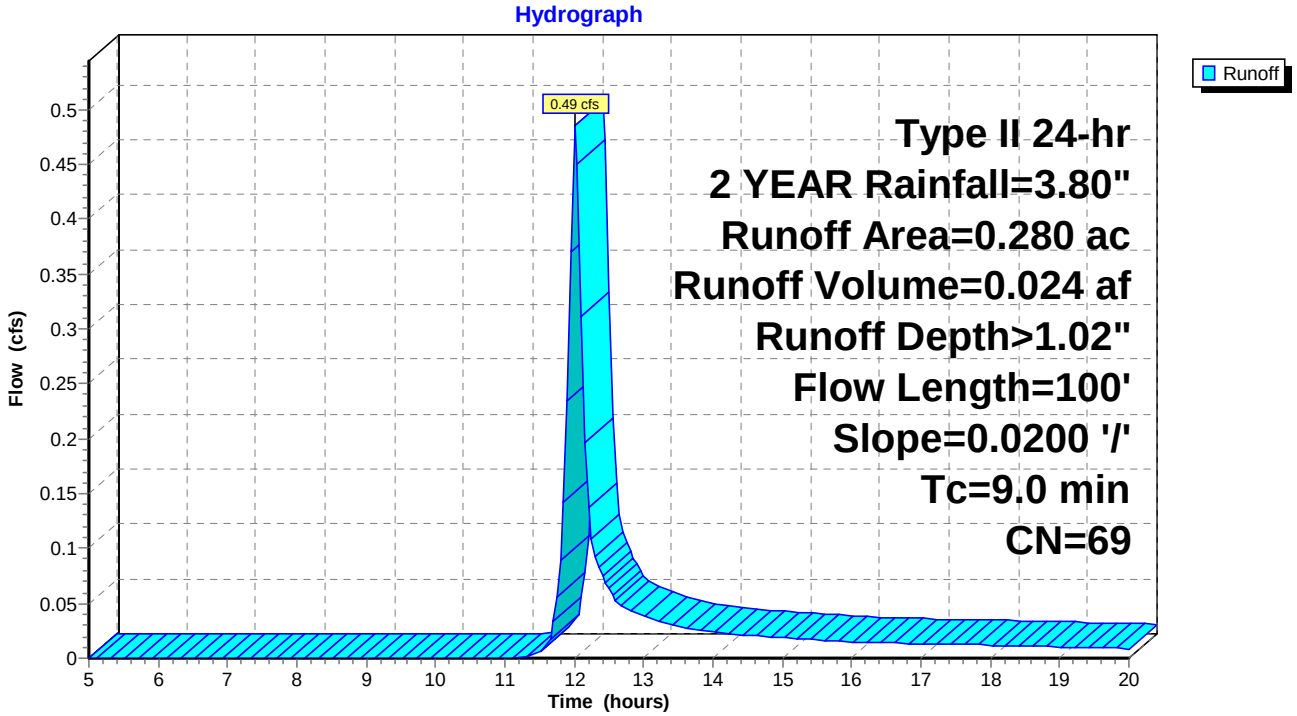
Runoff = 0.49 cfs @ 12.01 hrs, Volume= 0.024 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.80"

Area (ac)	CN	Description
0.280	69	50-75% Grass cover, Fair, HSG B
0.280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0200	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.80"

