

HYDROLOGY REPORT

FOR

Central Avenue Commercial Retails

**N.W.C. CENTRAL AVENUE (74 HWY) & ALLAN ST.
LAKE ELSINORE, CALIFORNIA**

January 27, 2019

Revised:

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PREPARED UNDER THE DIRECT SUPERVISION OF:

Kamal B. Mchantaf RCE 51050 **DATE** _____

Central Avenue Commercial Retails Hydrology Report

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I. PURPOSE

The purpose of this hydrology study is to determine the post-development peak drainage flows and volumes at the subject area for 2, 5 and 10 year storm events for the 1-, 3-, 6-, and 24-Hr. The study is based on the Unit Hydrograph Method as outlined in the Riverside County Hydrology Manual 1978.

II. DESCRIPTION / METHODOLOGY

The project site in consideration is located at N.W.C. of Central Avenue and Allan Street in the City of Lake Elsinore, Riverside, CA. The property has a total area of 2.325 acre and is currently at an undeveloped state. Runoff from the project site drains towards a bioretention area on the northwest, the north, and southwest portions. The north portion of the project site is considered a FEMA floodplain and thus development in this area shall be limited.

The proposed development will include three structures, an office/retail, a retail and retail/fast food with drive thru. Parking areas will be provided and landscape areas are proposed along the perimeter of the project site. A driveway from 8th Street will be proposed along the sloped portion at the north.

The pre-development of the project site consists of three (3) catchments while the post-development has two (2) catchments. Runoff from the proposed development flow towards the catch basin at the driveway on the south portion of the project site. The runoff drains to the area via sheet flow and gutter flow from the northeast towards the southwest direction.

III. METHODOLOGY

The values for the rainfall was provided by the NOAA (Attachment A). The soil in the project site was determined to be soil types A, B and C as per NRCS Soils Report (Attachment B). The calculations for the Rational Method runoff were done using the CivilCADD/CivilDesign Engineering Software Version 9.0. Results of the Rational Method are shown in Attachment C. The table below summarizes the 10-year runoff.

Table 1. 10-Year Runoff

Stage	Subbasin	Time of Concentration, min	Q _{10-YR} , cfs	Q _{100-YR} , cfs
Pre-development	Area 1	10.07	1.941	3.545
	Area 2	9.84	0.325	0.573
	Area 3	10.71	1.661	2.814
Post-development	Area 4	18.53	0.726	1.840
	Area 5	9.22	2.656	4.152

The unit hydrographs of the 1-, 3-, 6-, 24-hr rainfall for the various storm events to determine the volume for both the pre-developed and developed conditions were also calculated using the CivilCADD/CivilDesign Engineering Software (Attachment D). The table below summarizes the runoff volumes of the subbasins.

**Table 2. Pre-developed Conditions
1-Hour Rainfall Volumes**

Return Period	Area 1	Area 2	Area 3	Total
V _{2-YR} , Cf	495.3	86.2	580.5	1,162.0
V _{5-YR} , Cf	905.1	160.5	1,111.9	2,177.5
V _{10-YR} , Cf	1,889.7	232.6	2,362.1	4,484.4

**Table 3. Developed Conditions
1-Hour Rainfall Volumes**

Return Period	Area 4	Area 5	Total
V _{2-YR} , Cf	583.3	1,666.5	2,249.8
V _{5-YR} , Cf	941.6	2,460.2	3,401.8
V _{10-YR} , Cf	1,229.8	3,092.6	4,322.4

**Table 4. Pre-developed Conditions
3-Hour Rainfall Volumes**

Return Period	Area 1	Area 2	Area 3	Total
V _{2-YR} , Cf	489.8	90.0	668.5	1,248.3
V _{5-YR} , Cf	961.1	171.2	1,199.1	2,331.4
V _{10-YR} , Cf	2,020.2	241.4	2,875.8	5,137.4

**Table 5. Developed Conditions
3-Hour Rainfall Volumes**

Return Period	Area 4	Area 5	Total
V _{2-YR} , Cf	944.0	2,874.4	3,818.4
V _{5-YR} , Cf	1,277.5	4,007.4	5,284.9
V _{10-YR} , Cf	1,581.9	4,883.5	6,465.4

**Table 6. Pre-developed Conditions
6-Hour Rainfall Volumes**

Return Period	Area 1	Area 2	Area 3	Total
V _{2-YR} , Cf	621.7	108.7	783.1	1,513.5
V _{5-YR} , Cf	1,107.8	196.5	1,366.4	2,670.7
V _{10-YR} , Cf	2,352.7	272.3	3,326.8	5,951.8

**Table 7. Developed Conditions
6-Hour Rainfall Volumes**

Return Period	Area 4	Area 5	Total
V _{2-YR} , cf	1,367.0	4,102.1	5,469.1
V _{5-YR} , cf	1,833.4	5,623.0	7,456.4
V _{10-YR} , cf	2,222.2	6,807.2	9,029.4

**Table 8. Pre-developed Conditions
24-Hour Rainfall Volumes**

Return Period	Area 1	Area 2	Area 3	Total
V _{2-YR} , cf	1,040.9	166.7	970.3	2,177.9
V _{5-YR} , cf	1,457.2	233.4	1,431.9	3,122.5
V _{10-YR} , cf	2,738.3	297.7	4,938.7	7,974.7

**Table 9. Developed Conditions
24-Hour Rainfall Volumes**

Return Period	Area 4	Area 5	Total
V _{2-YR} , cf	2,615.6	7,711.5	10,327.1
V _{5-YR} , cf	3,661.8	10,796.2	14,458.0
V _{10-YR} , cf	4,453.3	13,190.7	17,644.0

Based on the proposed development, Area 5 with a total area of 1.267 acres, drains to the State Highway 74. For the pre-development stage, only Area 3, with an area of 0.947 acre, drains to this direction as well. The volume difference between the area of Area 3 and Area 5, as well as the proposed development, shall be the basis for the determining the required underground stormwater detention facility, Cultec.

The rest of the project site, Area 4, shall be landscaped or left as natural cover for the proposed development. The pre- and post-development hydrology maps showing the runoff and volumes of all the subbasins are shown in Attachment E.

CONCLUSION:

The overall flow difference for the 10-year runoff between Areas 3 and 5 is 0.665 cfs. These flows shall be detained in the underground system so no net increase in the runoff is expected.

Based on the calcs shown, the volume difference for the aforementioned subbasins is 9,364.3 cf for the 5-year 24-hour storm event. The Cultec Heavy Duty Chamber sized at 9,416.8 cf (Attachment F) will mitigate any runoff from the development to the downstream areas. Attachment G shows the grading plans which effectively clears the flood prone areas from the FIRMette Map (Attachment G).

VICINITY MAP

ATTACHMENT A
NOAA Precipitation Estimates

NOAA Atlas 14, Volume 6, Version 2
Location name: Lake Elsinore, California, USA*
Latitude: 33.698°, Longitude: -117.3335°
Elevation: 1327.17 ft**

* source: ESRI Maps
 ** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

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	0.084	0.115	0.156	0.191	0.239	0.278	0.318	0.361	0.420	0.468
	(0.071-0.102)	(0.096-0.139)	(0.130-0.189)	(0.158-0.233)	(0.191-0.303)	(0.217-0.359)	(0.242-0.422)	(0.267-0.493)	(0.297-0.600)	(0.319-0.694)
10-min	0.121	0.165	0.224	0.273	0.343	0.398	0.456	0.517	0.603	0.671
	(0.101-0.146)	(0.138-0.199)	(0.187-0.271)	(0.226-0.334)	(0.274-0.434)	(0.311-0.515)	(0.347-0.605)	(0.382-0.707)	(0.426-0.861)	(0.458-0.994)
15-min	0.146	0.199	0.271	0.331	0.415	0.482	0.551	0.625	0.729	0.812
	(0.123-0.176)	(0.167-0.240)	(0.226-0.328)	(0.274-0.404)	(0.331-0.525)	(0.376-0.623)	(0.420-0.732)	(0.462-0.855)	(0.515-1.04)	(0.554-1.20)
30-min	0.226	0.307	0.418	0.510	0.640	0.743	0.851	0.965	1.13	1.25
	(0.189-0.272)	(0.257-0.371)	(0.349-0.506)	(0.422-0.623)	(0.511-0.810)	(0.581-0.962)	(0.648-1.13)	(0.713-1.32)	(0.795-1.61)	(0.854-1.86)
60-min	0.355	0.483	0.657	0.802	1.01	1.17	1.34	1.52	1.77	1.97
	(0.297-0.428)	(0.404-0.583)	(0.548-0.795)	(0.664-0.980)	(0.804-1.27)	(0.913-1.51)	(1.02-1.78)	(1.12-2.07)	(1.25-2.53)	(1.34-2.92)
2-hr	0.544	0.710	0.934	1.12	1.39	1.60	1.82	2.06	2.39	2.66
	(0.456-0.656)	(0.594-0.857)	(0.780-1.13)	(0.929-1.37)	(1.11-1.76)	(1.25-2.07)	(1.39-2.42)	(1.52-2.82)	(1.69-3.41)	(1.81-3.94)
3-hr	0.680	0.877	1.15	1.37	1.69	1.94	2.20	2.48	2.86	3.18
	(0.570-0.820)	(0.734-1.06)	(0.955-1.39)	(1.13-1.67)	(1.35-2.13)	(1.51-2.50)	(1.67-2.92)	(1.83-3.38)	(2.03-4.09)	(2.17-4.70)
6-hr	0.978	1.27	1.65	1.97	2.41	2.76	3.12	3.50	4.02	4.44
	(0.820-1.18)	(1.06-1.53)	(1.38-2.00)	(1.63-2.41)	(1.93-3.05)	(2.16-3.57)	(2.38-4.14)	(2.59-4.79)	(2.85-5.75)	(3.03-6.58)
12-hr	1.27	1.73	2.32	2.79	3.43	3.92	4.41	4.91	5.58	6.09
	(1.07-1.53)	(1.45-2.08)	(1.93-2.80)	(2.31-3.41)	(2.74-4.34)	(3.06-5.06)	(3.35-5.85)	(3.62-6.71)	(3.94-7.96)	(4.15-9.02)
24-hr	1.67	2.43	3.39	4.14	5.13	5.86	6.58	7.31	8.26	8.98
	(1.48-1.93)	(2.15-2.81)	(2.98-3.92)	(3.62-4.83)	(4.34-6.18)	(4.86-7.21)	(5.33-8.29)	(5.76-9.46)	(6.26-11.1)	(6.58-12.5)
2-day	1.99	3.01	4.29	5.31	6.64	7.63	8.62	9.61	10.9	11.9
	(1.76-2.30)	(2.66-3.48)	(3.78-4.97)	(4.64-6.20)	(5.62-8.01)	(6.33-9.39)	(6.98-10.9)	(7.57-12.4)	(8.26-14.7)	(8.71-16.6)
3-day	2.16	3.32	4.79	5.96	7.51	8.67	9.83	11.0	12.6	13.7
	(1.91-2.50)	(2.93-3.83)	(4.21-5.54)	(5.20-6.95)	(6.35-9.05)	(7.19-10.7)	(7.96-12.4)	(8.68-14.2)	(9.51-16.9)	(10.1-19.1)
4-day	2.34	3.61	5.24	6.55	8.30	9.62	10.9	12.3	14.1	15.5
	(2.07-2.70)	(3.18-4.17)	(4.61-6.07)	(5.72-7.65)	(7.02-10.0)	(7.98-11.8)	(8.87-13.8)	(9.70-15.9)	(10.7-19.0)	(11.3-21.6)
7-day	2.66	4.09	5.97	7.51	9.61	11.2	12.9	14.6	17.0	18.8
	(2.35-3.07)	(3.61-4.72)	(5.26-6.91)	(6.56-8.77)	(8.13-11.6)	(9.32-13.8)	(10.5-16.3)	(11.5-18.9)	(12.9-22.9)	(13.8-26.2)
10-day	2.82	4.31	6.30	7.96	10.3	12.1	14.0	15.9	18.7	20.9
	(2.49-3.25)	(3.80-4.98)	(5.55-7.30)	(6.96-9.30)	(8.69-12.4)	(10.0-14.9)	(11.3-17.6)	(12.6-20.6)	(14.1-25.2)	(15.3-29.0)
20-day	3.37	5.11	7.51	9.56	12.5	14.9	17.4	20.1	24.0	27.1
	(2.98-3.89)	(4.51-5.91)	(6.61-8.70)	(8.35-11.2)	(10.6-15.1)	(12.3-18.3)	(14.1-21.9)	(15.8-26.0)	(18.2-32.3)	(19.9-37.8)
30-day	3.98	5.95	8.71	11.1	14.6	17.5	20.6	24.0	28.9	33.0
	(3.52-4.60)	(5.25-6.88)	(7.67-10.1)	(9.71-13.0)	(12.4-17.6)	(14.5-21.5)	(16.7-25.9)	(18.9-31.0)	(21.9-38.9)	(24.1-45.9)
45-day	4.70	6.86	9.95	12.7	16.7	20.1	23.8	27.9	33.9	39.0
	(4.15-5.42)	(6.06-7.93)	(8.76-11.5)	(11.1-14.8)	(14.1-20.1)	(16.7-24.7)	(19.3-29.9)	(22.0-36.1)	(25.7-45.7)	(28.6-54.3)
60-day	5.44	7.77	11.1	14.1	18.6	22.4	26.6	31.3	38.3	44.3
	(4.81-6.28)	(6.86-8.98)	(9.80-12.9)	(12.3-16.5)	(15.7-22.4)	(18.6-27.6)	(21.6-33.5)	(24.7-40.5)	(29.0-51.6)	(32.5-61.8)

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.

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PF graphical

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Maps & aerals

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



100km

60mi

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ATTACHMENT B
NRCS Soil Survey and Percolation Test



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Western Riverside Area, California



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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: Western Riverside Area, California
Survey Area Data: Version 13, May 27, 2020

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

Date(s) aerial images were photographed: Apr 17, 2018—Jun 28, 2018

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AIC	Arbuckle gravelly loam, 2 to 9 percent slopes, dry, MLRA 19	0.7	29.1%
CmC	Cortina cobbly loamy sand, 2 to 8 percent slopes	1.4	55.4%
TeG	Terrace escarpments	0.4	15.5%
Totals for Area of Interest		2.5	100.0%

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

AIC—Arbuckle gravelly loam, 2 to 9 percent slopes, dry, MLRA 19

Map Unit Setting

National map unit symbol: 2w8cx
Elevation: 690 to 1,470 feet
Mean annual precipitation: 11 to 18 inches
Mean annual air temperature: 64 to 65 degrees F
Frost-free period: 325 to 359 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Arbuckle and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arbuckle

Setting

Landform: Fan remnants
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 6 inches: gravelly loam
A - 6 to 12 inches: gravelly very fine sandy loam
Bw - 12 to 26 inches: gravelly loam
Bt1 - 26 to 30 inches: gravelly clay loam
Bt2 - 30 to 45 inches: gravelly clay loam
C - 45 to 68 inches: very gravelly sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.2 to 0.5 mmhos/cm)
Available water capacity: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R019XD029CA
Hydric soil rating: No

Minor Components

Perkins

Percent of map unit: 5 percent
Hydric soil rating: No

Garretson

Percent of map unit: 5 percent
Hydric soil rating: No

Cortina

Percent of map unit: 5 percent
Hydric soil rating: No

CmC—Cortina cobbly loamy sand, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: hcsh
Elevation: 30 to 2,400 feet
Mean annual precipitation: 12 to 40 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Cortina and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cortina

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from metasedimentary rock

Typical profile

H1 - 0 to 23 inches: cobbly loamy sand
H2 - 23 to 38 inches: stratified very cobbly loamy sand to very cobbly loam
H3 - 38 to 60 inches: stratified very gravelly sand to very gravelly loamy sand

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches

Custom Soil Resource Report

Frequency of flooding: Rare
Frequency of ponding: None
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A
Ecological site: R019XD069CA - SANDY ALLUVIAL (1975)
Hydric soil rating: No

Minor Components

Riverwash

Percent of map unit: 10 percent
Landform: Channels
Hydric soil rating: Yes

Garretson

Percent of map unit: 5 percent
Hydric soil rating: No

TeG—Terrace escarpments

Map Unit Composition

Terrace escarpments: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Terrace Escarpments

Setting

Landform: Terraces
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium derived from mixed sources

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Ecological site: R019XD060CA - SHALLOW LOAMY (1975)
Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



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Job No. 20-1041P-2.2
August 20, 2024

Mr. Joseph Karaki
Western State Eng. & Construction, Inc.
4887 E. La Palma Street, Ste # 707
Anaheim, Ca 92807

Subject: Supplemental Report, Percolation Testing for the Proposed Infiltration System,
N.W.C Central Ave (74 Hwy) & Allan St, Lake Elsinore California

Gentlemen,

In accordance with your request, we have performed a supplemental soil investigation for percolation testing with regard to the proposed infiltration system. The intent of this report is to re-evaluate the feasibility of the proposed system to be constructed at the subject site.

The minimum percolation rate of the subsurface soils was found to be 1.78 inch per hour, and suitable for the intended use.

The bottom of the proposed infiltration system is estimated to be within 30.0 feet below the existing natural grade. The percolation testing and the relevant calculations were performed using the method per the Riverside County Manuel.

SITE GEOLOGY & GROUNDWATER

The site is underlain by older alluvium consists of silt and sand to 40 feet, the maximum depth explored. A more detailed description of the earth materials encountered is presented on the log borings in Appendix 'B'. **Groundwater was not encountered during this investigation.**

PERCOLATION INVESTIGATION

A preliminary set of percolation tests were performed in order to determine the suitability of the surface soils as an absorb medium for seepage beds. Two (2) soil borings of 8 inches diameters were drilled to satisfy this investigation. Two (2) soil borings were drilled to depths of 40.0 feet below existing surface within the subject site to conduct percolation tests. The test holes were presaturated over night . After the presaturation was completed, water level measurements were started. From a fixed reference point, the drop in water levels were measured over a 30 minute periods for six hours. The drop that occurred during the final reading was used calculate the percolation rate.

TEST RESULT

The minimum percolation rate of the subsurface soils was found to be 1.78 inch per hour.

CONCLUSION

1. **The minimum percolation rate of the subsurface soils was found to be 1.78 inch per hour, and suitable for the intended use.**
2. We drilled to a depth of 50 feet below grade, and groundwater was encountered at 37 feet below the existing surface. Therefore, the impact of the proposed infiltration system to ground water is nil
3. The site has no potential for liquefaction, and therefore the infiltration system will have minimal effect in the event of an earthquake.
4. There will be a minim 10 feet horizontal and 1:1 (H:V) set back from the proposed building foundation and the expected zone of saturation of the infiltration system. The depth to groundwater is greater than 40 feet from the bottom of the infiltration pit. Therefore, no perched water conditions are expected, or adversely affect the structures.
5. The system will not be located near a retaining wall or basement wall.
6. The site is underlain with non expansive (sandy silt) soils, and there will be no effect on infiltration behavior.
7. Since the proposed or existing structures will have adequate setbacks, therefore the susceptibility of hydro-consolidation from the proposed infiltration system will be very remote.
8. No ground settlements due to soil saturation from the proposed infiltration system are anticipated.

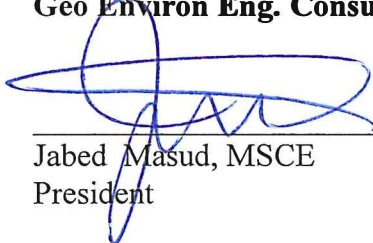
CLOSURE & LIMITATIONS

The findings, conclusions, and recommendations presented reflect our best estimate of subsurface conditions based on the data obtained from a limited subsurface exploration performed during the field study. The conclusions and recommendations are based on generally accepted geotechnical engineering principles and practices. No further warranties are implied nor made.

This opportunity to be of service is appreciated. If you have any further questions regarding this matter, please contact our office at your earliest convenience.

Respectfully submitted,

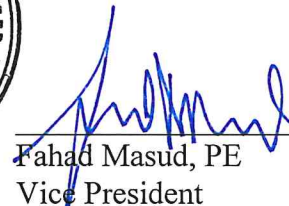
Geo Environ Eng. Consultants, Inc.



Jaded Masud, MSCE
President

JM/FM/gm





Fahad Masud, PE
Vice President

Attachments:

1. Percolation Test Data
2. Boring Logs
3. Plot Map

Project Name	Proposed Retail Center
Project Location	N.W.C Central Ave (74 Hwy) & Allan St, Lake Elsinore California
Project Number	21-1162
Engineer	Fahad Masud

Test Hole Radius (inch)	4
Total Depth (ft)	30

Infiltration Test Hole	B-1
Start Time for Pre Soak	1:30
Start Time for Testing	2:30

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	Hi Initial Depth to Water(inch)	Hf Final Depth to water (inch)	ΔH Change in Water Level (inch)	Infiltration Rate (Q) (in/hr)	Reduction Factor	Design Infiltration Rate Q (in/hr)
1	2:30	2:40	10	12.00	41.00	29.00	12.21	3.0	4.07
2	2:40	2:50	10	12.25	23.00	10.75	6.57	3.0	2.19
3	2:50	3:00	10	12.00	23.00	11.00	6.77	3.0	2.26
4	3:00	3:10	10	12.00	22.25	10.25	6.43	3.0	2.14
5	3:10	3:20	10	12.50	21.50	9.00	5.68	3.0	1.89
6	3:20	3:30	10	12.00	20.00	8.00	5.33	3.0	1.78

Option 2- This test regime includes percolation type tests, test pit or boring logs and a final report. The minimum required number of tests is as described in Table 1. The minimum required **factor of safety** for this option is FS=3.

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	Di Initial Depth to Water(inch)	Df Final Depth to water (inch)	ΔD Change in Water Level (inch)	Greater than or Equal to 6"?*
1	9:00	9:25	25.00	12	57	45	Y
2	9:30	9:55	25.00	12	45	33	Y

Infiltration Test Hole	B-2
Start Time for Pre Soak	12:00
Start Time for Testing	1:00

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	Hi Initial Depth to Water(inch)	Hf Final Depth to water (inch)	ΔH Change in Water Level (inch)	Infiltration Rate (Q) (in/hr)	Reduction Factor	Design Infiltration Rate Q (in/hr)
1	1:00	1:10	10	12.20	45.20	33.00	12.90	3.0	4.30
2	1:10	1:20	10	12.50	24.50	12.00	7.02	3.0	2.34
3	1:20	1:30	10	12.00	23.00	11.00	6.77	3.0	2.26
4	1:30	1:40	10	12.25	22.50	10.25	6.35	3.0	2.12
5	1:40	1:50	10	12.00	22.00	10.00	6.32	3.0	2.11
6	1:50	2:00	10	12.25	21.50	9.25	5.88	3.0	1.96

Trial No.	Start Time	Stop Time	Δt Time Interval (min)	Di Initial Depth to Water(inch)	Df Final Depth to water (inch)	ΔD Change in Water Level (inch)	Greater than or Equal to 6"?*
1	9:00	9:25	25.00	12	52	40	Y
2	9:30	9:55	25.00	12	36	24	Y

LOG NO. D1Job No. 20-1041 P-2Client KARAKI, WSSite NWC CENTRAL AVE & KULAN ST.Hole Dia. 8" Elevation _____Logged By J.P.Date 8/19/24Sampling Method: Drive Weight 140 lbDrop 30"

Dry Density (pcf)	Moisture Content (%)	Blows per foot	Sample	Depth (feet)	Soil Class.	EARTH MATERIALS DESCRIPTION
				2'		
4.1		24		5'		lt. tan DG, mod-moist, mod-dense
9.6		30		10'		lt. olive fine sandy silt, med-moist, med-stiff
15.5		25		15'		Dark gray, fine sandy silt, mod-moist, med-stiff
				20'		SAME AS ABOVE
		31		25'		
				30'		Reddish, DG, mod-moist, dense
		39		35'		
		42		40'		Dark gray, sandy silt, moist, stiff
				45'		
				50'		
				55'		GROUND WATER ENCOUNTERED AT _____
				60'		NO GROUND WATER ENCOUNTERED <u>X</u>
				65'		END OF BORING @ 45'
				70'		
				75'		
				80'		
				85'		
				90'		

⊕ Undisturbed Sample

■ Bulk Sample

Client KARANT & WIS

Site MINC. CENTRAL AVE. & PALM ST.

Hole Dia. 8" Elevation

Logged By J.P.

Date 8/19/24

Sampling Method: Drive Weight 140

Drop 30"

Dry Density (pcf)	Moisture Content (%)	Blows per foot	Sample	Depth (feet)	Soil Class.	EARTH MATERIALS DESCRIPTION
				2'		
3.4	39			5'		lt-brown, sandy silt, mod. mois, mod. stiff
3.7	39			10'		med brown, silty sand, w/ scattered gravel $\frac{1}{2}$ " to $\frac{1}{4}$ "
23.2	27			15'		olive, sandy silt, med mois, med. stiff
24.8	38			20'		SAME AS ABOVE
17.8	44			25'		Reddish, DG, med. moist, mod. dense
22.2	41			30'		Dark gray, fine sandy silt, moist, med stiff
				35'		
				40'		
				45'		
				50'		
				55'		GROUND WATER ENCOUNTERED AT _____
				60'		NO GROUND WATER ENCOUNTERED <u>X</u>
				65'		
				70'		
				75'		
				80'		
				85'		
				90'		

END OF BORING @ 30'

● Undisturbed Sample

■ Bulk Sample

Field Percolation Test Data

PROJECT NO. **LATE EUNORE**
 PROJECT NO. **LATE EUNORE**
 DATE **08/19/24**

TEST NO. **11**

DEPTH OF TEST **18 ft in**

PREDOMINANT SOIL TYPE

DESIGN RATE **MIN/INCH**

No.	Time Interval (Min.)	Drop (Inches)
1	55	332
2	55	440
3	100	224 R.F.
4	100	366
5	100	402
6	100	220 R.F.
7	100	220
8	100	223
9	100	226
10	20	31
11	20	36
12	20	40

* Time Interval: Time from the last previous set of readings taken.

MINIMUM AREA REQUIRED

FT²/100 GALLONS/DAY

TEST NO. **22**

DEPTH OF TEST **22 ft in**

PREDOMINANT SOIL TYPE

DESIGN RATE **MIN/INCH**

No.	Time Interval (Min.)	Drop (Inches)
1	5	40
2	5	60
3	10	45
4	10	42
5	10	33
6	10	29
7	10	37
8	10	44
9	10	55
10	10	67
11	10	74
12		

* Time Interval: Time from the last previous set of readings taken.

MINIMUM AREA REQUIRED

FT²/100 GALLONS/DAY

TEST NO. **11**

DEPTH OF TEST **in.**

PREDOMINANT SOIL TYPE

DESIGN RATE **MIN/INCH**

No.	Time Interval (Min.)	Drop (Inches)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

* Time Interval: Time from the last previous set of readings taken.

MINIMUM AREA REQUIRED

FT²/100 GALLONS/DAY

TEST NO. **11**

DEPTH OF TEST **in.**

PREDOMINANT SOIL TYPE

DESIGN RATE **MIN/INCH**

No.	Time Interval (Min.)	Drop (Inches)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

* Time Interval: Time from the last previous set of readings taken.

MINIMUM AREA REQUIRED

FT²/100 GALLONS/DAY

RECOMMENDED DESIGN RATE

MIN/INCH

RECOMMENDED MINIMUM AREA REQUIRED

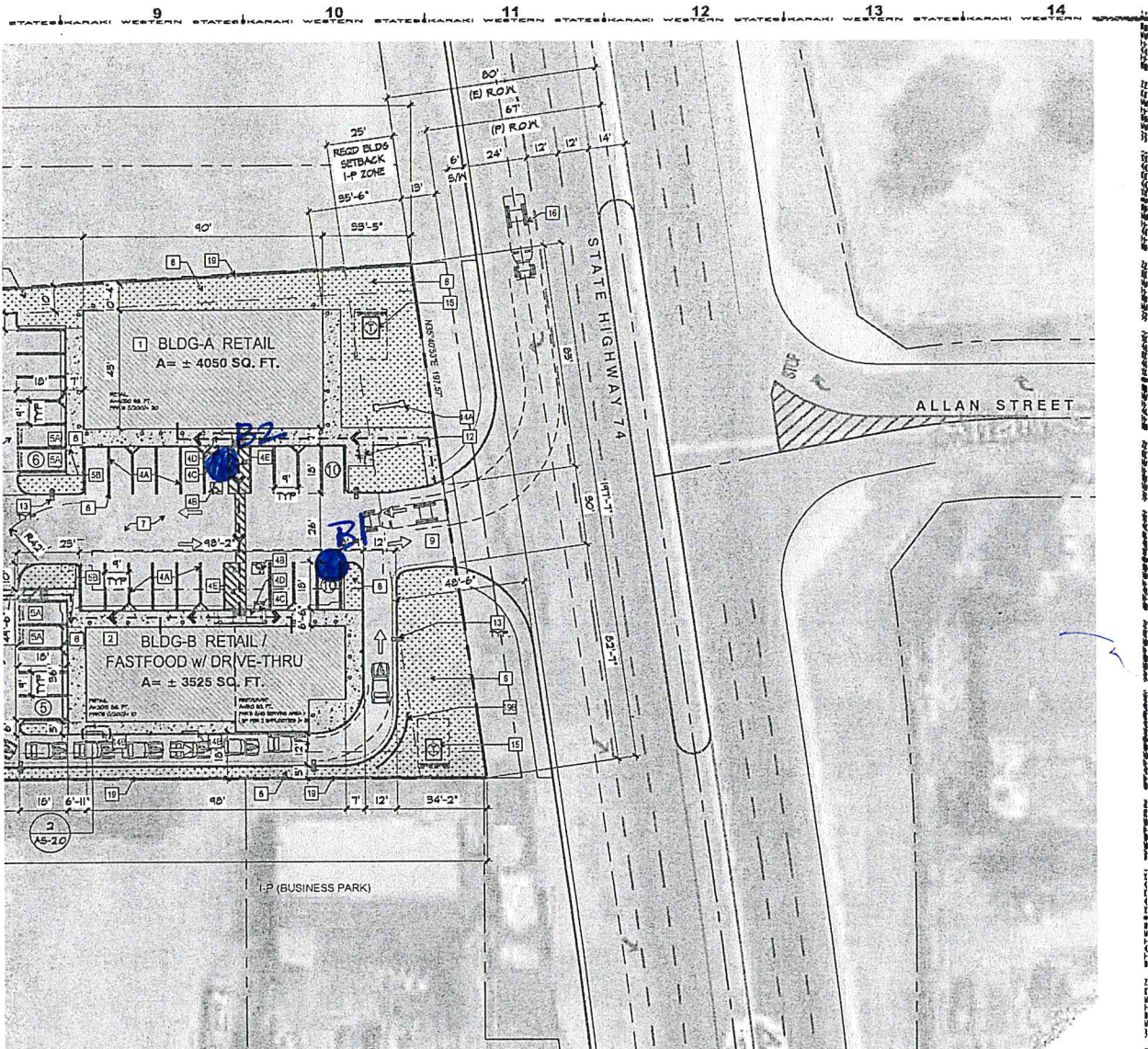
FT²/100 GALLONS/DAY

Project No.

Date:

Figure No.

B2 12:



1 PROPOSED SITE PLAN
SCALE: 1" = 30'-0"

ASSESSOR'S PARCEL NUMBER 377-372-038-8		LEGEND	
VICINITY MAP 	1 NO. OF PARKING SPACES 6 ACCESSIBLE PARKING PROPERTY LINE FEMA FLOOD CONTROL BLUE LINE STREAM ADA PATH OF TRAVEL CONCRETE PAVING AREA DECORATIVE PAVING AREA LANDSCAPED AREA DIRECTIONAL ARROW	10 AREA LIGHTS 11 HALL MOUNTED DECORATIVE AREA LIGHTS 12 FIRE HYDRANT 13 SEWER MANHOLE 14 SEWER CLEANOUT 15 POWER POLE 16 WM (E) WATER METER 17 (E) WATER POINT 18 SIGN	19 SUBMITTAL NO. DESCRIPTION BY DATE 20 REVISIONS NO. DESCRIPTION BY DATE

31
SOIL BORING

KARAKI
WSe
WESTERN STATES ENGINEERING
A DESIGN-BUILD COMPANY

4807 E. LA PALMA STE. 707
ANAHEIM, CA 92807
TEL: (714) 992-1841 FAX: (714) 992-1842
WWW.KARAKI.COM

NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			

NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			

OWNER NAME & ADDRESS
MR. PALJATINDER SINGH
MRS. BHUPINDER KAUR

4807 PROMISE RD
LAKE ELSHORE, CA 92532
PROJECT NAME & ADDRESS
CENTRAL AVENUE
COMMERCIAL
RETAILS
N.W.S. CENTRAL AVE. (74 HWY) &
ALLAN ST.
LAKE ELSHORE, CA 92532

NOTE TO CONTRACTOR
REVISIONS TO BE MADE BY THE CONTRACTOR AND THE ENGINEER SHALL BE MADE TO THE PROJECT AND THE PROJECT SHALL BE COMPLETED BY THE CONTRACTOR AND THE ENGINEER.

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DESIGNED BY: WS
DRAWN BY: WS
CHECKED BY: JK
PLOT DATE: 6/25/2004
SCALE: AS SHOWN
SHEET TITLE:

PROPOSED SITE PLAN

GEO ENVIRON
GEOTECHNICAL & ENVIRONMENTAL ENGINEERS
4071 E. LA PALMA AVE., Ste E
Anaheim, CA 92807
8119124

ATTACHMENT C
Rational Method

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A1PRE.out

Area A-1
Pre-development
10-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.980(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 10.000 to Point/Station 20.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 309.800(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1344.000(Ft.)

Difference in elevation = 12.000(Ft.)
 Slope = 0.03873 s(percent)= 3.87
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 10.071 min.
 Rainfall intensity = 2.308(In/Hr) for a 10.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.701
 Decimal fraction soil group A = 1.000
 Decimal fraction soil group B = 0.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 2) = 67.00
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 1.941(CFS)
 Total initial stream area = 1.200(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 1.20 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

 Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 67.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A2PRE.out

Area 2
Pre-development
10-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.980(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 30.000 to Point/Station 40.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 149.060(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1354.500(Ft.)

Difference in elevation = 1.500(Ft.)
 Slope = 0.01006 s(percent)= 1.01
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 9.842 min.
 Rainfall intensity = 2.334(In/Hr) for a 10.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.736
 Decimal fraction soil group A = 0.553
 Decimal fraction soil group B = 0.447
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 2) = 71.92
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 0.325(CFS)
 Total initial stream area = 0.189(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 0.19 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

 Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 71.9

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A3PRE.out

Area A-3
Pre-development
10-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.980(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 50.000 to Point/Station 60.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 279.710(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1349.500(Ft.)

Difference in elevation = 6.500(Ft.)
 Slope = 0.02324 s(percent)= 2.32
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 10.708 min.
 Rainfall intensity = 2.241(In/Hr) for a 10.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.782
 Decimal fraction soil group A = 0.170
 Decimal fraction soil group B = 0.367
 Decimal fraction soil group C = 0.463
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 2) = 79.83
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 1.661(CFS)
 Total initial stream area = 0.947(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 0.95 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

 Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 79.8

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A4POST.out

Area A-4
Post-development
10-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.980(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 70.000 to Point/Station 80.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 309.800(Ft.)

Top (of initial area) elevation = 1354.000(Ft.)

Bottom (of initial area) elevation = 1344.000(Ft.)
 Difference in elevation = 10.000(Ft.)
 Slope = 0.03228 s(percent)= 3.23
 $TC = k(0.940)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 18.526 min.
 Rainfall intensity = 1.723(In/Hr) for a 10.0 year storm
 UNDEVELOPED (good cover) subarea
 Runoff Coefficient = 0.398
 Decimal fraction soil group A = 1.000
 Decimal fraction soil group B = 0.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 2) = 38.00
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 0.726(CFS)
 Total initial stream area = 1.059(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 1.06 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 38.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A5POST.out

Area A-5
Post-development
10-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0

Calculated rainfall intensity data:

1 hour intensity = 0.980(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 90.000 to Point/Station 100.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 448.820(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1352.700(Ft.)
 Difference in elevation = 3.300(Ft.)
 Slope = 0.00735 s(percent)= 0.74
 $TC = k(0.300)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 9.219 min.
 Rainfall intensity = 2.408(In/Hr) for a 10.0 year storm
 COMMERCIAL subarea type
 Runoff Coefficient = 0.870
 Decimal fraction soil group A = 0.315
 Decimal fraction soil group B = 0.340
 Decimal fraction soil group C = 0.345
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 2) = 52.93
 Pervious area fraction = 0.100; Impervious fraction = 0.900
 Initial subarea runoff = 2.656(CFS)
 Total initial stream area = 1.267(Ac.)
 Pervious area fraction = 0.100
 End of computations, total study area = 1.27 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

 Area averaged pervious area fraction(A_p) = 0.100
 Area averaged RI index number = 52.9

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A1PRE.out

Area A-1
Pre-development
100-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.500(In/Hr)

Slope of intensity duration curve = 0.4800

+++++
Process from Point/Station 10.000 to Point/Station 20.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 309.800(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1344.000(Ft.)

Difference in elevation = 12.000(Ft.)
 Slope = 0.03873 s(percent)= 3.87
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 10.071 min.
 Rainfall intensity = 3.533(In/Hr) for a 100.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.836
 Decimal fraction soil group A = 1.000
 Decimal fraction soil group B = 0.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 3) = 83.20
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 3.545(CFS)
 Total initial stream area = 1.200(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 1.20 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

 Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 67.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A2PRE.out

Area 2
Pre-development
100-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.500(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 30.000 to Point/Station 40.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 149.060(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1354.500(Ft.)

Difference in elevation = 1.500(Ft.)
 Slope = 0.01006 s(percent)= 1.01
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 9.842 min.
 Rainfall intensity = 3.572(In/Hr) for a 100.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.849
 Decimal fraction soil group A = 0.553
 Decimal fraction soil group B = 0.447
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 3) = 86.15
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 0.573(CFS)
 Total initial stream area = 0.189(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 0.19 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

 Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 71.9

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A3PRE.out

Area A-3
Pre-development
100-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.500(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 50.000 to Point/Station 60.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 279.710(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1349.500(Ft.)

Difference in elevation = 6.500(Ft.)
 Slope = 0.02324 s(percent)= 2.32
 $TC = k(0.530)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 10.708 min.
 Rainfall intensity = 3.430(In/Hr) for a 100.0 year storm
 UNDEVELOPED (poor cover) subarea
 Runoff Coefficient = 0.866
 Decimal fraction soil group A = 0.170
 Decimal fraction soil group B = 0.367
 Decimal fraction soil group C = 0.463
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 3) = 90.90
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 2.814(CFS)
 Total initial stream area = 0.947(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 0.95 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 79.8

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A4POST.out

Area A-4
Post-development
100-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.500(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 70.000 to Point/Station 80.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 309.800(Ft.)

Top (of initial area) elevation = 1354.000(Ft.)

Bottom (of initial area) elevation = 1344.000(Ft.)
 Difference in elevation = 10.000(Ft.)
 Slope = 0.03228 s(percent)= 3.23
 $TC = k(0.940)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 18.526 min.
 Rainfall intensity = 2.637(In/Hr) for a 100.0 year storm
 UNDEVELOPED (good cover) subarea
 Runoff Coefficient = 0.659
 Decimal fraction soil group A = 1.000
 Decimal fraction soil group B = 0.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 3) = 58.00
 Pervious area fraction = 1.000; Impervious fraction = 0.000
 Initial subarea runoff = 1.840(CFS)
 Total initial stream area = 1.059(Ac.)
 Pervious area fraction = 1.000
 End of computations, total study area = 1.06 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(A_p) = 1.000
 Area averaged RI index number = 38.0

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2018 Version 9.0
Rational Hydrology Study Date: 01/26/25 File:A5POST.out

Area A-5
Post-development
100-Year

***** Hydrology Study Control Information *****

English (in-lb) Units used in input data file

Program License Serial Number 6690

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)

For the [Elsinore-Wildomar] area used.

10 year storm 10 minute intensity = 2.320(In/Hr)

10 year storm 60 minute intensity = 0.980(In/Hr)

100 year storm 10 minute intensity = 3.540(In/Hr)

100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0

Calculated rainfall intensity data:

1 hour intensity = 1.500(In/Hr)

Slope of intensity duration curve = 0.4800

++++
Process from Point/Station 90.000 to Point/Station 100.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 448.820(Ft.)

Top (of initial area) elevation = 1356.000(Ft.)

Bottom (of initial area) elevation = 1352.700(Ft.)
 Difference in elevation = 3.300(Ft.)
 Slope = 0.00735 s(percent)= 0.74
 $TC = k(0.300)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 9.219 min.
 Rainfall intensity = 3.686(In/Hr) for a 100.0 year storm
 COMMERCIAL subarea type
 Runoff Coefficient = 0.889
 Decimal fraction soil group A = 0.315
 Decimal fraction soil group B = 0.340
 Decimal fraction soil group C = 0.345
 Decimal fraction soil group D = 0.000
 RI index for soil(AMC 3) = 72.34
 Pervious area fraction = 0.100; Impervious fraction = 0.900
 Initial subarea runoff = 4.152(CFS)
 Total initial stream area = 1.267(Ac.)
 Pervious area fraction = 0.100
 End of computations, total study area = 1.27 (Ac.)
 The following figures may
 be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(A_p) = 0.100
 Area averaged RI index number = 52.9

ATTACHMENT D
Unit Hydrograph

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0

Study date 01/26/25 File: A1PRE12.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
2-Year
1-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	0.48	0.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	1.34	1.58

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.483(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.483(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	341.308	60.560
2	0.167	682.616	34.962
3	0.250	1023.924	4.478
		Sum = 100.000	Sum= 1.189

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.255	(0.597)	0.230	0.026
2	0.17	4.50	0.261	(0.597)	0.235	0.026
3	0.25	5.40	0.313	(0.597)	0.282	0.031
4	0.33	5.40	0.313	(0.597)	0.282	0.031
5	0.42	5.70	0.330	(0.597)	0.297	0.033
6	0.50	6.40	0.371	(0.597)	0.334	0.037
7	0.58	7.90	0.458	(0.597)	0.412	0.046
8	0.67	9.10	0.527	(0.597)	0.475	0.053
9	0.75	12.80	0.742	0.597	(0.668)	0.144
10	0.83	25.60	1.484	0.597	(1.335)	0.886
11	0.92	7.90	0.458	(0.597)	0.412	0.046
12	1.00	4.90	0.284	(0.597)	0.256	0.028

(Loss Rate Not Used)

Sum = 100.0 Sum = 1.4

Flood volume = Effective rainfall 0.12(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.37(In)
Total soil loss = 0.036(Ac.Ft)
Total rainfall = 0.48(In)
Flood volume = 495.3 Cubic Feet
Total soil loss = 1573.5 Cubic Feet

Peak flow rate of this hydrograph = 0.702(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0003	0.03	QV				
0+15	0.0006	0.03	QV				
0+20	0.0008	0.04	Q V				
0+25	0.0011	0.04	Q V				
0+30	0.0014	0.04	Q V				
0+35	0.0017	0.05	Q V				
0+40	0.0021	0.06	Q V				
0+45	0.0030	0.13	Q	V			
0+50	0.0078	0.70	Q		V		
0+55	0.0107	0.41	Q			V	

1+ 0	0.0113	0.09	Q				V
1+ 5	0.0114	0.01	Q				V
1+10	0.0114	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
2-Year
3-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	0.88	1.03

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	2.20	2.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 0.877(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.877(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.137	(0.597)	0.123	0.014
2	0.17	1.30	0.137	(0.597)	0.123	0.014
3	0.25	1.10	0.116	(0.597)	0.104	0.012
4	0.33	1.50	0.158	(0.597)	0.142	0.016
5	0.42	1.50	0.158	(0.597)	0.142	0.016
6	0.50	1.80	0.189	(0.597)	0.170	0.019
7	0.58	1.50	0.158	(0.597)	0.142	0.016
8	0.67	1.80	0.189	(0.597)	0.170	0.019
9	0.75	1.80	0.189	(0.597)	0.170	0.019
10	0.83	1.50	0.158	(0.597)	0.142	0.016
11	0.92	1.60	0.168	(0.597)	0.152	0.017
12	1.00	1.80	0.189	(0.597)	0.170	0.019
13	1.08	2.20	0.232	(0.597)	0.208	0.023
14	1.17	2.20	0.232	(0.597)	0.208	0.023
15	1.25	2.20	0.232	(0.597)	0.208	0.023
16	1.33	2.00	0.210	(0.597)	0.189	0.021
17	1.42	2.60	0.274	(0.597)	0.246	0.027
18	1.50	2.70	0.284	(0.597)	0.256	0.028
19	1.58	2.40	0.253	(0.597)	0.227	0.025
20	1.67	2.70	0.284	(0.597)	0.256	0.028
21	1.75	3.30	0.347	(0.597)	0.313	0.035
22	1.83	3.10	0.326	(0.597)	0.294	0.033
23	1.92	2.90	0.305	(0.597)	0.275	0.031
24	2.00	3.00	0.316	(0.597)	0.284	0.032
25	2.08	3.10	0.326	(0.597)	0.294	0.033
26	2.17	4.20	0.442	(0.597)	0.398	0.044
27	2.25	5.00	0.526	(0.597)	0.474	0.053
28	2.33	3.50	0.368	(0.597)	0.332	0.037
29	2.42	6.80	0.716	0.597	(0.644)	0.118
30	2.50	7.30	0.768	0.597	(0.691)	0.171
31	2.58	8.20	0.863	0.597	(0.777)	0.265
32	2.67	5.90	0.621	(0.597)	0.559	0.062
33	2.75	2.00	0.210	(0.597)	0.189	0.021
34	2.83	1.80	0.189	(0.597)	0.170	0.019
35	2.92	1.80	0.189	(0.597)	0.170	0.019
36	3.00	0.60	0.063	(0.597)	0.057	0.006

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.4

Flood volume = Effective rainfall 0.11(In)

times area 1.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 0.76(In)

Total soil loss = 0.075(Ac.Ft)

Total rainfall = 0.88(In)

Flood volume = 489.8 Cubic Feet

Total soil loss = 3266.7 Cubic Feet

Peak flow rate of this hydrograph = 0.269(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.01	Q				
0+10	0.0002		0.02	Q				
0+15	0.0003		0.01	Q				
0+20	0.0004		0.02	QV				
0+25	0.0005		0.02	QV				
0+30	0.0007		0.02	Q V				
0+35	0.0008		0.02	Q V				
0+40	0.0010		0.02	Q V				
0+45	0.0011		0.02	Q V				
0+50	0.0012		0.02	Q V				
0+55	0.0014		0.02	Q V				
1+ 0	0.0015		0.02	Q V				
1+ 5	0.0017		0.03	Q V				
1+10	0.0019		0.03	Q V				
1+15	0.0021		0.03	Q V				
1+20	0.0023		0.03	Q V				
1+25	0.0025		0.03	Q V				
1+30	0.0027		0.03	Q V				
1+35	0.0029		0.03	Q V				
1+40	0.0031		0.03	Q V				
1+45	0.0034		0.04	Q V				
1+50	0.0037		0.04	Q V				
1+55	0.0039		0.04	Q V				
2+ 0	0.0042		0.04	Q V				
2+ 5	0.0044		0.04	Q V				
2+10	0.0048		0.05	Q V				
2+15	0.0052		0.06	Q V				
2+20	0.0055		0.05	Q V				
2+25	0.0062		0.10	Q V				
2+30	0.0074		0.17	Q V				
2+35	0.0093		0.27	Q V				
2+40	0.0104		0.16	Q V				
2+45	0.0108		0.06	Q V				
2+50	0.0110		0.03	Q V				
2+55	0.0111		0.02	Q V				
3+ 0	0.0112		0.01	Q V				
3+ 5	0.0112		0.00	Q V				
3+10	0.0112		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
2-Year
6-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	1.27	1.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	3.12	3.68

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.270(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.270(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.076	(0.597)	0.069	0.008
2	0.17	0.60	0.091	(0.597)	0.082	0.009
3	0.25	0.60	0.091	(0.597)	0.082	0.009
4	0.33	0.60	0.091	(0.597)	0.082	0.009
5	0.42	0.60	0.091	(0.597)	0.082	0.009
6	0.50	0.70	0.107	(0.597)	0.096	0.011
7	0.58	0.70	0.107	(0.597)	0.096	0.011
8	0.67	0.70	0.107	(0.597)	0.096	0.011
9	0.75	0.70	0.107	(0.597)	0.096	0.011
10	0.83	0.70	0.107	(0.597)	0.096	0.011
11	0.92	0.70	0.107	(0.597)	0.096	0.011
12	1.00	0.80	0.122	(0.597)	0.110	0.012
13	1.08	0.80	0.122	(0.597)	0.110	0.012
14	1.17	0.80	0.122	(0.597)	0.110	0.012
15	1.25	0.80	0.122	(0.597)	0.110	0.012
16	1.33	0.80	0.122	(0.597)	0.110	0.012
17	1.42	0.80	0.122	(0.597)	0.110	0.012
18	1.50	0.80	0.122	(0.597)	0.110	0.012
19	1.58	0.80	0.122	(0.597)	0.110	0.012
20	1.67	0.80	0.122	(0.597)	0.110	0.012
21	1.75	0.80	0.122	(0.597)	0.110	0.012
22	1.83	0.80	0.122	(0.597)	0.110	0.012
23	1.92	0.80	0.122	(0.597)	0.110	0.012
24	2.00	0.90	0.137	(0.597)	0.123	0.014
25	2.08	0.80	0.122	(0.597)	0.110	0.012
26	2.17	0.90	0.137	(0.597)	0.123	0.014
27	2.25	0.90	0.137	(0.597)	0.123	0.014
28	2.33	0.90	0.137	(0.597)	0.123	0.014
29	2.42	0.90	0.137	(0.597)	0.123	0.014
30	2.50	0.90	0.137	(0.597)	0.123	0.014
31	2.58	0.90	0.137	(0.597)	0.123	0.014
32	2.67	0.90	0.137	(0.597)	0.123	0.014
33	2.75	1.00	0.152	(0.597)	0.137	0.015
34	2.83	1.00	0.152	(0.597)	0.137	0.015
35	2.92	1.00	0.152	(0.597)	0.137	0.015
36	3.00	1.00	0.152	(0.597)	0.137	0.015
37	3.08	1.00	0.152	(0.597)	0.137	0.015
38	3.17	1.10	0.168	(0.597)	0.151	0.017
39	3.25	1.10	0.168	(0.597)	0.151	0.017
40	3.33	1.10	0.168	(0.597)	0.151	0.017
41	3.42	1.20	0.183	(0.597)	0.165	0.018
42	3.50	1.30	0.198	(0.597)	0.178	0.020
43	3.58	1.40	0.213	(0.597)	0.192	0.021
44	3.67	1.40	0.213	(0.597)	0.192	0.021
45	3.75	1.50	0.229	(0.597)	0.206	0.023
46	3.83	1.50	0.229	(0.597)	0.206	0.023

47	3.92	1.60	0.244	(0.597)	0.219	0.024
48	4.00	1.60	0.244	(0.597)	0.219	0.024
49	4.08	1.70	0.259	(0.597)	0.233	0.026
50	4.17	1.80	0.274	(0.597)	0.247	0.027
51	4.25	1.90	0.290	(0.597)	0.261	0.029
52	4.33	2.00	0.305	(0.597)	0.274	0.030
53	4.42	2.10	0.320	(0.597)	0.288	0.032
54	4.50	2.10	0.320	(0.597)	0.288	0.032
55	4.58	2.20	0.335	(0.597)	0.302	0.034
56	4.67	2.30	0.351	(0.597)	0.315	0.035
57	4.75	2.40	0.366	(0.597)	0.329	0.037
58	4.83	2.40	0.366	(0.597)	0.329	0.037
59	4.92	2.50	0.381	(0.597)	0.343	0.038
60	5.00	2.60	0.396	(0.597)	0.357	0.040
61	5.08	3.10	0.472	(0.597)	0.425	0.047
62	5.17	3.60	0.549	(0.597)	0.494	0.055
63	5.25	3.90	0.594	(0.597)	0.535	0.059
64	5.33	4.20	0.640	(0.597)	0.576	0.064
65	5.42	4.70	0.716	0.597 (0.645)		0.119
66	5.50	5.60	0.853	0.597 (0.768)		0.256
67	5.58	1.90	0.290	(0.597)	0.261	0.029
68	5.67	0.90	0.137	(0.597)	0.123	0.014
69	5.75	0.60	0.091	(0.597)	0.082	0.009
70	5.83	0.50	0.076	(0.597)	0.069	0.008
71	5.92	0.30	0.046	(0.597)	0.041	0.005
72	6.00	0.20	0.030	(0.597)	0.027	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.7

Flood volume = Effective rainfall 0.15(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.12(In)
Total soil loss = 0.111(Ac.Ft)
Total rainfall = 1.27(In)
Flood volume = 621.7 Cubic Feet
Total soil loss = 4818.2 Cubic Feet

Peak flow rate of this hydrograph = 0.237(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				

0+20	0.0003	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	QV				
0+35	0.0005	0.01	QV				
0+40	0.0006	0.01	QV				
0+45	0.0007	0.01	QV				
0+50	0.0008	0.01	Q V				
0+55	0.0008	0.01	Q V				
1+ 0	0.0009	0.01	Q V				
1+ 5	0.0010	0.01	Q V				
1+10	0.0011	0.01	Q V				
1+15	0.0012	0.01	Q V				
1+20	0.0013	0.01	Q V				
1+25	0.0014	0.01	Q V				
1+30	0.0015	0.01	Q V				
1+35	0.0016	0.01	Q V				
1+40	0.0017	0.01	Q V				
1+45	0.0018	0.01	Q V				
1+50	0.0019	0.01	Q V				
1+55	0.0020	0.01	Q V				
2+ 0	0.0021	0.02	Q V				
2+ 5	0.0023	0.02	Q V				
2+10	0.0024	0.02	Q V				
2+15	0.0025	0.02	Q V				
2+20	0.0026	0.02	Q V				
2+25	0.0027	0.02	Q V				
2+30	0.0028	0.02	Q V				
2+35	0.0029	0.02	Q V				
2+40	0.0030	0.02	Q V				
2+45	0.0032	0.02	Q V				
2+50	0.0033	0.02	Q V				
2+55	0.0034	0.02	Q V				
3+ 0	0.0035	0.02	Q V				
3+ 5	0.0037	0.02	Q V				
3+10	0.0038	0.02	Q V				
3+15	0.0039	0.02	Q V				
3+20	0.0041	0.02	Q V				
3+25	0.0042	0.02	Q V				
3+30	0.0044	0.02	Q V				
3+35	0.0045	0.02	Q V				
3+40	0.0047	0.03	Q V				
3+45	0.0049	0.03	Q V				
3+50	0.0051	0.03	Q V				
3+55	0.0053	0.03	Q V				
4+ 0	0.0055	0.03	Q V				
4+ 5	0.0057	0.03	Q V				
4+10	0.0059	0.03	Q V				
4+15	0.0061	0.03	Q V				
4+20	0.0064	0.04	Q V				
4+25	0.0066	0.04	Q V				

4+30	0.0069	0.04	Q		V			
4+35	0.0072	0.04	Q		V			
4+40	0.0074	0.04	Q		V			
4+45	0.0077	0.04	Q		V			
4+50	0.0080	0.04	Q		V			
4+55	0.0083	0.04	Q		V			
5+ 0	0.0087	0.05	Q		V			
5+ 5	0.0090	0.05	Q		V			
5+10	0.0094	0.06	Q		V			
5+15	0.0099	0.07	Q		V			
5+20	0.0104	0.07	Q		V			
5+25	0.0112	0.12	Q		V			
5+30	0.0129	0.24	Q				V	
5+35	0.0138	0.13	Q				V	
5+40	0.0140	0.04	Q				V	
5+45	0.0141	0.01	Q				V	
5+50	0.0142	0.01	Q				V	
5+55	0.0142	0.01	Q				V	
6+ 0	0.0143	0.00	Q				V	
6+ 5	0.0143	0.00	Q				V	
6+10	0.0143	0.00	Q				V	

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
2-Year
24-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	2.43	2.87

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	6.58	7.76

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 2.430(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.430(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.019	(1.059)	0.017	0.002
2	0.17	0.07	0.019	(1.055)	0.017	0.002
3	0.25	0.07	0.019	(1.051)	0.017	0.002
4	0.33	0.10	0.029	(1.047)	0.026	0.003
5	0.42	0.10	0.029	(1.043)	0.026	0.003
6	0.50	0.10	0.029	(1.039)	0.026	0.003
7	0.58	0.10	0.029	(1.035)	0.026	0.003
8	0.67	0.10	0.029	(1.031)	0.026	0.003
9	0.75	0.10	0.029	(1.027)	0.026	0.003
10	0.83	0.13	0.039	(1.023)	0.035	0.004
11	0.92	0.13	0.039	(1.019)	0.035	0.004
12	1.00	0.13	0.039	(1.015)	0.035	0.004
13	1.08	0.10	0.029	(1.011)	0.026	0.003
14	1.17	0.10	0.029	(1.007)	0.026	0.003
15	1.25	0.10	0.029	(1.003)	0.026	0.003
16	1.33	0.10	0.029	(0.999)	0.026	0.003
17	1.42	0.10	0.029	(0.995)	0.026	0.003
18	1.50	0.10	0.029	(0.991)	0.026	0.003
19	1.58	0.10	0.029	(0.987)	0.026	0.003
20	1.67	0.10	0.029	(0.983)	0.026	0.003
21	1.75	0.10	0.029	(0.979)	0.026	0.003
22	1.83	0.13	0.039	(0.975)	0.035	0.004
23	1.92	0.13	0.039	(0.971)	0.035	0.004
24	2.00	0.13	0.039	(0.967)	0.035	0.004
25	2.08	0.13	0.039	(0.963)	0.035	0.004
26	2.17	0.13	0.039	(0.959)	0.035	0.004
27	2.25	0.13	0.039	(0.955)	0.035	0.004
28	2.33	0.13	0.039	(0.951)	0.035	0.004
29	2.42	0.13	0.039	(0.947)	0.035	0.004
30	2.50	0.13	0.039	(0.944)	0.035	0.004
31	2.58	0.17	0.049	(0.940)	0.044	0.005
32	2.67	0.17	0.049	(0.936)	0.044	0.005
33	2.75	0.17	0.049	(0.932)	0.044	0.005
34	2.83	0.17	0.049	(0.928)	0.044	0.005
35	2.92	0.17	0.049	(0.924)	0.044	0.005
36	3.00	0.17	0.049	(0.921)	0.044	0.005
37	3.08	0.17	0.049	(0.917)	0.044	0.005
38	3.17	0.17	0.049	(0.913)	0.044	0.005
39	3.25	0.17	0.049	(0.909)	0.044	0.005
40	3.33	0.17	0.049	(0.905)	0.044	0.005
41	3.42	0.17	0.049	(0.902)	0.044	0.005
42	3.50	0.17	0.049	(0.898)	0.044	0.005
43	3.58	0.17	0.049	(0.894)	0.044	0.005
44	3.67	0.17	0.049	(0.890)	0.044	0.005
45	3.75	0.17	0.049	(0.887)	0.044	0.005
46	3.83	0.20	0.058	(0.883)	0.052	0.006

47	3.92	0.20	0.058	(0.879)	0.052	0.006
48	4.00	0.20	0.058	(0.875)	0.052	0.006
49	4.08	0.20	0.058	(0.872)	0.052	0.006
50	4.17	0.20	0.058	(0.868)	0.052	0.006
51	4.25	0.20	0.058	(0.864)	0.052	0.006
52	4.33	0.23	0.068	(0.861)	0.061	0.007
53	4.42	0.23	0.068	(0.857)	0.061	0.007
54	4.50	0.23	0.068	(0.853)	0.061	0.007
55	4.58	0.23	0.068	(0.850)	0.061	0.007
56	4.67	0.23	0.068	(0.846)	0.061	0.007
57	4.75	0.23	0.068	(0.842)	0.061	0.007
58	4.83	0.27	0.078	(0.839)	0.070	0.008
59	4.92	0.27	0.078	(0.835)	0.070	0.008
60	5.00	0.27	0.078	(0.831)	0.070	0.008
61	5.08	0.20	0.058	(0.828)	0.052	0.006
62	5.17	0.20	0.058	(0.824)	0.052	0.006
63	5.25	0.20	0.058	(0.821)	0.052	0.006
64	5.33	0.23	0.068	(0.817)	0.061	0.007
65	5.42	0.23	0.068	(0.813)	0.061	0.007
66	5.50	0.23	0.068	(0.810)	0.061	0.007
67	5.58	0.27	0.078	(0.806)	0.070	0.008
68	5.67	0.27	0.078	(0.803)	0.070	0.008
69	5.75	0.27	0.078	(0.799)	0.070	0.008
70	5.83	0.27	0.078	(0.796)	0.070	0.008
71	5.92	0.27	0.078	(0.792)	0.070	0.008
72	6.00	0.27	0.078	(0.789)	0.070	0.008
73	6.08	0.30	0.087	(0.785)	0.079	0.009
74	6.17	0.30	0.087	(0.782)	0.079	0.009
75	6.25	0.30	0.087	(0.778)	0.079	0.009
76	6.33	0.30	0.087	(0.775)	0.079	0.009
77	6.42	0.30	0.087	(0.771)	0.079	0.009
78	6.50	0.30	0.087	(0.768)	0.079	0.009
79	6.58	0.33	0.097	(0.764)	0.087	0.010
80	6.67	0.33	0.097	(0.761)	0.087	0.010
81	6.75	0.33	0.097	(0.757)	0.087	0.010
82	6.83	0.33	0.097	(0.754)	0.087	0.010
83	6.92	0.33	0.097	(0.751)	0.087	0.010
84	7.00	0.33	0.097	(0.747)	0.087	0.010
85	7.08	0.33	0.097	(0.744)	0.087	0.010
86	7.17	0.33	0.097	(0.740)	0.087	0.010
87	7.25	0.33	0.097	(0.737)	0.087	0.010
88	7.33	0.37	0.107	(0.734)	0.096	0.011
89	7.42	0.37	0.107	(0.730)	0.096	0.011
90	7.50	0.37	0.107	(0.727)	0.096	0.011
91	7.58	0.40	0.117	(0.724)	0.105	0.012
92	7.67	0.40	0.117	(0.720)	0.105	0.012
93	7.75	0.40	0.117	(0.717)	0.105	0.012
94	7.83	0.43	0.126	(0.714)	0.114	0.013
95	7.92	0.43	0.126	(0.710)	0.114	0.013
96	8.00	0.43	0.126	(0.707)	0.114	0.013

97	8.08	0.50	0.146	(0.704)	0.131	0.015
98	8.17	0.50	0.146	(0.701)	0.131	0.015
99	8.25	0.50	0.146	(0.697)	0.131	0.015
100	8.33	0.50	0.146	(0.694)	0.131	0.015
101	8.42	0.50	0.146	(0.691)	0.131	0.015
102	8.50	0.50	0.146	(0.688)	0.131	0.015
103	8.58	0.53	0.156	(0.684)	0.140	0.016
104	8.67	0.53	0.156	(0.681)	0.140	0.016
105	8.75	0.53	0.156	(0.678)	0.140	0.016
106	8.83	0.57	0.165	(0.675)	0.149	0.017
107	8.92	0.57	0.165	(0.671)	0.149	0.017
108	9.00	0.57	0.165	(0.668)	0.149	0.017
109	9.08	0.63	0.185	(0.665)	0.166	0.018
110	9.17	0.63	0.185	(0.662)	0.166	0.018
111	9.25	0.63	0.185	(0.659)	0.166	0.018
112	9.33	0.67	0.194	(0.656)	0.175	0.019
113	9.42	0.67	0.194	(0.653)	0.175	0.019
114	9.50	0.67	0.194	(0.649)	0.175	0.019
115	9.58	0.70	0.204	(0.646)	0.184	0.020
116	9.67	0.70	0.204	(0.643)	0.184	0.020
117	9.75	0.70	0.204	(0.640)	0.184	0.020
118	9.83	0.73	0.214	(0.637)	0.192	0.021
119	9.92	0.73	0.214	(0.634)	0.192	0.021
120	10.00	0.73	0.214	(0.631)	0.192	0.021
121	10.08	0.50	0.146	(0.628)	0.131	0.015
122	10.17	0.50	0.146	(0.625)	0.131	0.015
123	10.25	0.50	0.146	(0.622)	0.131	0.015
124	10.33	0.50	0.146	(0.619)	0.131	0.015
125	10.42	0.50	0.146	(0.616)	0.131	0.015
126	10.50	0.50	0.146	(0.613)	0.131	0.015
127	10.58	0.67	0.194	(0.610)	0.175	0.019
128	10.67	0.67	0.194	(0.607)	0.175	0.019
129	10.75	0.67	0.194	(0.604)	0.175	0.019
130	10.83	0.67	0.194	(0.601)	0.175	0.019
131	10.92	0.67	0.194	(0.598)	0.175	0.019
132	11.00	0.67	0.194	(0.595)	0.175	0.019
133	11.08	0.63	0.185	(0.592)	0.166	0.018
134	11.17	0.63	0.185	(0.589)	0.166	0.018
135	11.25	0.63	0.185	(0.586)	0.166	0.018
136	11.33	0.63	0.185	(0.583)	0.166	0.018
137	11.42	0.63	0.185	(0.580)	0.166	0.018
138	11.50	0.63	0.185	(0.578)	0.166	0.018
139	11.58	0.57	0.165	(0.575)	0.149	0.017
140	11.67	0.57	0.165	(0.572)	0.149	0.017
141	11.75	0.57	0.165	(0.569)	0.149	0.017
142	11.83	0.60	0.175	(0.566)	0.157	0.017
143	11.92	0.60	0.175	(0.563)	0.157	0.017
144	12.00	0.60	0.175	(0.561)	0.157	0.017
145	12.08	0.83	0.243	(0.558)	0.219	0.024
146	12.17	0.83	0.243	(0.555)	0.219	0.024

147	12.25	0.83	0.243	(0.552)	0.219	0.024
148	12.33	0.87	0.253	(0.549)	0.227	0.025
149	12.42	0.87	0.253	(0.547)	0.227	0.025
150	12.50	0.87	0.253	(0.544)	0.227	0.025
151	12.58	0.93	0.272	(0.541)	0.245	0.027
152	12.67	0.93	0.272	(0.538)	0.245	0.027
153	12.75	0.93	0.272	(0.536)	0.245	0.027
154	12.83	0.97	0.282	(0.533)	0.254	0.028
155	12.92	0.97	0.282	(0.530)	0.254	0.028
156	13.00	0.97	0.282	(0.528)	0.254	0.028
157	13.08	1.13	0.330	(0.525)	0.297	0.033
158	13.17	1.13	0.330	(0.522)	0.297	0.033
159	13.25	1.13	0.330	(0.520)	0.297	0.033
160	13.33	1.13	0.330	(0.517)	0.297	0.033
161	13.42	1.13	0.330	(0.514)	0.297	0.033
162	13.50	1.13	0.330	(0.512)	0.297	0.033
163	13.58	0.77	0.224	(0.509)	0.201	0.022
164	13.67	0.77	0.224	(0.507)	0.201	0.022
165	13.75	0.77	0.224	(0.504)	0.201	0.022
166	13.83	0.77	0.224	(0.501)	0.201	0.022
167	13.92	0.77	0.224	(0.499)	0.201	0.022
168	14.00	0.77	0.224	(0.496)	0.201	0.022
169	14.08	0.90	0.262	(0.494)	0.236	0.026
170	14.17	0.90	0.262	(0.491)	0.236	0.026
171	14.25	0.90	0.262	(0.489)	0.236	0.026
172	14.33	0.87	0.253	(0.486)	0.227	0.025
173	14.42	0.87	0.253	(0.484)	0.227	0.025
174	14.50	0.87	0.253	(0.481)	0.227	0.025
175	14.58	0.87	0.253	(0.479)	0.227	0.025
176	14.67	0.87	0.253	(0.476)	0.227	0.025
177	14.75	0.87	0.253	(0.474)	0.227	0.025
178	14.83	0.83	0.243	(0.471)	0.219	0.024
179	14.92	0.83	0.243	(0.469)	0.219	0.024
180	15.00	0.83	0.243	(0.467)	0.219	0.024
181	15.08	0.80	0.233	(0.464)	0.210	0.023
182	15.17	0.80	0.233	(0.462)	0.210	0.023
183	15.25	0.80	0.233	(0.460)	0.210	0.023
184	15.33	0.77	0.224	(0.457)	0.201	0.022
185	15.42	0.77	0.224	(0.455)	0.201	0.022
186	15.50	0.77	0.224	(0.452)	0.201	0.022
187	15.58	0.63	0.185	(0.450)	0.166	0.018
188	15.67	0.63	0.185	(0.448)	0.166	0.018
189	15.75	0.63	0.185	(0.446)	0.166	0.018
190	15.83	0.63	0.185	(0.443)	0.166	0.018
191	15.92	0.63	0.185	(0.441)	0.166	0.018
192	16.00	0.63	0.185	(0.439)	0.166	0.018
193	16.08	0.13	0.039	(0.437)	0.035	0.004
194	16.17	0.13	0.039	(0.434)	0.035	0.004
195	16.25	0.13	0.039	(0.432)	0.035	0.004
196	16.33	0.13	0.039	(0.430)	0.035	0.004

