

June 20, 2023

55 Walkers Brook Drive, Suite 100, Reading, MA 01867
Tel: 978.532.1900

Ms. Liz Burdick
Director, Department of Land Use & Development
Town of Montville
310 Norwich-New London Turnpike
Montville, CT 06382

Re: **Supplemental Information for Site Plan Application (No. 23SITE8)**
Montville Landfill Solar Project
669 Oakdale Road, Montville, CT 06353

Dear Ms. Burdick:

Weston & Sampson Engineers, Inc. (Weston & Sampson), on behalf of VCP Montville LF, LLC, is submitting this cover letter to provide supplemental information in support of a Site Plan Application (Application No. 23SITE8) previously submitted for the above-mentioned project. VCP Montville LF, LLC proposes to develop an approximately 600 kilowatt (kW AC) ground-mounted solar photovoltaic facility at the Town of Montville Landfill located at 669 Oakdale Road. The landfill site is owned by the Town of Montville. The Town selected VCP Montville LF, LLC to design, permit, construct, own, operate, and maintain the solar PV facility. The solar PV array is to be supported on concrete ballasted foundations. Panel racking will be installed above the ballasted foundations and solar PV modules will be attached to the racking. Electricity generated by the facility will run through a transformer located on top of the landfill before connecting into the utility-owned grid via utility poles on CT Route 163. The solar facility will be secured with ballasted chain link fencing. The project is located within the government zoning district (G District). A USGS quad map, including the site location and zoning district, is provided as an attachment to this letter.

The Site Plan Application form and project design drawings were submitted to the Town on June 8, 2023. In response to this submission, the Town requested the following information:

- Stormwater Report with drainage and hydraulic calculations
- Site Plan Checklist
- Erosion and Sedimentation (E&S) Control Plan and Checklist

A stormwater report with hydraulic calculations and drainage maps is included as an attachment to this letter. The Site Plan checklist, E&S checklist, and associated attachments are also included with this letter.

If you have any further questions or require any additional information, please feel free to contact me by email at bukowski.rob@wseinc.com.

Sincerely,
WESTON & SAMPSON ENGINEERS, INC.

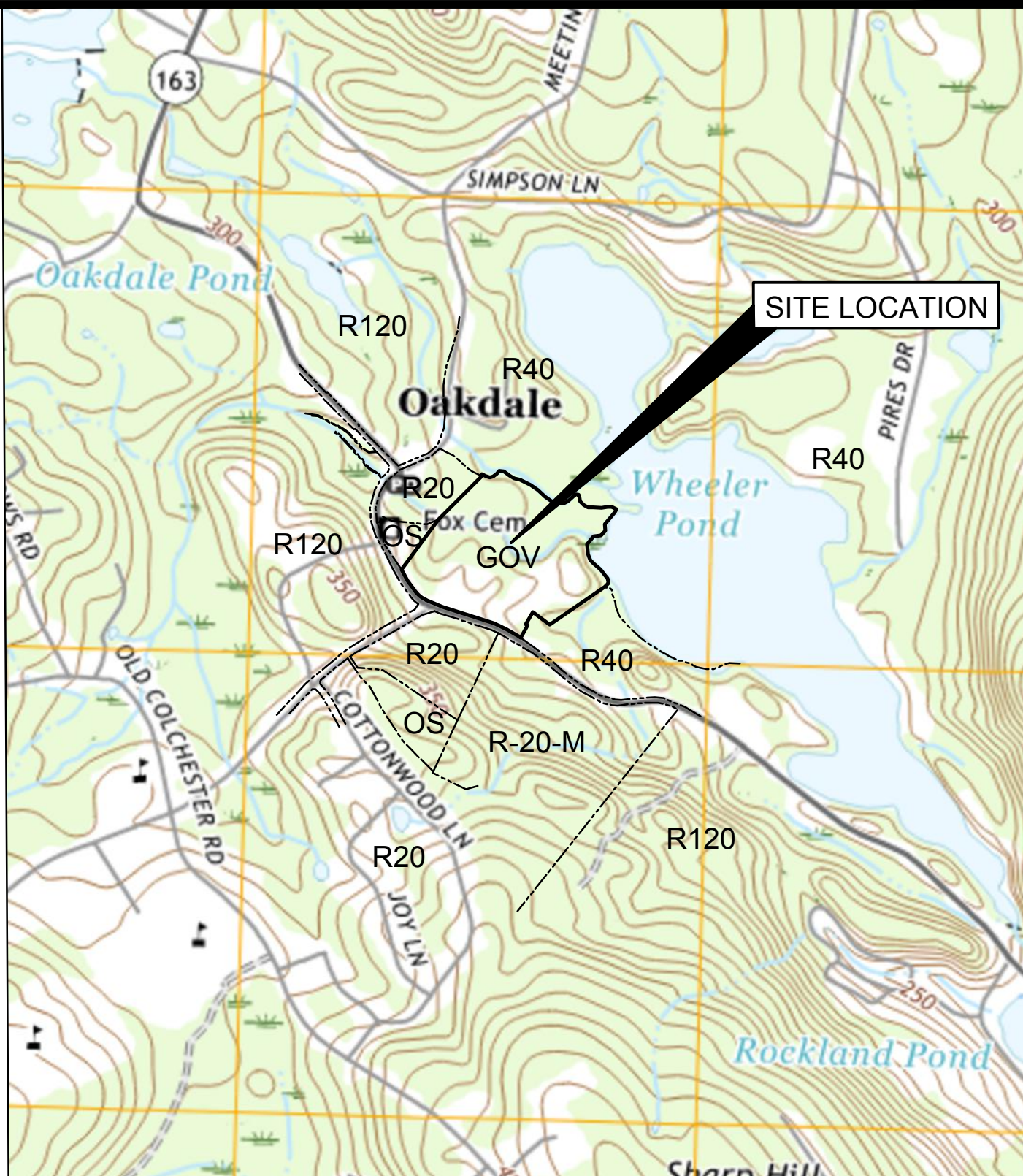


Robert J. Bukowski, P.E.
Project Manager

cc: James Cerkowicz, PE (VCP Montville LF, LLC)

Attachments: Figure 1 – Location Map
Site Plan Review Checklist
Erosion and Sedimentation Control Checklist and Plan
Stormwater Report

Figure 1 – Location Map



0' 500' 1000' 1500'
SCALE: 1" = 1000'

LOCATION MAP

TOWN OF MONTVILLE
669 ROUTE 163
MONTVILLE, CT

Weston & Sampson

WESTON & SAMPSON ENGINEERS, INC.
712 BROOK STREET, SUITE 103
ROCKY HILL, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

PERMITTING

Drawn By: DED	DED
Reviewed By:	MRC
Approved By:	RJB
DATE:	06/XX/2023

FIGURE 1

Site Plan Review Checklist

Site Plan Review Checklist

Site plans are required for all commercial and industrial uses and residential special permits. Site plans shall comply with Section 17 of the Zoning Regulations and shall be drawn at a scale of 1"=40' or at a scale approved by the Planning Director. (Maximum size 24" x 36")

- ☒ A written statement describing the proposed use or uses in sufficient detail will be submitted with each site plan to determine compliance with the permitted uses or special permits in the applicable district.
- ☒ A location map at a scale of one inch (1") equals 1,000 feet shall be submitted showing the subject property, streets, lot lines, and zoning district boundaries within 1,000 feet of the subject property. If space permits, the location map may be included as an insert on the site plan as required in section 17.4. An 8-½ x 11 inch photocopy of a USGS quad map with the project outlined must accompany the site plan.
- ☒ The name and address of the applicant and owner of record.
- ☒ North arrow, scale, date of the drawing or its revision and the name(s) and seal(s) of those persons preparing the site plan.
- ☒ Property boundaries, dimensions, and area in acres and square feet and all existing monuments, pipe markers and other physical evidence concerning property boundaries.
- ☒ Zoning districts and dimensions of all yards as required by these regulations. This information will be shown in both mapped and tabular form.
- ☒ Existing and proposed contour lines at 5 ft. intervals. The Town Planner may require a 2 ft. Contour interval in order to clearly show topography and drainage.
- ☒ Location, width, and purpose of all existing and proposed easements and rights-of-way on the property.
- ☒ Location of all existing watercourses, wetlands, public water supply watershed boundaries, bedrock outcrops, and where appropriate, the mean high water line, flood hazard areas, and channel encroachment lines.
- ☒ Location and size in square feet of all existing and proposed structures including underground storage tanks and uses on the property and the approximate locations and size of all existing structures on the abutting properties which are within 100 feet of the property lot lines.
- ☒ Location of all storage areas for materials, supplies, products, vehicles and equipment that will not be kept inside a structure as required by the zoning regulations.
- ☒ Location, size, and arrangement of all parking and loading areas including existing and proposed driveway entrances and exits. The Town Planner may require the applicant to submit a traffic evaluation report or pedestrian report prepared by an engineer, licensed in the State of Connecticut, if the proposed development has the potential to impact traffic flow or significantly impact peak traffic counts.
- ☒ Location, size, and arrangement of all pedestrian walkways and sidewalks.
- ☒ Location, layout, type, and size of buffer or landscape area, plant materials, fencing, screening devices, or other materials proposed for use.

Site Plan Review Checklist

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- N/A ☐ Location, size, height, lighting, and orientation of all signs.
- N/A ☐ Location, size, height, and orientation of all outdoor lighting facilities.
- N/A ☐ The stormwater drainage system, including the location and elevations of all existing and proposed street drainage facilities within 100 feet of the property. The Town Planner or Town Engineer may require additional information and/or details regarding off-site drainage features affected by, or impacting upon the proposed development. Stormwater management systems shall be designed in accordance with the 2004 Connecticut Stormwater Quality Manual as may be amended from time to time.
- N/A ☐ Location, size, and type of all water and fire protection facilities.
- N/A ☐ Location, size, and type of all sewerage disposal facilities.
- N/A ☐ Building elevations or preliminary architectural drawings showing the general type of building proposed for construction.
- N/A ☐ In cases where the applicant intends to develop in stages, an overall site and staging plan shall be required.
- N/A ☐ The Commission may require the applicant to submit an environmental evaluation report for a proposed development located in an environmentally sensitive area. Evaluation reports by independent professionals and other experts such as hydrologists, geologists and soil scientists may be required at the expense of the applicant.
- ☒ All signature and waiver blocks must be located in the lower right corner.
- N/A ☐ Certificate of Public Convenience and Necessity in accordance with Section 4.10.8 of the Zoning Regulations.
- N/A ☐ Sanitary Waste Disposal Plan. For any site which is to be served, and is capable of being served, by an operational public sanitary sewer line prior to occupancy, the site plan shall depict the sewer lateral and other engineering information suitable to determine that connection to an operational sanitary sewer line is feasible. In addition, the applicant shall provide evidence from the Montville Water Pollution Control Authority that it is capable of providing sanitary sewer service to the subject site. If the applicant proposes to utilize a community sewerage system, as defined in C.G.S. Section 7-245 as may be amended from time to time, a report from the Montville Water Pollution Control Authority indicating that all requirements of C.G.S. Section 7-246 as may be amended from time to time have been satisfied shall be provided.
- ☒ An Erosion and Sediment Control Plan designed in accordance with Section 15.1 of the Zoning Regulations.
- N/A ☐ **Special Requirements for Uses in Public Drinking Water Supply Watersheds** The following special requirements shall apply to all Special Permit uses located within the Lake Konomoc and Stony Brook Reservoir watershed:
1. All septic systems shall be designed by a Sanitary Engineer registered in the State of Connecticut, and shall include a renovation analysis demonstrating compliance with current standards adopted by the DEEP.
 2. No stormwater discharge from parking areas, roadways, rooftops or areas covered with similar impervious surfaces shall be deposited directly into any wetland or watercourse, nor discharged directly into the ground. Suitable surface and/or subsurface measures shall be taken to detain, filter, renovate and otherwise improve the quality of any such waters before discharge to surface or subsurface waters on or off the site. Existing wetlands may be employed for final treatment of stormwaters to the extent of their capacity to do so, but only after initial treatment by new wetlands or structural filtration methods.

N/A ☐

Digital data for Special Permits and Resubdivisions/Subdivisions shall be provided to the Planning Office after the recording of the final mylars on the land records. For Site Plans, the data shall be provided to the office after all signatures have been obtained by the appropriate authorities and prior to the issuance of a Zoning Permit.

- The Digital Data shall include:
 - a. One (1) PDF copy of the project
 - b. Copy of the project in ArcView (GIS) format or AutoCAD
 - Shapefile (.shp)
 - Geodatabase (.mdb)
 - Export file (.e00)
 - AutoCAD.dwg
- Having all features in a single AutoCAD layer or GIS file will not be accepted. For example, there must be separate layers/files for text, buildings, roads, wetlands, etc
- All data represented in a digitally submitted AutoCAD or GIS drawing must be registered to the CT State Plane Coordinate System Using NAD 1983 datum.
- Data can be submitted to the Planning Office via a flash-drive or CD.

DETERMINATION OF APPLICABILITY

The Commission may determine that one (1) or more of the site plan ingredient requirements of Section 17.4 is not necessary or required to reach a decision on the application. A determination of applicability of the applicable section(s) must be requested in writing by the applicant.

Please refer to the Zoning Regulations to insure that you meet all requirements for setbacks, parking, signs, etc.

Erosion and Sediment Control Plan and Checklist

EROSION & SEDIMENT CONTROL CHECKLIST

Monitoring and Maintenance: The E&S plan and any revisions, shall identify an agent or agents who have the responsibility and authority for the implementation, operation, monitoring and maintenance of E&S measures. Such agent(s) shall be familiar with each control measure used including its limitations, installation, inspection and maintenance. When control measures fail, or are found to be otherwise ineffective, such agent(s) shall coordinate plan revisions with a professional experienced in erosion and sediment control and any approving agency when that agency's approval is required. Such agent(s) shall have the additional responsibility for ensuring all erosion and sediment controls are properly installed and maintained the construction site before predicted major storms. A major storm is defined as a storm predicted by the National Office of Atmospheric Administration (NOAA) Weather Service with warnings of flooding, severe thunderstorms or similarly severe weather conditions or effects.

Each measure has inspection requirements included in the measure's section entitled "Maintenance". Many of the measures require inspections at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater; some others require daily inspection. Only the permanent measures have less frequent inspections. More frequent inspections than those identified in the measure may be necessary for sites that are heavily traveled and before major storms.

NARRATIVE

- ☒ Purpose and description of project.
- ☒ Estimates of the total area of the project site and the total area of the site that is expected to be disturbed by construction activities.
- ☒ Identification of site-specific erosion or sediment control concerns and issues.
- N/A ☐ The phases of development if more than one phase is planned.
- ☒ The planned start and completion dates for each phase of the project.
- ☒ *Either provide or identify where in the E&S plan the following information is found:*
 - ☒ The design criteria, construction details and maintenance program for the erosion and sediment control measures to be used.
 - ☒ The sequence of major operations within each phase, such as installation of erosion control measures, clearing, grubbing, excavation, grading, drainage and utility installation, temporary stabilization, road base, paving for roadways and parking areas, building construction, permanent stabilization, removal of temporary erosion control measures.
 - ☒ The time (in days) required for the major operations identified in the sequence.
- ☒ Identify other possible local, state and federal permits required.
- ☒ Identify the conservation practices to be used.
- ☒ A listing of all other documents to be considered part of the E&S plan (e.g. reports of hydraulic and hydrologic computations, boring logs, test pit logs, soils reports, etc.).

SUPPORT DOCUMENTS

☒ *Hydraulic Calculations:*
See Stormwater Report

- ☒ Size and locations of existing and planned channels or waterways with design calculations and construction details.
- ☒ Existing peak flows with calculations.
- ☒ Planned peak flows with calculations.
- ☒ Changes in peak flows.
- ☒ Off-site effects of increased peak flows or volumes.
- ☒ Design calculations and construction details for engineered measures used to control off-site erosion caused by the project.
- ☒ Design calculations and construction details for engineered measures used to control erosion below culverts and storm sewer outlets.
- ☒ Design calculations and construction details for engineered measures used to control groundwater, i.e. seeps, high water table, etc.

N/A ☐ *Boring logs, test pits logs, soils reports, etc.*

SITE DRAWING(S) CHECKLIST

☒ *Jurisdictional features Required on All Maps or Drawings:*

- ☒ North Arrow.
- ☒ Scale (including graphical scale).
- ☒ A title block containing the name of the project, the author of the map or drawing, the owner of record for the project, date of drawing creation and any revision dates.
- ☒ Property lines.

N/A ☐ For plans containing E&S measures which require an engineered design, the signature and seal of a professional engineer licensed to practice in Connecticut.

☒ *Site Locus Map:* **See project design drawings**

- ☒ Scale (1:24,000 recommended).
- ☒ Project location (show property boundaries and at least the area that is within 1000 feet of the property boundaries).
- ☒ Roads, streets/buildings.
- ☒ Major drainage ways (at least named watercourses).
- ☒ Identification of any public drinking water supply watershed area.

☒ *Topography, Natural Features and Regulatory Boundaries:*

- ☒ Existing contours (2 foot intervals).
- N/A ☐ Planned grades and elevations.
- N/A ☐ Seeps, springs.
- N/A ☐ Limits of cuts and/or fills.
- N/A ☐ Soils, bedrock.

- ☒ Inland wetlands boundaries.
- ☒ FEMA identified floodplains, floodways and State established stream channel encroachment lines.
- ☒ Streams, lakes, ponds, drainage ways, dams.
- ☒ Existing vegetation.
- N/A ☐ Tidal wetland boundaries and coastal resource limits (e.g. mean high water, shellfish beds, submerged aquatic vegetation, CAM boundary).
- N/A ☐ Public water supply watershed, wellheads or aquifer boundaries (when available).

☒ *Drainage Patterns*

[See Stormwater Report](#)

- ☒ Existing and planned drainage patterns (including offsite areas).
- ☒ Size of drainage areas.
- ☒ Size and location of culverts and storm sewers (existing and planned).
- ☒ Size and location of existing and planned channels or waterways.
- ☒ Major land uses of surrounding areas.

☒ *Road and Utility Systems*

- N/A ☐ Planned and existing roads and buildings with their location and elevations.
- ☒ Access roads: temporary and permanent.
- N/A ☐ Location of existing and planned septic systems.
- N/A ☐ Location and size of existing and planned sanitary sewers.
- ☒ Location of other existing and planned utilities, telephones, electric, gas, drinking water wells, etc.

N/A ☐ *Clearing, Grading, Vegetation Stabilization*

- ☐ Areas to be cleared, and sequence of clearing.
- ☐ Disposal of cleared material (off-site and on-site).
- ☐ Areas to be excavated or graded, and sequence of grading or excavation.
- ☐ Areas and acreage to be vegetatively stabilized (temporary and/or permanent).
- ☐ Planned vegetation with details of plants, seed, mulch, fertilizer, planting dates, etc.

☒ *Erosion & Sediment Control Drawing*

- ☒ Location of E&S measure on site plan drawing with appropriate symbol.
- ☒ Construction drawings and specifications for measures.
- ☒ Maintenance requirements of measures during construction of project.
- ☒ Person responsible for maintenance during construction of project.
- N/A ☐ Maintenance requirements of permanent measures after project completion.
- N/A ☐ Organization or person responsible for maintenance of permanent measures having the authority to maintain and upgrade control measures as designed or as needed to control erosion and sedimentation.
- N/A ☐ Handling of emergency situations (e.g. severe flooding, rains or other environmental problems).
- N/A ☐ If not provided in the narrative, the information listed in checklist for **NARRATIVE**.

[Items 5-8 will be provided in the SWPCP.](#)

Erosion and Sediment Control Checklist

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SECTION 1: Introduction

The proposed project is located at 669 Oakdale Road (CT Route 163) in Montville, CT, on the Town's existing landfill. The site contains the Town's Transfer Station and is bounded by Oakdale Road (CT RT 163) to the south, the Fox Family Cemetery to the west, Fox Brook and Oxoboro Brook to the north, and Wheeler Pond to the east.

The proposed project includes deploying ground-mounted solar on the existing landfill cap and is anticipated to begin in late-summer or early-fall of 2023 and be completed by the spring of 2024. The total capacity of the proposed solar installation is approximately 770 kilowatts (kW) direct current (DC)/600 kW alternating current (AC) and would consist of approximately 1,440 PV panels. A chain link fence is proposed atop the landfill cap to provide security and separation of unqualified personnel from any electrical conductors, as required by the National Electric Code. The total area of the array within the fence limits is approximately 2.4 acres.

The solar PV array is to be supported on concrete ballasted foundations and will have a low bearing pressure that is designed to maintain the integrity of the existing engineered landfill cap. Each block will be placed on gravel/crushed stone to level the blocks to meet the foundation manufacturer's requirements. Panel racking will be installed above the ballasted foundations and solar PV modules will be attached to the racking. Limited disturbance to the landfill cap is anticipated during construction and includes rutting from equipment tires/tracks, and shallow excavation (6 inches or less) for construction of the transformer pad (approximately 560 square feet).

Wetland delineations performed determined three existing wetlands are onsite. The first is a bordering vegetated wetland north of the landfill and associated with Fox Brook. The second is an isolated vegetated wetland to the southwest of the landfill associated with a low point past the toe of the slope of the landfill and crosses the property line. The third is a bordering vegetated wetland in the southeast corner of the site associated with a natural drainage path draining easterly towards Wheeler Pond.

The proposed project will have minimum impact within the 50-foot upland review area adjacent to on-Site wetlands, with only two small areas of the proposed project within the outermost edges of the upland review area. Stabilization and maintenance of the existing access road, if necessary, will occur within approximately 386 square feet of the upland review area on the western side of the site. Subsurface electrical conduit will run from the eastern side of the access road to above-ground utility poles. There is an area of approximately 531 square feet within the upland review area where the proposed trench will pass through. This disturbance will be temporary as, once the conduit is installed, the area will be stabilized and re-vegetated.

SECTION 2: Erosion and Sedimentation Control

There is no grading proposed for this project, so stormwater patterns will not be altered. Please see the attached Stormwater Report for additional stormwater information. The capped landfill slopes to all sides at an approximate 30% slope with an un-maintained meadow/brush cover. Because there is a possibility for erosion and sediment build-up, erosion and sediment controls have been designed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Straw wattle is proposed as the sediment barrier for perimeter controls. When used on the cap, sandbags will be used to weigh the straw wattle down if needed. Silt fence will be installed downgradient of disturbed areas that are within the 50-foot wetland buffer, and outside the landfill cap extents. A construction entrance/exit is proposed where the existing access road meets the paved area south of the landfill. A concrete washout basin is proposed near the construction entrance/exit.

Minimal disturbance to existing vegetation is proposed, and as a precaution, E&S controls will be installed around the perimeter of the proposed solar array area.

The sequence for major operations for this project is as follows:

1. Erosion & Sedimentation Control Installation (1 week)
2. Gravel and Concrete Foundation Placement (1 month)
3. Solar Equipment Installation (2 months)
4. Electrical Interconnection (1 month)

The contractor will be responsible for inspecting, maintaining, and replacing (as needed) erosion and sedimentation controls during construction of the project. Erosion and sedimentation controls will be inspected periodically and after heavy precipitation events. Maintenance will include removal of accumulated sediments and replacement of any damaged controls.

SECTION 3: Additional Approval & Permits

There are additional permits that are required for this project, these are as follows:

- Montville Inland Wetland Commission Approval
- Coverage under the Connecticut Stormwater Construction General Permit
- Landfill Disruption Authorization through Connecticut Department of Energy & Environmental Protection

Stormwater Report



westonandsampson.com

Weston & Sampson Engineers, Inc.
712 Brook Street, Suite 103
Rocky Hill, CT 06067
tel. 860.513.1473

REPORT

June 2023

VCP Montville LF, LLC

Town of Montville Landfill
Solar PV Development

669 Oakdale Road (CT RT 163)
Montville, CT 06353

Stormwater Report

TABLE OF CONTENTS

Stormwater Report

Attachment A - Locus Map

Attachment B - NRCS Web Soil Survey Map & Report: Hydrologic Soils Group,
FEMA FIRMette, NOAA Atlas 14 Rainfall Data

Attachment C - Drainage Area Maps & HydroCAD Report

Applicant/Project Name: VCF Montville LF, LLC
Town of Montville Landfill Solar PV Development

Project Location: 669 Oakdale Road (CT RT 163), Montville, CT 06353

Application Prepared by:
Firm: Weston & Sampson Engineers, Inc.
Registered PE: Rob Bukowski, P.E.

Introduction

Weston & Sampson Engineers, Inc. (Weston & Sampson) has prepared this stormwater report on behalf of VCP Montville LF, LLC (Verogy) to develop a ground mounted solar photovoltaic (PV) array at the closed landfill, located at 669 Oakdale Road (CT RT 163) in Montville, Connecticut.

The existing Town of Montville Landfill covers an area of approximately 8-acres within a property that is approximately 25.5 acres. The site is currently used as a transfer station and is bounded by Oakdale Road (CT RT 163) to the south, the Fox Family Cemetery to the west, Fox Brook and Oxoboxo Brook to the north, and Wheeler Pond to the east.