Subcatchment 9S: BLOCK 9 POST



Summary for Subcatchment 9S: BLOCK 9 POST

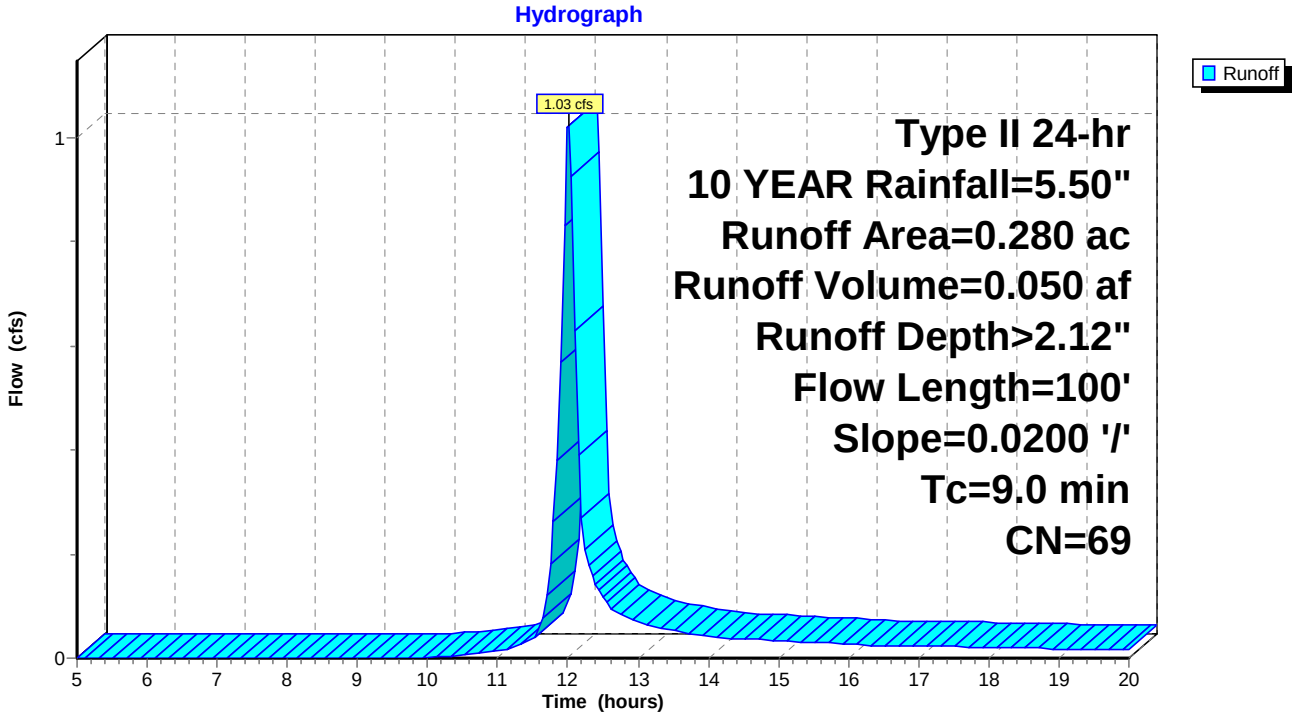
Runoff = 1.03 cfs @ 12.01 hrs, Volume= 0.050 af, Depth> 2.12"