197	16.42	0.13	0.039	(0.428)	0.035	0.004
198	16.50	0.13	0.039	(0.425)	0.035	0.004
199	16.58	0.10	0.029	(0.423)	0.026	0.003
200	16.67	0.10	0.029	(0.421)	0.026	0.003
201	16.75	0.10	0.029	(0.419)	0.026	0.003
202	16.83	0.10	0.029	(0.417)	0.026	0.003
203	16.92	0.10	0.029	(0.415)	0.026	0.003
204	17.00	0.10	0.029	(0.413)	0.026	0.003
205	17.08	0.17	0.049	(0.411)	0.044	0.005
206	17.17	0.17	0.049	(0.409)	0.044	0.005
207	17.25	0.17	0.049	(0.407)	0.044	0.005
208	17.33	0.17	0.049	(0.404)	0.044	0.005
209	17.42	0.17	0.049	(0.402)	0.044	0.005
210	17.50	0.17	0.049	(0.400)	0.044	0.005
211	17.58	0.17	0.049	(0.398)	0.044	0.005
212	17.67	0.17	0.049	(0.396)	0.044	0.005
213	17.75	0.17	0.049	(0.394)	0.044	0.005
214	17.83	0.13	0.039	(0.392)	0.035	0.004
215	17.92	0.13	0.039	(0.391)	0.035	0.004
216	18.00	0.13	0.039	(0.389)	0.035	0.004
217	18.08	0.13	0.039	(0.387)	0.035	0.004
218	18.17	0.13	0.039	(0.385)	0.035	0.004
219	18.25	0.13	0.039	(0.383)	0.035	0.004
220	18.33	0.13	0.039	(0.381)	0.035	0.004
221	18.42	0.13	0.039	(0.379)	0.035	0.004
222	18.50	0.13	0.039	(0.377)	0.035	0.004
223	18.58	0.10	0.029	(0.376)	0.026	0.003
224	18.67	0.10	0.029	(0.374)	0.026	0.003
225	18.75	0.10	0.029	(0.372)	0.026	0.003
226	18.83	0.07	0.019	(0.370)	0.017	0.002
227	18.92	0.07	0.019	(0.368)	0.017	0.002
228	19.00	0.07	0.019	(0.367)	0.017	0.002
229	19.08	0.10	0.029	(0.365)	0.026	0.003
230	19.17	0.10	0.029	(0.363)	0.026	0.003
231	19.25	0.10	0.029	(0.361)	0.026	0.003
232	19.33	0.13	0.039	(0.360)	0.035	0.004
233	19.42	0.13	0.039	(0.358)	0.035	0.004
234	19.50	0.13	0.039	(0.356)	0.035	0.004
235	19.58	0.10	0.029	(0.355)	0.026	0.003
236	19.67	0.10	0.029	(0.353)	0.026	0.003
237	19.75	0.10	0.029	(0.352)	0.026	0.003
238	19.83	0.07	0.019	(0.350)	0.017	0.002
239	19.92	0.07	0.019	(0.348)	0.017	0.002
240	20.00	0.07	0.019	(0.347)	0.017	0.002
241	20.08	0.10	0.029	(0.345)	0.026	0.003
242	20.17	0.10	0.029	(0.344)	0.026	0.003
243	20.25	0.10	0.029	(0.342)	0.026	0.003
244	20.33	0.10	0.029	(0.341)	0.026	0.003
245	20.42	0.10	0.029	(0.339)	0.026	0.003
246	20.50	0.10	0.029	(0.338)	0.026	0.003

247	20.58	0.10	0.029	(0.337)	0.026	0.003
248	20.67	0.10	0.029	(0.335)	0.026	0.003
249	20.75	0.10	0.029	(0.334)	0.026	0.003
250	20.83	0.07	0.019	(0.332)	0.017	0.002
251	20.92	0.07	0.019	(0.331)	0.017	0.002
252	21.00	0.07	0.019	(0.330)	0.017	0.002
253	21.08	0.10	0.029	(0.328)	0.026	0.003
254	21.17	0.10	0.029	(0.327)	0.026	0.003
255	21.25	0.10	0.029	(0.326)	0.026	0.003
256	21.33	0.07	0.019	(0.325)	0.017	0.002
257	21.42	0.07	0.019	(0.323)	0.017	0.002
258	21.50	0.07	0.019	(0.322)	0.017	0.002
259	21.58	0.10	0.029	(0.321)	0.026	0.003
260	21.67	0.10	0.029	(0.320)	0.026	0.003
261	21.75	0.10	0.029	(0.319)	0.026	0.003
262	21.83	0.07	0.019	(0.318)	0.017	0.002
263	21.92	0.07	0.019	(0.317)	0.017	0.002
264	22.00	0.07	0.019	(0.315)	0.017	0.002
265	22.08	0.10	0.029	(0.314)	0.026	0.003
266	22.17	0.10	0.029	(0.313)	0.026	0.003
267	22.25	0.10	0.029	(0.312)	0.026	0.003
268	22.33	0.07	0.019	(0.311)	0.017	0.002
269	22.42	0.07	0.019	(0.310)	0.017	0.002
270	22.50	0.07	0.019	(0.310)	0.017	0.002
271	22.58	0.07	0.019	(0.309)	0.017	0.002
272	22.67	0.07	0.019	(0.308)	0.017	0.002
273	22.75	0.07	0.019	(0.307)	0.017	0.002
274	22.83	0.07	0.019	(0.306)	0.017	0.002
275	22.92	0.07	0.019	(0.305)	0.017	0.002
276	23.00	0.07	0.019	(0.305)	0.017	0.002
277	23.08	0.07	0.019	(0.304)	0.017	0.002
278	23.17	0.07	0.019	(0.303)	0.017	0.002
279	23.25	0.07	0.019	(0.303)	0.017	0.002
280	23.33	0.07	0.019	(0.302)	0.017	0.002
281	23.42	0.07	0.019	(0.301)	0.017	0.002
282	23.50	0.07	0.019	(0.301)	0.017	0.002
283	23.58	0.07	0.019	(0.300)	0.017	0.002
284	23.67	0.07	0.019	(0.300)	0.017	0.002
285	23.75	0.07	0.019	(0.300)	0.017	0.002
286	23.83	0.07	0.019	(0.299)	0.017	0.002
287	23.92	0.07	0.019	(0.299)	0.017	0.002
288	24.00	0.07	0.019	(0.299)	0.017	0.002

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.9

Flood volume = Effective rainfall 0.24(In)

times area 1.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 2.19(In)

Total soil loss = 0.215(Ac.Ft)

Total rainfall = 2.43(In)

Flood volume = 1040.9 Cubic Feet

Total soil loss = 9367.8 Cubic Feet

Peak flow rate of this hydrograph = 0.039(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0001	0.00	Q				
0+40	0.0002	0.00	Q				
0+45	0.0002	0.00	Q				
0+50	0.0002	0.00	Q				
0+55	0.0002	0.00	Q				
1+ 0	0.0003	0.00	Q				
1+ 5	0.0003	0.00	Q				
1+10	0.0003	0.00	Q				
1+15	0.0003	0.00	Q				
1+20	0.0004	0.00	Q				
1+25	0.0004	0.00	Q				
1+30	0.0004	0.00	Q				
1+35	0.0004	0.00	Q				
1+40	0.0005	0.00	Q				
1+45	0.0005	0.00	Q				
1+50	0.0005	0.00	Q				
1+55	0.0006	0.00	Q				
2+ 0	0.0006	0.00	Q				
2+ 5	0.0006	0.00	QV				
2+10	0.0006	0.00	QV				
2+15	0.0007	0.00	QV				
2+20	0.0007	0.00	QV				
2+25	0.0007	0.00	QV				
2+30	0.0008	0.00	QV				
2+35	0.0008	0.01	QV				
2+40	0.0009	0.01	QV				
2+45	0.0009	0.01	QV				
2+50	0.0009	0.01	QV				
2+55	0.0010	0.01	QV				
3+ 0	0.0010	0.01	QV				
3+ 5	0.0010	0.01	QV				

3+10	0.0011	0.01	QV				
3+15	0.0011	0.01	QV				
3+20	0.0012	0.01	QV				
3+25	0.0012	0.01	Q V				
3+30	0.0012	0.01	Q V				
3+35	0.0013	0.01	Q V				
3+40	0.0013	0.01	Q V				
3+45	0.0014	0.01	Q V				
3+50	0.0014	0.01	Q V				
3+55	0.0015	0.01	Q V				
4+ 0	0.0015	0.01	Q V				
4+ 5	0.0016	0.01	Q V				
4+10	0.0016	0.01	Q V				
4+15	0.0017	0.01	Q V				
4+20	0.0017	0.01	Q V				
4+25	0.0018	0.01	Q V				
4+30	0.0018	0.01	Q V				
4+35	0.0019	0.01	Q V				
4+40	0.0019	0.01	Q V				
4+45	0.0020	0.01	Q V				
4+50	0.0020	0.01	Q V				
4+55	0.0021	0.01	Q V				
5+ 0	0.0022	0.01	Q V				
5+ 5	0.0022	0.01	Q V				
5+10	0.0023	0.01	Q V				
5+15	0.0023	0.01	Q V				
5+20	0.0024	0.01	Q V				
5+25	0.0024	0.01	Q V				
5+30	0.0025	0.01	Q V				
5+35	0.0025	0.01	Q V				
5+40	0.0026	0.01	Q V				
5+45	0.0027	0.01	Q V				
5+50	0.0027	0.01	Q V				
5+55	0.0028	0.01	Q V				
6+ 0	0.0029	0.01	Q V				
6+ 5	0.0029	0.01	Q V				
6+10	0.0030	0.01	Q V				
6+15	0.0031	0.01	Q V				
6+20	0.0031	0.01	Q V				
6+25	0.0032	0.01	Q V				
6+30	0.0033	0.01	Q V				
6+35	0.0034	0.01	Q V				
6+40	0.0034	0.01	Q V				
6+45	0.0035	0.01	Q V				
6+50	0.0036	0.01	Q V				
6+55	0.0037	0.01	Q V				
7+ 0	0.0038	0.01	Q V				
7+ 5	0.0038	0.01	Q V				
7+10	0.0039	0.01	Q V				
7+15	0.0040	0.01	Q V				

7+20	0.0041	0.01	Q	V				
7+25	0.0042	0.01	Q	V				
7+30	0.0043	0.01	Q	V				
7+35	0.0044	0.01	Q	V				
7+40	0.0045	0.01	Q	V				
7+45	0.0045	0.01	Q	V				
7+50	0.0046	0.01	Q	V				
7+55	0.0047	0.01	Q	V				
8+ 0	0.0049	0.02	Q	V				
8+ 5	0.0050	0.02	Q	V				
8+10	0.0051	0.02	Q	V				
8+15	0.0052	0.02	Q	V				
8+20	0.0053	0.02	Q	V				
8+25	0.0054	0.02	Q	V				
8+30	0.0056	0.02	Q	V				
8+35	0.0057	0.02	Q	V				
8+40	0.0058	0.02	Q	V				
8+45	0.0059	0.02	Q	V				
8+50	0.0061	0.02	Q	V				
8+55	0.0062	0.02	Q	V				
9+ 0	0.0063	0.02	Q	V				
9+ 5	0.0065	0.02	Q	V				
9+10	0.0066	0.02	Q	V				
9+15	0.0068	0.02	Q	V				
9+20	0.0069	0.02	Q	V				
9+25	0.0071	0.02	Q	V				
9+30	0.0073	0.02	Q	V				
9+35	0.0074	0.02	Q	V				
9+40	0.0076	0.02	Q	V				
9+45	0.0078	0.02	Q	V				
9+50	0.0079	0.02	Q	V				
9+55	0.0081	0.03	Q	V				
10+ 0	0.0083	0.03	Q	V				
10+ 5	0.0084	0.02	Q	V				
10+10	0.0085	0.02	Q	V				
10+15	0.0087	0.02	Q	V				
10+20	0.0088	0.02	Q	V				
10+25	0.0089	0.02	Q	V				
10+30	0.0090	0.02	Q	V				
10+35	0.0092	0.02	Q	V				
10+40	0.0093	0.02	Q	V				
10+45	0.0095	0.02	Q	V				
10+50	0.0096	0.02	Q	V				
10+55	0.0098	0.02	Q	V				
11+ 0	0.0100	0.02	Q	V				
11+ 5	0.0101	0.02	Q	V				
11+10	0.0103	0.02	Q	V				
11+15	0.0104	0.02	Q	V				
11+20	0.0106	0.02	Q	V				
11+25	0.0107	0.02	Q	V				

11+30	0.0109	0.02	Q	V			
11+35	0.0110	0.02	Q	V			
11+40	0.0112	0.02	Q	V			
11+45	0.0113	0.02	Q	V			
11+50	0.0114	0.02	Q	V			
11+55	0.0116	0.02	Q	V			
12+ 0	0.0117	0.02	Q	V			
12+ 5	0.0119	0.03	Q	V			
12+10	0.0121	0.03	Q	V			
12+15	0.0123	0.03	Q	V			
12+20	0.0125	0.03	Q	V			
12+25	0.0127	0.03	Q	V			
12+30	0.0129	0.03	Q	V			
12+35	0.0131	0.03	Q	V			
12+40	0.0133	0.03	Q	V			
12+45	0.0136	0.03	Q	V			
12+50	0.0138	0.03	Q	V			
12+55	0.0140	0.03	Q	V			
13+ 0	0.0143	0.03	Q	V			
13+ 5	0.0145	0.04	Q	V			
13+10	0.0148	0.04	Q	V			
13+15	0.0151	0.04	Q	V			
13+20	0.0153	0.04	Q	V			
13+25	0.0156	0.04	Q	V			
13+30	0.0159	0.04	Q	V			
13+35	0.0161	0.03	Q	V			
13+40	0.0163	0.03	Q	V			
13+45	0.0165	0.03	Q	V			
13+50	0.0166	0.03	Q	V			
13+55	0.0168	0.03	Q	V			
14+ 0	0.0170	0.03	Q	V			
14+ 5	0.0172	0.03	Q	V			
14+10	0.0174	0.03	Q	V			
14+15	0.0176	0.03	Q	V			
14+20	0.0178	0.03	Q	V			
14+25	0.0181	0.03	Q	V			
14+30	0.0183	0.03	Q	V			
14+35	0.0185	0.03	Q	V			
14+40	0.0187	0.03	Q	V			
14+45	0.0189	0.03	Q	V			
14+50	0.0191	0.03	Q	V			
14+55	0.0193	0.03	Q	V			
15+ 0	0.0195	0.03	Q	V			
15+ 5	0.0197	0.03	Q	V			
15+10	0.0199	0.03	Q	V			
15+15	0.0201	0.03	Q	V			
15+20	0.0202	0.03	Q	V			
15+25	0.0204	0.03	Q	V			
15+30	0.0206	0.03	Q	V			
15+35	0.0208	0.02	Q	V			

15+40	0.0209	0.02	Q				V
15+45	0.0211	0.02	Q				V
15+50	0.0212	0.02	Q				V
15+55	0.0214	0.02	Q				V
16+ 0	0.0215	0.02	Q				V
16+ 5	0.0216	0.01	Q				V
16+10	0.0217	0.01	Q				V
16+15	0.0217	0.00	Q				V
16+20	0.0217	0.00	Q				V
16+25	0.0217	0.00	Q				V
16+30	0.0218	0.00	Q				V
16+35	0.0218	0.00	Q				V
16+40	0.0218	0.00	Q				V
16+45	0.0219	0.00	Q				V
16+50	0.0219	0.00	Q				V
16+55	0.0219	0.00	Q				V
17+ 0	0.0219	0.00	Q				V
17+ 5	0.0220	0.00	Q				V
17+10	0.0220	0.01	Q				V
17+15	0.0220	0.01	Q				V
17+20	0.0221	0.01	Q				V
17+25	0.0221	0.01	Q				V
17+30	0.0222	0.01	Q				V
17+35	0.0222	0.01	Q				V
17+40	0.0222	0.01	Q				V
17+45	0.0223	0.01	Q				V
17+50	0.0223	0.01	Q				V
17+55	0.0223	0.00	Q				V
18+ 0	0.0224	0.00	Q				V
18+ 5	0.0224	0.00	Q				V
18+10	0.0224	0.00	Q				V
18+15	0.0225	0.00	Q				V
18+20	0.0225	0.00	Q				V
18+25	0.0225	0.00	Q				V
18+30	0.0226	0.00	Q				V
18+35	0.0226	0.00	Q				V
18+40	0.0226	0.00	Q				V
18+45	0.0226	0.00	Q				V
18+50	0.0227	0.00	Q				V
18+55	0.0227	0.00	Q				V
19+ 0	0.0227	0.00	Q				V
19+ 5	0.0227	0.00	Q				V
19+10	0.0227	0.00	Q				V
19+15	0.0228	0.00	Q				V
19+20	0.0228	0.00	Q				V
19+25	0.0228	0.00	Q				V
19+30	0.0229	0.00	Q				V
19+35	0.0229	0.00	Q				V
19+40	0.0229	0.00	Q				V
19+45	0.0229	0.00	Q				V

19+50	0.0229	0.00	Q				V
19+55	0.0230	0.00	Q				V
20+ 0	0.0230	0.00	Q				V
20+ 5	0.0230	0.00	Q				V
20+10	0.0230	0.00	Q				V
20+15	0.0230	0.00	Q				V
20+20	0.0231	0.00	Q				V
20+25	0.0231	0.00	Q				V
20+30	0.0231	0.00	Q				V
20+35	0.0231	0.00	Q				V
20+40	0.0232	0.00	Q				V
20+45	0.0232	0.00	Q				V
20+50	0.0232	0.00	Q				V
20+55	0.0232	0.00	Q				V
21+ 0	0.0232	0.00	Q				V
21+ 5	0.0233	0.00	Q				V
21+10	0.0233	0.00	Q				V
21+15	0.0233	0.00	Q				V
21+20	0.0233	0.00	Q				V
21+25	0.0233	0.00	Q				V
21+30	0.0234	0.00	Q				V
21+35	0.0234	0.00	Q				V
21+40	0.0234	0.00	Q				V
21+45	0.0234	0.00	Q				V
21+50	0.0234	0.00	Q				V
21+55	0.0235	0.00	Q				V
22+ 0	0.0235	0.00	Q				V
22+ 5	0.0235	0.00	Q				V
22+10	0.0235	0.00	Q				V
22+15	0.0235	0.00	Q				V
22+20	0.0236	0.00	Q				V
22+25	0.0236	0.00	Q				V
22+30	0.0236	0.00	Q				V
22+35	0.0236	0.00	Q				V
22+40	0.0236	0.00	Q				V
22+45	0.0236	0.00	Q				V
22+50	0.0237	0.00	Q				V
22+55	0.0237	0.00	Q				V
23+ 0	0.0237	0.00	Q				V
23+ 5	0.0237	0.00	Q				V
23+10	0.0237	0.00	Q				V
23+15	0.0237	0.00	Q				V
23+20	0.0238	0.00	Q				V
23+25	0.0238	0.00	Q				V
23+30	0.0238	0.00	Q				V
23+35	0.0238	0.00	Q				V
23+40	0.0238	0.00	Q				V
23+45	0.0238	0.00	Q				V
23+50	0.0239	0.00	Q				V
23+55	0.0239	0.00	Q				V

24+ 0	0.0239	0.00	Q				V
24+ 5	0.0239	0.00	Q				V
24+10	0.0239	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
5-Year
1-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	0.48	0.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	1.34	1.58

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.684(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.684(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	341.308	60.560
2	0.167	682.616	34.962
3	0.250	1023.924	4.478
Sum =		100.000	Sum= 1.189

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.361	(0.597)	0.325	0.036
2	0.17	4.50	0.369	(0.597)	0.332	0.037
3	0.25	5.40	0.443	(0.597)	0.399	0.044
4	0.33	5.40	0.443	(0.597)	0.399	0.044
5	0.42	5.70	0.468	(0.597)	0.421	0.047
6	0.50	6.40	0.525	(0.597)	0.473	0.053
7	0.58	7.90	0.648	(0.597)	0.583	0.065
8	0.67	9.10	0.747	0.597	(0.672)	0.149
9	0.75	12.80	1.050	0.597	(0.945)	0.453
10	0.83	25.60	2.100	0.597	(1.890)	1.503
11	0.92	7.90	0.648	(0.597)	0.583	0.065
12	1.00	4.90	0.402	(0.597)	0.362	0.040

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.5

Flood volume = Effective rainfall 0.21(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.47(In)
Total soil loss = 0.046(Ac.Ft)
Total rainfall = 0.68(In)
Flood volume = 905.1 Cubic Feet
Total soil loss = 2023.6 Cubic Feet

Peak flow rate of this hydrograph = 1.279(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0005	0.04	Q				
0+15	0.0008	0.05	QV				
0+20	0.0012	0.05	Q V				
0+25	0.0015	0.05	Q V				
0+30	0.0020	0.06	Q V				
0+35	0.0024	0.07	Q V				
0+40	0.0034	0.14	Q V				
0+45	0.0061	0.39	Q	V			
0+50	0.0149	1.28	Q		V		
0+55	0.0197	0.70	Q			V	

1+ 0	0.0206	0.14	Q				V
1+ 5	0.0208	0.02	Q				V
1+10	0.0208	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
5-Year
3-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	0.88	1.03

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	2.20	2.60

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.187(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.187(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.185	(0.597)	0.167	0.019
2	0.17	1.30	0.185	(0.597)	0.167	0.019
3	0.25	1.10	0.157	(0.597)	0.141	0.016
4	0.33	1.50	0.214	(0.597)	0.192	0.021
5	0.42	1.50	0.214	(0.597)	0.192	0.021
6	0.50	1.80	0.256	(0.597)	0.231	0.026
7	0.58	1.50	0.214	(0.597)	0.192	0.021
8	0.67	1.80	0.256	(0.597)	0.231	0.026
9	0.75	1.80	0.256	(0.597)	0.231	0.026
10	0.83	1.50	0.214	(0.597)	0.192	0.021
11	0.92	1.60	0.228	(0.597)	0.205	0.023
12	1.00	1.80	0.256	(0.597)	0.231	0.026
13	1.08	2.20	0.313	(0.597)	0.282	0.031
14	1.17	2.20	0.313	(0.597)	0.282	0.031
15	1.25	2.20	0.313	(0.597)	0.282	0.031
16	1.33	2.00	0.285	(0.597)	0.256	0.028
17	1.42	2.60	0.370	(0.597)	0.333	0.037
18	1.50	2.70	0.385	(0.597)	0.346	0.038
19	1.58	2.40	0.342	(0.597)	0.308	0.034
20	1.67	2.70	0.385	(0.597)	0.346	0.038
21	1.75	3.30	0.470	(0.597)	0.423	0.047
22	1.83	3.10	0.442	(0.597)	0.397	0.044
23	1.92	2.90	0.413	(0.597)	0.372	0.041
24	2.00	3.00	0.427	(0.597)	0.385	0.043
25	2.08	3.10	0.442	(0.597)	0.397	0.044
26	2.17	4.20	0.598	(0.597)	0.538	0.060
27	2.25	5.00	0.712	0.597	(0.641)	0.115
28	2.33	3.50	0.498	(0.597)	0.449	0.050
29	2.42	6.80	0.968	0.597	(0.872)	0.371
30	2.50	7.30	1.040	0.597	(0.936)	0.442
31	2.58	8.20	1.168	0.597	(1.051)	0.570
32	2.67	5.90	0.840	0.597	(0.756)	0.243
33	2.75	2.00	0.285	(0.597)	0.256	0.028
34	2.83	1.80	0.256	(0.597)	0.231	0.026
35	2.92	1.80	0.256	(0.597)	0.231	0.026
36	3.00	0.60	0.085	(0.597)	0.077	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.7

Flood volume = Effective rainfall $\times 0.22(\text{In})$

times area $1.2(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.0(\text{Ac.Ft})$

$$\text{Total soil loss} = 0.96(\text{In})$$

Total soil loss = 0.095(Ac.Ft)

Total rainfall = 1.19(In)

Flood volume = 961.1 Cubic Feet

Total soil loss = 4122.8 Cubic Feet

Peak flow rate of this hydrograph = 0.615(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.01	Q				
0+10	0.0002		0.02	Q				
0+15	0.0004		0.02	Q				
0+20	0.0005		0.02	Q				
0+25	0.0007		0.03	QV				
0+30	0.0009		0.03	QV				
0+35	0.0011		0.03	QV				
0+40	0.0013		0.03	Q V				
0+45	0.0015		0.03	Q V				
0+50	0.0017		0.03	Q V				
0+55	0.0019		0.03	Q V				
1+ 0	0.0021		0.03	Q V				
1+ 5	0.0023		0.03	Q V				
1+10	0.0026		0.04	Q V				
1+15	0.0028		0.04	Q V				
1+20	0.0031		0.04	Q V				
1+25	0.0033		0.04	Q V				
1+30	0.0036		0.04	Q V				
1+35	0.0039		0.04	Q V				
1+40	0.0042		0.04	Q V				
1+45	0.0046		0.05	Q V				
1+50	0.0050		0.05	Q V				
1+55	0.0053		0.05	Q V				
2+ 0	0.0057		0.05	Q V				
2+ 5	0.0060		0.05	Q V				
2+10	0.0065		0.06	Q V				
2+15	0.0072		0.11	Q V				
2+20	0.0078		0.09	Q V				
2+25	0.0098		0.29	Q V				
2+30	0.0131		0.48	Q V				
2+35	0.0173		0.61	Q V				
2+40	0.0203		0.44	Q V				
2+45	0.0214		0.15	Q V				
2+50	0.0217		0.04	Q V				
2+55	0.0219		0.03	Q V				
3+ 0	0.0220		0.02	Q V				
3+ 5	0.0221		0.00	Q V				
3+10	0.0221		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
5-Year
6-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	1.27	1.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	3.12	3.68

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.703(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.703(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.102	(0.597)	0.092	0.010
2	0.17	0.60	0.123	(0.597)	0.110	0.012
3	0.25	0.60	0.123	(0.597)	0.110	0.012
4	0.33	0.60	0.123	(0.597)	0.110	0.012
5	0.42	0.60	0.123	(0.597)	0.110	0.012
6	0.50	0.70	0.143	(0.597)	0.129	0.014
7	0.58	0.70	0.143	(0.597)	0.129	0.014
8	0.67	0.70	0.143	(0.597)	0.129	0.014
9	0.75	0.70	0.143	(0.597)	0.129	0.014
10	0.83	0.70	0.143	(0.597)	0.129	0.014
11	0.92	0.70	0.143	(0.597)	0.129	0.014
12	1.00	0.80	0.164	(0.597)	0.147	0.016
13	1.08	0.80	0.164	(0.597)	0.147	0.016
14	1.17	0.80	0.164	(0.597)	0.147	0.016
15	1.25	0.80	0.164	(0.597)	0.147	0.016
16	1.33	0.80	0.164	(0.597)	0.147	0.016
17	1.42	0.80	0.164	(0.597)	0.147	0.016
18	1.50	0.80	0.164	(0.597)	0.147	0.016
19	1.58	0.80	0.164	(0.597)	0.147	0.016
20	1.67	0.80	0.164	(0.597)	0.147	0.016
21	1.75	0.80	0.164	(0.597)	0.147	0.016
22	1.83	0.80	0.164	(0.597)	0.147	0.016
23	1.92	0.80	0.164	(0.597)	0.147	0.016
24	2.00	0.90	0.184	(0.597)	0.166	0.018
25	2.08	0.80	0.164	(0.597)	0.147	0.016
26	2.17	0.90	0.184	(0.597)	0.166	0.018
27	2.25	0.90	0.184	(0.597)	0.166	0.018
28	2.33	0.90	0.184	(0.597)	0.166	0.018
29	2.42	0.90	0.184	(0.597)	0.166	0.018
30	2.50	0.90	0.184	(0.597)	0.166	0.018
31	2.58	0.90	0.184	(0.597)	0.166	0.018
32	2.67	0.90	0.184	(0.597)	0.166	0.018
33	2.75	1.00	0.204	(0.597)	0.184	0.020
34	2.83	1.00	0.204	(0.597)	0.184	0.020
35	2.92	1.00	0.204	(0.597)	0.184	0.020
36	3.00	1.00	0.204	(0.597)	0.184	0.020
37	3.08	1.00	0.204	(0.597)	0.184	0.020
38	3.17	1.10	0.225	(0.597)	0.202	0.022
39	3.25	1.10	0.225	(0.597)	0.202	0.022
40	3.33	1.10	0.225	(0.597)	0.202	0.022
41	3.42	1.20	0.245	(0.597)	0.221	0.025
42	3.50	1.30	0.266	(0.597)	0.239	0.027
43	3.58	1.40	0.286	(0.597)	0.258	0.029
44	3.67	1.40	0.286	(0.597)	0.258	0.029
45	3.75	1.50	0.307	(0.597)	0.276	0.031
46	3.83	1.50	0.307	(0.597)	0.276	0.031

47	3.92	1.60	0.327	(0.597)	0.294	0.033
48	4.00	1.60	0.327	(0.597)	0.294	0.033
49	4.08	1.70	0.347	(0.597)	0.313	0.035
50	4.17	1.80	0.368	(0.597)	0.331	0.037
51	4.25	1.90	0.388	(0.597)	0.350	0.039
52	4.33	2.00	0.409	(0.597)	0.368	0.041
53	4.42	2.10	0.429	(0.597)	0.386	0.043
54	4.50	2.10	0.429	(0.597)	0.386	0.043
55	4.58	2.20	0.450	(0.597)	0.405	0.045
56	4.67	2.30	0.470	(0.597)	0.423	0.047
57	4.75	2.40	0.491	(0.597)	0.441	0.049
58	4.83	2.40	0.491	(0.597)	0.441	0.049
59	4.92	2.50	0.511	(0.597)	0.460	0.051
60	5.00	2.60	0.531	(0.597)	0.478	0.053
61	5.08	3.10	0.634	(0.597)	0.570	0.063
62	5.17	3.60	0.736	0.597	(0.662)	0.138
63	5.25	3.90	0.797	0.597	(0.717)	0.200
64	5.33	4.20	0.858	0.597	(0.773)	0.261
65	5.42	4.70	0.961	0.597	(0.865)	0.363
66	5.50	5.60	1.145	0.597	(1.030)	0.547
67	5.58	1.90	0.388	(0.597)	0.350	0.039
68	5.67	0.90	0.184	(0.597)	0.166	0.018
69	5.75	0.60	0.123	(0.597)	0.110	0.012
70	5.83	0.50	0.102	(0.597)	0.092	0.010
71	5.92	0.30	0.061	(0.597)	0.055	0.006
72	6.00	0.20	0.041	(0.597)	0.037	0.004

(Loss Rate Not Used)

Sum = 100.0

Sum = 3.1

Flood volume = Effective rainfall 0.26(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.44(In)
Total soil loss = 0.142(Ac.Ft)
Total rainfall = 1.70(In)
Flood volume = 1107.8 Cubic Feet
Total soil loss = 6188.1 Cubic Feet

Peak flow rate of this hydrograph = 0.559(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0

0+ 5	0.0001	0.01	Q					
0+10	0.0001	0.01	Q					
0+15	0.0002	0.01	Q					

0+20	0.0003	0.01	Q				
0+25	0.0004	0.01	Q				
0+30	0.0006	0.02	Q				
0+35	0.0007	0.02	QV				
0+40	0.0008	0.02	QV				
0+45	0.0009	0.02	QV				
0+50	0.0010	0.02	QV				
0+55	0.0011	0.02	QV				
1+ 0	0.0013	0.02	QV				
1+ 5	0.0014	0.02	Q V				
1+10	0.0015	0.02	Q V				
1+15	0.0017	0.02	Q V				
1+20	0.0018	0.02	Q V				
1+25	0.0019	0.02	Q V				
1+30	0.0021	0.02	Q V				
1+35	0.0022	0.02	Q V				
1+40	0.0023	0.02	Q V				
1+45	0.0025	0.02	Q V				
1+50	0.0026	0.02	Q V				
1+55	0.0027	0.02	Q V				
2+ 0	0.0029	0.02	Q V				
2+ 5	0.0030	0.02	Q V				
2+10	0.0032	0.02	Q V				
2+15	0.0033	0.02	Q V				
2+20	0.0035	0.02	Q V				
2+25	0.0036	0.02	Q V				
2+30	0.0038	0.02	Q V				
2+35	0.0039	0.02	Q V				
2+40	0.0041	0.02	Q V				
2+45	0.0042	0.02	Q V				
2+50	0.0044	0.02	Q V				
2+55	0.0046	0.02	Q V				
3+ 0	0.0047	0.02	Q V				
3+ 5	0.0049	0.02	Q V				
3+10	0.0051	0.03	Q V				
3+15	0.0053	0.03	Q V				
3+20	0.0054	0.03	Q V				
3+25	0.0056	0.03	Q V				
3+30	0.0059	0.03	Q V				
3+35	0.0061	0.03	Q V				
3+40	0.0063	0.03	Q V				
3+45	0.0066	0.04	Q V				
3+50	0.0068	0.04	Q V				
3+55	0.0071	0.04	Q V				
4+ 0	0.0073	0.04	Q V				
4+ 5	0.0076	0.04	Q V				
4+10	0.0079	0.04	Q V				
4+15	0.0082	0.05	Q V				
4+20	0.0085	0.05	Q V				
4+25	0.0089	0.05	Q V				

4+30	0.0092	0.05	Q		V				
4+35	0.0096	0.05	Q		V				
4+40	0.0100	0.05	Q		V				
4+45	0.0104	0.06	Q		V				
4+50	0.0108	0.06	Q		V				
4+55	0.0112	0.06	Q		V				
5+ 0	0.0116	0.06	Q		V				
5+ 5	0.0121	0.07	Q		V				
5+10	0.0130	0.13	Q		V				
5+15	0.0144	0.20	Q			V			
5+20	0.0163	0.28	Q				V		
5+25	0.0189	0.38	Q					V	
5+30	0.0228	0.56	Q						V
5+35	0.0247	0.27	Q						V
5+40	0.0251	0.06	Q						V
5+45	0.0252	0.02	Q						V
5+50	0.0253	0.01	Q						V
5+55	0.0254	0.01	Q						V
6+ 0	0.0254	0.01	Q						V
6+ 5	0.0254	0.00	Q						V
6+10	0.0254	0.00	Q						V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
5-Year
24-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	2.43	2.87

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	6.58	7.76

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 3.402(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.402(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	47.4	0.597	0.000	0.597	1.000	0.597
Sum (F) =						0.597

Area averaged mean soil loss (F) (In/Hr) = 0.597
Minimum soil loss rate ((In/Hr)) = 0.299
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.027	(1.059)	0.024	0.003
2	0.17	0.07	0.027	(1.055)	0.024	0.003
3	0.25	0.07	0.027	(1.051)	0.024	0.003
4	0.33	0.10	0.041	(1.047)	0.037	0.004
5	0.42	0.10	0.041	(1.043)	0.037	0.004
6	0.50	0.10	0.041	(1.039)	0.037	0.004
7	0.58	0.10	0.041	(1.035)	0.037	0.004
8	0.67	0.10	0.041	(1.031)	0.037	0.004
9	0.75	0.10	0.041	(1.027)	0.037	0.004
10	0.83	0.13	0.054	(1.023)	0.049	0.005
11	0.92	0.13	0.054	(1.019)	0.049	0.005
12	1.00	0.13	0.054	(1.015)	0.049	0.005
13	1.08	0.10	0.041	(1.011)	0.037	0.004
14	1.17	0.10	0.041	(1.007)	0.037	0.004
15	1.25	0.10	0.041	(1.003)	0.037	0.004
16	1.33	0.10	0.041	(0.999)	0.037	0.004
17	1.42	0.10	0.041	(0.995)	0.037	0.004
18	1.50	0.10	0.041	(0.991)	0.037	0.004
19	1.58	0.10	0.041	(0.987)	0.037	0.004
20	1.67	0.10	0.041	(0.983)	0.037	0.004
21	1.75	0.10	0.041	(0.979)	0.037	0.004
22	1.83	0.13	0.054	(0.975)	0.049	0.005
23	1.92	0.13	0.054	(0.971)	0.049	0.005
24	2.00	0.13	0.054	(0.967)	0.049	0.005
25	2.08	0.13	0.054	(0.963)	0.049	0.005
26	2.17	0.13	0.054	(0.959)	0.049	0.005
27	2.25	0.13	0.054	(0.955)	0.049	0.005
28	2.33	0.13	0.054	(0.951)	0.049	0.005
29	2.42	0.13	0.054	(0.947)	0.049	0.005
30	2.50	0.13	0.054	(0.944)	0.049	0.005
31	2.58	0.17	0.068	(0.940)	0.061	0.007
32	2.67	0.17	0.068	(0.936)	0.061	0.007
33	2.75	0.17	0.068	(0.932)	0.061	0.007
34	2.83	0.17	0.068	(0.928)	0.061	0.007
35	2.92	0.17	0.068	(0.924)	0.061	0.007
36	3.00	0.17	0.068	(0.921)	0.061	0.007
37	3.08	0.17	0.068	(0.917)	0.061	0.007
38	3.17	0.17	0.068	(0.913)	0.061	0.007
39	3.25	0.17	0.068	(0.909)	0.061	0.007
40	3.33	0.17	0.068	(0.905)	0.061	0.007
41	3.42	0.17	0.068	(0.902)	0.061	0.007
42	3.50	0.17	0.068	(0.898)	0.061	0.007
43	3.58	0.17	0.068	(0.894)	0.061	0.007
44	3.67	0.17	0.068	(0.890)	0.061	0.007
45	3.75	0.17	0.068	(0.887)	0.061	0.007
46	3.83	0.20	0.082	(0.883)	0.073	0.008

47	3.92	0.20	0.082	(0.879)	0.073	0.008
48	4.00	0.20	0.082	(0.875)	0.073	0.008
49	4.08	0.20	0.082	(0.872)	0.073	0.008
50	4.17	0.20	0.082	(0.868)	0.073	0.008
51	4.25	0.20	0.082	(0.864)	0.073	0.008
52	4.33	0.23	0.095	(0.861)	0.086	0.010
53	4.42	0.23	0.095	(0.857)	0.086	0.010
54	4.50	0.23	0.095	(0.853)	0.086	0.010
55	4.58	0.23	0.095	(0.850)	0.086	0.010
56	4.67	0.23	0.095	(0.846)	0.086	0.010
57	4.75	0.23	0.095	(0.842)	0.086	0.010
58	4.83	0.27	0.109	(0.839)	0.098	0.011
59	4.92	0.27	0.109	(0.835)	0.098	0.011
60	5.00	0.27	0.109	(0.831)	0.098	0.011
61	5.08	0.20	0.082	(0.828)	0.073	0.008
62	5.17	0.20	0.082	(0.824)	0.073	0.008
63	5.25	0.20	0.082	(0.821)	0.073	0.008
64	5.33	0.23	0.095	(0.817)	0.086	0.010
65	5.42	0.23	0.095	(0.813)	0.086	0.010
66	5.50	0.23	0.095	(0.810)	0.086	0.010
67	5.58	0.27	0.109	(0.806)	0.098	0.011
68	5.67	0.27	0.109	(0.803)	0.098	0.011
69	5.75	0.27	0.109	(0.799)	0.098	0.011
70	5.83	0.27	0.109	(0.796)	0.098	0.011
71	5.92	0.27	0.109	(0.792)	0.098	0.011
72	6.00	0.27	0.109	(0.789)	0.098	0.011
73	6.08	0.30	0.122	(0.785)	0.110	0.012
74	6.17	0.30	0.122	(0.782)	0.110	0.012
75	6.25	0.30	0.122	(0.778)	0.110	0.012
76	6.33	0.30	0.122	(0.775)	0.110	0.012
77	6.42	0.30	0.122	(0.771)	0.110	0.012
78	6.50	0.30	0.122	(0.768)	0.110	0.012
79	6.58	0.33	0.136	(0.764)	0.122	0.014
80	6.67	0.33	0.136	(0.761)	0.122	0.014
81	6.75	0.33	0.136	(0.757)	0.122	0.014
82	6.83	0.33	0.136	(0.754)	0.122	0.014
83	6.92	0.33	0.136	(0.751)	0.122	0.014
84	7.00	0.33	0.136	(0.747)	0.122	0.014
85	7.08	0.33	0.136	(0.744)	0.122	0.014
86	7.17	0.33	0.136	(0.740)	0.122	0.014
87	7.25	0.33	0.136	(0.737)	0.122	0.014
88	7.33	0.37	0.150	(0.734)	0.135	0.015
89	7.42	0.37	0.150	(0.730)	0.135	0.015
90	7.50	0.37	0.150	(0.727)	0.135	0.015
91	7.58	0.40	0.163	(0.724)	0.147	0.016
92	7.67	0.40	0.163	(0.720)	0.147	0.016
93	7.75	0.40	0.163	(0.717)	0.147	0.016
94	7.83	0.43	0.177	(0.714)	0.159	0.018
95	7.92	0.43	0.177	(0.710)	0.159	0.018
96	8.00	0.43	0.177	(0.707)	0.159	0.018

97	8.08	0.50	0.204	(0.704)	0.184	0.020
98	8.17	0.50	0.204	(0.701)	0.184	0.020
99	8.25	0.50	0.204	(0.697)	0.184	0.020
100	8.33	0.50	0.204	(0.694)	0.184	0.020
101	8.42	0.50	0.204	(0.691)	0.184	0.020
102	8.50	0.50	0.204	(0.688)	0.184	0.020
103	8.58	0.53	0.218	(0.684)	0.196	0.022
104	8.67	0.53	0.218	(0.681)	0.196	0.022
105	8.75	0.53	0.218	(0.678)	0.196	0.022
106	8.83	0.57	0.231	(0.675)	0.208	0.023
107	8.92	0.57	0.231	(0.671)	0.208	0.023
108	9.00	0.57	0.231	(0.668)	0.208	0.023
109	9.08	0.63	0.259	(0.665)	0.233	0.026
110	9.17	0.63	0.259	(0.662)	0.233	0.026
111	9.25	0.63	0.259	(0.659)	0.233	0.026
112	9.33	0.67	0.272	(0.656)	0.245	0.027
113	9.42	0.67	0.272	(0.653)	0.245	0.027
114	9.50	0.67	0.272	(0.649)	0.245	0.027
115	9.58	0.70	0.286	(0.646)	0.257	0.029
116	9.67	0.70	0.286	(0.643)	0.257	0.029
117	9.75	0.70	0.286	(0.640)	0.257	0.029
118	9.83	0.73	0.299	(0.637)	0.269	0.030
119	9.92	0.73	0.299	(0.634)	0.269	0.030
120	10.00	0.73	0.299	(0.631)	0.269	0.030
121	10.08	0.50	0.204	(0.628)	0.184	0.020
122	10.17	0.50	0.204	(0.625)	0.184	0.020
123	10.25	0.50	0.204	(0.622)	0.184	0.020
124	10.33	0.50	0.204	(0.619)	0.184	0.020
125	10.42	0.50	0.204	(0.616)	0.184	0.020
126	10.50	0.50	0.204	(0.613)	0.184	0.020
127	10.58	0.67	0.272	(0.610)	0.245	0.027
128	10.67	0.67	0.272	(0.607)	0.245	0.027
129	10.75	0.67	0.272	(0.604)	0.245	0.027
130	10.83	0.67	0.272	(0.601)	0.245	0.027
131	10.92	0.67	0.272	(0.598)	0.245	0.027
132	11.00	0.67	0.272	(0.595)	0.245	0.027
133	11.08	0.63	0.259	(0.592)	0.233	0.026
134	11.17	0.63	0.259	(0.589)	0.233	0.026
135	11.25	0.63	0.259	(0.586)	0.233	0.026
136	11.33	0.63	0.259	(0.583)	0.233	0.026
137	11.42	0.63	0.259	(0.580)	0.233	0.026
138	11.50	0.63	0.259	(0.578)	0.233	0.026
139	11.58	0.57	0.231	(0.575)	0.208	0.023
140	11.67	0.57	0.231	(0.572)	0.208	0.023
141	11.75	0.57	0.231	(0.569)	0.208	0.023
142	11.83	0.60	0.245	(0.566)	0.220	0.024
143	11.92	0.60	0.245	(0.563)	0.220	0.024
144	12.00	0.60	0.245	(0.561)	0.220	0.024
145	12.08	0.83	0.340	(0.558)	0.306	0.034
146	12.17	0.83	0.340	(0.555)	0.306	0.034

147	12.25	0.83	0.340	(0.552)	0.306	0.034
148	12.33	0.87	0.354	(0.549)	0.318	0.035
149	12.42	0.87	0.354	(0.547)	0.318	0.035
150	12.50	0.87	0.354	(0.544)	0.318	0.035
151	12.58	0.93	0.381	(0.541)	0.343	0.038
152	12.67	0.93	0.381	(0.538)	0.343	0.038
153	12.75	0.93	0.381	(0.536)	0.343	0.038
154	12.83	0.97	0.395	(0.533)	0.355	0.039
155	12.92	0.97	0.395	(0.530)	0.355	0.039
156	13.00	0.97	0.395	(0.528)	0.355	0.039
157	13.08	1.13	0.463	(0.525)	0.416	0.046
158	13.17	1.13	0.463	(0.522)	0.416	0.046
159	13.25	1.13	0.463	(0.520)	0.416	0.046
160	13.33	1.13	0.463	(0.517)	0.416	0.046
161	13.42	1.13	0.463	(0.514)	0.416	0.046
162	13.50	1.13	0.463	(0.512)	0.416	0.046
163	13.58	0.77	0.313	(0.509)	0.282	0.031
164	13.67	0.77	0.313	(0.507)	0.282	0.031
165	13.75	0.77	0.313	(0.504)	0.282	0.031
166	13.83	0.77	0.313	(0.501)	0.282	0.031
167	13.92	0.77	0.313	(0.499)	0.282	0.031
168	14.00	0.77	0.313	(0.496)	0.282	0.031
169	14.08	0.90	0.367	(0.494)	0.331	0.037
170	14.17	0.90	0.367	(0.491)	0.331	0.037
171	14.25	0.90	0.367	(0.489)	0.331	0.037
172	14.33	0.87	0.354	(0.486)	0.318	0.035
173	14.42	0.87	0.354	(0.484)	0.318	0.035
174	14.50	0.87	0.354	(0.481)	0.318	0.035
175	14.58	0.87	0.354	(0.479)	0.318	0.035
176	14.67	0.87	0.354	(0.476)	0.318	0.035
177	14.75	0.87	0.354	(0.474)	0.318	0.035
178	14.83	0.83	0.340	(0.471)	0.306	0.034
179	14.92	0.83	0.340	(0.469)	0.306	0.034
180	15.00	0.83	0.340	(0.467)	0.306	0.034
181	15.08	0.80	0.327	(0.464)	0.294	0.033
182	15.17	0.80	0.327	(0.462)	0.294	0.033
183	15.25	0.80	0.327	(0.460)	0.294	0.033
184	15.33	0.77	0.313	(0.457)	0.282	0.031
185	15.42	0.77	0.313	(0.455)	0.282	0.031
186	15.50	0.77	0.313	(0.452)	0.282	0.031
187	15.58	0.63	0.259	(0.450)	0.233	0.026
188	15.67	0.63	0.259	(0.448)	0.233	0.026
189	15.75	0.63	0.259	(0.446)	0.233	0.026
190	15.83	0.63	0.259	(0.443)	0.233	0.026
191	15.92	0.63	0.259	(0.441)	0.233	0.026
192	16.00	0.63	0.259	(0.439)	0.233	0.026
193	16.08	0.13	0.054	(0.437)	0.049	0.005
194	16.17	0.13	0.054	(0.434)	0.049	0.005
195	16.25	0.13	0.054	(0.432)	0.049	0.005
196	16.33	0.13	0.054	(0.430)	0.049	0.005

197	16.42	0.13	0.054	(0.428)	0.049	0.005
198	16.50	0.13	0.054	(0.425)	0.049	0.005
199	16.58	0.10	0.041	(0.423)	0.037	0.004
200	16.67	0.10	0.041	(0.421)	0.037	0.004
201	16.75	0.10	0.041	(0.419)	0.037	0.004
202	16.83	0.10	0.041	(0.417)	0.037	0.004
203	16.92	0.10	0.041	(0.415)	0.037	0.004
204	17.00	0.10	0.041	(0.413)	0.037	0.004
205	17.08	0.17	0.068	(0.411)	0.061	0.007
206	17.17	0.17	0.068	(0.409)	0.061	0.007
207	17.25	0.17	0.068	(0.407)	0.061	0.007
208	17.33	0.17	0.068	(0.404)	0.061	0.007
209	17.42	0.17	0.068	(0.402)	0.061	0.007
210	17.50	0.17	0.068	(0.400)	0.061	0.007
211	17.58	0.17	0.068	(0.398)	0.061	0.007
212	17.67	0.17	0.068	(0.396)	0.061	0.007
213	17.75	0.17	0.068	(0.394)	0.061	0.007
214	17.83	0.13	0.054	(0.392)	0.049	0.005
215	17.92	0.13	0.054	(0.391)	0.049	0.005
216	18.00	0.13	0.054	(0.389)	0.049	0.005
217	18.08	0.13	0.054	(0.387)	0.049	0.005
218	18.17	0.13	0.054	(0.385)	0.049	0.005
219	18.25	0.13	0.054	(0.383)	0.049	0.005
220	18.33	0.13	0.054	(0.381)	0.049	0.005
221	18.42	0.13	0.054	(0.379)	0.049	0.005
222	18.50	0.13	0.054	(0.377)	0.049	0.005
223	18.58	0.10	0.041	(0.376)	0.037	0.004
224	18.67	0.10	0.041	(0.374)	0.037	0.004
225	18.75	0.10	0.041	(0.372)	0.037	0.004
226	18.83	0.07	0.027	(0.370)	0.024	0.003
227	18.92	0.07	0.027	(0.368)	0.024	0.003
228	19.00	0.07	0.027	(0.367)	0.024	0.003
229	19.08	0.10	0.041	(0.365)	0.037	0.004
230	19.17	0.10	0.041	(0.363)	0.037	0.004
231	19.25	0.10	0.041	(0.361)	0.037	0.004
232	19.33	0.13	0.054	(0.360)	0.049	0.005
233	19.42	0.13	0.054	(0.358)	0.049	0.005
234	19.50	0.13	0.054	(0.356)	0.049	0.005
235	19.58	0.10	0.041	(0.355)	0.037	0.004
236	19.67	0.10	0.041	(0.353)	0.037	0.004
237	19.75	0.10	0.041	(0.352)	0.037	0.004
238	19.83	0.07	0.027	(0.350)	0.024	0.003
239	19.92	0.07	0.027	(0.348)	0.024	0.003
240	20.00	0.07	0.027	(0.347)	0.024	0.003
241	20.08	0.10	0.041	(0.345)	0.037	0.004
242	20.17	0.10	0.041	(0.344)	0.037	0.004
243	20.25	0.10	0.041	(0.342)	0.037	0.004
244	20.33	0.10	0.041	(0.341)	0.037	0.004
245	20.42	0.10	0.041	(0.339)	0.037	0.004
246	20.50	0.10	0.041	(0.338)	0.037	0.004

247	20.58	0.10	0.041	(0.337)	0.037	0.004
248	20.67	0.10	0.041	(0.335)	0.037	0.004
249	20.75	0.10	0.041	(0.334)	0.037	0.004
250	20.83	0.07	0.027	(0.332)	0.024	0.003
251	20.92	0.07	0.027	(0.331)	0.024	0.003
252	21.00	0.07	0.027	(0.330)	0.024	0.003
253	21.08	0.10	0.041	(0.328)	0.037	0.004
254	21.17	0.10	0.041	(0.327)	0.037	0.004
255	21.25	0.10	0.041	(0.326)	0.037	0.004
256	21.33	0.07	0.027	(0.325)	0.024	0.003
257	21.42	0.07	0.027	(0.323)	0.024	0.003
258	21.50	0.07	0.027	(0.322)	0.024	0.003
259	21.58	0.10	0.041	(0.321)	0.037	0.004
260	21.67	0.10	0.041	(0.320)	0.037	0.004
261	21.75	0.10	0.041	(0.319)	0.037	0.004
262	21.83	0.07	0.027	(0.318)	0.024	0.003
263	21.92	0.07	0.027	(0.317)	0.024	0.003
264	22.00	0.07	0.027	(0.315)	0.024	0.003
265	22.08	0.10	0.041	(0.314)	0.037	0.004
266	22.17	0.10	0.041	(0.313)	0.037	0.004
267	22.25	0.10	0.041	(0.312)	0.037	0.004
268	22.33	0.07	0.027	(0.311)	0.024	0.003
269	22.42	0.07	0.027	(0.310)	0.024	0.003
270	22.50	0.07	0.027	(0.310)	0.024	0.003
271	22.58	0.07	0.027	(0.309)	0.024	0.003
272	22.67	0.07	0.027	(0.308)	0.024	0.003
273	22.75	0.07	0.027	(0.307)	0.024	0.003
274	22.83	0.07	0.027	(0.306)	0.024	0.003
275	22.92	0.07	0.027	(0.305)	0.024	0.003
276	23.00	0.07	0.027	(0.305)	0.024	0.003
277	23.08	0.07	0.027	(0.304)	0.024	0.003
278	23.17	0.07	0.027	(0.303)	0.024	0.003
279	23.25	0.07	0.027	(0.303)	0.024	0.003
280	23.33	0.07	0.027	(0.302)	0.024	0.003
281	23.42	0.07	0.027	(0.301)	0.024	0.003
282	23.50	0.07	0.027	(0.301)	0.024	0.003
283	23.58	0.07	0.027	(0.300)	0.024	0.003
284	23.67	0.07	0.027	(0.300)	0.024	0.003
285	23.75	0.07	0.027	(0.300)	0.024	0.003
286	23.83	0.07	0.027	(0.299)	0.024	0.003
287	23.92	0.07	0.027	(0.299)	0.024	0.003
288	24.00	0.07	0.027	(0.299)	0.024	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.1

Flood volume = Effective rainfall 0.34(In)
times area 1.2(Ac.)/[(In)/(Ft.)) = 0.0(Ac.Ft)
Total soil loss = 3.06(In)
Total soil loss = 0.301(Ac.Ft)
Total rainfall = 3.40(In)
Flood volume = 1457.2 Cubic Feet

Total soil loss = 13115.0 Cubic Feet

Peak flow rate of this hydrograph = 0.055(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0002	0.00	Q				
0+35	0.0002	0.00	Q				
0+40	0.0002	0.00	Q				
0+45	0.0003	0.00	Q				
0+50	0.0003	0.01	Q				
0+55	0.0003	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0004	0.01	Q				
1+10	0.0005	0.00	Q				
1+15	0.0005	0.00	Q				
1+20	0.0005	0.00	Q				
1+25	0.0006	0.00	Q				
1+30	0.0006	0.00	Q				
1+35	0.0006	0.00	Q				
1+40	0.0007	0.00	Q				
1+45	0.0007	0.00	Q				
1+50	0.0007	0.01	Q				
1+55	0.0008	0.01	Q				
2+ 0	0.0008	0.01	Q				
2+ 5	0.0009	0.01	QV				
2+10	0.0009	0.01	QV				
2+15	0.0010	0.01	QV				
2+20	0.0010	0.01	QV				
2+25	0.0010	0.01	QV				
2+30	0.0011	0.01	QV				
2+35	0.0011	0.01	QV				
2+40	0.0012	0.01	QV				
2+45	0.0012	0.01	QV				
2+50	0.0013	0.01	QV				
2+55	0.0014	0.01	QV				
3+ 0	0.0014	0.01	QV				
3+ 5	0.0015	0.01	QV				

3+10	0.0015	0.01	QV				
3+15	0.0016	0.01	QV				
3+20	0.0016	0.01	QV				
3+25	0.0017	0.01	Q V				
3+30	0.0017	0.01	Q V				
3+35	0.0018	0.01	Q V				
3+40	0.0019	0.01	Q V				
3+45	0.0019	0.01	Q V				
3+50	0.0020	0.01	Q V				
3+55	0.0020	0.01	Q V				
4+ 0	0.0021	0.01	Q V				
4+ 5	0.0022	0.01	Q V				
4+10	0.0022	0.01	Q V				
4+15	0.0023	0.01	Q V				
4+20	0.0024	0.01	Q V				
4+25	0.0025	0.01	Q V				
4+30	0.0025	0.01	Q V				
4+35	0.0026	0.01	Q V				
4+40	0.0027	0.01	Q V				
4+45	0.0028	0.01	Q V				
4+50	0.0029	0.01	Q V				
4+55	0.0029	0.01	Q V				
5+ 0	0.0030	0.01	Q V				
5+ 5	0.0031	0.01	Q V				
5+10	0.0032	0.01	Q V				
5+15	0.0032	0.01	Q V				
5+20	0.0033	0.01	Q V				
5+25	0.0034	0.01	Q V				
5+30	0.0035	0.01	Q V				
5+35	0.0036	0.01	Q V				
5+40	0.0037	0.01	Q V				
5+45	0.0037	0.01	Q V				
5+50	0.0038	0.01	Q V				
5+55	0.0039	0.01	Q V				
6+ 0	0.0040	0.01	Q V				
6+ 5	0.0041	0.01	Q V				
6+10	0.0042	0.01	Q V				
6+15	0.0043	0.01	Q V				
6+20	0.0044	0.01	Q V				
6+25	0.0045	0.01	Q V				
6+30	0.0046	0.01	Q V				
6+35	0.0047	0.02	Q V				
6+40	0.0048	0.02	Q V				
6+45	0.0049	0.02	Q V				
6+50	0.0050	0.02	Q V				
6+55	0.0052	0.02	Q V				
7+ 0	0.0053	0.02	Q V				
7+ 5	0.0054	0.02	Q V				
7+10	0.0055	0.02	Q V				
7+15	0.0056	0.02	Q V				

7+20	0.0057	0.02	Q	V				
7+25	0.0058	0.02	Q	V				
7+30	0.0060	0.02	Q	V				
7+35	0.0061	0.02	Q	V				
7+40	0.0062	0.02	Q	V				
7+45	0.0064	0.02	Q	V				
7+50	0.0065	0.02	Q	V				
7+55	0.0066	0.02	Q	V				
8+ 0	0.0068	0.02	Q	V				
8+ 5	0.0070	0.02	Q	V				
8+10	0.0071	0.02	Q	V				
8+15	0.0073	0.02	Q	V				
8+20	0.0075	0.02	Q	V				
8+25	0.0076	0.02	Q	V				
8+30	0.0078	0.02	Q	V				
8+35	0.0080	0.03	Q	V				
8+40	0.0081	0.03	Q	V				
8+45	0.0083	0.03	Q	V				
8+50	0.0085	0.03	Q	V				
8+55	0.0087	0.03	Q	V				
9+ 0	0.0089	0.03	Q	V				
9+ 5	0.0091	0.03	Q	V				
9+10	0.0093	0.03	Q	V				
9+15	0.0095	0.03	Q	V				
9+20	0.0097	0.03	Q	V				
9+25	0.0099	0.03	Q	V				
9+30	0.0102	0.03	Q	V				
9+35	0.0104	0.03	Q	V				
9+40	0.0106	0.03	Q	V				
9+45	0.0109	0.03	Q	V				
9+50	0.0111	0.03	Q	V				
9+55	0.0114	0.04	Q	V				
10+ 0	0.0116	0.04	Q	V				
10+ 5	0.0118	0.03	Q	V				
10+10	0.0120	0.02	Q	V				
10+15	0.0121	0.02	Q	V				
10+20	0.0123	0.02	Q	V				
10+25	0.0125	0.02	Q	V				
10+30	0.0126	0.02	Q	V				
10+35	0.0128	0.03	Q	V				
10+40	0.0131	0.03	Q	V				
10+45	0.0133	0.03	Q	V				
10+50	0.0135	0.03	Q	V				
10+55	0.0137	0.03	Q	V				
11+ 0	0.0140	0.03	Q	V				
11+ 5	0.0142	0.03	Q	V				
11+10	0.0144	0.03	Q	V				
11+15	0.0146	0.03	Q	V				
11+20	0.0148	0.03	Q	V				
11+25	0.0150	0.03	Q	V				

11+30	0.0152	0.03	Q	V			
11+35	0.0154	0.03	Q	V			
11+40	0.0156	0.03	Q	V			
11+45	0.0158	0.03	Q	V			
11+50	0.0160	0.03	Q	V			
11+55	0.0162	0.03	Q	V			
12+ 0	0.0164	0.03	Q	V			
12+ 5	0.0167	0.04	Q	V			
12+10	0.0169	0.04	Q	V			
12+15	0.0172	0.04	Q	V			
12+20	0.0175	0.04	Q	V			
12+25	0.0178	0.04	Q	V			
12+30	0.0181	0.04	Q	V			
12+35	0.0184	0.04	Q	V			
12+40	0.0187	0.05	Q	V			
12+45	0.0190	0.05	Q	V			
12+50	0.0193	0.05	Q	V			
12+55	0.0196	0.05	Q	V			
13+ 0	0.0200	0.05	Q	V			
13+ 5	0.0203	0.05	Q	V			
13+10	0.0207	0.05	Q	V			
13+15	0.0211	0.06	Q	V			
13+20	0.0215	0.06	Q	V			
13+25	0.0218	0.06	Q	V			
13+30	0.0222	0.06	Q	V			
13+35	0.0225	0.04	Q	V			
13+40	0.0228	0.04	Q	V			
13+45	0.0230	0.04	Q	V			
13+50	0.0233	0.04	Q	V			
13+55	0.0235	0.04	Q	V			
14+ 0	0.0238	0.04	Q	V			
14+ 5	0.0241	0.04	Q	V			
14+10	0.0244	0.04	Q	V			
14+15	0.0247	0.04	Q	V			
14+20	0.0250	0.04	Q	V			
14+25	0.0253	0.04	Q	V			
14+30	0.0256	0.04	Q	V			
14+35	0.0259	0.04	Q	V			
14+40	0.0261	0.04	Q	V			
14+45	0.0264	0.04	Q	V			
14+50	0.0267	0.04	Q	V			
14+55	0.0270	0.04	Q	V			
15+ 0	0.0273	0.04	Q	V			
15+ 5	0.0275	0.04	Q	V			
15+10	0.0278	0.04	Q	V			
15+15	0.0281	0.04	Q	V			
15+20	0.0283	0.04	Q	V			
15+25	0.0286	0.04	Q	V			
15+30	0.0289	0.04	Q	V			
15+35	0.0291	0.03	Q	V			

15+40	0.0293	0.03	Q				V
15+45	0.0295	0.03	Q				V
15+50	0.0297	0.03	Q				V
15+55	0.0299	0.03	Q				V
16+ 0	0.0301	0.03	Q				V
16+ 5	0.0303	0.02	Q				V
16+10	0.0303	0.01	Q				V
16+15	0.0304	0.01	Q				V
16+20	0.0304	0.01	Q				V
16+25	0.0304	0.01	Q				V
16+30	0.0305	0.01	Q				V
16+35	0.0305	0.01	Q				V
16+40	0.0306	0.00	Q				V
16+45	0.0306	0.00	Q				V
16+50	0.0306	0.00	Q				V
16+55	0.0307	0.00	Q				V
17+ 0	0.0307	0.00	Q				V
17+ 5	0.0307	0.01	Q				V
17+10	0.0308	0.01	Q				V
17+15	0.0309	0.01	Q				V
17+20	0.0309	0.01	Q				V
17+25	0.0310	0.01	Q				V
17+30	0.0310	0.01	Q				V
17+35	0.0311	0.01	Q				V
17+40	0.0311	0.01	Q				V
17+45	0.0312	0.01	Q				V
17+50	0.0312	0.01	Q				V
17+55	0.0313	0.01	Q				V
18+ 0	0.0313	0.01	Q				V
18+ 5	0.0314	0.01	Q				V
18+10	0.0314	0.01	Q				V
18+15	0.0315	0.01	Q				V
18+20	0.0315	0.01	Q				V
18+25	0.0315	0.01	Q				V
18+30	0.0316	0.01	Q				V
18+35	0.0316	0.01	Q				V
18+40	0.0317	0.00	Q				V
18+45	0.0317	0.00	Q				V
18+50	0.0317	0.00	Q				V
18+55	0.0317	0.00	Q				V
19+ 0	0.0318	0.00	Q				V
19+ 5	0.0318	0.00	Q				V
19+10	0.0318	0.00	Q				V
19+15	0.0319	0.00	Q				V
19+20	0.0319	0.01	Q				V
19+25	0.0320	0.01	Q				V
19+30	0.0320	0.01	Q				V
19+35	0.0320	0.01	Q				V
19+40	0.0321	0.00	Q				V
19+45	0.0321	0.00	Q				V

19+50	0.0321	0.00	Q				V
19+55	0.0321	0.00	Q				V
20+ 0	0.0322	0.00	Q				V
20+ 5	0.0322	0.00	Q				V
20+10	0.0322	0.00	Q				V
20+15	0.0323	0.00	Q				V
20+20	0.0323	0.00	Q				V
20+25	0.0323	0.00	Q				V
20+30	0.0324	0.00	Q				V
20+35	0.0324	0.00	Q				V
20+40	0.0324	0.00	Q				V
20+45	0.0325	0.00	Q				V
20+50	0.0325	0.00	Q				V
20+55	0.0325	0.00	Q				V
21+ 0	0.0325	0.00	Q				V
21+ 5	0.0326	0.00	Q				V
21+10	0.0326	0.00	Q				V
21+15	0.0326	0.00	Q				V
21+20	0.0327	0.00	Q				V
21+25	0.0327	0.00	Q				V
21+30	0.0327	0.00	Q				V
21+35	0.0327	0.00	Q				V
21+40	0.0328	0.00	Q				V
21+45	0.0328	0.00	Q				V
21+50	0.0328	0.00	Q				V
21+55	0.0329	0.00	Q				V
22+ 0	0.0329	0.00	Q				V
22+ 5	0.0329	0.00	Q				V
22+10	0.0329	0.00	Q				V
22+15	0.0330	0.00	Q				V
22+20	0.0330	0.00	Q				V
22+25	0.0330	0.00	Q				V
22+30	0.0330	0.00	Q				V
22+35	0.0331	0.00	Q				V
22+40	0.0331	0.00	Q				V
22+45	0.0331	0.00	Q				V
22+50	0.0331	0.00	Q				V
22+55	0.0332	0.00	Q				V
23+ 0	0.0332	0.00	Q				V
23+ 5	0.0332	0.00	Q				V
23+10	0.0332	0.00	Q				V
23+15	0.0332	0.00	Q				V
23+20	0.0333	0.00	Q				V
23+25	0.0333	0.00	Q				V
23+30	0.0333	0.00	Q				V
23+35	0.0333	0.00	Q				V
23+40	0.0334	0.00	Q				V
23+45	0.0334	0.00	Q				V
23+50	0.0334	0.00	Q				V
23+55	0.0334	0.00	Q				V

24+ 0	0.0334	0.00	Q				V
24+ 5	0.0335	0.00	Q				V
24+10	0.0335	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
10-Year
1-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	0.48	0.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	1.34	1.58

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.836(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.836(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
Sum (F) =						0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	341.308	60.560
2	0.167	682.616	34.962
3	0.250	1023.924	4.478
Sum =		100.000	Sum=
			1.189

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.441	0.394	(0.397)	0.047
2	0.17	4.50	0.451	0.394	(0.406)	0.057
3	0.25	5.40	0.541	0.394	(0.487)	0.147
4	0.33	5.40	0.541	0.394	(0.487)	0.147
5	0.42	5.70	0.572	0.394	(0.514)	0.177
6	0.50	6.40	0.642	0.394	(0.578)	0.247
7	0.58	7.90	0.792	0.394	(0.713)	0.398
8	0.67	9.10	0.912	0.394	(0.821)	0.518
9	0.75	12.80	1.283	0.394	(1.155)	0.889
10	0.83	25.60	2.567	0.394	(2.310)	2.172
11	0.92	7.90	0.792	0.394	(0.713)	0.398
12	1.00	4.90	0.491	0.394	(0.442)	0.097

(Loss Rate Not Used)

Sum = 100.0

Sum = 5.3

$$\text{Flood volume} = \text{Effective rainfall} \times 0.44(\text{In})$$

times area $1.2(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.0(\text{Ac.Ft})$

$$\text{Total soil loss} = 0.39(\text{In})$$

Total soil loss = 0.039 (Ac.Ft)

Total rainfall = 0.84(In)

Flood volume = 1889.7 Cubic Feet

Total soil loss = 1689.4 Cubic Feet

Peak flow rate of this hydrograph = 1.963(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q					
0+10	0.0006	0.06	Q					
0+15	0.0016	0.13	QV					
0+20	0.0027	0.17	Q V					
0+25	0.0041	0.20	Q V					
0+30	0.0059	0.26	Q V					
0+35	0.0086	0.40	Q V					
0+40	0.0124	0.55	Q	V				
0+45	0.0185	0.88	Q		V			
0+50	0.0320	1.96		Q			V	
0+55	0.0405	1.24		0				V

1+ 0	0.0429	0.35	Q				V
1+ 5	0.0433	0.06	Q				V
1+10	0.0434	0.01	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
10-Year
3-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	0.88	1.03

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	2.20	2.60

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.421(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.421(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
Sum (F) =						0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.222	(0.394)	0.200	0.022
2	0.17	1.30	0.222	(0.394)	0.200	0.022
3	0.25	1.10	0.188	(0.394)	0.169	0.019
4	0.33	1.50	0.256	(0.394)	0.230	0.026
5	0.42	1.50	0.256	(0.394)	0.230	0.026
6	0.50	1.80	0.307	(0.394)	0.276	0.031
7	0.58	1.50	0.256	(0.394)	0.230	0.026
8	0.67	1.80	0.307	(0.394)	0.276	0.031
9	0.75	1.80	0.307	(0.394)	0.276	0.031
10	0.83	1.50	0.256	(0.394)	0.230	0.026
11	0.92	1.60	0.273	(0.394)	0.246	0.027
12	1.00	1.80	0.307	(0.394)	0.276	0.031
13	1.08	2.20	0.375	(0.394)	0.338	0.038
14	1.17	2.20	0.375	(0.394)	0.338	0.038
15	1.25	2.20	0.375	(0.394)	0.338	0.038
16	1.33	2.00	0.341	(0.394)	0.307	0.034
17	1.42	2.60	0.443	0.394	(0.399)	0.049
18	1.50	2.70	0.460	0.394	(0.414)	0.066
19	1.58	2.40	0.409	(0.394)	0.368	0.041
20	1.67	2.70	0.460	0.394	(0.414)	0.066
21	1.75	3.30	0.563	0.394	(0.507)	0.168
22	1.83	3.10	0.529	0.394	(0.476)	0.134
23	1.92	2.90	0.495	0.394	(0.445)	0.100
24	2.00	3.00	0.512	0.394	(0.460)	0.117
25	2.08	3.10	0.529	0.394	(0.476)	0.134
26	2.17	4.20	0.716	0.394	(0.645)	0.322
27	2.25	5.00	0.853	0.394	(0.767)	0.458
28	2.33	3.50	0.597	0.394	(0.537)	0.203
29	2.42	6.80	1.160	0.394	(1.044)	0.765
30	2.50	7.30	1.245	0.394	(1.121)	0.851
31	2.58	8.20	1.399	0.394	(1.259)	1.004
32	2.67	5.90	1.006	0.394	(0.906)	0.612
33	2.75	2.00	0.341	(0.394)	0.307	0.034
34	2.83	1.80	0.307	(0.394)	0.276	0.031
35	2.92	1.80	0.307	(0.394)	0.276	0.031
36	3.00	0.60	0.102	(0.394)	0.092	0.010

(Loss Rate Not Used)

Sum = 100.0

Sum = 5.7

$$\text{Flood volume} = \text{Effective rainfall} \times 0.47(\text{In})$$

times area $1.2(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.0(\text{Ac.Ft})$

$$\text{Total soil loss} = 0.95(\text{In})$$

Total soil loss = 0.093(Ac.Ft)

Total rainfall = 1.42(In)

Flood volume = 2020.2 Cubic Feet

Total soil loss = 4067.8 Cubic Feet

Peak flow rate of this hydrograph = 1.118(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.02	Q				
0+10	0.0003		0.03	Q				
0+15	0.0004		0.02	Q				
0+20	0.0006		0.03	Q				
0+25	0.0008		0.03	Q				
0+30	0.0011		0.03	Q				
0+35	0.0013		0.03	QV				
0+40	0.0015		0.03	QV				
0+45	0.0018		0.04	QV				
0+50	0.0020		0.03	QV				
0+55	0.0022		0.03	QV				
1+ 0	0.0025		0.03	Q V				
1+ 5	0.0028		0.04	Q V				
1+10	0.0031		0.04	Q V				
1+15	0.0034		0.04	Q V				
1+20	0.0037		0.04	Q V				
1+25	0.0040		0.05	Q V				
1+30	0.0045		0.07	Q V				
1+35	0.0049		0.06	Q V				
1+40	0.0054		0.07	Q V				
1+45	0.0064		0.15	Q V				
1+50	0.0076		0.17	Q V				
1+55	0.0085		0.14	Q V				
2+ 0	0.0095		0.13	Q V				
2+ 5	0.0105		0.15	Q V				
2+10	0.0125		0.29	Q V				
2+15	0.0158		0.47	Q V				
2+20	0.0182		0.35	Q V				
2+25	0.0227		0.66	Q V				
2+30	0.0292		0.94	Q V				
2+35	0.0369		1.12	Q V				
2+40	0.0432		0.90	Q V				
2+45	0.0455		0.33	Q V				
2+50	0.0459		0.07	Q V				
2+55	0.0462		0.04	Q V				
3+ 0	0.0463		0.02	Q V				
3+ 5	0.0464		0.01	Q V				
3+10	0.0464		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
10-Year
6-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	1.27	1.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	3.12	3.68

STORM EVENT (YEAR) = 10.00

Area Averaged 2-Year Rainfall = 1.270(In)

Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 2.031(In)

Areal adjustment factor = 100.00 %

Adjusted average point rain = 2.031(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000
Total Area Entered = 1.18(Ac.)		