The capped landfill slopes to all sides at an approximate 30% slope with an un-maintained meadow/brush ground cover. The top of the existing landfill is currently being used as sand/gravel stockpile storage. The landfill is in the southwest section of the property and the transfer station is in the southeast section of the property. The southern entrance and transfer station areas are covered by pavement and broken bituminous asphalt. There is an existing unpaved access road leading from the southern entrance, traversing the landfill cap counterclockwise, which culminates atop the landfill cap.

Wetland delineations performed determined three existing wetlands are onsite. The first is a bordering vegetated wetland north of the landfill and associated with Fox Brook. The second is an isolated vegetated wetland to the southwest of the landfill associated with a low point past the toe of the slope of the landfill and crosses the property line. The third is a bordering vegetated wetland in the southeast corner of the site associated with a natural drainage path draining easterly towards Wheeler Pond.

The proposed project will have minimum impact within the 50-foot upland review area adjacent to on-Site wetlands, with only two small areas of the proposed project within the outermost edges of the upland review area. Stabilization and maintenance of the existing access road, if necessary, will occur within approximately 386 square feet of the upland review area on the western side of the site. Subsurface electrical conduit will run from the eastern side of the access road to above-ground utility poles. There is an area of approximately 531 square feet within the upland review area where the proposed trench will pass through. This disturbance will be temporary as, once the conduit is installed, the area will be stabilized and re-vegetated.

No part of the project area is within a Federal Emergency Management Agency National Flood Hazard Zone. A Zone-A Flood Hazard Zone is associated with Fox Brook to the north of the project area.

Proposed Project

The proposed project includes deploying ground-mounted solar on the existing landfill cap. The total capacity of the proposed ground mounted solar installation is approximately 776 kilowatt (kW) direct current (DC) (600 kW alternating current (AC)).

The on-cap solar PV array is to be supported on precast concrete ballasted foundations and will have a low bearing pressure that is designed to maintain the integrity of the existing engineered landfill cap. Each block will be placed on dense-graded crushed stone to level the blocks to meet the foundation manufacturer's requirements. Panel racking will be installed above the precast concrete ballasted foundations and solar PV

.....

modules will be attached to the racking. The series of PV panels will be connected using above ground cables, cable trays, and conduits that bring the wiring to a central equipment pad located atop the landfill cap directly east of the solar PV array.

A chain link fence is proposed atop the landfill cap to provide security and separation of any unqualified personnel from any electrical conductors, as required by the National Electric Code. The total area of the array within the fence limits is approximately 2.4 acres. The proposed fence will be supported on ballast blocks as opposed to ground-driven poles to protect the existing engineered landfill cap.

A Locus Map of the project location is included as Figure 1 in **Attachment A**.

Erosion and Sediment Control

The erosion and sediment controls have been designed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Straw wattle is proposed as the sediment barrier for perimeter controls. When used on the cap, sandbags will be used to weigh the straw wattle down if needed. Any piercing activities such as driving stakes in the ground to keep straw wattle in place is prohibited while on the landfill cap to not damage the cap. A construction entrance/exit is proposed where the existing access road meets the paved area south of the landfill. A concrete washout basin is proposed near the construction entrance/exit.

Stormwater Analysis

Stormwater runoff patterns for the Town of Montville Landfill will not be altered as part of the proposed project. Existing and proposed peak design flows were assessed using the National Resources Conservation Service (NRCS) Technical Release 20 (TR-20) methodology. HydroCAD® version 10.20-2d stormwater modeling software was used to analyze stormwater conditions. It is a comprehensive hydrodynamic modeling program which analyzes and designs site hydrology, surface drainage systems, and storm drains. It can manage a variety of flow situations such as overland flow, drainage swales, ponds, and piping systems.

The National Resources Conservation Service (NRCS) Web Soil Survey database was used to determine the hydrologic soil group (HSG) for the onsite soils. Stormwater rainfall event data is derived from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation Frequency data for the site. The 2-, 10-, 25-, and 100- year, 24-hour, Type-III storm events were used to compare post-development conditions to pre-development conditions. The NRCS report and NOAA data are included in **Attachment B**.

A summary of the analysis is provided below, the full stormwater model and drainage area maps are included in **Attachment C**.

Existing Stormwater Flow

The Town of Montville Landfill does not have an existing stormwater management system and stormwater currently flows off the landfill cap in all directions via overland flow. The limits of the stormwater analysis for this project include the landfill cap, the southern paved area, the majority of the eastern transfer station area, and the northern meadow/woodlands between the landfill cap and Fox Brook. HSG-A, B, C and D soils are all determined to be onsite, and coverages were accounted for accordingly based on HSG soil boundaries.

Pre-development conditions have been modeled assuming the landfill cap has been maintained as it was designed with meadow coverage.

HSG-D soils are assumed to be consistent with the landfill limit of waste which is assumed to extend to the landfill toe of slope.

Four points of analysis, each with their own drainage area, were analyzed. Figure 2 of **Attachment C** displays the limits of each drainage area, flow paths, and existing ground covers. A description of each drainage area is below:

- **Drainage Area A** – Northern portion of the landfill draining northerly towards Fox Brook,
- **Drainage Area B** – Southwest portion of the landfill draining southwesterly offsite,
- **Drainage Area C** – Southern portion of the landfill draining southeasterly offsite,
- **Drainage Area D** – Eastern portion of the landfill draining easterly offsite towards Wheeler Pond

Proposed Stormwater Flow

The stormwater analysis assumes the array concrete ballast blocks and equipment pad will be considered disconnected impervious area in the post-development stormwater model. Figure 3 of **Attachment C** displays the limits of each drainage area, flow paths, and proposed ground covers. The dimensions of the ballast blocks are assumed to be 2.5-ft wide by 9-ft long. Two ballast blocks will be used for each table with each table consisting of approximately 16 solar PV modules.

Stormwater flow patterns do not change based on the proposed solar PV layout as there are no proposed grading changes. Post-development drainage areas are denoted with a suffix of “1” and are consistent with pre-development drainage areas.

The post-development coverage conditions remain consistent with the pre-development conditions for the majority of the site. The only difference being minor trimming to the woods coverage in the northeast corner of the site, and the addition of the concrete ballast blocks and gravel turnaround areas as unconnected impervious coverage. These changes do not change the overall runoff curve numbers (CN) of the drainage areas.

The time of concentrations (Tc) are consistent from pre- to post- development conditions. All Tcs begin with 100-feet of sheet flow followed by shallow concentrated flow until flow reaches the drainage area boundary.

Peak Discharge Summary

As the overall CN and Tc for each drainage area remain consistent from pre- to post-development conditions, the project results in no changes in peak runoff discharge rate or volume for all design storms. The pre- and post-development conditions comparative table reflecting the HydroCAD results are shown in Table 1 below.

The project considers the following as impervious coverage: the existing access road, the existing paved areas, the existing broken bituminous areas, the proposed gravel turnaround area atop the landfill, the proposed concrete ballast blocks for the array, and the proposed concrete equipment pad.

TABLE 1: PRE-, POST-DEVELOPMENT COMPARATIVE RESULTS							
OFF-SITE SUMMARY		FLOW			VOLUME		
Point of Analysis	24-hour Storm Event	Pre-Development Receiving Peak Runoff (cfs)	Post-Development Receiving Peak Runoff (cfs)	Difference in Peak Runoff (cfs)	Pre-Development Receiving Discharge Volume (af)	Post-Development Receiving Discharge Volume (af)	Difference in Volume (af)
POA-A Northern Wetland	2	7.73	7.73	0.00	0.610	0.610	0.000
	10	15.14	15.14	0.00	1.177	1.177	0.000
	25	20.05	20.05	0.00	1.560	1.560	0.000
	100	27.70	27.70	0.00	2.170	2.170	0.000
POA-B Offsite - West	2	0.47	0.47	0.00	0.040	0.040	0.000
	10	0.91	0.91	0.00	0.075	0.075	0.000
	25	1.20	1.20	0.00	0.100	0.100	0.000
	100	1.65	1.65	0.00	0.138	0.138	0.000
POA-C Southeast Wetland	2	2.14	2.14	0.00	0.215	0.215	0.000
	10	4.20	4.20	0.00	0.415	0.415	0.000
	25	5.57	5.57	0.00	0.550	0.550	0.000
	100	7.70	7.70	0.00	0.765	0.765	0.000
POA-D Offsite - East	2	6.67	6.67	0.00	0.607	0.607	0.000
	10	12.20	12.20	0.00	1.111	1.111	0.000
	25	15.78	15.78	0.00	1.444	1.444	0.000
	100	21.29	21.29	0.00	1.968	1.968	0.000

Conclusion

The proposed solar PV array located at the Town of Montville Landfill will include minor vegetation trimming within the array area, minor access road improvements, and the implementation of erosion and sediment controls. The analysis shows no change in peak discharge runoff rates for post-development conditions compared to pre-development conditions.

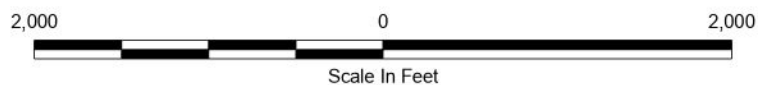
No stormwater management system is proposed as there is no increase in stormwater runoff rate or volume. Similarly, water quality volume calculations and treatment per the 2004 Connecticut Stormwater Quality Manual are not provided for this project.

Attachment A - Locus Map



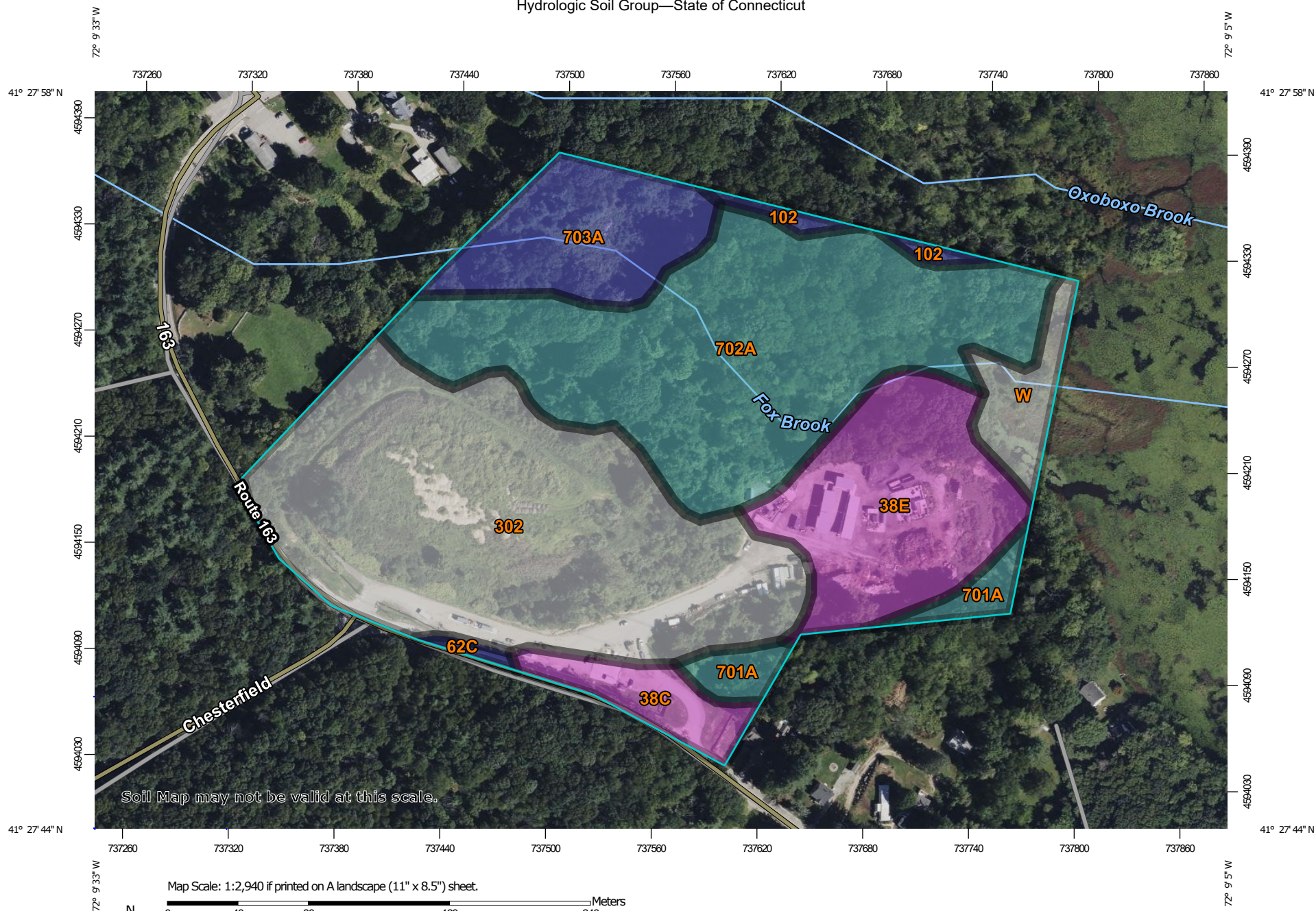
FIGURE 1
TOWN OF MONTVILLE LANDFILL SOLAR PV DEVELOPMENT
669 OAKDALE ROAD (CT RT 163), MONTVILLE, CT 06353
VCP MONTVILLE LF, LLC

LOCUS MAP

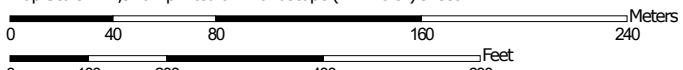


Attachment B - NRCS Web Soil Survey Map & Report: Hydrologic Soils Group,
FEMA FIRMette,
NOAA Atlas 14 Rainfall Data

Hydrologic Soil Group—State of Connecticut



Map Scale: 1:2,940 if printed on A landscape (11" x 8.5") sheet.



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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

4/18/2023
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: State of Connecticut
 Survey Area Data: Version 22, Sep 12, 2022

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

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

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
38C	Hinckley loamy sand, 3 to 15 percent slopes	A	0.9	3.5%
38E	Hinckley loamy sand, 15 to 45 percent slopes	A	3.6	14.0%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B	0.1	0.4%
102	Pootatuck fine sandy loam	B	0.3	1.1%
302	Dumps		8.9	34.9%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	C	0.7	2.8%
702A	Tisbury silt loam, 0 to 3 percent slopes	C	7.9	31.1%
703A	Haven silt loam, 0 to 3 percent slopes	B	2.2	8.8%
W	Water		0.8	3.3%
Totals for Area of Interest			25.4	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMMette



72°9'43"W 41°28'3"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 72°9'5"W 41°27'36"N
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
OTHER FEATURES		Coastal Transect
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
OTHER FEATURES		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
MAP PANELS		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/26/2023 at 1:02 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



NOAA Atlas 14, Volume 10, Version 3
Location name: Montville, Connecticut, USA*
Latitude: 41.4635°, Longitude: -72.1574°
Elevation: 288 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.340 (0.264-0.427)	0.406 (0.316-0.510)	0.515 (0.398-0.647)	0.605 (0.466-0.765)	0.729 (0.544-0.956)	0.822 (0.602-1.10)	0.920 (0.654-1.27)	1.03 (0.693-1.44)	1.19 (0.772-1.72)	1.32 (0.836-1.94)
10-min	0.481 (0.374-0.604)	0.575 (0.447-0.723)	0.729 (0.564-0.919)	0.856 (0.659-1.08)	1.03 (0.770-1.36)	1.16 (0.851-1.56)	1.30 (0.926-1.80)	1.46 (0.983-2.04)	1.69 (1.09-2.43)	1.87 (1.18-2.74)
15-min	0.566 (0.440-0.711)	0.677 (0.526-0.851)	0.858 (0.664-1.08)	1.01 (0.776-1.28)	1.21 (0.906-1.59)	1.37 (1.00-1.83)	1.53 (1.09-2.11)	1.72 (1.16-2.40)	1.98 (1.28-2.86)	2.20 (1.39-3.22)
30-min	0.795 (0.618-0.998)	0.950 (0.738-1.19)	1.20 (0.932-1.52)	1.41 (1.09-1.79)	1.70 (1.27-2.24)	1.92 (1.40-2.56)	2.15 (1.53-2.96)	2.41 (1.62-3.37)	2.78 (1.80-4.00)	3.08 (1.95-4.51)
60-min	1.02 (0.795-1.28)	1.22 (0.950-1.54)	1.55 (1.20-1.95)	1.82 (1.40-2.30)	2.19 (1.64-2.88)	2.47 (1.81-3.30)	2.77 (1.96-3.81)	3.10 (2.08-4.33)	3.57 (2.32-5.14)	3.96 (2.51-5.80)
2-hr	1.34 (1.05-1.68)	1.60 (1.25-2.00)	2.03 (1.58-2.54)	2.38 (1.84-2.99)	2.86 (2.15-3.73)	3.22 (2.37-4.28)	3.60 (2.58-4.94)	4.05 (2.74-5.62)	4.70 (3.06-6.71)	5.24 (3.33-7.61)
3-hr	1.56 (1.23-1.94)	1.86 (1.46-2.31)	2.35 (1.84-2.92)	2.75 (2.14-3.44)	3.31 (2.50-4.30)	3.72 (2.75-4.92)	4.16 (3.00-5.69)	4.68 (3.17-6.46)	5.44 (3.55-7.73)	6.09 (3.88-8.78)
6-hr	1.99 (1.58-2.45)	2.36 (1.87-2.92)	2.97 (2.34-3.68)	3.48 (2.72-4.32)	4.17 (3.17-5.38)	4.69 (3.49-6.16)	5.24 (3.80-7.11)	5.89 (4.01-8.07)	6.85 (4.49-9.64)	7.66 (4.90-11.0)
12-hr	2.46 (1.97-3.02)	2.92 (2.33-3.58)	3.67 (2.92-4.52)	4.30 (3.39-5.30)	5.15 (3.94-6.59)	5.79 (4.33-7.54)	6.47 (4.70-8.69)	7.26 (4.97-9.86)	8.42 (5.54-11.7)	9.39 (6.02-13.3)
24-hr	2.89 (2.32-3.52)	3.45 (2.77-4.20)	4.36 (3.49-5.33)	5.12 (4.07-6.28)	6.17 (4.74-7.84)	6.94 (5.23-8.98)	7.78 (5.69-10.4)	8.74 (6.01-11.8)	10.2 (6.72-14.1)	11.4 (7.33-16.0)
2-day	3.24 (2.62-3.92)	3.91 (3.16-4.73)	5.00 (4.03-6.07)	5.91 (4.73-7.20)	7.16 (5.55-9.05)	8.08 (6.14-10.4)	9.08 (6.70-12.1)	10.3 (7.10-13.7)	12.1 (8.00-16.5)	13.6 (8.80-18.9)
3-day	3.52 (2.86-4.24)	4.24 (3.45-5.12)	5.43 (4.39-6.56)	6.41 (5.16-7.78)	7.77 (6.04-9.77)	8.77 (6.68-11.2)	9.85 (7.30-13.0)	11.2 (7.73-14.8)	13.1 (8.72-17.9)	14.8 (9.60-20.5)
4-day	3.78 (3.08-4.54)	4.54 (3.70-5.46)	5.79 (4.70-6.98)	6.83 (5.51-8.25)	8.25 (6.44-10.3)	9.31 (7.11-11.9)	10.4 (7.76-13.8)	11.8 (8.20-15.6)	13.9 (9.24-18.8)	15.7 (10.2-21.6)
7-day	4.51 (3.70-5.38)	5.35 (4.38-6.39)	6.72 (5.49-8.05)	7.86 (6.37-9.44)	9.42 (7.39-11.7)	10.6 (8.12-13.4)	11.8 (8.81-15.4)	13.3 (9.28-17.5)	15.5 (10.4-20.9)	17.4 (11.3-23.8)
10-day	5.23 (4.31-6.22)	6.11 (5.03-7.28)	7.55 (6.19-9.01)	8.74 (7.12-10.5)	10.4 (8.16-12.8)	11.6 (8.93-14.6)	12.9 (9.61-16.7)	14.4 (10.1-18.8)	16.6 (11.2-22.3)	18.5 (12.1-25.1)
20-day	7.45 (6.18-8.80)	8.38 (6.95-9.91)	9.92 (8.19-11.8)	11.2 (9.18-13.3)	12.9 (10.2-15.8)	14.3 (11.0-17.7)	15.6 (11.6-19.8)	17.1 (12.0-22.1)	19.1 (12.8-25.2)	20.6 (13.5-27.7)
30-day	9.29 (7.75-10.9)	10.3 (8.55-12.1)	11.9 (9.83-14.0)	13.2 (10.9-15.6)	15.0 (11.9-18.2)	16.4 (12.6-20.1)	17.8 (13.2-22.2)	19.1 (13.5-24.6)	20.9 (14.1-27.5)	22.2 (14.6-29.7)
45-day	11.6 (9.69-13.6)	12.6 (10.5-14.8)	14.3 (11.9-16.7)	15.6 (12.9-18.4)	17.5 (13.9-21.1)	19.0 (14.7-23.2)	20.5 (15.1-25.3)	21.7 (15.4-27.8)	23.3 (15.8-30.5)	24.3 (16.0-32.4)
60-day	13.5 (11.3-15.7)	14.5 (12.2-17.0)	16.3 (13.6-19.1)	17.7 (14.7-20.8)	19.7 (15.7-23.6)	21.3 (16.5-25.8)	22.8 (16.8-28.0)	24.0 (17.1-30.5)	25.5 (17.3-33.2)	26.3 (17.4-34.9)

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

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

Please refer to NOAA Atlas 14 document for more information.

Attachment C - Drainage Area Maps & HydroCAD Reports

\\westonandsampson\Projects\2023\06\06\Pre-Development Drainage Area Map\Drawings\2023\06\06\Pre-Development Drainage Area Map.dwg

NOTES:

- BASEMAPPING DERIVED FROM SURVEY PROVIDED BY NORTHEAST SURVEY CONSULTANTS ENTITLED "PLAN OF LAND IN MONTVILLE, CT, 669 ROUTE 163, PREPARED FOR VEROGY" AND DATED 4-4-2023.
- SOIL DATA PROVIDED BY NATIONAL RESOURCE CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY.
- SOIL GEOGRAPHIC INFORMATION SYSTEM (GIS) DATA DERIVED FROM CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION GIS OPEN DATA WEBSITE SOIL SURVEY GEOGRAPHIC DATABASE SOILS (SSURGO).
- HYDROLOGIC SOIL GROUP (HSG) D SOILS ASSUMED TO BE WITHIN THE FOOTPRINT OF THE LIMIT OF WASTE WHICH IS ASSUMED TO EXTEND TO LANDFILL TOE OF SLOPE.