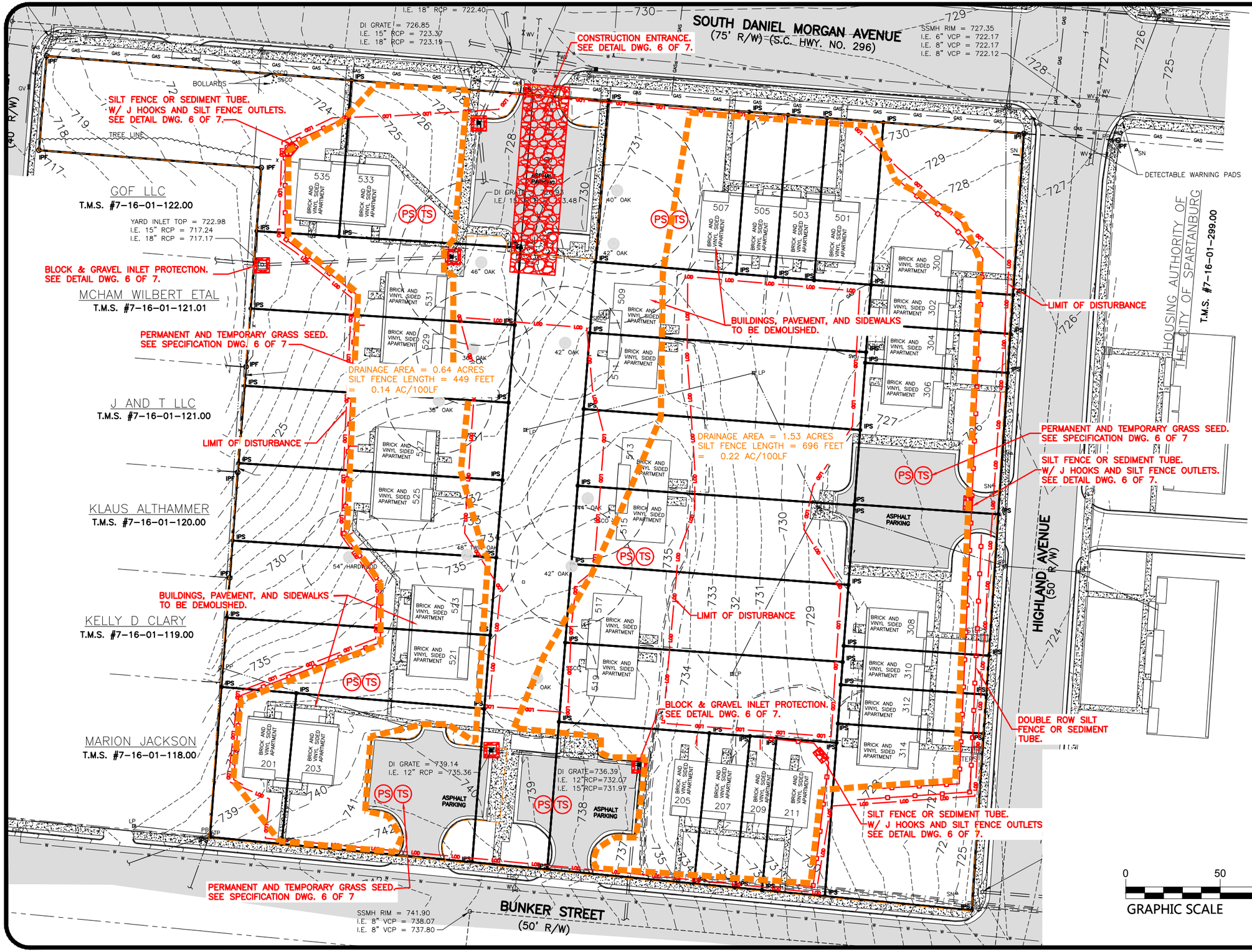
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.50"

Area (ac)	CN	Description
0.280	69	50-75% Grass cover, Fair, HSG B
0.280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0200	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.80"

Subcatchment 9S: BLOCK 9 POST





Drawing path: T:\Projects\2018\ENV\4226-18-002 City of Sptbg Cammie Clagget Demo SWPPP Spbtg SC\CAD\Construction\Block 1 E&SC.dwg

SILT FENCE SEDIMENTOLOGY

BLOCK 1
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE:	AS SHOWN
DATE:	1/18/2018
PROJECT NUMBER	4226-18-002
FIGURE NO.	1

SOUTH DANIEL MORGAN AVENUE
(S.C. HWY NO. 296)(R/W VARIES)

SDMH RIM = 709.53
I.E. 15" RCP = 705.08

I.E. 6" VCP = 722.17
I.E. 8" VCP = 722.17
I.E. 8" VCP = 722.12

SSMH RIM = 706.83
I.E. 8" = 696.74
I.E. 8" = 696.71
I.E. 8" = 696.61
I.E. 8" = 696.52

SSMH RIM = 703.24
I.E. 6" = 697.54
I.E. 8" = 697.53

N

PERMANENT AND TEMPORARY GRASS SEED.
SEE SPECIFICATION DWG. 6 OF 7

LIMIT OF DISTURBANCE

SILT FENCE OR SEDIMENT TUBE.
W/ J HOOKS AND SILT FENCE OUTLETS.
SEE DETAIL DWG. 6 & 7 OF 7.

DOUBLE ROW SILT FENCE
OR SEDIMENT TUBE.

DRAINAGE AREA = 0.45 ACRES
SILT FENCE LENGTH = 222 FEET
= 0.20 ACS./100 LF

BUILDINGS, PAVEMENT, AND
SIDEWALKS TO BE DEMOLISHED.