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
Sum (F) =						0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394

Minimum soil loss rate ((In/Hr)) = 0.197

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.122	(0.394)	0.110	0.012
2	0.17	0.60	0.146	(0.394)	0.132	0.015
3	0.25	0.60	0.146	(0.394)	0.132	0.015
4	0.33	0.60	0.146	(0.394)	0.132	0.015
5	0.42	0.60	0.146	(0.394)	0.132	0.015
6	0.50	0.70	0.171	(0.394)	0.154	0.017
7	0.58	0.70	0.171	(0.394)	0.154	0.017
8	0.67	0.70	0.171	(0.394)	0.154	0.017
9	0.75	0.70	0.171	(0.394)	0.154	0.017
10	0.83	0.70	0.171	(0.394)	0.154	0.017
11	0.92	0.70	0.171	(0.394)	0.154	0.017
12	1.00	0.80	0.195	(0.394)	0.175	0.019
13	1.08	0.80	0.195	(0.394)	0.175	0.019
14	1.17	0.80	0.195	(0.394)	0.175	0.019
15	1.25	0.80	0.195	(0.394)	0.175	0.019
16	1.33	0.80	0.195	(0.394)	0.175	0.019
17	1.42	0.80	0.195	(0.394)	0.175	0.019
18	1.50	0.80	0.195	(0.394)	0.175	0.019
19	1.58	0.80	0.195	(0.394)	0.175	0.019
20	1.67	0.80	0.195	(0.394)	0.175	0.019
21	1.75	0.80	0.195	(0.394)	0.175	0.019
22	1.83	0.80	0.195	(0.394)	0.175	0.019
23	1.92	0.80	0.195	(0.394)	0.175	0.019
24	2.00	0.90	0.219	(0.394)	0.197	0.022
25	2.08	0.80	0.195	(0.394)	0.175	0.019
26	2.17	0.90	0.219	(0.394)	0.197	0.022
27	2.25	0.90	0.219	(0.394)	0.197	0.022
28	2.33	0.90	0.219	(0.394)	0.197	0.022
29	2.42	0.90	0.219	(0.394)	0.197	0.022
30	2.50	0.90	0.219	(0.394)	0.197	0.022
31	2.58	0.90	0.219	(0.394)	0.197	0.022
32	2.67	0.90	0.219	(0.394)	0.197	0.022
33	2.75	1.00	0.244	(0.394)	0.219	0.024
34	2.83	1.00	0.244	(0.394)	0.219	0.024
35	2.92	1.00	0.244	(0.394)	0.219	0.024
36	3.00	1.00	0.244	(0.394)	0.219	0.024
37	3.08	1.00	0.244	(0.394)	0.219	0.024
38	3.17	1.10	0.268	(0.394)	0.241	0.027
39	3.25	1.10	0.268	(0.394)	0.241	0.027
40	3.33	1.10	0.268	(0.394)	0.241	0.027
41	3.42	1.20	0.292	(0.394)	0.263	0.029
42	3.50	1.30	0.317	(0.394)	0.285	0.032
43	3.58	1.40	0.341	(0.394)	0.307	0.034
44	3.67	1.40	0.341	(0.394)	0.307	0.034
45	3.75	1.50	0.366	(0.394)	0.329	0.037
46	3.83	1.50	0.366	(0.394)	0.329	0.037

47	3.92	1.60	0.390	(0.394)	0.351	0.039
48	4.00	1.60	0.390	(0.394)	0.351	0.039
49	4.08	1.70	0.414	(0.394)	0.373	0.041
50	4.17	1.80	0.439	0.394	(0.395)	0.044
51	4.25	1.90	0.463	0.394	(0.417)	0.069
52	4.33	2.00	0.487	0.394	(0.439)	0.093
53	4.42	2.10	0.512	0.394	(0.461)	0.117
54	4.50	2.10	0.512	0.394	(0.461)	0.117
55	4.58	2.20	0.536	0.394	(0.483)	0.142
56	4.67	2.30	0.561	0.394	(0.505)	0.166
57	4.75	2.40	0.585	0.394	(0.526)	0.191
58	4.83	2.40	0.585	0.394	(0.526)	0.191
59	4.92	2.50	0.609	0.394	(0.548)	0.215
60	5.00	2.60	0.634	0.394	(0.570)	0.239
61	5.08	3.10	0.756	0.394	(0.680)	0.361
62	5.17	3.60	0.877	0.394	(0.790)	0.483
63	5.25	3.90	0.951	0.394	(0.855)	0.556
64	5.33	4.20	1.024	0.394	(0.921)	0.629
65	5.42	4.70	1.146	0.394	(1.031)	0.751
66	5.50	5.60	1.365	0.394	(1.228)	0.970
67	5.58	1.90	0.463	0.394	(0.417)	0.069
68	5.67	0.90	0.219	(0.394)	0.197	0.022
69	5.75	0.60	0.146	(0.394)	0.132	0.015
70	5.83	0.50	0.122	(0.394)	0.110	0.012
71	5.92	0.30	0.073	(0.394)	0.066	0.007
72	6.00	0.20	0.049	(0.394)	0.044	0.005

(Loss Rate Not Used)

Sum = 100.0

Sum = 6.6

Flood volume = Effective rainfall 0.55(In)
times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.48(In)
Total soil loss = 0.146(Ac.Ft)
Total rainfall = 2.03(In)
Flood volume = 2352.7 Cubic Feet
Total soil loss = 6347.3 Cubic Feet

Peak flow rate of this hydrograph = 1.045(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				

0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0007	0.02	Q				
0+35	0.0008	0.02	Q				
0+40	0.0009	0.02	Q				
0+45	0.0011	0.02	Q				
0+50	0.0012	0.02	Q				
0+55	0.0014	0.02	QV				
1+ 0	0.0015	0.02	QV				
1+ 5	0.0017	0.02	QV				
1+10	0.0018	0.02	QV				
1+15	0.0020	0.02	QV				
1+20	0.0021	0.02	QV				
1+25	0.0023	0.02	QV				
1+30	0.0025	0.02	QV				
1+35	0.0026	0.02	QV				
1+40	0.0028	0.02	Q V				
1+45	0.0029	0.02	Q V				
1+50	0.0031	0.02	Q V				
1+55	0.0033	0.02	Q V				
2+ 0	0.0034	0.02	Q V				
2+ 5	0.0036	0.02	Q V				
2+10	0.0038	0.03	Q V				
2+15	0.0040	0.03	Q V				
2+20	0.0041	0.03	Q V				
2+25	0.0043	0.03	Q V				
2+30	0.0045	0.03	Q V				
2+35	0.0047	0.03	Q V				
2+40	0.0049	0.03	Q V				
2+45	0.0050	0.03	Q V				
2+50	0.0052	0.03	Q V				
2+55	0.0054	0.03	Q V				
3+ 0	0.0056	0.03	Q V				
3+ 5	0.0058	0.03	Q V				
3+10	0.0061	0.03	Q V				
3+15	0.0063	0.03	Q V				
3+20	0.0065	0.03	Q V				
3+25	0.0067	0.03	Q V				
3+30	0.0070	0.04	Q V				
3+35	0.0072	0.04	Q V				
3+40	0.0075	0.04	Q V				
3+45	0.0078	0.04	Q V				
3+50	0.0081	0.04	Q V				
3+55	0.0084	0.05	Q V				
4+ 0	0.0087	0.05	Q V				
4+ 5	0.0091	0.05	Q V				
4+10	0.0094	0.05	Q V				
4+15	0.0099	0.07	Q V				
4+20	0.0106	0.10	Q V				
4+25	0.0115	0.13	Q V				

4+30	0.0124	0.14	Q	V				
4+35	0.0135	0.16	Q	V				
4+40	0.0148	0.18	Q	V				
4+45	0.0162	0.21	Q		V			
4+50	0.0178	0.23	Q		V			
4+55	0.0195	0.24	Q		V			
5+ 0	0.0214	0.27	Q		V			
5+ 5	0.0239	0.37	Q		V			
5+10	0.0274	0.51	Q		V			
5+15	0.0317	0.62	Q			V		
5+20	0.0366	0.71	Q			V		
5+25	0.0423	0.83	Q				V	
5+30	0.0495	1.05	Q				V	
5+35	0.0529	0.49	Q					V
5+40	0.0536	0.10	Q					V
5+45	0.0538	0.02	Q					V
5+50	0.0539	0.02	Q					V
5+55	0.0539	0.01	Q					V
6+ 0	0.0540	0.01	Q					V
6+ 5	0.0540	0.00	Q					V
6+10	0.0540	0.00	Q					V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1PRE2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-1
Pre-development
10-Year
24-Hour

Drainage Area = 1.18(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.18(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.024 Hr.
Lag time = 1.46 Min.
25% of lag time = 0.37 Min.
40% of lag time = 0.59 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	2.43	2.87

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.18	6.58	7.76

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.180	67.00	0.000

Total Area Entered = 1.18(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
67.0	67.0	0.394	0.000	0.394	1.000	0.394
Sum (F) =						0.394

Area averaged mean soil loss (F) (In/Hr) = 0.394
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	341.308	60.560	0.720
2 0.167	682.616	34.962	0.416
3 0.250	1023.924	4.478	0.053
Sum = 100.000		Sum=	1.189

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.033	(0.699)	0.030	0.003
2	0.17	0.07	0.033	(0.696)	0.030	0.003
3	0.25	0.07	0.033	(0.694)	0.030	0.003
4	0.33	0.10	0.050	(0.691)	0.045	0.005
5	0.42	0.10	0.050	(0.688)	0.045	0.005
6	0.50	0.10	0.050	(0.686)	0.045	0.005
7	0.58	0.10	0.050	(0.683)	0.045	0.005
8	0.67	0.10	0.050	(0.680)	0.045	0.005
9	0.75	0.10	0.050	(0.678)	0.045	0.005
10	0.83	0.13	0.066	(0.675)	0.060	0.007
11	0.92	0.13	0.066	(0.672)	0.060	0.007
12	1.00	0.13	0.066	(0.670)	0.060	0.007
13	1.08	0.10	0.050	(0.667)	0.045	0.005
14	1.17	0.10	0.050	(0.664)	0.045	0.005
15	1.25	0.10	0.050	(0.662)	0.045	0.005
16	1.33	0.10	0.050	(0.659)	0.045	0.005
17	1.42	0.10	0.050	(0.657)	0.045	0.005
18	1.50	0.10	0.050	(0.654)	0.045	0.005
19	1.58	0.10	0.050	(0.651)	0.045	0.005
20	1.67	0.10	0.050	(0.649)	0.045	0.005
21	1.75	0.10	0.050	(0.646)	0.045	0.005
22	1.83	0.13	0.066	(0.643)	0.060	0.007
23	1.92	0.13	0.066	(0.641)	0.060	0.007
24	2.00	0.13	0.066	(0.638)	0.060	0.007
25	2.08	0.13	0.066	(0.636)	0.060	0.007
26	2.17	0.13	0.066	(0.633)	0.060	0.007
27	2.25	0.13	0.066	(0.631)	0.060	0.007
28	2.33	0.13	0.066	(0.628)	0.060	0.007
29	2.42	0.13	0.066	(0.625)	0.060	0.007
30	2.50	0.13	0.066	(0.623)	0.060	0.007
31	2.58	0.17	0.083	(0.620)	0.074	0.008
32	2.67	0.17	0.083	(0.618)	0.074	0.008
33	2.75	0.17	0.083	(0.615)	0.074	0.008
34	2.83	0.17	0.083	(0.613)	0.074	0.008
35	2.92	0.17	0.083	(0.610)	0.074	0.008
36	3.00	0.17	0.083	(0.608)	0.074	0.008
37	3.08	0.17	0.083	(0.605)	0.074	0.008
38	3.17	0.17	0.083	(0.603)	0.074	0.008
39	3.25	0.17	0.083	(0.600)	0.074	0.008
40	3.33	0.17	0.083	(0.598)	0.074	0.008
41	3.42	0.17	0.083	(0.595)	0.074	0.008
42	3.50	0.17	0.083	(0.593)	0.074	0.008
43	3.58	0.17	0.083	(0.590)	0.074	0.008
44	3.67	0.17	0.083	(0.588)	0.074	0.008
45	3.75	0.17	0.083	(0.585)	0.074	0.008
46	3.83	0.20	0.099	(0.583)	0.089	0.010

47	3.92	0.20	0.099	(0.580)	0.089	0.010
48	4.00	0.20	0.099	(0.578)	0.089	0.010
49	4.08	0.20	0.099	(0.575)	0.089	0.010
50	4.17	0.20	0.099	(0.573)	0.089	0.010
51	4.25	0.20	0.099	(0.571)	0.089	0.010
52	4.33	0.23	0.116	(0.568)	0.104	0.012
53	4.42	0.23	0.116	(0.566)	0.104	0.012
54	4.50	0.23	0.116	(0.563)	0.104	0.012
55	4.58	0.23	0.116	(0.561)	0.104	0.012
56	4.67	0.23	0.116	(0.558)	0.104	0.012
57	4.75	0.23	0.116	(0.556)	0.104	0.012
58	4.83	0.27	0.132	(0.554)	0.119	0.013
59	4.92	0.27	0.132	(0.551)	0.119	0.013
60	5.00	0.27	0.132	(0.549)	0.119	0.013
61	5.08	0.20	0.099	(0.546)	0.089	0.010
62	5.17	0.20	0.099	(0.544)	0.089	0.010
63	5.25	0.20	0.099	(0.542)	0.089	0.010
64	5.33	0.23	0.116	(0.539)	0.104	0.012
65	5.42	0.23	0.116	(0.537)	0.104	0.012
66	5.50	0.23	0.116	(0.535)	0.104	0.012
67	5.58	0.27	0.132	(0.532)	0.119	0.013
68	5.67	0.27	0.132	(0.530)	0.119	0.013
69	5.75	0.27	0.132	(0.528)	0.119	0.013
70	5.83	0.27	0.132	(0.525)	0.119	0.013
71	5.92	0.27	0.132	(0.523)	0.119	0.013
72	6.00	0.27	0.132	(0.521)	0.119	0.013
73	6.08	0.30	0.149	(0.518)	0.134	0.015
74	6.17	0.30	0.149	(0.516)	0.134	0.015
75	6.25	0.30	0.149	(0.514)	0.134	0.015
76	6.33	0.30	0.149	(0.511)	0.134	0.015
77	6.42	0.30	0.149	(0.509)	0.134	0.015
78	6.50	0.30	0.149	(0.507)	0.134	0.015
79	6.58	0.33	0.165	(0.505)	0.149	0.017
80	6.67	0.33	0.165	(0.502)	0.149	0.017
81	6.75	0.33	0.165	(0.500)	0.149	0.017
82	6.83	0.33	0.165	(0.498)	0.149	0.017
83	6.92	0.33	0.165	(0.495)	0.149	0.017
84	7.00	0.33	0.165	(0.493)	0.149	0.017
85	7.08	0.33	0.165	(0.491)	0.149	0.017
86	7.17	0.33	0.165	(0.489)	0.149	0.017
87	7.25	0.33	0.165	(0.487)	0.149	0.017
88	7.33	0.37	0.182	(0.484)	0.164	0.018
89	7.42	0.37	0.182	(0.482)	0.164	0.018
90	7.50	0.37	0.182	(0.480)	0.164	0.018
91	7.58	0.40	0.199	(0.478)	0.179	0.020
92	7.67	0.40	0.199	(0.475)	0.179	0.020
93	7.75	0.40	0.199	(0.473)	0.179	0.020
94	7.83	0.43	0.215	(0.471)	0.194	0.022
95	7.92	0.43	0.215	(0.469)	0.194	0.022
96	8.00	0.43	0.215	(0.467)	0.194	0.022

97	8.08	0.50	0.248	(0.465)	0.223	0.025
98	8.17	0.50	0.248	(0.462)	0.223	0.025
99	8.25	0.50	0.248	(0.460)	0.223	0.025
100	8.33	0.50	0.248	(0.458)	0.223	0.025
101	8.42	0.50	0.248	(0.456)	0.223	0.025
102	8.50	0.50	0.248	(0.454)	0.223	0.025
103	8.58	0.53	0.265	(0.452)	0.238	0.026
104	8.67	0.53	0.265	(0.450)	0.238	0.026
105	8.75	0.53	0.265	(0.447)	0.238	0.026
106	8.83	0.57	0.281	(0.445)	0.253	0.028
107	8.92	0.57	0.281	(0.443)	0.253	0.028
108	9.00	0.57	0.281	(0.441)	0.253	0.028
109	9.08	0.63	0.314	(0.439)	0.283	0.031
110	9.17	0.63	0.314	(0.437)	0.283	0.031
111	9.25	0.63	0.314	(0.435)	0.283	0.031
112	9.33	0.67	0.331	(0.433)	0.298	0.033
113	9.42	0.67	0.331	(0.431)	0.298	0.033
114	9.50	0.67	0.331	(0.429)	0.298	0.033
115	9.58	0.70	0.348	(0.427)	0.313	0.035
116	9.67	0.70	0.348	(0.425)	0.313	0.035
117	9.75	0.70	0.348	(0.423)	0.313	0.035
118	9.83	0.73	0.364	(0.421)	0.328	0.036
119	9.92	0.73	0.364	(0.419)	0.328	0.036
120	10.00	0.73	0.364	(0.416)	0.328	0.036
121	10.08	0.50	0.248	(0.414)	0.223	0.025
122	10.17	0.50	0.248	(0.412)	0.223	0.025
123	10.25	0.50	0.248	(0.410)	0.223	0.025
124	10.33	0.50	0.248	(0.408)	0.223	0.025
125	10.42	0.50	0.248	(0.406)	0.223	0.025
126	10.50	0.50	0.248	(0.405)	0.223	0.025
127	10.58	0.67	0.331	(0.403)	0.298	0.033
128	10.67	0.67	0.331	(0.401)	0.298	0.033
129	10.75	0.67	0.331	(0.399)	0.298	0.033
130	10.83	0.67	0.331	(0.397)	0.298	0.033
131	10.92	0.67	0.331	(0.395)	0.298	0.033
132	11.00	0.67	0.331	(0.393)	0.298	0.033
133	11.08	0.63	0.314	(0.391)	0.283	0.031
134	11.17	0.63	0.314	(0.389)	0.283	0.031
135	11.25	0.63	0.314	(0.387)	0.283	0.031
136	11.33	0.63	0.314	(0.385)	0.283	0.031
137	11.42	0.63	0.314	(0.383)	0.283	0.031
138	11.50	0.63	0.314	(0.381)	0.283	0.031
139	11.58	0.57	0.281	(0.379)	0.253	0.028
140	11.67	0.57	0.281	(0.377)	0.253	0.028
141	11.75	0.57	0.281	(0.376)	0.253	0.028
142	11.83	0.60	0.298	(0.374)	0.268	0.030
143	11.92	0.60	0.298	(0.372)	0.268	0.030
144	12.00	0.60	0.298	(0.370)	0.268	0.030
145	12.08	0.83	0.414	0.368	(0.372)	0.046
146	12.17	0.83	0.414	0.366	(0.372)	0.047

147	12.25	0.83	0.414	0.364	(0.372)	0.049
148	12.33	0.87	0.430	0.363	(0.387)	0.068
149	12.42	0.87	0.430	0.361	(0.387)	0.069
150	12.50	0.87	0.430	0.359	(0.387)	0.071
151	12.58	0.93	0.463	0.357	(0.417)	0.106
152	12.67	0.93	0.463	0.355	(0.417)	0.108
153	12.75	0.93	0.463	0.354	(0.417)	0.110
154	12.83	0.97	0.480	0.352	(0.432)	0.128
155	12.92	0.97	0.480	0.350	(0.432)	0.130
156	13.00	0.97	0.480	0.348	(0.432)	0.132
157	13.08	1.13	0.563	0.347	(0.506)	0.216
158	13.17	1.13	0.563	0.345	(0.506)	0.218
159	13.25	1.13	0.563	0.343	(0.506)	0.220
160	13.33	1.13	0.563	0.341	(0.506)	0.221
161	13.42	1.13	0.563	0.340	(0.506)	0.223
162	13.50	1.13	0.563	0.338	(0.506)	0.225
163	13.58	0.77	0.381	0.336	(0.343)	0.045
164	13.67	0.77	0.381	0.334	(0.343)	0.046
165	13.75	0.77	0.381	0.333	(0.343)	0.048
166	13.83	0.77	0.381	0.331	(0.343)	0.050
167	13.92	0.77	0.381	0.329	(0.343)	0.051
168	14.00	0.77	0.381	0.328	(0.343)	0.053
169	14.08	0.90	0.447	0.326	(0.402)	0.121
170	14.17	0.90	0.447	0.324	(0.402)	0.123
171	14.25	0.90	0.447	0.323	(0.402)	0.124
172	14.33	0.87	0.430	0.321	(0.387)	0.109
173	14.42	0.87	0.430	0.319	(0.387)	0.111
174	14.50	0.87	0.430	0.318	(0.387)	0.113
175	14.58	0.87	0.430	0.316	(0.387)	0.114
176	14.67	0.87	0.430	0.314	(0.387)	0.116
177	14.75	0.87	0.430	0.313	(0.387)	0.117
178	14.83	0.83	0.414	0.311	(0.372)	0.103
179	14.92	0.83	0.414	0.310	(0.372)	0.104
180	15.00	0.83	0.414	0.308	(0.372)	0.106
181	15.08	0.80	0.397	0.306	(0.357)	0.091
182	15.17	0.80	0.397	0.305	(0.357)	0.092
183	15.25	0.80	0.397	0.303	(0.357)	0.094
184	15.33	0.77	0.381	0.302	(0.343)	0.079
185	15.42	0.77	0.381	0.300	(0.343)	0.080
186	15.50	0.77	0.381	0.299	(0.343)	0.082
187	15.58	0.63	0.314	(0.297)	0.283	0.031
188	15.67	0.63	0.314	(0.296)	0.283	0.031
189	15.75	0.63	0.314	(0.294)	0.283	0.031
190	15.83	0.63	0.314	(0.293)	0.283	0.031
191	15.92	0.63	0.314	(0.291)	0.283	0.031
192	16.00	0.63	0.314	(0.290)	0.283	0.031
193	16.08	0.13	0.066	(0.288)	0.060	0.007
194	16.17	0.13	0.066	(0.287)	0.060	0.007
195	16.25	0.13	0.066	(0.285)	0.060	0.007
196	16.33	0.13	0.066	(0.284)	0.060	0.007

197	16.42	0.13	0.066	(0.282)	0.060	0.007
198	16.50	0.13	0.066	(0.281)	0.060	0.007
199	16.58	0.10	0.050	(0.279)	0.045	0.005
200	16.67	0.10	0.050	(0.278)	0.045	0.005
201	16.75	0.10	0.050	(0.277)	0.045	0.005
202	16.83	0.10	0.050	(0.275)	0.045	0.005
203	16.92	0.10	0.050	(0.274)	0.045	0.005
204	17.00	0.10	0.050	(0.272)	0.045	0.005
205	17.08	0.17	0.083	(0.271)	0.074	0.008
206	17.17	0.17	0.083	(0.270)	0.074	0.008
207	17.25	0.17	0.083	(0.268)	0.074	0.008
208	17.33	0.17	0.083	(0.267)	0.074	0.008
209	17.42	0.17	0.083	(0.266)	0.074	0.008
210	17.50	0.17	0.083	(0.264)	0.074	0.008
211	17.58	0.17	0.083	(0.263)	0.074	0.008
212	17.67	0.17	0.083	(0.262)	0.074	0.008
213	17.75	0.17	0.083	(0.260)	0.074	0.008
214	17.83	0.13	0.066	(0.259)	0.060	0.007
215	17.92	0.13	0.066	(0.258)	0.060	0.007
216	18.00	0.13	0.066	(0.257)	0.060	0.007
217	18.08	0.13	0.066	(0.255)	0.060	0.007
218	18.17	0.13	0.066	(0.254)	0.060	0.007
219	18.25	0.13	0.066	(0.253)	0.060	0.007
220	18.33	0.13	0.066	(0.252)	0.060	0.007
221	18.42	0.13	0.066	(0.250)	0.060	0.007
222	18.50	0.13	0.066	(0.249)	0.060	0.007
223	18.58	0.10	0.050	(0.248)	0.045	0.005
224	18.67	0.10	0.050	(0.247)	0.045	0.005
225	18.75	0.10	0.050	(0.246)	0.045	0.005
226	18.83	0.07	0.033	(0.244)	0.030	0.003
227	18.92	0.07	0.033	(0.243)	0.030	0.003
228	19.00	0.07	0.033	(0.242)	0.030	0.003
229	19.08	0.10	0.050	(0.241)	0.045	0.005
230	19.17	0.10	0.050	(0.240)	0.045	0.005
231	19.25	0.10	0.050	(0.239)	0.045	0.005
232	19.33	0.13	0.066	(0.238)	0.060	0.007
233	19.42	0.13	0.066	(0.236)	0.060	0.007
234	19.50	0.13	0.066	(0.235)	0.060	0.007
235	19.58	0.10	0.050	(0.234)	0.045	0.005
236	19.67	0.10	0.050	(0.233)	0.045	0.005
237	19.75	0.10	0.050	(0.232)	0.045	0.005
238	19.83	0.07	0.033	(0.231)	0.030	0.003
239	19.92	0.07	0.033	(0.230)	0.030	0.003
240	20.00	0.07	0.033	(0.229)	0.030	0.003
241	20.08	0.10	0.050	(0.228)	0.045	0.005
242	20.17	0.10	0.050	(0.227)	0.045	0.005
243	20.25	0.10	0.050	(0.226)	0.045	0.005
244	20.33	0.10	0.050	(0.225)	0.045	0.005
245	20.42	0.10	0.050	(0.224)	0.045	0.005
246	20.50	0.10	0.050	(0.223)	0.045	0.005

247	20.58	0.10	0.050	(0.222)	0.045	0.005
248	20.67	0.10	0.050	(0.221)	0.045	0.005
249	20.75	0.10	0.050	(0.220)	0.045	0.005
250	20.83	0.07	0.033	(0.219)	0.030	0.003
251	20.92	0.07	0.033	(0.219)	0.030	0.003
252	21.00	0.07	0.033	(0.218)	0.030	0.003
253	21.08	0.10	0.050	(0.217)	0.045	0.005
254	21.17	0.10	0.050	(0.216)	0.045	0.005
255	21.25	0.10	0.050	(0.215)	0.045	0.005
256	21.33	0.07	0.033	(0.214)	0.030	0.003
257	21.42	0.07	0.033	(0.213)	0.030	0.003
258	21.50	0.07	0.033	(0.213)	0.030	0.003
259	21.58	0.10	0.050	(0.212)	0.045	0.005
260	21.67	0.10	0.050	(0.211)	0.045	0.005
261	21.75	0.10	0.050	(0.210)	0.045	0.005
262	21.83	0.07	0.033	(0.210)	0.030	0.003
263	21.92	0.07	0.033	(0.209)	0.030	0.003
264	22.00	0.07	0.033	(0.208)	0.030	0.003
265	22.08	0.10	0.050	(0.208)	0.045	0.005
266	22.17	0.10	0.050	(0.207)	0.045	0.005
267	22.25	0.10	0.050	(0.206)	0.045	0.005
268	22.33	0.07	0.033	(0.206)	0.030	0.003
269	22.42	0.07	0.033	(0.205)	0.030	0.003
270	22.50	0.07	0.033	(0.204)	0.030	0.003
271	22.58	0.07	0.033	(0.204)	0.030	0.003
272	22.67	0.07	0.033	(0.203)	0.030	0.003
273	22.75	0.07	0.033	(0.203)	0.030	0.003
274	22.83	0.07	0.033	(0.202)	0.030	0.003
275	22.92	0.07	0.033	(0.202)	0.030	0.003
276	23.00	0.07	0.033	(0.201)	0.030	0.003
277	23.08	0.07	0.033	(0.201)	0.030	0.003
278	23.17	0.07	0.033	(0.200)	0.030	0.003
279	23.25	0.07	0.033	(0.200)	0.030	0.003
280	23.33	0.07	0.033	(0.199)	0.030	0.003
281	23.42	0.07	0.033	(0.199)	0.030	0.003
282	23.50	0.07	0.033	(0.199)	0.030	0.003
283	23.58	0.07	0.033	(0.198)	0.030	0.003
284	23.67	0.07	0.033	(0.198)	0.030	0.003
285	23.75	0.07	0.033	(0.198)	0.030	0.003
286	23.83	0.07	0.033	(0.198)	0.030	0.003
287	23.92	0.07	0.033	(0.197)	0.030	0.003
288	24.00	0.07	0.033	(0.197)	0.030	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 7.7

Flood volume = Effective rainfall 0.64(In)

times area 1.2(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 3.50(In)

Total soil loss = 0.344(Ac.Ft)

Total rainfall = 4.14(In)

Flood volume = 2738.3 Cubic Feet

Total soil loss = 14983.5 Cubic Feet

Peak flow rate of this hydrograph = 0.267(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.01	Q				
0+25	0.0001	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0002	0.01	Q				
0+40	0.0003	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0004	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0005	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0006	0.01	Q				
1+15	0.0006	0.01	Q				
1+20	0.0006	0.01	Q				
1+25	0.0007	0.01	Q				
1+30	0.0007	0.01	Q				
1+35	0.0008	0.01	Q				
1+40	0.0008	0.01	Q				
1+45	0.0008	0.01	Q				
1+50	0.0009	0.01	Q				
1+55	0.0009	0.01	Q				
2+ 0	0.0010	0.01	Q				
2+ 5	0.0010	0.01	Q				
2+10	0.0011	0.01	Q				
2+15	0.0012	0.01	Q				
2+20	0.0012	0.01	Q				
2+25	0.0013	0.01	Q				
2+30	0.0013	0.01	Q				
2+35	0.0014	0.01	Q				
2+40	0.0014	0.01	Q				
2+45	0.0015	0.01	Q				
2+50	0.0016	0.01	QV				
2+55	0.0017	0.01	QV				
3+ 0	0.0017	0.01	QV				
3+ 5	0.0018	0.01	QV				

3+10	0.0019	0.01	QV
3+15	0.0019	0.01	QV
3+20	0.0020	0.01	QV
3+25	0.0021	0.01	QV
3+30	0.0021	0.01	QV
3+35	0.0022	0.01	QV
3+40	0.0023	0.01	QV
3+45	0.0023	0.01	QV
3+50	0.0024	0.01	QV
3+55	0.0025	0.01	QV
4+ 0	0.0026	0.01	QV
4+ 5	0.0026	0.01	QV
4+10	0.0027	0.01	QV
4+15	0.0028	0.01	QV
4+20	0.0029	0.01	QV
4+25	0.0030	0.01	QV
4+30	0.0031	0.01	QV
4+35	0.0032	0.01	Q V
4+40	0.0033	0.01	Q V
4+45	0.0034	0.01	Q V
4+50	0.0035	0.01	Q V
4+55	0.0036	0.02	Q V
5+ 0	0.0037	0.02	Q V
5+ 5	0.0038	0.01	Q V
5+10	0.0039	0.01	Q V
5+15	0.0040	0.01	Q V
5+20	0.0040	0.01	Q V
5+25	0.0041	0.01	Q V
5+30	0.0042	0.01	Q V
5+35	0.0043	0.01	Q V
5+40	0.0044	0.02	Q V
5+45	0.0045	0.02	Q V
5+50	0.0047	0.02	Q V
5+55	0.0048	0.02	Q V
6+ 0	0.0049	0.02	Q V
6+ 5	0.0050	0.02	Q V
6+10	0.0051	0.02	Q V
6+15	0.0052	0.02	Q V
6+20	0.0054	0.02	Q V
6+25	0.0055	0.02	Q V
6+30	0.0056	0.02	Q V
6+35	0.0057	0.02	Q V
6+40	0.0059	0.02	Q V
6+45	0.0060	0.02	Q V
6+50	0.0061	0.02	Q V
6+55	0.0063	0.02	Q V
7+ 0	0.0064	0.02	Q V
7+ 5	0.0065	0.02	Q V
7+10	0.0067	0.02	Q V
7+15	0.0068	0.02	Q V

7+20	0.0070	0.02	Q	V				
7+25	0.0071	0.02	Q	V				
7+30	0.0073	0.02	Q	V				
7+35	0.0074	0.02	Q	V				
7+40	0.0076	0.02	Q	V				
7+45	0.0077	0.02	Q	V				
7+50	0.0079	0.02	Q	V				
7+55	0.0081	0.03	Q	V				
8+ 0	0.0083	0.03	Q	V				
8+ 5	0.0085	0.03	Q	V				
8+10	0.0087	0.03	Q	V				
8+15	0.0089	0.03	Q	V				
8+20	0.0091	0.03	Q	V				
8+25	0.0093	0.03	Q	V				
8+30	0.0095	0.03	Q	V				
8+35	0.0097	0.03	Q	V				
8+40	0.0099	0.03	Q	V				
8+45	0.0101	0.03	Q	V				
8+50	0.0103	0.03	Q	V				
8+55	0.0106	0.03	Q	V				
9+ 0	0.0108	0.03	Q	V				
9+ 5	0.0110	0.04	Q	V				
9+10	0.0113	0.04	Q	V				
9+15	0.0116	0.04	Q	V				
9+20	0.0118	0.04	Q	V				
9+25	0.0121	0.04	Q	V				
9+30	0.0124	0.04	Q	V				
9+35	0.0127	0.04	Q	V				
9+40	0.0129	0.04	Q	V				
9+45	0.0132	0.04	Q	V				
9+50	0.0135	0.04	Q	V				
9+55	0.0138	0.04	Q	V				
10+ 0	0.0141	0.04	Q	V				
10+ 5	0.0143	0.03	Q	V				
10+10	0.0146	0.03	Q	V				
10+15	0.0148	0.03	Q	V				
10+20	0.0150	0.03	Q	V				
10+25	0.0152	0.03	Q	V				
10+30	0.0154	0.03	Q	V				
10+35	0.0156	0.04	Q	V				
10+40	0.0159	0.04	Q	V				
10+45	0.0162	0.04	Q	V				
10+50	0.0164	0.04	Q	V				
10+55	0.0167	0.04	Q	V				
11+ 0	0.0170	0.04	Q	V				
11+ 5	0.0172	0.04	Q	V				
11+10	0.0175	0.04	Q	V				
11+15	0.0177	0.04	Q	V				
11+20	0.0180	0.04	Q	V				
11+25	0.0183	0.04	Q	V				

11+30	0.0185	0.04	Q	V			
11+35	0.0188	0.04	Q	V			
11+40	0.0190	0.03	Q	V			
11+45	0.0192	0.03	Q	V			
11+50	0.0195	0.03	Q	V			
11+55	0.0197	0.04	Q	V			
12+ 0	0.0199	0.04	Q	V			
12+ 5	0.0203	0.05	Q	V			
12+10	0.0206	0.05	Q	V			
12+15	0.0210	0.06	Q	V			
12+20	0.0215	0.07	Q	V			
12+25	0.0221	0.08	Q	V			
12+30	0.0227	0.08	Q	V			
12+35	0.0234	0.11	Q	V			
12+40	0.0243	0.13	Q	V			
12+45	0.0252	0.13	Q	V			
12+50	0.0262	0.14	Q	V			
12+55	0.0272	0.15	Q	V			
13+ 0	0.0283	0.16	Q	V			
13+ 5	0.0298	0.22	Q	V			
13+10	0.0316	0.25	Q	V			
13+15	0.0333	0.26	Q	V			
13+20	0.0352	0.26	Q	V			
13+25	0.0370	0.26	Q	V			
13+30	0.0388	0.27	Q	V			
13+35	0.0398	0.14	Q	V			
13+40	0.0402	0.06	Q	V			
13+45	0.0406	0.06	Q	V			
13+50	0.0410	0.06	Q	V			
13+55	0.0414	0.06	Q	V			
14+ 0	0.0418	0.06	Q	V			
14+ 5	0.0426	0.11	Q	V			
14+10	0.0436	0.14	Q	V			
14+15	0.0446	0.15	Q	V			
14+20	0.0455	0.14	Q	V			
14+25	0.0464	0.13	Q	V			
14+30	0.0474	0.13	Q	V			
14+35	0.0483	0.14	Q	V			
14+40	0.0492	0.14	Q	V			
14+45	0.0502	0.14	Q	V			
14+50	0.0511	0.13	Q	V			
14+55	0.0519	0.12	Q	V			
15+ 0	0.0528	0.12	Q	V			
15+ 5	0.0536	0.11	Q	V			
15+10	0.0543	0.11	Q	V			
15+15	0.0551	0.11	Q	V			
15+20	0.0558	0.10	Q	V			
15+25	0.0565	0.10	Q	V			
15+30	0.0571	0.10	Q	V			
15+35	0.0575	0.06	Q	V			

15+40	0.0578	0.04	Q				V
15+45	0.0581	0.04	Q				V
15+50	0.0583	0.04	Q				V
15+55	0.0586	0.04	Q				V
16+ 0	0.0588	0.04	Q				V
16+ 5	0.0590	0.02	Q				V
16+10	0.0590	0.01	Q				V
16+15	0.0591	0.01	Q				V
16+20	0.0592	0.01	Q				V
16+25	0.0592	0.01	Q				V
16+30	0.0593	0.01	Q				V
16+35	0.0593	0.01	Q				V
16+40	0.0593	0.01	Q				V
16+45	0.0594	0.01	Q				V
16+50	0.0594	0.01	Q				V
16+55	0.0595	0.01	Q				V
17+ 0	0.0595	0.01	Q				V
17+ 5	0.0596	0.01	Q				V
17+10	0.0596	0.01	Q				V
17+15	0.0597	0.01	Q				V
17+20	0.0598	0.01	Q				V
17+25	0.0598	0.01	Q				V
17+30	0.0599	0.01	Q				V
17+35	0.0600	0.01	Q				V
17+40	0.0600	0.01	Q				V
17+45	0.0601	0.01	Q				V
17+50	0.0602	0.01	Q				V
17+55	0.0602	0.01	Q				V
18+ 0	0.0603	0.01	Q				V
18+ 5	0.0603	0.01	Q				V
18+10	0.0604	0.01	Q				V
18+15	0.0604	0.01	Q				V
18+20	0.0605	0.01	Q				V
18+25	0.0605	0.01	Q				V
18+30	0.0606	0.01	Q				V
18+35	0.0606	0.01	Q				V
18+40	0.0607	0.01	Q				V
18+45	0.0607	0.01	Q				V
18+50	0.0608	0.00	Q				V
18+55	0.0608	0.00	Q				V
19+ 0	0.0608	0.00	Q				V
19+ 5	0.0609	0.01	Q				V
19+10	0.0609	0.01	Q				V
19+15	0.0609	0.01	Q				V
19+20	0.0610	0.01	Q				V
19+25	0.0610	0.01	Q				V
19+30	0.0611	0.01	Q				V
19+35	0.0611	0.01	Q				V
19+40	0.0612	0.01	Q				V
19+45	0.0612	0.01	Q				V

19+50	0.0613	0.00	Q				V
19+55	0.0613	0.00	Q				V
20+ 0	0.0613	0.00	Q				V
20+ 5	0.0613	0.01	Q				V
20+10	0.0614	0.01	Q				V
20+15	0.0614	0.01	Q				V
20+20	0.0615	0.01	Q				V
20+25	0.0615	0.01	Q				V
20+30	0.0615	0.01	Q				V
20+35	0.0616	0.01	Q				V
20+40	0.0616	0.01	Q				V
20+45	0.0617	0.01	Q				V
20+50	0.0617	0.00	Q				V
20+55	0.0617	0.00	Q				V
21+ 0	0.0618	0.00	Q				V
21+ 5	0.0618	0.01	Q				V
21+10	0.0618	0.01	Q				V
21+15	0.0619	0.01	Q				V
21+20	0.0619	0.00	Q				V
21+25	0.0619	0.00	Q				V
21+30	0.0620	0.00	Q				V
21+35	0.0620	0.01	Q				V
21+40	0.0620	0.01	Q				V
21+45	0.0621	0.01	Q				V
21+50	0.0621	0.00	Q				V
21+55	0.0621	0.00	Q				V
22+ 0	0.0622	0.00	Q				V
22+ 5	0.0622	0.01	Q				V
22+10	0.0622	0.01	Q				V
22+15	0.0623	0.01	Q				V
22+20	0.0623	0.00	Q				V
22+25	0.0623	0.00	Q				V
22+30	0.0624	0.00	Q				V
22+35	0.0624	0.00	Q				V
22+40	0.0624	0.00	Q				V
22+45	0.0624	0.00	Q				V
22+50	0.0625	0.00	Q				V
22+55	0.0625	0.00	Q				V
23+ 0	0.0625	0.00	Q				V
23+ 5	0.0626	0.00	Q				V
23+10	0.0626	0.00	Q				V
23+15	0.0626	0.00	Q				V
23+20	0.0626	0.00	Q				V
23+25	0.0627	0.00	Q				V
23+30	0.0627	0.00	Q				V
23+35	0.0627	0.00	Q				V
23+40	0.0627	0.00	Q				V
23+45	0.0628	0.00	Q				V
23+50	0.0628	0.00	Q				V
23+55	0.0628	0.00	Q				V

24+ 0	0.0629	0.00	Q				V
24+ 5	0.0629	0.00	Q				V
24+10	0.0629	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE12.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
2-Year
1-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	0.48	0.09

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	1.34	0.25

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.483(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.483(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	511.079	71.465
2	0.167	1022.158	28.535
		Sum = 100.000	Sum= 0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.255	(0.537)	0.230	0.026
2	0.17	4.50	0.261	(0.537)	0.235	0.026
3	0.25	5.40	0.313	(0.537)	0.282	0.031
4	0.33	5.40	0.313	(0.537)	0.282	0.031
5	0.42	5.70	0.330	(0.537)	0.297	0.033
6	0.50	6.40	0.371	(0.537)	0.334	0.037
7	0.58	7.90	0.458	(0.537)	0.412	0.046
8	0.67	9.10	0.527	(0.537)	0.475	0.053
9	0.75	12.80	0.742	0.537	(0.668)	0.205
10	0.83	25.60	1.484	0.537	(1.335)	0.946
11	0.92	7.90	0.458	(0.537)	0.412	0.046
12	1.00	4.90	0.284	(0.537)	0.256	0.028

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.5

Flood volume = Effective rainfall 0.13(In)

times area $0.2(\text{Ac.})/[(\text{In})/(\text{Ft.})] =$ $0.0(\text{Ac. Ft})$

$$\text{Total soil loss} = 0.36(\text{In})$$

Total soil loss = 0.006(Ac.Ft)

Total rainfall = 0.48(In)

Flood volume = 86.2 Cubic Feet

Total soil loss = 245.2 Cubic Feet

Peak flow rate of this hydrograph = 0.140(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	θ	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q					
0+10	0.0001	0.00	QV					
0+15	0.0001	0.01	QV					
0+20	0.0001	0.01	Q V					
0+25	0.0002	0.01	Q V					
0+30	0.0002	0.01	Q V					
0+35	0.0003	0.01	Q V					
0+40	0.0004	0.01	Q V					
0+45	0.0006	0.03	Q		V			
0+50	0.0015	0.14	Q				V	
0+55	0.0019	0.06	Q					V
1+ 0	0.0020	0.01	Q					V

1+ 5

0.0020

0.00 Q

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V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
2-Year
3-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	0.88	0.17

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	2.20	0.42

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 0.877(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.877(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.137	(0.537)	0.123	0.014
2	0.17	1.30	0.137	(0.537)	0.123	0.014
3	0.25	1.10	0.116	(0.537)	0.104	0.012
4	0.33	1.50	0.158	(0.537)	0.142	0.016
5	0.42	1.50	0.158	(0.537)	0.142	0.016
6	0.50	1.80	0.189	(0.537)	0.170	0.019
7	0.58	1.50	0.158	(0.537)	0.142	0.016
8	0.67	1.80	0.189	(0.537)	0.170	0.019
9	0.75	1.80	0.189	(0.537)	0.170	0.019
10	0.83	1.50	0.158	(0.537)	0.142	0.016
11	0.92	1.60	0.168	(0.537)	0.152	0.017
12	1.00	1.80	0.189	(0.537)	0.170	0.019
13	1.08	2.20	0.232	(0.537)	0.208	0.023
14	1.17	2.20	0.232	(0.537)	0.208	0.023
15	1.25	2.20	0.232	(0.537)	0.208	0.023
16	1.33	2.00	0.210	(0.537)	0.189	0.021
17	1.42	2.60	0.274	(0.537)	0.246	0.027
18	1.50	2.70	0.284	(0.537)	0.256	0.028
19	1.58	2.40	0.253	(0.537)	0.227	0.025
20	1.67	2.70	0.284	(0.537)	0.256	0.028
21	1.75	3.30	0.347	(0.537)	0.313	0.035
22	1.83	3.10	0.326	(0.537)	0.294	0.033
23	1.92	2.90	0.305	(0.537)	0.275	0.031
24	2.00	3.00	0.316	(0.537)	0.284	0.032
25	2.08	3.10	0.326	(0.537)	0.294	0.033
26	2.17	4.20	0.442	(0.537)	0.398	0.044
27	2.25	5.00	0.526	(0.537)	0.474	0.053
28	2.33	3.50	0.368	(0.537)	0.332	0.037
29	2.42	6.80	0.716	0.537	(0.644)	0.178
30	2.50	7.30	0.768	0.537	(0.691)	0.231
31	2.58	8.20	0.863	0.537	(0.777)	0.326
32	2.67	5.90	0.621	0.537	(0.559)	0.084
33	2.75	2.00	0.210	(0.537)	0.189	0.021
34	2.83	1.80	0.189	(0.537)	0.170	0.019
35	2.92	1.80	0.189	(0.537)	0.170	0.019
36	3.00	0.60	0.063	(0.537)	0.057	0.006

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.6

Flood volume = Effective rainfall 0.13(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.75(In)
Total soil loss = 0.012(Ac.Ft)
Total rainfall = 0.88(In)
Flood volume = 90.0 Cubic Feet
Total soil loss = 511.7 Cubic Feet

Peak flow rate of this hydrograph = 0.057(CFS)

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3 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

 Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q					
0+10	0.0000	0.00	Q					
0+15	0.0000	0.00	Q					
0+20	0.0001	0.00	QV					
0+25	0.0001	0.00	QV					
0+30	0.0001	0.00	Q V					
0+35	0.0001	0.00	Q V					
0+40	0.0002	0.00	Q V					
0+45	0.0002	0.00	Q V					
0+50	0.0002	0.00	Q V					
0+55	0.0002	0.00	Q V					
1+ 0	0.0002	0.00	Q V					
1+ 5	0.0003	0.00	Q V					
1+10	0.0003	0.00	Q V					
1+15	0.0003	0.00	Q V					
1+20	0.0004	0.00	Q V					
1+25	0.0004	0.00	Q V					
1+30	0.0004	0.01	Q V					
1+35	0.0005	0.00	Q V					
1+40	0.0005	0.01	Q V					
1+45	0.0006	0.01	Q V					
1+50	0.0006	0.01	Q V					
1+55	0.0006	0.01	Q V					
2+ 0	0.0007	0.01	Q V					
2+ 5	0.0007	0.01	Q V					
2+10	0.0008	0.01	Q V					
2+15	0.0008	0.01	Q V					
2+20	0.0009	0.01	Q V					
2+25	0.0011	0.03	Q V					
2+30	0.0014	0.04	Q V					
2+35	0.0017	0.06	Q V					
2+40	0.0019	0.03	Q V					
2+45	0.0020	0.01	Q V					
2+50	0.0020	0.00	Q V					
2+55	0.0021	0.00	Q V					
3+ 0	0.0021	0.00	Q V					
3+ 5	0.0021	0.00	Q V					

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
2-Year
6-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	1.27	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	3.12	0.59

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.270(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.270(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.076	(0.537)	0.069	0.008
2	0.17	0.60	0.091	(0.537)	0.082	0.009
3	0.25	0.60	0.091	(0.537)	0.082	0.009
4	0.33	0.60	0.091	(0.537)	0.082	0.009
5	0.42	0.60	0.091	(0.537)	0.082	0.009
6	0.50	0.70	0.107	(0.537)	0.096	0.011
7	0.58	0.70	0.107	(0.537)	0.096	0.011
8	0.67	0.70	0.107	(0.537)	0.096	0.011
9	0.75	0.70	0.107	(0.537)	0.096	0.011
10	0.83	0.70	0.107	(0.537)	0.096	0.011
11	0.92	0.70	0.107	(0.537)	0.096	0.011
12	1.00	0.80	0.122	(0.537)	0.110	0.012
13	1.08	0.80	0.122	(0.537)	0.110	0.012
14	1.17	0.80	0.122	(0.537)	0.110	0.012
15	1.25	0.80	0.122	(0.537)	0.110	0.012
16	1.33	0.80	0.122	(0.537)	0.110	0.012
17	1.42	0.80	0.122	(0.537)	0.110	0.012
18	1.50	0.80	0.122	(0.537)	0.110	0.012
19	1.58	0.80	0.122	(0.537)	0.110	0.012
20	1.67	0.80	0.122	(0.537)	0.110	0.012
21	1.75	0.80	0.122	(0.537)	0.110	0.012
22	1.83	0.80	0.122	(0.537)	0.110	0.012
23	1.92	0.80	0.122	(0.537)	0.110	0.012
24	2.00	0.90	0.137	(0.537)	0.123	0.014
25	2.08	0.80	0.122	(0.537)	0.110	0.012
26	2.17	0.90	0.137	(0.537)	0.123	0.014
27	2.25	0.90	0.137	(0.537)	0.123	0.014
28	2.33	0.90	0.137	(0.537)	0.123	0.014
29	2.42	0.90	0.137	(0.537)	0.123	0.014
30	2.50	0.90	0.137	(0.537)	0.123	0.014
31	2.58	0.90	0.137	(0.537)	0.123	0.014
32	2.67	0.90	0.137	(0.537)	0.123	0.014
33	2.75	1.00	0.152	(0.537)	0.137	0.015
34	2.83	1.00	0.152	(0.537)	0.137	0.015
35	2.92	1.00	0.152	(0.537)	0.137	0.015
36	3.00	1.00	0.152	(0.537)	0.137	0.015
37	3.08	1.00	0.152	(0.537)	0.137	0.015
38	3.17	1.10	0.168	(0.537)	0.151	0.017
39	3.25	1.10	0.168	(0.537)	0.151	0.017
40	3.33	1.10	0.168	(0.537)	0.151	0.017
41	3.42	1.20	0.183	(0.537)	0.165	0.018
42	3.50	1.30	0.198	(0.537)	0.178	0.020
43	3.58	1.40	0.213	(0.537)	0.192	0.021
44	3.67	1.40	0.213	(0.537)	0.192	0.021
45	3.75	1.50	0.229	(0.537)	0.206	0.023
46	3.83	1.50	0.229	(0.537)	0.206	0.023
47	3.92	1.60	0.244	(0.537)	0.219	0.024

48	4.00	1.60	0.244	(0.537)	0.219	0.024
49	4.08	1.70	0.259	(0.537)	0.233	0.026
50	4.17	1.80	0.274	(0.537)	0.247	0.027
51	4.25	1.90	0.290	(0.537)	0.261	0.029
52	4.33	2.00	0.305	(0.537)	0.274	0.030
53	4.42	2.10	0.320	(0.537)	0.288	0.032
54	4.50	2.10	0.320	(0.537)	0.288	0.032
55	4.58	2.20	0.335	(0.537)	0.302	0.034
56	4.67	2.30	0.351	(0.537)	0.315	0.035
57	4.75	2.40	0.366	(0.537)	0.329	0.037
58	4.83	2.40	0.366	(0.537)	0.329	0.037
59	4.92	2.50	0.381	(0.537)	0.343	0.038
60	5.00	2.60	0.396	(0.537)	0.357	0.040
61	5.08	3.10	0.472	(0.537)	0.425	0.047
62	5.17	3.60	0.549	(0.537)	0.494	0.055
63	5.25	3.90	0.594	(0.537)	0.535	0.059
64	5.33	4.20	0.640	0.537	(0.576)	0.103
65	5.42	4.70	0.716	0.537	(0.645)	0.179
66	5.50	5.60	0.853	0.537	(0.768)	0.316
67	5.58	1.90	0.290	(0.537)	0.261	0.029
68	5.67	0.90	0.137	(0.537)	0.123	0.014
69	5.75	0.60	0.091	(0.537)	0.082	0.009
70	5.83	0.50	0.076	(0.537)	0.069	0.008
71	5.92	0.30	0.046	(0.537)	0.041	0.005
72	6.00	0.20	0.030	(0.537)	0.027	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.9

Flood volume = Effective rainfall 0.16(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.11(In)
Total soil loss = 0.018(Ac.Ft)
Total rainfall = 1.27(In)
Flood volume = 108.7 Cubic Feet
Total soil loss = 762.6 Cubic Feet

Peak flow rate of this hydrograph = 0.053(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0000	0.00	Q				

0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	QV				
0+35	0.0001	0.00	QV				
0+40	0.0001	0.00	QV				
0+45	0.0001	0.00	QV				
0+50	0.0001	0.00	QV				
0+55	0.0001	0.00	Q V				
1+ 0	0.0002	0.00	Q V				
1+ 5	0.0002	0.00	Q V				
1+10	0.0002	0.00	Q V				
1+15	0.0002	0.00	Q V				
1+20	0.0002	0.00	Q V				
1+25	0.0002	0.00	Q V				
1+30	0.0002	0.00	Q V				
1+35	0.0003	0.00	Q V				
1+40	0.0003	0.00	Q V				
1+45	0.0003	0.00	Q V				
1+50	0.0003	0.00	Q V				
1+55	0.0003	0.00	Q V				
2+ 0	0.0003	0.00	Q V				
2+ 5	0.0004	0.00	Q V				
2+10	0.0004	0.00	Q V				
2+15	0.0004	0.00	Q V				
2+20	0.0004	0.00	Q V				
2+25	0.0004	0.00	Q V				
2+30	0.0005	0.00	Q V				
2+35	0.0005	0.00	Q V				
2+40	0.0005	0.00	Q V				
2+45	0.0005	0.00	Q V				
2+50	0.0005	0.00	Q V				
2+55	0.0005	0.00	Q V				
3+ 0	0.0006	0.00	Q V				
3+ 5	0.0006	0.00	Q V				
3+10	0.0006	0.00	Q V				
3+15	0.0006	0.00	Q V				
3+20	0.0007	0.00	Q V				
3+25	0.0007	0.00	Q V				
3+30	0.0007	0.00	Q V				
3+35	0.0007	0.00	Q V				
3+40	0.0008	0.00	Q V				
3+45	0.0008	0.00	Q V				
3+50	0.0008	0.00	Q V				
3+55	0.0008	0.00	Q V				
4+ 0	0.0009	0.00	Q V				
4+ 5	0.0009	0.00	Q V				
4+10	0.0009	0.01	Q V				
4+15	0.0010	0.01	Q V				
4+20	0.0010	0.01	Q V				
4+25	0.0011	0.01	Q V				
4+30	0.0011	0.01	Q V				

4+35	0.0012	0.01	Q		V			
4+40	0.0012	0.01	Q		V			
4+45	0.0012	0.01	Q		V			
4+50	0.0013	0.01	Q		V			
4+55	0.0013	0.01	Q		V			
5+ 0	0.0014	0.01	Q		V			
5+ 5	0.0015	0.01	Q		V			
5+10	0.0015	0.01	Q		V			
5+15	0.0016	0.01	Q		V			
5+20	0.0017	0.02	Q		V			
5+25	0.0019	0.03	Q		V			
5+30	0.0023	0.05	Q		V			
5+35	0.0024	0.02	Q			V		
5+40	0.0025	0.00	Q				V	
5+45	0.0025	0.00	Q				V	
5+50	0.0025	0.00	Q				V	
5+55	0.0025	0.00	Q				V	
6+ 0	0.0025	0.00	Q				V	
6+ 5	0.0025	0.00	Q				V	

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
2-Year
24-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	2.43	0.46

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	6.58	1.24

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 2.430(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.430(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.019	(0.953)	0.017	0.002
2	0.17	0.07	0.019	(0.949)	0.017	0.002
3	0.25	0.07	0.019	(0.945)	0.017	0.002
4	0.33	0.10	0.029	(0.941)	0.026	0.003
5	0.42	0.10	0.029	(0.938)	0.026	0.003
6	0.50	0.10	0.029	(0.934)	0.026	0.003
7	0.58	0.10	0.029	(0.931)	0.026	0.003
8	0.67	0.10	0.029	(0.927)	0.026	0.003
9	0.75	0.10	0.029	(0.923)	0.026	0.003
10	0.83	0.13	0.039	(0.920)	0.035	0.004
11	0.92	0.13	0.039	(0.916)	0.035	0.004
12	1.00	0.13	0.039	(0.912)	0.035	0.004
13	1.08	0.10	0.029	(0.909)	0.026	0.003
14	1.17	0.10	0.029	(0.905)	0.026	0.003
15	1.25	0.10	0.029	(0.902)	0.026	0.003
16	1.33	0.10	0.029	(0.898)	0.026	0.003
17	1.42	0.10	0.029	(0.894)	0.026	0.003
18	1.50	0.10	0.029	(0.891)	0.026	0.003
19	1.58	0.10	0.029	(0.887)	0.026	0.003
20	1.67	0.10	0.029	(0.884)	0.026	0.003
21	1.75	0.10	0.029	(0.880)	0.026	0.003
22	1.83	0.13	0.039	(0.877)	0.035	0.004
23	1.92	0.13	0.039	(0.873)	0.035	0.004
24	2.00	0.13	0.039	(0.870)	0.035	0.004
25	2.08	0.13	0.039	(0.866)	0.035	0.004
26	2.17	0.13	0.039	(0.863)	0.035	0.004
27	2.25	0.13	0.039	(0.859)	0.035	0.004
28	2.33	0.13	0.039	(0.856)	0.035	0.004
29	2.42	0.13	0.039	(0.852)	0.035	0.004
30	2.50	0.13	0.039	(0.849)	0.035	0.004
31	2.58	0.17	0.049	(0.845)	0.044	0.005
32	2.67	0.17	0.049	(0.842)	0.044	0.005
33	2.75	0.17	0.049	(0.838)	0.044	0.005
34	2.83	0.17	0.049	(0.835)	0.044	0.005
35	2.92	0.17	0.049	(0.831)	0.044	0.005
36	3.00	0.17	0.049	(0.828)	0.044	0.005
37	3.08	0.17	0.049	(0.824)	0.044	0.005
38	3.17	0.17	0.049	(0.821)	0.044	0.005
39	3.25	0.17	0.049	(0.818)	0.044	0.005
40	3.33	0.17	0.049	(0.814)	0.044	0.005
41	3.42	0.17	0.049	(0.811)	0.044	0.005
42	3.50	0.17	0.049	(0.807)	0.044	0.005
43	3.58	0.17	0.049	(0.804)	0.044	0.005
44	3.67	0.17	0.049	(0.801)	0.044	0.005
45	3.75	0.17	0.049	(0.797)	0.044	0.005
46	3.83	0.20	0.058	(0.794)	0.052	0.006
47	3.92	0.20	0.058	(0.791)	0.052	0.006

48	4.00	0.20	0.058	(0.787)	0.052	0.006
49	4.08	0.20	0.058	(0.784)	0.052	0.006
50	4.17	0.20	0.058	(0.781)	0.052	0.006
51	4.25	0.20	0.058	(0.777)	0.052	0.006
52	4.33	0.23	0.068	(0.774)	0.061	0.007
53	4.42	0.23	0.068	(0.771)	0.061	0.007
54	4.50	0.23	0.068	(0.767)	0.061	0.007
55	4.58	0.23	0.068	(0.764)	0.061	0.007
56	4.67	0.23	0.068	(0.761)	0.061	0.007
57	4.75	0.23	0.068	(0.757)	0.061	0.007
58	4.83	0.27	0.078	(0.754)	0.070	0.008
59	4.92	0.27	0.078	(0.751)	0.070	0.008
60	5.00	0.27	0.078	(0.748)	0.070	0.008
61	5.08	0.20	0.058	(0.744)	0.052	0.006
62	5.17	0.20	0.058	(0.741)	0.052	0.006
63	5.25	0.20	0.058	(0.738)	0.052	0.006
64	5.33	0.23	0.068	(0.735)	0.061	0.007
65	5.42	0.23	0.068	(0.732)	0.061	0.007
66	5.50	0.23	0.068	(0.728)	0.061	0.007
67	5.58	0.27	0.078	(0.725)	0.070	0.008
68	5.67	0.27	0.078	(0.722)	0.070	0.008
69	5.75	0.27	0.078	(0.719)	0.070	0.008
70	5.83	0.27	0.078	(0.716)	0.070	0.008
71	5.92	0.27	0.078	(0.712)	0.070	0.008
72	6.00	0.27	0.078	(0.709)	0.070	0.008
73	6.08	0.30	0.087	(0.706)	0.079	0.009
74	6.17	0.30	0.087	(0.703)	0.079	0.009
75	6.25	0.30	0.087	(0.700)	0.079	0.009
76	6.33	0.30	0.087	(0.697)	0.079	0.009
77	6.42	0.30	0.087	(0.694)	0.079	0.009
78	6.50	0.30	0.087	(0.690)	0.079	0.009
79	6.58	0.33	0.097	(0.687)	0.087	0.010
80	6.67	0.33	0.097	(0.684)	0.087	0.010
81	6.75	0.33	0.097	(0.681)	0.087	0.010
82	6.83	0.33	0.097	(0.678)	0.087	0.010
83	6.92	0.33	0.097	(0.675)	0.087	0.010
84	7.00	0.33	0.097	(0.672)	0.087	0.010
85	7.08	0.33	0.097	(0.669)	0.087	0.010
86	7.17	0.33	0.097	(0.666)	0.087	0.010
87	7.25	0.33	0.097	(0.663)	0.087	0.010
88	7.33	0.37	0.107	(0.660)	0.096	0.011
89	7.42	0.37	0.107	(0.657)	0.096	0.011
90	7.50	0.37	0.107	(0.654)	0.096	0.011
91	7.58	0.40	0.117	(0.651)	0.105	0.012
92	7.67	0.40	0.117	(0.648)	0.105	0.012
93	7.75	0.40	0.117	(0.645)	0.105	0.012
94	7.83	0.43	0.126	(0.642)	0.114	0.013
95	7.92	0.43	0.126	(0.639)	0.114	0.013
96	8.00	0.43	0.126	(0.636)	0.114	0.013
97	8.08	0.50	0.146	(0.633)	0.131	0.015

98	8.17	0.50	0.146	(0.630)	0.131	0.015
99	8.25	0.50	0.146	(0.627)	0.131	0.015
100	8.33	0.50	0.146	(0.624)	0.131	0.015
101	8.42	0.50	0.146	(0.621)	0.131	0.015
102	8.50	0.50	0.146	(0.618)	0.131	0.015
103	8.58	0.53	0.156	(0.615)	0.140	0.016
104	8.67	0.53	0.156	(0.613)	0.140	0.016
105	8.75	0.53	0.156	(0.610)	0.140	0.016
106	8.83	0.57	0.165	(0.607)	0.149	0.017
107	8.92	0.57	0.165	(0.604)	0.149	0.017
108	9.00	0.57	0.165	(0.601)	0.149	0.017
109	9.08	0.63	0.185	(0.598)	0.166	0.018
110	9.17	0.63	0.185	(0.595)	0.166	0.018
111	9.25	0.63	0.185	(0.593)	0.166	0.018
112	9.33	0.67	0.194	(0.590)	0.175	0.019
113	9.42	0.67	0.194	(0.587)	0.175	0.019
114	9.50	0.67	0.194	(0.584)	0.175	0.019
115	9.58	0.70	0.204	(0.581)	0.184	0.020
116	9.67	0.70	0.204	(0.578)	0.184	0.020
117	9.75	0.70	0.204	(0.576)	0.184	0.020
118	9.83	0.73	0.214	(0.573)	0.192	0.021
119	9.92	0.73	0.214	(0.570)	0.192	0.021
120	10.00	0.73	0.214	(0.567)	0.192	0.021
121	10.08	0.50	0.146	(0.565)	0.131	0.015
122	10.17	0.50	0.146	(0.562)	0.131	0.015
123	10.25	0.50	0.146	(0.559)	0.131	0.015
124	10.33	0.50	0.146	(0.556)	0.131	0.015
125	10.42	0.50	0.146	(0.554)	0.131	0.015
126	10.50	0.50	0.146	(0.551)	0.131	0.015
127	10.58	0.67	0.194	(0.548)	0.175	0.019
128	10.67	0.67	0.194	(0.546)	0.175	0.019
129	10.75	0.67	0.194	(0.543)	0.175	0.019
130	10.83	0.67	0.194	(0.540)	0.175	0.019
131	10.92	0.67	0.194	(0.538)	0.175	0.019
132	11.00	0.67	0.194	(0.535)	0.175	0.019
133	11.08	0.63	0.185	(0.532)	0.166	0.018
134	11.17	0.63	0.185	(0.530)	0.166	0.018
135	11.25	0.63	0.185	(0.527)	0.166	0.018
136	11.33	0.63	0.185	(0.525)	0.166	0.018
137	11.42	0.63	0.185	(0.522)	0.166	0.018
138	11.50	0.63	0.185	(0.519)	0.166	0.018
139	11.58	0.57	0.165	(0.517)	0.149	0.017
140	11.67	0.57	0.165	(0.514)	0.149	0.017
141	11.75	0.57	0.165	(0.512)	0.149	0.017
142	11.83	0.60	0.175	(0.509)	0.157	0.017
143	11.92	0.60	0.175	(0.507)	0.157	0.017
144	12.00	0.60	0.175	(0.504)	0.157	0.017
145	12.08	0.83	0.243	(0.502)	0.219	0.024
146	12.17	0.83	0.243	(0.499)	0.219	0.024
147	12.25	0.83	0.243	(0.497)	0.219	0.024