LEGEND DRAINAGE AREA MAP:

HYDROLOGY:

- FLOW PATH / TIME OF CONCENTRATION
- ⬡# SUBBASIN LABEL
- ⬡XL POINT OF ANALYSIS
- ⬡# BASIN BMP
- MEADOW
- WOODLAND
- GRAVEL
- IMPERVIOUS
- WATERSHED BOUNDARY
- NRCS SOIL BOUNDARY
- ASSUMED HSG-D SOIL BOUNDARY
- 922B NRCS SOIL MAP UNIT
- HYDROLOGIC SOIL GROUP A
- HYDROLOGIC SOIL GROUP B
- HYDROLOGIC SOIL GROUP C
- HYDROLOGIC SOIL GROUP D

EXISTING LEGEND:

- LOCUS PROPERTY LINE
- ABUTTERS PROPERTY LINE
- EASEMENT LINE
- 2" CONTOUR LINE
- CHAIN LINK FENCE
- WETLAND LINE
- 50' UPLAND REVIEW AREA
- TREE LINE
- TREE LINE
- FEMA FLOOD ZONE LINE
- ZONING LINE
- OVERHEAD WIRES
- BURIED GAS LINE
- BURIED DRAINAGE LINE

- CONC. BOUND FOUND
- CALCULATED POINT
- UTILITY POLE
- LIGHT POLE
- GUY WIRE ANCHOR
- CATCH BASIN
- MANHOLE
- WETLAND FLAG WITH IDENTIFIER
- SIGN POST
- GAS VALVE
- CONCRETE PAD
- GRAVEL
- SAND AND GRAVEL
- PAVEMENT
- STRUCTURE

PRE-DEVELOPMENT TO LIST				
Drainage Area	Flow Type	Ground Cover	Length (ft)	Slope
A	SHEET	MEADOW	100	11.00%
	SCF	MEADOW	13	34.62%
	SCF	GRAVEL	8	12.50%
	SCF	MEADOW	21	30.95%
B	SHEET	MEADOW	100	5.00%
	SCF	MEADOW	62	12.90%
	SCF	MEADOW	51	33.33%
	SCF	GRAVEL	10	10.00%
C	SHEET	MEADOW	31	29.03%
	SHEET	MEADOW	100	3.00%
	SCF	MEADOW	126	7.94%
	SCF	MEADOW	80	33.75%
D	SCF	PAVEMENT	607	2.64%
	SCF	MEADOW	44	11.36%
	SCF	WOODS	44	25.00%
	SHEET	MEADOW	100	6.00%
	SCF	MEADOW	73	17.81%
	SCF	MEADOW	64	42.19%
	SCF	PAVEMENT	634	3.94%
	SCF	GRAVEL	94	0.53%

Soil Data		
Map Unit Symbol	Map Unit Name	HSG Rating
38C	Hinckley loamy sand, 3 to 15 percent slopes	A
38E	Hinckley loamy sand, 15 to 45 percent slopes	A
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B
302	Dumps	D
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	C
702A	Tisbury silt loam, 0 to 3 percent slopes	C

50 25 0 50 100
SCALE: 1"=50'

NOT FOR CONSTRUCTION

Project:
TOWN OF MONTVILLE
LANDFILL
SOLAR PV DEVELOPMENT

669 ROUTE 163
MONTVILLE, CT 06353

Weston & Sampson

WESTON & SAMPSON ENGINEERS, INC.
712 BROOK STREET, SUITE 103
ROCKY HILL, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Applicant:
VEROGY
VCP MONTVILLE L.F., LLC
150 TRUMBULL STREET
4TH FLOOR
HARTFORD, CT 06103
TEL: (860) 288-7215
WWW.VEROGY.COM

Revisions:		
No.	Date	Description
0	06/06/2023	ISSUED FOR PERMITTING

Seal:

Issued For:

PERMITTING

Scale: AS SHOWN

Date Created: 06/06/2023

Drawn By: NVG

Reviewed By: MRC

Approved By: RJB

W&S Project No.: ENG23-1066

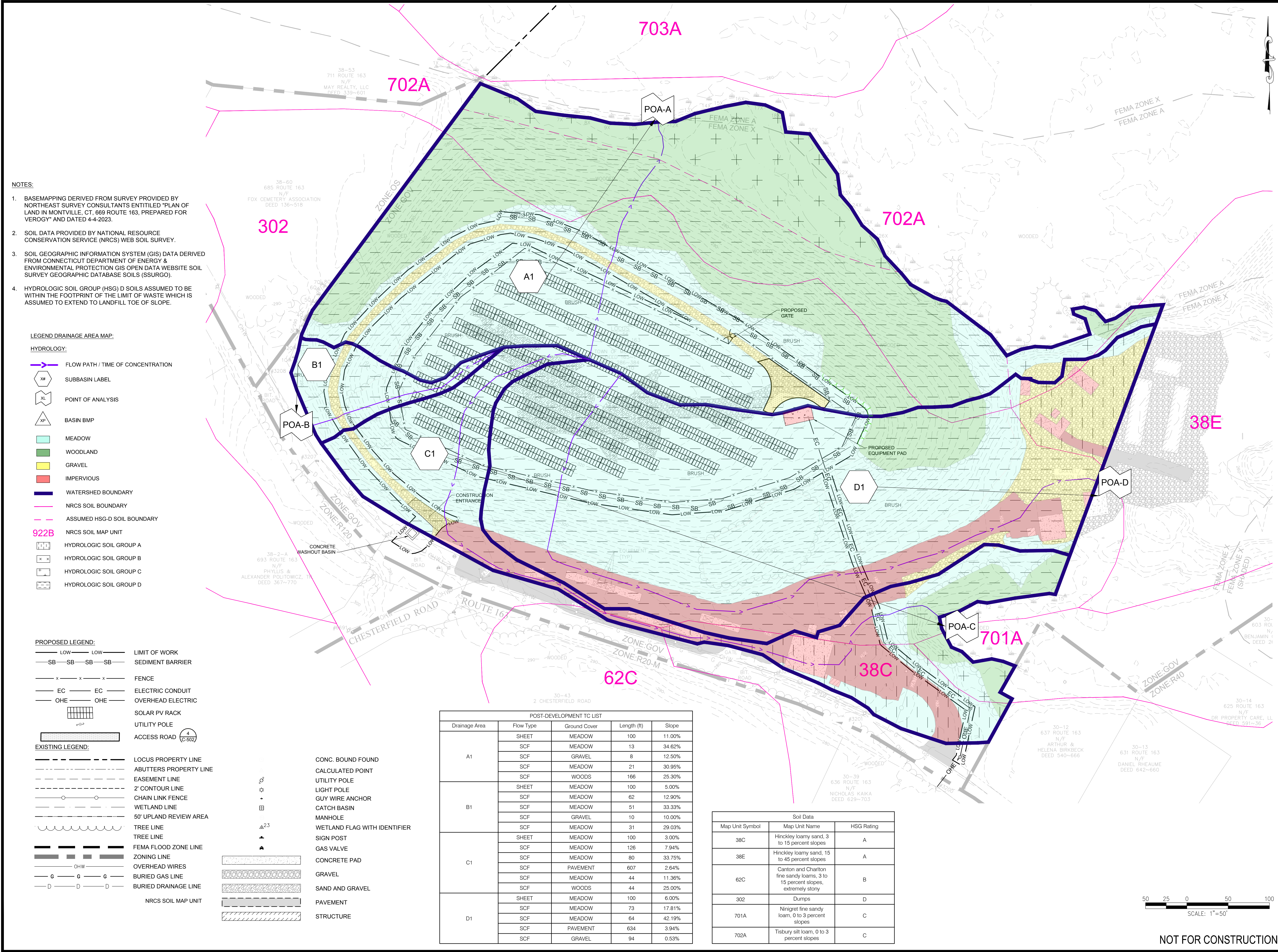
W&S File No.: Verogy Montville

Drawing Title:

PRE- DEVELOPMENT
DRAINAGE AREA MAP

Sheet Number:

FIG 2



- NOTES:
- BASEMAPPING DERIVED FROM SURVEY PROVIDED BY NORTHEAST SURVEY CONSULTANTS ENTITLED "PLAN OF LAND IN MONTVILLE, CT, 669 ROUTE 163, PREPARED FOR VEROGY" AND DATED 4-4-2023.
 - SOIL DATA PROVIDED BY NATIONAL RESOURCE CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY.
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LEGEND DRAINAGE AREA MAP:

HYDROLOGY:

- FLOW PATH / TIME OF CONCENTRATION
- SUBBASIN LABEL
- POINT OF ANALYSIS
- BASIN BMP
- MEADOW
- WOODLAND
- GRAVEL
- IMPERVIOUS
- WATERSHED BOUNDARY
- NRCS SOIL BOUNDARY
- ASSUMED HSG-D SOIL BOUNDARY
- NRCS SOIL MAP UNIT
- HYDROLOGIC SOIL GROUP A
- HYDROLOGIC SOIL GROUP B
- HYDROLOGIC SOIL GROUP C
- HYDROLOGIC SOIL GROUP D

PROPOSED LEGEND:

- LOW LOW LIMIT OF WORK
- SB SB SB SB SEDIMENT BARRIER
- x x x FENCE
- EC EC ELECTRIC CONDUIT
- OHE OHE OVERHEAD ELECTRIC
- SOLAR PV RACK
- UTILITY POLE
- ACCESS ROAD

EXISTING LEGEND:

- LOCUS PROPERTY LINE
- ABUTTERS PROPERTY LINE
- EASEMENT LINE
- 2" CONTOUR LINE
- CHAIN LINK FENCE
- WETLAND LINE
- 50' UPLAND REVIEW AREA
- TREE LINE
- TREE LINE
- FEMA FLOOD ZONE LINE
- ZONING LINE
- OVERHEAD WIRES
- BURIED GAS LINE
- BURIED DRAINAGE LINE
- NRCS SOIL MAP UNIT

CONC. BOUND FOUND

CALCULATED POINT

UTILITY POLE

GUY WIRE ANCHOR

CATCH BASIN

MANHOLE

WETLAND FLAG WITH IDENTIFIER

SIGN POST

GAS VALVE

CONCRETE PAD

GRAVEL

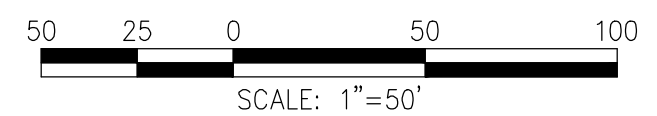
SAND AND GRAVEL

PAVEMENT

STRUCTURE

POST-DEVELOPMENT TC LIST				
Drainage Area	Flow Type	Ground Cover	Length (ft)	Slope
A1	SHEET	MEADOW	100	11.00%
	SCF	MEADOW	13	34.62%
	SCF	GRAVEL	8	12.50%
	SCF	MEADOW	21	30.95%
B1	SHEET	MEADOW	100	5.00%
	SCF	MEADOW	62	12.90%
	SCF	MEADOW	51	33.33%
	SCF	GRAVEL	10	10.00%
C1	SHEET	MEADOW	31	29.03%
	SCF	MEADOW	100	3.00%
	SCF	MEADOW	126	7.94%
	SCF	MEADOW	80	33.75%
D1	SCF	PAVEMENT	607	2.64%
	SCF	MEADOW	44	11.36%
	SCF	WOODS	44	25.00%
	SHEET	MEADOW	100	6.00%
	SCF	MEADOW	73	17.81%
	SCF	MEADOW	64	42.19%
	SCF	PAVEMENT	634	3.94%
	SCF	GRAVEL	94	0.53%

Soil Data		
Map Unit Symbol	Map Unit Name	HSG Rating
38C	Hinckley loamy sand, 3 to 15 percent slopes	A
38E	Hinckley loamy sand, 15 to 45 percent slopes	A
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B
302	Dumps	D
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	C
702A	Tisbury silt loam, 0 to 3 percent slopes	C



NOT FOR CONSTRUCTION

Project:

TOWN OF MONTVILLE
LANDFILL
SOLAR PV DEVELOPMENT

669 ROUTE 163
MONTVILLE, CT 06353

Weston & Sampson
WESTON & SAMPSON ENGINEERS, INC.
712 BROOK STREET, SUITE 103
ROCKY HILL, CT 06067
860.513.1473 800.SAMPSON
www.westonandsampson.com

Applicant:

VEROGY
VCP MONTVILLE L.F. LLC
150 TRUMBULL STREET
4TH FLOOR
HARTFORD, CT 06103
TEL: (860) 288-7215
WWW.VEROGY.COM

Revisions:

No.	Date	Description
0	06/06/2023	ISSUED FOR PERMITTING

Issued For:

PERMITTING

Scale: AS SHOWN

Date Created: 06/06/2023

Drawn By: NVG

Reviewed By: MRC

Approved By: RJB

W&S Project No.: ENG23-1066

W&S File No.: Verogy Montville

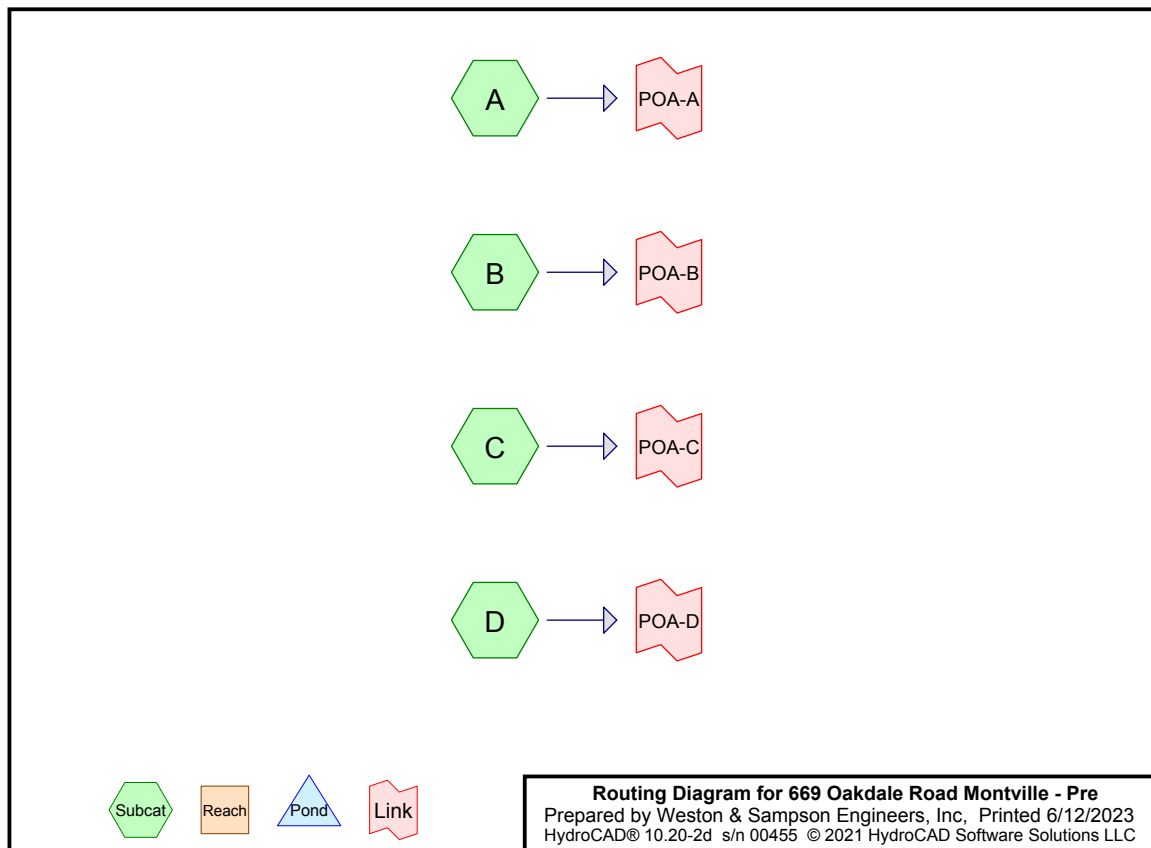
Drawing Title:

POST-DEVELOPMENT
DRAINAGE AREA MAP

Sheet Number:

FIG 3

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 Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.45	2
2	10-yr	Type III 24-hr		Default	24.00	1	5.12	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.17	2
4	100-yr	Type III 24-hr		Default	24.00	1	7.78	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.231	76	Gravel roads, HSG A (D)
0.043	89	Gravel roads, HSG C (A, D)
0.432	91	Gravel roads, HSG D (A, B, C, D)
0.229	30	Meadow, non-grazed, HSG A (A, C, D)
0.114	71	Meadow, non-grazed, HSG C (A, C, D)
5.644	78	Meadow, non-grazed, HSG D (A, B, C, D)
0.357	98	Paved parking, HSG A (C, D)
0.014	98	Paved parking, HSG B (C)
0.008	98	Paved parking, HSG C (D)
0.819	98	Paved parking, HSG D (C, D)
0.023	36	Woods, Fair, HSG A (A, C)
0.842	73	Woods, Fair, HSG C (A, C)
2.528	79	Woods, Fair, HSG D (A, C, D)
11.283	79	TOTAL AREA

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Type III 24-hr 2-yr Rainfall=3.45"

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Page 4

Summary for Subcatchment A:

Runoff = 7.73 cfs @ 12.12 hrs, Volume= 0.610 af, Depth= 1.46"
Routed to Link POA-A :

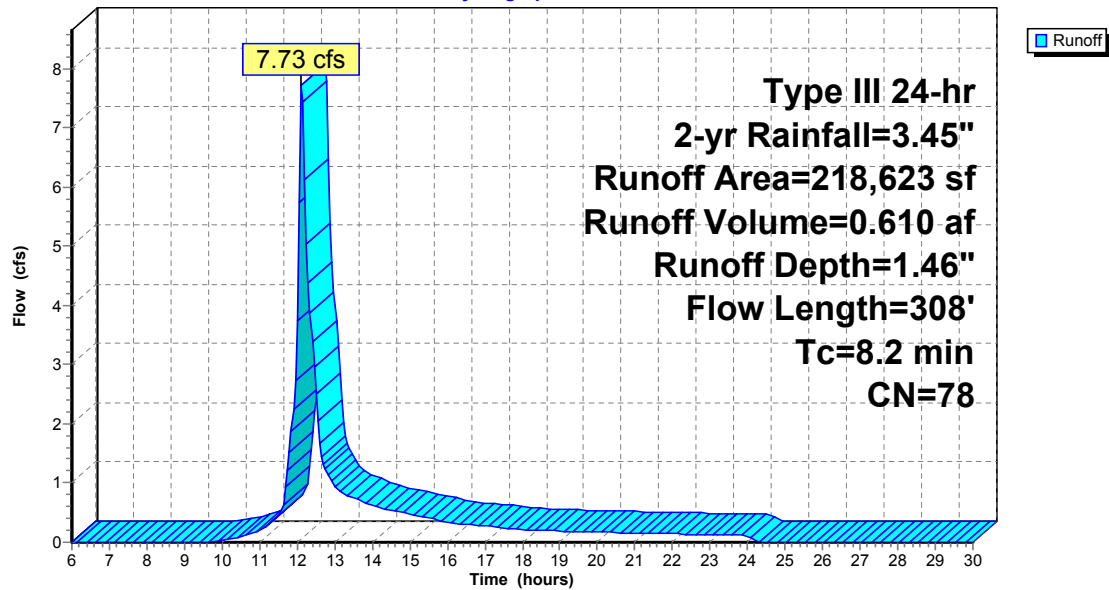
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
13,906	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
66,841	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
92,438	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
6,666	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
218,623	78	Weighted Average
218,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A:

Hydrograph



Summary for Subcatchment B:

Runoff = 0.47 cfs @ 12.15 hrs, Volume= 0.040 af, Depth= 1.53"
Routed to Link POA-B :

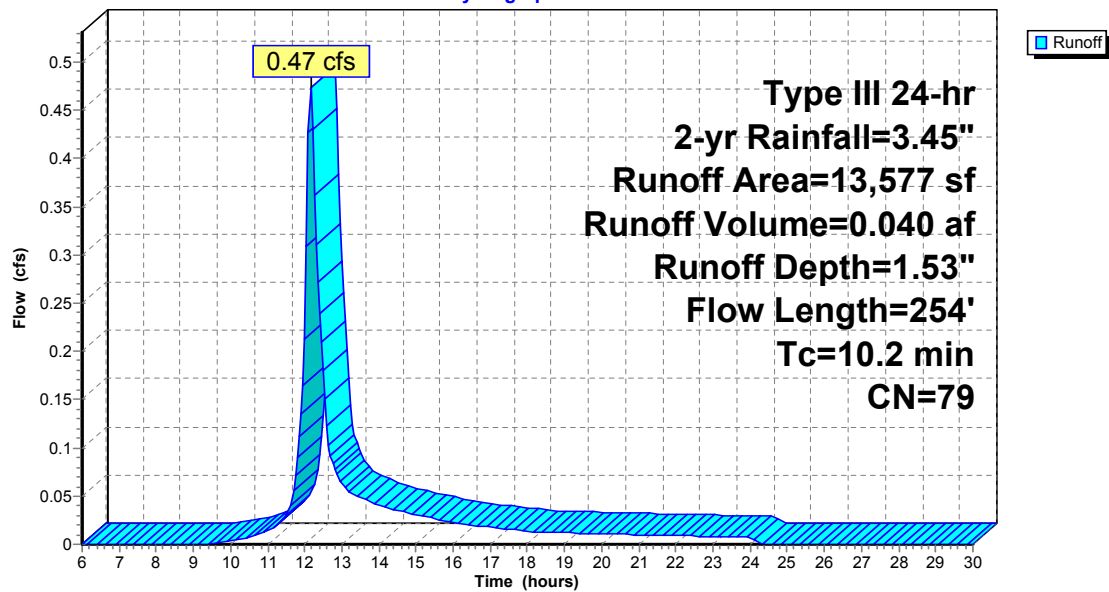
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
3,577	78	Meadow, non-grazed, HSG D
8,878	78	Meadow, non-grazed, HSG D
1,122	91	Gravel roads, HSG D
13,577	79	Weighted Average
13,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow
					Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel
					Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B:

Hydrograph



Summary for Subcatchment C:

Runoff = 2.14 cfs @ 12.24 hrs, Volume= 0.215 af, Depth= 1.46"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
13,937	78	Meadow, non-grazed, HSG D
1,693	71	Meadow, non-grazed, HSG C
8,141	30	Meadow, non-grazed, HSG A
18,914	78	Meadow, non-grazed, HSG D
7,463	79	Woods, Fair, HSG D
2,986	73	Woods, Fair, HSG C
336	36	Woods, Fair, HSG A
2,453	91	Gravel roads, HSG D
8,413	98	Paved parking, HSG D
620	98	Paved parking, HSG B
12,143	98	Paved parking, HSG A
77,099	78	Weighted Average
55,923		72.53% Pervious Area
21,176		27.47% Impervious Area

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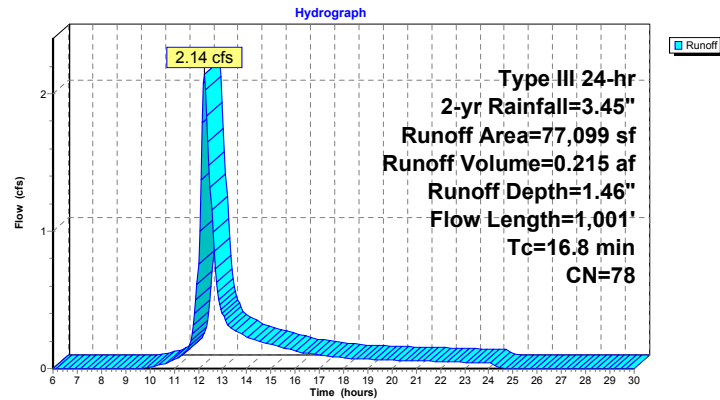
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Type III 24-hr 2-yr Rainfall=3.45"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 2-yr Rainfall=3.45"

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Summary for Subcatchment D:

Runoff = 6.67 cfs @ 12.19 hrs, Volume= 0.607 af, Depth= 1.74"
 Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
38,983	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
80,797	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
10,224	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,558	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,271	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
182,194	82	Weighted Average
151,197		82.99% Pervious Area
30,997		17.01% Impervious Area

669 Oakdale Road Montville - Pre

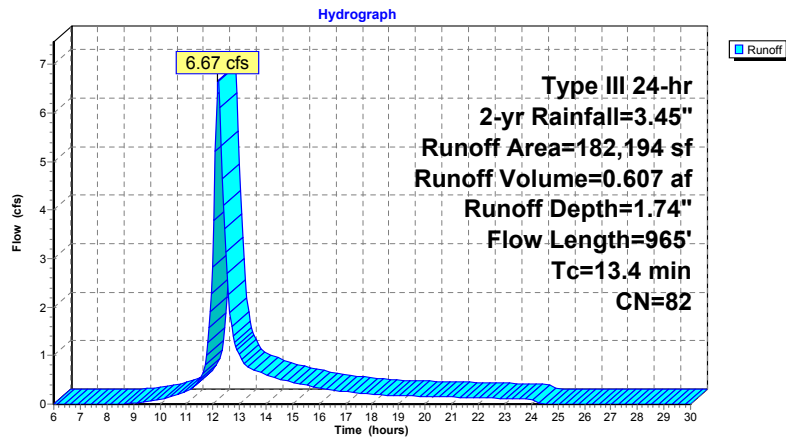
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Type III 24-hr 2-yr Rainfall=3.45"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 2-yr Rainfall=3.45"

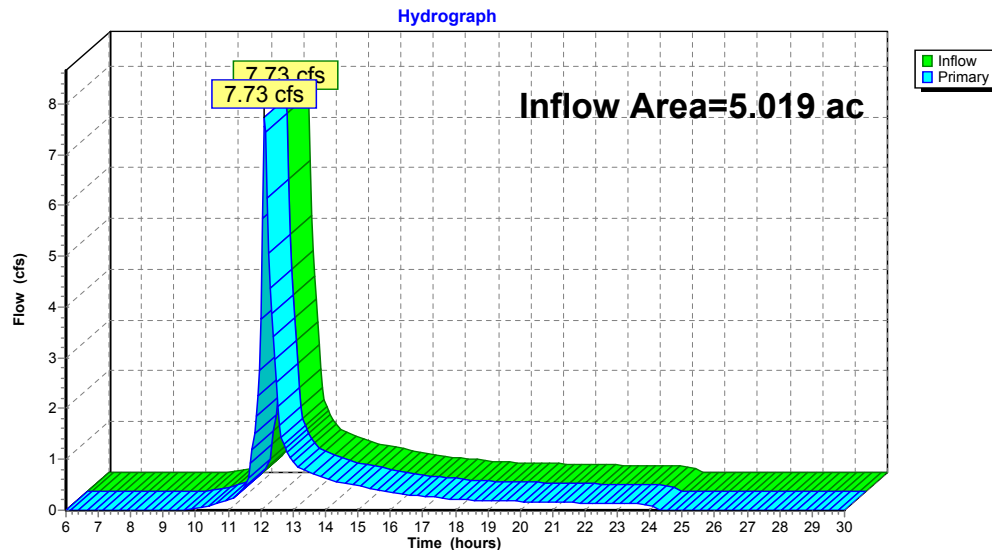
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.00% Impervious, Inflow Depth = 1.46" for 2-yr event
Inflow = 7.73 cfs @ 12.12 hrs, Volume= 0.610 af
Primary = 7.73 cfs @ 12.12 hrs, Volume= 0.610 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-A:

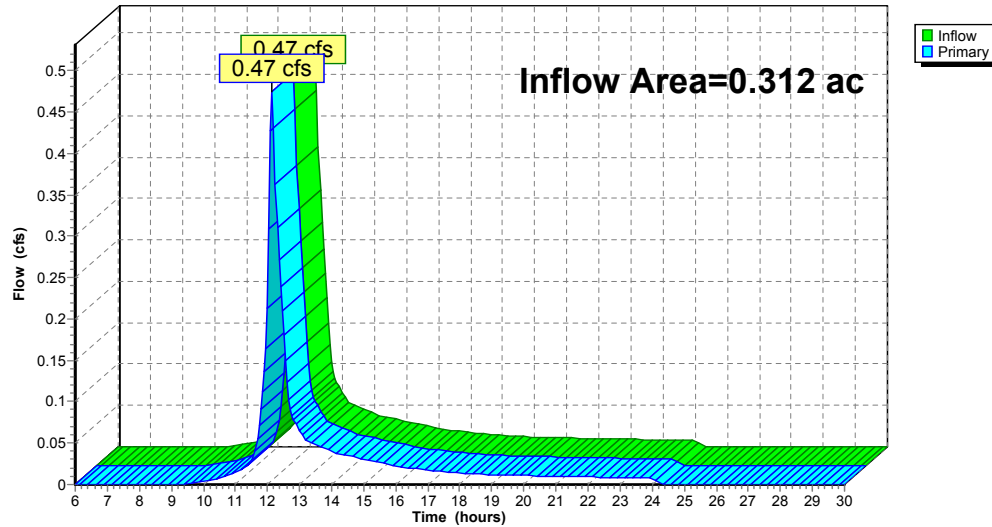
Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.00% Impervious, Inflow Depth = 1.53" for 2-yr event
Inflow = 0.47 cfs @ 12.15 hrs, Volume= 0.040 af
Primary = 0.47 cfs @ 12.15 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:

Hydrograph



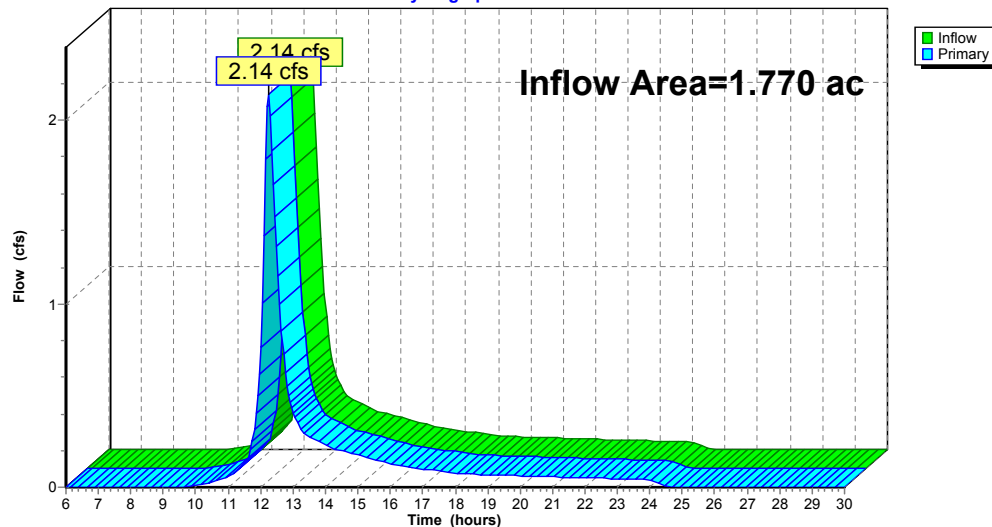
Summary for Link POA-C:

Inflow Area = 1.770 ac, 27.47% Impervious, Inflow Depth = 1.46" for 2-yr event
Inflow = 2.14 cfs @ 12.24 hrs, Volume= 0.215 af
Primary = 2.14 cfs @ 12.24 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:

Hydrograph



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Type III 24-hr 2-yr Rainfall=3.45"

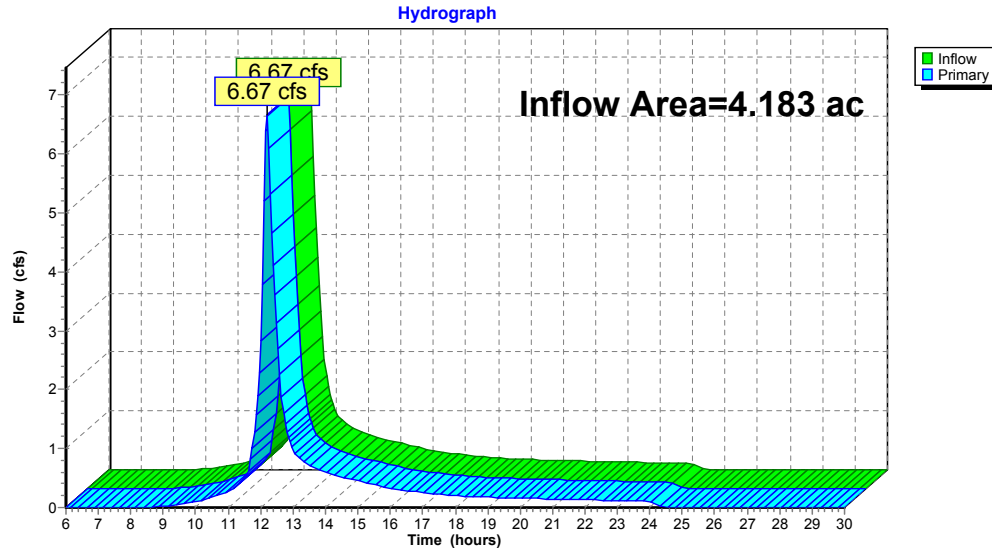
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Summary for Link POA-D:

Inflow Area = 4.183 ac, 17.01% Impervious, Inflow Depth = 1.74" for 2-yr event
Inflow = 6.67 cfs @ 12.19 hrs, Volume= 0.607 af
Primary = 6.67 cfs @ 12.19 hrs, Volume= 0.607 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 10-yr Rainfall=5.12"

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Summary for Subcatchment A:

Runoff = 15.14 cfs @ 12.12 hrs, Volume= 1.177 af, Depth= 2.81"
Routed to Link POA-A :

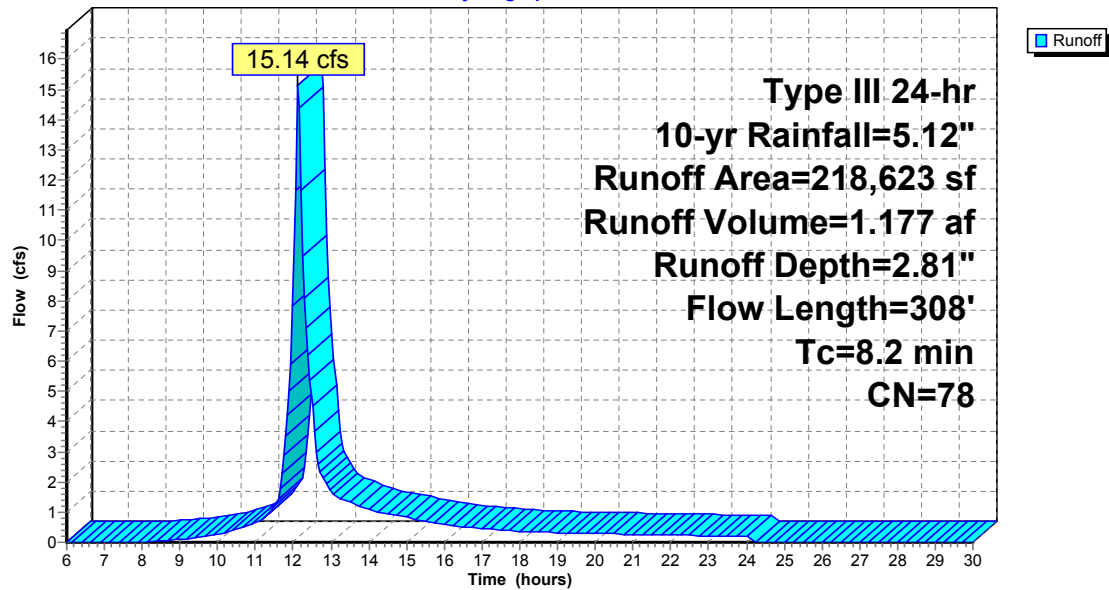
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
13,906	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
66,841	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
92,438	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
6,666	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
218,623	78	Weighted Average
218,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A:

Hydrograph



Summary for Subcatchment B:

Runoff = 0.91 cfs @ 12.15 hrs, Volume= 0.075 af, Depth= 2.91"
Routed to Link POA-B :

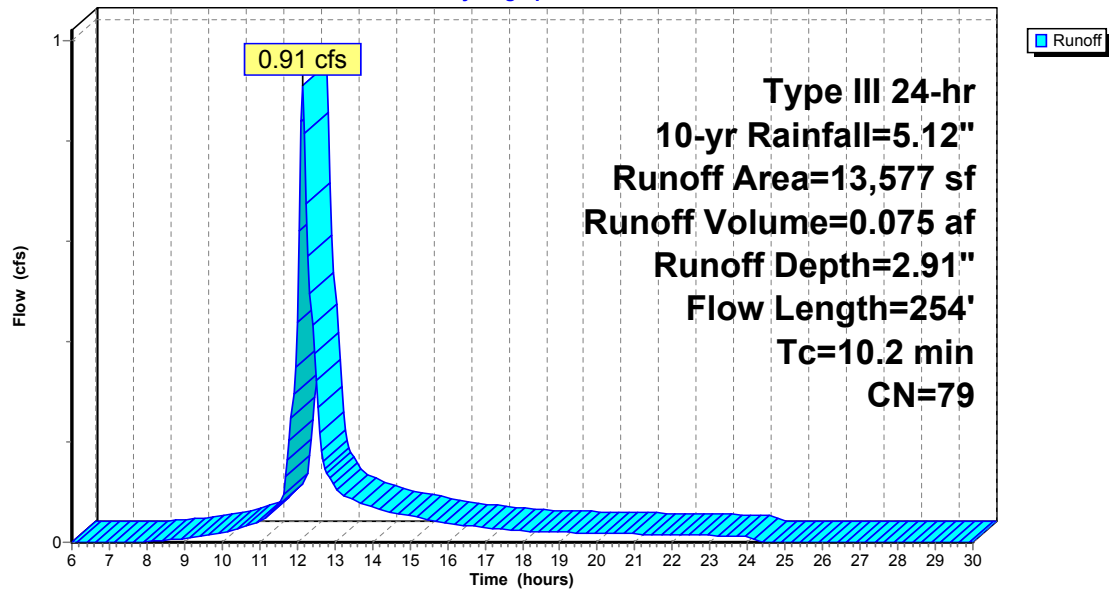
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
3,577	78	Meadow, non-grazed, HSG D
8,878	78	Meadow, non-grazed, HSG D
1,122	91	Gravel roads, HSG D
13,577	79	Weighted Average
13,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow
					Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel
					Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B:

Hydrograph



Summary for Subcatchment C:

Runoff = 4.20 cfs @ 12.23 hrs, Volume= 0.415 af, Depth= 2.81"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
13,937	78	Meadow, non-grazed, HSG D
1,693	71	Meadow, non-grazed, HSG C
8,141	30	Meadow, non-grazed, HSG A
18,914	78	Meadow, non-grazed, HSG D
7,463	79	Woods, Fair, HSG D
2,986	73	Woods, Fair, HSG C
336	36	Woods, Fair, HSG A
2,453	91	Gravel roads, HSG D
8,413	98	Paved parking, HSG D
620	98	Paved parking, HSG B
12,143	98	Paved parking, HSG A
77,099	78	Weighted Average
55,923		72.53% Pervious Area
21,176		27.47% Impervious Area

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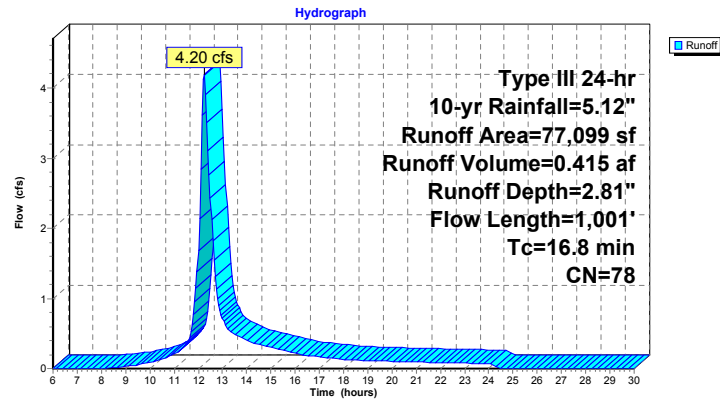
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Type III 24-hr 10-yr Rainfall=5.12"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 10-yr Rainfall=5.12"

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Summary for Subcatchment D:

Runoff = 12.20 cfs @ 12.19 hrs, Volume= 1.111 af, Depth= 3.19"
Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
38,983	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
80,797	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
10,224	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,558	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,271	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
182,194	82	Weighted Average
151,197		82.99% Pervious Area
30,997		17.01% Impervious Area

669 Oakdale Road Montville - Pre

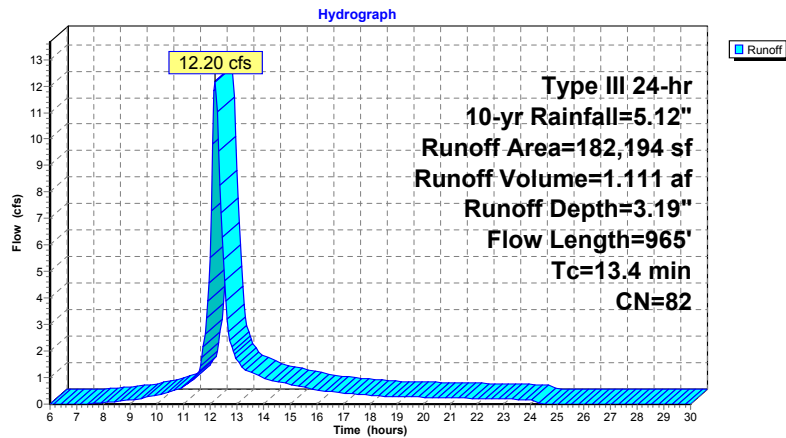
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Type III 24-hr 10-yr Rainfall=5.12"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 10-yr Rainfall=5.12"

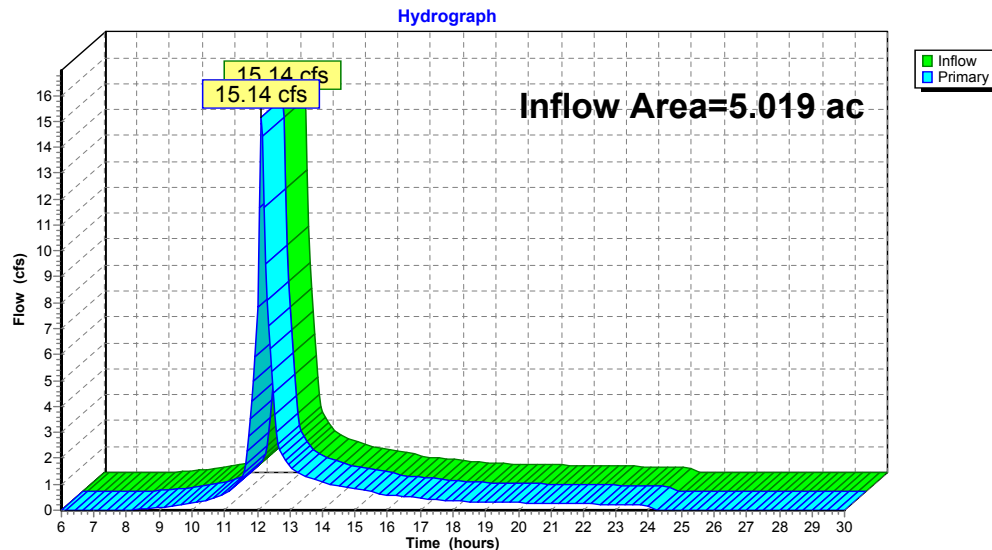
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.00% Impervious, Inflow Depth = 2.81" for 10-yr event
Inflow = 15.14 cfs @ 12.12 hrs, Volume= 1.177 af
Primary = 15.14 cfs @ 12.12 hrs, Volume= 1.177 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

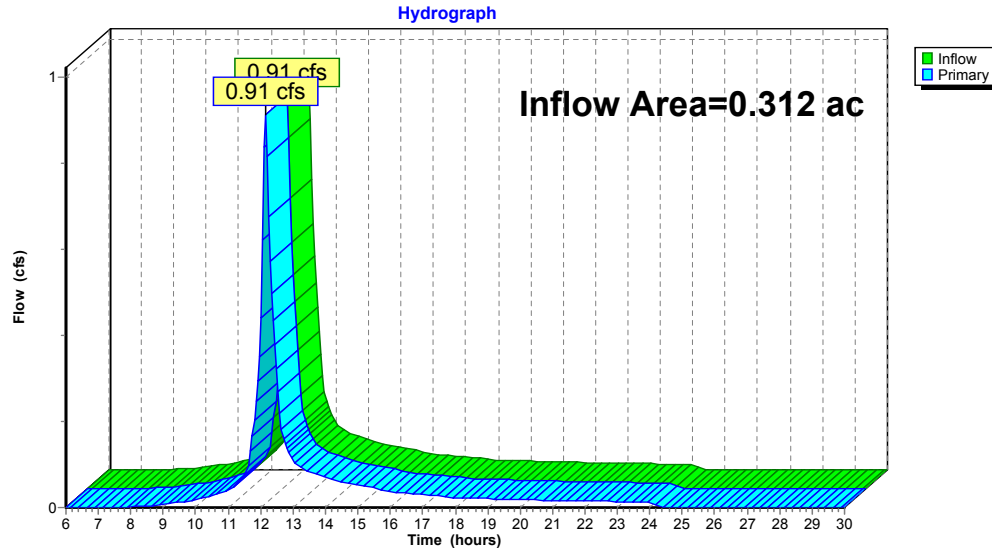
Link POA-A:

Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.00% Impervious, Inflow Depth = 2.91" for 10-yr event
Inflow = 0.91 cfs @ 12.15 hrs, Volume= 0.075 af
Primary = 0.91 cfs @ 12.15 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:

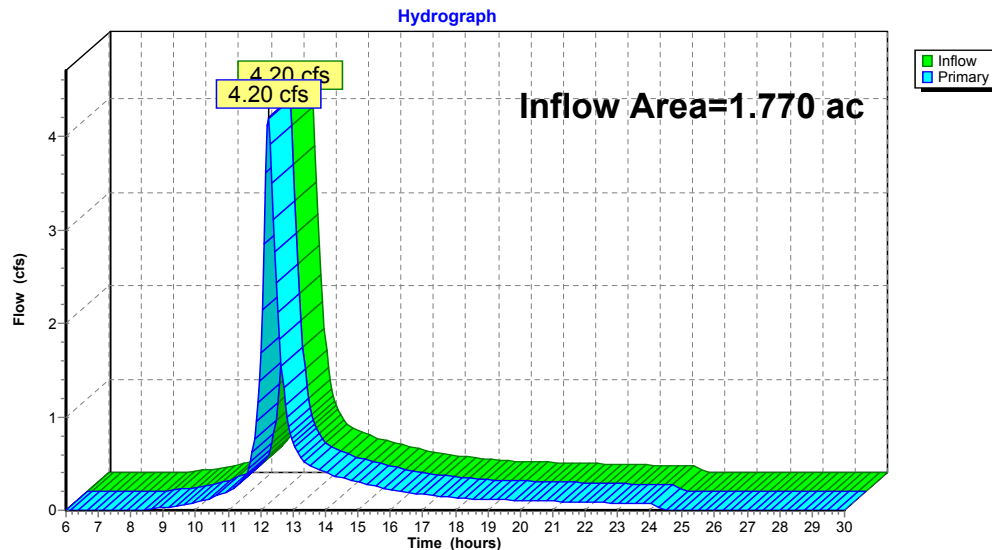


Summary for Link POA-C:

Inflow Area = 1.770 ac, 27.47% Impervious, Inflow Depth = 2.81" for 10-yr event
Inflow = 4.20 cfs @ 12.23 hrs, Volume= 0.415 af
Primary = 4.20 cfs @ 12.23 hrs, Volume= 0.415 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:



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Type III 24-hr 10-yr Rainfall=5.12"

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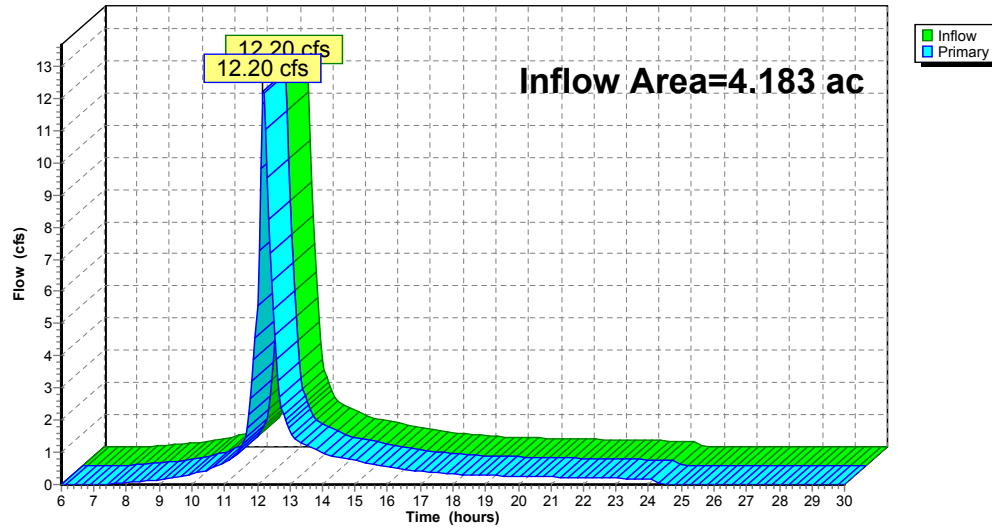
Summary for Link POA-D:

Inflow Area = 4.183 ac, 17.01% Impervious, Inflow Depth = 3.19" for 10-yr event
Inflow = 12.20 cfs @ 12.19 hrs, Volume= 1.111 af
Primary = 12.20 cfs @ 12.19 hrs, Volume= 1.111 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:

Hydrograph

**669 Oakdale Road Montville - Pre**

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Type III 24-hr 25-yr Rainfall=6.17"

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Summary for Subcatchment A:

Runoff = 20.05 cfs @ 12.12 hrs, Volume= 1.560 af, Depth= 3.73"
Routed to Link POA-A :

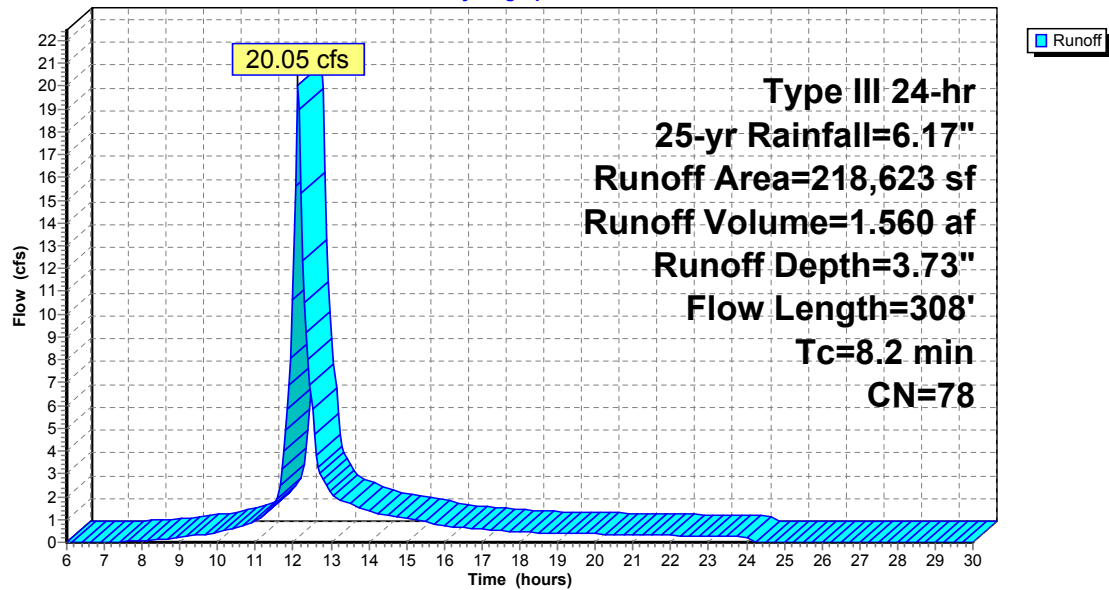
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
13,906	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
66,841	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
92,438	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
6,666	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
218,623	78	Weighted Average
218,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A:

Hydrograph



Summary for Subcatchment B:

Runoff = 1.20 cfs @ 12.15 hrs, Volume= 0.100 af, Depth= 3.83"
Routed to Link POA-B :

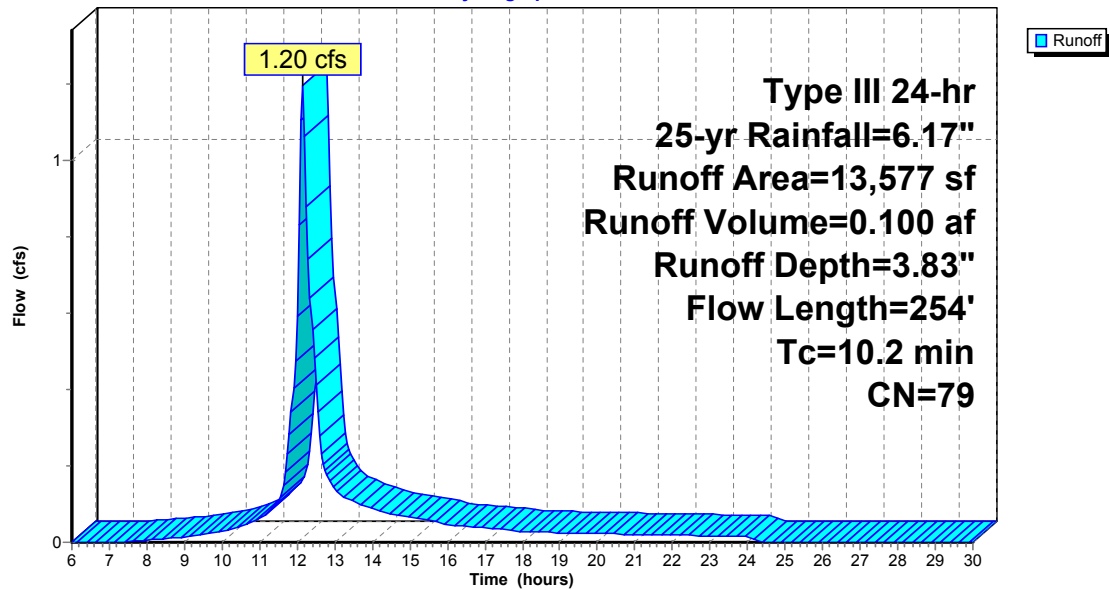
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
3,577	78	Meadow, non-grazed, HSG D
8,878	78	Meadow, non-grazed, HSG D
1,122	91	Gravel roads, HSG D
13,577	79	Weighted Average
13,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow
					Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel
					Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B:

Hydrograph



Summary for Subcatchment C:

Runoff = 5.57 cfs @ 12.23 hrs, Volume= 0.550 af, Depth= 3.73"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
13,937	78	Meadow, non-grazed, HSG D
1,693	71	Meadow, non-grazed, HSG C
8,141	30	Meadow, non-grazed, HSG A
18,914	78	Meadow, non-grazed, HSG D
7,463	79	Woods, Fair, HSG D
2,986	73	Woods, Fair, HSG C
336	36	Woods, Fair, HSG A
2,453	91	Gravel roads, HSG D
8,413	98	Paved parking, HSG D
620	98	Paved parking, HSG B
12,143	98	Paved parking, HSG A
77,099	78	Weighted Average
55,923		72.53% Pervious Area
21,176		27.47% Impervious Area

669 Oakdale Road Montville - Pre

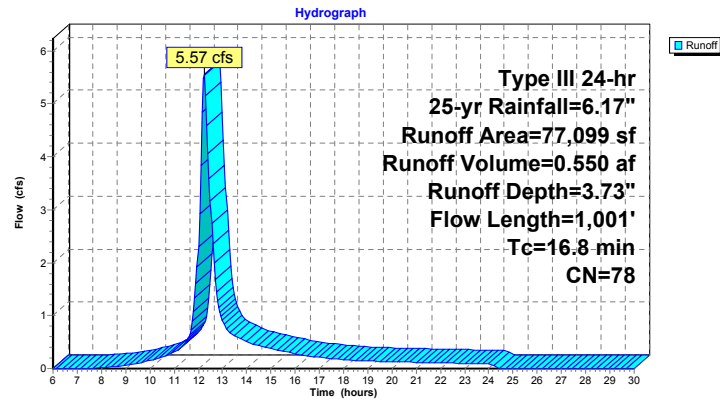
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Type III 24-hr 25-yr Rainfall=6.17"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 25-yr Rainfall=6.17"

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Summary for Subcatchment D:

Runoff = 15.78 cfs @ 12.18 hrs, Volume= 1.444 af, Depth= 4.14"
Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
38,983	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
80,797	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
10,224	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,558	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,271	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
182,194	82	Weighted Average
151,197		82.99% Pervious Area
30,997		17.01% Impervious Area

669 Oakdale Road Montville - Pre

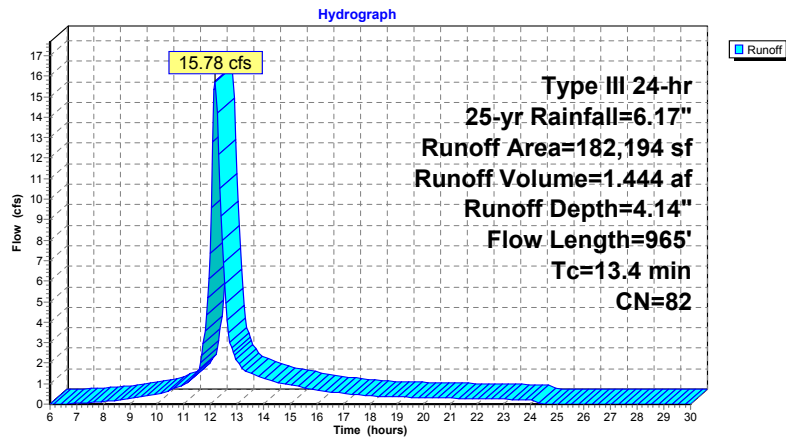
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Type III 24-hr 25-yr Rainfall=6.17"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 25-yr Rainfall=6.17"

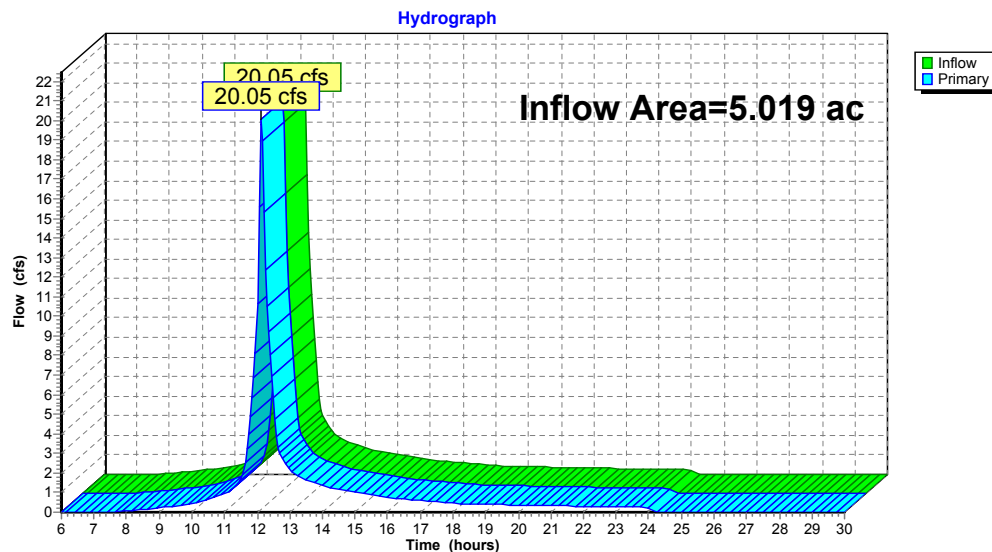
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.00% Impervious, Inflow Depth = 3.73" for 25-yr event
Inflow = 20.05 cfs @ 12.12 hrs, Volume= 1.560 af
Primary = 20.05 cfs @ 12.12 hrs, Volume= 1.560 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-A:

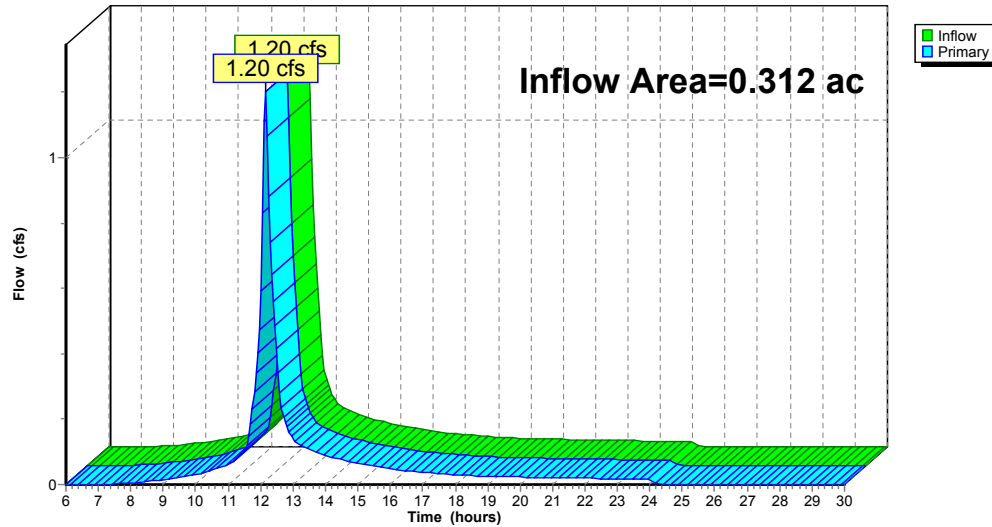
Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.00% Impervious, Inflow Depth = 3.83" for 25-yr event
Inflow = 1.20 cfs @ 12.15 hrs, Volume= 0.100 af
Primary = 1.20 cfs @ 12.15 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:

Hydrograph



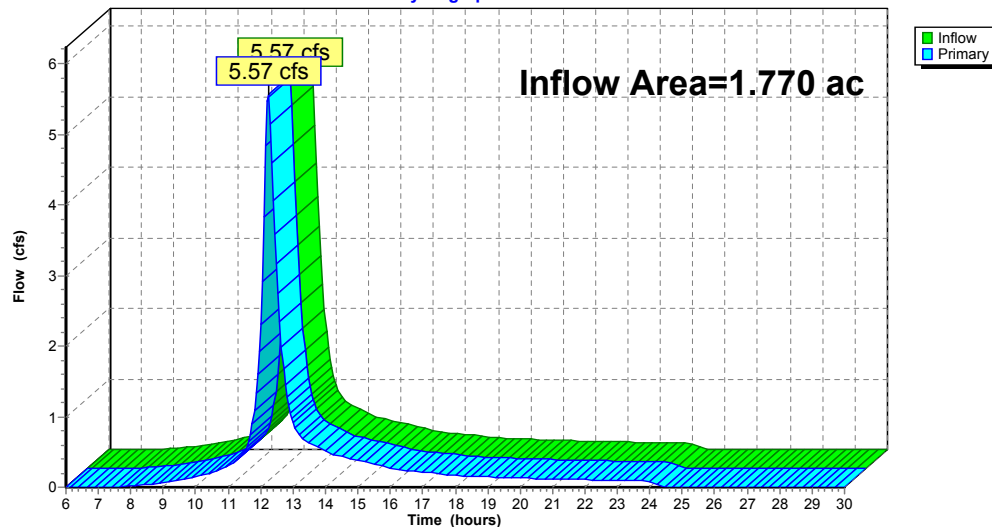
Summary for Link POA-C:

Inflow Area = 1.770 ac, 27.47% Impervious, Inflow Depth = 3.73" for 25-yr event
Inflow = 5.57 cfs @ 12.23 hrs, Volume= 0.550 af
Primary = 5.57 cfs @ 12.23 hrs, Volume= 0.550 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:

Hydrograph



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Type III 24-hr 25-yr Rainfall=6.17"

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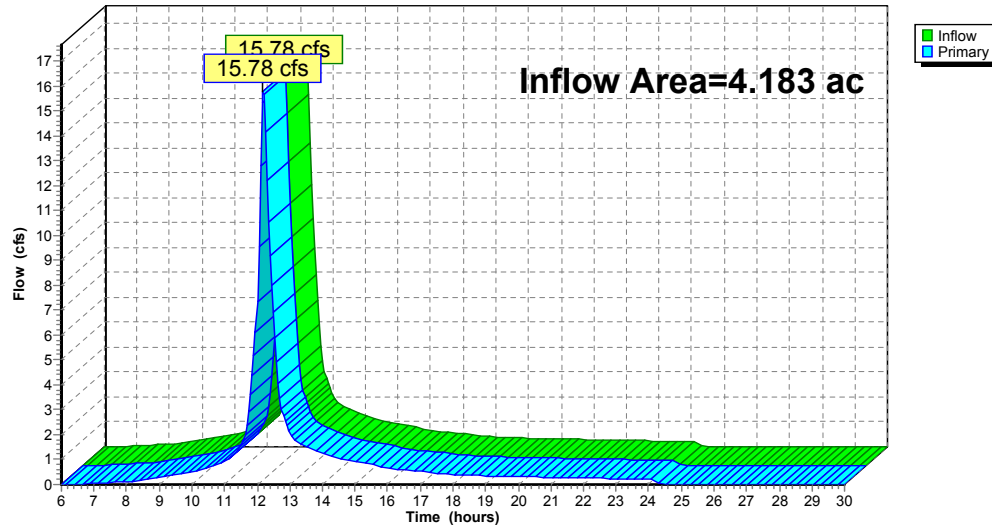
Summary for Link POA-D:

Inflow Area = 4.183 ac, 17.01% Impervious, Inflow Depth = 4.14" for 25-yr event
Inflow = 15.78 cfs @ 12.18 hrs, Volume= 1.444 af
Primary = 15.78 cfs @ 12.18 hrs, Volume= 1.444 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:

Hydrograph

**669 Oakdale Road Montville - Pre**

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Type III 24-hr 100-yr Rainfall=7.78"

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Summary for Subcatchment A:

Runoff = 27.70 cfs @ 12.12 hrs, Volume= 2.170 af, Depth= 5.19"
Routed to Link POA-A :

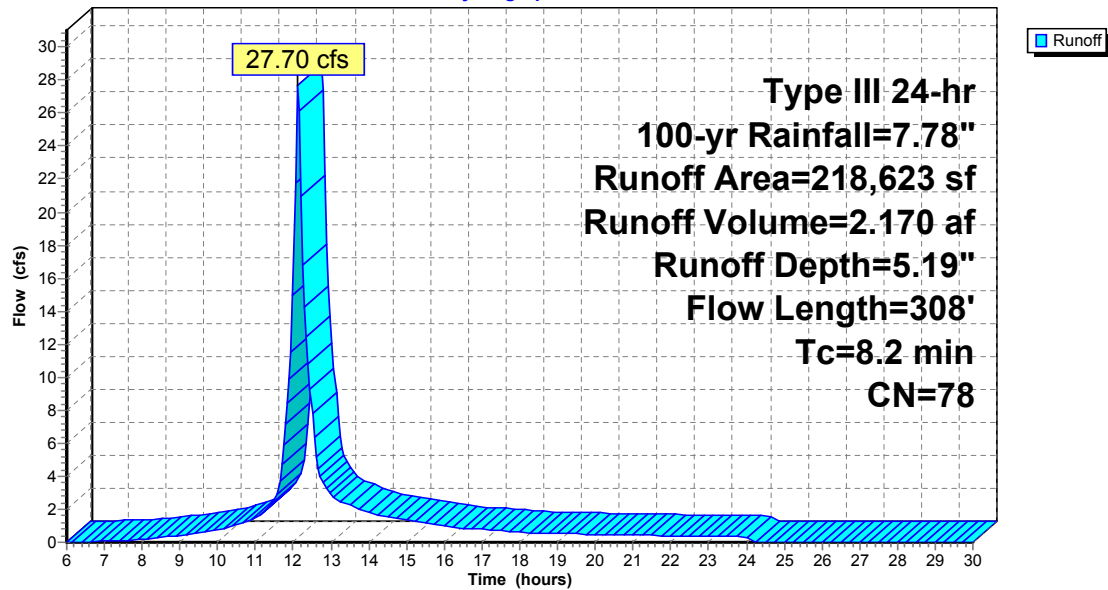
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
13,906	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
66,841	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
92,438	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
6,666	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
218,623	78	Weighted Average
218,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A:

Hydrograph



Summary for Subcatchment B:

Runoff = 1.65 cfs @ 12.14 hrs, Volume= 0.138 af, Depth= 5.30"
Routed to Link POA-B :

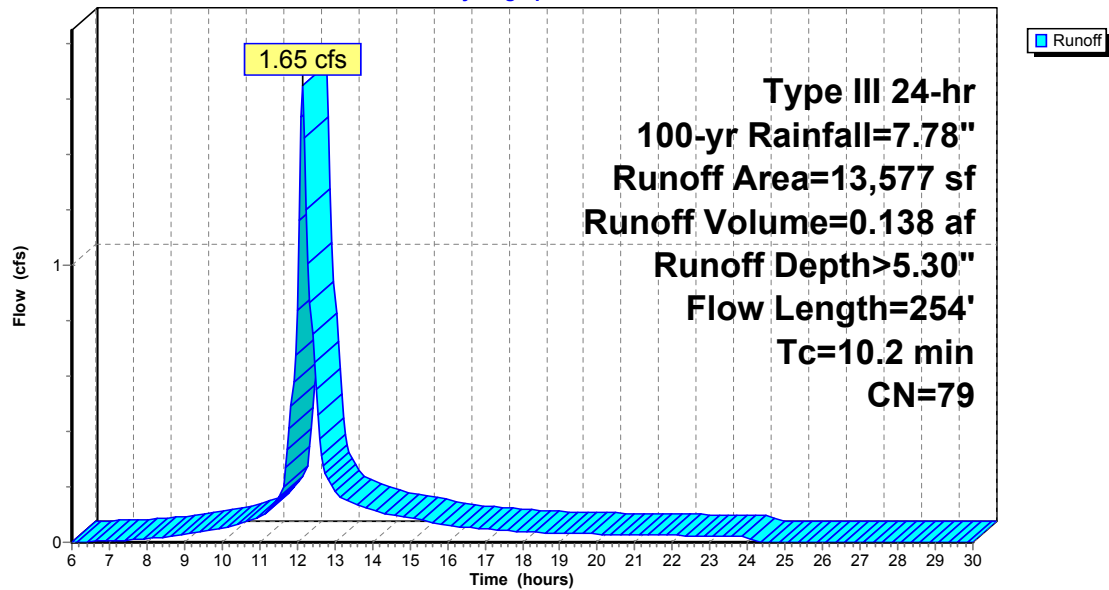
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
3,577	78	Meadow, non-grazed, HSG D
8,878	78	Meadow, non-grazed, HSG D
1,122	91	Gravel roads, HSG D
13,577	79	Weighted Average
13,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow
					Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel
					Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow
					Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B:

Hydrograph



Summary for Subcatchment C:

Runoff = 7.70 cfs @ 12.23 hrs, Volume= 0.765 af, Depth= 5.19"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
13,937	78	Meadow, non-grazed, HSG D
1,693	71	Meadow, non-grazed, HSG C
8,141	30	Meadow, non-grazed, HSG A
18,914	78	Meadow, non-grazed, HSG D
7,463	79	Woods, Fair, HSG D
2,986	73	Woods, Fair, HSG C
336	36	Woods, Fair, HSG A
2,453	91	Gravel roads, HSG D
8,413	98	Paved parking, HSG D
620	98	Paved parking, HSG B
12,143	98	Paved parking, HSG A
77,099	78	Weighted Average
55,923		72.53% Pervious Area
21,176		27.47% Impervious Area

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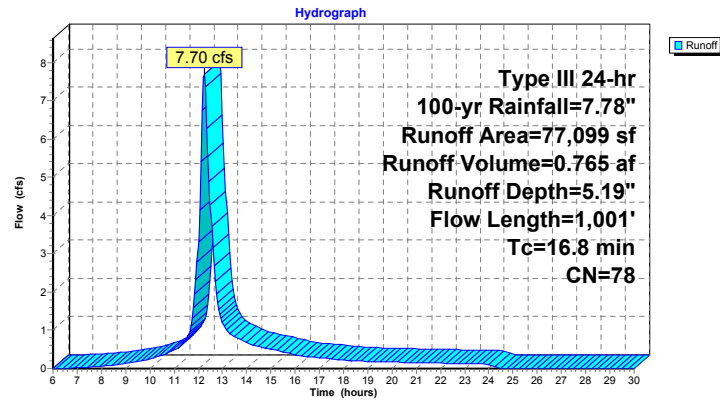
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Type III 24-hr 100-yr Rainfall=7.78"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 100-yr Rainfall=7.78"

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Summary for Subcatchment D:

Runoff = 21.29 cfs @ 12.18 hrs, Volume= 1.968 af, Depth= 5.65"
Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
38,983	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
80,797	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
10,224	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,558	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,271	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
182,194	82	Weighted Average
151,197		82.99% Pervious Area
30,997		17.01% Impervious Area

669 Oakdale Road Montville - Pre

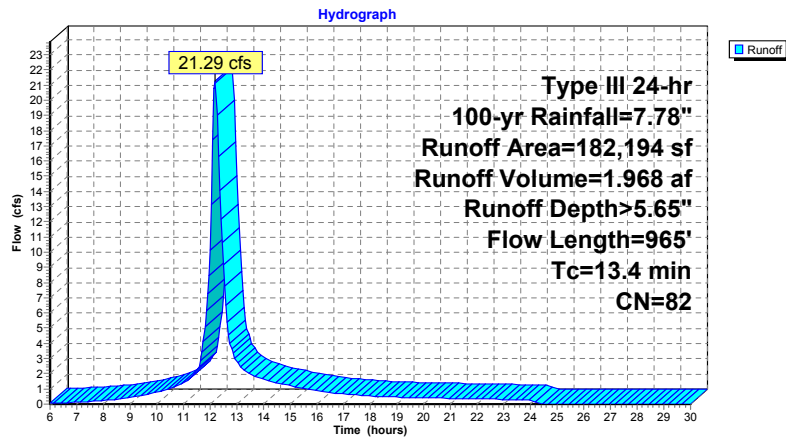
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Type III 24-hr 100-yr Rainfall=7.78"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D:**669 Oakdale Road Montville - Pre**

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Type III 24-hr 100-yr Rainfall=7.78"

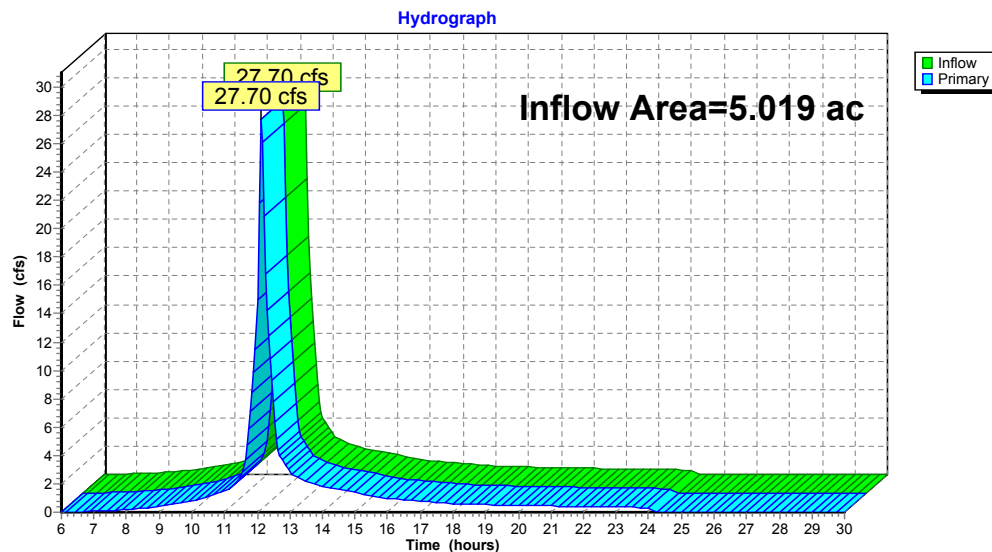
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.00% Impervious, Inflow Depth = 5.19" for 100-yr event
Inflow = 27.70 cfs @ 12.12 hrs, Volume= 2.170 af
Primary = 27.70 cfs @ 12.12 hrs, Volume= 2.170 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-A:

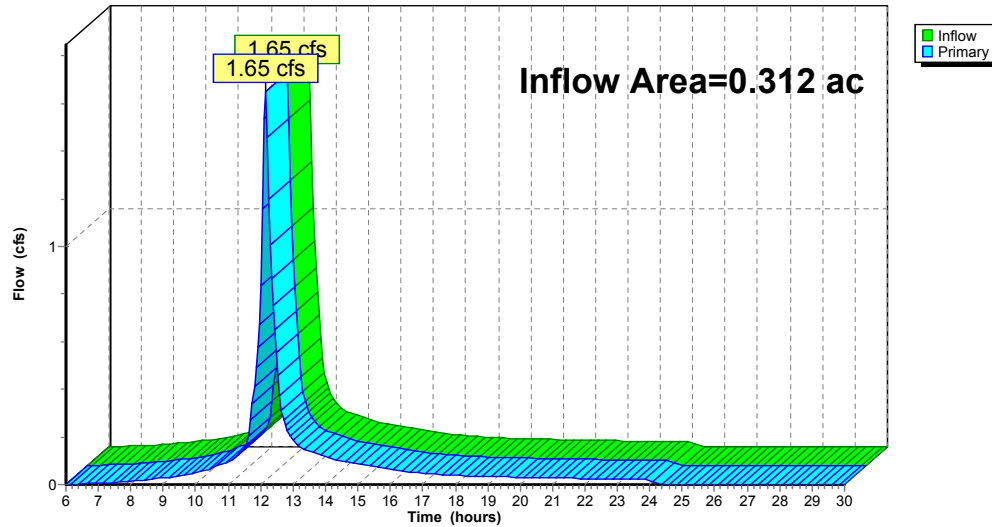
Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.00% Impervious, Inflow Depth > 5.30" for 100-yr event
Inflow = 1.65 cfs @ 12.14 hrs, Volume= 0.138 af
Primary = 1.65 cfs @ 12.14 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:

Hydrograph



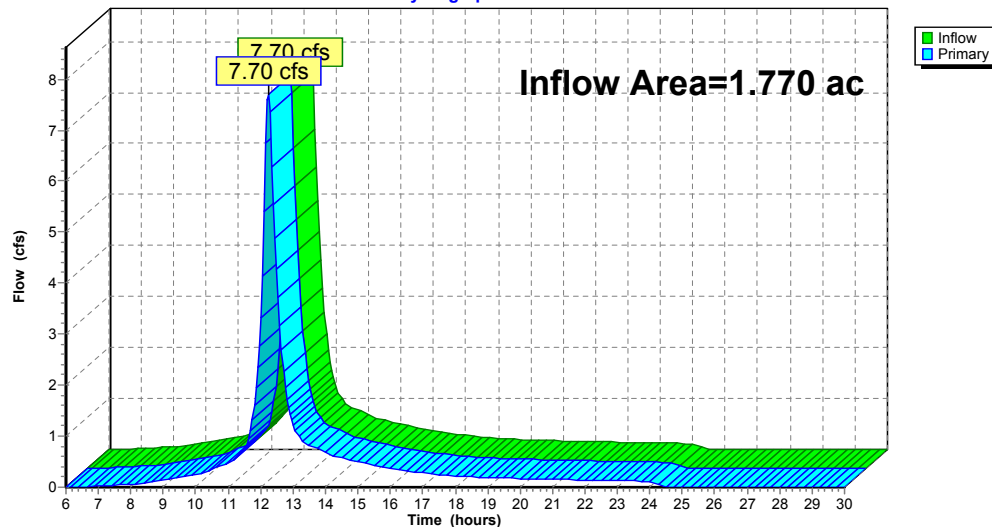
Summary for Link POA-C:

Inflow Area = 1.770 ac, 27.47% Impervious, Inflow Depth = 5.19" for 100-yr event
Inflow = 7.70 cfs @ 12.23 hrs, Volume= 0.765 af
Primary = 7.70 cfs @ 12.23 hrs, Volume= 0.765 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:

Hydrograph



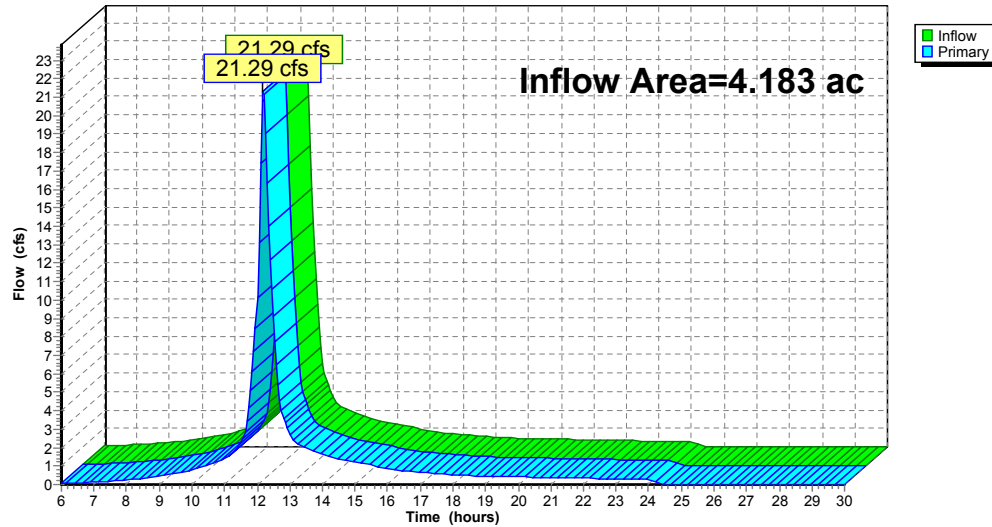
Summary for Link POA-D:

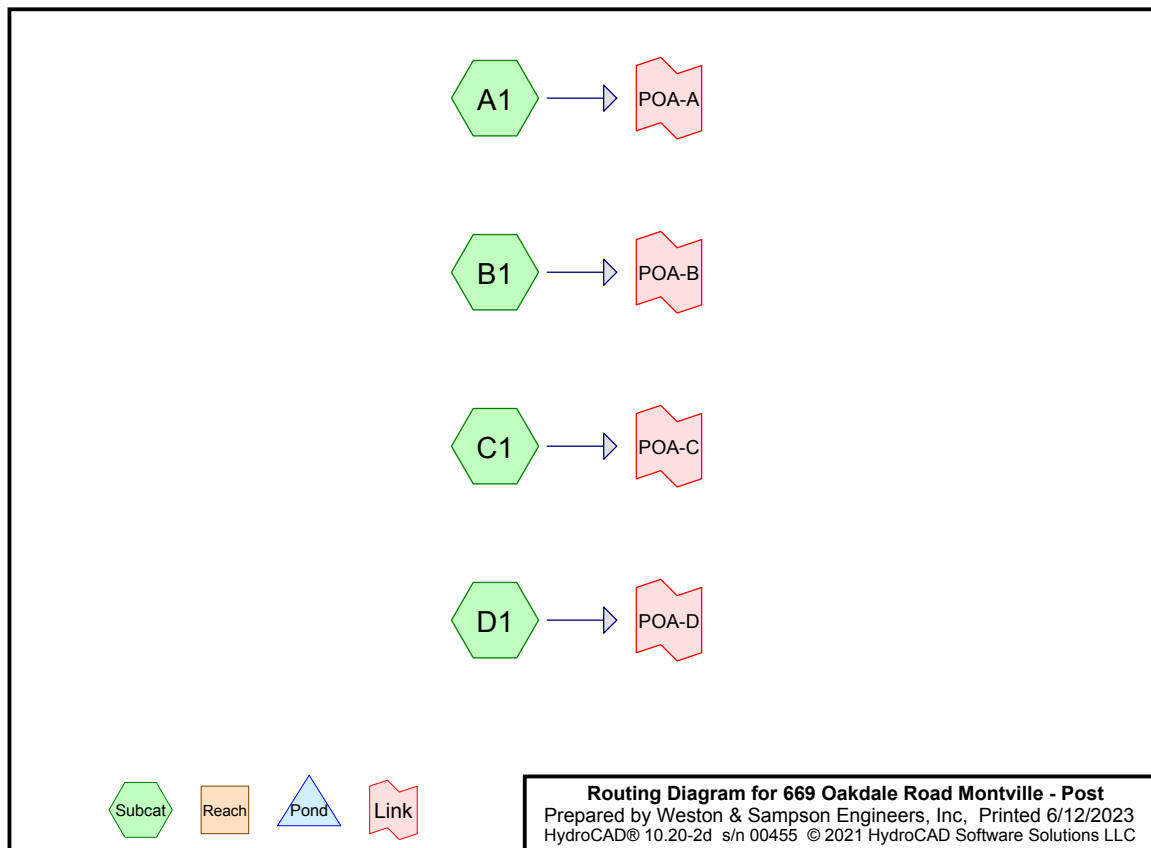
Inflow Area = 4.183 ac, 17.01% Impervious, Inflow Depth > 5.65" for 100-yr event
Inflow = 21.29 cfs @ 12.18 hrs, Volume= 1.968 af
Primary = 21.29 cfs @ 12.18 hrs, Volume= 1.968 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:

Hydrograph





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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.45	2
2	10-yr	Type III 24-hr		Default	24.00	1	5.12	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.17	2
4	100-yr	Type III 24-hr		Default	24.00	1	7.78	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.231	76	Gravel roads, HSG A (D1)
0.043	89	Gravel roads, HSG C (A1, D1)
0.446	91	Gravel roads, HSG D (A1, B1, C1, D1)
0.229	30	Meadow, non-grazed, HSG A (A1, C1, D1)
0.114	71	Meadow, non-grazed, HSG C (A1, C1, D1)
5.556	78	Meadow, non-grazed, HSG D (A1, B1, C1, D1)
0.357	98	Paved parking, HSG A (C1, D1)
0.014	98	Paved parking, HSG B (C1)
0.008	98	Paved parking, HSG C (D1)
0.832	98	Paved parking, HSG D (C1, D1)
0.092	98	Unconnected pavement, HSG D (A1, B1, C1, D1)
0.023	36	Woods, Fair, HSG A (A1, C1)
0.842	73	Woods, Fair, HSG C (A1, C1)
2.496	79	Woods, Fair, HSG D (A1, C1, D1)
11.283	80	TOTAL AREA

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Type III 24-hr 2-yr Rainfall=3.45"

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Summary for Subcatchment A1:

Runoff = 7.73 cfs @ 12.12 hrs, Volume= 0.610 af, Depth= 1.46"
Routed to Link POA-A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
54,384	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
24,778	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
91,474	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
7,640	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
1,575	98	Unconnected pavement, HSG D
218,623	78	Weighted Average
217,048		99.28% Pervious Area
1,575		0.72% Impervious Area
1,575		100.00% Unconnected

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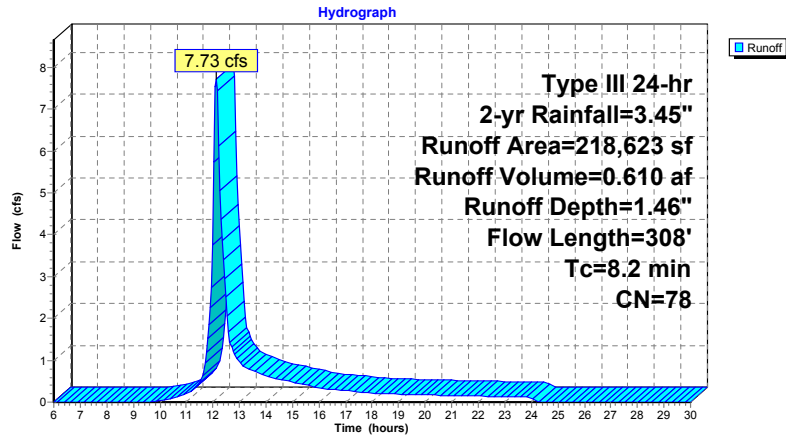
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Type III 24-hr 2-yr Rainfall=3.45"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 2-yr Rainfall=3.45"

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Summary for Subcatchment B1:

Runoff = 0.47 cfs @ 12.15 hrs, Volume= 0.040 af, Depth= 1.53"
 Routed to Link POA-B :

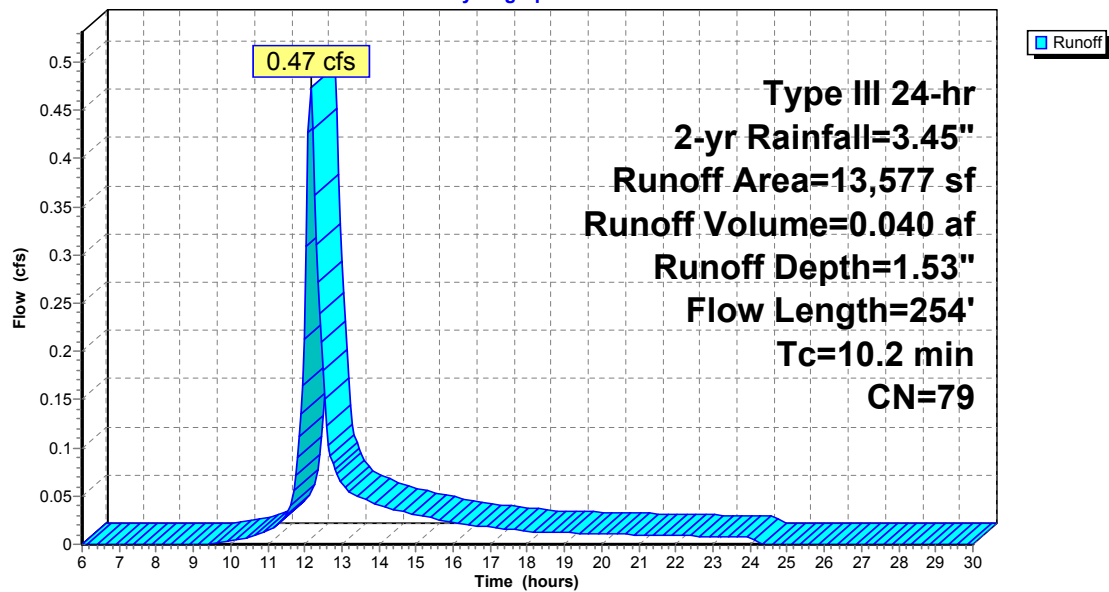
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
6,112	78	Meadow, non-grazed, HSG D
6,218	78	Meadow, non-grazed, HSG D
1,112	91	Gravel roads, HSG D
135	98	Unconnected pavement, HSG D
13,577	79	Weighted Average
13,442		99.01% Pervious Area
135		0.99% Impervious Area
135		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B1:

Hydrograph



Summary for Subcatchment C1:

Runoff = 2.14 cfs @ 12.24 hrs, Volume= 0.215 af, Depth= 1.46"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Adj	Description
25,170	78		Meadow, non-grazed, HSG D
1,693	71		Meadow, non-grazed, HSG C
8,141	30		Meadow, non-grazed, HSG A
7,191	78		Meadow, non-grazed, HSG D
7,463	79		Woods, Fair, HSG D
2,986	73		Woods, Fair, HSG C
336	36		Woods, Fair, HSG A
2,358	91		Gravel roads, HSG D
8,413	98		Paved parking, HSG D
620	98		Paved parking, HSG B
12,143	98		Paved parking, HSG A
585	98		Unconnected pavement, HSG D
77,099	79	78	Weighted Average, UI Adjusted
55,338			71.78% Pervious Area
21,761			28.22% Impervious Area
585			2.69% Unconnected

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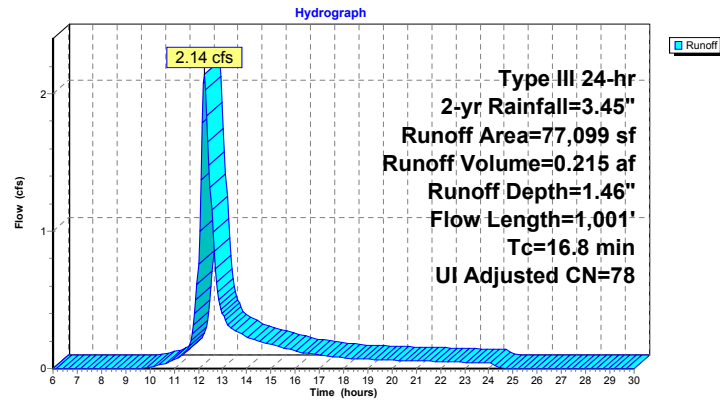
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Type III 24-hr 2-yr Rainfall=3.45"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 2-yr Rainfall=3.45"

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Summary for Subcatchment D1:

Runoff = 6.67 cfs @ 12.19 hrs, Volume= 0.607 af, Depth= 1.74"
 Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.45"

Area (sf)	CN	Description
80,169	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
38,003	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
9,808	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,312	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,831	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
1,710	98	Unconnected pavement, HSG D
182,194	82	Weighted Average
148,927		81.74% Pervious Area
33,267		18.26% Impervious Area
1,710		5.14% Unconnected

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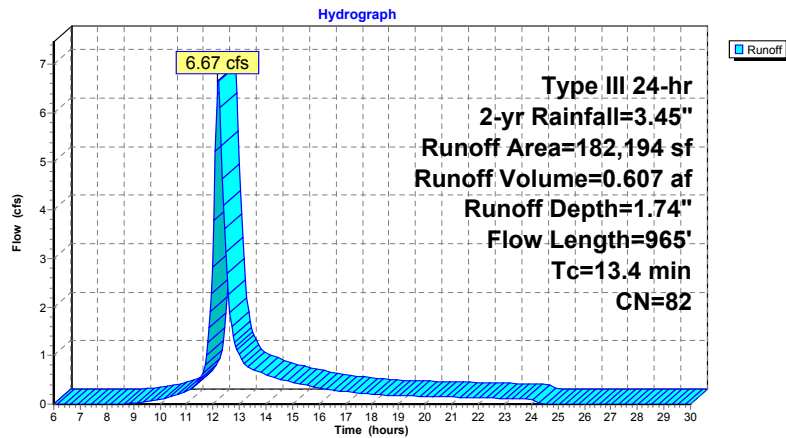
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Type III 24-hr 2-yr Rainfall=3.45"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 2-yr Rainfall=3.45"

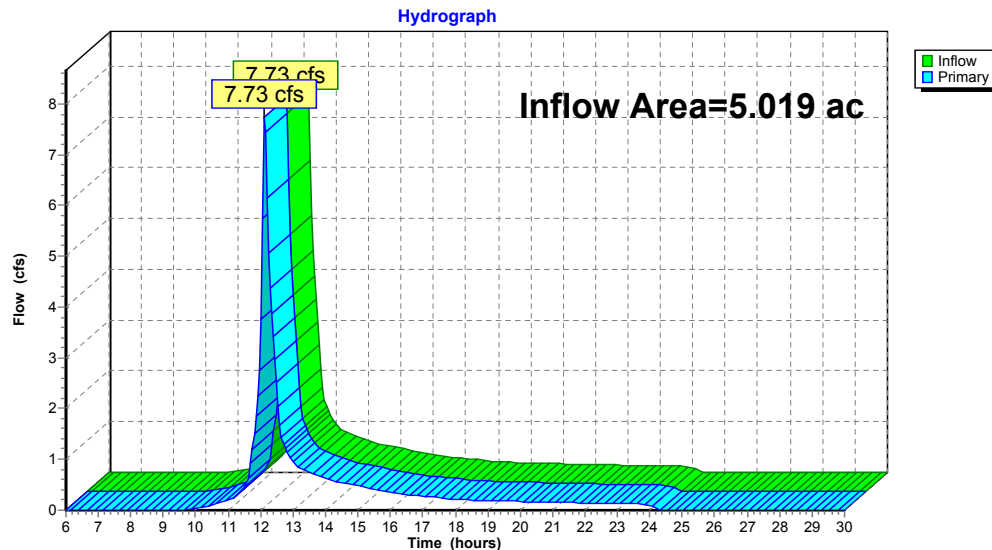
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.72% Impervious, Inflow Depth = 1.46" for 2-yr event
Inflow = 7.73 cfs @ 12.12 hrs, Volume= 0.610 af
Primary = 7.73 cfs @ 12.12 hrs, Volume= 0.610 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-A:

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Type III 24-hr 2-yr Rainfall=3.45"

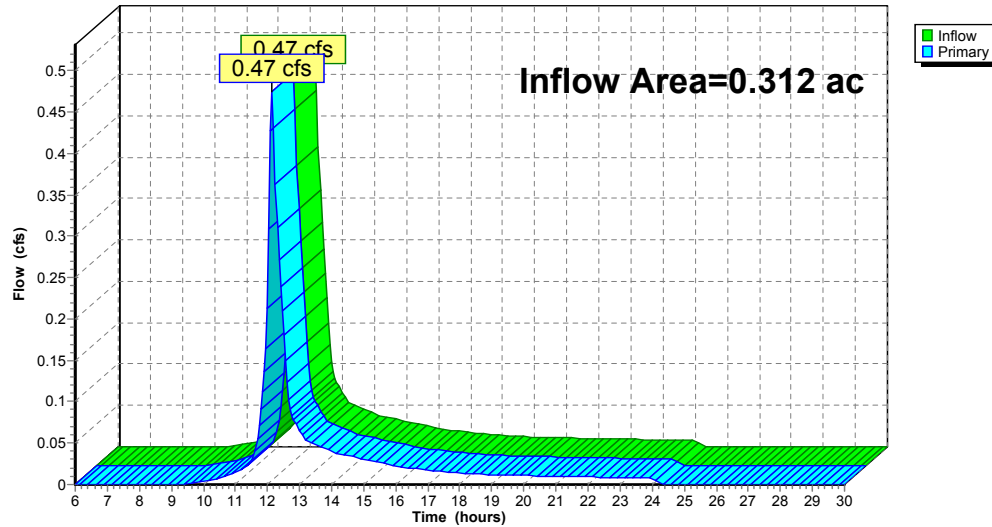
Printed 6/12/2023

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Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.99% Impervious, Inflow Depth = 1.53" for 2-yr event
Inflow = 0.47 cfs @ 12.15 hrs, Volume= 0.040 af
Primary = 0.47 cfs @ 12.15 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:**Hydrograph****669 Oakdale Road Montville - Post**

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Type III 24-hr 2-yr Rainfall=3.45"

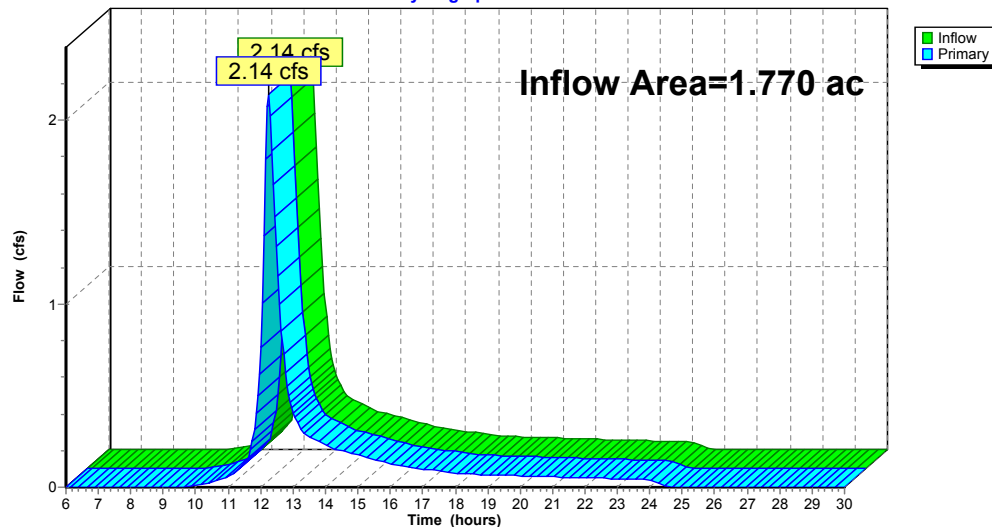
Printed 6/12/2023

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Summary for Link POA-C:

Inflow Area = 1.770 ac, 28.22% Impervious, Inflow Depth = 1.46" for 2-yr event
Inflow = 2.14 cfs @ 12.24 hrs, Volume= 0.215 af
Primary = 2.14 cfs @ 12.24 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:**Hydrograph**

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Type III 24-hr 2-yr Rainfall=3.45"

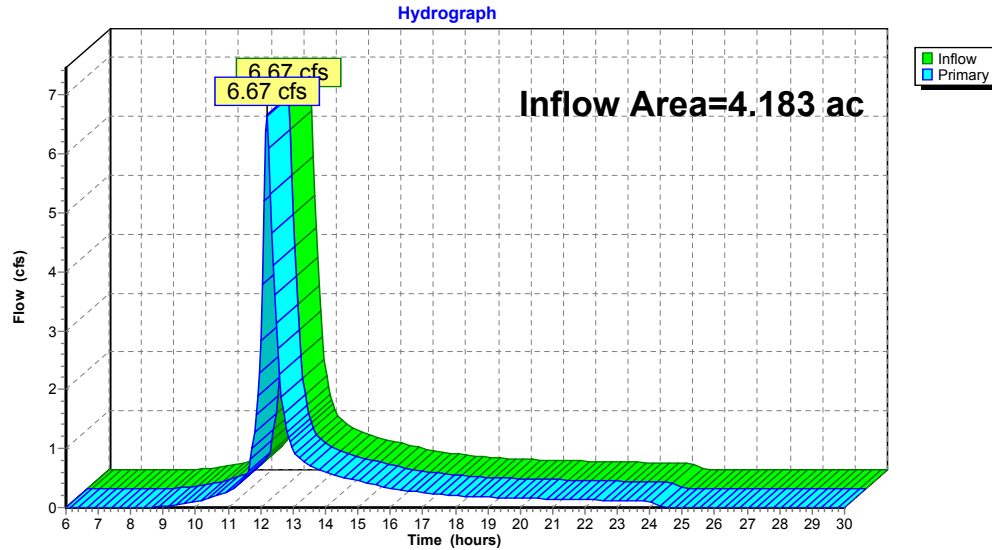
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Summary for Link POA-D:

Inflow Area = 4.183 ac, 18.26% Impervious, Inflow Depth = 1.74" for 2-yr event
Inflow = 6.67 cfs @ 12.19 hrs, Volume= 0.607 af
Primary = 6.67 cfs @ 12.19 hrs, Volume= 0.607 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:**669 Oakdale Road Montville - Post**

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Type III 24-hr 10-yr Rainfall=5.12"

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Summary for Subcatchment A1:

Runoff = 15.14 cfs @ 12.12 hrs, Volume= 1.177 af, Depth= 2.81"
Routed to Link POA-A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
54,384	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
24,778	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
91,474	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
7,640	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
1,575	98	Unconnected pavement, HSG D
218,623	78	Weighted Average
217,048		99.28% Pervious Area
1,575		0.72% Impervious Area
1,575		100.00% Unconnected

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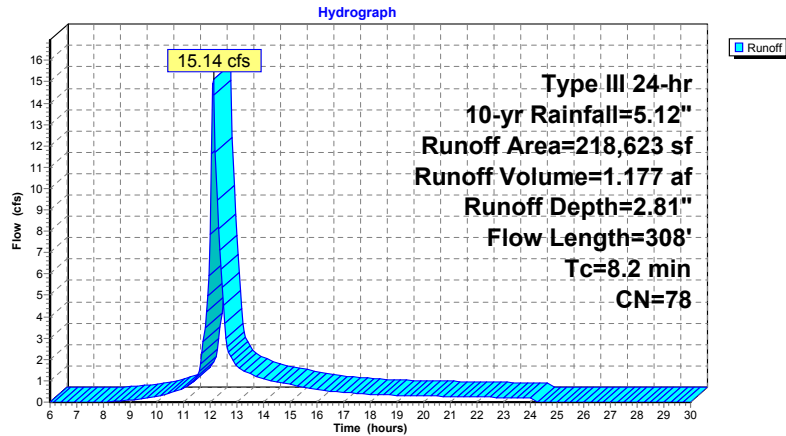
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Type III 24-hr 10-yr Rainfall=5.12"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 10-yr Rainfall=5.12"

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Summary for Subcatchment B1:

Runoff = 0.91 cfs @ 12.15 hrs, Volume= 0.075 af, Depth= 2.91"
Routed to Link POA-B :

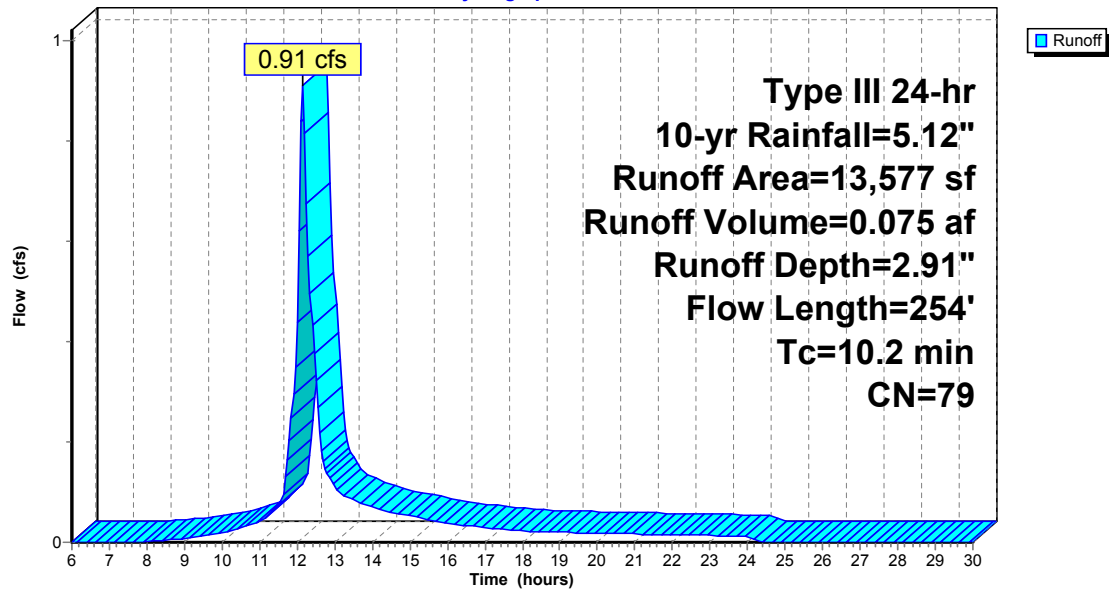
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
6,112	78	Meadow, non-grazed, HSG D
6,218	78	Meadow, non-grazed, HSG D
1,112	91	Gravel roads, HSG D
135	98	Unconnected pavement, HSG D
13,577	79	Weighted Average
13,442		99.01% Pervious Area
135		0.99% Impervious Area
135		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B1:

Hydrograph



Summary for Subcatchment C1:

Runoff = 4.20 cfs @ 12.23 hrs, Volume= 0.415 af, Depth= 2.81"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Adj	Description
25,170	78		Meadow, non-grazed, HSG D
1,693	71		Meadow, non-grazed, HSG C
8,141	30		Meadow, non-grazed, HSG A
7,191	78		Meadow, non-grazed, HSG D
7,463	79		Woods, Fair, HSG D
2,986	73		Woods, Fair, HSG C
336	36		Woods, Fair, HSG A
2,358	91		Gravel roads, HSG D
8,413	98		Paved parking, HSG D
620	98		Paved parking, HSG B
12,143	98		Paved parking, HSG A
585	98		Unconnected pavement, HSG D
77,099	79	78	Weighted Average, UI Adjusted
55,338			71.78% Pervious Area
21,761			28.22% Impervious Area
585			2.69% Unconnected

669 Oakdale Road Montville - Post

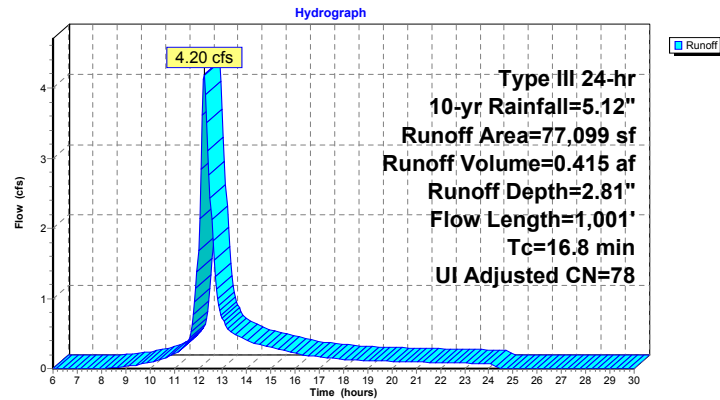
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Type III 24-hr 10-yr Rainfall=5.12"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 10-yr Rainfall=5.12"

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Summary for Subcatchment D1:

Runoff = 12.20 cfs @ 12.19 hrs, Volume= 1.111 af, Depth= 3.19"
 Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.12"

Area (sf)	CN	Description
80,169	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
38,003	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
9,808	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,312	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,831	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
1,710	98	Unconnected pavement, HSG D
182,194	82	Weighted Average
148,927		81.74% Pervious Area
33,267		18.26% Impervious Area
1,710		5.14% Unconnected

669 Oakdale Road Montville - Post

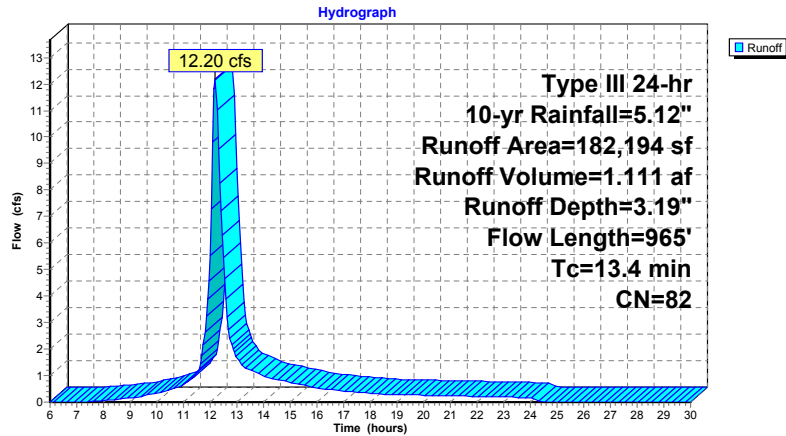
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Type III 24-hr 10-yr Rainfall=5.12"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 10-yr Rainfall=5.12"

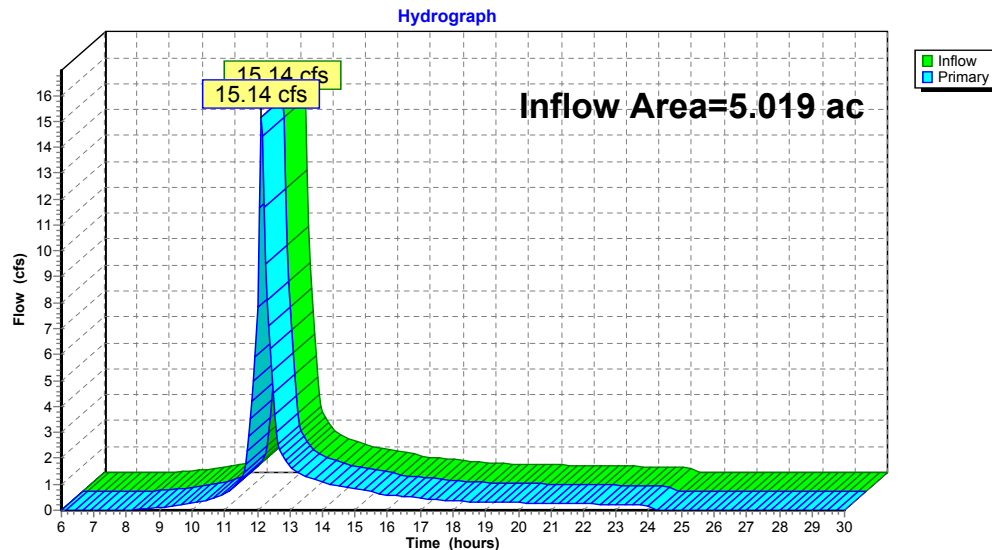
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.72% Impervious, Inflow Depth = 2.81" for 10-yr event
Inflow = 15.14 cfs @ 12.12 hrs, Volume= 1.177 af
Primary = 15.14 cfs @ 12.12 hrs, Volume= 1.177 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

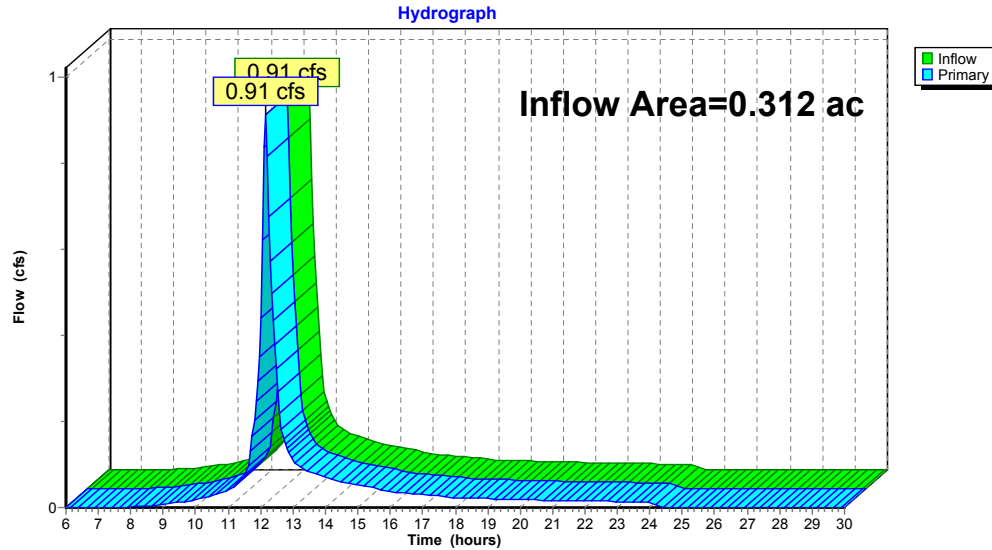
Link POA-A:

Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.99% Impervious, Inflow Depth = 2.91" for 10-yr event
Inflow = 0.91 cfs @ 12.15 hrs, Volume= 0.075 af
Primary = 0.91 cfs @ 12.15 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:

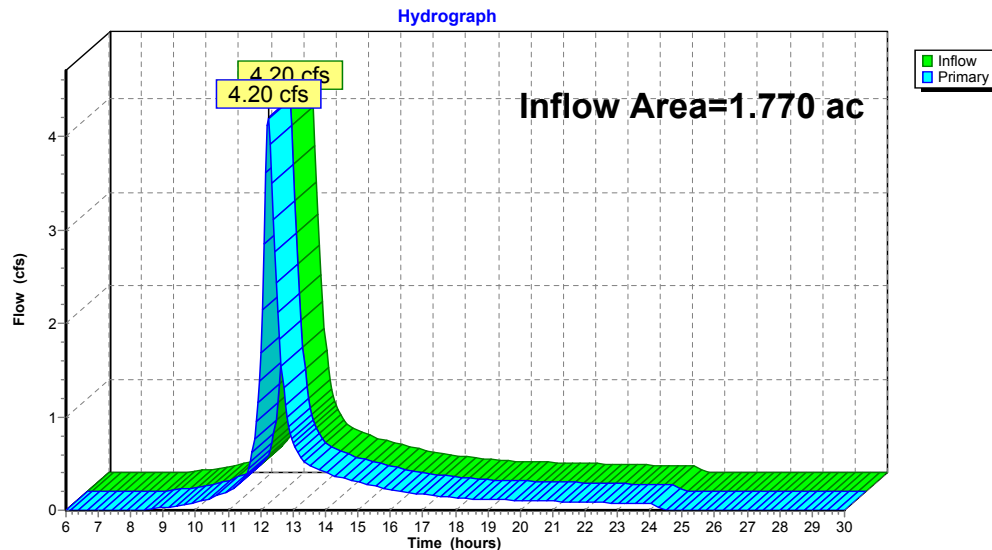


Summary for Link POA-C:

Inflow Area = 1.770 ac, 28.22% Impervious, Inflow Depth = 2.81" for 10-yr event
Inflow = 4.20 cfs @ 12.23 hrs, Volume= 0.415 af
Primary = 4.20 cfs @ 12.23 hrs, Volume= 0.415 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:



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Type III 24-hr 10-yr Rainfall=5.12"

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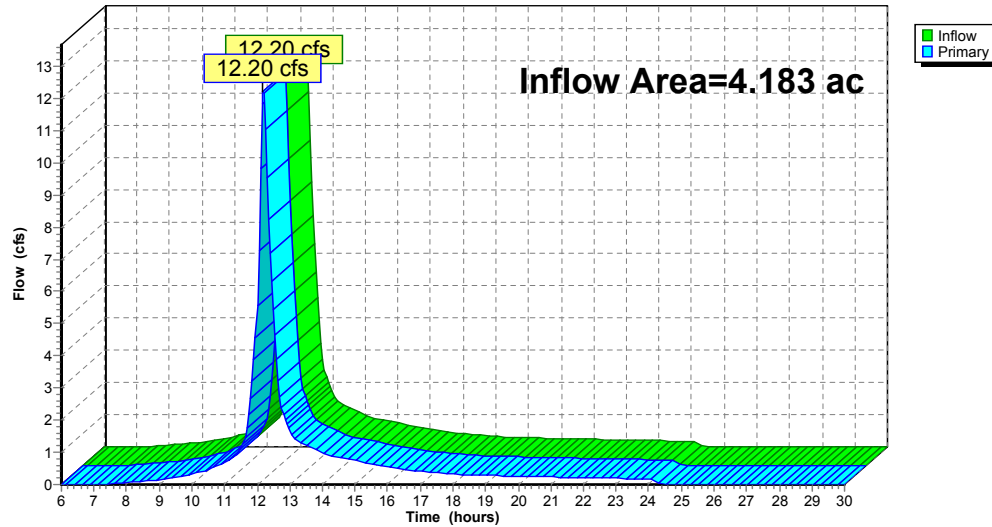
Summary for Link POA-D:

Inflow Area = 4.183 ac, 18.26% Impervious, Inflow Depth = 3.19" for 10-yr event
Inflow = 12.20 cfs @ 12.19 hrs, Volume= 1.111 af
Primary = 12.20 cfs @ 12.19 hrs, Volume= 1.111 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:

Hydrograph

**669 Oakdale Road Montville - Post**

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Type III 24-hr 25-yr Rainfall=6.17"

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Summary for Subcatchment A1:

Runoff = 20.05 cfs @ 12.12 hrs, Volume= 1.560 af, Depth= 3.73"
Routed to Link POA-A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
54,384	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
24,778	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
91,474	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
7,640	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
1,575	98	Unconnected pavement, HSG D
218,623	78	Weighted Average
217,048		99.28% Pervious Area
1,575		0.72% Impervious Area
1,575		100.00% Unconnected

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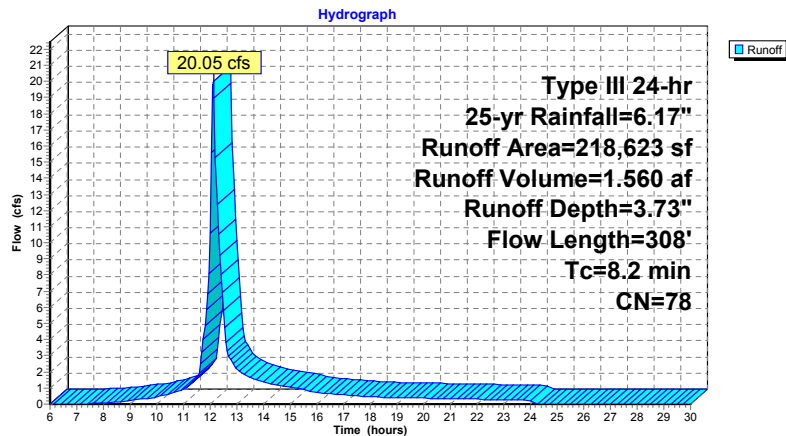
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Type III 24-hr 25-yr Rainfall=6.17"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 25-yr Rainfall=6.17"

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Summary for Subcatchment B1:

Runoff = 1.20 cfs @ 12.15 hrs, Volume= 0.100 af, Depth= 3.83"
Routed to Link POA-B :

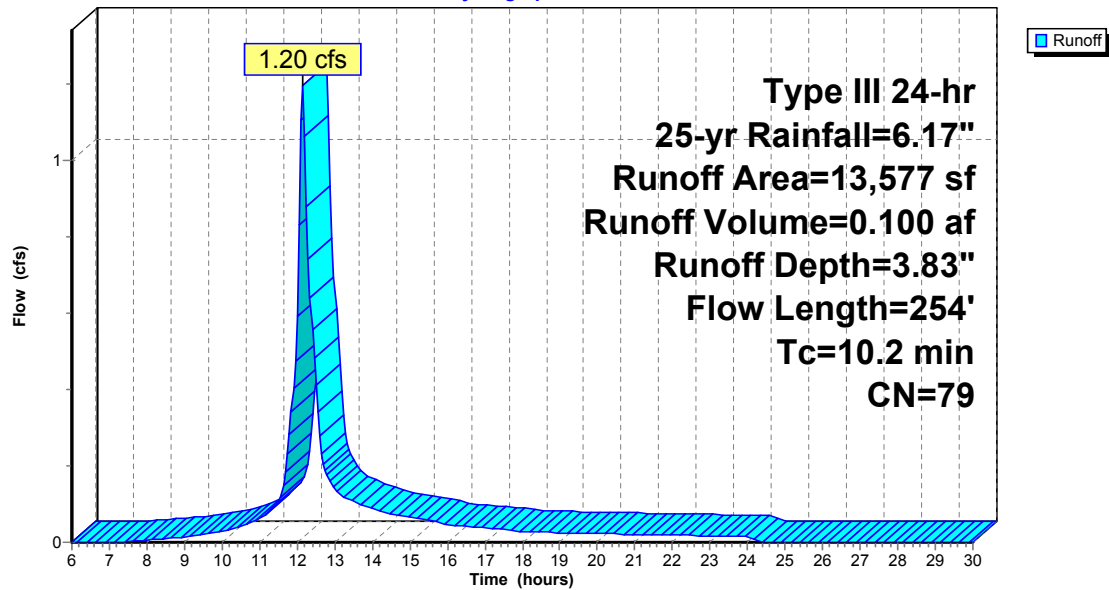
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
6,112	78	Meadow, non-grazed, HSG D
6,218	78	Meadow, non-grazed, HSG D
1,112	91	Gravel roads, HSG D
135	98	Unconnected pavement, HSG D
13,577	79	Weighted Average
13,442		99.01% Pervious Area
135		0.99% Impervious Area
135		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B1:

Hydrograph



Summary for Subcatchment C1:

Runoff = 5.57 cfs @ 12.23 hrs, Volume= 0.550 af, Depth= 3.73"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Adj	Description
25,170	78		Meadow, non-grazed, HSG D
1,693	71		Meadow, non-grazed, HSG C
8,141	30		Meadow, non-grazed, HSG A
7,191	78		Meadow, non-grazed, HSG D
7,463	79		Woods, Fair, HSG D
2,986	73		Woods, Fair, HSG C
336	36		Woods, Fair, HSG A
2,358	91		Gravel roads, HSG D
8,413	98		Paved parking, HSG D
620	98		Paved parking, HSG B
12,143	98		Paved parking, HSG A
585	98		Unconnected pavement, HSG D
77,099	79	78	Weighted Average, UI Adjusted
55,338			71.78% Pervious Area
21,761			28.22% Impervious Area
585			2.69% Unconnected

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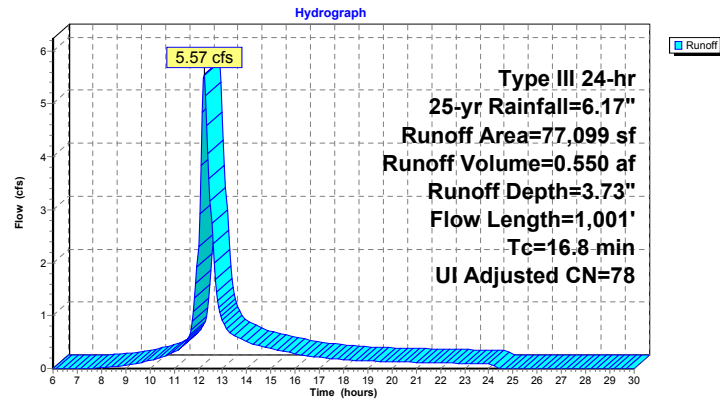
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Type III 24-hr 25-yr Rainfall=6.17"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 25-yr Rainfall=6.17"

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Summary for Subcatchment D1:

Runoff = 15.78 cfs @ 12.18 hrs, Volume= 1.444 af, Depth= 4.14"
Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.17"

Area (sf)	CN	Description
80,169	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
38,003	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
9,808	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,312	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,831	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
1,710	98	Unconnected pavement, HSG D
182,194	82	Weighted Average
148,927		81.74% Pervious Area
33,267		18.26% Impervious Area
1,710		5.14% Unconnected

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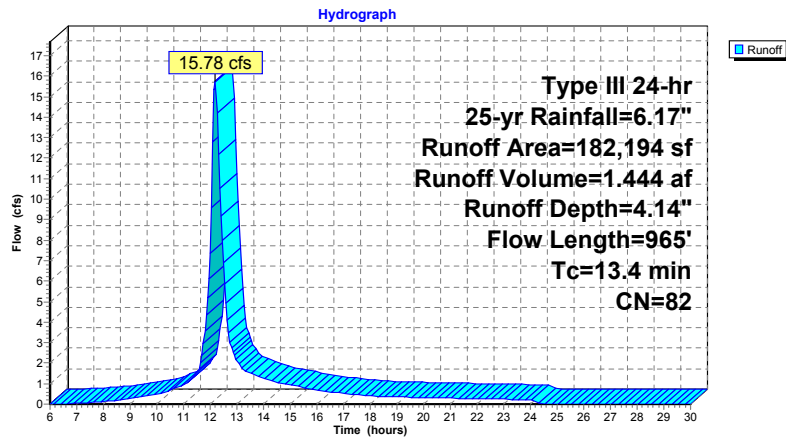
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Type III 24-hr 25-yr Rainfall=6.17"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 25-yr Rainfall=6.17"