CITY OF SPARTANBURG
T.M.S. #7-16-01-359.00

USING AUTHORITY OF
ITY OF SPARTANBURG
.S. #7-16-01-211.00

SOUTH FOREST STREET
(80' R/W)

DRAINAGE AREA = 0.21 ACRES
SILT FENCE LENGTH = 98 FEET
= 0.21 ACS./100 LF

SILT FENCE OR SEDIMENT TUBE.
W/ J HOOKS AND SILT FENCE OUTLETS.
SEE DETAIL DWG. 6 OF 7.

BUILDINGS, PAVEMENT, AND
SIDEWALKS TO BE DEMOLISHED.

LIMIT OF DISTURBANCE

DRAINAGE AREA = 0.64 ACRES
SILT FENCE LENGTH = 270 FEET
= 0.24 ACS./100 LF

DI GRATE = 704.91
I.E. = 701.10

LIMIT OF DISTURBANCE

CONSTRUCTION ENTRANCE.
SEE DETAIL DWG. 6 OF 7.

ASPHALT PARKING

HIGHLAND AVENUE
(50' R/W)

DRAINAGE AREA = 0.18 ACRES
SILT FENCE LENGTH = 124 FEET
= 0.15 ACS./100 LF

BLOCK & GRAVEL INLET PROTECTION.
SEE DETAIL DWG. 6 OF 7.

DI GRATE = 704.73
I.E. 12" RCP = 699.56
I.E. 12" RCP = 699.22

ERMANENT AND TEMPORARY GRASS SEED.
EE SPECIFICATION DWG. 6 OF 7

DMH RIM = 722.79
E. 15" RCP = 716.16
E. 24" RCP = 716.22
E. 24" RCP = 712.25

BUILDINGS, PAVEMENT, AND SIDEWALKS
TO BE DEMOLISHED.

PERMANENT AND TEMPORARY GRASS SEED.
SEE SPECIFICATION DWG. 6 OF 7

DI GRATE = 702.88
I.E. 8" PVC = 700.07
I.E. 12" RCP = 697.82
I.E. 15" RCP = 697.61

DRAINAGE AREA = 0.32 ACRES
SILT FENCE LENGTH = 278 FEET
= 0.11 ACS./100 LF

SILT FENCE OR SEDIMENT TUBE.
W/ J HOOKS AND SILT FENCE OU
SEE DETAIL DWG. 6 OF 7.

LIMIT OF DISTURBANCE

DI GRATE = 705.95
I.E. 8" PVC = 704.66

SSMH RIM = 724.41
I.E. 8" VCP = 717.08

BETHLEHEM DRIVE

0 50 100
GRAPHIC SCALE (IN FEET)

Drawing path: T:\Projects\2018\ENV\4226-18-002 City of Spt\bg Cammie Clagget Demo SWPPP Spt\bg SCCAD\Construction\Block 2 E&SC.dwg

SILT FENCE SEDIMENTOLOGY

BLOCK 2
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE:
AS SHOWN

DATE:
1/18/2018

PROJECT NUMBER
4226-18-002

FIGURE NO.
2

T.M.S. #7-16-01-075.00

MARION JACKSON
T.M.S. #7-16-01-118.00

SDMH RIM = 732.75
I.E. 15" RCP = 724.56
I.E. 15" RCP = 724.46

BUNKER STREET (50' R/W)

SDMH RIM = 734.00
I.E. 15" RCP = 727.76

SDMH RIM = 734.61
I.E. 8" WCP = 730.20
I.E. 8" WCP = 729.48

CONSTRUCTION ENTRANCE.
SEE DETAIL DWG. 6 OF 7.

CONSTRUCTION ENTRANCE.
SEE DETAIL DWG. 6 OF 7.

BLOCK NO. 3
LOTS: 1-6

EX. ASPHALT PARKING

DRAINAGE AREA = 0.4 ACRES
SILT FENCE LENGTH = 287 FEET
= 0.14 AC/100 LF

PERMANENT AND TEMPORARY GRASS SEED.
SEE SPECIFICATION DWG. 6 OF 7

SILT FENCE OR SEDIMENT TUBE
W/ J HOOK.
SEE DETAIL DWG. 6 & 7 OF 7.