148	12.33	0.87	0.253	(0.494)	0.227	0.025
149	12.42	0.87	0.253	(0.492)	0.227	0.025
150	12.50	0.87	0.253	(0.489)	0.227	0.025
151	12.58	0.93	0.272	(0.487)	0.245	0.027
152	12.67	0.93	0.272	(0.484)	0.245	0.027
153	12.75	0.93	0.272	(0.482)	0.245	0.027
154	12.83	0.97	0.282	(0.479)	0.254	0.028
155	12.92	0.97	0.282	(0.477)	0.254	0.028
156	13.00	0.97	0.282	(0.474)	0.254	0.028
157	13.08	1.13	0.330	(0.472)	0.297	0.033
158	13.17	1.13	0.330	(0.470)	0.297	0.033
159	13.25	1.13	0.330	(0.467)	0.297	0.033
160	13.33	1.13	0.330	(0.465)	0.297	0.033
161	13.42	1.13	0.330	(0.463)	0.297	0.033
162	13.50	1.13	0.330	(0.460)	0.297	0.033
163	13.58	0.77	0.224	(0.458)	0.201	0.022
164	13.67	0.77	0.224	(0.456)	0.201	0.022
165	13.75	0.77	0.224	(0.453)	0.201	0.022
166	13.83	0.77	0.224	(0.451)	0.201	0.022
167	13.92	0.77	0.224	(0.449)	0.201	0.022
168	14.00	0.77	0.224	(0.446)	0.201	0.022
169	14.08	0.90	0.262	(0.444)	0.236	0.026
170	14.17	0.90	0.262	(0.442)	0.236	0.026
171	14.25	0.90	0.262	(0.440)	0.236	0.026
172	14.33	0.87	0.253	(0.437)	0.227	0.025
173	14.42	0.87	0.253	(0.435)	0.227	0.025
174	14.50	0.87	0.253	(0.433)	0.227	0.025
175	14.58	0.87	0.253	(0.431)	0.227	0.025
176	14.67	0.87	0.253	(0.428)	0.227	0.025
177	14.75	0.87	0.253	(0.426)	0.227	0.025
178	14.83	0.83	0.243	(0.424)	0.219	0.024
179	14.92	0.83	0.243	(0.422)	0.219	0.024
180	15.00	0.83	0.243	(0.420)	0.219	0.024
181	15.08	0.80	0.233	(0.418)	0.210	0.023
182	15.17	0.80	0.233	(0.415)	0.210	0.023
183	15.25	0.80	0.233	(0.413)	0.210	0.023
184	15.33	0.77	0.224	(0.411)	0.201	0.022
185	15.42	0.77	0.224	(0.409)	0.201	0.022
186	15.50	0.77	0.224	(0.407)	0.201	0.022
187	15.58	0.63	0.185	(0.405)	0.166	0.018
188	15.67	0.63	0.185	(0.403)	0.166	0.018
189	15.75	0.63	0.185	(0.401)	0.166	0.018
190	15.83	0.63	0.185	(0.399)	0.166	0.018
191	15.92	0.63	0.185	(0.397)	0.166	0.018
192	16.00	0.63	0.185	(0.395)	0.166	0.018
193	16.08	0.13	0.039	(0.393)	0.035	0.004
194	16.17	0.13	0.039	(0.391)	0.035	0.004
195	16.25	0.13	0.039	(0.389)	0.035	0.004
196	16.33	0.13	0.039	(0.387)	0.035	0.004
197	16.42	0.13	0.039	(0.385)	0.035	0.004

198	16.50	0.13	0.039	(0.383)	0.035	0.004
199	16.58	0.10	0.029	(0.381)	0.026	0.003
200	16.67	0.10	0.029	(0.379)	0.026	0.003
201	16.75	0.10	0.029	(0.377)	0.026	0.003
202	16.83	0.10	0.029	(0.375)	0.026	0.003
203	16.92	0.10	0.029	(0.373)	0.026	0.003
204	17.00	0.10	0.029	(0.371)	0.026	0.003
205	17.08	0.17	0.049	(0.369)	0.044	0.005
206	17.17	0.17	0.049	(0.367)	0.044	0.005
207	17.25	0.17	0.049	(0.366)	0.044	0.005
208	17.33	0.17	0.049	(0.364)	0.044	0.005
209	17.42	0.17	0.049	(0.362)	0.044	0.005
210	17.50	0.17	0.049	(0.360)	0.044	0.005
211	17.58	0.17	0.049	(0.358)	0.044	0.005
212	17.67	0.17	0.049	(0.357)	0.044	0.005
213	17.75	0.17	0.049	(0.355)	0.044	0.005
214	17.83	0.13	0.039	(0.353)	0.035	0.004
215	17.92	0.13	0.039	(0.351)	0.035	0.004
216	18.00	0.13	0.039	(0.349)	0.035	0.004
217	18.08	0.13	0.039	(0.348)	0.035	0.004
218	18.17	0.13	0.039	(0.346)	0.035	0.004
219	18.25	0.13	0.039	(0.344)	0.035	0.004
220	18.33	0.13	0.039	(0.343)	0.035	0.004
221	18.42	0.13	0.039	(0.341)	0.035	0.004
222	18.50	0.13	0.039	(0.339)	0.035	0.004
223	18.58	0.10	0.029	(0.338)	0.026	0.003
224	18.67	0.10	0.029	(0.336)	0.026	0.003
225	18.75	0.10	0.029	(0.334)	0.026	0.003
226	18.83	0.07	0.019	(0.333)	0.017	0.002
227	18.92	0.07	0.019	(0.331)	0.017	0.002
228	19.00	0.07	0.019	(0.330)	0.017	0.002
229	19.08	0.10	0.029	(0.328)	0.026	0.003
230	19.17	0.10	0.029	(0.327)	0.026	0.003
231	19.25	0.10	0.029	(0.325)	0.026	0.003
232	19.33	0.13	0.039	(0.324)	0.035	0.004
233	19.42	0.13	0.039	(0.322)	0.035	0.004
234	19.50	0.13	0.039	(0.321)	0.035	0.004
235	19.58	0.10	0.029	(0.319)	0.026	0.003
236	19.67	0.10	0.029	(0.318)	0.026	0.003
237	19.75	0.10	0.029	(0.316)	0.026	0.003
238	19.83	0.07	0.019	(0.315)	0.017	0.002
239	19.92	0.07	0.019	(0.313)	0.017	0.002
240	20.00	0.07	0.019	(0.312)	0.017	0.002
241	20.08	0.10	0.029	(0.311)	0.026	0.003
242	20.17	0.10	0.029	(0.309)	0.026	0.003
243	20.25	0.10	0.029	(0.308)	0.026	0.003
244	20.33	0.10	0.029	(0.307)	0.026	0.003
245	20.42	0.10	0.029	(0.305)	0.026	0.003
246	20.50	0.10	0.029	(0.304)	0.026	0.003
247	20.58	0.10	0.029	(0.303)	0.026	0.003

248	20.67	0.10	0.029	(0.301)	0.026	0.003
249	20.75	0.10	0.029	(0.300)	0.026	0.003
250	20.83	0.07	0.019	(0.299)	0.017	0.002
251	20.92	0.07	0.019	(0.298)	0.017	0.002
252	21.00	0.07	0.019	(0.297)	0.017	0.002
253	21.08	0.10	0.029	(0.295)	0.026	0.003
254	21.17	0.10	0.029	(0.294)	0.026	0.003
255	21.25	0.10	0.029	(0.293)	0.026	0.003
256	21.33	0.07	0.019	(0.292)	0.017	0.002
257	21.42	0.07	0.019	(0.291)	0.017	0.002
258	21.50	0.07	0.019	(0.290)	0.017	0.002
259	21.58	0.10	0.029	(0.289)	0.026	0.003
260	21.67	0.10	0.029	(0.288)	0.026	0.003
261	21.75	0.10	0.029	(0.287)	0.026	0.003
262	21.83	0.07	0.019	(0.286)	0.017	0.002
263	21.92	0.07	0.019	(0.285)	0.017	0.002
264	22.00	0.07	0.019	(0.284)	0.017	0.002
265	22.08	0.10	0.029	(0.283)	0.026	0.003
266	22.17	0.10	0.029	(0.282)	0.026	0.003
267	22.25	0.10	0.029	(0.281)	0.026	0.003
268	22.33	0.07	0.019	(0.280)	0.017	0.002
269	22.42	0.07	0.019	(0.279)	0.017	0.002
270	22.50	0.07	0.019	(0.278)	0.017	0.002
271	22.58	0.07	0.019	(0.278)	0.017	0.002
272	22.67	0.07	0.019	(0.277)	0.017	0.002
273	22.75	0.07	0.019	(0.276)	0.017	0.002
274	22.83	0.07	0.019	(0.275)	0.017	0.002
275	22.92	0.07	0.019	(0.275)	0.017	0.002
276	23.00	0.07	0.019	(0.274)	0.017	0.002
277	23.08	0.07	0.019	(0.273)	0.017	0.002
278	23.17	0.07	0.019	(0.273)	0.017	0.002
279	23.25	0.07	0.019	(0.272)	0.017	0.002
280	23.33	0.07	0.019	(0.272)	0.017	0.002
281	23.42	0.07	0.019	(0.271)	0.017	0.002
282	23.50	0.07	0.019	(0.271)	0.017	0.002
283	23.58	0.07	0.019	(0.270)	0.017	0.002
284	23.67	0.07	0.019	(0.270)	0.017	0.002
285	23.75	0.07	0.019	(0.269)	0.017	0.002
286	23.83	0.07	0.019	(0.269)	0.017	0.002
287	23.92	0.07	0.019	(0.269)	0.017	0.002
288	24.00	0.07	0.019	(0.269)	0.017	0.002

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.9

Flood volume = Effective rainfall 0.24(In)

times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 2.19(In)

Total soil loss = 0.034(Ac.Ft)

Total rainfall = 2.43(In)

Flood volume = 166.7 Cubic Feet

Total soil loss = 1500.4 Cubic Feet

Peak flow rate of this hydrograph = 0.006(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000		0.00	Q				
0+10	0.0000		0.00	Q				
0+15	0.0000		0.00	Q				
0+20	0.0000		0.00	Q				
0+25	0.0000		0.00	Q				
0+30	0.0000		0.00	Q				
0+35	0.0000		0.00	Q				
0+40	0.0000		0.00	Q				
0+45	0.0000		0.00	Q				
0+50	0.0000		0.00	Q				
0+55	0.0000		0.00	Q				
1+ 0	0.0000		0.00	Q				
1+ 5	0.0000		0.00	Q				
1+10	0.0001		0.00	Q				
1+15	0.0001		0.00	Q				
1+20	0.0001		0.00	Q				
1+25	0.0001		0.00	Q				
1+30	0.0001		0.00	Q				
1+35	0.0001		0.00	Q				
1+40	0.0001		0.00	Q				
1+45	0.0001		0.00	Q				
1+50	0.0001		0.00	Q				
1+55	0.0001		0.00	Q				
2+ 0	0.0001		0.00	Q				
2+ 5	0.0001		0.00	QV				
2+10	0.0001		0.00	QV				
2+15	0.0001		0.00	QV				
2+20	0.0001		0.00	QV				
2+25	0.0001		0.00	QV				
2+30	0.0001		0.00	QV				
2+35	0.0001		0.00	QV				
2+40	0.0001		0.00	QV				
2+45	0.0001		0.00	QV				
2+50	0.0001		0.00	QV				
2+55	0.0002		0.00	QV				
3+ 0	0.0002		0.00	QV				
3+ 5	0.0002		0.00	QV				
3+10	0.0002		0.00	QV				

3+15	0.0002	0.00	QV				
3+20	0.0002	0.00	QV				
3+25	0.0002	0.00	Q V				
3+30	0.0002	0.00	Q V				
3+35	0.0002	0.00	Q V				
3+40	0.0002	0.00	Q V				
3+45	0.0002	0.00	Q V				
3+50	0.0002	0.00	Q V				
3+55	0.0002	0.00	Q V				
4+ 0	0.0002	0.00	Q V				
4+ 5	0.0003	0.00	Q V				
4+10	0.0003	0.00	Q V				
4+15	0.0003	0.00	Q V				
4+20	0.0003	0.00	Q V				
4+25	0.0003	0.00	Q V				
4+30	0.0003	0.00	Q V				
4+35	0.0003	0.00	Q V				
4+40	0.0003	0.00	Q V				
4+45	0.0003	0.00	Q V				
4+50	0.0003	0.00	Q V				
4+55	0.0003	0.00	Q V				
5+ 0	0.0003	0.00	Q V				
5+ 5	0.0004	0.00	Q V				
5+10	0.0004	0.00	Q V				
5+15	0.0004	0.00	Q V				
5+20	0.0004	0.00	Q V				
5+25	0.0004	0.00	Q V				
5+30	0.0004	0.00	Q V				
5+35	0.0004	0.00	Q V				
5+40	0.0004	0.00	Q V				
5+45	0.0004	0.00	Q V				
5+50	0.0004	0.00	Q V				
5+55	0.0004	0.00	Q V				
6+ 0	0.0005	0.00	Q V				
6+ 5	0.0005	0.00	Q V				
6+10	0.0005	0.00	Q V				
6+15	0.0005	0.00	Q V				
6+20	0.0005	0.00	Q V				
6+25	0.0005	0.00	Q V				
6+30	0.0005	0.00	Q V				
6+35	0.0005	0.00	Q V				
6+40	0.0006	0.00	Q V				
6+45	0.0006	0.00	Q V				
6+50	0.0006	0.00	Q V				
6+55	0.0006	0.00	Q V				
7+ 0	0.0006	0.00	Q V				
7+ 5	0.0006	0.00	Q V				
7+10	0.0006	0.00	Q V				
7+15	0.0006	0.00	Q V				
7+20	0.0007	0.00	Q V				

7+25	0.0007	0.00	Q	V				
7+30	0.0007	0.00	Q	V				
7+35	0.0007	0.00	Q	V				
7+40	0.0007	0.00	Q	V				
7+45	0.0007	0.00	Q	V				
7+50	0.0007	0.00	Q	V				
7+55	0.0008	0.00	Q	V				
8+ 0	0.0008	0.00	Q	V				
8+ 5	0.0008	0.00	Q	V				
8+10	0.0008	0.00	Q	V				
8+15	0.0008	0.00	Q	V				
8+20	0.0009	0.00	Q	V				
8+25	0.0009	0.00	Q	V				
8+30	0.0009	0.00	Q	V				
8+35	0.0009	0.00	Q	V				
8+40	0.0009	0.00	Q	V				
8+45	0.0010	0.00	Q	V				
8+50	0.0010	0.00	Q	V				
8+55	0.0010	0.00	Q	V				
9+ 0	0.0010	0.00	Q	V				
9+ 5	0.0010	0.00	Q	V				
9+10	0.0011	0.00	Q	V				
9+15	0.0011	0.00	Q	V				
9+20	0.0011	0.00	Q	V				
9+25	0.0011	0.00	Q	V				
9+30	0.0012	0.00	Q	V				
9+35	0.0012	0.00	Q	V				
9+40	0.0012	0.00	Q	V				
9+45	0.0012	0.00	Q	V				
9+50	0.0013	0.00	Q	V				
9+55	0.0013	0.00	Q	V				
10+ 0	0.0013	0.00	Q	V				
10+ 5	0.0014	0.00	Q	V				
10+10	0.0014	0.00	Q	V				
10+15	0.0014	0.00	Q	V				
10+20	0.0014	0.00	Q	V				
10+25	0.0014	0.00	Q	V				
10+30	0.0014	0.00	Q	V				
10+35	0.0015	0.00	Q	V				
10+40	0.0015	0.00	Q	V				
10+45	0.0015	0.00	Q	V				
10+50	0.0015	0.00	Q	V				
10+55	0.0016	0.00	Q	V				
11+ 0	0.0016	0.00	Q	V				
11+ 5	0.0016	0.00	Q	V				
11+10	0.0016	0.00	Q	V				
11+15	0.0017	0.00	Q	V				
11+20	0.0017	0.00	Q	V				
11+25	0.0017	0.00	Q	V				
11+30	0.0017	0.00	Q	V				

11+35	0.0018	0.00	Q	V			
11+40	0.0018	0.00	Q	V			
11+45	0.0018	0.00	Q	V			
11+50	0.0018	0.00	Q	V			
11+55	0.0019	0.00	Q	V			
12+ 0	0.0019	0.00	Q	V			
12+ 5	0.0019	0.00	Q	V			
12+10	0.0019	0.00	Q	V			
12+15	0.0020	0.00	Q	V			
12+20	0.0020	0.00	Q	V			
12+25	0.0020	0.00	Q	V			
12+30	0.0021	0.00	Q	V			
12+35	0.0021	0.01	Q	V			
12+40	0.0021	0.01	Q	V			
12+45	0.0022	0.01	Q	V			
12+50	0.0022	0.01	Q	V			
12+55	0.0023	0.01	Q	V			
13+ 0	0.0023	0.01	Q	V			
13+ 5	0.0023	0.01	Q	V			
13+10	0.0024	0.01	Q	V			
13+15	0.0024	0.01	Q	V			
13+20	0.0025	0.01	Q	V			
13+25	0.0025	0.01	Q	V			
13+30	0.0025	0.01	Q	V			
13+35	0.0026	0.00	Q	V			
13+40	0.0026	0.00	Q	V			
13+45	0.0026	0.00	Q	V			
13+50	0.0027	0.00	Q	V			
13+55	0.0027	0.00	Q	V			
14+ 0	0.0027	0.00	Q	V			
14+ 5	0.0028	0.00	Q	V			
14+10	0.0028	0.01	Q	V			
14+15	0.0028	0.01	Q	V			
14+20	0.0029	0.00	Q	V			
14+25	0.0029	0.00	Q	V			
14+30	0.0029	0.00	Q	V			
14+35	0.0030	0.00	Q	V			
14+40	0.0030	0.00	Q	V			
14+45	0.0030	0.00	Q	V			
14+50	0.0031	0.00	Q	V			
14+55	0.0031	0.00	Q	V			
15+ 0	0.0031	0.00	Q	V			
15+ 5	0.0032	0.00	Q	V			
15+10	0.0032	0.00	Q	V			
15+15	0.0032	0.00	Q	V			
15+20	0.0032	0.00	Q	V			
15+25	0.0033	0.00	Q	V			
15+30	0.0033	0.00	Q	V			
15+35	0.0033	0.00	Q	V			
15+40	0.0034	0.00	Q	V			

15+45	0.0034	0.00	Q				V
15+50	0.0034	0.00	Q				V
15+55	0.0034	0.00	Q				V
16+ 0	0.0035	0.00	Q				V
16+ 5	0.0035	0.00	Q				V
16+10	0.0035	0.00	Q				V
16+15	0.0035	0.00	Q				V
16+20	0.0035	0.00	Q				V
16+25	0.0035	0.00	Q				V
16+30	0.0035	0.00	Q				V
16+35	0.0035	0.00	Q				V
16+40	0.0035	0.00	Q				V
16+45	0.0035	0.00	Q				V
16+50	0.0035	0.00	Q				V
16+55	0.0035	0.00	Q				V
17+ 0	0.0035	0.00	Q				V
17+ 5	0.0035	0.00	Q				V
17+10	0.0035	0.00	Q				V
17+15	0.0035	0.00	Q				V
17+20	0.0035	0.00	Q				V
17+25	0.0035	0.00	Q				V
17+30	0.0035	0.00	Q				V
17+35	0.0036	0.00	Q				V
17+40	0.0036	0.00	Q				V
17+45	0.0036	0.00	Q				V
17+50	0.0036	0.00	Q				V
17+55	0.0036	0.00	Q				V
18+ 0	0.0036	0.00	Q				V
18+ 5	0.0036	0.00	Q				V
18+10	0.0036	0.00	Q				V
18+15	0.0036	0.00	Q				V
18+20	0.0036	0.00	Q				V
18+25	0.0036	0.00	Q				V
18+30	0.0036	0.00	Q				V
18+35	0.0036	0.00	Q				V
18+40	0.0036	0.00	Q				V
18+45	0.0036	0.00	Q				V
18+50	0.0036	0.00	Q				V
18+55	0.0036	0.00	Q				V
19+ 0	0.0036	0.00	Q				V
19+ 5	0.0036	0.00	Q				V
19+10	0.0036	0.00	Q				V
19+15	0.0036	0.00	Q				V
19+20	0.0037	0.00	Q				V
19+25	0.0037	0.00	Q				V
19+30	0.0037	0.00	Q				V
19+35	0.0037	0.00	Q				V
19+40	0.0037	0.00	Q				V
19+45	0.0037	0.00	Q				V
19+50	0.0037	0.00	Q				V

19+55	0.0037	0.00	Q				V
20+ 0	0.0037	0.00	Q				V
20+ 5	0.0037	0.00	Q				V
20+10	0.0037	0.00	Q				V
20+15	0.0037	0.00	Q				V
20+20	0.0037	0.00	Q				V
20+25	0.0037	0.00	Q				V
20+30	0.0037	0.00	Q				V
20+35	0.0037	0.00	Q				V
20+40	0.0037	0.00	Q				V
20+45	0.0037	0.00	Q				V
20+50	0.0037	0.00	Q				V
20+55	0.0037	0.00	Q				V
21+ 0	0.0037	0.00	Q				V
21+ 5	0.0037	0.00	Q				V
21+10	0.0037	0.00	Q				V
21+15	0.0037	0.00	Q				V
21+20	0.0037	0.00	Q				V
21+25	0.0037	0.00	Q				V
21+30	0.0037	0.00	Q				V
21+35	0.0037	0.00	Q				V
21+40	0.0037	0.00	Q				V
21+45	0.0038	0.00	Q				V
21+50	0.0038	0.00	Q				V
21+55	0.0038	0.00	Q				V
22+ 0	0.0038	0.00	Q				V
22+ 5	0.0038	0.00	Q				V
22+10	0.0038	0.00	Q				V
22+15	0.0038	0.00	Q				V
22+20	0.0038	0.00	Q				V
22+25	0.0038	0.00	Q				V
22+30	0.0038	0.00	Q				V
22+35	0.0038	0.00	Q				V
22+40	0.0038	0.00	Q				V
22+45	0.0038	0.00	Q				V
22+50	0.0038	0.00	Q				V
22+55	0.0038	0.00	Q				V
23+ 0	0.0038	0.00	Q				V
23+ 5	0.0038	0.00	Q				V
23+10	0.0038	0.00	Q				V
23+15	0.0038	0.00	Q				V
23+20	0.0038	0.00	Q				V
23+25	0.0038	0.00	Q				V
23+30	0.0038	0.00	Q				V
23+35	0.0038	0.00	Q				V
23+40	0.0038	0.00	Q				V
23+45	0.0038	0.00	Q				V
23+50	0.0038	0.00	Q				V
23+55	0.0038	0.00	Q				V
24+ 0	0.0038	0.00	Q				V

24+ 5

0.0038

0.00 Q

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Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
Study date 01/26/25 File: A2PRE15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
5-Year
1-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	0.48	0.09

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	1.34	0.25

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.684(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.684(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	511.079	71.465
2	0.167	1022.158	28.535
		Sum = 100.000	Sum= 0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.361	(0.537)	0.325	0.036
2	0.17	4.50	0.369	(0.537)	0.332	0.037
3	0.25	5.40	0.443	(0.537)	0.399	0.044
4	0.33	5.40	0.443	(0.537)	0.399	0.044
5	0.42	5.70	0.468	(0.537)	0.421	0.047
6	0.50	6.40	0.525	(0.537)	0.473	0.053
7	0.58	7.90	0.648	0.537	(0.583)	0.111
8	0.67	9.10	0.747	0.537	(0.672)	0.209
9	0.75	12.80	1.050	0.537	(0.945)	0.513
10	0.83	25.60	2.100	0.537	(1.890)	1.563
11	0.92	7.90	0.648	0.537	(0.583)	0.111
12	1.00	4.90	0.402	(0.537)	0.362	0.040

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.8

Flood volume = Effective rainfall 0.23(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.45(In)
Total soil loss = 0.007(Ac.Ft)
Total rainfall = 0.68(In)
Flood volume = 160.5 Cubic Feet
Total soil loss = 308.5 Cubic Feet

Peak flow rate of this hydrograph = 0.241(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q					
0+10	0.0001	0.01	Q					
0+15	0.0001	0.01	QV					
0+20	0.0002	0.01	Q V					
0+25	0.0003	0.01	Q V					
0+30	0.0003	0.01	Q V					
0+35	0.0004	0.02	Q V					
0+40	0.0007	0.03	Q	V				
0+45	0.0012	0.08	Q		V			
0+50	0.0029	0.24	Q				V	
0+55	0.0036	0.10	Q					V
1+ 0	0.0037	0.01	Q					V

1+ 5

0.0037

0.00 Q

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Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
5-Year
3-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	0.88	0.17

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	2.20	0.42

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.187(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.187(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.185	(0.537)	0.167	0.019
2	0.17	1.30	0.185	(0.537)	0.167	0.019
3	0.25	1.10	0.157	(0.537)	0.141	0.016
4	0.33	1.50	0.214	(0.537)	0.192	0.021
5	0.42	1.50	0.214	(0.537)	0.192	0.021
6	0.50	1.80	0.256	(0.537)	0.231	0.026
7	0.58	1.50	0.214	(0.537)	0.192	0.021
8	0.67	1.80	0.256	(0.537)	0.231	0.026
9	0.75	1.80	0.256	(0.537)	0.231	0.026
10	0.83	1.50	0.214	(0.537)	0.192	0.021
11	0.92	1.60	0.228	(0.537)	0.205	0.023
12	1.00	1.80	0.256	(0.537)	0.231	0.026
13	1.08	2.20	0.313	(0.537)	0.282	0.031
14	1.17	2.20	0.313	(0.537)	0.282	0.031
15	1.25	2.20	0.313	(0.537)	0.282	0.031
16	1.33	2.00	0.285	(0.537)	0.256	0.028
17	1.42	2.60	0.370	(0.537)	0.333	0.037
18	1.50	2.70	0.385	(0.537)	0.346	0.038
19	1.58	2.40	0.342	(0.537)	0.308	0.034
20	1.67	2.70	0.385	(0.537)	0.346	0.038
21	1.75	3.30	0.470	(0.537)	0.423	0.047
22	1.83	3.10	0.442	(0.537)	0.397	0.044
23	1.92	2.90	0.413	(0.537)	0.372	0.041
24	2.00	3.00	0.427	(0.537)	0.385	0.043
25	2.08	3.10	0.442	(0.537)	0.397	0.044
26	2.17	4.20	0.598	0.537	(0.538)	0.061
27	2.25	5.00	0.712	0.537	(0.641)	0.175
28	2.33	3.50	0.498	(0.537)	0.449	0.050
29	2.42	6.80	0.968	0.537	(0.872)	0.431
30	2.50	7.30	1.040	0.537	(0.936)	0.502
31	2.58	8.20	1.168	0.537	(1.051)	0.631
32	2.67	5.90	0.840	0.537	(0.756)	0.303
33	2.75	2.00	0.285	(0.537)	0.256	0.028
34	2.83	1.80	0.256	(0.537)	0.231	0.026
35	2.92	1.80	0.256	(0.537)	0.231	0.026
36	3.00	0.60	0.085	(0.537)	0.077	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 3.0

Flood volume = Effective rainfall 0.25(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.94(In)
Total soil loss = 0.015(Ac.Ft)
Total rainfall = 1.19(In)
Flood volume = 171.2 Cubic Feet
Total soil loss = 643.1 Cubic Feet

Peak flow rate of this hydrograph = 0.113(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q					
0+10	0.0000	0.00	Q					
0+15	0.0001	0.00	Q					
0+20	0.0001	0.00	Q					
0+25	0.0001	0.00	QV					
0+30	0.0001	0.00	QV					
0+35	0.0002	0.00	QV					
0+40	0.0002	0.00	Q V					
0+45	0.0002	0.00	Q V					
0+50	0.0003	0.00	Q V					
0+55	0.0003	0.00	Q V					
1+ 0	0.0003	0.00	Q V					
1+ 5	0.0004	0.01	Q V					
1+10	0.0004	0.01	Q V					
1+15	0.0005	0.01	Q V					
1+20	0.0005	0.01	Q V					
1+25	0.0005	0.01	Q V					
1+30	0.0006	0.01	Q V					
1+35	0.0006	0.01	Q V					
1+40	0.0007	0.01	Q V					
1+45	0.0007	0.01	Q V					
1+50	0.0008	0.01	Q V					
1+55	0.0009	0.01	Q V					
2+ 0	0.0009	0.01	Q V					
2+ 5	0.0010	0.01	Q V					
2+10	0.0010	0.01	Q V					
2+15	0.0012	0.03	Q		V			
2+20	0.0013	0.02	Q		V			
2+25	0.0018	0.06	Q			V		
2+30	0.0024	0.09	Q				V	
2+35	0.0032	0.11	Q				V	
2+40	0.0037	0.08	Q					V
2+45	0.0038	0.02	Q					V
2+50	0.0039	0.01	Q					V
2+55	0.0039	0.00	Q					V
3+ 0	0.0039	0.00	Q					V
3+ 5	0.0039	0.00	Q					V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
5-Year
6-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	1.27	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	3.12	0.59

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.703(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.703(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.102	(0.537)	0.092	0.010
2	0.17	0.60	0.123	(0.537)	0.110	0.012
3	0.25	0.60	0.123	(0.537)	0.110	0.012
4	0.33	0.60	0.123	(0.537)	0.110	0.012
5	0.42	0.60	0.123	(0.537)	0.110	0.012
6	0.50	0.70	0.143	(0.537)	0.129	0.014
7	0.58	0.70	0.143	(0.537)	0.129	0.014
8	0.67	0.70	0.143	(0.537)	0.129	0.014
9	0.75	0.70	0.143	(0.537)	0.129	0.014
10	0.83	0.70	0.143	(0.537)	0.129	0.014
11	0.92	0.70	0.143	(0.537)	0.129	0.014
12	1.00	0.80	0.164	(0.537)	0.147	0.016
13	1.08	0.80	0.164	(0.537)	0.147	0.016
14	1.17	0.80	0.164	(0.537)	0.147	0.016
15	1.25	0.80	0.164	(0.537)	0.147	0.016
16	1.33	0.80	0.164	(0.537)	0.147	0.016
17	1.42	0.80	0.164	(0.537)	0.147	0.016
18	1.50	0.80	0.164	(0.537)	0.147	0.016
19	1.58	0.80	0.164	(0.537)	0.147	0.016
20	1.67	0.80	0.164	(0.537)	0.147	0.016
21	1.75	0.80	0.164	(0.537)	0.147	0.016
22	1.83	0.80	0.164	(0.537)	0.147	0.016
23	1.92	0.80	0.164	(0.537)	0.147	0.016
24	2.00	0.90	0.184	(0.537)	0.166	0.018
25	2.08	0.80	0.164	(0.537)	0.147	0.016
26	2.17	0.90	0.184	(0.537)	0.166	0.018
27	2.25	0.90	0.184	(0.537)	0.166	0.018
28	2.33	0.90	0.184	(0.537)	0.166	0.018
29	2.42	0.90	0.184	(0.537)	0.166	0.018
30	2.50	0.90	0.184	(0.537)	0.166	0.018
31	2.58	0.90	0.184	(0.537)	0.166	0.018
32	2.67	0.90	0.184	(0.537)	0.166	0.018
33	2.75	1.00	0.204	(0.537)	0.184	0.020
34	2.83	1.00	0.204	(0.537)	0.184	0.020
35	2.92	1.00	0.204	(0.537)	0.184	0.020
36	3.00	1.00	0.204	(0.537)	0.184	0.020
37	3.08	1.00	0.204	(0.537)	0.184	0.020
38	3.17	1.10	0.225	(0.537)	0.202	0.022
39	3.25	1.10	0.225	(0.537)	0.202	0.022
40	3.33	1.10	0.225	(0.537)	0.202	0.022
41	3.42	1.20	0.245	(0.537)	0.221	0.025
42	3.50	1.30	0.266	(0.537)	0.239	0.027
43	3.58	1.40	0.286	(0.537)	0.258	0.029
44	3.67	1.40	0.286	(0.537)	0.258	0.029
45	3.75	1.50	0.307	(0.537)	0.276	0.031
46	3.83	1.50	0.307	(0.537)	0.276	0.031
47	3.92	1.60	0.327	(0.537)	0.294	0.033

48	4.00	1.60	0.327	(0.537)	0.294	0.033
49	4.08	1.70	0.347	(0.537)	0.313	0.035
50	4.17	1.80	0.368	(0.537)	0.331	0.037
51	4.25	1.90	0.388	(0.537)	0.350	0.039
52	4.33	2.00	0.409	(0.537)	0.368	0.041
53	4.42	2.10	0.429	(0.537)	0.386	0.043
54	4.50	2.10	0.429	(0.537)	0.386	0.043
55	4.58	2.20	0.450	(0.537)	0.405	0.045
56	4.67	2.30	0.470	(0.537)	0.423	0.047
57	4.75	2.40	0.491	(0.537)	0.441	0.049
58	4.83	2.40	0.491	(0.537)	0.441	0.049
59	4.92	2.50	0.511	(0.537)	0.460	0.051
60	5.00	2.60	0.531	(0.537)	0.478	0.053
61	5.08	3.10	0.634	0.537 (0.570)		0.096
62	5.17	3.60	0.736	0.537 (0.662)		0.199
63	5.25	3.90	0.797	0.537 (0.717)		0.260
64	5.33	4.20	0.858	0.537 (0.773)		0.321
65	5.42	4.70	0.961	0.537 (0.865)		0.423
66	5.50	5.60	1.145	0.537 (1.030)		0.607
67	5.58	1.90	0.388	(0.537)	0.350	0.039
68	5.67	0.90	0.184	(0.537)	0.166	0.018
69	5.75	0.60	0.123	(0.537)	0.110	0.012
70	5.83	0.50	0.102	(0.537)	0.092	0.010
71	5.92	0.30	0.061	(0.537)	0.055	0.006
72	6.00	0.20	0.041	(0.537)	0.037	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.4

Flood volume = Effective rainfall 0.29(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.42(In)
Total soil loss = 0.022(Ac.Ft)
Total rainfall = 1.70(In)
Flood volume = 196.5 Cubic Feet
Total soil loss = 972.1 Cubic Feet

Peak flow rate of this hydrograph = 0.106(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.00	Q				

0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0001	0.00	Q				
0+40	0.0001	0.00	QV				
0+45	0.0001	0.00	QV				
0+50	0.0002	0.00	QV				
0+55	0.0002	0.00	QV				
1+ 0	0.0002	0.00	QV				
1+ 5	0.0002	0.00	Q V				
1+10	0.0002	0.00	Q V				
1+15	0.0003	0.00	Q V				
1+20	0.0003	0.00	Q V				
1+25	0.0003	0.00	Q V				
1+30	0.0003	0.00	Q V				
1+35	0.0004	0.00	Q V				
1+40	0.0004	0.00	Q V				
1+45	0.0004	0.00	Q V				
1+50	0.0004	0.00	Q V				
1+55	0.0004	0.00	Q V				
2+ 0	0.0005	0.00	Q V				
2+ 5	0.0005	0.00	Q V				
2+10	0.0005	0.00	Q V				
2+15	0.0005	0.00	Q V				
2+20	0.0006	0.00	Q V				
2+25	0.0006	0.00	Q V				
2+30	0.0006	0.00	Q V				
2+35	0.0006	0.00	Q V				
2+40	0.0007	0.00	Q V				
2+45	0.0007	0.00	Q V				
2+50	0.0007	0.00	Q V				
2+55	0.0007	0.00	Q V				
3+ 0	0.0008	0.00	Q V				
3+ 5	0.0008	0.00	Q V				
3+10	0.0008	0.00	Q V				
3+15	0.0008	0.00	Q V				
3+20	0.0009	0.00	Q V				
3+25	0.0009	0.00	Q V				
3+30	0.0009	0.00	Q V				
3+35	0.0010	0.01	Q V				
3+40	0.0010	0.01	Q V				
3+45	0.0011	0.01	Q V				
3+50	0.0011	0.01	Q V				
3+55	0.0011	0.01	Q V				
4+ 0	0.0012	0.01	Q V				
4+ 5	0.0012	0.01	Q V				
4+10	0.0013	0.01	Q V				
4+15	0.0013	0.01	Q V				
4+20	0.0014	0.01	Q V				
4+25	0.0014	0.01	Q V				
4+30	0.0015	0.01	Q V				

4+35	0.0015	0.01	Q	V			
4+40	0.0016	0.01	Q	V			
4+45	0.0017	0.01	Q	V			
4+50	0.0017	0.01	Q	V			
4+55	0.0018	0.01	Q	V			
5+ 0	0.0019	0.01	Q	V			
5+ 5	0.0020	0.02	Q	V			
5+10	0.0022	0.03	Q	V			
5+15	0.0025	0.05	Q		V		
5+20	0.0029	0.06	Q		V		
5+25	0.0034	0.08	Q			V	
5+30	0.0042	0.11	Q				V
5+35	0.0044	0.04	Q				V
5+40	0.0045	0.00	Q				V
5+45	0.0045	0.00	Q				V
5+50	0.0045	0.00	Q				V
5+55	0.0045	0.00	Q				V
6+ 0	0.0045	0.00	Q				V
6+ 5	0.0045	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
5-Year
24-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	2.43	0.46

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	6.58	1.24

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 3.402(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.402(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	53.4	0.537	0.000	0.537	1.000	0.537
Sum (F) =						0.537

Area averaged mean soil loss (F) (In/Hr) = 0.537
Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.027	(0.953)	0.024	0.003
2	0.17	0.07	0.027	(0.949)	0.024	0.003
3	0.25	0.07	0.027	(0.945)	0.024	0.003
4	0.33	0.10	0.041	(0.941)	0.037	0.004
5	0.42	0.10	0.041	(0.938)	0.037	0.004
6	0.50	0.10	0.041	(0.934)	0.037	0.004
7	0.58	0.10	0.041	(0.931)	0.037	0.004
8	0.67	0.10	0.041	(0.927)	0.037	0.004
9	0.75	0.10	0.041	(0.923)	0.037	0.004
10	0.83	0.13	0.054	(0.920)	0.049	0.005
11	0.92	0.13	0.054	(0.916)	0.049	0.005
12	1.00	0.13	0.054	(0.912)	0.049	0.005
13	1.08	0.10	0.041	(0.909)	0.037	0.004
14	1.17	0.10	0.041	(0.905)	0.037	0.004
15	1.25	0.10	0.041	(0.902)	0.037	0.004
16	1.33	0.10	0.041	(0.898)	0.037	0.004
17	1.42	0.10	0.041	(0.894)	0.037	0.004
18	1.50	0.10	0.041	(0.891)	0.037	0.004
19	1.58	0.10	0.041	(0.887)	0.037	0.004
20	1.67	0.10	0.041	(0.884)	0.037	0.004
21	1.75	0.10	0.041	(0.880)	0.037	0.004
22	1.83	0.13	0.054	(0.877)	0.049	0.005
23	1.92	0.13	0.054	(0.873)	0.049	0.005
24	2.00	0.13	0.054	(0.870)	0.049	0.005
25	2.08	0.13	0.054	(0.866)	0.049	0.005
26	2.17	0.13	0.054	(0.863)	0.049	0.005
27	2.25	0.13	0.054	(0.859)	0.049	0.005
28	2.33	0.13	0.054	(0.856)	0.049	0.005
29	2.42	0.13	0.054	(0.852)	0.049	0.005
30	2.50	0.13	0.054	(0.849)	0.049	0.005
31	2.58	0.17	0.068	(0.845)	0.061	0.007
32	2.67	0.17	0.068	(0.842)	0.061	0.007
33	2.75	0.17	0.068	(0.838)	0.061	0.007
34	2.83	0.17	0.068	(0.835)	0.061	0.007
35	2.92	0.17	0.068	(0.831)	0.061	0.007
36	3.00	0.17	0.068	(0.828)	0.061	0.007
37	3.08	0.17	0.068	(0.824)	0.061	0.007
38	3.17	0.17	0.068	(0.821)	0.061	0.007
39	3.25	0.17	0.068	(0.818)	0.061	0.007
40	3.33	0.17	0.068	(0.814)	0.061	0.007
41	3.42	0.17	0.068	(0.811)	0.061	0.007
42	3.50	0.17	0.068	(0.807)	0.061	0.007
43	3.58	0.17	0.068	(0.804)	0.061	0.007
44	3.67	0.17	0.068	(0.801)	0.061	0.007
45	3.75	0.17	0.068	(0.797)	0.061	0.007
46	3.83	0.20	0.082	(0.794)	0.073	0.008
47	3.92	0.20	0.082	(0.791)	0.073	0.008

48	4.00	0.20	0.082	(0.787)	0.073	0.008
49	4.08	0.20	0.082	(0.784)	0.073	0.008
50	4.17	0.20	0.082	(0.781)	0.073	0.008
51	4.25	0.20	0.082	(0.777)	0.073	0.008
52	4.33	0.23	0.095	(0.774)	0.086	0.010
53	4.42	0.23	0.095	(0.771)	0.086	0.010
54	4.50	0.23	0.095	(0.767)	0.086	0.010
55	4.58	0.23	0.095	(0.764)	0.086	0.010
56	4.67	0.23	0.095	(0.761)	0.086	0.010
57	4.75	0.23	0.095	(0.757)	0.086	0.010
58	4.83	0.27	0.109	(0.754)	0.098	0.011
59	4.92	0.27	0.109	(0.751)	0.098	0.011
60	5.00	0.27	0.109	(0.748)	0.098	0.011
61	5.08	0.20	0.082	(0.744)	0.073	0.008
62	5.17	0.20	0.082	(0.741)	0.073	0.008
63	5.25	0.20	0.082	(0.738)	0.073	0.008
64	5.33	0.23	0.095	(0.735)	0.086	0.010
65	5.42	0.23	0.095	(0.732)	0.086	0.010
66	5.50	0.23	0.095	(0.728)	0.086	0.010
67	5.58	0.27	0.109	(0.725)	0.098	0.011
68	5.67	0.27	0.109	(0.722)	0.098	0.011
69	5.75	0.27	0.109	(0.719)	0.098	0.011
70	5.83	0.27	0.109	(0.716)	0.098	0.011
71	5.92	0.27	0.109	(0.712)	0.098	0.011
72	6.00	0.27	0.109	(0.709)	0.098	0.011
73	6.08	0.30	0.122	(0.706)	0.110	0.012
74	6.17	0.30	0.122	(0.703)	0.110	0.012
75	6.25	0.30	0.122	(0.700)	0.110	0.012
76	6.33	0.30	0.122	(0.697)	0.110	0.012
77	6.42	0.30	0.122	(0.694)	0.110	0.012
78	6.50	0.30	0.122	(0.690)	0.110	0.012
79	6.58	0.33	0.136	(0.687)	0.122	0.014
80	6.67	0.33	0.136	(0.684)	0.122	0.014
81	6.75	0.33	0.136	(0.681)	0.122	0.014
82	6.83	0.33	0.136	(0.678)	0.122	0.014
83	6.92	0.33	0.136	(0.675)	0.122	0.014
84	7.00	0.33	0.136	(0.672)	0.122	0.014
85	7.08	0.33	0.136	(0.669)	0.122	0.014
86	7.17	0.33	0.136	(0.666)	0.122	0.014
87	7.25	0.33	0.136	(0.663)	0.122	0.014
88	7.33	0.37	0.150	(0.660)	0.135	0.015
89	7.42	0.37	0.150	(0.657)	0.135	0.015
90	7.50	0.37	0.150	(0.654)	0.135	0.015
91	7.58	0.40	0.163	(0.651)	0.147	0.016
92	7.67	0.40	0.163	(0.648)	0.147	0.016
93	7.75	0.40	0.163	(0.645)	0.147	0.016
94	7.83	0.43	0.177	(0.642)	0.159	0.018
95	7.92	0.43	0.177	(0.639)	0.159	0.018
96	8.00	0.43	0.177	(0.636)	0.159	0.018
97	8.08	0.50	0.204	(0.633)	0.184	0.020

98	8.17	0.50	0.204	(0.630)	0.184	0.020
99	8.25	0.50	0.204	(0.627)	0.184	0.020
100	8.33	0.50	0.204	(0.624)	0.184	0.020
101	8.42	0.50	0.204	(0.621)	0.184	0.020
102	8.50	0.50	0.204	(0.618)	0.184	0.020
103	8.58	0.53	0.218	(0.615)	0.196	0.022
104	8.67	0.53	0.218	(0.613)	0.196	0.022
105	8.75	0.53	0.218	(0.610)	0.196	0.022
106	8.83	0.57	0.231	(0.607)	0.208	0.023
107	8.92	0.57	0.231	(0.604)	0.208	0.023
108	9.00	0.57	0.231	(0.601)	0.208	0.023
109	9.08	0.63	0.259	(0.598)	0.233	0.026
110	9.17	0.63	0.259	(0.595)	0.233	0.026
111	9.25	0.63	0.259	(0.593)	0.233	0.026
112	9.33	0.67	0.272	(0.590)	0.245	0.027
113	9.42	0.67	0.272	(0.587)	0.245	0.027
114	9.50	0.67	0.272	(0.584)	0.245	0.027
115	9.58	0.70	0.286	(0.581)	0.257	0.029
116	9.67	0.70	0.286	(0.578)	0.257	0.029
117	9.75	0.70	0.286	(0.576)	0.257	0.029
118	9.83	0.73	0.299	(0.573)	0.269	0.030
119	9.92	0.73	0.299	(0.570)	0.269	0.030
120	10.00	0.73	0.299	(0.567)	0.269	0.030
121	10.08	0.50	0.204	(0.565)	0.184	0.020
122	10.17	0.50	0.204	(0.562)	0.184	0.020
123	10.25	0.50	0.204	(0.559)	0.184	0.020
124	10.33	0.50	0.204	(0.556)	0.184	0.020
125	10.42	0.50	0.204	(0.554)	0.184	0.020
126	10.50	0.50	0.204	(0.551)	0.184	0.020
127	10.58	0.67	0.272	(0.548)	0.245	0.027
128	10.67	0.67	0.272	(0.546)	0.245	0.027
129	10.75	0.67	0.272	(0.543)	0.245	0.027
130	10.83	0.67	0.272	(0.540)	0.245	0.027
131	10.92	0.67	0.272	(0.538)	0.245	0.027
132	11.00	0.67	0.272	(0.535)	0.245	0.027
133	11.08	0.63	0.259	(0.532)	0.233	0.026
134	11.17	0.63	0.259	(0.530)	0.233	0.026
135	11.25	0.63	0.259	(0.527)	0.233	0.026
136	11.33	0.63	0.259	(0.525)	0.233	0.026
137	11.42	0.63	0.259	(0.522)	0.233	0.026
138	11.50	0.63	0.259	(0.519)	0.233	0.026
139	11.58	0.57	0.231	(0.517)	0.208	0.023
140	11.67	0.57	0.231	(0.514)	0.208	0.023
141	11.75	0.57	0.231	(0.512)	0.208	0.023
142	11.83	0.60	0.245	(0.509)	0.220	0.024
143	11.92	0.60	0.245	(0.507)	0.220	0.024
144	12.00	0.60	0.245	(0.504)	0.220	0.024
145	12.08	0.83	0.340	(0.502)	0.306	0.034
146	12.17	0.83	0.340	(0.499)	0.306	0.034
147	12.25	0.83	0.340	(0.497)	0.306	0.034

148	12.33	0.87	0.354	(0.494)	0.318	0.035
149	12.42	0.87	0.354	(0.492)	0.318	0.035
150	12.50	0.87	0.354	(0.489)	0.318	0.035
151	12.58	0.93	0.381	(0.487)	0.343	0.038
152	12.67	0.93	0.381	(0.484)	0.343	0.038
153	12.75	0.93	0.381	(0.482)	0.343	0.038
154	12.83	0.97	0.395	(0.479)	0.355	0.039
155	12.92	0.97	0.395	(0.477)	0.355	0.039
156	13.00	0.97	0.395	(0.474)	0.355	0.039
157	13.08	1.13	0.463	(0.472)	0.416	0.046
158	13.17	1.13	0.463	(0.470)	0.416	0.046
159	13.25	1.13	0.463	(0.467)	0.416	0.046
160	13.33	1.13	0.463	(0.465)	0.416	0.046
161	13.42	1.13	0.463	(0.463)	0.416	0.046
162	13.50	1.13	0.463	(0.460)	0.416	0.046
163	13.58	0.77	0.313	(0.458)	0.282	0.031
164	13.67	0.77	0.313	(0.456)	0.282	0.031
165	13.75	0.77	0.313	(0.453)	0.282	0.031
166	13.83	0.77	0.313	(0.451)	0.282	0.031
167	13.92	0.77	0.313	(0.449)	0.282	0.031
168	14.00	0.77	0.313	(0.446)	0.282	0.031
169	14.08	0.90	0.367	(0.444)	0.331	0.037
170	14.17	0.90	0.367	(0.442)	0.331	0.037
171	14.25	0.90	0.367	(0.440)	0.331	0.037
172	14.33	0.87	0.354	(0.437)	0.318	0.035
173	14.42	0.87	0.354	(0.435)	0.318	0.035
174	14.50	0.87	0.354	(0.433)	0.318	0.035
175	14.58	0.87	0.354	(0.431)	0.318	0.035
176	14.67	0.87	0.354	(0.428)	0.318	0.035
177	14.75	0.87	0.354	(0.426)	0.318	0.035
178	14.83	0.83	0.340	(0.424)	0.306	0.034
179	14.92	0.83	0.340	(0.422)	0.306	0.034
180	15.00	0.83	0.340	(0.420)	0.306	0.034
181	15.08	0.80	0.327	(0.418)	0.294	0.033
182	15.17	0.80	0.327	(0.415)	0.294	0.033
183	15.25	0.80	0.327	(0.413)	0.294	0.033
184	15.33	0.77	0.313	(0.411)	0.282	0.031
185	15.42	0.77	0.313	(0.409)	0.282	0.031
186	15.50	0.77	0.313	(0.407)	0.282	0.031
187	15.58	0.63	0.259	(0.405)	0.233	0.026
188	15.67	0.63	0.259	(0.403)	0.233	0.026
189	15.75	0.63	0.259	(0.401)	0.233	0.026
190	15.83	0.63	0.259	(0.399)	0.233	0.026
191	15.92	0.63	0.259	(0.397)	0.233	0.026
192	16.00	0.63	0.259	(0.395)	0.233	0.026
193	16.08	0.13	0.054	(0.393)	0.049	0.005
194	16.17	0.13	0.054	(0.391)	0.049	0.005
195	16.25	0.13	0.054	(0.389)	0.049	0.005
196	16.33	0.13	0.054	(0.387)	0.049	0.005
197	16.42	0.13	0.054	(0.385)	0.049	0.005

198	16.50	0.13	0.054	(0.383)	0.049	0.005
199	16.58	0.10	0.041	(0.381)	0.037	0.004
200	16.67	0.10	0.041	(0.379)	0.037	0.004
201	16.75	0.10	0.041	(0.377)	0.037	0.004
202	16.83	0.10	0.041	(0.375)	0.037	0.004
203	16.92	0.10	0.041	(0.373)	0.037	0.004
204	17.00	0.10	0.041	(0.371)	0.037	0.004
205	17.08	0.17	0.068	(0.369)	0.061	0.007
206	17.17	0.17	0.068	(0.367)	0.061	0.007
207	17.25	0.17	0.068	(0.366)	0.061	0.007
208	17.33	0.17	0.068	(0.364)	0.061	0.007
209	17.42	0.17	0.068	(0.362)	0.061	0.007
210	17.50	0.17	0.068	(0.360)	0.061	0.007
211	17.58	0.17	0.068	(0.358)	0.061	0.007
212	17.67	0.17	0.068	(0.357)	0.061	0.007
213	17.75	0.17	0.068	(0.355)	0.061	0.007
214	17.83	0.13	0.054	(0.353)	0.049	0.005
215	17.92	0.13	0.054	(0.351)	0.049	0.005
216	18.00	0.13	0.054	(0.349)	0.049	0.005
217	18.08	0.13	0.054	(0.348)	0.049	0.005
218	18.17	0.13	0.054	(0.346)	0.049	0.005
219	18.25	0.13	0.054	(0.344)	0.049	0.005
220	18.33	0.13	0.054	(0.343)	0.049	0.005
221	18.42	0.13	0.054	(0.341)	0.049	0.005
222	18.50	0.13	0.054	(0.339)	0.049	0.005
223	18.58	0.10	0.041	(0.338)	0.037	0.004
224	18.67	0.10	0.041	(0.336)	0.037	0.004
225	18.75	0.10	0.041	(0.334)	0.037	0.004
226	18.83	0.07	0.027	(0.333)	0.024	0.003
227	18.92	0.07	0.027	(0.331)	0.024	0.003
228	19.00	0.07	0.027	(0.330)	0.024	0.003
229	19.08	0.10	0.041	(0.328)	0.037	0.004
230	19.17	0.10	0.041	(0.327)	0.037	0.004
231	19.25	0.10	0.041	(0.325)	0.037	0.004
232	19.33	0.13	0.054	(0.324)	0.049	0.005
233	19.42	0.13	0.054	(0.322)	0.049	0.005
234	19.50	0.13	0.054	(0.321)	0.049	0.005
235	19.58	0.10	0.041	(0.319)	0.037	0.004
236	19.67	0.10	0.041	(0.318)	0.037	0.004
237	19.75	0.10	0.041	(0.316)	0.037	0.004
238	19.83	0.07	0.027	(0.315)	0.024	0.003
239	19.92	0.07	0.027	(0.313)	0.024	0.003
240	20.00	0.07	0.027	(0.312)	0.024	0.003
241	20.08	0.10	0.041	(0.311)	0.037	0.004
242	20.17	0.10	0.041	(0.309)	0.037	0.004
243	20.25	0.10	0.041	(0.308)	0.037	0.004
244	20.33	0.10	0.041	(0.307)	0.037	0.004
245	20.42	0.10	0.041	(0.305)	0.037	0.004
246	20.50	0.10	0.041	(0.304)	0.037	0.004
247	20.58	0.10	0.041	(0.303)	0.037	0.004

248	20.67	0.10	0.041	(0.301)	0.037	0.004
249	20.75	0.10	0.041	(0.300)	0.037	0.004
250	20.83	0.07	0.027	(0.299)	0.024	0.003
251	20.92	0.07	0.027	(0.298)	0.024	0.003
252	21.00	0.07	0.027	(0.297)	0.024	0.003
253	21.08	0.10	0.041	(0.295)	0.037	0.004
254	21.17	0.10	0.041	(0.294)	0.037	0.004
255	21.25	0.10	0.041	(0.293)	0.037	0.004
256	21.33	0.07	0.027	(0.292)	0.024	0.003
257	21.42	0.07	0.027	(0.291)	0.024	0.003
258	21.50	0.07	0.027	(0.290)	0.024	0.003
259	21.58	0.10	0.041	(0.289)	0.037	0.004
260	21.67	0.10	0.041	(0.288)	0.037	0.004
261	21.75	0.10	0.041	(0.287)	0.037	0.004
262	21.83	0.07	0.027	(0.286)	0.024	0.003
263	21.92	0.07	0.027	(0.285)	0.024	0.003
264	22.00	0.07	0.027	(0.284)	0.024	0.003
265	22.08	0.10	0.041	(0.283)	0.037	0.004
266	22.17	0.10	0.041	(0.282)	0.037	0.004
267	22.25	0.10	0.041	(0.281)	0.037	0.004
268	22.33	0.07	0.027	(0.280)	0.024	0.003
269	22.42	0.07	0.027	(0.279)	0.024	0.003
270	22.50	0.07	0.027	(0.278)	0.024	0.003
271	22.58	0.07	0.027	(0.278)	0.024	0.003
272	22.67	0.07	0.027	(0.277)	0.024	0.003
273	22.75	0.07	0.027	(0.276)	0.024	0.003
274	22.83	0.07	0.027	(0.275)	0.024	0.003
275	22.92	0.07	0.027	(0.275)	0.024	0.003
276	23.00	0.07	0.027	(0.274)	0.024	0.003
277	23.08	0.07	0.027	(0.273)	0.024	0.003
278	23.17	0.07	0.027	(0.273)	0.024	0.003
279	23.25	0.07	0.027	(0.272)	0.024	0.003
280	23.33	0.07	0.027	(0.272)	0.024	0.003
281	23.42	0.07	0.027	(0.271)	0.024	0.003
282	23.50	0.07	0.027	(0.271)	0.024	0.003
283	23.58	0.07	0.027	(0.270)	0.024	0.003
284	23.67	0.07	0.027	(0.270)	0.024	0.003
285	23.75	0.07	0.027	(0.269)	0.024	0.003
286	23.83	0.07	0.027	(0.269)	0.024	0.003
287	23.92	0.07	0.027	(0.269)	0.024	0.003
288	24.00	0.07	0.027	(0.269)	0.024	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.1

Flood volume = Effective rainfall 0.34(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 3.06(In)
Total soil loss = 0.048(Ac.Ft)
Total rainfall = 3.40(In)
Flood volume = 233.4 Cubic Feet
Total soil loss = 2100.6 Cubic Feet

Peak flow rate of this hydrograph = 0.009(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000		0.00	Q				
0+10	0.0000		0.00	Q				
0+15	0.0000		0.00	Q				
0+20	0.0000		0.00	Q				
0+25	0.0000		0.00	Q				
0+30	0.0000		0.00	Q				
0+35	0.0000		0.00	Q				
0+40	0.0000		0.00	Q				
0+45	0.0000		0.00	Q				
0+50	0.0000		0.00	Q				
0+55	0.0001		0.00	Q				
1+ 0	0.0001		0.00	Q				
1+ 5	0.0001		0.00	Q				
1+10	0.0001		0.00	Q				
1+15	0.0001		0.00	Q				
1+20	0.0001		0.00	Q				
1+25	0.0001		0.00	Q				
1+30	0.0001		0.00	Q				
1+35	0.0001		0.00	Q				
1+40	0.0001		0.00	Q				
1+45	0.0001		0.00	Q				
1+50	0.0001		0.00	Q				
1+55	0.0001		0.00	Q				
2+ 0	0.0001		0.00	Q				
2+ 5	0.0001		0.00	QV				
2+10	0.0001		0.00	QV				
2+15	0.0002		0.00	QV				
2+20	0.0002		0.00	QV				
2+25	0.0002		0.00	QV				
2+30	0.0002		0.00	QV				
2+35	0.0002		0.00	QV				
2+40	0.0002		0.00	QV				
2+45	0.0002		0.00	QV				
2+50	0.0002		0.00	QV				
2+55	0.0002		0.00	QV				
3+ 0	0.0002		0.00	QV				
3+ 5	0.0002		0.00	QV				
3+10	0.0002		0.00	QV				

3+15	0.0003	0.00	QV				
3+20	0.0003	0.00	QV				
3+25	0.0003	0.00	Q V				
3+30	0.0003	0.00	Q V				
3+35	0.0003	0.00	Q V				
3+40	0.0003	0.00	Q V				
3+45	0.0003	0.00	Q V				
3+50	0.0003	0.00	Q V				
3+55	0.0003	0.00	Q V				
4+ 0	0.0003	0.00	Q V				
4+ 5	0.0004	0.00	Q V				
4+10	0.0004	0.00	Q V				
4+15	0.0004	0.00	Q V				
4+20	0.0004	0.00	Q V				
4+25	0.0004	0.00	Q V				
4+30	0.0004	0.00	Q V				
4+35	0.0004	0.00	Q V				
4+40	0.0004	0.00	Q V				
4+45	0.0004	0.00	Q V				
4+50	0.0005	0.00	Q V				
4+55	0.0005	0.00	Q V				
5+ 0	0.0005	0.00	Q V				
5+ 5	0.0005	0.00	Q V				
5+10	0.0005	0.00	Q V				
5+15	0.0005	0.00	Q V				
5+20	0.0005	0.00	Q V				
5+25	0.0005	0.00	Q V				
5+30	0.0006	0.00	Q V				
5+35	0.0006	0.00	Q V				
5+40	0.0006	0.00	Q V				
5+45	0.0006	0.00	Q V				
5+50	0.0006	0.00	Q V				
5+55	0.0006	0.00	Q V				
6+ 0	0.0006	0.00	Q V				
6+ 5	0.0007	0.00	Q V				
6+10	0.0007	0.00	Q V				
6+15	0.0007	0.00	Q V				
6+20	0.0007	0.00	Q V				
6+25	0.0007	0.00	Q V				
6+30	0.0007	0.00	Q V				
6+35	0.0008	0.00	Q V				
6+40	0.0008	0.00	Q V				
6+45	0.0008	0.00	Q V				
6+50	0.0008	0.00	Q V				
6+55	0.0008	0.00	Q V				
7+ 0	0.0008	0.00	Q V				
7+ 5	0.0009	0.00	Q V				
7+10	0.0009	0.00	Q V				
7+15	0.0009	0.00	Q V				
7+20	0.0009	0.00	Q V				

7+25	0.0009	0.00	Q	V				
7+30	0.0010	0.00	Q	V				
7+35	0.0010	0.00	Q	V				
7+40	0.0010	0.00	Q	V				
7+45	0.0010	0.00	Q	V				
7+50	0.0010	0.00	Q	V				
7+55	0.0011	0.00	Q	V				
8+ 0	0.0011	0.00	Q	V				
8+ 5	0.0011	0.00	Q	V				
8+10	0.0011	0.00	Q	V				
8+15	0.0012	0.00	Q	V				
8+20	0.0012	0.00	Q	V				
8+25	0.0012	0.00	Q	V				
8+30	0.0013	0.00	Q	V				
8+35	0.0013	0.00	Q	V				
8+40	0.0013	0.00	Q	V				
8+45	0.0013	0.00	Q	V				
8+50	0.0014	0.00	Q	V				
8+55	0.0014	0.00	Q	V				
9+ 0	0.0014	0.00	Q	V				
9+ 5	0.0015	0.00	Q	V				
9+10	0.0015	0.00	Q	V				
9+15	0.0015	0.00	Q	V				
9+20	0.0016	0.01	Q	V				
9+25	0.0016	0.01	Q	V				
9+30	0.0016	0.01	Q	V				
9+35	0.0017	0.01	Q	V				
9+40	0.0017	0.01	Q	V				
9+45	0.0017	0.01	Q	V				
9+50	0.0018	0.01	Q	V				
9+55	0.0018	0.01	Q	V				
10+ 0	0.0019	0.01	Q	V				
10+ 5	0.0019	0.00	Q	V				
10+10	0.0019	0.00	Q	V				
10+15	0.0019	0.00	Q	V				
10+20	0.0020	0.00	Q	V				
10+25	0.0020	0.00	Q	V				
10+30	0.0020	0.00	Q	V				
10+35	0.0021	0.00	Q	V				
10+40	0.0021	0.01	Q	V				
10+45	0.0021	0.01	Q	V				
10+50	0.0022	0.01	Q	V				
10+55	0.0022	0.01	Q	V				
11+ 0	0.0022	0.01	Q	V				
11+ 5	0.0023	0.01	Q	V				
11+10	0.0023	0.00	Q	V				
11+15	0.0023	0.00	Q	V				
11+20	0.0024	0.00	Q	V				
11+25	0.0024	0.00	Q	V				
11+30	0.0024	0.00	Q	V				

11+35	0.0025	0.00	Q	V			
11+40	0.0025	0.00	Q	V			
11+45	0.0025	0.00	Q	V			
11+50	0.0026	0.00	Q	V			
11+55	0.0026	0.00	Q	V			
12+ 0	0.0026	0.00	Q	V			
12+ 5	0.0027	0.01	Q	V			
12+10	0.0027	0.01	Q	V			
12+15	0.0028	0.01	Q	V			
12+20	0.0028	0.01	Q	V			
12+25	0.0029	0.01	Q	V			
12+30	0.0029	0.01	Q	V			
12+35	0.0030	0.01	Q	V			
12+40	0.0030	0.01	Q	V			
12+45	0.0031	0.01	Q	V			
12+50	0.0031	0.01	Q	V			
12+55	0.0032	0.01	Q	V			
13+ 0	0.0032	0.01	Q	V			
13+ 5	0.0033	0.01	Q	V			
13+10	0.0033	0.01	Q	V			
13+15	0.0034	0.01	Q	V			
13+20	0.0034	0.01	Q	V			
13+25	0.0035	0.01	Q	V			
13+30	0.0036	0.01	Q	V			
13+35	0.0036	0.01	Q	V			
13+40	0.0037	0.01	Q	V			
13+45	0.0037	0.01	Q	V			
13+50	0.0037	0.01	Q	V			
13+55	0.0038	0.01	Q	V			
14+ 0	0.0038	0.01	Q	V			
14+ 5	0.0039	0.01	Q	V			
14+10	0.0039	0.01	Q	V			
14+15	0.0040	0.01	Q	V			
14+20	0.0040	0.01	Q	V			
14+25	0.0041	0.01	Q	V			
14+30	0.0041	0.01	Q	V			
14+35	0.0041	0.01	Q	V			
14+40	0.0042	0.01	Q	V			
14+45	0.0042	0.01	Q	V			
14+50	0.0043	0.01	Q	V			
14+55	0.0043	0.01	Q	V			
15+ 0	0.0044	0.01	Q	V			
15+ 5	0.0044	0.01	Q	V			
15+10	0.0045	0.01	Q	V			
15+15	0.0045	0.01	Q	V			
15+20	0.0045	0.01	Q	V			
15+25	0.0046	0.01	Q	V			
15+30	0.0046	0.01	Q	V			
15+35	0.0047	0.01	Q	V			
15+40	0.0047	0.00	Q	V			

15+45	0.0047	0.00	Q				V
15+50	0.0048	0.00	Q				V
15+55	0.0048	0.00	Q				V
16+ 0	0.0048	0.00	Q				V
16+ 5	0.0048	0.00	Q				V
16+10	0.0049	0.00	Q				V
16+15	0.0049	0.00	Q				V
16+20	0.0049	0.00	Q				V
16+25	0.0049	0.00	Q				V
16+30	0.0049	0.00	Q				V
16+35	0.0049	0.00	Q				V
16+40	0.0049	0.00	Q				V
16+45	0.0049	0.00	Q				V
16+50	0.0049	0.00	Q				V
16+55	0.0049	0.00	Q				V
17+ 0	0.0049	0.00	Q				V
17+ 5	0.0049	0.00	Q				V
17+10	0.0049	0.00	Q				V
17+15	0.0049	0.00	Q				V
17+20	0.0050	0.00	Q				V
17+25	0.0050	0.00	Q				V
17+30	0.0050	0.00	Q				V
17+35	0.0050	0.00	Q				V
17+40	0.0050	0.00	Q				V
17+45	0.0050	0.00	Q				V
17+50	0.0050	0.00	Q				V
17+55	0.0050	0.00	Q				V
18+ 0	0.0050	0.00	Q				V
18+ 5	0.0050	0.00	Q				V
18+10	0.0050	0.00	Q				V
18+15	0.0050	0.00	Q				V
18+20	0.0050	0.00	Q				V
18+25	0.0051	0.00	Q				V
18+30	0.0051	0.00	Q				V
18+35	0.0051	0.00	Q				V
18+40	0.0051	0.00	Q				V
18+45	0.0051	0.00	Q				V
18+50	0.0051	0.00	Q				V
18+55	0.0051	0.00	Q				V
19+ 0	0.0051	0.00	Q				V
19+ 5	0.0051	0.00	Q				V
19+10	0.0051	0.00	Q				V
19+15	0.0051	0.00	Q				V
19+20	0.0051	0.00	Q				V
19+25	0.0051	0.00	Q				V
19+30	0.0051	0.00	Q				V
19+35	0.0051	0.00	Q				V
19+40	0.0051	0.00	Q				V
19+45	0.0051	0.00	Q				V
19+50	0.0051	0.00	Q				V