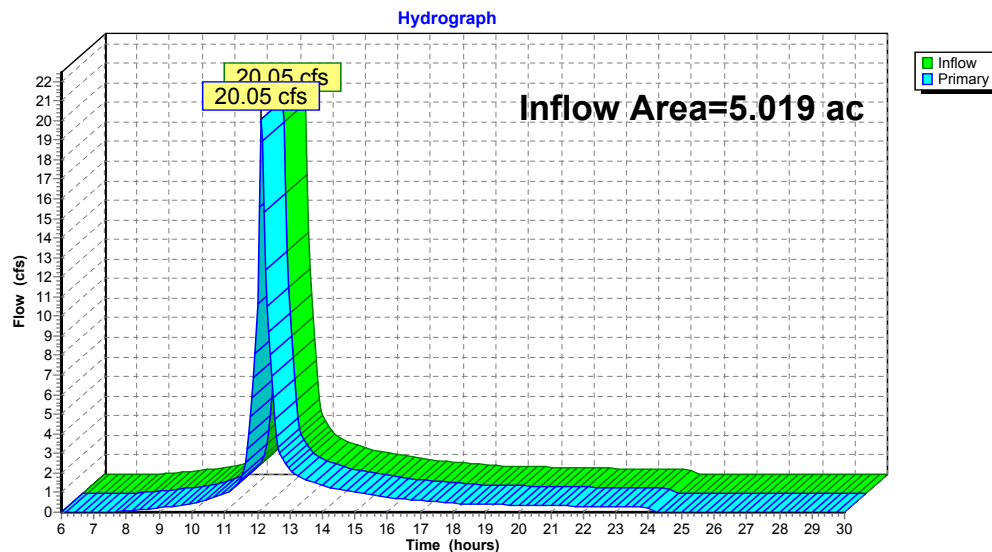
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.72% Impervious, Inflow Depth = 3.73" for 25-yr event
Inflow = 20.05 cfs @ 12.12 hrs, Volume= 1.560 af
Primary = 20.05 cfs @ 12.12 hrs, Volume= 1.560 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-A:

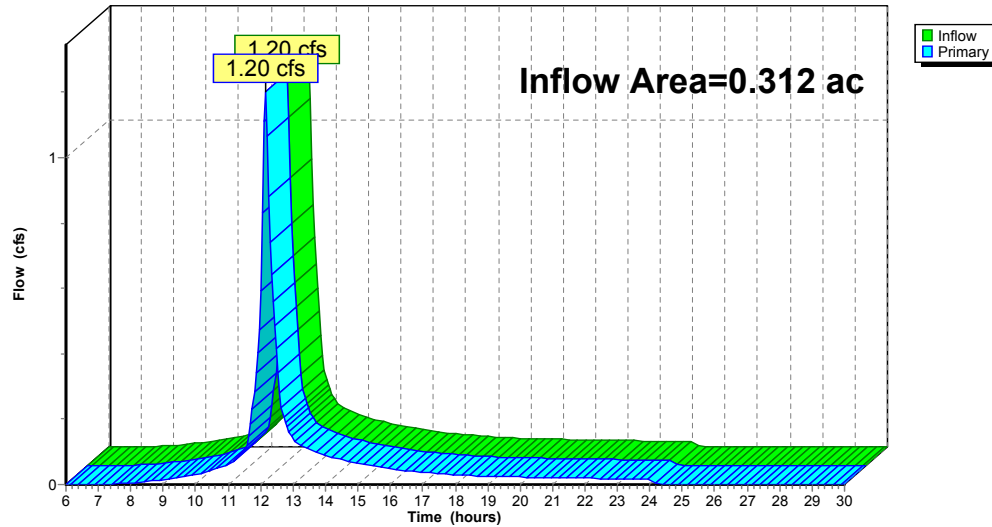
Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.99% Impervious, Inflow Depth = 3.83" for 25-yr event
Inflow = 1.20 cfs @ 12.15 hrs, Volume= 0.100 af
Primary = 1.20 cfs @ 12.15 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:

Hydrograph



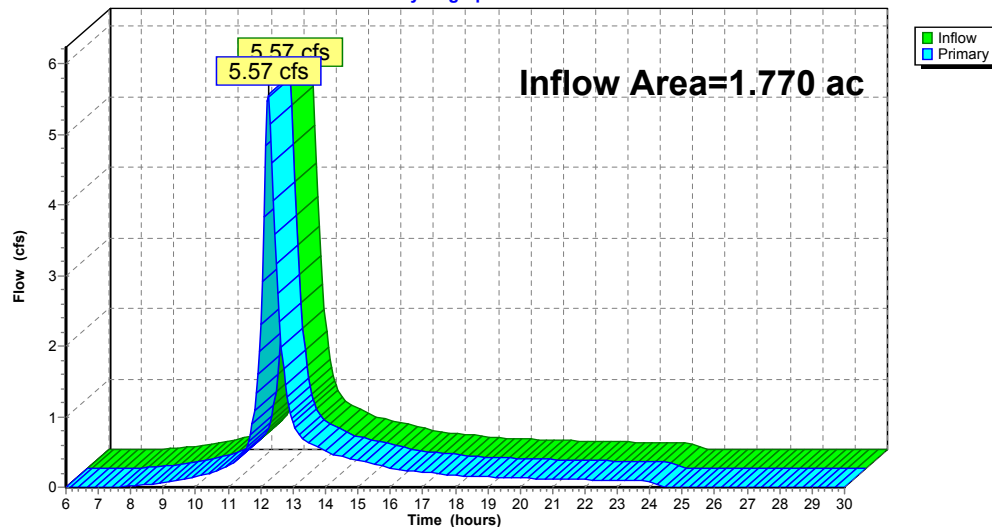
Summary for Link POA-C:

Inflow Area = 1.770 ac, 28.22% Impervious, Inflow Depth = 3.73" for 25-yr event
Inflow = 5.57 cfs @ 12.23 hrs, Volume= 0.550 af
Primary = 5.57 cfs @ 12.23 hrs, Volume= 0.550 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:

Hydrograph



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Type III 24-hr 25-yr Rainfall=6.17"

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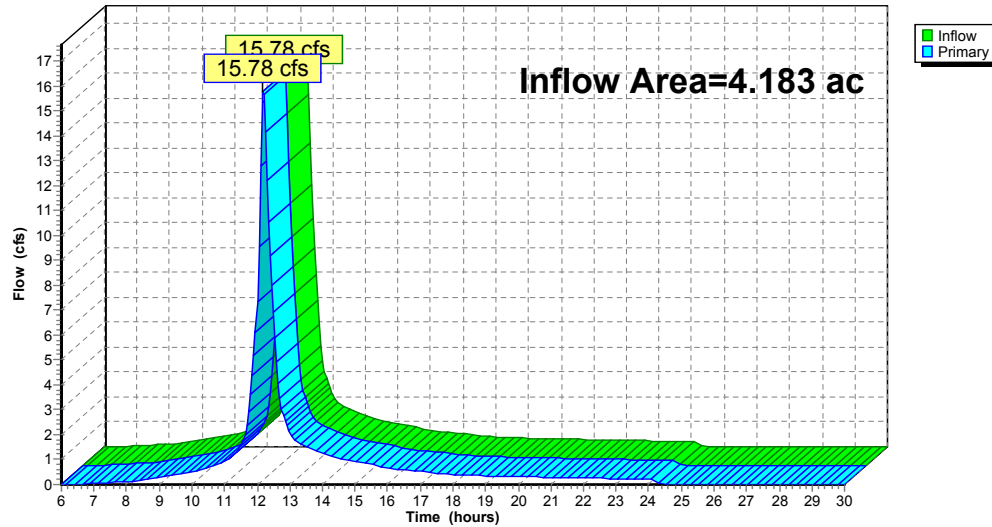
Summary for Link POA-D:

Inflow Area = 4.183 ac, 18.26% Impervious, Inflow Depth = 4.14" for 25-yr event
Inflow = 15.78 cfs @ 12.18 hrs, Volume= 1.444 af
Primary = 15.78 cfs @ 12.18 hrs, Volume= 1.444 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:

Hydrograph

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Type III 24-hr 100-yr Rainfall=7.78"

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Summary for Subcatchment A1:

Runoff = 27.70 cfs @ 12.12 hrs, Volume= 2.170 af, Depth= 5.19"
Routed to Link POA-A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
54,384	78	Meadow, non-grazed, HSG D
1,075	71	Meadow, non-grazed, HSG C
670	30	Meadow, non-grazed, HSG A
24,778	78	Meadow, non-grazed, HSG D
1,720	71	Meadow, non-grazed, HSG C
91,474	79	Woods, Fair, HSG D
33,692	73	Woods, Fair, HSG C
662	36	Woods, Fair, HSG A
7,640	91	Gravel roads, HSG D
953	89	Gravel roads, HSG C
1,575	98	Unconnected pavement, HSG D
218,623	78	Weighted Average
217,048		99.28% Pervious Area
1,575		0.72% Impervious Area
1,575		100.00% Unconnected

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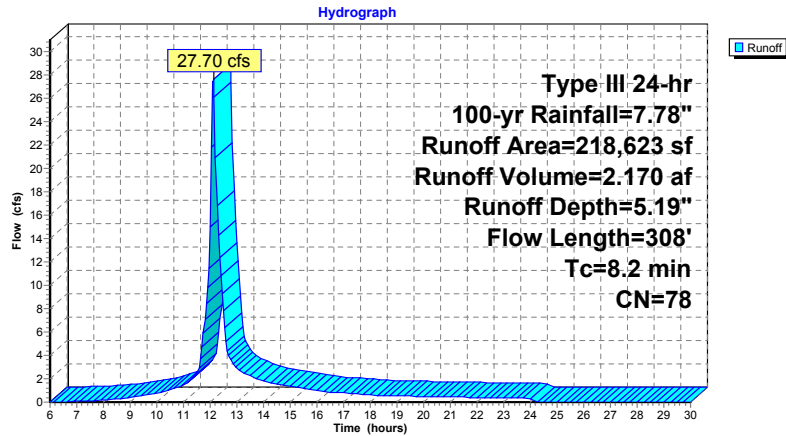
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Type III 24-hr 100-yr Rainfall=7.78"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.1100	0.24		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.1	13	0.3462	4.12		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	8	0.1250	5.69		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	21	0.3095	3.89		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
1.1	166	0.2530	2.51		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
8.2	308	Total			

Subcatchment A1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 100-yr Rainfall=7.78"

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Summary for Subcatchment B1:

Runoff = 1.65 cfs @ 12.14 hrs, Volume= 0.138 af, Depth= 5.30"
Routed to Link POA-B :

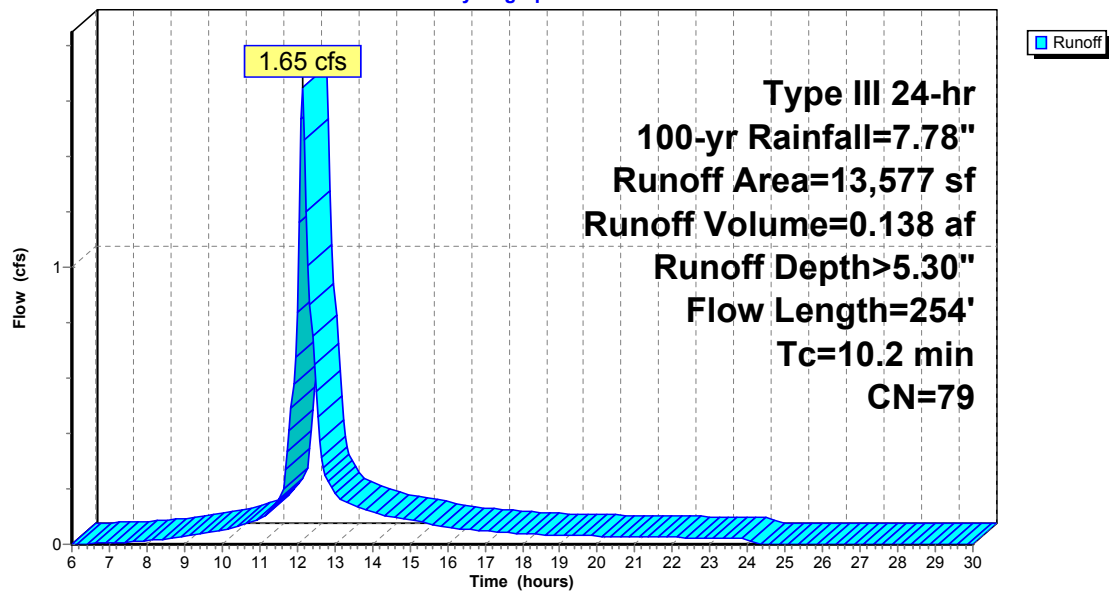
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
6,112	78	Meadow, non-grazed, HSG D
6,218	78	Meadow, non-grazed, HSG D
1,112	91	Gravel roads, HSG D
135	98	Unconnected pavement, HSG D
13,577	79	Weighted Average
13,442		99.01% Pervious Area
135		0.99% Impervious Area
135		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	100	0.0500	0.17		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	62	0.1290	2.51		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	51	0.3333	4.04		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.0	10	0.1000	5.09		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
0.1	31	0.2903	3.77		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
10.2	254	Total			

Subcatchment B1:

Hydrograph



Summary for Subcatchment C1:

Runoff = 7.70 cfs @ 12.23 hrs, Volume= 0.765 af, Depth= 5.19"
Routed to Link POA-C :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Adj	Description
25,170	78		Meadow, non-grazed, HSG D
1,693	71		Meadow, non-grazed, HSG C
8,141	30		Meadow, non-grazed, HSG A
7,191	78		Meadow, non-grazed, HSG D
7,463	79		Woods, Fair, HSG D
2,986	73		Woods, Fair, HSG C
336	36		Woods, Fair, HSG A
2,358	91		Gravel roads, HSG D
8,413	98		Paved parking, HSG D
620	98		Paved parking, HSG B
12,143	98		Paved parking, HSG A
585	98		Unconnected pavement, HSG D
77,099	79	78	Weighted Average, UI Adjusted
55,338			71.78% Pervious Area
21,761			28.22% Impervious Area
585			2.69% Unconnected

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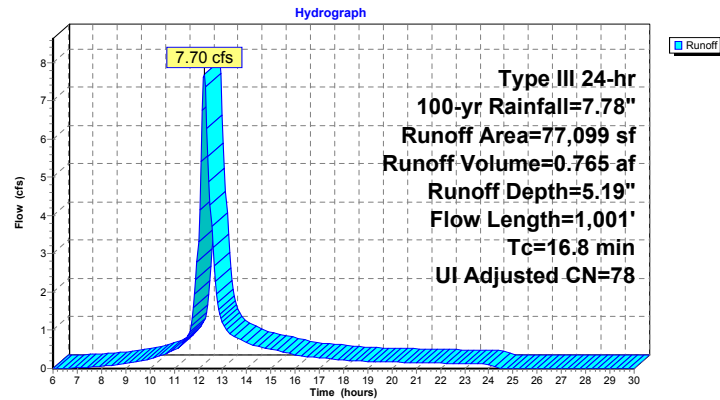
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Type III 24-hr 100-yr Rainfall=7.78"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0300	0.14		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
1.1	126	0.0794	1.97		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	80	0.3375	4.07		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
3.1	607	0.0264	3.30		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
0.3	44	0.1136	2.36		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.3	44	0.2500	2.50		Shallow Concentrated Flow, Shallow - Woods Woodland Kv= 5.0 fps
16.8	1,001	Total			

Subcatchment C1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 100-yr Rainfall=7.78"

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Summary for Subcatchment D1:

Runoff = 21.29 cfs @ 12.18 hrs, Volume= 1.968 af, Depth= 5.65"
 Routed to Link POA-D :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=7.78"

Area (sf)	CN	Description
80,169	78	Meadow, non-grazed, HSG D
0	71	Meadow, non-grazed, HSG C
1,146	30	Meadow, non-grazed, HSG A
38,003	78	Meadow, non-grazed, HSG D
489	71	Meadow, non-grazed, HSG C
9,808	79	Woods, Fair, HSG D
0	73	Woods, Fair, HSG C
8,312	91	Gravel roads, HSG D
940	89	Gravel roads, HSG C
10,060	76	Gravel roads, HSG A
27,831	98	Paved parking, HSG D
329	98	Paved parking, HSG C
3,397	98	Paved parking, HSG A
1,710	98	Unconnected pavement, HSG D
182,194	82	Weighted Average
148,927		81.74% Pervious Area
33,267		18.26% Impervious Area
1,710		5.14% Unconnected

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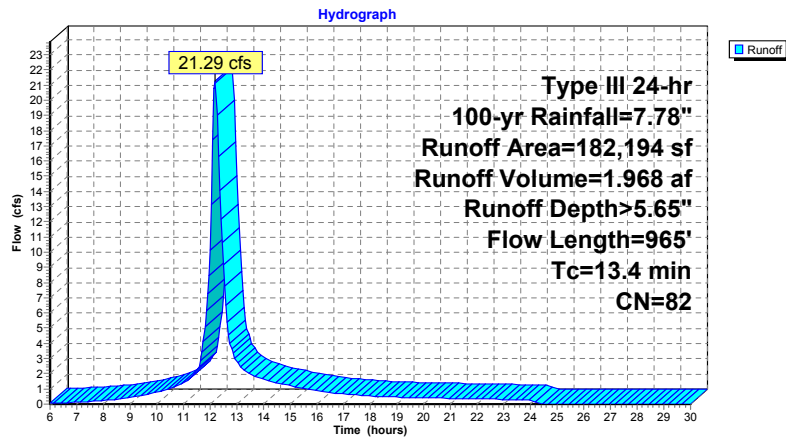
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Type III 24-hr 100-yr Rainfall=7.78"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0600	0.19		Sheet Flow, Sheet - Meadow Grass: Dense n= 0.240 P2= 3.45"
0.4	73	0.1781	2.95		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
0.2	64	0.4219	4.55		Shallow Concentrated Flow, Shallow - Meadow Short Grass Pasture Kv= 7.0 fps
2.6	634	0.0394	4.03		Shallow Concentrated Flow, Shallow - Pavement Paved Kv= 20.3 fps
1.3	94	0.0053	1.17		Shallow Concentrated Flow, Shallow - Gravel Unpaved Kv= 16.1 fps
13.4	965	Total			

Subcatchment D1:**669 Oakdale Road Montville - Post**

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Type III 24-hr 100-yr Rainfall=7.78"

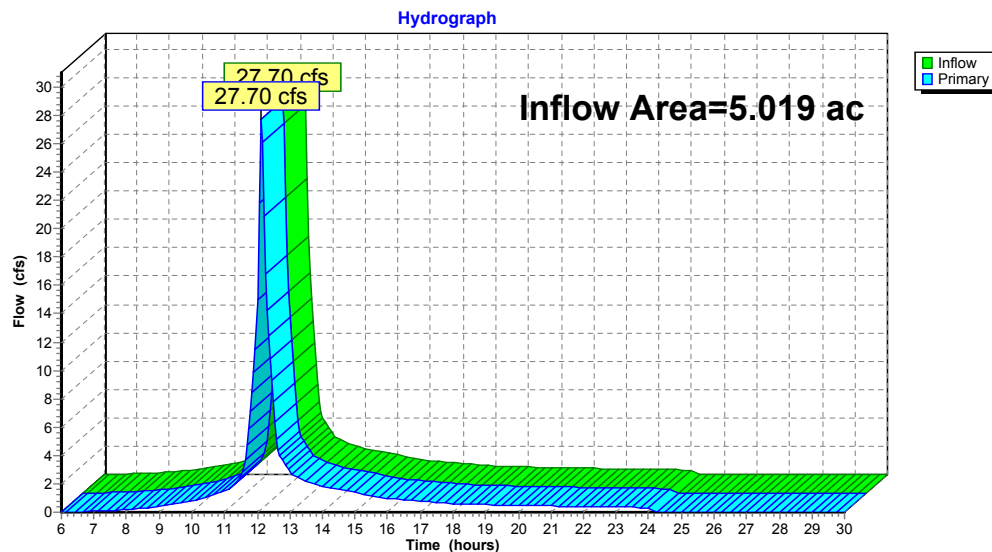
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Summary for Link POA-A:

Inflow Area = 5.019 ac, 0.72% Impervious, Inflow Depth = 5.19" for 100-yr event
Inflow = 27.70 cfs @ 12.12 hrs, Volume= 2.170 af
Primary = 27.70 cfs @ 12.12 hrs, Volume= 2.170 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-A:

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Type III 24-hr 100-yr Rainfall=7.78"

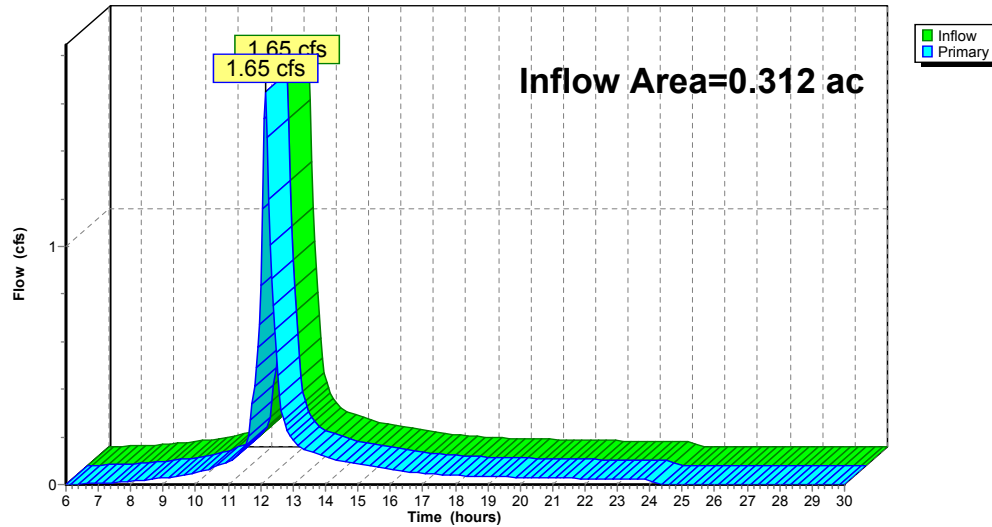
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Summary for Link POA-B:

Inflow Area = 0.312 ac, 0.99% Impervious, Inflow Depth > 5.30" for 100-yr event
Inflow = 1.65 cfs @ 12.14 hrs, Volume= 0.138 af
Primary = 1.65 cfs @ 12.14 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-B:**Hydrograph****669 Oakdale Road Montville - Post**

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Type III 24-hr 100-yr Rainfall=7.78"

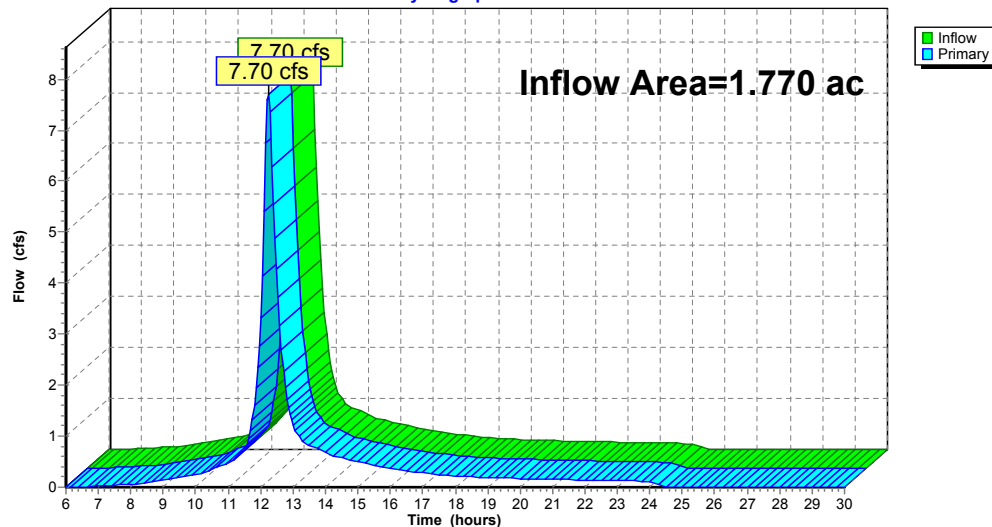
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Summary for Link POA-C:

Inflow Area = 1.770 ac, 28.22% Impervious, Inflow Depth = 5.19" for 100-yr event
Inflow = 7.70 cfs @ 12.23 hrs, Volume= 0.765 af
Primary = 7.70 cfs @ 12.23 hrs, Volume= 0.765 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-C:**Hydrograph**

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Type III 24-hr 100-yr Rainfall=7.78"

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Summary for Link POA-D:

Inflow Area = 4.183 ac, 18.26% Impervious, Inflow Depth > 5.65" for 100-yr event
Inflow = 21.29 cfs @ 12.18 hrs, Volume= 1.968 af
Primary = 21.29 cfs @ 12.18 hrs, Volume= 1.968 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 6.00-30.00 hrs, dt= 0.05 hrs

Link POA-D:

Hydrograph