DRAINAGE AREA = 0.3 ACRES
SILT FENCE LENGTH = 280 FEET
= 0.11 AC/100 LF

DRAINAGE AREA = 0.2 ACRES
SILT FENCE LENGTH = 174 FEET
= 0.12 AC/100 LF

ASPHALT PARKING

BEACON STREET (40' R/W)

CONCORD AVE. (40' R/W)

SILT FENCE OR SED
W/ SILT FENCE OUT
SEE DETAIL DWG. 6

PERMANENT AND TEMPORARY GRASS SEED.
SEE SPECIFICATION DWG. 6 OF 7

SILT FENCE OR SEDIMENT TUBE.
SEE DETAIL DWG. 6 OF 7.

BLOCK NO.4
LOTS: 7-18
T.M.S. #7-16-01-152.00

BUILDINGS, PAVEMENT, AND SIDEWALKS
TO BE DEMOLISHED.

BUILDINGS, PAVEMENT, AND SIDEWALKS
TO BE DEMOLISHED.

T.M.S. NO. 7-16-01-158.00
HOUSING AUTHORITY OF
THE CITY OF SPARTANBURG
T.M.S. #7-16-01-158.00

SSMH RIM = 744.10
I.E. 8" WCP = 741.20
I.E. 8" WCP = 741.11

LIMIT OF DISTURBANCE

SILT FENCE OR SEDIMENT TUBE.
SEE DETAIL DWG. 6 OF 7.

LIMIT OF DISTURBA

MAW MCMANUS LLC
T.M.S. #7-16-01-084.02

CRAPE MYRTLE
PROPERTIES LLC
T.M.S. #7-16-01-092.00

GRAYSON HUNTER GLUR

TIE = 50.03'
N4°47'43"E

IPF #2 RBR
BASE UNDER PVC

IPS/WITNESS
STA. 0+05.00

IPF #2 RBR
BASE

IPF #5 RBR

0 40 80
GRAPHIC SCALE (IN FEET)

SILT FENCE SEDIMENTOLOGY

BLOCKS 3 AND 4
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE:
AS SHOWN

DATE:
1/16/2018

PROJECT NUMBER
4226-18-002

FIGURE NO.
3

Drawing path: T:\Projects\2018\ENV\4226-18-002 City of Sptbg Cammie Clagget Demo SWPPP Sptbg SC\CAD\Construction\Block 3&4 E&SC.dwg

BLOCK NO.6
LOTS: 1–12

SILT FENCE OR SEDIMENT TUBE W/ OUTLET AND J HOOKS. SEE DETAILS DWG. 6 OF 7.

BUILDINGS, PAVEMENT, AND SIDEWALKS TO BE DEMOLISHED.

LIMIT OF DISTURBANCE

DRAINAGE AREA = 0.64 ACRES
SILT FENCE LENGTH = 413 FEET
= 0.16 AC/100 LF

PERMANENT AND TEMPORARY GRASS SEED. SEE SPECIFICATION DWG. 6 OF 7

CONSTRUCTION ENTRANCE (50' L). SEE DETAIL DWG. 6 OF 7.

BEACON STREET
(40' R/W)

CHARLES BRANNON ETAL
T.M.S. #7-16-01-093.00

S4°34'43"W TIE = 76.53'

SDMH RIM = 733.69
I.E. 15" RCP = 728.25
I.E. 15" RCP = 727.39
I.E. 15" RCP = 727.07

SDMH RIM = 735.15
I.E. 15" RCP = 730.02

SSMH RIM = 736.24
I.E. 8" VCP = 729.86
I.E. 8" VCP = 729.70

SSMH RIM = 741.78
I.E. 8" VCP = 735.07
I.E. 8" VCP = 734.99

S85°27'53"E TIE = 117.55'

DAVID BELLEW &
T.M.S. #7-16-01-140.00

PHAN HUYNH &
KIM LOAN
T.M.S. #7-16-01-146.00

VIRGINIA BROWN
T.M.S. #7-16-01-149.00

DENISE LEBRON SHELIA
T.M.S. #7-16-01-145.00

WILLIAM AND
MARY G MEREDITH
T.M.S. #7-16-01-148.00

SUNDRA E RICE
T.M.S. #7-16-01-138.00

DRAINAGE AREA = 0.17 ACRES
SILT FENCE LENGTH = 156 FEET
= 0.12 AC/100 LF

BUILDINGS, PAVEMENT, AND SIDEWALKS TO BE DEMOLISHED.