19+55	0.0051	0.00	Q				V
20+ 0	0.0052	0.00	Q				V
20+ 5	0.0052	0.00	Q				V
20+10	0.0052	0.00	Q				V
20+15	0.0052	0.00	Q				V
20+20	0.0052	0.00	Q				V
20+25	0.0052	0.00	Q				V
20+30	0.0052	0.00	Q				V
20+35	0.0052	0.00	Q				V
20+40	0.0052	0.00	Q				V
20+45	0.0052	0.00	Q				V
20+50	0.0052	0.00	Q				V
20+55	0.0052	0.00	Q				V
21+ 0	0.0052	0.00	Q				V
21+ 5	0.0052	0.00	Q				V
21+10	0.0052	0.00	Q				V
21+15	0.0052	0.00	Q				V
21+20	0.0052	0.00	Q				V
21+25	0.0052	0.00	Q				V
21+30	0.0052	0.00	Q				V
21+35	0.0052	0.00	Q				V
21+40	0.0052	0.00	Q				V
21+45	0.0053	0.00	Q				V
21+50	0.0053	0.00	Q				V
21+55	0.0053	0.00	Q				V
22+ 0	0.0053	0.00	Q				V
22+ 5	0.0053	0.00	Q				V
22+10	0.0053	0.00	Q				V
22+15	0.0053	0.00	Q				V
22+20	0.0053	0.00	Q				V
22+25	0.0053	0.00	Q				V
22+30	0.0053	0.00	Q				V
22+35	0.0053	0.00	Q				V
22+40	0.0053	0.00	Q				V
22+45	0.0053	0.00	Q				V
22+50	0.0053	0.00	Q				V
22+55	0.0053	0.00	Q				V
23+ 0	0.0053	0.00	Q				V
23+ 5	0.0053	0.00	Q				V
23+10	0.0053	0.00	Q				V
23+15	0.0053	0.00	Q				V
23+20	0.0053	0.00	Q				V
23+25	0.0053	0.00	Q				V
23+30	0.0053	0.00	Q				V
23+35	0.0053	0.00	Q				V
23+40	0.0053	0.00	Q				V
23+45	0.0053	0.00	Q				V
23+50	0.0054	0.00	Q				V
23+55	0.0054	0.00	Q				V
24+ 0	0.0054	0.00	Q				V

24+ 5

0.0054

0.00 Q

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Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
10-Year
1-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	0.48	0.09

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	1.34	0.25

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.836(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.836(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	72.0	0.338	0.000	0.338	1.000	0.338
Sum (F) =						0.338

Area averaged mean soil loss (F) (In/Hr) = 0.537

Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)

Note: User entry of the f value

Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.441	(0.537)	0.397	0.044
2	0.17	4.50	0.451	(0.537)	0.406	0.045
3	0.25	5.40	0.541	(0.537)	0.487	0.054
4	0.33	5.40	0.541	(0.537)	0.487	0.054
5	0.42	5.70	0.572	(0.537)	0.514	0.057
6	0.50	6.40	0.642	0.537	(0.578)	0.104
7	0.58	7.90	0.792	0.537	(0.713)	0.255
8	0.67	9.10	0.912	0.537	(0.821)	0.375
9	0.75	12.80	1.283	0.537	(1.155)	0.746
10	0.83	25.60	2.567	0.537	(2.310)	2.030
11	0.92	7.90	0.792	0.537	(0.713)	0.255
12	1.00	4.90	0.491	(0.537)	0.442	0.049

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.1

Flood volume = Effective rainfall 0.34(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.50(In)
Total soil loss = 0.008(Ac.Ft)
Total rainfall = 0.84(In)
Flood volume = 232.6 Cubic Feet
Total soil loss = 340.6 Cubic Feet

Peak flow rate of this hydrograph = 0.317(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	QV				
0+20	0.0002	0.01	QV				
0+25	0.0003	0.01	Q V				
0+30	0.0004	0.02	Q V				
0+35	0.0007	0.04	Q V				
0+40	0.0012	0.06	Q V				
0+45	0.0020	0.12	Q	V			
0+50	0.0042	0.32	Q			V	
0+55	0.0052	0.15	Q				V

1+ 0	0.0053	0.02	Q				V
1+ 5	0.0053	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
10-Year
3-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	0.88	0.17

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	2.20	0.42

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.421(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.421(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	72.0	0.338	0.000	0.338	1.000	0.338
Sum (F) =						0.338

Area averaged mean soil loss (F) (In/Hr) = 0.537

Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)

Note: User entry of the f value

Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.222	(0.537)	0.200	0.022
2	0.17	1.30	0.222	(0.537)	0.200	0.022
3	0.25	1.10	0.188	(0.537)	0.169	0.019
4	0.33	1.50	0.256	(0.537)	0.230	0.026
5	0.42	1.50	0.256	(0.537)	0.230	0.026
6	0.50	1.80	0.307	(0.537)	0.276	0.031
7	0.58	1.50	0.256	(0.537)	0.230	0.026
8	0.67	1.80	0.307	(0.537)	0.276	0.031
9	0.75	1.80	0.307	(0.537)	0.276	0.031
10	0.83	1.50	0.256	(0.537)	0.230	0.026
11	0.92	1.60	0.273	(0.537)	0.246	0.027
12	1.00	1.80	0.307	(0.537)	0.276	0.031
13	1.08	2.20	0.375	(0.537)	0.338	0.038
14	1.17	2.20	0.375	(0.537)	0.338	0.038
15	1.25	2.20	0.375	(0.537)	0.338	0.038
16	1.33	2.00	0.341	(0.537)	0.307	0.034
17	1.42	2.60	0.443	(0.537)	0.399	0.044
18	1.50	2.70	0.460	(0.537)	0.414	0.046
19	1.58	2.40	0.409	(0.537)	0.368	0.041
20	1.67	2.70	0.460	(0.537)	0.414	0.046
21	1.75	3.30	0.563	(0.537)	0.507	0.056
22	1.83	3.10	0.529	(0.537)	0.476	0.053
23	1.92	2.90	0.495	(0.537)	0.445	0.049
24	2.00	3.00	0.512	(0.537)	0.460	0.051
25	2.08	3.10	0.529	(0.537)	0.476	0.053
26	2.17	4.20	0.716	0.537	(0.645)	0.179
27	2.25	5.00	0.853	0.537	(0.767)	0.315
28	2.33	3.50	0.597	(0.537)	0.537	0.060
29	2.42	6.80	1.160	0.537	(1.044)	0.622
30	2.50	7.30	1.245	0.537	(1.121)	0.708
31	2.58	8.20	1.399	0.537	(1.259)	0.861
32	2.67	5.90	1.006	0.537	(0.906)	0.469
33	2.75	2.00	0.341	(0.537)	0.307	0.034
34	2.83	1.80	0.307	(0.537)	0.276	0.031
35	2.92	1.80	0.307	(0.537)	0.276	0.031
36	3.00	0.60	0.102	(0.537)	0.092	0.010

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.2

Flood volume = Effective rainfall 0.35(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.07(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 1.42(In)
Flood volume = 241.4 Cubic Feet
Total soil loss = 733.7 Cubic Feet

Peak flow rate of this hydrograph = 0.156(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000		0.00	Q				
0+10	0.0000		0.00	Q				
0+15	0.0001		0.00	Q				
0+20	0.0001		0.00	Q				
0+25	0.0001		0.00	QV				
0+30	0.0002		0.01	QV				
0+35	0.0002		0.01	QV				
0+40	0.0003		0.01	QV				
0+45	0.0003		0.01	Q V				
0+50	0.0003		0.01	Q V				
0+55	0.0004		0.01	Q V				
1+ 0	0.0004		0.01	Q V				
1+ 5	0.0004		0.01	Q V				
1+10	0.0005		0.01	Q V				
1+15	0.0005		0.01	Q V				
1+20	0.0006		0.01	Q V				
1+25	0.0006		0.01	Q V				
1+30	0.0007		0.01	Q V				
1+35	0.0008		0.01	Q V				
1+40	0.0008		0.01	Q V				
1+45	0.0009		0.01	Q V				
1+50	0.0010		0.01	Q V				
1+55	0.0010		0.01	Q V				
2+ 0	0.0011		0.01	Q V				
2+ 5	0.0012		0.01	Q V				
2+10	0.0014		0.03	Q V				
2+15	0.0017		0.05	Q	V			
2+20	0.0019		0.03	Q	V			
2+25	0.0025		0.09	Q		V		
2+30	0.0034		0.13	Q			V	
2+35	0.0045		0.16	Q			V	
2+40	0.0052		0.11	Q				V
2+45	0.0054		0.03	Q				V
2+50	0.0055		0.01	Q				V
2+55	0.0055		0.01	Q				V
3+ 0	0.0055		0.00	Q				V
3+ 5	0.0055		0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
10-Year
6-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	1.27	0.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	3.12	0.59

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 2.031(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.031(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	72.0	0.338	0.000	0.338	1.000	0.338
Sum (F) =						0.338

Area averaged mean soil loss (F) (In/Hr) = 0.537

Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)

Note: User entry of the f value

Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.122	(0.537)	0.110	0.012
2	0.17	0.60	0.146	(0.537)	0.132	0.015
3	0.25	0.60	0.146	(0.537)	0.132	0.015
4	0.33	0.60	0.146	(0.537)	0.132	0.015
5	0.42	0.60	0.146	(0.537)	0.132	0.015
6	0.50	0.70	0.171	(0.537)	0.154	0.017
7	0.58	0.70	0.171	(0.537)	0.154	0.017
8	0.67	0.70	0.171	(0.537)	0.154	0.017
9	0.75	0.70	0.171	(0.537)	0.154	0.017
10	0.83	0.70	0.171	(0.537)	0.154	0.017
11	0.92	0.70	0.171	(0.537)	0.154	0.017
12	1.00	0.80	0.195	(0.537)	0.175	0.019
13	1.08	0.80	0.195	(0.537)	0.175	0.019
14	1.17	0.80	0.195	(0.537)	0.175	0.019
15	1.25	0.80	0.195	(0.537)	0.175	0.019
16	1.33	0.80	0.195	(0.537)	0.175	0.019
17	1.42	0.80	0.195	(0.537)	0.175	0.019
18	1.50	0.80	0.195	(0.537)	0.175	0.019
19	1.58	0.80	0.195	(0.537)	0.175	0.019
20	1.67	0.80	0.195	(0.537)	0.175	0.019
21	1.75	0.80	0.195	(0.537)	0.175	0.019
22	1.83	0.80	0.195	(0.537)	0.175	0.019
23	1.92	0.80	0.195	(0.537)	0.175	0.019
24	2.00	0.90	0.219	(0.537)	0.197	0.022
25	2.08	0.80	0.195	(0.537)	0.175	0.019
26	2.17	0.90	0.219	(0.537)	0.197	0.022
27	2.25	0.90	0.219	(0.537)	0.197	0.022
28	2.33	0.90	0.219	(0.537)	0.197	0.022
29	2.42	0.90	0.219	(0.537)	0.197	0.022
30	2.50	0.90	0.219	(0.537)	0.197	0.022
31	2.58	0.90	0.219	(0.537)	0.197	0.022
32	2.67	0.90	0.219	(0.537)	0.197	0.022
33	2.75	1.00	0.244	(0.537)	0.219	0.024
34	2.83	1.00	0.244	(0.537)	0.219	0.024
35	2.92	1.00	0.244	(0.537)	0.219	0.024
36	3.00	1.00	0.244	(0.537)	0.219	0.024
37	3.08	1.00	0.244	(0.537)	0.219	0.024
38	3.17	1.10	0.268	(0.537)	0.241	0.027
39	3.25	1.10	0.268	(0.537)	0.241	0.027
40	3.33	1.10	0.268	(0.537)	0.241	0.027
41	3.42	1.20	0.292	(0.537)	0.263	0.029
42	3.50	1.30	0.317	(0.537)	0.285	0.032
43	3.58	1.40	0.341	(0.537)	0.307	0.034
44	3.67	1.40	0.341	(0.537)	0.307	0.034
45	3.75	1.50	0.366	(0.537)	0.329	0.037
46	3.83	1.50	0.366	(0.537)	0.329	0.037

47	3.92	1.60	0.390	(0.537)	0.351	0.039
48	4.00	1.60	0.390	(0.537)	0.351	0.039
49	4.08	1.70	0.414	(0.537)	0.373	0.041
50	4.17	1.80	0.439	(0.537)	0.395	0.044
51	4.25	1.90	0.463	(0.537)	0.417	0.046
52	4.33	2.00	0.487	(0.537)	0.439	0.049
53	4.42	2.10	0.512	(0.537)	0.461	0.051
54	4.50	2.10	0.512	(0.537)	0.461	0.051
55	4.58	2.20	0.536	(0.537)	0.483	0.054
56	4.67	2.30	0.561	(0.537)	0.505	0.056
57	4.75	2.40	0.585	(0.537)	0.526	0.058
58	4.83	2.40	0.585	(0.537)	0.526	0.058
59	4.92	2.50	0.609	0.537	(0.548)	0.072
60	5.00	2.60	0.634	0.537	(0.570)	0.096
61	5.08	3.10	0.756	0.537	(0.680)	0.218
62	5.17	3.60	0.877	0.537	(0.790)	0.340
63	5.25	3.90	0.951	0.537	(0.856)	0.413
64	5.33	4.20	1.024	0.537	(0.921)	0.486
65	5.42	4.70	1.146	0.537	(1.031)	0.608
66	5.50	5.60	1.365	0.537	(1.228)	0.828
67	5.58	1.90	0.463	(0.537)	0.417	0.046
68	5.67	0.90	0.219	(0.537)	0.197	0.022
69	5.75	0.60	0.146	(0.537)	0.132	0.015
70	5.83	0.50	0.122	(0.537)	0.110	0.012
71	5.92	0.30	0.073	(0.537)	0.066	0.007
72	6.00	0.20	0.049	(0.537)	0.044	0.005

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.8

Flood volume = Effective rainfall 0.40(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.63(In)
Total soil loss = 0.026(Ac.Ft)
Total rainfall = 2.03(In)
Flood volume = 272.3 Cubic Feet
Total soil loss = 1121.1 Cubic Feet

Peak flow rate of this hydrograph = 0.146(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0

0+ 5	0.0000	0.00	Q					
0+10	0.0000	0.00	Q					
0+15	0.0000	0.00	Q					

0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0001	0.00	Q				
0+40	0.0002	0.00	Q				
0+45	0.0002	0.00	QV				
0+50	0.0002	0.00	QV				
0+55	0.0002	0.00	QV				
1+ 0	0.0002	0.00	QV				
1+ 5	0.0003	0.00	QV				
1+10	0.0003	0.00	QV				
1+15	0.0003	0.00	Q V				
1+20	0.0003	0.00	Q V				
1+25	0.0004	0.00	Q V				
1+30	0.0004	0.00	Q V				
1+35	0.0004	0.00	Q V				
1+40	0.0005	0.00	Q V				
1+45	0.0005	0.00	Q V				
1+50	0.0005	0.00	Q V				
1+55	0.0005	0.00	Q V				
2+ 0	0.0006	0.00	Q V				
2+ 5	0.0006	0.00	Q V				
2+10	0.0006	0.00	Q V				
2+15	0.0006	0.00	Q V				
2+20	0.0007	0.00	Q V				
2+25	0.0007	0.00	Q V				
2+30	0.0007	0.00	Q V				
2+35	0.0008	0.00	Q V				
2+40	0.0008	0.00	Q V				
2+45	0.0008	0.00	Q V				
2+50	0.0008	0.00	Q V				
2+55	0.0009	0.00	Q V				
3+ 0	0.0009	0.00	Q V				
3+ 5	0.0009	0.00	Q V				
3+10	0.0010	0.00	Q V				
3+15	0.0010	0.01	Q V				
3+20	0.0010	0.01	Q V				
3+25	0.0011	0.01	Q V				
3+30	0.0011	0.01	Q V				
3+35	0.0012	0.01	Q V				
3+40	0.0012	0.01	Q V				
3+45	0.0013	0.01	Q V				
3+50	0.0013	0.01	Q V				
3+55	0.0014	0.01	Q V				
4+ 0	0.0014	0.01	Q V				
4+ 5	0.0015	0.01	Q V				
4+10	0.0015	0.01	Q V				
4+15	0.0016	0.01	Q V				
4+20	0.0016	0.01	Q V				
4+25	0.0017	0.01	Q V				

4+30	0.0018	0.01	Q		V					
4+35	0.0018	0.01	Q		V					
4+40	0.0019	0.01	Q		V					
4+45	0.0020	0.01	Q		V					
4+50	0.0021	0.01	Q			V				
4+55	0.0022	0.01	Q			V				
5+ 0	0.0023	0.02	Q				V			
5+ 5	0.0025	0.03	Q					V		
5+10	0.0029	0.06	Q					V		
5+15	0.0034	0.07	Q					V		
5+20	0.0040	0.09	Q						V	
5+25	0.0048	0.11	Q						V	
5+30	0.0058	0.15	Q							V
5+35	0.0062	0.05	Q							V
5+40	0.0062	0.01	Q							V
5+45	0.0062	0.00	Q							V
5+50	0.0062	0.00	Q							V
5+55	0.0062	0.00	Q							V
6+ 0	0.0063	0.00	Q							V
6+ 5	0.0063	0.00	Q							V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2PRE2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area 2
Pre-development
10-Year
24-Hour

Drainage Area = 0.19(Ac.) = 0.000 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 0.19(Ac.) =
0.000 Sq. Mi.
Length along longest watercourse = 149.06(Ft.)
Length along longest watercourse measured to centroid = 63.92(Ft.)
Length along longest watercourse = 0.028 Mi.
Length along longest watercourse measured to centroid = 0.012 Mi.
Difference in elevation = 1.50(Ft.)
Slope along watercourse = 53.1330 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.016 Hr.
Lag time = 0.98 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.39 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	2.43	0.46

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
0.19	6.58	1.24

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
0.189	72.00	0.000

Total Area Entered = 0.19(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
72.0	72.0	0.338	0.000	0.338	1.000	0.338
Sum (F) =						0.338

Area averaged mean soil loss (F) (In/Hr) = 0.537

Minimum soil loss rate ((In/Hr)) = 0.269
(for 24 hour storm duration)

Note: User entry of the f value

Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	511.079	71.465	0.136
2 0.167	1022.158	28.535	0.054
Sum = 100.000		Sum=	0.190

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.033	(0.953)	0.030	0.003
2	0.17	0.07	0.033	(0.949)	0.030	0.003
3	0.25	0.07	0.033	(0.945)	0.030	0.003
4	0.33	0.10	0.050	(0.941)	0.045	0.005
5	0.42	0.10	0.050	(0.938)	0.045	0.005
6	0.50	0.10	0.050	(0.934)	0.045	0.005
7	0.58	0.10	0.050	(0.931)	0.045	0.005
8	0.67	0.10	0.050	(0.927)	0.045	0.005
9	0.75	0.10	0.050	(0.923)	0.045	0.005
10	0.83	0.13	0.066	(0.920)	0.060	0.007
11	0.92	0.13	0.066	(0.916)	0.060	0.007
12	1.00	0.13	0.066	(0.912)	0.060	0.007
13	1.08	0.10	0.050	(0.909)	0.045	0.005
14	1.17	0.10	0.050	(0.905)	0.045	0.005
15	1.25	0.10	0.050	(0.902)	0.045	0.005
16	1.33	0.10	0.050	(0.898)	0.045	0.005
17	1.42	0.10	0.050	(0.894)	0.045	0.005
18	1.50	0.10	0.050	(0.891)	0.045	0.005
19	1.58	0.10	0.050	(0.887)	0.045	0.005
20	1.67	0.10	0.050	(0.884)	0.045	0.005
21	1.75	0.10	0.050	(0.880)	0.045	0.005
22	1.83	0.13	0.066	(0.877)	0.060	0.007
23	1.92	0.13	0.066	(0.873)	0.060	0.007
24	2.00	0.13	0.066	(0.870)	0.060	0.007
25	2.08	0.13	0.066	(0.866)	0.060	0.007
26	2.17	0.13	0.066	(0.863)	0.060	0.007
27	2.25	0.13	0.066	(0.859)	0.060	0.007
28	2.33	0.13	0.066	(0.856)	0.060	0.007
29	2.42	0.13	0.066	(0.852)	0.060	0.007
30	2.50	0.13	0.066	(0.849)	0.060	0.007
31	2.58	0.17	0.083	(0.845)	0.074	0.008
32	2.67	0.17	0.083	(0.842)	0.074	0.008
33	2.75	0.17	0.083	(0.838)	0.074	0.008
34	2.83	0.17	0.083	(0.835)	0.074	0.008
35	2.92	0.17	0.083	(0.831)	0.074	0.008
36	3.00	0.17	0.083	(0.828)	0.074	0.008
37	3.08	0.17	0.083	(0.824)	0.074	0.008
38	3.17	0.17	0.083	(0.821)	0.074	0.008
39	3.25	0.17	0.083	(0.818)	0.074	0.008
40	3.33	0.17	0.083	(0.814)	0.074	0.008
41	3.42	0.17	0.083	(0.811)	0.074	0.008
42	3.50	0.17	0.083	(0.807)	0.074	0.008
43	3.58	0.17	0.083	(0.804)	0.074	0.008
44	3.67	0.17	0.083	(0.801)	0.074	0.008
45	3.75	0.17	0.083	(0.797)	0.074	0.008
46	3.83	0.20	0.099	(0.794)	0.089	0.010

47	3.92	0.20	0.099	(0.791)	0.089	0.010
48	4.00	0.20	0.099	(0.787)	0.089	0.010
49	4.08	0.20	0.099	(0.784)	0.089	0.010
50	4.17	0.20	0.099	(0.781)	0.089	0.010
51	4.25	0.20	0.099	(0.777)	0.089	0.010
52	4.33	0.23	0.116	(0.774)	0.104	0.012
53	4.42	0.23	0.116	(0.771)	0.104	0.012
54	4.50	0.23	0.116	(0.767)	0.104	0.012
55	4.58	0.23	0.116	(0.764)	0.104	0.012
56	4.67	0.23	0.116	(0.761)	0.104	0.012
57	4.75	0.23	0.116	(0.757)	0.104	0.012
58	4.83	0.27	0.132	(0.754)	0.119	0.013
59	4.92	0.27	0.132	(0.751)	0.119	0.013
60	5.00	0.27	0.132	(0.748)	0.119	0.013
61	5.08	0.20	0.099	(0.744)	0.089	0.010
62	5.17	0.20	0.099	(0.741)	0.089	0.010
63	5.25	0.20	0.099	(0.738)	0.089	0.010
64	5.33	0.23	0.116	(0.735)	0.104	0.012
65	5.42	0.23	0.116	(0.732)	0.104	0.012
66	5.50	0.23	0.116	(0.728)	0.104	0.012
67	5.58	0.27	0.132	(0.725)	0.119	0.013
68	5.67	0.27	0.132	(0.722)	0.119	0.013
69	5.75	0.27	0.132	(0.719)	0.119	0.013
70	5.83	0.27	0.132	(0.716)	0.119	0.013
71	5.92	0.27	0.132	(0.712)	0.119	0.013
72	6.00	0.27	0.132	(0.709)	0.119	0.013
73	6.08	0.30	0.149	(0.706)	0.134	0.015
74	6.17	0.30	0.149	(0.703)	0.134	0.015
75	6.25	0.30	0.149	(0.700)	0.134	0.015
76	6.33	0.30	0.149	(0.697)	0.134	0.015
77	6.42	0.30	0.149	(0.694)	0.134	0.015
78	6.50	0.30	0.149	(0.690)	0.134	0.015
79	6.58	0.33	0.165	(0.687)	0.149	0.017
80	6.67	0.33	0.165	(0.684)	0.149	0.017
81	6.75	0.33	0.165	(0.681)	0.149	0.017
82	6.83	0.33	0.165	(0.678)	0.149	0.017
83	6.92	0.33	0.165	(0.675)	0.149	0.017
84	7.00	0.33	0.165	(0.672)	0.149	0.017
85	7.08	0.33	0.165	(0.669)	0.149	0.017
86	7.17	0.33	0.165	(0.666)	0.149	0.017
87	7.25	0.33	0.165	(0.663)	0.149	0.017
88	7.33	0.37	0.182	(0.660)	0.164	0.018
89	7.42	0.37	0.182	(0.657)	0.164	0.018
90	7.50	0.37	0.182	(0.654)	0.164	0.018
91	7.58	0.40	0.199	(0.651)	0.179	0.020
92	7.67	0.40	0.199	(0.648)	0.179	0.020
93	7.75	0.40	0.199	(0.645)	0.179	0.020
94	7.83	0.43	0.215	(0.642)	0.194	0.022
95	7.92	0.43	0.215	(0.639)	0.194	0.022
96	8.00	0.43	0.215	(0.636)	0.194	0.022

97	8.08	0.50	0.248	(0.633)	0.223	0.025
98	8.17	0.50	0.248	(0.630)	0.223	0.025
99	8.25	0.50	0.248	(0.627)	0.223	0.025
100	8.33	0.50	0.248	(0.624)	0.223	0.025
101	8.42	0.50	0.248	(0.621)	0.223	0.025
102	8.50	0.50	0.248	(0.618)	0.223	0.025
103	8.58	0.53	0.265	(0.615)	0.238	0.026
104	8.67	0.53	0.265	(0.613)	0.238	0.026
105	8.75	0.53	0.265	(0.610)	0.238	0.026
106	8.83	0.57	0.281	(0.607)	0.253	0.028
107	8.92	0.57	0.281	(0.604)	0.253	0.028
108	9.00	0.57	0.281	(0.601)	0.253	0.028
109	9.08	0.63	0.314	(0.598)	0.283	0.031
110	9.17	0.63	0.314	(0.595)	0.283	0.031
111	9.25	0.63	0.314	(0.593)	0.283	0.031
112	9.33	0.67	0.331	(0.590)	0.298	0.033
113	9.42	0.67	0.331	(0.587)	0.298	0.033
114	9.50	0.67	0.331	(0.584)	0.298	0.033
115	9.58	0.70	0.348	(0.581)	0.313	0.035
116	9.67	0.70	0.348	(0.578)	0.313	0.035
117	9.75	0.70	0.348	(0.576)	0.313	0.035
118	9.83	0.73	0.364	(0.573)	0.328	0.036
119	9.92	0.73	0.364	(0.570)	0.328	0.036
120	10.00	0.73	0.364	(0.567)	0.328	0.036
121	10.08	0.50	0.248	(0.565)	0.223	0.025
122	10.17	0.50	0.248	(0.562)	0.223	0.025
123	10.25	0.50	0.248	(0.559)	0.223	0.025
124	10.33	0.50	0.248	(0.556)	0.223	0.025
125	10.42	0.50	0.248	(0.554)	0.223	0.025
126	10.50	0.50	0.248	(0.551)	0.223	0.025
127	10.58	0.67	0.331	(0.548)	0.298	0.033
128	10.67	0.67	0.331	(0.546)	0.298	0.033
129	10.75	0.67	0.331	(0.543)	0.298	0.033
130	10.83	0.67	0.331	(0.540)	0.298	0.033
131	10.92	0.67	0.331	(0.538)	0.298	0.033
132	11.00	0.67	0.331	(0.535)	0.298	0.033
133	11.08	0.63	0.314	(0.532)	0.283	0.031
134	11.17	0.63	0.314	(0.530)	0.283	0.031
135	11.25	0.63	0.314	(0.527)	0.283	0.031
136	11.33	0.63	0.314	(0.525)	0.283	0.031
137	11.42	0.63	0.314	(0.522)	0.283	0.031
138	11.50	0.63	0.314	(0.519)	0.283	0.031
139	11.58	0.57	0.281	(0.517)	0.253	0.028
140	11.67	0.57	0.281	(0.514)	0.253	0.028
141	11.75	0.57	0.281	(0.512)	0.253	0.028
142	11.83	0.60	0.298	(0.509)	0.268	0.030
143	11.92	0.60	0.298	(0.507)	0.268	0.030
144	12.00	0.60	0.298	(0.504)	0.268	0.030
145	12.08	0.83	0.414	(0.502)	0.372	0.041
146	12.17	0.83	0.414	(0.499)	0.372	0.041

147	12.25	0.83	0.414	(0.497)	0.372	0.041
148	12.33	0.87	0.430	(0.494)	0.387	0.043
149	12.42	0.87	0.430	(0.492)	0.387	0.043
150	12.50	0.87	0.430	(0.489)	0.387	0.043
151	12.58	0.93	0.463	(0.487)	0.417	0.046
152	12.67	0.93	0.463	(0.484)	0.417	0.046
153	12.75	0.93	0.463	(0.482)	0.417	0.046
154	12.83	0.97	0.480	(0.479)	0.432	0.048
155	12.92	0.97	0.480	(0.477)	0.432	0.048
156	13.00	0.97	0.480	(0.474)	0.432	0.048
157	13.08	1.13	0.563	0.472 (0.506)		0.091
158	13.17	1.13	0.563	0.470 (0.506)		0.093
159	13.25	1.13	0.563	0.467 (0.506)		0.095
160	13.33	1.13	0.563	0.465 (0.506)		0.098
161	13.42	1.13	0.563	0.463 (0.506)		0.100
162	13.50	1.13	0.563	0.460 (0.506)		0.102
163	13.58	0.77	0.381	(0.458)	0.343	0.038
164	13.67	0.77	0.381	(0.456)	0.343	0.038
165	13.75	0.77	0.381	(0.453)	0.343	0.038
166	13.83	0.77	0.381	(0.451)	0.343	0.038
167	13.92	0.77	0.381	(0.449)	0.343	0.038
168	14.00	0.77	0.381	(0.446)	0.343	0.038
169	14.08	0.90	0.447	(0.444)	0.402	0.045
170	14.17	0.90	0.447	(0.442)	0.402	0.045
171	14.25	0.90	0.447	(0.440)	0.402	0.045
172	14.33	0.87	0.430	(0.437)	0.387	0.043
173	14.42	0.87	0.430	(0.435)	0.387	0.043
174	14.50	0.87	0.430	(0.433)	0.387	0.043
175	14.58	0.87	0.430	(0.431)	0.387	0.043
176	14.67	0.87	0.430	(0.428)	0.387	0.043
177	14.75	0.87	0.430	(0.426)	0.387	0.043
178	14.83	0.83	0.414	(0.424)	0.372	0.041
179	14.92	0.83	0.414	(0.422)	0.372	0.041
180	15.00	0.83	0.414	(0.420)	0.372	0.041
181	15.08	0.80	0.397	(0.418)	0.357	0.040
182	15.17	0.80	0.397	(0.415)	0.357	0.040
183	15.25	0.80	0.397	(0.413)	0.357	0.040
184	15.33	0.77	0.381	(0.411)	0.343	0.038
185	15.42	0.77	0.381	(0.409)	0.343	0.038
186	15.50	0.77	0.381	(0.407)	0.343	0.038
187	15.58	0.63	0.314	(0.405)	0.283	0.031
188	15.67	0.63	0.314	(0.403)	0.283	0.031
189	15.75	0.63	0.314	(0.401)	0.283	0.031
190	15.83	0.63	0.314	(0.399)	0.283	0.031
191	15.92	0.63	0.314	(0.397)	0.283	0.031
192	16.00	0.63	0.314	(0.395)	0.283	0.031
193	16.08	0.13	0.066	(0.393)	0.060	0.007
194	16.17	0.13	0.066	(0.391)	0.060	0.007
195	16.25	0.13	0.066	(0.389)	0.060	0.007
196	16.33	0.13	0.066	(0.387)	0.060	0.007

197	16.42	0.13	0.066	(0.385)	0.060	0.007
198	16.50	0.13	0.066	(0.383)	0.060	0.007
199	16.58	0.10	0.050	(0.381)	0.045	0.005
200	16.67	0.10	0.050	(0.379)	0.045	0.005
201	16.75	0.10	0.050	(0.377)	0.045	0.005
202	16.83	0.10	0.050	(0.375)	0.045	0.005
203	16.92	0.10	0.050	(0.373)	0.045	0.005
204	17.00	0.10	0.050	(0.371)	0.045	0.005
205	17.08	0.17	0.083	(0.369)	0.074	0.008
206	17.17	0.17	0.083	(0.367)	0.074	0.008
207	17.25	0.17	0.083	(0.366)	0.074	0.008
208	17.33	0.17	0.083	(0.364)	0.074	0.008
209	17.42	0.17	0.083	(0.362)	0.074	0.008
210	17.50	0.17	0.083	(0.360)	0.074	0.008
211	17.58	0.17	0.083	(0.358)	0.074	0.008
212	17.67	0.17	0.083	(0.357)	0.074	0.008
213	17.75	0.17	0.083	(0.355)	0.074	0.008
214	17.83	0.13	0.066	(0.353)	0.060	0.007
215	17.92	0.13	0.066	(0.351)	0.060	0.007
216	18.00	0.13	0.066	(0.349)	0.060	0.007
217	18.08	0.13	0.066	(0.348)	0.060	0.007
218	18.17	0.13	0.066	(0.346)	0.060	0.007
219	18.25	0.13	0.066	(0.344)	0.060	0.007
220	18.33	0.13	0.066	(0.343)	0.060	0.007
221	18.42	0.13	0.066	(0.341)	0.060	0.007
222	18.50	0.13	0.066	(0.339)	0.060	0.007
223	18.58	0.10	0.050	(0.338)	0.045	0.005
224	18.67	0.10	0.050	(0.336)	0.045	0.005
225	18.75	0.10	0.050	(0.334)	0.045	0.005
226	18.83	0.07	0.033	(0.333)	0.030	0.003
227	18.92	0.07	0.033	(0.331)	0.030	0.003
228	19.00	0.07	0.033	(0.330)	0.030	0.003
229	19.08	0.10	0.050	(0.328)	0.045	0.005
230	19.17	0.10	0.050	(0.327)	0.045	0.005
231	19.25	0.10	0.050	(0.325)	0.045	0.005
232	19.33	0.13	0.066	(0.324)	0.060	0.007
233	19.42	0.13	0.066	(0.322)	0.060	0.007
234	19.50	0.13	0.066	(0.321)	0.060	0.007
235	19.58	0.10	0.050	(0.319)	0.045	0.005
236	19.67	0.10	0.050	(0.318)	0.045	0.005
237	19.75	0.10	0.050	(0.316)	0.045	0.005
238	19.83	0.07	0.033	(0.315)	0.030	0.003
239	19.92	0.07	0.033	(0.313)	0.030	0.003
240	20.00	0.07	0.033	(0.312)	0.030	0.003
241	20.08	0.10	0.050	(0.311)	0.045	0.005
242	20.17	0.10	0.050	(0.309)	0.045	0.005
243	20.25	0.10	0.050	(0.308)	0.045	0.005
244	20.33	0.10	0.050	(0.307)	0.045	0.005
245	20.42	0.10	0.050	(0.305)	0.045	0.005
246	20.50	0.10	0.050	(0.304)	0.045	0.005

247	20.58	0.10	0.050	(0.303)	0.045	0.005
248	20.67	0.10	0.050	(0.301)	0.045	0.005
249	20.75	0.10	0.050	(0.300)	0.045	0.005
250	20.83	0.07	0.033	(0.299)	0.030	0.003
251	20.92	0.07	0.033	(0.298)	0.030	0.003
252	21.00	0.07	0.033	(0.297)	0.030	0.003
253	21.08	0.10	0.050	(0.295)	0.045	0.005
254	21.17	0.10	0.050	(0.294)	0.045	0.005
255	21.25	0.10	0.050	(0.293)	0.045	0.005
256	21.33	0.07	0.033	(0.292)	0.030	0.003
257	21.42	0.07	0.033	(0.291)	0.030	0.003
258	21.50	0.07	0.033	(0.290)	0.030	0.003
259	21.58	0.10	0.050	(0.289)	0.045	0.005
260	21.67	0.10	0.050	(0.288)	0.045	0.005
261	21.75	0.10	0.050	(0.287)	0.045	0.005
262	21.83	0.07	0.033	(0.286)	0.030	0.003
263	21.92	0.07	0.033	(0.285)	0.030	0.003
264	22.00	0.07	0.033	(0.284)	0.030	0.003
265	22.08	0.10	0.050	(0.283)	0.045	0.005
266	22.17	0.10	0.050	(0.282)	0.045	0.005
267	22.25	0.10	0.050	(0.281)	0.045	0.005
268	22.33	0.07	0.033	(0.280)	0.030	0.003
269	22.42	0.07	0.033	(0.279)	0.030	0.003
270	22.50	0.07	0.033	(0.278)	0.030	0.003
271	22.58	0.07	0.033	(0.278)	0.030	0.003
272	22.67	0.07	0.033	(0.277)	0.030	0.003
273	22.75	0.07	0.033	(0.276)	0.030	0.003
274	22.83	0.07	0.033	(0.275)	0.030	0.003
275	22.92	0.07	0.033	(0.275)	0.030	0.003
276	23.00	0.07	0.033	(0.274)	0.030	0.003
277	23.08	0.07	0.033	(0.273)	0.030	0.003
278	23.17	0.07	0.033	(0.273)	0.030	0.003
279	23.25	0.07	0.033	(0.272)	0.030	0.003
280	23.33	0.07	0.033	(0.272)	0.030	0.003
281	23.42	0.07	0.033	(0.271)	0.030	0.003
282	23.50	0.07	0.033	(0.271)	0.030	0.003
283	23.58	0.07	0.033	(0.270)	0.030	0.003
284	23.67	0.07	0.033	(0.270)	0.030	0.003
285	23.75	0.07	0.033	(0.269)	0.030	0.003
286	23.83	0.07	0.033	(0.269)	0.030	0.003
287	23.92	0.07	0.033	(0.269)	0.030	0.003
288	24.00	0.07	0.033	(0.269)	0.030	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 5.2

Flood volume = Effective rainfall 0.43(In)
times area 0.2(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 3.70(In)
Total soil loss = 0.058(Ac.Ft)
Total rainfall = 4.14(In)
Flood volume = 297.7 Cubic Feet

Total soil loss = 2540.8 Cubic Feet

Peak flow rate of this hydrograph = 0.019(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0000	0.00	Q				
0+25	0.0000	0.00	Q				
0+30	0.0000	0.00	Q				
0+35	0.0000	0.00	Q				
0+40	0.0000	0.00	Q				
0+45	0.0001	0.00	Q				
0+50	0.0001	0.00	Q				
0+55	0.0001	0.00	Q				
1+ 0	0.0001	0.00	Q				
1+ 5	0.0001	0.00	Q				
1+10	0.0001	0.00	Q				
1+15	0.0001	0.00	Q				
1+20	0.0001	0.00	Q				
1+25	0.0001	0.00	Q				
1+30	0.0001	0.00	Q				
1+35	0.0001	0.00	Q				
1+40	0.0001	0.00	Q				
1+45	0.0001	0.00	Q				
1+50	0.0001	0.00	Q				
1+55	0.0002	0.00	Q				
2+ 0	0.0002	0.00	Q				
2+ 5	0.0002	0.00	Q				
2+10	0.0002	0.00	QV				
2+15	0.0002	0.00	QV				
2+20	0.0002	0.00	QV				
2+25	0.0002	0.00	QV				
2+30	0.0002	0.00	QV				
2+35	0.0002	0.00	QV				
2+40	0.0002	0.00	QV				
2+45	0.0002	0.00	QV				
2+50	0.0003	0.00	QV				
2+55	0.0003	0.00	QV				
3+ 0	0.0003	0.00	QV				
3+ 5	0.0003	0.00	QV				

3+10	0.0003	0.00	QV				
3+15	0.0003	0.00	QV				
3+20	0.0003	0.00	QV				
3+25	0.0003	0.00	QV				
3+30	0.0003	0.00	Q V				
3+35	0.0004	0.00	Q V				
3+40	0.0004	0.00	Q V				
3+45	0.0004	0.00	Q V				
3+50	0.0004	0.00	Q V				
3+55	0.0004	0.00	Q V				
4+ 0	0.0004	0.00	Q V				
4+ 5	0.0004	0.00	Q V				
4+10	0.0004	0.00	Q V				
4+15	0.0005	0.00	Q V				
4+20	0.0005	0.00	Q V				
4+25	0.0005	0.00	Q V				
4+30	0.0005	0.00	Q V				
4+35	0.0005	0.00	Q V				
4+40	0.0005	0.00	Q V				
4+45	0.0005	0.00	Q V				
4+50	0.0006	0.00	Q V				
4+55	0.0006	0.00	Q V				
5+ 0	0.0006	0.00	Q V				
5+ 5	0.0006	0.00	Q V				
5+10	0.0006	0.00	Q V				
5+15	0.0006	0.00	Q V				
5+20	0.0006	0.00	Q V				
5+25	0.0007	0.00	Q V				
5+30	0.0007	0.00	Q V				
5+35	0.0007	0.00	Q V				
5+40	0.0007	0.00	Q V				
5+45	0.0007	0.00	Q V				
5+50	0.0007	0.00	Q V				
5+55	0.0008	0.00	Q V				
6+ 0	0.0008	0.00	Q V				
6+ 5	0.0008	0.00	Q V				
6+10	0.0008	0.00	Q V				
6+15	0.0008	0.00	Q V				
6+20	0.0009	0.00	Q V				
6+25	0.0009	0.00	Q V				
6+30	0.0009	0.00	Q V				
6+35	0.0009	0.00	Q V				
6+40	0.0009	0.00	Q V				
6+45	0.0010	0.00	Q V				
6+50	0.0010	0.00	Q V				
6+55	0.0010	0.00	Q V				
7+ 0	0.0010	0.00	Q V				
7+ 5	0.0011	0.00	Q V				
7+10	0.0011	0.00	Q V				
7+15	0.0011	0.00	Q V				

7+20	0.0011	0.00	Q	V				
7+25	0.0011	0.00	Q	V				
7+30	0.0012	0.00	Q	V				
7+35	0.0012	0.00	Q	V				
7+40	0.0012	0.00	Q	V				
7+45	0.0012	0.00	Q	V				
7+50	0.0013	0.00	Q	V				
7+55	0.0013	0.00	Q	V				
8+ 0	0.0013	0.00	Q	V				
8+ 5	0.0014	0.00	Q	V				
8+10	0.0014	0.00	Q	V				
8+15	0.0014	0.00	Q	V				
8+20	0.0015	0.00	Q	V				
8+25	0.0015	0.00	Q	V				
8+30	0.0015	0.00	Q	V				
8+35	0.0016	0.00	Q	V				
8+40	0.0016	0.01	Q	V				
8+45	0.0016	0.01	Q	V				
8+50	0.0017	0.01	Q	V				
8+55	0.0017	0.01	Q	V				
9+ 0	0.0017	0.01	Q	V				
9+ 5	0.0018	0.01	Q	V				
9+10	0.0018	0.01	Q	V				
9+15	0.0019	0.01	Q	V				
9+20	0.0019	0.01	Q	V				
9+25	0.0019	0.01	Q	V				
9+30	0.0020	0.01	Q	V				
9+35	0.0020	0.01	Q	V				
9+40	0.0021	0.01	Q	V				
9+45	0.0021	0.01	Q	V				
9+50	0.0022	0.01	Q	V				
9+55	0.0022	0.01	Q	V				
10+ 0	0.0023	0.01	Q	V				
10+ 5	0.0023	0.01	Q	V				
10+10	0.0023	0.00	Q	V				
10+15	0.0024	0.00	Q	V				
10+20	0.0024	0.00	Q	V				
10+25	0.0024	0.00	Q	V				
10+30	0.0025	0.00	Q	V				
10+35	0.0025	0.01	Q	V				
10+40	0.0026	0.01	Q	V				
10+45	0.0026	0.01	Q	V				
10+50	0.0026	0.01	Q	V				
10+55	0.0027	0.01	Q	V				
11+ 0	0.0027	0.01	Q	V				
11+ 5	0.0028	0.01	Q	V				
11+10	0.0028	0.01	Q	V				
11+15	0.0028	0.01	Q	V				
11+20	0.0029	0.01	Q	V				
11+25	0.0029	0.01	Q	V				

11+30	0.0030	0.01	Q	V			
11+35	0.0030	0.01	Q	V			
11+40	0.0030	0.01	Q	V			
11+45	0.0031	0.01	Q	V			
11+50	0.0031	0.01	Q	V			
11+55	0.0032	0.01	Q	V			
12+ 0	0.0032	0.01	Q	V			
12+ 5	0.0033	0.01	Q	V			
12+10	0.0033	0.01	Q	V			
12+15	0.0034	0.01	Q	V			
12+20	0.0034	0.01	Q	V			
12+25	0.0035	0.01	Q	V			
12+30	0.0035	0.01	Q	V			
12+35	0.0036	0.01	Q	V			
12+40	0.0036	0.01	Q	V			
12+45	0.0037	0.01	Q	V			
12+50	0.0038	0.01	Q	V			
12+55	0.0038	0.01	Q	V			
13+ 0	0.0039	0.01	Q	V			
13+ 5	0.0040	0.01	Q	V			
13+10	0.0041	0.02	Q	V			
13+15	0.0042	0.02	Q	V			
13+20	0.0044	0.02	Q	V			
13+25	0.0045	0.02	Q	V			
13+30	0.0046	0.02	Q	V			
13+35	0.0047	0.01	Q	V			
13+40	0.0048	0.01	Q	V			
13+45	0.0048	0.01	Q	V			
13+50	0.0049	0.01	Q	V			
13+55	0.0049	0.01	Q	V			
14+ 0	0.0050	0.01	Q	V			
14+ 5	0.0050	0.01	Q	V			
14+10	0.0051	0.01	Q	V			
14+15	0.0051	0.01	Q	V			
14+20	0.0052	0.01	Q	V			
14+25	0.0052	0.01	Q	V			
14+30	0.0053	0.01	Q	V			
14+35	0.0054	0.01	Q	V			
14+40	0.0054	0.01	Q	V			
14+45	0.0055	0.01	Q	V			
14+50	0.0055	0.01	Q	V			
14+55	0.0056	0.01	Q	V			
15+ 0	0.0056	0.01	Q	V			
15+ 5	0.0057	0.01	Q	V			
15+10	0.0057	0.01	Q	V			
15+15	0.0058	0.01	Q	V			
15+20	0.0058	0.01	Q	V			
15+25	0.0059	0.01	Q	V			
15+30	0.0059	0.01	Q	V			
15+35	0.0060	0.01	Q	V			

15+40	0.0060	0.01	Q				V
15+45	0.0061	0.01	Q				V
15+50	0.0061	0.01	Q				V
15+55	0.0062	0.01	Q				V
16+ 0	0.0062	0.01	Q				V
16+ 5	0.0062	0.00	Q				V
16+10	0.0062	0.00	Q				V
16+15	0.0062	0.00	Q				V
16+20	0.0062	0.00	Q				V
16+25	0.0062	0.00	Q				V
16+30	0.0063	0.00	Q				V
16+35	0.0063	0.00	Q				V
16+40	0.0063	0.00	Q				V
16+45	0.0063	0.00	Q				V
16+50	0.0063	0.00	Q				V
16+55	0.0063	0.00	Q				V
17+ 0	0.0063	0.00	Q				V
17+ 5	0.0063	0.00	Q				V
17+10	0.0063	0.00	Q				V
17+15	0.0063	0.00	Q				V
17+20	0.0063	0.00	Q				V
17+25	0.0064	0.00	Q				V
17+30	0.0064	0.00	Q				V
17+35	0.0064	0.00	Q				V
17+40	0.0064	0.00	Q				V
17+45	0.0064	0.00	Q				V
17+50	0.0064	0.00	Q				V
17+55	0.0064	0.00	Q				V
18+ 0	0.0064	0.00	Q				V
18+ 5	0.0064	0.00	Q				V
18+10	0.0064	0.00	Q				V
18+15	0.0064	0.00	Q				V
18+20	0.0065	0.00	Q				V
18+25	0.0065	0.00	Q				V
18+30	0.0065	0.00	Q				V
18+35	0.0065	0.00	Q				V
18+40	0.0065	0.00	Q				V
18+45	0.0065	0.00	Q				V
18+50	0.0065	0.00	Q				V
18+55	0.0065	0.00	Q				V
19+ 0	0.0065	0.00	Q				V
19+ 5	0.0065	0.00	Q				V
19+10	0.0065	0.00	Q				V
19+15	0.0065	0.00	Q				V
19+20	0.0065	0.00	Q				V
19+25	0.0065	0.00	Q				V
19+30	0.0066	0.00	Q				V
19+35	0.0066	0.00	Q				V
19+40	0.0066	0.00	Q				V
19+45	0.0066	0.00	Q				V

19+50	0.0066	0.00	Q				V
19+55	0.0066	0.00	Q				V
20+ 0	0.0066	0.00	Q				V
20+ 5	0.0066	0.00	Q				V
20+10	0.0066	0.00	Q				V
20+15	0.0066	0.00	Q				V
20+20	0.0066	0.00	Q				V
20+25	0.0066	0.00	Q				V
20+30	0.0066	0.00	Q				V
20+35	0.0066	0.00	Q				V
20+40	0.0066	0.00	Q				V
20+45	0.0066	0.00	Q				V
20+50	0.0066	0.00	Q				V
20+55	0.0067	0.00	Q				V
21+ 0	0.0067	0.00	Q				V
21+ 5	0.0067	0.00	Q				V
21+10	0.0067	0.00	Q				V
21+15	0.0067	0.00	Q				V
21+20	0.0067	0.00	Q				V
21+25	0.0067	0.00	Q				V
21+30	0.0067	0.00	Q				V
21+35	0.0067	0.00	Q				V
21+40	0.0067	0.00	Q				V
21+45	0.0067	0.00	Q				V
21+50	0.0067	0.00	Q				V
21+55	0.0067	0.00	Q				V
22+ 0	0.0067	0.00	Q				V
22+ 5	0.0067	0.00	Q				V
22+10	0.0067	0.00	Q				V
22+15	0.0067	0.00	Q				V
22+20	0.0067	0.00	Q				V
22+25	0.0067	0.00	Q				V
22+30	0.0068	0.00	Q				V
22+35	0.0068	0.00	Q				V
22+40	0.0068	0.00	Q				V
22+45	0.0068	0.00	Q				V
22+50	0.0068	0.00	Q				V
22+55	0.0068	0.00	Q				V
23+ 0	0.0068	0.00	Q				V
23+ 5	0.0068	0.00	Q				V
23+10	0.0068	0.00	Q				V
23+15	0.0068	0.00	Q				V
23+20	0.0068	0.00	Q				V
23+25	0.0068	0.00	Q				V
23+30	0.0068	0.00	Q				V
23+35	0.0068	0.00	Q				V
23+40	0.0068	0.00	Q				V
23+45	0.0068	0.00	Q				V
23+50	0.0068	0.00	Q				V
23+55	0.0068	0.00	Q				V

24+ 0	0.0068	0.00	Q				V
24+ 5	0.0068	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE12.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
2-Year
1-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	0.48	0.53

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	1.34	1.47

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.483(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.483(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	357.449	61.909
2	0.167	714.899	34.155
3	0.250	1072.348	3.935
		Sum = 100.000	Sum= 1.109

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.255	(0.438)	0.230	0.026
2	0.17	4.50	0.261	(0.438)	0.235	0.026
3	0.25	5.40	0.313	(0.438)	0.282	0.031
4	0.33	5.40	0.313	(0.438)	0.282	0.031
5	0.42	5.70	0.330	(0.438)	0.297	0.033
6	0.50	6.40	0.371	(0.438)	0.334	0.037
7	0.58	7.90	0.458	(0.438)	0.412	0.046
8	0.67	9.10	0.527	0.438	(0.475)	0.090
9	0.75	12.80	0.742	0.438	(0.668)	0.304
10	0.83	25.60	1.484	0.438	(1.335)	1.046
11	0.92	7.90	0.458	(0.438)	0.412	0.046
12	1.00	4.90	0.284	(0.438)	0.256	0.028

(Loss Rate Not Used)

Sum = 100.0

Sum = 1.7

Flood volume = Effective rainfall $\times 0.15(\text{In})$

times area $1.1(\text{Ac.})/[(\text{In})/(\text{Ft.})] =$ $0.0(\text{Ac.Ft})$

$$\text{Total soil loss} = 0.34(\text{In})$$

Total soil loss = 0.031 (Ac.Ft)

Total rainfall = 0.48(In)

Flood volume = 580.5 Cubic Feet

Total soil loss = 1348.1 Cubic Feet

Peak flow rate of this hydrograph = 0.838(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q					
0+10	0.0003	0.03	Q					
0+15	0.0005	0.03	QV					
0+20	0.0008	0.03	Q V					
0+25	0.0010	0.04	Q V					
0+30	0.0013	0.04	Q V					
0+35	0.0016	0.05	Q V					
0+40	0.0022	0.08	Q V					
0+45	0.0039	0.24	Q		V			
0+50	0.0096	0.84	Q			V		
0+55	0.0127	0.44	Q					V

1+ 0	0.0132	0.08	Q				V
1+ 5	0.0133	0.01	Q				V
1+10	0.0133	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
2-Year
3-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	0.88	0.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	2.20	2.42

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 0.877(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.877(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.137	(0.438)	0.123	0.014
2	0.17	1.30	0.137	(0.438)	0.123	0.014
3	0.25	1.10	0.116	(0.438)	0.104	0.012
4	0.33	1.50	0.158	(0.438)	0.142	0.016
5	0.42	1.50	0.158	(0.438)	0.142	0.016
6	0.50	1.80	0.189	(0.438)	0.170	0.019
7	0.58	1.50	0.158	(0.438)	0.142	0.016
8	0.67	1.80	0.189	(0.438)	0.170	0.019
9	0.75	1.80	0.189	(0.438)	0.170	0.019
10	0.83	1.50	0.158	(0.438)	0.142	0.016
11	0.92	1.60	0.168	(0.438)	0.152	0.017
12	1.00	1.80	0.189	(0.438)	0.170	0.019
13	1.08	2.20	0.232	(0.438)	0.208	0.023
14	1.17	2.20	0.232	(0.438)	0.208	0.023
15	1.25	2.20	0.232	(0.438)	0.208	0.023
16	1.33	2.00	0.210	(0.438)	0.189	0.021
17	1.42	2.60	0.274	(0.438)	0.246	0.027
18	1.50	2.70	0.284	(0.438)	0.256	0.028
19	1.58	2.40	0.253	(0.438)	0.227	0.025
20	1.67	2.70	0.284	(0.438)	0.256	0.028
21	1.75	3.30	0.347	(0.438)	0.313	0.035
22	1.83	3.10	0.326	(0.438)	0.294	0.033
23	1.92	2.90	0.305	(0.438)	0.275	0.031
24	2.00	3.00	0.316	(0.438)	0.284	0.032
25	2.08	3.10	0.326	(0.438)	0.294	0.033
26	2.17	4.20	0.442	(0.438)	0.398	0.044
27	2.25	5.00	0.526	0.438	(0.474)	0.089
28	2.33	3.50	0.368	(0.438)	0.332	0.037
29	2.42	6.80	0.716	0.438	(0.644)	0.278
30	2.50	7.30	0.768	0.438	(0.691)	0.331
31	2.58	8.20	0.863	0.438	(0.777)	0.425
32	2.67	5.90	0.621	0.438	(0.559)	0.183
33	2.75	2.00	0.210	(0.438)	0.189	0.021
34	2.83	1.80	0.189	(0.438)	0.170	0.019
35	2.92	1.80	0.189	(0.438)	0.170	0.019
36	3.00	0.60	0.063	(0.438)	0.057	0.006

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.0

Flood volume = Effective rainfall 0.17(In)

times area $1.1(\text{Ac.})/[(\text{In})/(\text{Ft.})] = \quad 0.0(\text{Ac.Ft})$

$$\text{Total soil loss} = 0.71(\text{In})$$

Total soil loss = 0.065(Ac.Ft)

Total rainfall = 0.88(In)

Flood volume = 668.5 Cubic Feet

Total soil loss = 2833.4 Cubic Feet

Peak flow rate of this hydrograph = 0.429(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.01	Q				
0+10	0.0002		0.01	Q				
0+15	0.0003		0.01	Q				
0+20	0.0004		0.02	Q				
0+25	0.0005		0.02	QV				
0+30	0.0006		0.02	QV				
0+35	0.0008		0.02	QV				
0+40	0.0009		0.02	Q V				
0+45	0.0010		0.02	Q V				
0+50	0.0012		0.02	Q V				
0+55	0.0013		0.02	Q V				
1+ 0	0.0014		0.02	Q V				
1+ 5	0.0016		0.02	Q V				
1+10	0.0018		0.03	Q V				
1+15	0.0019		0.03	Q V				
1+20	0.0021		0.02	Q V				
1+25	0.0023		0.03	Q V				
1+30	0.0025		0.03	Q V				
1+35	0.0027		0.03	Q V				
1+40	0.0029		0.03	Q V				
1+45	0.0032		0.04	Q V				
1+50	0.0034		0.04	Q V				
1+55	0.0037		0.03	Q V				
2+ 0	0.0039		0.03	Q V				
2+ 5	0.0041		0.04	Q V				
2+10	0.0045		0.04	Q V				
2+15	0.0050		0.08	Q V				
2+20	0.0054		0.06	Q V				
2+25	0.0069		0.21	Q V				
2+30	0.0092		0.33	Q V				
2+35	0.0121		0.43	Q V				
2+40	0.0142		0.30	Q V				
2+45	0.0149		0.10	Q V				
2+50	0.0151		0.03	Q V				
2+55	0.0152		0.02	Q V				
3+ 0	0.0153		0.01	Q V				
3+ 5	0.0153		0.00	Q V				
3+10	0.0153		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
2-Year
6-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	1.27	1.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	3.12	3.43

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.270(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.270(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.076	(0.438)	0.069	0.008
2	0.17	0.60	0.091	(0.438)	0.082	0.009
3	0.25	0.60	0.091	(0.438)	0.082	0.009
4	0.33	0.60	0.091	(0.438)	0.082	0.009
5	0.42	0.60	0.091	(0.438)	0.082	0.009
6	0.50	0.70	0.107	(0.438)	0.096	0.011
7	0.58	0.70	0.107	(0.438)	0.096	0.011
8	0.67	0.70	0.107	(0.438)	0.096	0.011
9	0.75	0.70	0.107	(0.438)	0.096	0.011
10	0.83	0.70	0.107	(0.438)	0.096	0.011
11	0.92	0.70	0.107	(0.438)	0.096	0.011
12	1.00	0.80	0.122	(0.438)	0.110	0.012
13	1.08	0.80	0.122	(0.438)	0.110	0.012
14	1.17	0.80	0.122	(0.438)	0.110	0.012
15	1.25	0.80	0.122	(0.438)	0.110	0.012
16	1.33	0.80	0.122	(0.438)	0.110	0.012
17	1.42	0.80	0.122	(0.438)	0.110	0.012
18	1.50	0.80	0.122	(0.438)	0.110	0.012
19	1.58	0.80	0.122	(0.438)	0.110	0.012
20	1.67	0.80	0.122	(0.438)	0.110	0.012
21	1.75	0.80	0.122	(0.438)	0.110	0.012
22	1.83	0.80	0.122	(0.438)	0.110	0.012
23	1.92	0.80	0.122	(0.438)	0.110	0.012
24	2.00	0.90	0.137	(0.438)	0.123	0.014
25	2.08	0.80	0.122	(0.438)	0.110	0.012
26	2.17	0.90	0.137	(0.438)	0.123	0.014
27	2.25	0.90	0.137	(0.438)	0.123	0.014
28	2.33	0.90	0.137	(0.438)	0.123	0.014
29	2.42	0.90	0.137	(0.438)	0.123	0.014
30	2.50	0.90	0.137	(0.438)	0.123	0.014
31	2.58	0.90	0.137	(0.438)	0.123	0.014
32	2.67	0.90	0.137	(0.438)	0.123	0.014
33	2.75	1.00	0.152	(0.438)	0.137	0.015
34	2.83	1.00	0.152	(0.438)	0.137	0.015
35	2.92	1.00	0.152	(0.438)	0.137	0.015
36	3.00	1.00	0.152	(0.438)	0.137	0.015
37	3.08	1.00	0.152	(0.438)	0.137	0.015
38	3.17	1.10	0.168	(0.438)	0.151	0.017
39	3.25	1.10	0.168	(0.438)	0.151	0.017
40	3.33	1.10	0.168	(0.438)	0.151	0.017
41	3.42	1.20	0.183	(0.438)	0.165	0.018
42	3.50	1.30	0.198	(0.438)	0.178	0.020
43	3.58	1.40	0.213	(0.438)	0.192	0.021
44	3.67	1.40	0.213	(0.438)	0.192	0.021
45	3.75	1.50	0.229	(0.438)	0.206	0.023
46	3.83	1.50	0.229	(0.438)	0.206	0.023

47	3.92	1.60	0.244	(0.438)	0.219	0.024
48	4.00	1.60	0.244	(0.438)	0.219	0.024
49	4.08	1.70	0.259	(0.438)	0.233	0.026
50	4.17	1.80	0.274	(0.438)	0.247	0.027
51	4.25	1.90	0.290	(0.438)	0.261	0.029
52	4.33	2.00	0.305	(0.438)	0.274	0.030
53	4.42	2.10	0.320	(0.438)	0.288	0.032
54	4.50	2.10	0.320	(0.438)	0.288	0.032
55	4.58	2.20	0.335	(0.438)	0.302	0.034
56	4.67	2.30	0.351	(0.438)	0.315	0.035
57	4.75	2.40	0.366	(0.438)	0.329	0.037
58	4.83	2.40	0.366	(0.438)	0.329	0.037
59	4.92	2.50	0.381	(0.438)	0.343	0.038
60	5.00	2.60	0.396	(0.438)	0.357	0.040
61	5.08	3.10	0.472	(0.438)	0.425	0.047
62	5.17	3.60	0.549	0.438	(0.494)	0.111
63	5.25	3.90	0.594	0.438	(0.535)	0.157
64	5.33	4.20	0.640	0.438	(0.576)	0.202
65	5.42	4.70	0.716	0.438	(0.645)	0.279
66	5.50	5.60	0.853	0.438	(0.768)	0.416
67	5.58	1.90	0.290	(0.438)	0.261	0.029
68	5.67	0.90	0.137	(0.438)	0.123	0.014
69	5.75	0.60	0.091	(0.438)	0.082	0.009
70	5.83	0.50	0.076	(0.438)	0.069	0.008
71	5.92	0.30	0.046	(0.438)	0.041	0.005
72	6.00	0.20	0.030	(0.438)	0.027	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.4

Flood volume = Effective rainfall 0.20(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.07(In)
Total soil loss = 0.098(Ac.Ft)
Total rainfall = 1.27(In)
Flood volume = 783.1 Cubic Feet
Total soil loss = 4288.0 Cubic Feet

Peak flow rate of this hydrograph = 0.400(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				

0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0005	0.01	QV				
0+40	0.0005	0.01	QV				
0+45	0.0006	0.01	QV				
0+50	0.0007	0.01	QV				
0+55	0.0008	0.01	QV				
1+ 0	0.0009	0.01	QV				
1+ 5	0.0010	0.01	Q V				
1+10	0.0011	0.01	Q V				
1+15	0.0012	0.01	Q V				
1+20	0.0013	0.01	Q V				
1+25	0.0013	0.01	Q V				
1+30	0.0014	0.01	Q V				
1+35	0.0015	0.01	Q V				
1+40	0.0016	0.01	Q V				
1+45	0.0017	0.01	Q V				
1+50	0.0018	0.01	Q V				
1+55	0.0019	0.01	Q V				
2+ 0	0.0020	0.01	Q V				
2+ 5	0.0021	0.01	Q V				
2+10	0.0022	0.01	Q V				
2+15	0.0023	0.02	Q V				
2+20	0.0024	0.02	Q V				
2+25	0.0025	0.02	Q V				
2+30	0.0026	0.02	Q V				
2+35	0.0027	0.02	Q V				
2+40	0.0028	0.02	Q V				
2+45	0.0029	0.02	Q V				
2+50	0.0031	0.02	Q V				
2+55	0.0032	0.02	Q V				
3+ 0	0.0033	0.02	Q V				
3+ 5	0.0034	0.02	Q V				
3+10	0.0035	0.02	Q V				
3+15	0.0037	0.02	Q V				
3+20	0.0038	0.02	Q V				
3+25	0.0039	0.02	Q V				
3+30	0.0041	0.02	Q V				
3+35	0.0042	0.02	Q V				
3+40	0.0044	0.02	Q V				
3+45	0.0046	0.02	Q V				
3+50	0.0047	0.03	Q V				
3+55	0.0049	0.03	Q V				
4+ 0	0.0051	0.03	Q V				
4+ 5	0.0053	0.03	Q V				
4+10	0.0055	0.03	Q V				
4+15	0.0057	0.03	Q V				
4+20	0.0059	0.03	Q V				
4+25	0.0062	0.03	Q V				

4+30	0.0064	0.04	Q		V			
4+35	0.0067	0.04	Q		V			
4+40	0.0069	0.04	Q		V			
4+45	0.0072	0.04	Q		V			
4+50	0.0075	0.04	Q		V			
4+55	0.0078	0.04	Q		V			
5+ 0	0.0081	0.04	Q		V			
5+ 5	0.0084	0.05	Q		V			
5+10	0.0091	0.10	Q			V		
5+15	0.0101	0.15	Q			V		
5+20	0.0115	0.20	Q				V	
5+25	0.0134	0.27	Q				V	
5+30	0.0162	0.40	Q					V
5+35	0.0175	0.19	Q					V
5+40	0.0177	0.04	Q					V
5+45	0.0178	0.01	Q					V
5+50	0.0179	0.01	Q					V
5+55	0.0179	0.01	Q					V
6+ 0	0.0180	0.00	Q					V
6+ 5	0.0180	0.00	Q					V
6+10	0.0180	0.00	Q					V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
2-Year
24-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	2.43	2.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	6.58	7.24

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 2.430(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.430(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.019	(0.776)	0.017	0.002
2	0.17	0.07	0.019	(0.773)	0.017	0.002
3	0.25	0.07	0.019	(0.770)	0.017	0.002
4	0.33	0.10	0.029	(0.767)	0.026	0.003
5	0.42	0.10	0.029	(0.764)	0.026	0.003
6	0.50	0.10	0.029	(0.761)	0.026	0.003
7	0.58	0.10	0.029	(0.758)	0.026	0.003
8	0.67	0.10	0.029	(0.755)	0.026	0.003
9	0.75	0.10	0.029	(0.752)	0.026	0.003
10	0.83	0.13	0.039	(0.749)	0.035	0.004
11	0.92	0.13	0.039	(0.746)	0.035	0.004
12	1.00	0.13	0.039	(0.743)	0.035	0.004
13	1.08	0.10	0.029	(0.740)	0.026	0.003
14	1.17	0.10	0.029	(0.737)	0.026	0.003
15	1.25	0.10	0.029	(0.734)	0.026	0.003
16	1.33	0.10	0.029	(0.731)	0.026	0.003
17	1.42	0.10	0.029	(0.728)	0.026	0.003
18	1.50	0.10	0.029	(0.726)	0.026	0.003
19	1.58	0.10	0.029	(0.723)	0.026	0.003
20	1.67	0.10	0.029	(0.720)	0.026	0.003
21	1.75	0.10	0.029	(0.717)	0.026	0.003
22	1.83	0.13	0.039	(0.714)	0.035	0.004
23	1.92	0.13	0.039	(0.711)	0.035	0.004
24	2.00	0.13	0.039	(0.708)	0.035	0.004
25	2.08	0.13	0.039	(0.705)	0.035	0.004
26	2.17	0.13	0.039	(0.702)	0.035	0.004
27	2.25	0.13	0.039	(0.700)	0.035	0.004
28	2.33	0.13	0.039	(0.697)	0.035	0.004
29	2.42	0.13	0.039	(0.694)	0.035	0.004
30	2.50	0.13	0.039	(0.691)	0.035	0.004
31	2.58	0.17	0.049	(0.688)	0.044	0.005
32	2.67	0.17	0.049	(0.685)	0.044	0.005
33	2.75	0.17	0.049	(0.683)	0.044	0.005
34	2.83	0.17	0.049	(0.680)	0.044	0.005
35	2.92	0.17	0.049	(0.677)	0.044	0.005
36	3.00	0.17	0.049	(0.674)	0.044	0.005
37	3.08	0.17	0.049	(0.671)	0.044	0.005
38	3.17	0.17	0.049	(0.669)	0.044	0.005
39	3.25	0.17	0.049	(0.666)	0.044	0.005
40	3.33	0.17	0.049	(0.663)	0.044	0.005
41	3.42	0.17	0.049	(0.660)	0.044	0.005
42	3.50	0.17	0.049	(0.658)	0.044	0.005
43	3.58	0.17	0.049	(0.655)	0.044	0.005
44	3.67	0.17	0.049	(0.652)	0.044	0.005
45	3.75	0.17	0.049	(0.649)	0.044	0.005
46	3.83	0.20	0.058	(0.647)	0.052	0.006

47	3.92	0.20	0.058	(0.644)	0.052	0.006
48	4.00	0.20	0.058	(0.641)	0.052	0.006
49	4.08	0.20	0.058	(0.638)	0.052	0.006
50	4.17	0.20	0.058	(0.636)	0.052	0.006
51	4.25	0.20	0.058	(0.633)	0.052	0.006
52	4.33	0.23	0.068	(0.630)	0.061	0.007
53	4.42	0.23	0.068	(0.628)	0.061	0.007
54	4.50	0.23	0.068	(0.625)	0.061	0.007
55	4.58	0.23	0.068	(0.622)	0.061	0.007
56	4.67	0.23	0.068	(0.620)	0.061	0.007
57	4.75	0.23	0.068	(0.617)	0.061	0.007
58	4.83	0.27	0.078	(0.614)	0.070	0.008
59	4.92	0.27	0.078	(0.612)	0.070	0.008
60	5.00	0.27	0.078	(0.609)	0.070	0.008
61	5.08	0.20	0.058	(0.606)	0.052	0.006
62	5.17	0.20	0.058	(0.604)	0.052	0.006
63	5.25	0.20	0.058	(0.601)	0.052	0.006
64	5.33	0.23	0.068	(0.598)	0.061	0.007
65	5.42	0.23	0.068	(0.596)	0.061	0.007
66	5.50	0.23	0.068	(0.593)	0.061	0.007
67	5.58	0.27	0.078	(0.591)	0.070	0.008
68	5.67	0.27	0.078	(0.588)	0.070	0.008
69	5.75	0.27	0.078	(0.585)	0.070	0.008
70	5.83	0.27	0.078	(0.583)	0.070	0.008
71	5.92	0.27	0.078	(0.580)	0.070	0.008
72	6.00	0.27	0.078	(0.578)	0.070	0.008
73	6.08	0.30	0.087	(0.575)	0.079	0.009
74	6.17	0.30	0.087	(0.572)	0.079	0.009
75	6.25	0.30	0.087	(0.570)	0.079	0.009
76	6.33	0.30	0.087	(0.567)	0.079	0.009
77	6.42	0.30	0.087	(0.565)	0.079	0.009
78	6.50	0.30	0.087	(0.562)	0.079	0.009
79	6.58	0.33	0.097	(0.560)	0.087	0.010
80	6.67	0.33	0.097	(0.557)	0.087	0.010
81	6.75	0.33	0.097	(0.555)	0.087	0.010
82	6.83	0.33	0.097	(0.552)	0.087	0.010
83	6.92	0.33	0.097	(0.550)	0.087	0.010
84	7.00	0.33	0.097	(0.547)	0.087	0.010
85	7.08	0.33	0.097	(0.545)	0.087	0.010
86	7.17	0.33	0.097	(0.542)	0.087	0.010
87	7.25	0.33	0.097	(0.540)	0.087	0.010
88	7.33	0.37	0.107	(0.537)	0.096	0.011
89	7.42	0.37	0.107	(0.535)	0.096	0.011
90	7.50	0.37	0.107	(0.532)	0.096	0.011
91	7.58	0.40	0.117	(0.530)	0.105	0.012
92	7.67	0.40	0.117	(0.528)	0.105	0.012
93	7.75	0.40	0.117	(0.525)	0.105	0.012
94	7.83	0.43	0.126	(0.523)	0.114	0.013
95	7.92	0.43	0.126	(0.520)	0.114	0.013
96	8.00	0.43	0.126	(0.518)	0.114	0.013

97	8.08	0.50	0.146	(0.515)	0.131	0.015
98	8.17	0.50	0.146	(0.513)	0.131	0.015
99	8.25	0.50	0.146	(0.511)	0.131	0.015
100	8.33	0.50	0.146	(0.508)	0.131	0.015
101	8.42	0.50	0.146	(0.506)	0.131	0.015
102	8.50	0.50	0.146	(0.504)	0.131	0.015
103	8.58	0.53	0.156	(0.501)	0.140	0.016
104	8.67	0.53	0.156	(0.499)	0.140	0.016
105	8.75	0.53	0.156	(0.496)	0.140	0.016
106	8.83	0.57	0.165	(0.494)	0.149	0.017
107	8.92	0.57	0.165	(0.492)	0.149	0.017
108	9.00	0.57	0.165	(0.489)	0.149	0.017
109	9.08	0.63	0.185	(0.487)	0.166	0.018
110	9.17	0.63	0.185	(0.485)	0.166	0.018
111	9.25	0.63	0.185	(0.483)	0.166	0.018
112	9.33	0.67	0.194	(0.480)	0.175	0.019
113	9.42	0.67	0.194	(0.478)	0.175	0.019
114	9.50	0.67	0.194	(0.476)	0.175	0.019
115	9.58	0.70	0.204	(0.473)	0.184	0.020
116	9.67	0.70	0.204	(0.471)	0.184	0.020
117	9.75	0.70	0.204	(0.469)	0.184	0.020
118	9.83	0.73	0.214	(0.467)	0.192	0.021
119	9.92	0.73	0.214	(0.464)	0.192	0.021
120	10.00	0.73	0.214	(0.462)	0.192	0.021
121	10.08	0.50	0.146	(0.460)	0.131	0.015
122	10.17	0.50	0.146	(0.458)	0.131	0.015
123	10.25	0.50	0.146	(0.455)	0.131	0.015
124	10.33	0.50	0.146	(0.453)	0.131	0.015
125	10.42	0.50	0.146	(0.451)	0.131	0.015
126	10.50	0.50	0.146	(0.449)	0.131	0.015
127	10.58	0.67	0.194	(0.447)	0.175	0.019
128	10.67	0.67	0.194	(0.444)	0.175	0.019
129	10.75	0.67	0.194	(0.442)	0.175	0.019
130	10.83	0.67	0.194	(0.440)	0.175	0.019
131	10.92	0.67	0.194	(0.438)	0.175	0.019
132	11.00	0.67	0.194	(0.436)	0.175	0.019
133	11.08	0.63	0.185	(0.434)	0.166	0.018
134	11.17	0.63	0.185	(0.431)	0.166	0.018
135	11.25	0.63	0.185	(0.429)	0.166	0.018
136	11.33	0.63	0.185	(0.427)	0.166	0.018
137	11.42	0.63	0.185	(0.425)	0.166	0.018
138	11.50	0.63	0.185	(0.423)	0.166	0.018
139	11.58	0.57	0.165	(0.421)	0.149	0.017
140	11.67	0.57	0.165	(0.419)	0.149	0.017
141	11.75	0.57	0.165	(0.417)	0.149	0.017
142	11.83	0.60	0.175	(0.415)	0.157	0.017
143	11.92	0.60	0.175	(0.413)	0.157	0.017
144	12.00	0.60	0.175	(0.411)	0.157	0.017
145	12.08	0.83	0.243	(0.408)	0.219	0.024
146	12.17	0.83	0.243	(0.406)	0.219	0.024

147	12.25	0.83	0.243	(0.404)	0.219	0.024
148	12.33	0.87	0.253	(0.402)	0.227	0.025
149	12.42	0.87	0.253	(0.400)	0.227	0.025
150	12.50	0.87	0.253	(0.398)	0.227	0.025
151	12.58	0.93	0.272	(0.396)	0.245	0.027
152	12.67	0.93	0.272	(0.394)	0.245	0.027
153	12.75	0.93	0.272	(0.392)	0.245	0.027
154	12.83	0.97	0.282	(0.390)	0.254	0.028
155	12.92	0.97	0.282	(0.388)	0.254	0.028
156	13.00	0.97	0.282	(0.386)	0.254	0.028
157	13.08	1.13	0.330	(0.384)	0.297	0.033
158	13.17	1.13	0.330	(0.383)	0.297	0.033
159	13.25	1.13	0.330	(0.381)	0.297	0.033
160	13.33	1.13	0.330	(0.379)	0.297	0.033
161	13.42	1.13	0.330	(0.377)	0.297	0.033
162	13.50	1.13	0.330	(0.375)	0.297	0.033
163	13.58	0.77	0.224	(0.373)	0.201	0.022
164	13.67	0.77	0.224	(0.371)	0.201	0.022
165	13.75	0.77	0.224	(0.369)	0.201	0.022
166	13.83	0.77	0.224	(0.367)	0.201	0.022
167	13.92	0.77	0.224	(0.365)	0.201	0.022
168	14.00	0.77	0.224	(0.363)	0.201	0.022
169	14.08	0.90	0.262	(0.362)	0.236	0.026
170	14.17	0.90	0.262	(0.360)	0.236	0.026
171	14.25	0.90	0.262	(0.358)	0.236	0.026
172	14.33	0.87	0.253	(0.356)	0.227	0.025
173	14.42	0.87	0.253	(0.354)	0.227	0.025
174	14.50	0.87	0.253	(0.352)	0.227	0.025
175	14.58	0.87	0.253	(0.351)	0.227	0.025
176	14.67	0.87	0.253	(0.349)	0.227	0.025
177	14.75	0.87	0.253	(0.347)	0.227	0.025
178	14.83	0.83	0.243	(0.345)	0.219	0.024
179	14.92	0.83	0.243	(0.344)	0.219	0.024
180	15.00	0.83	0.243	(0.342)	0.219	0.024
181	15.08	0.80	0.233	(0.340)	0.210	0.023
182	15.17	0.80	0.233	(0.338)	0.210	0.023
183	15.25	0.80	0.233	(0.337)	0.210	0.023
184	15.33	0.77	0.224	(0.335)	0.201	0.022
185	15.42	0.77	0.224	(0.333)	0.201	0.022
186	15.50	0.77	0.224	(0.331)	0.201	0.022
187	15.58	0.63	0.185	(0.330)	0.166	0.018
188	15.67	0.63	0.185	(0.328)	0.166	0.018
189	15.75	0.63	0.185	(0.326)	0.166	0.018
190	15.83	0.63	0.185	(0.325)	0.166	0.018
191	15.92	0.63	0.185	(0.323)	0.166	0.018
192	16.00	0.63	0.185	(0.321)	0.166	0.018
193	16.08	0.13	0.039	(0.320)	0.035	0.004
194	16.17	0.13	0.039	(0.318)	0.035	0.004
195	16.25	0.13	0.039	(0.316)	0.035	0.004
196	16.33	0.13	0.039	(0.315)	0.035	0.004

197	16.42	0.13	0.039	(0.313)	0.035	0.004
198	16.50	0.13	0.039	(0.312)	0.035	0.004
199	16.58	0.10	0.029	(0.310)	0.026	0.003
200	16.67	0.10	0.029	(0.308)	0.026	0.003
201	16.75	0.10	0.029	(0.307)	0.026	0.003
202	16.83	0.10	0.029	(0.305)	0.026	0.003
203	16.92	0.10	0.029	(0.304)	0.026	0.003
204	17.00	0.10	0.029	(0.302)	0.026	0.003
205	17.08	0.17	0.049	(0.301)	0.044	0.005
206	17.17	0.17	0.049	(0.299)	0.044	0.005
207	17.25	0.17	0.049	(0.298)	0.044	0.005
208	17.33	0.17	0.049	(0.296)	0.044	0.005
209	17.42	0.17	0.049	(0.295)	0.044	0.005
210	17.50	0.17	0.049	(0.293)	0.044	0.005
211	17.58	0.17	0.049	(0.292)	0.044	0.005
212	17.67	0.17	0.049	(0.290)	0.044	0.005
213	17.75	0.17	0.049	(0.289)	0.044	0.005
214	17.83	0.13	0.039	(0.287)	0.035	0.004
215	17.92	0.13	0.039	(0.286)	0.035	0.004
216	18.00	0.13	0.039	(0.285)	0.035	0.004
217	18.08	0.13	0.039	(0.283)	0.035	0.004
218	18.17	0.13	0.039	(0.282)	0.035	0.004
219	18.25	0.13	0.039	(0.280)	0.035	0.004
220	18.33	0.13	0.039	(0.279)	0.035	0.004
221	18.42	0.13	0.039	(0.278)	0.035	0.004
222	18.50	0.13	0.039	(0.276)	0.035	0.004
223	18.58	0.10	0.029	(0.275)	0.026	0.003
224	18.67	0.10	0.029	(0.274)	0.026	0.003
225	18.75	0.10	0.029	(0.272)	0.026	0.003
226	18.83	0.07	0.019	(0.271)	0.017	0.002
227	18.92	0.07	0.019	(0.270)	0.017	0.002
228	19.00	0.07	0.019	(0.269)	0.017	0.002
229	19.08	0.10	0.029	(0.267)	0.026	0.003
230	19.17	0.10	0.029	(0.266)	0.026	0.003
231	19.25	0.10	0.029	(0.265)	0.026	0.003
232	19.33	0.13	0.039	(0.264)	0.035	0.004
233	19.42	0.13	0.039	(0.262)	0.035	0.004
234	19.50	0.13	0.039	(0.261)	0.035	0.004
235	19.58	0.10	0.029	(0.260)	0.026	0.003
236	19.67	0.10	0.029	(0.259)	0.026	0.003
237	19.75	0.10	0.029	(0.258)	0.026	0.003
238	19.83	0.07	0.019	(0.256)	0.017	0.002
239	19.92	0.07	0.019	(0.255)	0.017	0.002
240	20.00	0.07	0.019	(0.254)	0.017	0.002
241	20.08	0.10	0.029	(0.253)	0.026	0.003
242	20.17	0.10	0.029	(0.252)	0.026	0.003
243	20.25	0.10	0.029	(0.251)	0.026	0.003
244	20.33	0.10	0.029	(0.250)	0.026	0.003
245	20.42	0.10	0.029	(0.249)	0.026	0.003
246	20.50	0.10	0.029	(0.248)	0.026	0.003

247	20.58	0.10	0.029	(0.247)	0.026	0.003
248	20.67	0.10	0.029	(0.245)	0.026	0.003
249	20.75	0.10	0.029	(0.244)	0.026	0.003
250	20.83	0.07	0.019	(0.243)	0.017	0.002
251	20.92	0.07	0.019	(0.242)	0.017	0.002
252	21.00	0.07	0.019	(0.242)	0.017	0.002
253	21.08	0.10	0.029	(0.241)	0.026	0.003
254	21.17	0.10	0.029	(0.240)	0.026	0.003
255	21.25	0.10	0.029	(0.239)	0.026	0.003
256	21.33	0.07	0.019	(0.238)	0.017	0.002
257	21.42	0.07	0.019	(0.237)	0.017	0.002
258	21.50	0.07	0.019	(0.236)	0.017	0.002
259	21.58	0.10	0.029	(0.235)	0.026	0.003
260	21.67	0.10	0.029	(0.234)	0.026	0.003
261	21.75	0.10	0.029	(0.233)	0.026	0.003
262	21.83	0.07	0.019	(0.233)	0.017	0.002
263	21.92	0.07	0.019	(0.232)	0.017	0.002
264	22.00	0.07	0.019	(0.231)	0.017	0.002
265	22.08	0.10	0.029	(0.230)	0.026	0.003
266	22.17	0.10	0.029	(0.230)	0.026	0.003
267	22.25	0.10	0.029	(0.229)	0.026	0.003
268	22.33	0.07	0.019	(0.228)	0.017	0.002
269	22.42	0.07	0.019	(0.227)	0.017	0.002
270	22.50	0.07	0.019	(0.227)	0.017	0.002
271	22.58	0.07	0.019	(0.226)	0.017	0.002
272	22.67	0.07	0.019	(0.225)	0.017	0.002
273	22.75	0.07	0.019	(0.225)	0.017	0.002
274	22.83	0.07	0.019	(0.224)	0.017	0.002
275	22.92	0.07	0.019	(0.224)	0.017	0.002
276	23.00	0.07	0.019	(0.223)	0.017	0.002
277	23.08	0.07	0.019	(0.223)	0.017	0.002
278	23.17	0.07	0.019	(0.222)	0.017	0.002
279	23.25	0.07	0.019	(0.222)	0.017	0.002
280	23.33	0.07	0.019	(0.221)	0.017	0.002
281	23.42	0.07	0.019	(0.221)	0.017	0.002
282	23.50	0.07	0.019	(0.220)	0.017	0.002
283	23.58	0.07	0.019	(0.220)	0.017	0.002
284	23.67	0.07	0.019	(0.220)	0.017	0.002
285	23.75	0.07	0.019	(0.219)	0.017	0.002
286	23.83	0.07	0.019	(0.219)	0.017	0.002
287	23.92	0.07	0.019	(0.219)	0.017	0.002
288	24.00	0.07	0.019	(0.219)	0.017	0.002

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.9

Flood volume = Effective rainfall 0.24(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 2.19(In)
Total soil loss = 0.200(Ac.Ft)
Total rainfall = 2.43(In)
Flood volume = 970.3 Cubic Feet

Total soil loss = 8732.7 Cubic Feet

Peak flow rate of this hydrograph = 0.037(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0000	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0001	0.00	Q				
0+40	0.0001	0.00	Q				
0+45	0.0002	0.00	Q				
0+50	0.0002	0.00	Q				
0+55	0.0002	0.00	Q				
1+ 0	0.0003	0.00	Q				
1+ 5	0.0003	0.00	Q				
1+10	0.0003	0.00	Q				
1+15	0.0003	0.00	Q				
1+20	0.0003	0.00	Q				
1+25	0.0004	0.00	Q				
1+30	0.0004	0.00	Q				
1+35	0.0004	0.00	Q				
1+40	0.0004	0.00	Q				
1+45	0.0005	0.00	Q				
1+50	0.0005	0.00	Q				
1+55	0.0005	0.00	Q				
2+ 0	0.0005	0.00	Q				
2+ 5	0.0006	0.00	QV				
2+10	0.0006	0.00	QV				
2+15	0.0006	0.00	QV				
2+20	0.0007	0.00	QV				
2+25	0.0007	0.00	QV				
2+30	0.0007	0.00	QV				
2+35	0.0008	0.00	QV				
2+40	0.0008	0.01	QV				
2+45	0.0008	0.01	QV				
2+50	0.0009	0.01	QV				
2+55	0.0009	0.01	QV				
3+ 0	0.0009	0.01	QV				
3+ 5	0.0010	0.01	QV				

3+10	0.0010	0.01	QV				
3+15	0.0011	0.01	QV				
3+20	0.0011	0.01	QV				
3+25	0.0011	0.01	Q V				
3+30	0.0012	0.01	Q V				
3+35	0.0012	0.01	Q V				
3+40	0.0012	0.01	Q V				
3+45	0.0013	0.01	Q V				
3+50	0.0013	0.01	Q V				
3+55	0.0014	0.01	Q V				
4+ 0	0.0014	0.01	Q V				
4+ 5	0.0015	0.01	Q V				
4+10	0.0015	0.01	Q V				
4+15	0.0015	0.01	Q V				
4+20	0.0016	0.01	Q V				
4+25	0.0016	0.01	Q V				
4+30	0.0017	0.01	Q V				
4+35	0.0017	0.01	Q V				
4+40	0.0018	0.01	Q V				
4+45	0.0018	0.01	Q V				
4+50	0.0019	0.01	Q V				
4+55	0.0020	0.01	Q V				
5+ 0	0.0020	0.01	Q V				
5+ 5	0.0021	0.01	Q V				
5+10	0.0021	0.01	Q V				
5+15	0.0022	0.01	Q V				
5+20	0.0022	0.01	Q V				
5+25	0.0023	0.01	Q V				
5+30	0.0023	0.01	Q V				
5+35	0.0024	0.01	Q V				
5+40	0.0024	0.01	Q V				
5+45	0.0025	0.01	Q V				
5+50	0.0026	0.01	Q V				
5+55	0.0026	0.01	Q V				
6+ 0	0.0027	0.01	Q V				
6+ 5	0.0027	0.01	Q V				
6+10	0.0028	0.01	Q V				
6+15	0.0029	0.01	Q V				
6+20	0.0029	0.01	Q V				
6+25	0.0030	0.01	Q V				
6+30	0.0031	0.01	Q V				
6+35	0.0031	0.01	Q V				
6+40	0.0032	0.01	Q V				
6+45	0.0033	0.01	Q V				
6+50	0.0034	0.01	Q V				
6+55	0.0034	0.01	Q V				
7+ 0	0.0035	0.01	Q V				
7+ 5	0.0036	0.01	Q V				
7+10	0.0037	0.01	Q V				
7+15	0.0037	0.01	Q V				

7+20	0.0038	0.01	Q	V				
7+25	0.0039	0.01	Q	V				
7+30	0.0040	0.01	Q	V				
7+35	0.0041	0.01	Q	V				
7+40	0.0042	0.01	Q	V				
7+45	0.0042	0.01	Q	V				
7+50	0.0043	0.01	Q	V				
7+55	0.0044	0.01	Q	V				
8+ 0	0.0045	0.01	Q	V				
8+ 5	0.0046	0.02	Q	V				
8+10	0.0047	0.02	Q	V				
8+15	0.0049	0.02	Q	V				
8+20	0.0050	0.02	Q	V				
8+25	0.0051	0.02	Q	V				
8+30	0.0052	0.02	Q	V				
8+35	0.0053	0.02	Q	V				
8+40	0.0054	0.02	Q	V				
8+45	0.0055	0.02	Q	V				
8+50	0.0057	0.02	Q	V				
8+55	0.0058	0.02	Q	V				
9+ 0	0.0059	0.02	Q	V				
9+ 5	0.0061	0.02	Q	V				
9+10	0.0062	0.02	Q	V				
9+15	0.0063	0.02	Q	V				
9+20	0.0065	0.02	Q	V				
9+25	0.0066	0.02	Q	V				
9+30	0.0068	0.02	Q	V				
9+35	0.0069	0.02	Q	V				
9+40	0.0071	0.02	Q	V				
9+45	0.0072	0.02	Q	V				
9+50	0.0074	0.02	Q	V				
9+55	0.0076	0.02	Q	V				
10+ 0	0.0077	0.02	Q	V				
10+ 5	0.0079	0.02	Q	V				
10+10	0.0080	0.02	Q	V				
10+15	0.0081	0.02	Q	V				
10+20	0.0082	0.02	Q	V				
10+25	0.0083	0.02	Q	V				
10+30	0.0084	0.02	Q	V				
10+35	0.0086	0.02	Q	V				
10+40	0.0087	0.02	Q	V				
10+45	0.0088	0.02	Q	V				
10+50	0.0090	0.02	Q	V				
10+55	0.0091	0.02	Q	V				
11+ 0	0.0093	0.02	Q	V				
11+ 5	0.0094	0.02	Q	V				
11+10	0.0096	0.02	Q	V				
11+15	0.0097	0.02	Q	V				
11+20	0.0099	0.02	Q	V				
11+25	0.0100	0.02	Q	V				

11+30	0.0101	0.02	Q	V			
11+35	0.0103	0.02	Q	V			
11+40	0.0104	0.02	Q	V			
11+45	0.0105	0.02	Q	V			
11+50	0.0107	0.02	Q	V			
11+55	0.0108	0.02	Q	V			
12+ 0	0.0109	0.02	Q	V			
12+ 5	0.0111	0.02	Q	V			
12+10	0.0113	0.03	Q	V			
12+15	0.0115	0.03	Q	V			
12+20	0.0117	0.03	Q	V			
12+25	0.0118	0.03	Q	V			
12+30	0.0120	0.03	Q	V			
12+35	0.0122	0.03	Q	V			
12+40	0.0124	0.03	Q	V			
12+45	0.0127	0.03	Q	V			
12+50	0.0129	0.03	Q	V			
12+55	0.0131	0.03	Q	V			
13+ 0	0.0133	0.03	Q	V			
13+ 5	0.0135	0.03	Q	V			
13+10	0.0138	0.04	Q	V			
13+15	0.0140	0.04	Q	V			
13+20	0.0143	0.04	Q	V			
13+25	0.0145	0.04	Q	V			
13+30	0.0148	0.04	Q	V			
13+35	0.0150	0.03	Q	V			
13+40	0.0152	0.03	Q	V			
13+45	0.0153	0.02	Q	V			
13+50	0.0155	0.02	Q	V			
13+55	0.0157	0.02	Q	V			
14+ 0	0.0159	0.02	Q	V			
14+ 5	0.0160	0.03	Q	V			
14+10	0.0162	0.03	Q	V			
14+15	0.0164	0.03	Q	V			
14+20	0.0166	0.03	Q	V			
14+25	0.0168	0.03	Q	V			
14+30	0.0170	0.03	Q	V			
14+35	0.0172	0.03	Q	V			
14+40	0.0174	0.03	Q	V			
14+45	0.0176	0.03	Q	V			
14+50	0.0178	0.03	Q	V			
14+55	0.0180	0.03	Q	V			
15+ 0	0.0182	0.03	Q	V			
15+ 5	0.0183	0.03	Q	V			
15+10	0.0185	0.03	Q	V			
15+15	0.0187	0.03	Q	V			
15+20	0.0189	0.03	Q	V			
15+25	0.0190	0.02	Q	V			
15+30	0.0192	0.02	Q	V			
15+35	0.0194	0.02	Q	V			

15+40	0.0195	0.02	Q				V
15+45	0.0197	0.02	Q				V
15+50	0.0198	0.02	Q				V
15+55	0.0199	0.02	Q				V
16+ 0	0.0201	0.02	Q				V
16+ 5	0.0201	0.01	Q				V
16+10	0.0202	0.00	Q				V
16+15	0.0202	0.00	Q				V
16+20	0.0202	0.00	Q				V
16+25	0.0203	0.00	Q				V
16+30	0.0203	0.00	Q				V
16+35	0.0203	0.00	Q				V
16+40	0.0203	0.00	Q				V
16+45	0.0204	0.00	Q				V
16+50	0.0204	0.00	Q				V
16+55	0.0204	0.00	Q				V
17+ 0	0.0204	0.00	Q				V
17+ 5	0.0205	0.00	Q				V
17+10	0.0205	0.01	Q				V
17+15	0.0205	0.01	Q				V
17+20	0.0206	0.01	Q				V
17+25	0.0206	0.01	Q				V
17+30	0.0207	0.01	Q				V
17+35	0.0207	0.01	Q				V
17+40	0.0207	0.01	Q				V
17+45	0.0208	0.01	Q				V
17+50	0.0208	0.00	Q				V
17+55	0.0208	0.00	Q				V
18+ 0	0.0209	0.00	Q				V
18+ 5	0.0209	0.00	Q				V
18+10	0.0209	0.00	Q				V
18+15	0.0209	0.00	Q				V
18+20	0.0210	0.00	Q				V
18+25	0.0210	0.00	Q				V
18+30	0.0210	0.00	Q				V
18+35	0.0211	0.00	Q				V
18+40	0.0211	0.00	Q				V
18+45	0.0211	0.00	Q				V
18+50	0.0211	0.00	Q				V
18+55	0.0211	0.00	Q				V
19+ 0	0.0212	0.00	Q				V
19+ 5	0.0212	0.00	Q				V
19+10	0.0212	0.00	Q				V
19+15	0.0212	0.00	Q				V
19+20	0.0212	0.00	Q				V
19+25	0.0213	0.00	Q				V
19+30	0.0213	0.00	Q				V
19+35	0.0213	0.00	Q				V
19+40	0.0214	0.00	Q				V
19+45	0.0214	0.00	Q				V

19+50	0.0214	0.00	Q				V
19+55	0.0214	0.00	Q				V
20+ 0	0.0214	0.00	Q				V
20+ 5	0.0214	0.00	Q				V
20+10	0.0215	0.00	Q				V
20+15	0.0215	0.00	Q				V
20+20	0.0215	0.00	Q				V
20+25	0.0215	0.00	Q				V
20+30	0.0216	0.00	Q				V
20+35	0.0216	0.00	Q				V
20+40	0.0216	0.00	Q				V
20+45	0.0216	0.00	Q				V
20+50	0.0216	0.00	Q				V
20+55	0.0217	0.00	Q				V
21+ 0	0.0217	0.00	Q				V
21+ 5	0.0217	0.00	Q				V
21+10	0.0217	0.00	Q				V
21+15	0.0217	0.00	Q				V
21+20	0.0217	0.00	Q				V
21+25	0.0218	0.00	Q				V
21+30	0.0218	0.00	Q				V
21+35	0.0218	0.00	Q				V
21+40	0.0218	0.00	Q				V
21+45	0.0218	0.00	Q				V
21+50	0.0219	0.00	Q				V
21+55	0.0219	0.00	Q				V
22+ 0	0.0219	0.00	Q				V
22+ 5	0.0219	0.00	Q				V
22+10	0.0219	0.00	Q				V
22+15	0.0220	0.00	Q				V
22+20	0.0220	0.00	Q				V
22+25	0.0220	0.00	Q				V
22+30	0.0220	0.00	Q				V
22+35	0.0220	0.00	Q				V
22+40	0.0220	0.00	Q				V
22+45	0.0220	0.00	Q				V
22+50	0.0221	0.00	Q				V
22+55	0.0221	0.00	Q				V
23+ 0	0.0221	0.00	Q				V
23+ 5	0.0221	0.00	Q				V
23+10	0.0221	0.00	Q				V
23+15	0.0221	0.00	Q				V
23+20	0.0221	0.00	Q				V
23+25	0.0222	0.00	Q				V
23+30	0.0222	0.00	Q				V
23+35	0.0222	0.00	Q				V
23+40	0.0222	0.00	Q				V
23+45	0.0222	0.00	Q				V
23+50	0.0222	0.00	Q				V
23+55	0.0223	0.00	Q				V

24+ 0	0.0223	0.00	Q				V
24+ 5	0.0223	0.00	Q				V
24+10	0.0223	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE15.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
5-Year
1-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	0.48	0.53

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	1.34	1.47

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.684(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.684(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	357.449	61.909
2	0.167	714.899	34.155
3	0.250	1072.348	3.935
Sum =		100.000	Sum= 1.109

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.361	(0.438)	0.325	0.036
2	0.17	4.50	0.369	(0.438)	0.332	0.037
3	0.25	5.40	0.443	(0.438)	0.399	0.044
4	0.33	5.40	0.443	(0.438)	0.399	0.044
5	0.42	5.70	0.468	(0.438)	0.421	0.047
6	0.50	6.40	0.525	0.438	(0.473)	0.087
7	0.58	7.90	0.648	0.438	(0.583)	0.211
8	0.67	9.10	0.747	0.438	(0.672)	0.309
9	0.75	12.80	1.050	0.438	(0.945)	0.613
10	0.83	25.60	2.100	0.438	(1.890)	1.663
11	0.92	7.90	0.648	0.438	(0.583)	0.211
12	1.00	4.90	0.402	(0.438)	0.362	0.040

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.3

Flood volume = Effective rainfall 0.28(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.41(In)
Total soil loss = 0.037(Ac.Ft)
Total rainfall = 0.68(In)
Flood volume = 1111.9 Cubic Feet
Total soil loss = 1618.2 Cubic Feet

Peak flow rate of this hydrograph = 1.387(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.02	Q				
0+10	0.0004	0.04	Q				
0+15	0.0008	0.05	QV				
0+20	0.0011	0.05	QV				
0+25	0.0014	0.05	Q V				
0+30	0.0020	0.08	Q V				
0+35	0.0032	0.18	Q V				
0+40	0.0053	0.30	Q V				
0+45	0.0090	0.55	Q	V			
0+50	0.0186	1.39	Q		V		
0+55	0.0241	0.80	Q			V	

1+ 0	0.0253	0.18	Q				V
1+ 5	0.0255	0.02	Q				V
1+10	0.0255	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
5-Year
3-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	0.88	0.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	2.20	2.42

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.187(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.187(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.185	(0.438)	0.167	0.019
2	0.17	1.30	0.185	(0.438)	0.167	0.019
3	0.25	1.10	0.157	(0.438)	0.141	0.016
4	0.33	1.50	0.214	(0.438)	0.192	0.021
5	0.42	1.50	0.214	(0.438)	0.192	0.021
6	0.50	1.80	0.256	(0.438)	0.231	0.026
7	0.58	1.50	0.214	(0.438)	0.192	0.021
8	0.67	1.80	0.256	(0.438)	0.231	0.026
9	0.75	1.80	0.256	(0.438)	0.231	0.026
10	0.83	1.50	0.214	(0.438)	0.192	0.021
11	0.92	1.60	0.228	(0.438)	0.205	0.023
12	1.00	1.80	0.256	(0.438)	0.231	0.026
13	1.08	2.20	0.313	(0.438)	0.282	0.031
14	1.17	2.20	0.313	(0.438)	0.282	0.031
15	1.25	2.20	0.313	(0.438)	0.282	0.031
16	1.33	2.00	0.285	(0.438)	0.256	0.028
17	1.42	2.60	0.370	(0.438)	0.333	0.037
18	1.50	2.70	0.385	(0.438)	0.346	0.038
19	1.58	2.40	0.342	(0.438)	0.308	0.034
20	1.67	2.70	0.385	(0.438)	0.346	0.038
21	1.75	3.30	0.470	(0.438)	0.423	0.047
22	1.83	3.10	0.442	(0.438)	0.397	0.044
23	1.92	2.90	0.413	(0.438)	0.372	0.041
24	2.00	3.00	0.427	(0.438)	0.385	0.043
25	2.08	3.10	0.442	(0.438)	0.397	0.044
26	2.17	4.20	0.598	0.438	(0.538)	0.161
27	2.25	5.00	0.712	0.438	(0.641)	0.275
28	2.33	3.50	0.498	0.438	(0.449)	0.061
29	2.42	6.80	0.968	0.438	(0.872)	0.531
30	2.50	7.30	1.040	0.438	(0.936)	0.602
31	2.58	8.20	1.168	0.438	(1.051)	0.730
32	2.67	5.90	0.840	0.438	(0.756)	0.403
33	2.75	2.00	0.285	(0.438)	0.256	0.028
34	2.83	1.80	0.256	(0.438)	0.231	0.026
35	2.92	1.80	0.256	(0.438)	0.231	0.026
36	3.00	0.60	0.085	(0.438)	0.077	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 3.6

Flood volume = Effective rainfall 0.30(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 0.89(In)

Total soil loss = 0.081(Ac.Ft)

Total rainfall = 1.19(In)

Flood volume = 1199.1 Cubic Feet

Total soil loss = 3540.1 Cubic Feet

Peak flow rate of this hydrograph = 0.753(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.01	Q				
0+10	0.0002		0.02	Q				
0+15	0.0004		0.02	Q				
0+20	0.0005		0.02	Q				
0+25	0.0007		0.02	Q				
0+30	0.0008		0.03	QV				
0+35	0.0010		0.03	QV				
0+40	0.0012		0.03	QV				
0+45	0.0014		0.03	Q V				
0+50	0.0016		0.03	Q V				
0+55	0.0017		0.02	Q V				
1+ 0	0.0019		0.03	Q V				
1+ 5	0.0022		0.03	Q V				
1+10	0.0024		0.03	Q V				
1+15	0.0026		0.03	Q V				
1+20	0.0029		0.03	Q V				
1+25	0.0031		0.04	Q V				
1+30	0.0034		0.04	Q V				
1+35	0.0037		0.04	Q V				
1+40	0.0040		0.04	Q V				
1+45	0.0043		0.05	Q V				
1+50	0.0046		0.05	Q V				
1+55	0.0050		0.05	Q V				
2+ 0	0.0053		0.05	Q V				
2+ 5	0.0056		0.05	Q V				
2+10	0.0065		0.13	Q V				
2+15	0.0082		0.25	Q	V			
2+20	0.0093		0.15	Q	V			
2+25	0.0120		0.40	Q	V			
2+30	0.0163		0.62	Q		V		
2+35	0.0215		0.75	Q			V	
2+40	0.0255		0.58	Q				V
2+45	0.0269		0.20	Q				V
2+50	0.0272		0.05	Q				V
2+55	0.0274		0.03	Q				V
3+ 0	0.0275		0.02	Q				V
3+ 5	0.0275		0.00	Q				V
3+10	0.0275		0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
5-Year
6-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	1.27	1.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	3.12	3.43

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.703(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.703(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.102	(0.438)	0.092	0.010
2	0.17	0.60	0.123	(0.438)	0.110	0.012
3	0.25	0.60	0.123	(0.438)	0.110	0.012
4	0.33	0.60	0.123	(0.438)	0.110	0.012
5	0.42	0.60	0.123	(0.438)	0.110	0.012
6	0.50	0.70	0.143	(0.438)	0.129	0.014
7	0.58	0.70	0.143	(0.438)	0.129	0.014
8	0.67	0.70	0.143	(0.438)	0.129	0.014
9	0.75	0.70	0.143	(0.438)	0.129	0.014
10	0.83	0.70	0.143	(0.438)	0.129	0.014
11	0.92	0.70	0.143	(0.438)	0.129	0.014
12	1.00	0.80	0.164	(0.438)	0.147	0.016
13	1.08	0.80	0.164	(0.438)	0.147	0.016
14	1.17	0.80	0.164	(0.438)	0.147	0.016
15	1.25	0.80	0.164	(0.438)	0.147	0.016
16	1.33	0.80	0.164	(0.438)	0.147	0.016
17	1.42	0.80	0.164	(0.438)	0.147	0.016
18	1.50	0.80	0.164	(0.438)	0.147	0.016
19	1.58	0.80	0.164	(0.438)	0.147	0.016
20	1.67	0.80	0.164	(0.438)	0.147	0.016
21	1.75	0.80	0.164	(0.438)	0.147	0.016
22	1.83	0.80	0.164	(0.438)	0.147	0.016
23	1.92	0.80	0.164	(0.438)	0.147	0.016
24	2.00	0.90	0.184	(0.438)	0.166	0.018
25	2.08	0.80	0.164	(0.438)	0.147	0.016
26	2.17	0.90	0.184	(0.438)	0.166	0.018
27	2.25	0.90	0.184	(0.438)	0.166	0.018
28	2.33	0.90	0.184	(0.438)	0.166	0.018
29	2.42	0.90	0.184	(0.438)	0.166	0.018
30	2.50	0.90	0.184	(0.438)	0.166	0.018
31	2.58	0.90	0.184	(0.438)	0.166	0.018
32	2.67	0.90	0.184	(0.438)	0.166	0.018
33	2.75	1.00	0.204	(0.438)	0.184	0.020
34	2.83	1.00	0.204	(0.438)	0.184	0.020
35	2.92	1.00	0.204	(0.438)	0.184	0.020
36	3.00	1.00	0.204	(0.438)	0.184	0.020
37	3.08	1.00	0.204	(0.438)	0.184	0.020
38	3.17	1.10	0.225	(0.438)	0.202	0.022
39	3.25	1.10	0.225	(0.438)	0.202	0.022
40	3.33	1.10	0.225	(0.438)	0.202	0.022
41	3.42	1.20	0.245	(0.438)	0.221	0.025
42	3.50	1.30	0.266	(0.438)	0.239	0.027
43	3.58	1.40	0.286	(0.438)	0.258	0.029
44	3.67	1.40	0.286	(0.438)	0.258	0.029
45	3.75	1.50	0.307	(0.438)	0.276	0.031
46	3.83	1.50	0.307	(0.438)	0.276	0.031

47	3.92	1.60	0.327	(0.438)	0.294	0.033
48	4.00	1.60	0.327	(0.438)	0.294	0.033
49	4.08	1.70	0.347	(0.438)	0.313	0.035
50	4.17	1.80	0.368	(0.438)	0.331	0.037
51	4.25	1.90	0.388	(0.438)	0.350	0.039
52	4.33	2.00	0.409	(0.438)	0.368	0.041
53	4.42	2.10	0.429	(0.438)	0.386	0.043
54	4.50	2.10	0.429	(0.438)	0.386	0.043
55	4.58	2.20	0.450	(0.438)	0.405	0.045
56	4.67	2.30	0.470	(0.438)	0.423	0.047
57	4.75	2.40	0.491	0.438 (0.441)		0.053
58	4.83	2.40	0.491	0.438 (0.441)		0.053
59	4.92	2.50	0.511	0.438 (0.460)		0.073
60	5.00	2.60	0.531	0.438 (0.478)		0.094
61	5.08	3.10	0.634	0.438 (0.570)		0.196
62	5.17	3.60	0.736	0.438 (0.662)		0.298
63	5.25	3.90	0.797	0.438 (0.717)		0.360
64	5.33	4.20	0.858	0.438 (0.773)		0.421
65	5.42	4.70	0.961	0.438 (0.865)		0.523
66	5.50	5.60	1.145	0.438 (1.030)		0.707
67	5.58	1.90	0.388	(0.438)	0.350	0.039
68	5.67	0.90	0.184	(0.438)	0.166	0.018
69	5.75	0.60	0.123	(0.438)	0.110	0.012
70	5.83	0.50	0.102	(0.438)	0.092	0.010
71	5.92	0.30	0.061	(0.438)	0.055	0.006
72	6.00	0.20	0.041	(0.438)	0.037	0.004

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.1

Flood volume = Effective rainfall 0.34(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.36(In)
Total soil loss = 0.125(Ac.Ft)
Total rainfall = 1.70(In)
Flood volume = 1366.4 Cubic Feet
Total soil loss = 5434.9 Cubic Feet

Peak flow rate of this hydrograph = 0.702(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				

0+20	0.0003	0.01	Q				
0+25	0.0004	0.01	Q				
0+30	0.0005	0.02	Q				
0+35	0.0006	0.02	Q				
0+40	0.0007	0.02	Q				
0+45	0.0008	0.02	QV				
0+50	0.0010	0.02	QV				
0+55	0.0011	0.02	QV				
1+ 0	0.0012	0.02	QV				
1+ 5	0.0013	0.02	QV				
1+10	0.0014	0.02	QV				
1+15	0.0016	0.02	QV				
1+20	0.0017	0.02	Q V				
1+25	0.0018	0.02	Q V				
1+30	0.0019	0.02	Q V				
1+35	0.0021	0.02	Q V				
1+40	0.0022	0.02	Q V				
1+45	0.0023	0.02	Q V				
1+50	0.0024	0.02	Q V				
1+55	0.0026	0.02	Q V				
2+ 0	0.0027	0.02	Q V				
2+ 5	0.0028	0.02	Q V				
2+10	0.0030	0.02	Q V				
2+15	0.0031	0.02	Q V				
2+20	0.0032	0.02	Q V				
2+25	0.0034	0.02	Q V				
2+30	0.0035	0.02	Q V				
2+35	0.0037	0.02	Q V				
2+40	0.0038	0.02	Q V				
2+45	0.0039	0.02	Q V				
2+50	0.0041	0.02	Q V				
2+55	0.0043	0.02	Q V				
3+ 0	0.0044	0.02	Q V				
3+ 5	0.0046	0.02	Q V				
3+10	0.0047	0.02	Q V				
3+15	0.0049	0.02	Q V				
3+20	0.0051	0.02	Q V				
3+25	0.0053	0.03	Q V				
3+30	0.0055	0.03	Q V				
3+35	0.0057	0.03	Q V				
3+40	0.0059	0.03	Q V				
3+45	0.0061	0.03	Q V				
3+50	0.0064	0.03	Q V				
3+55	0.0066	0.04	Q V				
4+ 0	0.0068	0.04	Q V				
4+ 5	0.0071	0.04	Q V				
4+10	0.0074	0.04	Q V				
4+15	0.0077	0.04	Q V				
4+20	0.0080	0.04	Q V				
4+25	0.0083	0.05	Q V				

4+30	0.0086	0.05	Q	V				
4+35	0.0090	0.05	Q	V				
4+40	0.0093	0.05	Q	V				
4+45	0.0097	0.06	Q	V				
4+50	0.0101	0.06	Q	V				
4+55	0.0106	0.07	Q	V				
5+ 0	0.0113	0.09	Q	V				
5+ 5	0.0124	0.17	Q	V				
5+10	0.0144	0.28	Q		V			
5+15	0.0169	0.37	Q		V			
5+20	0.0200	0.44	Q			V		
5+25	0.0236	0.53	Q			V		
5+30	0.0285	0.70	Q				V	
5+35	0.0307	0.32	Q					V
5+40	0.0311	0.06	Q					V
5+45	0.0312	0.02	Q					V
5+50	0.0313	0.01	Q					V
5+55	0.0313	0.01	Q					V
6+ 0	0.0314	0.01	Q					V
6+ 5	0.0314	0.00	Q					V
6+10	0.0314	0.00	Q					V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
5-Year
24-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	2.43	2.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	6.58	7.24

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 3.402(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.402(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	63.0	0.438	0.000	0.438	1.000	0.438
Sum (F) =						0.438

Area averaged mean soil loss (F) (In/Hr) = 0.438
Minimum soil loss rate ((In/Hr)) = 0.219
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.027	(0.776)	0.024	0.003
2	0.17	0.07	0.027	(0.773)	0.024	0.003
3	0.25	0.07	0.027	(0.770)	0.024	0.003
4	0.33	0.10	0.041	(0.767)	0.037	0.004
5	0.42	0.10	0.041	(0.764)	0.037	0.004
6	0.50	0.10	0.041	(0.761)	0.037	0.004
7	0.58	0.10	0.041	(0.758)	0.037	0.004
8	0.67	0.10	0.041	(0.755)	0.037	0.004
9	0.75	0.10	0.041	(0.752)	0.037	0.004
10	0.83	0.13	0.054	(0.749)	0.049	0.005
11	0.92	0.13	0.054	(0.746)	0.049	0.005
12	1.00	0.13	0.054	(0.743)	0.049	0.005
13	1.08	0.10	0.041	(0.740)	0.037	0.004
14	1.17	0.10	0.041	(0.737)	0.037	0.004
15	1.25	0.10	0.041	(0.734)	0.037	0.004
16	1.33	0.10	0.041	(0.731)	0.037	0.004
17	1.42	0.10	0.041	(0.728)	0.037	0.004
18	1.50	0.10	0.041	(0.726)	0.037	0.004
19	1.58	0.10	0.041	(0.723)	0.037	0.004
20	1.67	0.10	0.041	(0.720)	0.037	0.004
21	1.75	0.10	0.041	(0.717)	0.037	0.004
22	1.83	0.13	0.054	(0.714)	0.049	0.005
23	1.92	0.13	0.054	(0.711)	0.049	0.005
24	2.00	0.13	0.054	(0.708)	0.049	0.005
25	2.08	0.13	0.054	(0.705)	0.049	0.005
26	2.17	0.13	0.054	(0.702)	0.049	0.005
27	2.25	0.13	0.054	(0.700)	0.049	0.005
28	2.33	0.13	0.054	(0.697)	0.049	0.005
29	2.42	0.13	0.054	(0.694)	0.049	0.005
30	2.50	0.13	0.054	(0.691)	0.049	0.005
31	2.58	0.17	0.068	(0.688)	0.061	0.007
32	2.67	0.17	0.068	(0.685)	0.061	0.007
33	2.75	0.17	0.068	(0.683)	0.061	0.007
34	2.83	0.17	0.068	(0.680)	0.061	0.007
35	2.92	0.17	0.068	(0.677)	0.061	0.007
36	3.00	0.17	0.068	(0.674)	0.061	0.007
37	3.08	0.17	0.068	(0.671)	0.061	0.007
38	3.17	0.17	0.068	(0.669)	0.061	0.007
39	3.25	0.17	0.068	(0.666)	0.061	0.007
40	3.33	0.17	0.068	(0.663)	0.061	0.007
41	3.42	0.17	0.068	(0.660)	0.061	0.007
42	3.50	0.17	0.068	(0.658)	0.061	0.007
43	3.58	0.17	0.068	(0.655)	0.061	0.007
44	3.67	0.17	0.068	(0.652)	0.061	0.007
45	3.75	0.17	0.068	(0.649)	0.061	0.007
46	3.83	0.20	0.082	(0.647)	0.073	0.008

47	3.92	0.20	0.082	(0.644)	0.073	0.008
48	4.00	0.20	0.082	(0.641)	0.073	0.008
49	4.08	0.20	0.082	(0.638)	0.073	0.008
50	4.17	0.20	0.082	(0.636)	0.073	0.008
51	4.25	0.20	0.082	(0.633)	0.073	0.008
52	4.33	0.23	0.095	(0.630)	0.086	0.010
53	4.42	0.23	0.095	(0.628)	0.086	0.010
54	4.50	0.23	0.095	(0.625)	0.086	0.010
55	4.58	0.23	0.095	(0.622)	0.086	0.010
56	4.67	0.23	0.095	(0.620)	0.086	0.010
57	4.75	0.23	0.095	(0.617)	0.086	0.010
58	4.83	0.27	0.109	(0.614)	0.098	0.011
59	4.92	0.27	0.109	(0.612)	0.098	0.011
60	5.00	0.27	0.109	(0.609)	0.098	0.011
61	5.08	0.20	0.082	(0.606)	0.073	0.008
62	5.17	0.20	0.082	(0.604)	0.073	0.008
63	5.25	0.20	0.082	(0.601)	0.073	0.008
64	5.33	0.23	0.095	(0.598)	0.086	0.010
65	5.42	0.23	0.095	(0.596)	0.086	0.010
66	5.50	0.23	0.095	(0.593)	0.086	0.010
67	5.58	0.27	0.109	(0.591)	0.098	0.011
68	5.67	0.27	0.109	(0.588)	0.098	0.011
69	5.75	0.27	0.109	(0.585)	0.098	0.011
70	5.83	0.27	0.109	(0.583)	0.098	0.011
71	5.92	0.27	0.109	(0.580)	0.098	0.011
72	6.00	0.27	0.109	(0.578)	0.098	0.011
73	6.08	0.30	0.122	(0.575)	0.110	0.012
74	6.17	0.30	0.122	(0.572)	0.110	0.012
75	6.25	0.30	0.122	(0.570)	0.110	0.012
76	6.33	0.30	0.122	(0.567)	0.110	0.012
77	6.42	0.30	0.122	(0.565)	0.110	0.012
78	6.50	0.30	0.122	(0.562)	0.110	0.012
79	6.58	0.33	0.136	(0.560)	0.122	0.014
80	6.67	0.33	0.136	(0.557)	0.122	0.014
81	6.75	0.33	0.136	(0.555)	0.122	0.014
82	6.83	0.33	0.136	(0.552)	0.122	0.014
83	6.92	0.33	0.136	(0.550)	0.122	0.014
84	7.00	0.33	0.136	(0.547)	0.122	0.014
85	7.08	0.33	0.136	(0.545)	0.122	0.014
86	7.17	0.33	0.136	(0.542)	0.122	0.014
87	7.25	0.33	0.136	(0.540)	0.122	0.014
88	7.33	0.37	0.150	(0.537)	0.135	0.015
89	7.42	0.37	0.150	(0.535)	0.135	0.015
90	7.50	0.37	0.150	(0.532)	0.135	0.015
91	7.58	0.40	0.163	(0.530)	0.147	0.016
92	7.67	0.40	0.163	(0.528)	0.147	0.016
93	7.75	0.40	0.163	(0.525)	0.147	0.016
94	7.83	0.43	0.177	(0.523)	0.159	0.018
95	7.92	0.43	0.177	(0.520)	0.159	0.018
96	8.00	0.43	0.177	(0.518)	0.159	0.018

97	8.08	0.50	0.204	(0.515)	0.184	0.020
98	8.17	0.50	0.204	(0.513)	0.184	0.020
99	8.25	0.50	0.204	(0.511)	0.184	0.020
100	8.33	0.50	0.204	(0.508)	0.184	0.020
101	8.42	0.50	0.204	(0.506)	0.184	0.020
102	8.50	0.50	0.204	(0.504)	0.184	0.020
103	8.58	0.53	0.218	(0.501)	0.196	0.022
104	8.67	0.53	0.218	(0.499)	0.196	0.022
105	8.75	0.53	0.218	(0.496)	0.196	0.022
106	8.83	0.57	0.231	(0.494)	0.208	0.023
107	8.92	0.57	0.231	(0.492)	0.208	0.023
108	9.00	0.57	0.231	(0.489)	0.208	0.023
109	9.08	0.63	0.259	(0.487)	0.233	0.026
110	9.17	0.63	0.259	(0.485)	0.233	0.026
111	9.25	0.63	0.259	(0.483)	0.233	0.026
112	9.33	0.67	0.272	(0.480)	0.245	0.027
113	9.42	0.67	0.272	(0.478)	0.245	0.027
114	9.50	0.67	0.272	(0.476)	0.245	0.027
115	9.58	0.70	0.286	(0.473)	0.257	0.029
116	9.67	0.70	0.286	(0.471)	0.257	0.029
117	9.75	0.70	0.286	(0.469)	0.257	0.029
118	9.83	0.73	0.299	(0.467)	0.269	0.030
119	9.92	0.73	0.299	(0.464)	0.269	0.030
120	10.00	0.73	0.299	(0.462)	0.269	0.030
121	10.08	0.50	0.204	(0.460)	0.184	0.020
122	10.17	0.50	0.204	(0.458)	0.184	0.020
123	10.25	0.50	0.204	(0.455)	0.184	0.020
124	10.33	0.50	0.204	(0.453)	0.184	0.020
125	10.42	0.50	0.204	(0.451)	0.184	0.020
126	10.50	0.50	0.204	(0.449)	0.184	0.020
127	10.58	0.67	0.272	(0.447)	0.245	0.027
128	10.67	0.67	0.272	(0.444)	0.245	0.027
129	10.75	0.67	0.272	(0.442)	0.245	0.027
130	10.83	0.67	0.272	(0.440)	0.245	0.027
131	10.92	0.67	0.272	(0.438)	0.245	0.027
132	11.00	0.67	0.272	(0.436)	0.245	0.027
133	11.08	0.63	0.259	(0.434)	0.233	0.026
134	11.17	0.63	0.259	(0.431)	0.233	0.026
135	11.25	0.63	0.259	(0.429)	0.233	0.026
136	11.33	0.63	0.259	(0.427)	0.233	0.026
137	11.42	0.63	0.259	(0.425)	0.233	0.026
138	11.50	0.63	0.259	(0.423)	0.233	0.026
139	11.58	0.57	0.231	(0.421)	0.208	0.023
140	11.67	0.57	0.231	(0.419)	0.208	0.023
141	11.75	0.57	0.231	(0.417)	0.208	0.023
142	11.83	0.60	0.245	(0.415)	0.220	0.024
143	11.92	0.60	0.245	(0.413)	0.220	0.024
144	12.00	0.60	0.245	(0.411)	0.220	0.024
145	12.08	0.83	0.340	(0.408)	0.306	0.034
146	12.17	0.83	0.340	(0.406)	0.306	0.034

147	12.25	0.83	0.340	(0.404)	0.306	0.034
148	12.33	0.87	0.354	(0.402)	0.318	0.035
149	12.42	0.87	0.354	(0.400)	0.318	0.035
150	12.50	0.87	0.354	(0.398)	0.318	0.035
151	12.58	0.93	0.381	(0.396)	0.343	0.038
152	12.67	0.93	0.381	(0.394)	0.343	0.038
153	12.75	0.93	0.381	(0.392)	0.343	0.038
154	12.83	0.97	0.395	(0.390)	0.355	0.039
155	12.92	0.97	0.395	(0.388)	0.355	0.039
156	13.00	0.97	0.395	(0.386)	0.355	0.039
157	13.08	1.13	0.463	0.384 (0.416)		0.078
158	13.17	1.13	0.463	0.383 (0.416)		0.080
159	13.25	1.13	0.463	0.381 (0.416)		0.082
160	13.33	1.13	0.463	0.379 (0.416)		0.084
161	13.42	1.13	0.463	0.377 (0.416)		0.086
162	13.50	1.13	0.463	0.375 (0.416)		0.088
163	13.58	0.77	0.313	(0.373)	0.282	0.031
164	13.67	0.77	0.313	(0.371)	0.282	0.031
165	13.75	0.77	0.313	(0.369)	0.282	0.031
166	13.83	0.77	0.313	(0.367)	0.282	0.031
167	13.92	0.77	0.313	(0.365)	0.282	0.031
168	14.00	0.77	0.313	(0.363)	0.282	0.031
169	14.08	0.90	0.367	(0.362)	0.331	0.037
170	14.17	0.90	0.367	(0.360)	0.331	0.037
171	14.25	0.90	0.367	(0.358)	0.331	0.037
172	14.33	0.87	0.354	(0.356)	0.318	0.035
173	14.42	0.87	0.354	(0.354)	0.318	0.035
174	14.50	0.87	0.354	(0.352)	0.318	0.035
175	14.58	0.87	0.354	(0.351)	0.318	0.035
176	14.67	0.87	0.354	(0.349)	0.318	0.035
177	14.75	0.87	0.354	(0.347)	0.318	0.035
178	14.83	0.83	0.340	(0.345)	0.306	0.034
179	14.92	0.83	0.340	(0.344)	0.306	0.034
180	15.00	0.83	0.340	(0.342)	0.306	0.034
181	15.08	0.80	0.327	(0.340)	0.294	0.033
182	15.17	0.80	0.327	(0.338)	0.294	0.033
183	15.25	0.80	0.327	(0.337)	0.294	0.033
184	15.33	0.77	0.313	(0.335)	0.282	0.031
185	15.42	0.77	0.313	(0.333)	0.282	0.031
186	15.50	0.77	0.313	(0.331)	0.282	0.031
187	15.58	0.63	0.259	(0.330)	0.233	0.026
188	15.67	0.63	0.259	(0.328)	0.233	0.026
189	15.75	0.63	0.259	(0.326)	0.233	0.026
190	15.83	0.63	0.259	(0.325)	0.233	0.026
191	15.92	0.63	0.259	(0.323)	0.233	0.026
192	16.00	0.63	0.259	(0.321)	0.233	0.026
193	16.08	0.13	0.054	(0.320)	0.049	0.005
194	16.17	0.13	0.054	(0.318)	0.049	0.005
195	16.25	0.13	0.054	(0.316)	0.049	0.005
196	16.33	0.13	0.054	(0.315)	0.049	0.005

197	16.42	0.13	0.054	(0.313)	0.049	0.005
198	16.50	0.13	0.054	(0.312)	0.049	0.005
199	16.58	0.10	0.041	(0.310)	0.037	0.004
200	16.67	0.10	0.041	(0.308)	0.037	0.004
201	16.75	0.10	0.041	(0.307)	0.037	0.004
202	16.83	0.10	0.041	(0.305)	0.037	0.004
203	16.92	0.10	0.041	(0.304)	0.037	0.004
204	17.00	0.10	0.041	(0.302)	0.037	0.004
205	17.08	0.17	0.068	(0.301)	0.061	0.007
206	17.17	0.17	0.068	(0.299)	0.061	0.007
207	17.25	0.17	0.068	(0.298)	0.061	0.007
208	17.33	0.17	0.068	(0.296)	0.061	0.007
209	17.42	0.17	0.068	(0.295)	0.061	0.007
210	17.50	0.17	0.068	(0.293)	0.061	0.007
211	17.58	0.17	0.068	(0.292)	0.061	0.007
212	17.67	0.17	0.068	(0.290)	0.061	0.007
213	17.75	0.17	0.068	(0.289)	0.061	0.007
214	17.83	0.13	0.054	(0.287)	0.049	0.005
215	17.92	0.13	0.054	(0.286)	0.049	0.005
216	18.00	0.13	0.054	(0.285)	0.049	0.005
217	18.08	0.13	0.054	(0.283)	0.049	0.005
218	18.17	0.13	0.054	(0.282)	0.049	0.005
219	18.25	0.13	0.054	(0.280)	0.049	0.005
220	18.33	0.13	0.054	(0.279)	0.049	0.005
221	18.42	0.13	0.054	(0.278)	0.049	0.005
222	18.50	0.13	0.054	(0.276)	0.049	0.005
223	18.58	0.10	0.041	(0.275)	0.037	0.004
224	18.67	0.10	0.041	(0.274)	0.037	0.004
225	18.75	0.10	0.041	(0.272)	0.037	0.004
226	18.83	0.07	0.027	(0.271)	0.024	0.003
227	18.92	0.07	0.027	(0.270)	0.024	0.003
228	19.00	0.07	0.027	(0.269)	0.024	0.003
229	19.08	0.10	0.041	(0.267)	0.037	0.004
230	19.17	0.10	0.041	(0.266)	0.037	0.004
231	19.25	0.10	0.041	(0.265)	0.037	0.004
232	19.33	0.13	0.054	(0.264)	0.049	0.005
233	19.42	0.13	0.054	(0.262)	0.049	0.005
234	19.50	0.13	0.054	(0.261)	0.049	0.005
235	19.58	0.10	0.041	(0.260)	0.037	0.004
236	19.67	0.10	0.041	(0.259)	0.037	0.004
237	19.75	0.10	0.041	(0.258)	0.037	0.004
238	19.83	0.07	0.027	(0.256)	0.024	0.003
239	19.92	0.07	0.027	(0.255)	0.024	0.003
240	20.00	0.07	0.027	(0.254)	0.024	0.003
241	20.08	0.10	0.041	(0.253)	0.037	0.004
242	20.17	0.10	0.041	(0.252)	0.037	0.004
243	20.25	0.10	0.041	(0.251)	0.037	0.004
244	20.33	0.10	0.041	(0.250)	0.037	0.004
245	20.42	0.10	0.041	(0.249)	0.037	0.004
246	20.50	0.10	0.041	(0.248)	0.037	0.004

247	20.58	0.10	0.041	(0.247)	0.037	0.004
248	20.67	0.10	0.041	(0.245)	0.037	0.004
249	20.75	0.10	0.041	(0.244)	0.037	0.004
250	20.83	0.07	0.027	(0.243)	0.024	0.003
251	20.92	0.07	0.027	(0.242)	0.024	0.003
252	21.00	0.07	0.027	(0.242)	0.024	0.003
253	21.08	0.10	0.041	(0.241)	0.037	0.004
254	21.17	0.10	0.041	(0.240)	0.037	0.004
255	21.25	0.10	0.041	(0.239)	0.037	0.004
256	21.33	0.07	0.027	(0.238)	0.024	0.003
257	21.42	0.07	0.027	(0.237)	0.024	0.003
258	21.50	0.07	0.027	(0.236)	0.024	0.003
259	21.58	0.10	0.041	(0.235)	0.037	0.004
260	21.67	0.10	0.041	(0.234)	0.037	0.004
261	21.75	0.10	0.041	(0.233)	0.037	0.004
262	21.83	0.07	0.027	(0.233)	0.024	0.003
263	21.92	0.07	0.027	(0.232)	0.024	0.003
264	22.00	0.07	0.027	(0.231)	0.024	0.003
265	22.08	0.10	0.041	(0.230)	0.037	0.004
266	22.17	0.10	0.041	(0.230)	0.037	0.004
267	22.25	0.10	0.041	(0.229)	0.037	0.004
268	22.33	0.07	0.027	(0.228)	0.024	0.003
269	22.42	0.07	0.027	(0.227)	0.024	0.003
270	22.50	0.07	0.027	(0.227)	0.024	0.003
271	22.58	0.07	0.027	(0.226)	0.024	0.003
272	22.67	0.07	0.027	(0.225)	0.024	0.003
273	22.75	0.07	0.027	(0.225)	0.024	0.003
274	22.83	0.07	0.027	(0.224)	0.024	0.003
275	22.92	0.07	0.027	(0.224)	0.024	0.003
276	23.00	0.07	0.027	(0.223)	0.024	0.003
277	23.08	0.07	0.027	(0.223)	0.024	0.003
278	23.17	0.07	0.027	(0.222)	0.024	0.003
279	23.25	0.07	0.027	(0.222)	0.024	0.003
280	23.33	0.07	0.027	(0.221)	0.024	0.003
281	23.42	0.07	0.027	(0.221)	0.024	0.003
282	23.50	0.07	0.027	(0.220)	0.024	0.003
283	23.58	0.07	0.027	(0.220)	0.024	0.003
284	23.67	0.07	0.027	(0.220)	0.024	0.003
285	23.75	0.07	0.027	(0.219)	0.024	0.003
286	23.83	0.07	0.027	(0.219)	0.024	0.003
287	23.92	0.07	0.027	(0.219)	0.024	0.003
288	24.00	0.07	0.027	(0.219)	0.024	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.3

Flood volume = Effective rainfall 0.36(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 3.04(In)

Total soil loss = 0.279(Ac.Ft)

Total rainfall = 3.40(In)

Flood volume = 1431.9 Cubic Feet

Total soil loss = 12152.4 Cubic Feet

Peak flow rate of this hydrograph = 0.097(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.00	Q				
0+30	0.0001	0.00	Q				
0+35	0.0002	0.00	Q				
0+40	0.0002	0.00	Q				
0+45	0.0002	0.00	Q				
0+50	0.0003	0.01	Q				
0+55	0.0003	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0004	0.01	Q				
1+10	0.0004	0.00	Q				
1+15	0.0005	0.00	Q				
1+20	0.0005	0.00	Q				
1+25	0.0005	0.00	Q				
1+30	0.0005	0.00	Q				
1+35	0.0006	0.00	Q				
1+40	0.0006	0.00	Q				
1+45	0.0006	0.00	Q				
1+50	0.0007	0.01	Q				
1+55	0.0007	0.01	Q				
2+ 0	0.0008	0.01	Q				
2+ 5	0.0008	0.01	Q				
2+10	0.0008	0.01	QV				
2+15	0.0009	0.01	QV				
2+20	0.0009	0.01	QV				
2+25	0.0010	0.01	QV				
2+30	0.0010	0.01	QV				
2+35	0.0011	0.01	QV				
2+40	0.0011	0.01	QV				
2+45	0.0012	0.01	QV				
2+50	0.0012	0.01	QV				
2+55	0.0013	0.01	QV				
3+ 0	0.0013	0.01	QV				
3+ 5	0.0014	0.01	QV				

3+10	0.0014	0.01	QV				
3+15	0.0015	0.01	QV				
3+20	0.0015	0.01	QV				
3+25	0.0016	0.01	QV				
3+30	0.0016	0.01	QV				
3+35	0.0017	0.01	Q V				
3+40	0.0017	0.01	Q V				
3+45	0.0018	0.01	Q V				
3+50	0.0018	0.01	Q V				
3+55	0.0019	0.01	Q V				
4+ 0	0.0020	0.01	Q V				
4+ 5	0.0020	0.01	Q V				
4+10	0.0021	0.01	Q V				
4+15	0.0022	0.01	Q V				
4+20	0.0022	0.01	Q V				
4+25	0.0023	0.01	Q V				
4+30	0.0024	0.01	Q V				
4+35	0.0024	0.01	Q V				
4+40	0.0025	0.01	Q V				
4+45	0.0026	0.01	Q V				
4+50	0.0027	0.01	Q V				
4+55	0.0028	0.01	Q V				
5+ 0	0.0028	0.01	Q V				
5+ 5	0.0029	0.01	Q V				
5+10	0.0030	0.01	Q V				
5+15	0.0030	0.01	Q V				
5+20	0.0031	0.01	Q V				
5+25	0.0032	0.01	Q V				
5+30	0.0032	0.01	Q V				
5+35	0.0033	0.01	Q V				
5+40	0.0034	0.01	Q V				
5+45	0.0035	0.01	Q V				
5+50	0.0036	0.01	Q V				
5+55	0.0037	0.01	Q V				
6+ 0	0.0037	0.01	Q V				
6+ 5	0.0038	0.01	Q V				
6+10	0.0039	0.01	Q V				
6+15	0.0040	0.01	Q V				
6+20	0.0041	0.01	Q V				
6+25	0.0042	0.01	Q V				
6+30	0.0043	0.01	Q V				
6+35	0.0044	0.01	Q V				
6+40	0.0045	0.02	Q V				
6+45	0.0046	0.02	Q V				
6+50	0.0047	0.02	Q V				
6+55	0.0048	0.02	Q V				
7+ 0	0.0049	0.02	Q V				
7+ 5	0.0050	0.02	Q V				
7+10	0.0051	0.02	Q V				
7+15	0.0052	0.02	Q V				

7+20	0.0053	0.02	Q	V				
7+25	0.0055	0.02	Q	V				
7+30	0.0056	0.02	Q	V				
7+35	0.0057	0.02	Q	V				
7+40	0.0058	0.02	Q	V				
7+45	0.0059	0.02	Q	V				
7+50	0.0061	0.02	Q	V				
7+55	0.0062	0.02	Q	V				
8+ 0	0.0063	0.02	Q	V				
8+ 5	0.0065	0.02	Q	V				
8+10	0.0066	0.02	Q	V				
8+15	0.0068	0.02	Q	V				
8+20	0.0070	0.02	Q	V				
8+25	0.0071	0.02	Q	V				
8+30	0.0073	0.02	Q	V				
8+35	0.0074	0.02	Q	V				
8+40	0.0076	0.02	Q	V				
8+45	0.0078	0.02	Q	V				
8+50	0.0079	0.03	Q	V				
8+55	0.0081	0.03	Q	V				
9+ 0	0.0083	0.03	Q	V				
9+ 5	0.0085	0.03	Q	V				
9+10	0.0087	0.03	Q	V				
9+15	0.0089	0.03	Q	V				
9+20	0.0091	0.03	Q	V				
9+25	0.0093	0.03	Q	V				
9+30	0.0095	0.03	Q	V				
9+35	0.0097	0.03	Q	V				
9+40	0.0099	0.03	Q	V				
9+45	0.0101	0.03	Q	V				
9+50	0.0104	0.03	Q	V				
9+55	0.0106	0.03	Q	V				
10+ 0	0.0108	0.03	Q	V				
10+ 5	0.0110	0.03	Q	V				
10+10	0.0112	0.02	Q	V				
10+15	0.0113	0.02	Q	V				
10+20	0.0115	0.02	Q	V				
10+25	0.0116	0.02	Q	V				
10+30	0.0118	0.02	Q	V				
10+35	0.0120	0.03	Q	V				
10+40	0.0122	0.03	Q	V				
10+45	0.0124	0.03	Q	V				
10+50	0.0126	0.03	Q	V				
10+55	0.0128	0.03	Q	V				
11+ 0	0.0130	0.03	Q	V				
11+ 5	0.0132	0.03	Q	V				
11+10	0.0134	0.03	Q	V				
11+15	0.0136	0.03	Q	V				
11+20	0.0138	0.03	Q	V				
11+25	0.0140	0.03	Q	V				