LIMIT OF DISTURBANCE

ELIZABETH A LIGGITT TRUST
T.M.S. #7-16-01-173.00

DRAINAGE AREA = 0.56 ACRES
SILT FENCE LENGTH = 298 FEET
= 0.19 AC/100 LF

RECA LIMITED PARTNERSHIP
T.M.S. #7-16-01-163.00

PERMANENT AND TEMPORARY GRASS SEED. SEE SPECIFICATION DWG. 6 OF 7

CONSTRUCTION ENTRANCE (50' L). SEE DETAIL DWG. 6 OF 7.

SILT FENCE OR SEDIMENT TUBE. W/ J HOOKS. SEE DETAIL DWG. 6 OF 7.

CONCORD AVENUE
(50' R/W)

SILT FENCE OR SEDIMENT TUBE. W/ OUTLET & J HOOKS. SEE DETAIL DWG. 6 OF 7.

BLOCK NO.7
LOTS: 13–24

0 50 100
GRAPHIC SCALE (IN FEET)

Drawing path: T:\Projects\2018\ENV\4226-18-002 City of Sptbg Cammie Clagget Demo SWPPP Sptbg SC\CAD\Construction\Block 6&7 E&SC.dwg

SILT FENCE SEDIMENTOLOGY

BLOCKS 6 AND 7
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE:
AS SHOWN

DATE:
1/16/2018

PROJECT NUMBER
4226-18-002

FIGURE NO.
4

SILT FENCE SEDIMENTOLOGY

BLOCKS 5, 8, AND 9
CAMMIE CLAGETT DEMOLITIONS
CITY OF SPARTANBURG, SOUTH CAROLINA

SCALE: AS SHOWN

DATE: 01/16/2017

PROJECT NUMBER: 4226-18-002

FIGURE NO. 5

GRAPHIC SCALE (IN FEET) 0 50 100

Drawing path: T:\Projects\2018\ENV\4226-18-002 City of Spbg Cammie Clagget Demo SWPPP Spbg SC\CAD\Construction\Block 5, 8, 9 E&SC.dwg

Appendix E

Inspection Log and Reports

SWPPP Inspection Log

Name of Construction Site	Location of Construction Site

Date of Inspection	Inspector Name	Does Inspection Report require maintenance of installed BMPs?	
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No

SWPPP Inspection Log (Continued)			
Date of Inspection	**Inspector Name**	**Does Inspection Report require maintenance of installed BMPs?**	
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No
		☐ Yes	☐ No

Appendix F

Rainfall Log and Reports

SWPPP Rainfall Records (January - June)										Year:	
January	Rainfall	February	Rainfall	March	Rainfall	April	Rainfall	May	Rainfall	June	Rainfall
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29		29		29		29		29		29	
30				30		30		30		30	
31				31				31			

SWPPP Rainfall Records (July - December)										Year:	
July	Rainfall	August	Rainfall	September	Rainfall	October	Rainfall	November	Rainfall	December	Rainfall
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29		29		29		29		29		29	
30		30		30		30		30		30	
31		31				31				31	

Appendix G

Additional Site Logs and Records

SWPPP Modification Log

Name of Construction Site	Location of Construction Site

Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

SWPPP Modification Log (Continued)			
Name of Construction Site		Location of Construction Site	
Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		Description of Modification	Location of Modification
☐ Major ☐ Minor			
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

SWPPP Soil Stabilization Log

Name of Construction Site	Location of Construction Site

Type of Stabilization		Description of Stabilization		Location of Stabilization
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	

SWPPP Soil Stabilization Log (Continued)

Name of Construction Site	Location of Construction Site

Type of Stabilization		Description of Stabilization		Location of Stabilization
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	
Type of Stabilization		**Description of Stabilization**		**Location of Stabilization**
☐ Final ☐ Temporary				
Initiate Date:				
Completion Date:				
Additional work proposed for this area:			Inspection Frequency for Stabilized Area:	

Appendix H *Construction General Permit SCR100000*

A copy of the NPDES General Permit for Stormwater Discharges from Construction Activities (SCR100000) can be found at the following address:

http://www.scdhec.gov/Environment/docs/CGP-permit.pdf