11+30	0.0142	0.03	Q	V			
11+35	0.0144	0.03	Q	V			
11+40	0.0146	0.03	Q	V			
11+45	0.0147	0.03	Q	V			
11+50	0.0149	0.03	Q	V			
11+55	0.0151	0.03	Q	V			
12+ 0	0.0153	0.03	Q	V			
12+ 5	0.0155	0.03	Q	V			
12+10	0.0158	0.04	Q	V			
12+15	0.0160	0.04	Q	V			
12+20	0.0163	0.04	Q	V			
12+25	0.0166	0.04	Q	V			
12+30	0.0169	0.04	Q	V			
12+35	0.0171	0.04	Q	V			
12+40	0.0174	0.04	Q	V			
12+45	0.0177	0.04	Q	V			
12+50	0.0180	0.04	Q	V			
12+55	0.0183	0.04	Q	V			
13+ 0	0.0186	0.04	Q	V			
13+ 5	0.0191	0.07	Q	V			
13+10	0.0197	0.09	Q	V			
13+15	0.0203	0.09	Q	V			
13+20	0.0210	0.09	Q	V			
13+25	0.0216	0.09	Q	V			
13+30	0.0223	0.10	Q	V			
13+35	0.0227	0.06	Q	V			
13+40	0.0229	0.04	Q	V			
13+45	0.0232	0.03	Q	V			
13+50	0.0234	0.03	Q	V			
13+55	0.0236	0.03	Q	V			
14+ 0	0.0239	0.03	Q	V			
14+ 5	0.0241	0.04	Q	V			
14+10	0.0244	0.04	Q	V			
14+15	0.0247	0.04	Q	V			
14+20	0.0250	0.04	Q	V			
14+25	0.0253	0.04	Q	V			
14+30	0.0255	0.04	Q	V			
14+35	0.0258	0.04	Q	V			
14+40	0.0261	0.04	Q	V			
14+45	0.0263	0.04	Q	V			
14+50	0.0266	0.04	Q	V			
14+55	0.0269	0.04	Q	V			
15+ 0	0.0271	0.04	Q	V			
15+ 5	0.0274	0.04	Q	V			
15+10	0.0276	0.04	Q	V			
15+15	0.0279	0.04	Q	V			
15+20	0.0281	0.04	Q	V			
15+25	0.0284	0.03	Q	V			
15+30	0.0286	0.03	Q	V			
15+35	0.0288	0.03	Q	V			

15+40	0.0290	0.03	Q				V
15+45	0.0292	0.03	Q				V
15+50	0.0294	0.03	Q				V
15+55	0.0296	0.03	Q				V
16+ 0	0.0298	0.03	Q				V
16+ 5	0.0299	0.01	Q				V
16+10	0.0299	0.01	Q				V
16+15	0.0300	0.01	Q				V
16+20	0.0300	0.01	Q				V
16+25	0.0301	0.01	Q				V
16+30	0.0301	0.01	Q				V
16+35	0.0301	0.01	Q				V
16+40	0.0302	0.00	Q				V
16+45	0.0302	0.00	Q				V
16+50	0.0302	0.00	Q				V
16+55	0.0303	0.00	Q				V
17+ 0	0.0303	0.00	Q				V
17+ 5	0.0303	0.01	Q				V
17+10	0.0304	0.01	Q				V
17+15	0.0304	0.01	Q				V
17+20	0.0305	0.01	Q				V
17+25	0.0306	0.01	Q				V
17+30	0.0306	0.01	Q				V
17+35	0.0307	0.01	Q				V
17+40	0.0307	0.01	Q				V
17+45	0.0308	0.01	Q				V
17+50	0.0308	0.01	Q				V
17+55	0.0308	0.01	Q				V
18+ 0	0.0309	0.01	Q				V
18+ 5	0.0309	0.01	Q				V
18+10	0.0310	0.01	Q				V
18+15	0.0310	0.01	Q				V
18+20	0.0311	0.01	Q				V
18+25	0.0311	0.01	Q				V
18+30	0.0311	0.01	Q				V
18+35	0.0312	0.01	Q				V
18+40	0.0312	0.00	Q				V
18+45	0.0312	0.00	Q				V
18+50	0.0313	0.00	Q				V
18+55	0.0313	0.00	Q				V
19+ 0	0.0313	0.00	Q				V
19+ 5	0.0313	0.00	Q				V
19+10	0.0314	0.00	Q				V
19+15	0.0314	0.00	Q				V
19+20	0.0314	0.01	Q				V
19+25	0.0315	0.01	Q				V
19+30	0.0315	0.01	Q				V
19+35	0.0315	0.01	Q				V
19+40	0.0316	0.00	Q				V
19+45	0.0316	0.00	Q				V

19+50	0.0316	0.00	Q				V
19+55	0.0317	0.00	Q				V
20+ 0	0.0317	0.00	Q				V
20+ 5	0.0317	0.00	Q				V
20+10	0.0317	0.00	Q				V
20+15	0.0318	0.00	Q				V
20+20	0.0318	0.00	Q				V
20+25	0.0318	0.00	Q				V
20+30	0.0319	0.00	Q				V
20+35	0.0319	0.00	Q				V
20+40	0.0319	0.00	Q				V
20+45	0.0320	0.00	Q				V
20+50	0.0320	0.00	Q				V
20+55	0.0320	0.00	Q				V
21+ 0	0.0320	0.00	Q				V
21+ 5	0.0320	0.00	Q				V
21+10	0.0321	0.00	Q				V
21+15	0.0321	0.00	Q				V
21+20	0.0321	0.00	Q				V
21+25	0.0322	0.00	Q				V
21+30	0.0322	0.00	Q				V
21+35	0.0322	0.00	Q				V
21+40	0.0322	0.00	Q				V
21+45	0.0323	0.00	Q				V
21+50	0.0323	0.00	Q				V
21+55	0.0323	0.00	Q				V
22+ 0	0.0323	0.00	Q				V
22+ 5	0.0324	0.00	Q				V
22+10	0.0324	0.00	Q				V
22+15	0.0324	0.00	Q				V
22+20	0.0324	0.00	Q				V
22+25	0.0325	0.00	Q				V
22+30	0.0325	0.00	Q				V
22+35	0.0325	0.00	Q				V
22+40	0.0325	0.00	Q				V
22+45	0.0326	0.00	Q				V
22+50	0.0326	0.00	Q				V
22+55	0.0326	0.00	Q				V
23+ 0	0.0326	0.00	Q				V
23+ 5	0.0326	0.00	Q				V
23+10	0.0327	0.00	Q				V
23+15	0.0327	0.00	Q				V
23+20	0.0327	0.00	Q				V
23+25	0.0327	0.00	Q				V
23+30	0.0327	0.00	Q				V
23+35	0.0328	0.00	Q				V
23+40	0.0328	0.00	Q				V
23+45	0.0328	0.00	Q				V
23+50	0.0328	0.00	Q				V
23+55	0.0328	0.00	Q				V

24+ 0	0.0329	0.00	Q				V
24+ 5	0.0329	0.00	Q				V
24+10	0.0329	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
10-Year
1-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	0.48	0.53

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	1.34	1.47

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.836(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.836(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	80.0	0.244	0.000	0.244	1.000	0.244
Sum (F) =						0.244

Area averaged mean soil loss (F) (In/Hr) = 0.244
Minimum soil loss rate ((In/Hr)) = 0.122
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	357.449	61.909
2	0.167	714.899	34.155
3	0.250	1072.348	3.935
Sum =		100.000	Sum= 1.109

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.441	0.244	(0.397)	0.197
2	0.17	4.50	0.451	0.244	(0.406)	0.207
3	0.25	5.40	0.541	0.244	(0.487)	0.297
4	0.33	5.40	0.541	0.244	(0.487)	0.297
5	0.42	5.70	0.572	0.244	(0.514)	0.328
6	0.50	6.40	0.642	0.244	(0.578)	0.398
7	0.58	7.90	0.792	0.244	(0.713)	0.548
8	0.67	9.10	0.912	0.244	(0.821)	0.668
9	0.75	12.80	1.283	0.244	(1.155)	1.039
10	0.83	25.60	2.567	0.244	(2.310)	2.323
11	0.92	7.90	0.792	0.244	(0.713)	0.548
12	1.00	4.90	0.491	0.244	(0.442)	0.247

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.1

Flood volume = Effective rainfall 0.59(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.24(In)
Total soil loss = 0.022(Ac.Ft)
Total rainfall = 0.84(In)
Flood volume = 2362.1 Cubic Feet
Total soil loss = 974.3 Cubic Feet

Peak flow rate of this hydrograph = 2.018(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0009	0.14	Q				
0+10	0.0024	0.22	QV				
0+15	0.0044	0.29	Q V				
0+20	0.0067	0.33	Q V				
0+25	0.0091	0.35	Q V				
0+30	0.0119	0.41	Q V				
0+35	0.0156	0.54	Q V				
0+40	0.0204	0.68	Q V				
0+45	0.0272	0.99	Q V				
0+50	0.0411	2.02	Q V				
0+55	0.0500	1.30	Q V				

1+ 0	0.0533	0.48	Q				V
1+ 5	0.0542	0.12	Q				V
1+10	0.0542	0.01	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
10-Year
3-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	0.88	0.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	2.20	2.42

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.421(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.421(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	80.0	0.244	0.000	0.244	1.000	0.244
Sum (F) =						0.244

Area averaged mean soil loss (F) (In/Hr) = 0.244
Minimum soil loss rate ((In/Hr)) = 0.122
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.222	(0.244)	0.200	0.022
2	0.17	1.30	0.222	(0.244)	0.200	0.022
3	0.25	1.10	0.188	(0.244)	0.169	0.019
4	0.33	1.50	0.256	(0.244)	0.230	0.026
5	0.42	1.50	0.256	(0.244)	0.230	0.026
6	0.50	1.80	0.307	0.244	(0.276)	0.063
7	0.58	1.50	0.256	(0.244)	0.230	0.026
8	0.67	1.80	0.307	0.244	(0.276)	0.063
9	0.75	1.80	0.307	0.244	(0.276)	0.063
10	0.83	1.50	0.256	(0.244)	0.230	0.026
11	0.92	1.60	0.273	0.244	(0.246)	0.029
12	1.00	1.80	0.307	0.244	(0.276)	0.063
13	1.08	2.20	0.375	0.244	(0.338)	0.131
14	1.17	2.20	0.375	0.244	(0.338)	0.131
15	1.25	2.20	0.375	0.244	(0.338)	0.131
16	1.33	2.00	0.341	0.244	(0.307)	0.097
17	1.42	2.60	0.443	0.244	(0.399)	0.199
18	1.50	2.70	0.460	0.244	(0.414)	0.216
19	1.58	2.40	0.409	0.244	(0.368)	0.165
20	1.67	2.70	0.460	0.244	(0.414)	0.216
21	1.75	3.30	0.563	0.244	(0.507)	0.319
22	1.83	3.10	0.529	0.244	(0.476)	0.285
23	1.92	2.90	0.495	0.244	(0.445)	0.251
24	2.00	3.00	0.512	0.244	(0.460)	0.268
25	2.08	3.10	0.529	0.244	(0.476)	0.285
26	2.17	4.20	0.716	0.244	(0.645)	0.472
27	2.25	5.00	0.853	0.244	(0.767)	0.609
28	2.33	3.50	0.597	0.244	(0.537)	0.353
29	2.42	6.80	1.160	0.244	(1.044)	0.916
30	2.50	7.30	1.245	0.244	(1.121)	1.001
31	2.58	8.20	1.399	0.244	(1.259)	1.155
32	2.67	5.90	1.006	0.244	(0.906)	0.762
33	2.75	2.00	0.341	0.244	(0.307)	0.097
34	2.83	1.80	0.307	0.244	(0.276)	0.063
35	2.92	1.80	0.307	0.244	(0.276)	0.063
36	3.00	0.60	0.102	(0.244)	0.092	0.010

(Loss Rate Not Used)

Sum = 100.0

Sum = 8.6

Flood volume = Effective rainfall 0.72(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.70(In)

Total soil loss = 0.064(Ac.Ft)

Total rainfall = 1.42(In)

Flood volume = 2875.8 Cubic Feet

Total soil loss = 2799.4 Cubic Feet

Peak flow rate of this hydrograph = 1.212(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.02	Q				
0+10	0.0003		0.02	Q				
0+15	0.0004		0.02	Q				
0+20	0.0006		0.03	Q				
0+25	0.0008		0.03	Q				
0+30	0.0012		0.05	Q				
0+35	0.0015		0.04	Q				
0+40	0.0018		0.06	QV				
0+45	0.0023		0.07	QV				
0+50	0.0026		0.04	QV				
0+55	0.0028		0.03	QV				
1+ 0	0.0032		0.06	QV				
1+ 5	0.0040		0.12	Q V				
1+10	0.0050		0.14	Q V				
1+15	0.0060		0.15	Q V				
1+20	0.0068		0.12	Q V				
1+25	0.0081		0.18	Q V				
1+30	0.0096		0.23	Q V				
1+35	0.0111		0.20	Q V				
1+40	0.0126		0.22	Q V				
1+45	0.0147		0.31	Q V				
1+50	0.0169		0.33	Q V				
1+55	0.0190		0.29	Q V				
2+ 0	0.0210		0.29	Q V				
2+ 5	0.0231		0.31	Q V				
2+10	0.0261		0.44	Q V				
2+15	0.0303		0.61	Q V				
2+20	0.0337		0.49	Q V				
2+25	0.0392		0.79	Q V				
2+30	0.0464		1.05	Q V				
2+35	0.0548		1.21	Q V				
2+40	0.0617		1.00	Q V				
2+45	0.0645		0.41	Q V				
2+50	0.0652		0.11	Q V				
2+55	0.0657		0.07	Q V				
3+ 0	0.0660		0.03	Q V				
3+ 5	0.0660		0.01	Q V				
3+10	0.0660		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
10-Year
6-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	1.27	1.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	3.12	3.43

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 2.031(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.031(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	80.0	0.244	0.000	0.244	1.000	0.244
Sum (F) =						0.244

Area averaged mean soil loss (F) (In/Hr) = 0.244
Minimum soil loss rate ((In/Hr)) = 0.122
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.122	(0.244)	0.110	0.012
2	0.17	0.60	0.146	(0.244)	0.132	0.015
3	0.25	0.60	0.146	(0.244)	0.132	0.015
4	0.33	0.60	0.146	(0.244)	0.132	0.015
5	0.42	0.60	0.146	(0.244)	0.132	0.015
6	0.50	0.70	0.171	(0.244)	0.154	0.017
7	0.58	0.70	0.171	(0.244)	0.154	0.017
8	0.67	0.70	0.171	(0.244)	0.154	0.017
9	0.75	0.70	0.171	(0.244)	0.154	0.017
10	0.83	0.70	0.171	(0.244)	0.154	0.017
11	0.92	0.70	0.171	(0.244)	0.154	0.017
12	1.00	0.80	0.195	(0.244)	0.175	0.019
13	1.08	0.80	0.195	(0.244)	0.175	0.019
14	1.17	0.80	0.195	(0.244)	0.175	0.019
15	1.25	0.80	0.195	(0.244)	0.175	0.019
16	1.33	0.80	0.195	(0.244)	0.175	0.019
17	1.42	0.80	0.195	(0.244)	0.175	0.019
18	1.50	0.80	0.195	(0.244)	0.175	0.019
19	1.58	0.80	0.195	(0.244)	0.175	0.019
20	1.67	0.80	0.195	(0.244)	0.175	0.019
21	1.75	0.80	0.195	(0.244)	0.175	0.019
22	1.83	0.80	0.195	(0.244)	0.175	0.019
23	1.92	0.80	0.195	(0.244)	0.175	0.019
24	2.00	0.90	0.219	(0.244)	0.197	0.022
25	2.08	0.80	0.195	(0.244)	0.175	0.019
26	2.17	0.90	0.219	(0.244)	0.197	0.022
27	2.25	0.90	0.219	(0.244)	0.197	0.022
28	2.33	0.90	0.219	(0.244)	0.197	0.022
29	2.42	0.90	0.219	(0.244)	0.197	0.022
30	2.50	0.90	0.219	(0.244)	0.197	0.022
31	2.58	0.90	0.219	(0.244)	0.197	0.022
32	2.67	0.90	0.219	(0.244)	0.197	0.022
33	2.75	1.00	0.244	(0.244)	0.219	0.024
34	2.83	1.00	0.244	(0.244)	0.219	0.024
35	2.92	1.00	0.244	(0.244)	0.219	0.024
36	3.00	1.00	0.244	(0.244)	0.219	0.024
37	3.08	1.00	0.244	(0.244)	0.219	0.024
38	3.17	1.10	0.268	(0.244)	0.241	0.027
39	3.25	1.10	0.268	(0.244)	0.241	0.027
40	3.33	1.10	0.268	(0.244)	0.241	0.027
41	3.42	1.20	0.292	0.244	(0.263)	0.048
42	3.50	1.30	0.317	0.244	(0.285)	0.073
43	3.58	1.40	0.341	0.244	(0.307)	0.097
44	3.67	1.40	0.341	0.244	(0.307)	0.097
45	3.75	1.50	0.366	0.244	(0.329)	0.122
46	3.83	1.50	0.366	0.244	(0.329)	0.122

47	3.92	1.60	0.390	0.244	(0.351)	0.146
48	4.00	1.60	0.390	0.244	(0.351)	0.146
49	4.08	1.70	0.414	0.244	(0.373)	0.170
50	4.17	1.80	0.439	0.244	(0.395)	0.195
51	4.25	1.90	0.463	0.244	(0.417)	0.219
52	4.33	2.00	0.487	0.244	(0.439)	0.243
53	4.42	2.10	0.512	0.244	(0.461)	0.268
54	4.50	2.10	0.512	0.244	(0.461)	0.268
55	4.58	2.20	0.536	0.244	(0.483)	0.292
56	4.67	2.30	0.561	0.244	(0.505)	0.317
57	4.75	2.40	0.585	0.244	(0.526)	0.341
58	4.83	2.40	0.585	0.244	(0.526)	0.341
59	4.92	2.50	0.609	0.244	(0.548)	0.365
60	5.00	2.60	0.634	0.244	(0.570)	0.390
61	5.08	3.10	0.756	0.244	(0.680)	0.512
62	5.17	3.60	0.877	0.244	(0.790)	0.633
63	5.25	3.90	0.951	0.244	(0.855)	0.707
64	5.33	4.20	1.024	0.244	(0.921)	0.780
65	5.42	4.70	1.146	0.244	(1.031)	0.902
66	5.50	5.60	1.365	0.244	(1.228)	1.121
67	5.58	1.90	0.463	0.244	(0.417)	0.219
68	5.67	0.90	0.219	(0.244)	0.197	0.022
69	5.75	0.60	0.146	(0.244)	0.132	0.015
70	5.83	0.50	0.122	(0.244)	0.110	0.012
71	5.92	0.30	0.073	(0.244)	0.066	0.007
72	6.00	0.20	0.049	(0.244)	0.044	0.005

(Loss Rate Not Used)

Sum = 100.0

Sum = 10.0

Flood volume = Effective rainfall 0.83(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.20(In)
Total soil loss = 0.110(Ac.Ft)
Total rainfall = 2.03(In)
Flood volume = 3326.8 Cubic Feet
Total soil loss = 4783.4 Cubic Feet

Peak flow rate of this hydrograph = 1.145(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0

0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.01	Q				
0+15	0.0003	0.02	Q				

0+20	0.0004	0.02	Q				
0+25	0.0005	0.02	Q				
0+30	0.0006	0.02	Q				
0+35	0.0007	0.02	Q				
0+40	0.0009	0.02	Q				
0+45	0.0010	0.02	Q				
0+50	0.0011	0.02	Q				
0+55	0.0013	0.02	Q				
1+ 0	0.0014	0.02	Q				
1+ 5	0.0016	0.02	Q				
1+10	0.0017	0.02	Q				
1+15	0.0019	0.02	Q				
1+20	0.0020	0.02	QV				
1+25	0.0022	0.02	QV				
1+30	0.0023	0.02	QV				
1+35	0.0025	0.02	QV				
1+40	0.0026	0.02	QV				
1+45	0.0027	0.02	QV				
1+50	0.0029	0.02	QV				
1+55	0.0030	0.02	QV				
2+ 0	0.0032	0.02	QV				
2+ 5	0.0034	0.02	QV				
2+10	0.0035	0.02	QV				
2+15	0.0037	0.02	QV				
2+20	0.0039	0.02	Q V				
2+25	0.0040	0.02	Q V				
2+30	0.0042	0.02	Q V				
2+35	0.0044	0.02	Q V				
2+40	0.0045	0.02	Q V				
2+45	0.0047	0.03	Q V				
2+50	0.0049	0.03	Q V				
2+55	0.0051	0.03	Q V				
3+ 0	0.0053	0.03	Q V				
3+ 5	0.0055	0.03	Q V				
3+10	0.0056	0.03	Q V				
3+15	0.0059	0.03	Q V				
3+20	0.0061	0.03	Q V				
3+25	0.0064	0.04	Q V				
3+30	0.0068	0.07	Q V				
3+35	0.0075	0.10	Q V				
3+40	0.0082	0.11	Q V				
3+45	0.0091	0.12	Q V				
3+50	0.0100	0.13	Q V				
3+55	0.0111	0.15	Q V				
4+ 0	0.0122	0.16	Q V				
4+ 5	0.0134	0.18	Q V				
4+10	0.0148	0.20	Q V				
4+15	0.0164	0.23	Q V				
4+20	0.0182	0.26	Q V				
4+25	0.0202	0.29	Q V				

4+30	0.0222	0.30	Q	V			
4+35	0.0244	0.31	Q	V			
4+40	0.0267	0.34	Q	V			
4+45	0.0292	0.37	Q	V			
4+50	0.0318	0.38	Q	V			
4+55	0.0345	0.39	Q	V			
5+ 0	0.0374	0.42	Q	V			
5+ 5	0.0410	0.51	Q	V			
5+10	0.0454	0.65	Q	V			
5+15	0.0506	0.75	Q	V			
5+20	0.0563	0.83	Q	V			
5+25	0.0628	0.95	Q	V			
5+30	0.0707	1.15	Q	V			
5+35	0.0749	0.61	Q	V			
5+40	0.0759	0.15	Q	V			
5+45	0.0761	0.03	Q	V			
5+50	0.0762	0.01	Q	V			
5+55	0.0763	0.01	Q	V			
6+ 0	0.0764	0.01	Q	V			
6+ 5	0.0764	0.00	Q	V			
6+10	0.0764	0.00	Q	V			

Unit Hydrograph Analysis

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Study date 01/26/25 File: A3PRE2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A-3
Pre-development
10-Year
24-Hour

Drainage Area = 1.10(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.10(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 279.71(Ft.)
Length along longest watercourse measured to centroid = 132.63(Ft.)
Length along longest watercourse = 0.053 Mi.
Length along longest watercourse measured to centroid = 0.025 Mi.
Difference in elevation = 6.50(Ft.)
Slope along watercourse = 122.6985 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.023 Hr.
Lag time = 1.40 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	2.43	2.67

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.10	6.58	7.24

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.100	80.00	0.000

Total Area Entered = 1.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
80.0	80.0	0.244	0.000	0.244	1.000	0.244
Sum (F) =						0.244

Area averaged mean soil loss (F) (In/Hr) = 0.244
Minimum soil loss rate ((In/Hr)) = 0.122
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	357.449	61.909	0.686
2 0.167	714.899	34.155	0.379
3 0.250	1072.348	3.935	0.044
Sum = 100.000		Sum=	1.109

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.033	(0.433)	0.030	0.003
2	0.17	0.07	0.033	(0.431)	0.030	0.003
3	0.25	0.07	0.033	(0.429)	0.030	0.003
4	0.33	0.10	0.050	(0.428)	0.045	0.005
5	0.42	0.10	0.050	(0.426)	0.045	0.005
6	0.50	0.10	0.050	(0.424)	0.045	0.005
7	0.58	0.10	0.050	(0.423)	0.045	0.005
8	0.67	0.10	0.050	(0.421)	0.045	0.005
9	0.75	0.10	0.050	(0.419)	0.045	0.005
10	0.83	0.13	0.066	(0.418)	0.060	0.007
11	0.92	0.13	0.066	(0.416)	0.060	0.007
12	1.00	0.13	0.066	(0.414)	0.060	0.007
13	1.08	0.10	0.050	(0.413)	0.045	0.005
14	1.17	0.10	0.050	(0.411)	0.045	0.005
15	1.25	0.10	0.050	(0.409)	0.045	0.005
16	1.33	0.10	0.050	(0.408)	0.045	0.005
17	1.42	0.10	0.050	(0.406)	0.045	0.005
18	1.50	0.10	0.050	(0.405)	0.045	0.005
19	1.58	0.10	0.050	(0.403)	0.045	0.005
20	1.67	0.10	0.050	(0.401)	0.045	0.005
21	1.75	0.10	0.050	(0.400)	0.045	0.005
22	1.83	0.13	0.066	(0.398)	0.060	0.007
23	1.92	0.13	0.066	(0.396)	0.060	0.007
24	2.00	0.13	0.066	(0.395)	0.060	0.007
25	2.08	0.13	0.066	(0.393)	0.060	0.007
26	2.17	0.13	0.066	(0.392)	0.060	0.007
27	2.25	0.13	0.066	(0.390)	0.060	0.007
28	2.33	0.13	0.066	(0.389)	0.060	0.007
29	2.42	0.13	0.066	(0.387)	0.060	0.007
30	2.50	0.13	0.066	(0.385)	0.060	0.007
31	2.58	0.17	0.083	(0.384)	0.074	0.008
32	2.67	0.17	0.083	(0.382)	0.074	0.008
33	2.75	0.17	0.083	(0.381)	0.074	0.008
34	2.83	0.17	0.083	(0.379)	0.074	0.008
35	2.92	0.17	0.083	(0.378)	0.074	0.008
36	3.00	0.17	0.083	(0.376)	0.074	0.008
37	3.08	0.17	0.083	(0.374)	0.074	0.008
38	3.17	0.17	0.083	(0.373)	0.074	0.008
39	3.25	0.17	0.083	(0.371)	0.074	0.008
40	3.33	0.17	0.083	(0.370)	0.074	0.008
41	3.42	0.17	0.083	(0.368)	0.074	0.008
42	3.50	0.17	0.083	(0.367)	0.074	0.008
43	3.58	0.17	0.083	(0.365)	0.074	0.008
44	3.67	0.17	0.083	(0.364)	0.074	0.008
45	3.75	0.17	0.083	(0.362)	0.074	0.008
46	3.83	0.20	0.099	(0.361)	0.089	0.010

47	3.92	0.20	0.099	(0.359)	0.089	0.010
48	4.00	0.20	0.099	(0.357)	0.089	0.010
49	4.08	0.20	0.099	(0.356)	0.089	0.010
50	4.17	0.20	0.099	(0.354)	0.089	0.010
51	4.25	0.20	0.099	(0.353)	0.089	0.010
52	4.33	0.23	0.116	(0.351)	0.104	0.012
53	4.42	0.23	0.116	(0.350)	0.104	0.012
54	4.50	0.23	0.116	(0.348)	0.104	0.012
55	4.58	0.23	0.116	(0.347)	0.104	0.012
56	4.67	0.23	0.116	(0.345)	0.104	0.012
57	4.75	0.23	0.116	(0.344)	0.104	0.012
58	4.83	0.27	0.132	(0.342)	0.119	0.013
59	4.92	0.27	0.132	(0.341)	0.119	0.013
60	5.00	0.27	0.132	(0.340)	0.119	0.013
61	5.08	0.20	0.099	(0.338)	0.089	0.010
62	5.17	0.20	0.099	(0.337)	0.089	0.010
63	5.25	0.20	0.099	(0.335)	0.089	0.010
64	5.33	0.23	0.116	(0.334)	0.104	0.012
65	5.42	0.23	0.116	(0.332)	0.104	0.012
66	5.50	0.23	0.116	(0.331)	0.104	0.012
67	5.58	0.27	0.132	(0.329)	0.119	0.013
68	5.67	0.27	0.132	(0.328)	0.119	0.013
69	5.75	0.27	0.132	(0.326)	0.119	0.013
70	5.83	0.27	0.132	(0.325)	0.119	0.013
71	5.92	0.27	0.132	(0.324)	0.119	0.013
72	6.00	0.27	0.132	(0.322)	0.119	0.013
73	6.08	0.30	0.149	(0.321)	0.134	0.015
74	6.17	0.30	0.149	(0.319)	0.134	0.015
75	6.25	0.30	0.149	(0.318)	0.134	0.015
76	6.33	0.30	0.149	(0.316)	0.134	0.015
77	6.42	0.30	0.149	(0.315)	0.134	0.015
78	6.50	0.30	0.149	(0.314)	0.134	0.015
79	6.58	0.33	0.165	(0.312)	0.149	0.017
80	6.67	0.33	0.165	(0.311)	0.149	0.017
81	6.75	0.33	0.165	(0.309)	0.149	0.017
82	6.83	0.33	0.165	(0.308)	0.149	0.017
83	6.92	0.33	0.165	(0.307)	0.149	0.017
84	7.00	0.33	0.165	(0.305)	0.149	0.017
85	7.08	0.33	0.165	(0.304)	0.149	0.017
86	7.17	0.33	0.165	(0.302)	0.149	0.017
87	7.25	0.33	0.165	(0.301)	0.149	0.017
88	7.33	0.37	0.182	(0.300)	0.164	0.018
89	7.42	0.37	0.182	(0.298)	0.164	0.018
90	7.50	0.37	0.182	(0.297)	0.164	0.018
91	7.58	0.40	0.199	(0.296)	0.179	0.020
92	7.67	0.40	0.199	(0.294)	0.179	0.020
93	7.75	0.40	0.199	(0.293)	0.179	0.020
94	7.83	0.43	0.215	(0.291)	0.194	0.022
95	7.92	0.43	0.215	(0.290)	0.194	0.022
96	8.00	0.43	0.215	(0.289)	0.194	0.022

97	8.08	0.50	0.248	(0.287)	0.223	0.025
98	8.17	0.50	0.248	(0.286)	0.223	0.025
99	8.25	0.50	0.248	(0.285)	0.223	0.025
100	8.33	0.50	0.248	(0.283)	0.223	0.025
101	8.42	0.50	0.248	(0.282)	0.223	0.025
102	8.50	0.50	0.248	(0.281)	0.223	0.025
103	8.58	0.53	0.265	(0.279)	0.238	0.026
104	8.67	0.53	0.265	(0.278)	0.238	0.026
105	8.75	0.53	0.265	(0.277)	0.238	0.026
106	8.83	0.57	0.281	(0.276)	0.253	0.028
107	8.92	0.57	0.281	(0.274)	0.253	0.028
108	9.00	0.57	0.281	(0.273)	0.253	0.028
109	9.08	0.63	0.314	0.272	(0.283)	0.043
110	9.17	0.63	0.314	0.270	(0.283)	0.044
111	9.25	0.63	0.314	0.269	(0.283)	0.045
112	9.33	0.67	0.331	0.268	(0.298)	0.063
113	9.42	0.67	0.331	0.266	(0.298)	0.064
114	9.50	0.67	0.331	0.265	(0.298)	0.066
115	9.58	0.70	0.348	0.264	(0.313)	0.084
116	9.67	0.70	0.348	0.263	(0.313)	0.085
117	9.75	0.70	0.348	0.261	(0.313)	0.086
118	9.83	0.73	0.364	0.260	(0.328)	0.104
119	9.92	0.73	0.364	0.259	(0.328)	0.105
120	10.00	0.73	0.364	0.258	(0.328)	0.106
121	10.08	0.50	0.248	(0.256)	0.223	0.025
122	10.17	0.50	0.248	(0.255)	0.223	0.025
123	10.25	0.50	0.248	(0.254)	0.223	0.025
124	10.33	0.50	0.248	(0.253)	0.223	0.025
125	10.42	0.50	0.248	(0.251)	0.223	0.025
126	10.50	0.50	0.248	(0.250)	0.223	0.025
127	10.58	0.67	0.331	0.249	(0.298)	0.082
128	10.67	0.67	0.331	0.248	(0.298)	0.083
129	10.75	0.67	0.331	0.247	(0.298)	0.084
130	10.83	0.67	0.331	0.245	(0.298)	0.086
131	10.92	0.67	0.331	0.244	(0.298)	0.087
132	11.00	0.67	0.331	0.243	(0.298)	0.088
133	11.08	0.63	0.314	0.242	(0.283)	0.073
134	11.17	0.63	0.314	0.241	(0.283)	0.074
135	11.25	0.63	0.314	0.239	(0.283)	0.075
136	11.33	0.63	0.314	0.238	(0.283)	0.076
137	11.42	0.63	0.314	0.237	(0.283)	0.077
138	11.50	0.63	0.314	0.236	(0.283)	0.079
139	11.58	0.57	0.281	0.235	(0.253)	0.047
140	11.67	0.57	0.281	0.234	(0.253)	0.048
141	11.75	0.57	0.281	0.232	(0.253)	0.049
142	11.83	0.60	0.298	0.231	(0.268)	0.067
143	11.92	0.60	0.298	0.230	(0.268)	0.068
144	12.00	0.60	0.298	0.229	(0.268)	0.069
145	12.08	0.83	0.414	0.228	(0.372)	0.186
146	12.17	0.83	0.414	0.227	(0.372)	0.187

147	12.25	0.83	0.414	0.225	(0.372)	0.188
148	12.33	0.87	0.430	0.224	(0.387)	0.206
149	12.42	0.87	0.430	0.223	(0.387)	0.207
150	12.50	0.87	0.430	0.222	(0.387)	0.208
151	12.58	0.93	0.463	0.221	(0.417)	0.242
152	12.67	0.93	0.463	0.220	(0.417)	0.244
153	12.75	0.93	0.463	0.219	(0.417)	0.245
154	12.83	0.97	0.480	0.218	(0.432)	0.262
155	12.92	0.97	0.480	0.217	(0.432)	0.263
156	13.00	0.97	0.480	0.215	(0.432)	0.264
157	13.08	1.13	0.563	0.214	(0.506)	0.348
158	13.17	1.13	0.563	0.213	(0.506)	0.349
159	13.25	1.13	0.563	0.212	(0.506)	0.350
160	13.33	1.13	0.563	0.211	(0.506)	0.352
161	13.42	1.13	0.563	0.210	(0.506)	0.353
162	13.50	1.13	0.563	0.209	(0.506)	0.354
163	13.58	0.77	0.381	0.208	(0.343)	0.173
164	13.67	0.77	0.381	0.207	(0.343)	0.174
165	13.75	0.77	0.381	0.206	(0.343)	0.175
166	13.83	0.77	0.381	0.205	(0.343)	0.176
167	13.92	0.77	0.381	0.204	(0.343)	0.177
168	14.00	0.77	0.381	0.203	(0.343)	0.178
169	14.08	0.90	0.447	0.202	(0.402)	0.245
170	14.17	0.90	0.447	0.201	(0.402)	0.246
171	14.25	0.90	0.447	0.200	(0.402)	0.247
172	14.33	0.87	0.430	0.199	(0.387)	0.232
173	14.42	0.87	0.430	0.198	(0.387)	0.233
174	14.50	0.87	0.430	0.197	(0.387)	0.234
175	14.58	0.87	0.430	0.196	(0.387)	0.235
176	14.67	0.87	0.430	0.195	(0.387)	0.236
177	14.75	0.87	0.430	0.194	(0.387)	0.237
178	14.83	0.83	0.414	0.193	(0.372)	0.221
179	14.92	0.83	0.414	0.192	(0.372)	0.222
180	15.00	0.83	0.414	0.191	(0.372)	0.223
181	15.08	0.80	0.397	0.190	(0.357)	0.208
182	15.17	0.80	0.397	0.189	(0.357)	0.209
183	15.25	0.80	0.397	0.188	(0.357)	0.210
184	15.33	0.77	0.381	0.187	(0.343)	0.194
185	15.42	0.77	0.381	0.186	(0.343)	0.195
186	15.50	0.77	0.381	0.185	(0.343)	0.196
187	15.58	0.63	0.314	0.184	(0.283)	0.131
188	15.67	0.63	0.314	0.183	(0.283)	0.132
189	15.75	0.63	0.314	0.182	(0.283)	0.132
190	15.83	0.63	0.314	0.181	(0.283)	0.133
191	15.92	0.63	0.314	0.180	(0.283)	0.134
192	16.00	0.63	0.314	0.179	(0.283)	0.135
193	16.08	0.13	0.066	(0.178)	0.060	0.007
194	16.17	0.13	0.066	(0.177)	0.060	0.007
195	16.25	0.13	0.066	(0.176)	0.060	0.007
196	16.33	0.13	0.066	(0.176)	0.060	0.007

197	16.42	0.13	0.066	(0.175)	0.060	0.007
198	16.50	0.13	0.066	(0.174)	0.060	0.007
199	16.58	0.10	0.050	(0.173)	0.045	0.005
200	16.67	0.10	0.050	(0.172)	0.045	0.005
201	16.75	0.10	0.050	(0.171)	0.045	0.005
202	16.83	0.10	0.050	(0.170)	0.045	0.005
203	16.92	0.10	0.050	(0.169)	0.045	0.005
204	17.00	0.10	0.050	(0.169)	0.045	0.005
205	17.08	0.17	0.083	(0.168)	0.074	0.008
206	17.17	0.17	0.083	(0.167)	0.074	0.008
207	17.25	0.17	0.083	(0.166)	0.074	0.008
208	17.33	0.17	0.083	(0.165)	0.074	0.008
209	17.42	0.17	0.083	(0.164)	0.074	0.008
210	17.50	0.17	0.083	(0.164)	0.074	0.008
211	17.58	0.17	0.083	(0.163)	0.074	0.008
212	17.67	0.17	0.083	(0.162)	0.074	0.008
213	17.75	0.17	0.083	(0.161)	0.074	0.008
214	17.83	0.13	0.066	(0.160)	0.060	0.007
215	17.92	0.13	0.066	(0.159)	0.060	0.007
216	18.00	0.13	0.066	(0.159)	0.060	0.007
217	18.08	0.13	0.066	(0.158)	0.060	0.007
218	18.17	0.13	0.066	(0.157)	0.060	0.007
219	18.25	0.13	0.066	(0.156)	0.060	0.007
220	18.33	0.13	0.066	(0.156)	0.060	0.007
221	18.42	0.13	0.066	(0.155)	0.060	0.007
222	18.50	0.13	0.066	(0.154)	0.060	0.007
223	18.58	0.10	0.050	(0.153)	0.045	0.005
224	18.67	0.10	0.050	(0.153)	0.045	0.005
225	18.75	0.10	0.050	(0.152)	0.045	0.005
226	18.83	0.07	0.033	(0.151)	0.030	0.003
227	18.92	0.07	0.033	(0.150)	0.030	0.003
228	19.00	0.07	0.033	(0.150)	0.030	0.003
229	19.08	0.10	0.050	(0.149)	0.045	0.005
230	19.17	0.10	0.050	(0.148)	0.045	0.005
231	19.25	0.10	0.050	(0.148)	0.045	0.005
232	19.33	0.13	0.066	(0.147)	0.060	0.007
233	19.42	0.13	0.066	(0.146)	0.060	0.007
234	19.50	0.13	0.066	(0.146)	0.060	0.007
235	19.58	0.10	0.050	(0.145)	0.045	0.005
236	19.67	0.10	0.050	(0.144)	0.045	0.005
237	19.75	0.10	0.050	(0.144)	0.045	0.005
238	19.83	0.07	0.033	(0.143)	0.030	0.003
239	19.92	0.07	0.033	(0.142)	0.030	0.003
240	20.00	0.07	0.033	(0.142)	0.030	0.003
241	20.08	0.10	0.050	(0.141)	0.045	0.005
242	20.17	0.10	0.050	(0.140)	0.045	0.005
243	20.25	0.10	0.050	(0.140)	0.045	0.005
244	20.33	0.10	0.050	(0.139)	0.045	0.005
245	20.42	0.10	0.050	(0.139)	0.045	0.005
246	20.50	0.10	0.050	(0.138)	0.045	0.005

247	20.58	0.10	0.050	(0.137)	0.045	0.005
248	20.67	0.10	0.050	(0.137)	0.045	0.005
249	20.75	0.10	0.050	(0.136)	0.045	0.005
250	20.83	0.07	0.033	(0.136)	0.030	0.003
251	20.92	0.07	0.033	(0.135)	0.030	0.003
252	21.00	0.07	0.033	(0.135)	0.030	0.003
253	21.08	0.10	0.050	(0.134)	0.045	0.005
254	21.17	0.10	0.050	(0.134)	0.045	0.005
255	21.25	0.10	0.050	(0.133)	0.045	0.005
256	21.33	0.07	0.033	(0.133)	0.030	0.003
257	21.42	0.07	0.033	(0.132)	0.030	0.003
258	21.50	0.07	0.033	(0.132)	0.030	0.003
259	21.58	0.10	0.050	(0.131)	0.045	0.005
260	21.67	0.10	0.050	(0.131)	0.045	0.005
261	21.75	0.10	0.050	(0.130)	0.045	0.005
262	21.83	0.07	0.033	(0.130)	0.030	0.003
263	21.92	0.07	0.033	(0.129)	0.030	0.003
264	22.00	0.07	0.033	(0.129)	0.030	0.003
265	22.08	0.10	0.050	(0.128)	0.045	0.005
266	22.17	0.10	0.050	(0.128)	0.045	0.005
267	22.25	0.10	0.050	(0.128)	0.045	0.005
268	22.33	0.07	0.033	(0.127)	0.030	0.003
269	22.42	0.07	0.033	(0.127)	0.030	0.003
270	22.50	0.07	0.033	(0.126)	0.030	0.003
271	22.58	0.07	0.033	(0.126)	0.030	0.003
272	22.67	0.07	0.033	(0.126)	0.030	0.003
273	22.75	0.07	0.033	(0.125)	0.030	0.003
274	22.83	0.07	0.033	(0.125)	0.030	0.003
275	22.92	0.07	0.033	(0.125)	0.030	0.003
276	23.00	0.07	0.033	(0.124)	0.030	0.003
277	23.08	0.07	0.033	(0.124)	0.030	0.003
278	23.17	0.07	0.033	(0.124)	0.030	0.003
279	23.25	0.07	0.033	(0.124)	0.030	0.003
280	23.33	0.07	0.033	(0.123)	0.030	0.003
281	23.42	0.07	0.033	(0.123)	0.030	0.003
282	23.50	0.07	0.033	(0.123)	0.030	0.003
283	23.58	0.07	0.033	(0.123)	0.030	0.003
284	23.67	0.07	0.033	(0.122)	0.030	0.003
285	23.75	0.07	0.033	(0.122)	0.030	0.003
286	23.83	0.07	0.033	(0.122)	0.030	0.003
287	23.92	0.07	0.033	(0.122)	0.030	0.003
288	24.00	0.07	0.033	(0.122)	0.030	0.003

(Loss Rate Not Used)

Sum = 100.0

Sum = 14.8

Flood volume = Effective rainfall 1.24(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 2.90(In)

Total soil loss = 0.266(Ac.Ft)

Total rainfall = 4.14(In)

Flood volume = 4938.7 Cubic Feet

Total soil loss = 11581.7 Cubic Feet

Peak flow rate of this hydrograph = 0.392(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0000	0.00	Q				
0+15	0.0001	0.00	Q				
0+20	0.0001	0.00	Q				
0+25	0.0001	0.01	Q				
0+30	0.0002	0.01	Q				
0+35	0.0002	0.01	Q				
0+40	0.0002	0.01	Q				
0+45	0.0003	0.01	Q				
0+50	0.0003	0.01	Q				
0+55	0.0004	0.01	Q				
1+ 0	0.0004	0.01	Q				
1+ 5	0.0005	0.01	Q				
1+10	0.0005	0.01	Q				
1+15	0.0006	0.01	Q				
1+20	0.0006	0.01	Q				
1+25	0.0006	0.01	Q				
1+30	0.0007	0.01	Q				
1+35	0.0007	0.01	Q				
1+40	0.0007	0.01	Q				
1+45	0.0008	0.01	Q				
1+50	0.0008	0.01	Q				
1+55	0.0009	0.01	Q				
2+ 0	0.0009	0.01	Q				
2+ 5	0.0010	0.01	Q				
2+10	0.0010	0.01	Q				
2+15	0.0011	0.01	Q				
2+20	0.0011	0.01	Q				
2+25	0.0012	0.01	Q				
2+30	0.0012	0.01	Q				
2+35	0.0013	0.01	Q				
2+40	0.0014	0.01	Q				
2+45	0.0014	0.01	Q				
2+50	0.0015	0.01	Q				
2+55	0.0015	0.01	Q				
3+ 0	0.0016	0.01	Q				
3+ 5	0.0017	0.01	Q				

3+10	0.0017	0.01	Q				
3+15	0.0018	0.01	Q				
3+20	0.0019	0.01	Q				
3+25	0.0019	0.01	Q				
3+30	0.0020	0.01	Q				
3+35	0.0020	0.01	Q				
3+40	0.0021	0.01	Q				
3+45	0.0022	0.01	Q				
3+50	0.0022	0.01	Q				
3+55	0.0023	0.01	Q				
4+ 0	0.0024	0.01	Q				
4+ 5	0.0025	0.01	Q				
4+10	0.0025	0.01	Q				
4+15	0.0026	0.01	Q				
4+20	0.0027	0.01	Q				
4+25	0.0028	0.01	Q				
4+30	0.0029	0.01	QV				
4+35	0.0030	0.01	QV				
4+40	0.0031	0.01	QV				
4+45	0.0031	0.01	QV				
4+50	0.0032	0.01	QV				
4+55	0.0033	0.01	QV				
5+ 0	0.0034	0.01	QV				
5+ 5	0.0035	0.01	QV				
5+10	0.0036	0.01	QV				
5+15	0.0037	0.01	QV				
5+20	0.0038	0.01	QV				
5+25	0.0039	0.01	QV				
5+30	0.0039	0.01	QV				
5+35	0.0040	0.01	QV				
5+40	0.0041	0.01	QV				
5+45	0.0042	0.01	QV				
5+50	0.0043	0.01	QV				
5+55	0.0044	0.01	QV				
6+ 0	0.0045	0.01	QV				
6+ 5	0.0047	0.02	QV				
6+10	0.0048	0.02	QV				
6+15	0.0049	0.02	QV				
6+20	0.0050	0.02	QV				
6+25	0.0051	0.02	QV				
6+30	0.0052	0.02	QV				
6+35	0.0053	0.02	QV				
6+40	0.0055	0.02	QV				
6+45	0.0056	0.02	QV				
6+50	0.0057	0.02	Q V				
6+55	0.0059	0.02	Q V				
7+ 0	0.0060	0.02	Q V				
7+ 5	0.0061	0.02	Q V				
7+10	0.0062	0.02	Q V				
7+15	0.0064	0.02	Q V				

7+20	0.0065	0.02	Q	V				
7+25	0.0066	0.02	Q	V				
7+30	0.0068	0.02	Q	V				
7+35	0.0069	0.02	Q	V				
7+40	0.0071	0.02	Q	V				
7+45	0.0072	0.02	Q	V				
7+50	0.0074	0.02	Q	V				
7+55	0.0075	0.02	Q	V				
8+ 0	0.0077	0.02	Q	V				
8+ 5	0.0079	0.03	Q	V				
8+10	0.0081	0.03	Q	V				
8+15	0.0083	0.03	Q	V				
8+20	0.0085	0.03	Q	V				
8+25	0.0086	0.03	Q	V				
8+30	0.0088	0.03	Q	V				
8+35	0.0090	0.03	Q	V				
8+40	0.0092	0.03	Q	V				
8+45	0.0094	0.03	Q	V				
8+50	0.0096	0.03	Q	V				
8+55	0.0099	0.03	Q	V				
9+ 0	0.0101	0.03	Q	V				
9+ 5	0.0104	0.04	Q	V				
9+10	0.0107	0.05	Q	V				
9+15	0.0110	0.05	Q	V				
9+20	0.0115	0.06	Q	V				
9+25	0.0119	0.07	Q	V				
9+30	0.0124	0.07	Q	V				
9+35	0.0130	0.09	Q	V				
9+40	0.0137	0.09	Q	V				
9+45	0.0143	0.09	Q	V				
9+50	0.0151	0.11	Q	V				
9+55	0.0159	0.12	Q	V				
10+ 0	0.0167	0.12	Q	V				
10+ 5	0.0171	0.06	Q	V				
10+10	0.0173	0.03	Q	V				
10+15	0.0175	0.03	Q	V				
10+20	0.0177	0.03	Q	V				
10+25	0.0179	0.03	Q	V				
10+30	0.0181	0.03	Q	V				
10+35	0.0185	0.07	Q	V				
10+40	0.0191	0.09	Q	V				
10+45	0.0198	0.09	Q	V				
10+50	0.0204	0.09	Q	V				
10+55	0.0211	0.10	Q	V				
11+ 0	0.0218	0.10	Q	V				
11+ 5	0.0224	0.09	Q	V				
11+10	0.0229	0.08	Q	V				
11+15	0.0235	0.08	Q	V				
11+20	0.0241	0.08	Q	V				
11+25	0.0247	0.09	Q	V				

11+30	0.0253	0.09	Q	V				
11+35	0.0257	0.07	Q	V				
11+40	0.0261	0.05	Q	V				
11+45	0.0264	0.05	Q	V				
11+50	0.0269	0.07	Q	V				
11+55	0.0274	0.07	Q	V				
12+ 0	0.0279	0.08	Q	V				
12+ 5	0.0290	0.16	Q	V				
12+10	0.0304	0.20	Q	V				
12+15	0.0318	0.21	Q	V				
12+20	0.0334	0.22	Q	V				
12+25	0.0349	0.23	Q	V				
12+30	0.0365	0.23	Q	V				
12+35	0.0383	0.25	Q	V				
12+40	0.0401	0.27	Q	V				
12+45	0.0420	0.27	Q	V				
12+50	0.0439	0.28	Q	V				
12+55	0.0459	0.29	Q	V				
13+ 0	0.0480	0.29	Q	V				
13+ 5	0.0504	0.35	Q	V				
13+10	0.0530	0.38	Q	V				
13+15	0.0557	0.39	Q	V				
13+20	0.0584	0.39	Q	V				
13+25	0.0611	0.39	Q	V				
13+30	0.0638	0.39	Q	V				
13+35	0.0656	0.27	Q	V				
13+40	0.0670	0.20	Q	V				
13+45	0.0683	0.19	Q	V				
13+50	0.0697	0.19	Q	V				
13+55	0.0710	0.20	Q	V				
14+ 0	0.0724	0.20	Q	V				
14+ 5	0.0740	0.24	Q	V				
14+10	0.0759	0.27	Q	V				
14+15	0.0778	0.27	Q	V				
14+20	0.0796	0.26	Q	V				
14+25	0.0814	0.26	Q	V				
14+30	0.0832	0.26	Q	V				
14+35	0.0849	0.26	Q	V				
14+40	0.0867	0.26	Q	V				
14+45	0.0885	0.26	Q	V				
14+50	0.0903	0.25	Q	V				
14+55	0.0920	0.25	Q	V				
15+ 0	0.0937	0.25	Q	V				
15+ 5	0.0953	0.24	Q	V				
15+10	0.0969	0.23	Q	V				
15+15	0.0985	0.23	Q	V				
15+20	0.1000	0.22	Q	V				
15+25	0.1015	0.22	Q	V				
15+30	0.1030	0.22	Q	V				
15+35	0.1042	0.17	Q	V				

15+40	0.1052	0.15	Q				V
15+45	0.1062	0.15	Q				V
15+50	0.1072	0.15	Q				V
15+55	0.1083	0.15	Q				V
16+ 0	0.1093	0.15	Q				V
16+ 5	0.1097	0.06	Q				V
16+10	0.1098	0.01	Q				V
16+15	0.1099	0.01	Q				V
16+20	0.1099	0.01	Q				V
16+25	0.1100	0.01	Q				V
16+30	0.1100	0.01	Q				V
16+35	0.1101	0.01	Q				V
16+40	0.1101	0.01	Q				V
16+45	0.1101	0.01	Q				V
16+50	0.1102	0.01	Q				V
16+55	0.1102	0.01	Q				V
17+ 0	0.1103	0.01	Q				V
17+ 5	0.1103	0.01	Q				V
17+10	0.1104	0.01	Q				V
17+15	0.1104	0.01	Q				V
17+20	0.1105	0.01	Q				V
17+25	0.1106	0.01	Q				V
17+30	0.1106	0.01	Q				V
17+35	0.1107	0.01	Q				V
17+40	0.1107	0.01	Q				V
17+45	0.1108	0.01	Q				V
17+50	0.1109	0.01	Q				V
17+55	0.1109	0.01	Q				V
18+ 0	0.1110	0.01	Q				V
18+ 5	0.1110	0.01	Q				V
18+10	0.1111	0.01	Q				V
18+15	0.1111	0.01	Q				V
18+20	0.1112	0.01	Q				V
18+25	0.1112	0.01	Q				V
18+30	0.1113	0.01	Q				V
18+35	0.1113	0.01	Q				V
18+40	0.1114	0.01	Q				V
18+45	0.1114	0.01	Q				V
18+50	0.1114	0.00	Q				V
18+55	0.1114	0.00	Q				V
19+ 0	0.1115	0.00	Q				V
19+ 5	0.1115	0.00	Q				V
19+10	0.1115	0.01	Q				V
19+15	0.1116	0.01	Q				V
19+20	0.1116	0.01	Q				V
19+25	0.1117	0.01	Q				V
19+30	0.1117	0.01	Q				V
19+35	0.1118	0.01	Q				V
19+40	0.1118	0.01	Q				V
19+45	0.1118	0.01	Q				V

19+50	0.1119	0.00	Q				V
19+55	0.1119	0.00	Q				V
20+ 0	0.1119	0.00	Q				V
20+ 5	0.1120	0.00	Q				V
20+10	0.1120	0.01	Q				V
20+15	0.1120	0.01	Q				V
20+20	0.1121	0.01	Q				V
20+25	0.1121	0.01	Q				V
20+30	0.1121	0.01	Q				V
20+35	0.1122	0.01	Q				V
20+40	0.1122	0.01	Q				V
20+45	0.1123	0.01	Q				V
20+50	0.1123	0.00	Q				V
20+55	0.1123	0.00	Q				V
21+ 0	0.1123	0.00	Q				V
21+ 5	0.1124	0.00	Q				V
21+10	0.1124	0.01	Q				V
21+15	0.1125	0.01	Q				V
21+20	0.1125	0.00	Q				V
21+25	0.1125	0.00	Q				V
21+30	0.1125	0.00	Q				V
21+35	0.1126	0.00	Q				V
21+40	0.1126	0.01	Q				V
21+45	0.1126	0.01	Q				V
21+50	0.1127	0.00	Q				V
21+55	0.1127	0.00	Q				V
22+ 0	0.1127	0.00	Q				V
22+ 5	0.1128	0.00	Q				V
22+10	0.1128	0.01	Q				V
22+15	0.1128	0.01	Q				V
22+20	0.1129	0.00	Q				V
22+25	0.1129	0.00	Q				V
22+30	0.1129	0.00	Q				V
22+35	0.1129	0.00	Q				V
22+40	0.1130	0.00	Q				V
22+45	0.1130	0.00	Q				V
22+50	0.1130	0.00	Q				V
22+55	0.1130	0.00	Q				V
23+ 0	0.1131	0.00	Q				V
23+ 5	0.1131	0.00	Q				V
23+10	0.1131	0.00	Q				V
23+15	0.1131	0.00	Q				V
23+20	0.1132	0.00	Q				V
23+25	0.1132	0.00	Q				V
23+30	0.1132	0.00	Q				V
23+35	0.1132	0.00	Q				V
23+40	0.1133	0.00	Q				V
23+45	0.1133	0.00	Q				V
23+50	0.1133	0.00	Q				V
23+55	0.1133	0.00	Q				V

24+ 0	0.1134	0.00	Q				V
24+ 5	0.1134	0.00	Q				V
24+10	0.1134	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST12.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
2-Year
1-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	0.48	0.51

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	1.34	1.42

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.483(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.483(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	365.687	62.565
2	0.167	731.374	33.756
3	0.250	1097.061	3.679
		Sum = 100.000	Sum= 1.067

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.255	(0.870)	0.184	0.071
2	0.17	4.50	0.261	(0.870)	0.188	0.073
3	0.25	5.40	0.313	(0.870)	0.225	0.088
4	0.33	5.40	0.313	(0.870)	0.225	0.088
5	0.42	5.70	0.330	(0.870)	0.238	0.093
6	0.50	6.40	0.371	(0.870)	0.267	0.104
7	0.58	7.90	0.458	(0.870)	0.330	0.128
8	0.67	9.10	0.527	(0.870)	0.380	0.148
9	0.75	12.80	0.742	(0.870)	0.534	0.208
10	0.83	25.60	1.484	0.870	(1.068)	0.613
11	0.92	7.90	0.458	(0.870)	0.330	0.128
12	1.00	4.90	0.284	(0.870)	0.204	0.080

(Loss Rate Not Used)

Sum = 100.0 Sum = 1.8

Flood volume = Effective rainfall 0.15(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.33(In)
Total soil loss = 0.029(Ac.Ft)
Total rainfall = 0.48(In)
Flood volume = 583.3 Cubic Feet
Total soil loss = 1273.4 Cubic Feet

Peak flow rate of this hydrograph = 0.490(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0008	0.07	Q V				
0+15	0.0014	0.09	Q V				
0+20	0.0021	0.09	Q V				
0+25	0.0028	0.10	Q V				
0+30	0.0035	0.11	Q V				
0+35	0.0044	0.13	Q	V			
0+40	0.0054	0.15	Q	V			
0+45	0.0067	0.20	Q		V		
0+50	0.0101	0.49	Q			V	
0+55	0.0123	0.31	Q				V

1+ 0	0.0131	0.12	Q				V
1+ 5	0.0134	0.03	Q				V
1+10	0.0134	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST32.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
2-Year
3-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	0.88	0.93

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	2.20	2.33

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 0.877(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.877(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.137	(0.870)	0.099	0.038
2	0.17	1.30	0.137	(0.870)	0.099	0.038
3	0.25	1.10	0.116	(0.870)	0.083	0.032
4	0.33	1.50	0.158	(0.870)	0.114	0.044
5	0.42	1.50	0.158	(0.870)	0.114	0.044
6	0.50	1.80	0.189	(0.870)	0.136	0.053
7	0.58	1.50	0.158	(0.870)	0.114	0.044
8	0.67	1.80	0.189	(0.870)	0.136	0.053
9	0.75	1.80	0.189	(0.870)	0.136	0.053
10	0.83	1.50	0.158	(0.870)	0.114	0.044
11	0.92	1.60	0.168	(0.870)	0.121	0.047
12	1.00	1.80	0.189	(0.870)	0.136	0.053
13	1.08	2.20	0.232	(0.870)	0.167	0.065
14	1.17	2.20	0.232	(0.870)	0.167	0.065
15	1.25	2.20	0.232	(0.870)	0.167	0.065
16	1.33	2.00	0.210	(0.870)	0.152	0.059
17	1.42	2.60	0.274	(0.870)	0.197	0.077
18	1.50	2.70	0.284	(0.870)	0.205	0.080
19	1.58	2.40	0.253	(0.870)	0.182	0.071
20	1.67	2.70	0.284	(0.870)	0.205	0.080
21	1.75	3.30	0.347	(0.870)	0.250	0.097
22	1.83	3.10	0.326	(0.870)	0.235	0.091
23	1.92	2.90	0.305	(0.870)	0.220	0.085
24	2.00	3.00	0.316	(0.870)	0.227	0.088
25	2.08	3.10	0.326	(0.870)	0.235	0.091
26	2.17	4.20	0.442	(0.870)	0.318	0.124
27	2.25	5.00	0.526	(0.870)	0.379	0.147
28	2.33	3.50	0.368	(0.870)	0.265	0.103
29	2.42	6.80	0.716	(0.870)	0.515	0.200
30	2.50	7.30	0.768	(0.870)	0.553	0.215
31	2.58	8.20	0.863	(0.870)	0.621	0.242
32	2.67	5.90	0.621	(0.870)	0.447	0.174
33	2.75	2.00	0.210	(0.870)	0.152	0.059
34	2.83	1.80	0.189	(0.870)	0.136	0.053
35	2.92	1.80	0.189	(0.870)	0.136	0.053
36	3.00	0.60	0.063	(0.870)	0.045	0.018

(Loss Rate Not Used)

Sum = 100.0

Sum = 2.9

Flood volume = Effective rainfall 0.25(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 0.63(In)

Total soil loss = 0.056(Ac.Ft)

Total rainfall = 0.88(In)

Flood volume = 944.0 Cubic Feet

Total soil loss = 2427.4 Cubic Feet

Peak flow rate of this hydrograph = 0.247(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q					
0+10	0.0004	0.04	Q					
0+15	0.0007	0.04	QV					
0+20	0.0010	0.04	QV					
0+25	0.0013	0.05	Q V					
0+30	0.0017	0.05	Q V					
0+35	0.0020	0.05	Q V					
0+40	0.0024	0.05	Q V					
0+45	0.0028	0.06	Q V					
0+50	0.0031	0.05	Q V					
0+55	0.0035	0.05	Q V					
1+ 0	0.0039	0.05	Q V					
1+ 5	0.0043	0.06	Q V					
1+10	0.0048	0.07	Q V					
1+15	0.0052	0.07	Q V					
1+20	0.0057	0.07	Q V					
1+25	0.0062	0.07	Q V					
1+30	0.0068	0.08	Q V					
1+35	0.0073	0.08	Q V					
1+40	0.0079	0.08	Q V					
1+45	0.0086	0.10	Q V					
1+50	0.0092	0.10	Q V					
1+55	0.0099	0.09	Q V					
2+ 0	0.0105	0.09	Q V					
2+ 5	0.0112	0.10	Q V					
2+10	0.0120	0.12	Q V					
2+15	0.0130	0.15	Q V					
2+20	0.0139	0.13	Q V					
2+25	0.0151	0.18	Q V					
2+30	0.0166	0.22	Q V					
2+35	0.0183	0.25	Q V					
2+40	0.0198	0.21	Q V					
2+45	0.0206	0.11	Q V					
2+50	0.0210	0.06	Q V					
2+55	0.0214	0.06	Q V					
3+ 0	0.0216	0.03	Q V					
3+ 5	0.0217	0.01	Q V					
3+10	0.0217	0.00	Q V					

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
2-Year
6-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	1.27	1.34

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	3.12	3.30

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.270(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.270(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.076	(0.870)	0.055	0.021
2	0.17	0.60	0.091	(0.870)	0.066	0.026
3	0.25	0.60	0.091	(0.870)	0.066	0.026
4	0.33	0.60	0.091	(0.870)	0.066	0.026
5	0.42	0.60	0.091	(0.870)	0.066	0.026
6	0.50	0.70	0.107	(0.870)	0.077	0.030
7	0.58	0.70	0.107	(0.870)	0.077	0.030
8	0.67	0.70	0.107	(0.870)	0.077	0.030
9	0.75	0.70	0.107	(0.870)	0.077	0.030
10	0.83	0.70	0.107	(0.870)	0.077	0.030
11	0.92	0.70	0.107	(0.870)	0.077	0.030
12	1.00	0.80	0.122	(0.870)	0.088	0.034
13	1.08	0.80	0.122	(0.870)	0.088	0.034
14	1.17	0.80	0.122	(0.870)	0.088	0.034
15	1.25	0.80	0.122	(0.870)	0.088	0.034
16	1.33	0.80	0.122	(0.870)	0.088	0.034
17	1.42	0.80	0.122	(0.870)	0.088	0.034
18	1.50	0.80	0.122	(0.870)	0.088	0.034
19	1.58	0.80	0.122	(0.870)	0.088	0.034
20	1.67	0.80	0.122	(0.870)	0.088	0.034
21	1.75	0.80	0.122	(0.870)	0.088	0.034
22	1.83	0.80	0.122	(0.870)	0.088	0.034
23	1.92	0.80	0.122	(0.870)	0.088	0.034
24	2.00	0.90	0.137	(0.870)	0.099	0.038
25	2.08	0.80	0.122	(0.870)	0.088	0.034
26	2.17	0.90	0.137	(0.870)	0.099	0.038
27	2.25	0.90	0.137	(0.870)	0.099	0.038
28	2.33	0.90	0.137	(0.870)	0.099	0.038
29	2.42	0.90	0.137	(0.870)	0.099	0.038
30	2.50	0.90	0.137	(0.870)	0.099	0.038
31	2.58	0.90	0.137	(0.870)	0.099	0.038
32	2.67	0.90	0.137	(0.870)	0.099	0.038
33	2.75	1.00	0.152	(0.870)	0.110	0.043
34	2.83	1.00	0.152	(0.870)	0.110	0.043
35	2.92	1.00	0.152	(0.870)	0.110	0.043
36	3.00	1.00	0.152	(0.870)	0.110	0.043
37	3.08	1.00	0.152	(0.870)	0.110	0.043
38	3.17	1.10	0.168	(0.870)	0.121	0.047
39	3.25	1.10	0.168	(0.870)	0.121	0.047
40	3.33	1.10	0.168	(0.870)	0.121	0.047
41	3.42	1.20	0.183	(0.870)	0.132	0.051
42	3.50	1.30	0.198	(0.870)	0.143	0.055
43	3.58	1.40	0.213	(0.870)	0.154	0.060
44	3.67	1.40	0.213	(0.870)	0.154	0.060
45	3.75	1.50	0.229	(0.870)	0.165	0.064
46	3.83	1.50	0.229	(0.870)	0.165	0.064

47	3.92	1.60	0.244	(0.870)	0.176	0.068
48	4.00	1.60	0.244	(0.870)	0.176	0.068
49	4.08	1.70	0.259	(0.870)	0.187	0.073
50	4.17	1.80	0.274	(0.870)	0.198	0.077
51	4.25	1.90	0.290	(0.870)	0.208	0.081
52	4.33	2.00	0.305	(0.870)	0.219	0.085
53	4.42	2.10	0.320	(0.870)	0.230	0.090
54	4.50	2.10	0.320	(0.870)	0.230	0.090
55	4.58	2.20	0.335	(0.870)	0.241	0.094
56	4.67	2.30	0.351	(0.870)	0.252	0.098
57	4.75	2.40	0.366	(0.870)	0.263	0.102
58	4.83	2.40	0.366	(0.870)	0.263	0.102
59	4.92	2.50	0.381	(0.870)	0.274	0.107
60	5.00	2.60	0.396	(0.870)	0.285	0.111
61	5.08	3.10	0.472	(0.870)	0.340	0.132
62	5.17	3.60	0.549	(0.870)	0.395	0.154
63	5.25	3.90	0.594	(0.870)	0.428	0.166
64	5.33	4.20	0.640	(0.870)	0.461	0.179
65	5.42	4.70	0.716	(0.870)	0.516	0.201
66	5.50	5.60	0.853	(0.870)	0.614	0.239
67	5.58	1.90	0.290	(0.870)	0.208	0.081
68	5.67	0.90	0.137	(0.870)	0.099	0.038
69	5.75	0.60	0.091	(0.870)	0.066	0.026
70	5.83	0.50	0.076	(0.870)	0.055	0.021
71	5.92	0.30	0.046	(0.870)	0.033	0.013
72	6.00	0.20	0.030	(0.870)	0.022	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.3

Flood volume = Effective rainfall 0.36(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.91(In)
Total soil loss = 0.081(Ac.Ft)
Total rainfall = 1.27(In)
Flood volume = 1367.0 Cubic Feet
Total soil loss = 3515.1 Cubic Feet

Peak flow rate of this hydrograph = 0.239(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0

0+ 5	0.0001	0.01	Q					
0+10	0.0003	0.02	Q					
0+15	0.0005	0.03	Q					

0+20	0.0006	0.03	Q				
0+25	0.0008	0.03	QV				
0+30	0.0010	0.03	QV				
0+35	0.0013	0.03	QV				
0+40	0.0015	0.03	QV				
0+45	0.0017	0.03	Q V				
0+50	0.0019	0.03	Q V				
0+55	0.0021	0.03	Q V				
1+ 0	0.0024	0.03	Q V				
1+ 5	0.0026	0.04	Q V				
1+10	0.0029	0.04	Q V				
1+15	0.0031	0.04	Q V				
1+20	0.0034	0.04	Q V				
1+25	0.0036	0.04	Q V				
1+30	0.0039	0.04	Q V				
1+35	0.0041	0.04	Q V				
1+40	0.0044	0.04	Q V				
1+45	0.0046	0.04	Q V				
1+50	0.0049	0.04	Q V				
1+55	0.0051	0.04	Q V				
2+ 0	0.0054	0.04	Q V				
2+ 5	0.0057	0.04	Q V				
2+10	0.0059	0.04	Q V				
2+15	0.0062	0.04	Q V				
2+20	0.0065	0.04	Q V				
2+25	0.0068	0.04	Q V				
2+30	0.0071	0.04	Q V				
2+35	0.0074	0.04	Q V				
2+40	0.0076	0.04	Q V				
2+45	0.0079	0.04	Q V				
2+50	0.0082	0.05	Q V				
2+55	0.0086	0.05	Q V				
3+ 0	0.0089	0.05	Q V				
3+ 5	0.0092	0.05	Q V				
3+10	0.0095	0.05	Q V				
3+15	0.0099	0.05	Q V				
3+20	0.0102	0.05	Q V				
3+25	0.0106	0.05	Q V				
3+30	0.0110	0.06	Q V				
3+35	0.0114	0.06	Q V				
3+40	0.0118	0.06	Q V				
3+45	0.0123	0.07	Q V				
3+50	0.0128	0.07	Q V				
3+55	0.0133	0.07	Q V				
4+ 0	0.0138	0.07	Q V				
4+ 5	0.0143	0.08	Q V				
4+10	0.0148	0.08	Q V				
4+15	0.0154	0.08	Q V				
4+20	0.0160	0.09	Q V				
4+25	0.0167	0.09	Q V				

4+30	0.0173	0.10	Q		V		
4+35	0.0180	0.10	Q		V		
4+40	0.0187	0.10	Q		V		
4+45	0.0195	0.11	Q		V		
4+50	0.0202	0.11	Q		V		
4+55	0.0210	0.11	Q		V		
5+ 0	0.0218	0.12	Q		V		
5+ 5	0.0227	0.13	Q		V		
5+10	0.0238	0.15	Q		V		
5+15	0.0250	0.17	Q		V		
5+20	0.0262	0.19	Q		V		
5+25	0.0276	0.21	Q		V		
5+30	0.0293	0.24	Q		V		
5+35	0.0303	0.15	Q		V		
5+40	0.0308	0.06	Q		V		
5+45	0.0310	0.03	Q		V		
5+50	0.0312	0.02	Q		V		
5+55	0.0313	0.02	Q		V		
6+ 0	0.0314	0.01	Q		V		
6+ 5	0.0314	0.00	Q		V		
6+10	0.0314	0.00	Q		V		

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
2-Year
24-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	2.43	2.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	6.58	6.97

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 2.430(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.430(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
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3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.019	(1.543)	0.014	0.005
2	0.17	0.07	0.019	(1.537)	0.014	0.005
3	0.25	0.07	0.019	(1.531)	0.014	0.005
4	0.33	0.10	0.029	(1.525)	0.021	0.008
5	0.42	0.10	0.029	(1.519)	0.021	0.008
6	0.50	0.10	0.029	(1.513)	0.021	0.008
7	0.58	0.10	0.029	(1.507)	0.021	0.008
8	0.67	0.10	0.029	(1.501)	0.021	0.008
9	0.75	0.10	0.029	(1.496)	0.021	0.008
10	0.83	0.13	0.039	(1.490)	0.028	0.011
11	0.92	0.13	0.039	(1.484)	0.028	0.011
12	1.00	0.13	0.039	(1.478)	0.028	0.011
13	1.08	0.10	0.029	(1.472)	0.021	0.008
14	1.17	0.10	0.029	(1.466)	0.021	0.008
15	1.25	0.10	0.029	(1.460)	0.021	0.008
16	1.33	0.10	0.029	(1.455)	0.021	0.008
17	1.42	0.10	0.029	(1.449)	0.021	0.008
18	1.50	0.10	0.029	(1.443)	0.021	0.008
19	1.58	0.10	0.029	(1.437)	0.021	0.008
20	1.67	0.10	0.029	(1.432)	0.021	0.008
21	1.75	0.10	0.029	(1.426)	0.021	0.008
22	1.83	0.13	0.039	(1.420)	0.028	0.011
23	1.92	0.13	0.039	(1.414)	0.028	0.011
24	2.00	0.13	0.039	(1.409)	0.028	0.011
25	2.08	0.13	0.039	(1.403)	0.028	0.011
26	2.17	0.13	0.039	(1.397)	0.028	0.011
27	2.25	0.13	0.039	(1.392)	0.028	0.011
28	2.33	0.13	0.039	(1.386)	0.028	0.011
29	2.42	0.13	0.039	(1.380)	0.028	0.011
30	2.50	0.13	0.039	(1.375)	0.028	0.011
31	2.58	0.17	0.049	(1.369)	0.035	0.014
32	2.67	0.17	0.049	(1.363)	0.035	0.014
33	2.75	0.17	0.049	(1.358)	0.035	0.014
34	2.83	0.17	0.049	(1.352)	0.035	0.014
35	2.92	0.17	0.049	(1.347)	0.035	0.014
36	3.00	0.17	0.049	(1.341)	0.035	0.014
37	3.08	0.17	0.049	(1.336)	0.035	0.014
38	3.17	0.17	0.049	(1.330)	0.035	0.014
39	3.25	0.17	0.049	(1.324)	0.035	0.014
40	3.33	0.17	0.049	(1.319)	0.035	0.014
41	3.42	0.17	0.049	(1.313)	0.035	0.014
42	3.50	0.17	0.049	(1.308)	0.035	0.014
43	3.58	0.17	0.049	(1.302)	0.035	0.014
44	3.67	0.17	0.049	(1.297)	0.035	0.014
45	3.75	0.17	0.049	(1.292)	0.035	0.014
46	3.83	0.20	0.058	(1.286)	0.042	0.016

47	3.92	0.20	0.058	(1.281)	0.042	0.016
48	4.00	0.20	0.058	(1.275)	0.042	0.016
49	4.08	0.20	0.058	(1.270)	0.042	0.016
50	4.17	0.20	0.058	(1.264)	0.042	0.016
51	4.25	0.20	0.058	(1.259)	0.042	0.016
52	4.33	0.23	0.068	(1.254)	0.049	0.019
53	4.42	0.23	0.068	(1.248)	0.049	0.019
54	4.50	0.23	0.068	(1.243)	0.049	0.019
55	4.58	0.23	0.068	(1.238)	0.049	0.019
56	4.67	0.23	0.068	(1.232)	0.049	0.019
57	4.75	0.23	0.068	(1.227)	0.049	0.019
58	4.83	0.27	0.078	(1.222)	0.056	0.022
59	4.92	0.27	0.078	(1.216)	0.056	0.022
60	5.00	0.27	0.078	(1.211)	0.056	0.022
61	5.08	0.20	0.058	(1.206)	0.042	0.016
62	5.17	0.20	0.058	(1.201)	0.042	0.016
63	5.25	0.20	0.058	(1.195)	0.042	0.016
64	5.33	0.23	0.068	(1.190)	0.049	0.019
65	5.42	0.23	0.068	(1.185)	0.049	0.019
66	5.50	0.23	0.068	(1.180)	0.049	0.019
67	5.58	0.27	0.078	(1.175)	0.056	0.022
68	5.67	0.27	0.078	(1.169)	0.056	0.022
69	5.75	0.27	0.078	(1.164)	0.056	0.022
70	5.83	0.27	0.078	(1.159)	0.056	0.022
71	5.92	0.27	0.078	(1.154)	0.056	0.022
72	6.00	0.27	0.078	(1.149)	0.056	0.022
73	6.08	0.30	0.087	(1.144)	0.063	0.024
74	6.17	0.30	0.087	(1.139)	0.063	0.024
75	6.25	0.30	0.087	(1.134)	0.063	0.024
76	6.33	0.30	0.087	(1.129)	0.063	0.024
77	6.42	0.30	0.087	(1.124)	0.063	0.024
78	6.50	0.30	0.087	(1.118)	0.063	0.024
79	6.58	0.33	0.097	(1.113)	0.070	0.027
80	6.67	0.33	0.097	(1.108)	0.070	0.027
81	6.75	0.33	0.097	(1.103)	0.070	0.027
82	6.83	0.33	0.097	(1.098)	0.070	0.027
83	6.92	0.33	0.097	(1.093)	0.070	0.027
84	7.00	0.33	0.097	(1.089)	0.070	0.027
85	7.08	0.33	0.097	(1.084)	0.070	0.027
86	7.17	0.33	0.097	(1.079)	0.070	0.027
87	7.25	0.33	0.097	(1.074)	0.070	0.027
88	7.33	0.37	0.107	(1.069)	0.077	0.030
89	7.42	0.37	0.107	(1.064)	0.077	0.030
90	7.50	0.37	0.107	(1.059)	0.077	0.030
91	7.58	0.40	0.117	(1.054)	0.084	0.033
92	7.67	0.40	0.117	(1.049)	0.084	0.033
93	7.75	0.40	0.117	(1.045)	0.084	0.033
94	7.83	0.43	0.126	(1.040)	0.091	0.035
95	7.92	0.43	0.126	(1.035)	0.091	0.035
96	8.00	0.43	0.126	(1.030)	0.091	0.035

97	8.08	0.50	0.146	(1.025)	0.105	0.041
98	8.17	0.50	0.146	(1.021)	0.105	0.041
99	8.25	0.50	0.146	(1.016)	0.105	0.041
100	8.33	0.50	0.146	(1.011)	0.105	0.041
101	8.42	0.50	0.146	(1.006)	0.105	0.041
102	8.50	0.50	0.146	(1.002)	0.105	0.041
103	8.58	0.53	0.156	(0.997)	0.112	0.044
104	8.67	0.53	0.156	(0.992)	0.112	0.044
105	8.75	0.53	0.156	(0.988)	0.112	0.044
106	8.83	0.57	0.165	(0.983)	0.119	0.046
107	8.92	0.57	0.165	(0.978)	0.119	0.046
108	9.00	0.57	0.165	(0.974)	0.119	0.046
109	9.08	0.63	0.185	(0.969)	0.133	0.052
110	9.17	0.63	0.185	(0.964)	0.133	0.052
111	9.25	0.63	0.185	(0.960)	0.133	0.052
112	9.33	0.67	0.194	(0.955)	0.140	0.054
113	9.42	0.67	0.194	(0.951)	0.140	0.054
114	9.50	0.67	0.194	(0.946)	0.140	0.054
115	9.58	0.70	0.204	(0.942)	0.147	0.057
116	9.67	0.70	0.204	(0.937)	0.147	0.057
117	9.75	0.70	0.204	(0.933)	0.147	0.057
118	9.83	0.73	0.214	(0.928)	0.154	0.060
119	9.92	0.73	0.214	(0.924)	0.154	0.060
120	10.00	0.73	0.214	(0.919)	0.154	0.060
121	10.08	0.50	0.146	(0.915)	0.105	0.041
122	10.17	0.50	0.146	(0.910)	0.105	0.041
123	10.25	0.50	0.146	(0.906)	0.105	0.041
124	10.33	0.50	0.146	(0.901)	0.105	0.041
125	10.42	0.50	0.146	(0.897)	0.105	0.041
126	10.50	0.50	0.146	(0.893)	0.105	0.041
127	10.58	0.67	0.194	(0.888)	0.140	0.054
128	10.67	0.67	0.194	(0.884)	0.140	0.054
129	10.75	0.67	0.194	(0.880)	0.140	0.054
130	10.83	0.67	0.194	(0.875)	0.140	0.054
131	10.92	0.67	0.194	(0.871)	0.140	0.054
132	11.00	0.67	0.194	(0.867)	0.140	0.054
133	11.08	0.63	0.185	(0.863)	0.133	0.052
134	11.17	0.63	0.185	(0.858)	0.133	0.052
135	11.25	0.63	0.185	(0.854)	0.133	0.052
136	11.33	0.63	0.185	(0.850)	0.133	0.052
137	11.42	0.63	0.185	(0.846)	0.133	0.052
138	11.50	0.63	0.185	(0.841)	0.133	0.052
139	11.58	0.57	0.165	(0.837)	0.119	0.046
140	11.67	0.57	0.165	(0.833)	0.119	0.046
141	11.75	0.57	0.165	(0.829)	0.119	0.046
142	11.83	0.60	0.175	(0.825)	0.126	0.049
143	11.92	0.60	0.175	(0.821)	0.126	0.049
144	12.00	0.60	0.175	(0.817)	0.126	0.049
145	12.08	0.83	0.243	(0.812)	0.175	0.068
146	12.17	0.83	0.243	(0.808)	0.175	0.068

147	12.25	0.83	0.243	(0.804)	0.175	0.068
148	12.33	0.87	0.253	(0.800)	0.182	0.071
149	12.42	0.87	0.253	(0.796)	0.182	0.071
150	12.50	0.87	0.253	(0.792)	0.182	0.071
151	12.58	0.93	0.272	(0.788)	0.196	0.076
152	12.67	0.93	0.272	(0.784)	0.196	0.076
153	12.75	0.93	0.272	(0.780)	0.196	0.076
154	12.83	0.97	0.282	(0.776)	0.203	0.079
155	12.92	0.97	0.282	(0.773)	0.203	0.079
156	13.00	0.97	0.282	(0.769)	0.203	0.079
157	13.08	1.13	0.330	(0.765)	0.238	0.093
158	13.17	1.13	0.330	(0.761)	0.238	0.093
159	13.25	1.13	0.330	(0.757)	0.238	0.093
160	13.33	1.13	0.330	(0.753)	0.238	0.093
161	13.42	1.13	0.330	(0.749)	0.238	0.093
162	13.50	1.13	0.330	(0.746)	0.238	0.093
163	13.58	0.77	0.224	(0.742)	0.161	0.063
164	13.67	0.77	0.224	(0.738)	0.161	0.063
165	13.75	0.77	0.224	(0.734)	0.161	0.063
166	13.83	0.77	0.224	(0.730)	0.161	0.063
167	13.92	0.77	0.224	(0.727)	0.161	0.063
168	14.00	0.77	0.224	(0.723)	0.161	0.063
169	14.08	0.90	0.262	(0.719)	0.189	0.073
170	14.17	0.90	0.262	(0.716)	0.189	0.073
171	14.25	0.90	0.262	(0.712)	0.189	0.073
172	14.33	0.87	0.253	(0.708)	0.182	0.071
173	14.42	0.87	0.253	(0.705)	0.182	0.071
174	14.50	0.87	0.253	(0.701)	0.182	0.071
175	14.58	0.87	0.253	(0.698)	0.182	0.071
176	14.67	0.87	0.253	(0.694)	0.182	0.071
177	14.75	0.87	0.253	(0.690)	0.182	0.071
178	14.83	0.83	0.243	(0.687)	0.175	0.068
179	14.92	0.83	0.243	(0.683)	0.175	0.068
180	15.00	0.83	0.243	(0.680)	0.175	0.068
181	15.08	0.80	0.233	(0.676)	0.168	0.065
182	15.17	0.80	0.233	(0.673)	0.168	0.065
183	15.25	0.80	0.233	(0.669)	0.168	0.065
184	15.33	0.77	0.224	(0.666)	0.161	0.063
185	15.42	0.77	0.224	(0.663)	0.161	0.063
186	15.50	0.77	0.224	(0.659)	0.161	0.063
187	15.58	0.63	0.185	(0.656)	0.133	0.052
188	15.67	0.63	0.185	(0.652)	0.133	0.052
189	15.75	0.63	0.185	(0.649)	0.133	0.052
190	15.83	0.63	0.185	(0.646)	0.133	0.052
191	15.92	0.63	0.185	(0.642)	0.133	0.052
192	16.00	0.63	0.185	(0.639)	0.133	0.052
193	16.08	0.13	0.039	(0.636)	0.028	0.011
194	16.17	0.13	0.039	(0.633)	0.028	0.011
195	16.25	0.13	0.039	(0.629)	0.028	0.011
196	16.33	0.13	0.039	(0.626)	0.028	0.011

197	16.42	0.13	0.039	(0.623)	0.028	0.011
198	16.50	0.13	0.039	(0.620)	0.028	0.011
199	16.58	0.10	0.029	(0.617)	0.021	0.008
200	16.67	0.10	0.029	(0.614)	0.021	0.008
201	16.75	0.10	0.029	(0.610)	0.021	0.008
202	16.83	0.10	0.029	(0.607)	0.021	0.008
203	16.92	0.10	0.029	(0.604)	0.021	0.008
204	17.00	0.10	0.029	(0.601)	0.021	0.008
205	17.08	0.17	0.049	(0.598)	0.035	0.014
206	17.17	0.17	0.049	(0.595)	0.035	0.014
207	17.25	0.17	0.049	(0.592)	0.035	0.014
208	17.33	0.17	0.049	(0.589)	0.035	0.014
209	17.42	0.17	0.049	(0.586)	0.035	0.014
210	17.50	0.17	0.049	(0.583)	0.035	0.014
211	17.58	0.17	0.049	(0.580)	0.035	0.014
212	17.67	0.17	0.049	(0.578)	0.035	0.014
213	17.75	0.17	0.049	(0.575)	0.035	0.014
214	17.83	0.13	0.039	(0.572)	0.028	0.011
215	17.92	0.13	0.039	(0.569)	0.028	0.011
216	18.00	0.13	0.039	(0.566)	0.028	0.011
217	18.08	0.13	0.039	(0.563)	0.028	0.011
218	18.17	0.13	0.039	(0.561)	0.028	0.011
219	18.25	0.13	0.039	(0.558)	0.028	0.011
220	18.33	0.13	0.039	(0.555)	0.028	0.011
221	18.42	0.13	0.039	(0.552)	0.028	0.011
222	18.50	0.13	0.039	(0.550)	0.028	0.011
223	18.58	0.10	0.029	(0.547)	0.021	0.008
224	18.67	0.10	0.029	(0.544)	0.021	0.008
225	18.75	0.10	0.029	(0.542)	0.021	0.008
226	18.83	0.07	0.019	(0.539)	0.014	0.005
227	18.92	0.07	0.019	(0.537)	0.014	0.005
228	19.00	0.07	0.019	(0.534)	0.014	0.005
229	19.08	0.10	0.029	(0.532)	0.021	0.008
230	19.17	0.10	0.029	(0.529)	0.021	0.008
231	19.25	0.10	0.029	(0.527)	0.021	0.008
232	19.33	0.13	0.039	(0.524)	0.028	0.011
233	19.42	0.13	0.039	(0.522)	0.028	0.011
234	19.50	0.13	0.039	(0.519)	0.028	0.011
235	19.58	0.10	0.029	(0.517)	0.021	0.008
236	19.67	0.10	0.029	(0.515)	0.021	0.008
237	19.75	0.10	0.029	(0.512)	0.021	0.008
238	19.83	0.07	0.019	(0.510)	0.014	0.005
239	19.92	0.07	0.019	(0.508)	0.014	0.005
240	20.00	0.07	0.019	(0.505)	0.014	0.005
241	20.08	0.10	0.029	(0.503)	0.021	0.008
242	20.17	0.10	0.029	(0.501)	0.021	0.008
243	20.25	0.10	0.029	(0.499)	0.021	0.008
244	20.33	0.10	0.029	(0.497)	0.021	0.008
245	20.42	0.10	0.029	(0.495)	0.021	0.008
246	20.50	0.10	0.029	(0.492)	0.021	0.008

247	20.58	0.10	0.029	(0.490)	0.021	0.008
248	20.67	0.10	0.029	(0.488)	0.021	0.008
249	20.75	0.10	0.029	(0.486)	0.021	0.008
250	20.83	0.07	0.019	(0.484)	0.014	0.005
251	20.92	0.07	0.019	(0.482)	0.014	0.005
252	21.00	0.07	0.019	(0.480)	0.014	0.005
253	21.08	0.10	0.029	(0.478)	0.021	0.008
254	21.17	0.10	0.029	(0.477)	0.021	0.008
255	21.25	0.10	0.029	(0.475)	0.021	0.008
256	21.33	0.07	0.019	(0.473)	0.014	0.005
257	21.42	0.07	0.019	(0.471)	0.014	0.005
258	21.50	0.07	0.019	(0.469)	0.014	0.005
259	21.58	0.10	0.029	(0.468)	0.021	0.008
260	21.67	0.10	0.029	(0.466)	0.021	0.008
261	21.75	0.10	0.029	(0.464)	0.021	0.008
262	21.83	0.07	0.019	(0.463)	0.014	0.005
263	21.92	0.07	0.019	(0.461)	0.014	0.005
264	22.00	0.07	0.019	(0.460)	0.014	0.005
265	22.08	0.10	0.029	(0.458)	0.021	0.008
266	22.17	0.10	0.029	(0.457)	0.021	0.008
267	22.25	0.10	0.029	(0.455)	0.021	0.008
268	22.33	0.07	0.019	(0.454)	0.014	0.005
269	22.42	0.07	0.019	(0.452)	0.014	0.005
270	22.50	0.07	0.019	(0.451)	0.014	0.005
271	22.58	0.07	0.019	(0.450)	0.014	0.005
272	22.67	0.07	0.019	(0.448)	0.014	0.005
273	22.75	0.07	0.019	(0.447)	0.014	0.005
274	22.83	0.07	0.019	(0.446)	0.014	0.005
275	22.92	0.07	0.019	(0.445)	0.014	0.005
276	23.00	0.07	0.019	(0.444)	0.014	0.005
277	23.08	0.07	0.019	(0.443)	0.014	0.005
278	23.17	0.07	0.019	(0.442)	0.014	0.005
279	23.25	0.07	0.019	(0.441)	0.014	0.005
280	23.33	0.07	0.019	(0.440)	0.014	0.005
281	23.42	0.07	0.019	(0.439)	0.014	0.005
282	23.50	0.07	0.019	(0.438)	0.014	0.005
283	23.58	0.07	0.019	(0.438)	0.014	0.005
284	23.67	0.07	0.019	(0.437)	0.014	0.005
285	23.75	0.07	0.019	(0.436)	0.014	0.005
286	23.83	0.07	0.019	(0.436)	0.014	0.005
287	23.92	0.07	0.019	(0.436)	0.014	0.005
288	24.00	0.07	0.019	(0.435)	0.014	0.005

(Loss Rate Not Used)

Sum = 100.0

Sum = 8.2

Flood volume = Effective rainfall 0.68(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 1.75(In)

Total soil loss = 0.154(Ac.Ft)

Total rainfall = 2.43(In)

Flood volume = 2615.6 Cubic Feet

Total soil loss = 6725.7 Cubic Feet

Peak flow rate of this hydrograph = 0.099(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0005	0.01	Q				
0+50	0.0005	0.01	Q				
0+55	0.0006	0.01	Q				
1+ 0	0.0007	0.01	Q				
1+ 5	0.0008	0.01	Q				
1+10	0.0008	0.01	Q				
1+15	0.0009	0.01	Q				
1+20	0.0009	0.01	Q				
1+25	0.0010	0.01	Q				
1+30	0.0011	0.01	Q				
1+35	0.0011	0.01	Q				
1+40	0.0012	0.01	Q				
1+45	0.0012	0.01	Q				
1+50	0.0013	0.01	Q				
1+55	0.0014	0.01	Q				
2+ 0	0.0015	0.01	Q				
2+ 5	0.0015	0.01	QV				
2+10	0.0016	0.01	QV				
2+15	0.0017	0.01	QV				
2+20	0.0018	0.01	QV				
2+25	0.0019	0.01	QV				
2+30	0.0019	0.01	QV				
2+35	0.0020	0.01	QV				
2+40	0.0021	0.01	QV				
2+45	0.0022	0.01	QV				
2+50	0.0023	0.01	QV				
2+55	0.0024	0.01	QV				
3+ 0	0.0025	0.01	QV				
3+ 5	0.0026	0.01	QV				

3+10	0.0027	0.01	QV				
3+15	0.0028	0.01	QV				
3+20	0.0029	0.01	QV				
3+25	0.0030	0.01	Q V				
3+30	0.0031	0.01	Q V				
3+35	0.0032	0.01	Q V				
3+40	0.0033	0.01	Q V				
3+45	0.0034	0.01	Q V				
3+50	0.0036	0.02	Q V				
3+55	0.0037	0.02	Q V				
4+ 0	0.0038	0.02	Q V				
4+ 5	0.0039	0.02	Q V				
4+10	0.0040	0.02	Q V				
4+15	0.0042	0.02	Q V				
4+20	0.0043	0.02	Q V				
4+25	0.0044	0.02	Q V				
4+30	0.0046	0.02	Q V				
4+35	0.0047	0.02	Q V				
4+40	0.0048	0.02	Q V				
4+45	0.0050	0.02	Q V				
4+50	0.0051	0.02	Q V				
4+55	0.0053	0.02	Q V				
5+ 0	0.0055	0.02	Q V				
5+ 5	0.0056	0.02	Q V				
5+10	0.0057	0.02	Q V				
5+15	0.0058	0.02	Q V				
5+20	0.0060	0.02	Q V				
5+25	0.0061	0.02	Q V				
5+30	0.0062	0.02	Q V				
5+35	0.0064	0.02	Q V				
5+40	0.0066	0.02	Q V				
5+45	0.0067	0.02	Q V				
5+50	0.0069	0.02	Q V				
5+55	0.0070	0.02	Q V				
6+ 0	0.0072	0.02	Q V				
6+ 5	0.0074	0.03	Q V				
6+10	0.0076	0.03	Q V				
6+15	0.0077	0.03	Q V				
6+20	0.0079	0.03	Q V				
6+25	0.0081	0.03	Q V				
6+30	0.0083	0.03	Q V				
6+35	0.0085	0.03	Q V				
6+40	0.0087	0.03	Q V				
6+45	0.0089	0.03	Q V				
6+50	0.0091	0.03	Q V				
6+55	0.0093	0.03	Q V				
7+ 0	0.0095	0.03	Q V				
7+ 5	0.0097	0.03	Q V				
7+10	0.0099	0.03	Q V				
7+15	0.0101	0.03	Q V				

7+20	0.0103	0.03	Q	V				
7+25	0.0105	0.03	Q	V				
7+30	0.0107	0.03	Q	V				
7+35	0.0110	0.03	Q	V				
7+40	0.0112	0.03	Q	V				
7+45	0.0114	0.03	Q	V				
7+50	0.0117	0.04	Q	V				
7+55	0.0119	0.04	Q	V				
8+ 0	0.0122	0.04	Q	V				
8+ 5	0.0125	0.04	Q	V				
8+10	0.0128	0.04	Q	V				
8+15	0.0131	0.04	Q	V				
8+20	0.0134	0.04	Q	V				
8+25	0.0137	0.04	Q	V				
8+30	0.0140	0.04	Q	V				
8+35	0.0143	0.05	Q	V				
8+40	0.0146	0.05	Q	V				
8+45	0.0149	0.05	Q	V				
8+50	0.0153	0.05	Q	V				
8+55	0.0156	0.05	Q	V				
9+ 0	0.0160	0.05	Q	V				
9+ 5	0.0163	0.05	Q	V				
9+10	0.0167	0.06	Q	V				
9+15	0.0171	0.06	Q	V				
9+20	0.0175	0.06	Q	V				
9+25	0.0179	0.06	Q	V				
9+30	0.0183	0.06	Q	V				
9+35	0.0187	0.06	Q	V				
9+40	0.0191	0.06	Q	V				
9+45	0.0195	0.06	Q	V				
9+50	0.0200	0.06	Q	V				
9+55	0.0204	0.06	Q	V				
10+ 0	0.0208	0.06	Q	V				
10+ 5	0.0212	0.05	Q	V				
10+10	0.0215	0.04	Q	V				
10+15	0.0218	0.04	Q	V				
10+20	0.0221	0.04	Q	V				
10+25	0.0224	0.04	Q	V				
10+30	0.0227	0.04	Q	V				
10+35	0.0231	0.05	Q	V				
10+40	0.0235	0.06	Q	V				
10+45	0.0239	0.06	Q	V				
10+50	0.0243	0.06	Q	V				
10+55	0.0247	0.06	Q	V				
11+ 0	0.0251	0.06	Q	V				
11+ 5	0.0254	0.06	Q	V				
11+10	0.0258	0.06	Q	V				
11+15	0.0262	0.06	Q	V				
11+20	0.0266	0.06	Q	V				
11+25	0.0270	0.06	Q	V				

11+30	0.0273	0.06	Q	V			
11+35	0.0277	0.05	Q	V			
11+40	0.0280	0.05	Q	V			
11+45	0.0284	0.05	Q	V			
11+50	0.0287	0.05	Q	V			
11+55	0.0291	0.05	Q	V			
12+ 0	0.0295	0.05	Q	V			
12+ 5	0.0299	0.07	Q	V			
12+10	0.0304	0.07	Q	V			
12+15	0.0309	0.07	Q	V			
12+20	0.0314	0.07	Q	V			
12+25	0.0319	0.08	Q	V			
12+30	0.0325	0.08	Q	V			
12+35	0.0330	0.08	Q	V			
12+40	0.0336	0.08	Q	V			
12+45	0.0341	0.08	Q	V			
12+50	0.0347	0.08	Q	V			
12+55	0.0353	0.08	Q	V			
13+ 0	0.0358	0.08	Q	V			
13+ 5	0.0365	0.09	Q	V			
13+10	0.0372	0.10	Q	V			
13+15	0.0378	0.10	Q	V			
13+20	0.0385	0.10	Q	V			
13+25	0.0392	0.10	Q	V			
13+30	0.0399	0.10	Q	V			
13+35	0.0404	0.08	Q	V			
13+40	0.0409	0.07	Q	V			
13+45	0.0414	0.07	Q	V			
13+50	0.0418	0.07	Q	V			
13+55	0.0423	0.07	Q	V			
14+ 0	0.0427	0.07	Q	V			
14+ 5	0.0433	0.07	Q	V			
14+10	0.0438	0.08	Q	V			
14+15	0.0443	0.08	Q	V			
14+20	0.0449	0.08	Q	V			
14+25	0.0454	0.08	Q	V			
14+30	0.0459	0.08	Q	V			
14+35	0.0464	0.08	Q	V			
14+40	0.0469	0.08	Q	V			
14+45	0.0475	0.08	Q	V			
14+50	0.0480	0.07	Q	V			
14+55	0.0485	0.07	Q	V			
15+ 0	0.0490	0.07	Q	V			
15+ 5	0.0495	0.07	Q	V			
15+10	0.0499	0.07	Q	V			
15+15	0.0504	0.07	Q	V			
15+20	0.0509	0.07	Q	V			
15+25	0.0513	0.07	Q	V			
15+30	0.0518	0.07	Q	V			
15+35	0.0522	0.06	Q	V			

15+40	0.0526	0.06	Q				V
15+45	0.0530	0.06	Q				V
15+50	0.0534	0.06	Q				V
15+55	0.0537	0.06	Q				V
16+ 0	0.0541	0.06	Q				V
16+ 5	0.0543	0.03	Q				V
16+10	0.0544	0.01	Q				V
16+15	0.0545	0.01	Q				V
16+20	0.0546	0.01	Q				V
16+25	0.0546	0.01	Q				V
16+30	0.0547	0.01	Q				V
16+35	0.0548	0.01	Q				V
16+40	0.0549	0.01	Q				V
16+45	0.0549	0.01	Q				V
16+50	0.0550	0.01	Q				V
16+55	0.0550	0.01	Q				V
17+ 0	0.0551	0.01	Q				V
17+ 5	0.0552	0.01	Q				V
17+10	0.0553	0.01	Q				V
17+15	0.0554	0.01	Q				V
17+20	0.0555	0.01	Q				V
17+25	0.0556	0.01	Q				V
17+30	0.0557	0.01	Q				V
17+35	0.0558	0.01	Q				V
17+40	0.0559	0.01	Q				V
17+45	0.0560	0.01	Q				V
17+50	0.0561	0.01	Q				V
17+55	0.0561	0.01	Q				V
18+ 0	0.0562	0.01	Q				V
18+ 5	0.0563	0.01	Q				V
18+10	0.0564	0.01	Q				V
18+15	0.0565	0.01	Q				V
18+20	0.0565	0.01	Q				V
18+25	0.0566	0.01	Q				V
18+30	0.0567	0.01	Q				V
18+35	0.0568	0.01	Q				V
18+40	0.0568	0.01	Q				V
18+45	0.0569	0.01	Q				V
18+50	0.0569	0.01	Q				V
18+55	0.0570	0.01	Q				V
19+ 0	0.0570	0.01	Q				V
19+ 5	0.0571	0.01	Q				V
19+10	0.0571	0.01	Q				V
19+15	0.0572	0.01	Q				V
19+20	0.0573	0.01	Q				V
19+25	0.0574	0.01	Q				V
19+30	0.0574	0.01	Q				V
19+35	0.0575	0.01	Q				V
19+40	0.0576	0.01	Q				V
19+45	0.0576	0.01	Q				V

19+50	0.0577	0.01	Q				V
19+55	0.0577	0.01	Q				V
20+ 0	0.0577	0.01	Q				V
20+ 5	0.0578	0.01	Q				V
20+10	0.0579	0.01	Q				V
20+15	0.0579	0.01	Q				V
20+20	0.0580	0.01	Q				V
20+25	0.0580	0.01	Q				V
20+30	0.0581	0.01	Q				V
20+35	0.0582	0.01	Q				V
20+40	0.0582	0.01	Q				V
20+45	0.0583	0.01	Q				V
20+50	0.0583	0.01	Q				V
20+55	0.0584	0.01	Q				V
21+ 0	0.0584	0.01	Q				V
21+ 5	0.0585	0.01	Q				V
21+10	0.0585	0.01	Q				V
21+15	0.0586	0.01	Q				V
21+20	0.0586	0.01	Q				V
21+25	0.0587	0.01	Q				V
21+30	0.0587	0.01	Q				V
21+35	0.0588	0.01	Q				V
21+40	0.0588	0.01	Q				V
21+45	0.0589	0.01	Q				V
21+50	0.0589	0.01	Q				V
21+55	0.0590	0.01	Q				V
22+ 0	0.0590	0.01	Q				V
22+ 5	0.0591	0.01	Q				V
22+10	0.0591	0.01	Q				V
22+15	0.0592	0.01	Q				V
22+20	0.0592	0.01	Q				V
22+25	0.0593	0.01	Q				V
22+30	0.0593	0.01	Q				V
22+35	0.0593	0.01	Q				V
22+40	0.0594	0.01	Q				V
22+45	0.0594	0.01	Q				V
22+50	0.0595	0.01	Q				V
22+55	0.0595	0.01	Q				V
23+ 0	0.0595	0.01	Q				V
23+ 5	0.0596	0.01	Q				V
23+10	0.0596	0.01	Q				V
23+15	0.0597	0.01	Q				V
23+20	0.0597	0.01	Q				V
23+25	0.0597	0.01	Q				V
23+30	0.0598	0.01	Q				V
23+35	0.0598	0.01	Q				V
23+40	0.0599	0.01	Q				V
23+45	0.0599	0.01	Q				V
23+50	0.0599	0.01	Q				V
23+55	0.0600	0.01	Q				V

24+ 0	0.0600	0.01	Q				V
24+ 5	0.0600	0.00	Q				V
24+10	0.0600	0.00	Q				V

Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
5-Year
1-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	0.48	0.51

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	1.34	1.42

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.684(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.684(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	365.687	62.565
2	0.167	731.374	33.756
3	0.250	1097.061	3.679
		Sum = 100.000	Sum= 1.067

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.361	(0.870)	0.260	0.101
2	0.17	4.50	0.369	(0.870)	0.266	0.103
3	0.25	5.40	0.443	(0.870)	0.319	0.124
4	0.33	5.40	0.443	(0.870)	0.319	0.124
5	0.42	5.70	0.468	(0.870)	0.337	0.131
6	0.50	6.40	0.525	(0.870)	0.378	0.147
7	0.58	7.90	0.648	(0.870)	0.467	0.181
8	0.67	9.10	0.747	(0.870)	0.538	0.209
9	0.75	12.80	1.050	(0.870)	0.756	0.294
10	0.83	25.60	2.100	0.870	(1.512)	1.230
11	0.92	7.90	0.648	(0.870)	0.467	0.181
12	1.00	4.90	0.402	(0.870)	0.289	0.113

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.9

Flood volume = Effective rainfall 0.24(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 0.039(Ac.Ft)
Total rainfall = 0.68(In)
Flood volume = 941.6 Cubic Feet
Total soil loss = 1686.8 Cubic Feet

Peak flow rate of this hydrograph = 0.936(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.07	Q				
0+10	0.0012	0.11	Q V				
0+15	0.0020	0.12	Q V				
0+20	0.0030	0.13	Q V				
0+25	0.0039	0.14	Q V				
0+30	0.0049	0.15	Q V				
0+35	0.0062	0.18	Q V				
0+40	0.0076	0.21	Q V				
0+45	0.0095	0.28	Q V				
0+50	0.0160	0.94	Q V				
0+55	0.0200	0.58	Q V				

1+ 0	0.0213	0.19	Q				V
1+ 5	0.0216	0.05	Q				V
1+10	0.0216	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
5-Year
3-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	0.88	0.93

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	2.20	2.33

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.187(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.187(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.185	(0.870)	0.133	0.052
2	0.17	1.30	0.185	(0.870)	0.133	0.052
3	0.25	1.10	0.157	(0.870)	0.113	0.044
4	0.33	1.50	0.214	(0.870)	0.154	0.060
5	0.42	1.50	0.214	(0.870)	0.154	0.060
6	0.50	1.80	0.256	(0.870)	0.185	0.072
7	0.58	1.50	0.214	(0.870)	0.154	0.060
8	0.67	1.80	0.256	(0.870)	0.185	0.072
9	0.75	1.80	0.256	(0.870)	0.185	0.072
10	0.83	1.50	0.214	(0.870)	0.154	0.060
11	0.92	1.60	0.228	(0.870)	0.164	0.064
12	1.00	1.80	0.256	(0.870)	0.185	0.072
13	1.08	2.20	0.313	(0.870)	0.226	0.088
14	1.17	2.20	0.313	(0.870)	0.226	0.088
15	1.25	2.20	0.313	(0.870)	0.226	0.088
16	1.33	2.00	0.285	(0.870)	0.205	0.080
17	1.42	2.60	0.370	(0.870)	0.267	0.104
18	1.50	2.70	0.385	(0.870)	0.277	0.108
19	1.58	2.40	0.342	(0.870)	0.246	0.096
20	1.67	2.70	0.385	(0.870)	0.277	0.108
21	1.75	3.30	0.470	(0.870)	0.338	0.132
22	1.83	3.10	0.442	(0.870)	0.318	0.124
23	1.92	2.90	0.413	(0.870)	0.297	0.116
24	2.00	3.00	0.427	(0.870)	0.308	0.120
25	2.08	3.10	0.442	(0.870)	0.318	0.124
26	2.17	4.20	0.598	(0.870)	0.431	0.167
27	2.25	5.00	0.712	(0.870)	0.513	0.199
28	2.33	3.50	0.498	(0.870)	0.359	0.140
29	2.42	6.80	0.968	(0.870)	0.697	0.271
30	2.50	7.30	1.040	(0.870)	0.749	0.291
31	2.58	8.20	1.168	(0.870)	0.841	0.327
32	2.67	5.90	0.840	(0.870)	0.605	0.235
33	2.75	2.00	0.285	(0.870)	0.205	0.080
34	2.83	1.80	0.256	(0.870)	0.185	0.072
35	2.92	1.80	0.256	(0.870)	0.185	0.072
36	3.00	0.60	0.085	(0.870)	0.062	0.024

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.0

Flood volume = Effective rainfall 0.33(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 0.85(In)

Total soil loss = 0.075(Ac.Ft)

Total rainfall = 1.19(In)

Flood volume = 1277.5 Cubic Feet

Total soil loss = 3285.0 Cubic Feet

Peak flow rate of this hydrograph = 0.334(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002		0.03	Q				
0+10	0.0006		0.05	Q				
0+15	0.0010		0.05	QV				
0+20	0.0013		0.06	QV				
0+25	0.0018		0.06	Q V				
0+30	0.0023		0.07	Q V				
0+35	0.0027		0.07	Q V				
0+40	0.0032		0.07	Q V				
0+45	0.0038		0.08	Q V				
0+50	0.0042		0.07	Q V				
0+55	0.0047		0.07	Q V				
1+ 0	0.0052		0.07	Q V				
1+ 5	0.0058		0.09	Q V				
1+10	0.0065		0.09	Q V				
1+15	0.0071		0.09	Q V				
1+20	0.0077		0.09	Q V				
1+25	0.0084		0.10	Q V				
1+30	0.0092		0.11	Q V				
1+35	0.0099		0.11	Q V				
1+40	0.0107		0.11	Q V				
1+45	0.0116		0.13	Q V				
1+50	0.0125		0.13	Q V				
1+55	0.0134		0.13	Q V				
2+ 0	0.0142		0.13	Q V				
2+ 5	0.0151		0.13	Q V				
2+10	0.0163		0.16	Q V				
2+15	0.0176		0.20	Q V				
2+20	0.0188		0.17	Q V				
2+25	0.0204		0.24	Q V				
2+30	0.0225		0.30	Q V				
2+35	0.0248		0.33	Q V				
2+40	0.0268		0.29	Q V				
2+45	0.0278		0.15	Q V				
2+50	0.0284		0.09	Q V				
2+55	0.0289		0.08	Q V				
3+ 0	0.0292		0.04	Q V				
3+ 5	0.0293		0.01	Q V				
3+10	0.0293		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
5-Year
6-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	1.27	1.34

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	3.12	3.30

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.703(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.703(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.102	(0.870)	0.074	0.029
2	0.17	0.60	0.123	(0.870)	0.088	0.034
3	0.25	0.60	0.123	(0.870)	0.088	0.034
4	0.33	0.60	0.123	(0.870)	0.088	0.034
5	0.42	0.60	0.123	(0.870)	0.088	0.034
6	0.50	0.70	0.143	(0.870)	0.103	0.040
7	0.58	0.70	0.143	(0.870)	0.103	0.040
8	0.67	0.70	0.143	(0.870)	0.103	0.040
9	0.75	0.70	0.143	(0.870)	0.103	0.040
10	0.83	0.70	0.143	(0.870)	0.103	0.040
11	0.92	0.70	0.143	(0.870)	0.103	0.040
12	1.00	0.80	0.164	(0.870)	0.118	0.046
13	1.08	0.80	0.164	(0.870)	0.118	0.046
14	1.17	0.80	0.164	(0.870)	0.118	0.046
15	1.25	0.80	0.164	(0.870)	0.118	0.046
16	1.33	0.80	0.164	(0.870)	0.118	0.046
17	1.42	0.80	0.164	(0.870)	0.118	0.046
18	1.50	0.80	0.164	(0.870)	0.118	0.046
19	1.58	0.80	0.164	(0.870)	0.118	0.046
20	1.67	0.80	0.164	(0.870)	0.118	0.046
21	1.75	0.80	0.164	(0.870)	0.118	0.046
22	1.83	0.80	0.164	(0.870)	0.118	0.046
23	1.92	0.80	0.164	(0.870)	0.118	0.046
24	2.00	0.90	0.184	(0.870)	0.132	0.052
25	2.08	0.80	0.164	(0.870)	0.118	0.046
26	2.17	0.90	0.184	(0.870)	0.132	0.052
27	2.25	0.90	0.184	(0.870)	0.132	0.052
28	2.33	0.90	0.184	(0.870)	0.132	0.052
29	2.42	0.90	0.184	(0.870)	0.132	0.052
30	2.50	0.90	0.184	(0.870)	0.132	0.052
31	2.58	0.90	0.184	(0.870)	0.132	0.052
32	2.67	0.90	0.184	(0.870)	0.132	0.052
33	2.75	1.00	0.204	(0.870)	0.147	0.057
34	2.83	1.00	0.204	(0.870)	0.147	0.057
35	2.92	1.00	0.204	(0.870)	0.147	0.057
36	3.00	1.00	0.204	(0.870)	0.147	0.057
37	3.08	1.00	0.204	(0.870)	0.147	0.057
38	3.17	1.10	0.225	(0.870)	0.162	0.063
39	3.25	1.10	0.225	(0.870)	0.162	0.063
40	3.33	1.10	0.225	(0.870)	0.162	0.063
41	3.42	1.20	0.245	(0.870)	0.177	0.069
42	3.50	1.30	0.266	(0.870)	0.191	0.074
43	3.58	1.40	0.286	(0.870)	0.206	0.080
44	3.67	1.40	0.286	(0.870)	0.206	0.080
45	3.75	1.50	0.307	(0.870)	0.221	0.086
46	3.83	1.50	0.307	(0.870)	0.221	0.086

47	3.92	1.60	0.327	(0.870)	0.235	0.092
48	4.00	1.60	0.327	(0.870)	0.235	0.092
49	4.08	1.70	0.347	(0.870)	0.250	0.097
50	4.17	1.80	0.368	(0.870)	0.265	0.103
51	4.25	1.90	0.388	(0.870)	0.280	0.109
52	4.33	2.00	0.409	(0.870)	0.294	0.114
53	4.42	2.10	0.429	(0.870)	0.309	0.120
54	4.50	2.10	0.429	(0.870)	0.309	0.120
55	4.58	2.20	0.450	(0.870)	0.324	0.126
56	4.67	2.30	0.470	(0.870)	0.338	0.132
57	4.75	2.40	0.491	(0.870)	0.353	0.137
58	4.83	2.40	0.491	(0.870)	0.353	0.137
59	4.92	2.50	0.511	(0.870)	0.368	0.143
60	5.00	2.60	0.531	(0.870)	0.383	0.149
61	5.08	3.10	0.634	(0.870)	0.456	0.177
62	5.17	3.60	0.736	(0.870)	0.530	0.206
63	5.25	3.90	0.797	(0.870)	0.574	0.223
64	5.33	4.20	0.858	(0.870)	0.618	0.240
65	5.42	4.70	0.961	(0.870)	0.692	0.269
66	5.50	5.60	1.145	(0.870)	0.824	0.320
67	5.58	1.90	0.388	(0.870)	0.280	0.109
68	5.67	0.90	0.184	(0.870)	0.132	0.052
69	5.75	0.60	0.123	(0.870)	0.088	0.034
70	5.83	0.50	0.102	(0.870)	0.074	0.029
71	5.92	0.30	0.061	(0.870)	0.044	0.017
72	6.00	0.20	0.041	(0.870)	0.029	0.011

(Loss Rate Not Used)

Sum = 100.0

Sum = 5.7

Flood volume = Effective rainfall 0.48(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 1.23(In)
Total soil loss = 0.108(Ac.Ft)
Total rainfall = 1.70(In)
Flood volume = 1833.4 Cubic Feet
Total soil loss = 4714.4 Cubic Feet

Peak flow rate of this hydrograph = 0.321(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0004	0.03	Q				
0+15	0.0006	0.04	Q				

0+20	0.0009	0.04	Q				
0+25	0.0011	0.04	QV				
0+30	0.0014	0.04	QV				
0+35	0.0017	0.04	QV				
0+40	0.0020	0.04	QV				
0+45	0.0023	0.04	Q V				
0+50	0.0026	0.04	Q V				
0+55	0.0029	0.04	Q V				
1+ 0	0.0032	0.05	Q V				
1+ 5	0.0035	0.05	Q V				
1+10	0.0039	0.05	Q V				
1+15	0.0042	0.05	Q V				
1+20	0.0045	0.05	Q V				
1+25	0.0049	0.05	Q V				
1+30	0.0052	0.05	Q V				
1+35	0.0055	0.05	Q V				
1+40	0.0059	0.05	Q V				
1+45	0.0062	0.05	Q V				
1+50	0.0066	0.05	Q V				
1+55	0.0069	0.05	Q V				
2+ 0	0.0073	0.05	Q V				
2+ 5	0.0076	0.05	Q V				
2+10	0.0080	0.05	Q V				
2+15	0.0083	0.05	Q V				
2+20	0.0087	0.06	Q V				
2+25	0.0091	0.06	Q V				
2+30	0.0095	0.06	Q V				
2+35	0.0099	0.06	Q V				
2+40	0.0102	0.06	Q V				
2+45	0.0106	0.06	Q V				
2+50	0.0111	0.06	Q V				
2+55	0.0115	0.06	Q V				
3+ 0	0.0119	0.06	Q V				
3+ 5	0.0123	0.06	Q V				
3+10	0.0128	0.06	Q V				
3+15	0.0132	0.07	Q V				
3+20	0.0137	0.07	Q V				
3+25	0.0142	0.07	Q V				
3+30	0.0147	0.08	Q V				
3+35	0.0153	0.08	Q V				
3+40	0.0159	0.09	Q V				
3+45	0.0165	0.09	Q V				
3+50	0.0171	0.09	Q V				
3+55	0.0178	0.10	Q V				
4+ 0	0.0185	0.10	Q V				
4+ 5	0.0192	0.10	Q V				
4+10	0.0199	0.11	Q V				
4+15	0.0207	0.11	Q V				
4+20	0.0215	0.12	Q V				
4+25	0.0224	0.13	Q V				

4+30	0.0232	0.13	Q			V		
4+35	0.0242	0.13	Q			V		
4+40	0.0251	0.14	Q			V		
4+45	0.0261	0.14	Q			V		
4+50	0.0271	0.15	Q			V		
4+55	0.0281	0.15	Q			V		
5+ 0	0.0292	0.16	Q			V		
5+ 5	0.0304	0.18	Q			V		
5+10	0.0319	0.21	Q			V		
5+15	0.0335	0.23	Q			V		
5+20	0.0352	0.25	Q			V		
5+25	0.0371	0.28	Q			V		
5+30	0.0393	0.32	Q			V		
5+35	0.0407	0.20	Q			V		
5+40	0.0412	0.09	Q			V		
5+45	0.0416	0.05	Q			V		
5+50	0.0418	0.03	Q			V		
5+55	0.0419	0.02	Q			V		
6+ 0	0.0421	0.01	Q			V		
6+ 5	0.0421	0.00	Q			V		
6+10	0.0421	0.00	Q			V		

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
5-Year
24-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	2.43	2.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	6.58	6.97

STORM EVENT (YEAR) = 5.00
 Area Averaged 2-Year Rainfall = 2.430(In)
 Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 3.402(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 3.402(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
 Minimum soil loss rate ((In/Hr)) = 0.435
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.027	(1.543)	0.020	0.008
2	0.17	0.07	0.027	(1.537)	0.020	0.008
3	0.25	0.07	0.027	(1.531)	0.020	0.008
4	0.33	0.10	0.041	(1.525)	0.029	0.011
5	0.42	0.10	0.041	(1.519)	0.029	0.011
6	0.50	0.10	0.041	(1.513)	0.029	0.011
7	0.58	0.10	0.041	(1.507)	0.029	0.011
8	0.67	0.10	0.041	(1.501)	0.029	0.011
9	0.75	0.10	0.041	(1.496)	0.029	0.011
10	0.83	0.13	0.054	(1.490)	0.039	0.015
11	0.92	0.13	0.054	(1.484)	0.039	0.015
12	1.00	0.13	0.054	(1.478)	0.039	0.015
13	1.08	0.10	0.041	(1.472)	0.029	0.011
14	1.17	0.10	0.041	(1.466)	0.029	0.011
15	1.25	0.10	0.041	(1.460)	0.029	0.011
16	1.33	0.10	0.041	(1.455)	0.029	0.011
17	1.42	0.10	0.041	(1.449)	0.029	0.011
18	1.50	0.10	0.041	(1.443)	0.029	0.011
19	1.58	0.10	0.041	(1.437)	0.029	0.011
20	1.67	0.10	0.041	(1.432)	0.029	0.011
21	1.75	0.10	0.041	(1.426)	0.029	0.011
22	1.83	0.13	0.054	(1.420)	0.039	0.015
23	1.92	0.13	0.054	(1.414)	0.039	0.015
24	2.00	0.13	0.054	(1.409)	0.039	0.015
25	2.08	0.13	0.054	(1.403)	0.039	0.015
26	2.17	0.13	0.054	(1.397)	0.039	0.015
27	2.25	0.13	0.054	(1.392)	0.039	0.015
28	2.33	0.13	0.054	(1.386)	0.039	0.015
29	2.42	0.13	0.054	(1.380)	0.039	0.015
30	2.50	0.13	0.054	(1.375)	0.039	0.015
31	2.58	0.17	0.068	(1.369)	0.049	0.019
32	2.67	0.17	0.068	(1.363)	0.049	0.019
33	2.75	0.17	0.068	(1.358)	0.049	0.019
34	2.83	0.17	0.068	(1.352)	0.049	0.019
35	2.92	0.17	0.068	(1.347)	0.049	0.019
36	3.00	0.17	0.068	(1.341)	0.049	0.019
37	3.08	0.17	0.068	(1.336)	0.049	0.019
38	3.17	0.17	0.068	(1.330)	0.049	0.019
39	3.25	0.17	0.068	(1.324)	0.049	0.019
40	3.33	0.17	0.068	(1.319)	0.049	0.019
41	3.42	0.17	0.068	(1.313)	0.049	0.019
42	3.50	0.17	0.068	(1.308)	0.049	0.019
43	3.58	0.17	0.068	(1.302)	0.049	0.019
44	3.67	0.17	0.068	(1.297)	0.049	0.019
45	3.75	0.17	0.068	(1.292)	0.049	0.019
46	3.83	0.20	0.082	(1.286)	0.059	0.023

47	3.92	0.20	0.082	(1.281)	0.059	0.023
48	4.00	0.20	0.082	(1.275)	0.059	0.023
49	4.08	0.20	0.082	(1.270)	0.059	0.023
50	4.17	0.20	0.082	(1.264)	0.059	0.023
51	4.25	0.20	0.082	(1.259)	0.059	0.023
52	4.33	0.23	0.095	(1.254)	0.069	0.027
53	4.42	0.23	0.095	(1.248)	0.069	0.027
54	4.50	0.23	0.095	(1.243)	0.069	0.027
55	4.58	0.23	0.095	(1.238)	0.069	0.027
56	4.67	0.23	0.095	(1.232)	0.069	0.027
57	4.75	0.23	0.095	(1.227)	0.069	0.027
58	4.83	0.27	0.109	(1.222)	0.078	0.030
59	4.92	0.27	0.109	(1.216)	0.078	0.030
60	5.00	0.27	0.109	(1.211)	0.078	0.030
61	5.08	0.20	0.082	(1.206)	0.059	0.023
62	5.17	0.20	0.082	(1.201)	0.059	0.023
63	5.25	0.20	0.082	(1.195)	0.059	0.023
64	5.33	0.23	0.095	(1.190)	0.069	0.027
65	5.42	0.23	0.095	(1.185)	0.069	0.027
66	5.50	0.23	0.095	(1.180)	0.069	0.027
67	5.58	0.27	0.109	(1.175)	0.078	0.030
68	5.67	0.27	0.109	(1.169)	0.078	0.030
69	5.75	0.27	0.109	(1.164)	0.078	0.030
70	5.83	0.27	0.109	(1.159)	0.078	0.030
71	5.92	0.27	0.109	(1.154)	0.078	0.030
72	6.00	0.27	0.109	(1.149)	0.078	0.030
73	6.08	0.30	0.122	(1.144)	0.088	0.034
74	6.17	0.30	0.122	(1.139)	0.088	0.034
75	6.25	0.30	0.122	(1.134)	0.088	0.034
76	6.33	0.30	0.122	(1.129)	0.088	0.034
77	6.42	0.30	0.122	(1.124)	0.088	0.034
78	6.50	0.30	0.122	(1.118)	0.088	0.034
79	6.58	0.33	0.136	(1.113)	0.098	0.038
80	6.67	0.33	0.136	(1.108)	0.098	0.038
81	6.75	0.33	0.136	(1.103)	0.098	0.038
82	6.83	0.33	0.136	(1.098)	0.098	0.038
83	6.92	0.33	0.136	(1.093)	0.098	0.038
84	7.00	0.33	0.136	(1.089)	0.098	0.038
85	7.08	0.33	0.136	(1.084)	0.098	0.038
86	7.17	0.33	0.136	(1.079)	0.098	0.038
87	7.25	0.33	0.136	(1.074)	0.098	0.038
88	7.33	0.37	0.150	(1.069)	0.108	0.042
89	7.42	0.37	0.150	(1.064)	0.108	0.042
90	7.50	0.37	0.150	(1.059)	0.108	0.042
91	7.58	0.40	0.163	(1.054)	0.118	0.046
92	7.67	0.40	0.163	(1.049)	0.118	0.046
93	7.75	0.40	0.163	(1.045)	0.118	0.046
94	7.83	0.43	0.177	(1.040)	0.127	0.050
95	7.92	0.43	0.177	(1.035)	0.127	0.050
96	8.00	0.43	0.177	(1.030)	0.127	0.050

97	8.08	0.50	0.204	(1.025)	0.147	0.057
98	8.17	0.50	0.204	(1.021)	0.147	0.057
99	8.25	0.50	0.204	(1.016)	0.147	0.057
100	8.33	0.50	0.204	(1.011)	0.147	0.057
101	8.42	0.50	0.204	(1.006)	0.147	0.057
102	8.50	0.50	0.204	(1.002)	0.147	0.057
103	8.58	0.53	0.218	(0.997)	0.157	0.061
104	8.67	0.53	0.218	(0.992)	0.157	0.061
105	8.75	0.53	0.218	(0.988)	0.157	0.061
106	8.83	0.57	0.231	(0.983)	0.167	0.065
107	8.92	0.57	0.231	(0.978)	0.167	0.065
108	9.00	0.57	0.231	(0.974)	0.167	0.065
109	9.08	0.63	0.259	(0.969)	0.186	0.072
110	9.17	0.63	0.259	(0.964)	0.186	0.072
111	9.25	0.63	0.259	(0.960)	0.186	0.072
112	9.33	0.67	0.272	(0.955)	0.196	0.076
113	9.42	0.67	0.272	(0.951)	0.196	0.076
114	9.50	0.67	0.272	(0.946)	0.196	0.076
115	9.58	0.70	0.286	(0.942)	0.206	0.080
116	9.67	0.70	0.286	(0.937)	0.206	0.080
117	9.75	0.70	0.286	(0.933)	0.206	0.080
118	9.83	0.73	0.299	(0.928)	0.216	0.084
119	9.92	0.73	0.299	(0.924)	0.216	0.084
120	10.00	0.73	0.299	(0.919)	0.216	0.084
121	10.08	0.50	0.204	(0.915)	0.147	0.057
122	10.17	0.50	0.204	(0.910)	0.147	0.057
123	10.25	0.50	0.204	(0.906)	0.147	0.057
124	10.33	0.50	0.204	(0.901)	0.147	0.057
125	10.42	0.50	0.204	(0.897)	0.147	0.057
126	10.50	0.50	0.204	(0.893)	0.147	0.057
127	10.58	0.67	0.272	(0.888)	0.196	0.076
128	10.67	0.67	0.272	(0.884)	0.196	0.076
129	10.75	0.67	0.272	(0.880)	0.196	0.076
130	10.83	0.67	0.272	(0.875)	0.196	0.076
131	10.92	0.67	0.272	(0.871)	0.196	0.076
132	11.00	0.67	0.272	(0.867)	0.196	0.076
133	11.08	0.63	0.259	(0.863)	0.186	0.072
134	11.17	0.63	0.259	(0.858)	0.186	0.072
135	11.25	0.63	0.259	(0.854)	0.186	0.072
136	11.33	0.63	0.259	(0.850)	0.186	0.072
137	11.42	0.63	0.259	(0.846)	0.186	0.072
138	11.50	0.63	0.259	(0.841)	0.186	0.072
139	11.58	0.57	0.231	(0.837)	0.167	0.065
140	11.67	0.57	0.231	(0.833)	0.167	0.065
141	11.75	0.57	0.231	(0.829)	0.167	0.065
142	11.83	0.60	0.245	(0.825)	0.176	0.069
143	11.92	0.60	0.245	(0.821)	0.176	0.069
144	12.00	0.60	0.245	(0.817)	0.176	0.069
145	12.08	0.83	0.340	(0.812)	0.245	0.095
146	12.17	0.83	0.340	(0.808)	0.245	0.095

147	12.25	0.83	0.340	(0.804)	0.245	0.095
148	12.33	0.87	0.354	(0.800)	0.255	0.099
149	12.42	0.87	0.354	(0.796)	0.255	0.099
150	12.50	0.87	0.354	(0.792)	0.255	0.099
151	12.58	0.93	0.381	(0.788)	0.274	0.107
152	12.67	0.93	0.381	(0.784)	0.274	0.107
153	12.75	0.93	0.381	(0.780)	0.274	0.107
154	12.83	0.97	0.395	(0.776)	0.284	0.110
155	12.92	0.97	0.395	(0.773)	0.284	0.110
156	13.00	0.97	0.395	(0.769)	0.284	0.110
157	13.08	1.13	0.463	(0.765)	0.333	0.130
158	13.17	1.13	0.463	(0.761)	0.333	0.130
159	13.25	1.13	0.463	(0.757)	0.333	0.130
160	13.33	1.13	0.463	(0.753)	0.333	0.130
161	13.42	1.13	0.463	(0.749)	0.333	0.130
162	13.50	1.13	0.463	(0.746)	0.333	0.130
163	13.58	0.77	0.313	(0.742)	0.225	0.088
164	13.67	0.77	0.313	(0.738)	0.225	0.088
165	13.75	0.77	0.313	(0.734)	0.225	0.088
166	13.83	0.77	0.313	(0.730)	0.225	0.088
167	13.92	0.77	0.313	(0.727)	0.225	0.088
168	14.00	0.77	0.313	(0.723)	0.225	0.088
169	14.08	0.90	0.367	(0.719)	0.265	0.103
170	14.17	0.90	0.367	(0.716)	0.265	0.103
171	14.25	0.90	0.367	(0.712)	0.265	0.103
172	14.33	0.87	0.354	(0.708)	0.255	0.099
173	14.42	0.87	0.354	(0.705)	0.255	0.099
174	14.50	0.87	0.354	(0.701)	0.255	0.099
175	14.58	0.87	0.354	(0.698)	0.255	0.099
176	14.67	0.87	0.354	(0.694)	0.255	0.099
177	14.75	0.87	0.354	(0.690)	0.255	0.099
178	14.83	0.83	0.340	(0.687)	0.245	0.095
179	14.92	0.83	0.340	(0.683)	0.245	0.095
180	15.00	0.83	0.340	(0.680)	0.245	0.095
181	15.08	0.80	0.327	(0.676)	0.235	0.091
182	15.17	0.80	0.327	(0.673)	0.235	0.091
183	15.25	0.80	0.327	(0.669)	0.235	0.091
184	15.33	0.77	0.313	(0.666)	0.225	0.088
185	15.42	0.77	0.313	(0.663)	0.225	0.088
186	15.50	0.77	0.313	(0.659)	0.225	0.088
187	15.58	0.63	0.259	(0.656)	0.186	0.072
188	15.67	0.63	0.259	(0.652)	0.186	0.072
189	15.75	0.63	0.259	(0.649)	0.186	0.072
190	15.83	0.63	0.259	(0.646)	0.186	0.072
191	15.92	0.63	0.259	(0.642)	0.186	0.072
192	16.00	0.63	0.259	(0.639)	0.186	0.072
193	16.08	0.13	0.054	(0.636)	0.039	0.015
194	16.17	0.13	0.054	(0.633)	0.039	0.015
195	16.25	0.13	0.054	(0.629)	0.039	0.015
196	16.33	0.13	0.054	(0.626)	0.039	0.015

197	16.42	0.13	0.054	(0.623)	0.039	0.015
198	16.50	0.13	0.054	(0.620)	0.039	0.015
199	16.58	0.10	0.041	(0.617)	0.029	0.011
200	16.67	0.10	0.041	(0.614)	0.029	0.011
201	16.75	0.10	0.041	(0.610)	0.029	0.011
202	16.83	0.10	0.041	(0.607)	0.029	0.011
203	16.92	0.10	0.041	(0.604)	0.029	0.011
204	17.00	0.10	0.041	(0.601)	0.029	0.011
205	17.08	0.17	0.068	(0.598)	0.049	0.019
206	17.17	0.17	0.068	(0.595)	0.049	0.019
207	17.25	0.17	0.068	(0.592)	0.049	0.019
208	17.33	0.17	0.068	(0.589)	0.049	0.019
209	17.42	0.17	0.068	(0.586)	0.049	0.019
210	17.50	0.17	0.068	(0.583)	0.049	0.019
211	17.58	0.17	0.068	(0.580)	0.049	0.019
212	17.67	0.17	0.068	(0.578)	0.049	0.019
213	17.75	0.17	0.068	(0.575)	0.049	0.019
214	17.83	0.13	0.054	(0.572)	0.039	0.015
215	17.92	0.13	0.054	(0.569)	0.039	0.015
216	18.00	0.13	0.054	(0.566)	0.039	0.015
217	18.08	0.13	0.054	(0.563)	0.039	0.015
218	18.17	0.13	0.054	(0.561)	0.039	0.015
219	18.25	0.13	0.054	(0.558)	0.039	0.015
220	18.33	0.13	0.054	(0.555)	0.039	0.015
221	18.42	0.13	0.054	(0.552)	0.039	0.015
222	18.50	0.13	0.054	(0.550)	0.039	0.015
223	18.58	0.10	0.041	(0.547)	0.029	0.011
224	18.67	0.10	0.041	(0.544)	0.029	0.011
225	18.75	0.10	0.041	(0.542)	0.029	0.011
226	18.83	0.07	0.027	(0.539)	0.020	0.008
227	18.92	0.07	0.027	(0.537)	0.020	0.008
228	19.00	0.07	0.027	(0.534)	0.020	0.008
229	19.08	0.10	0.041	(0.532)	0.029	0.011
230	19.17	0.10	0.041	(0.529)	0.029	0.011
231	19.25	0.10	0.041	(0.527)	0.029	0.011
232	19.33	0.13	0.054	(0.524)	0.039	0.015
233	19.42	0.13	0.054	(0.522)	0.039	0.015
234	19.50	0.13	0.054	(0.519)	0.039	0.015
235	19.58	0.10	0.041	(0.517)	0.029	0.011
236	19.67	0.10	0.041	(0.515)	0.029	0.011
237	19.75	0.10	0.041	(0.512)	0.029	0.011
238	19.83	0.07	0.027	(0.510)	0.020	0.008
239	19.92	0.07	0.027	(0.508)	0.020	0.008
240	20.00	0.07	0.027	(0.505)	0.020	0.008
241	20.08	0.10	0.041	(0.503)	0.029	0.011
242	20.17	0.10	0.041	(0.501)	0.029	0.011
243	20.25	0.10	0.041	(0.499)	0.029	0.011
244	20.33	0.10	0.041	(0.497)	0.029	0.011
245	20.42	0.10	0.041	(0.495)	0.029	0.011
246	20.50	0.10	0.041	(0.492)	0.029	0.011

247	20.58	0.10	0.041	(0.490)	0.029	0.011
248	20.67	0.10	0.041	(0.488)	0.029	0.011
249	20.75	0.10	0.041	(0.486)	0.029	0.011
250	20.83	0.07	0.027	(0.484)	0.020	0.008
251	20.92	0.07	0.027	(0.482)	0.020	0.008
252	21.00	0.07	0.027	(0.480)	0.020	0.008
253	21.08	0.10	0.041	(0.478)	0.029	0.011
254	21.17	0.10	0.041	(0.477)	0.029	0.011
255	21.25	0.10	0.041	(0.475)	0.029	0.011
256	21.33	0.07	0.027	(0.473)	0.020	0.008
257	21.42	0.07	0.027	(0.471)	0.020	0.008
258	21.50	0.07	0.027	(0.469)	0.020	0.008
259	21.58	0.10	0.041	(0.468)	0.029	0.011
260	21.67	0.10	0.041	(0.466)	0.029	0.011
261	21.75	0.10	0.041	(0.464)	0.029	0.011
262	21.83	0.07	0.027	(0.463)	0.020	0.008
263	21.92	0.07	0.027	(0.461)	0.020	0.008
264	22.00	0.07	0.027	(0.460)	0.020	0.008
265	22.08	0.10	0.041	(0.458)	0.029	0.011
266	22.17	0.10	0.041	(0.457)	0.029	0.011
267	22.25	0.10	0.041	(0.455)	0.029	0.011
268	22.33	0.07	0.027	(0.454)	0.020	0.008
269	22.42	0.07	0.027	(0.452)	0.020	0.008
270	22.50	0.07	0.027	(0.451)	0.020	0.008
271	22.58	0.07	0.027	(0.450)	0.020	0.008
272	22.67	0.07	0.027	(0.448)	0.020	0.008
273	22.75	0.07	0.027	(0.447)	0.020	0.008
274	22.83	0.07	0.027	(0.446)	0.020	0.008
275	22.92	0.07	0.027	(0.445)	0.020	0.008
276	23.00	0.07	0.027	(0.444)	0.020	0.008
277	23.08	0.07	0.027	(0.443)	0.020	0.008
278	23.17	0.07	0.027	(0.442)	0.020	0.008
279	23.25	0.07	0.027	(0.441)	0.020	0.008
280	23.33	0.07	0.027	(0.440)	0.020	0.008
281	23.42	0.07	0.027	(0.439)	0.020	0.008
282	23.50	0.07	0.027	(0.438)	0.020	0.008
283	23.58	0.07	0.027	(0.438)	0.020	0.008
284	23.67	0.07	0.027	(0.437)	0.020	0.008
285	23.75	0.07	0.027	(0.436)	0.020	0.008
286	23.83	0.07	0.027	(0.436)	0.020	0.008
287	23.92	0.07	0.027	(0.436)	0.020	0.008
288	24.00	0.07	0.027	(0.435)	0.020	0.008

(Loss Rate Not Used)

Sum = 100.0

Sum = 11.4

Flood volume = Effective rainfall 0.95(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 2.45(In)

Total soil loss = 0.216(Ac.Ft)

Total rainfall = 3.40(In)

Flood volume = 3661.8 Cubic Feet

Total soil loss = 9416.1 Cubic Feet

Peak flow rate of this hydrograph = 0.138(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0005	0.01	Q				
0+40	0.0006	0.01	Q				
0+45	0.0006	0.01	Q				
0+50	0.0007	0.01	Q				
0+55	0.0009	0.02	Q				
1+ 0	0.0010	0.02	Q				
1+ 5	0.0011	0.01	Q				
1+10	0.0011	0.01	Q				
1+15	0.0012	0.01	Q				
1+20	0.0013	0.01	Q				
1+25	0.0014	0.01	Q				
1+30	0.0015	0.01	Q				
1+35	0.0016	0.01	Q				
1+40	0.0016	0.01	Q				
1+45	0.0017	0.01	Q				
1+50	0.0018	0.01	Q				
1+55	0.0019	0.02	Q				
2+ 0	0.0021	0.02	Q				
2+ 5	0.0022	0.02	QV				
2+10	0.0023	0.02	QV				
2+15	0.0024	0.02	QV				
2+20	0.0025	0.02	QV				
2+25	0.0026	0.02	QV				
2+30	0.0027	0.02	QV				
2+35	0.0029	0.02	QV				
2+40	0.0030	0.02	QV				
2+45	0.0031	0.02	QV				
2+50	0.0033	0.02	QV				
2+55	0.0034	0.02	QV				
3+ 0	0.0036	0.02	QV				
3+ 5	0.0037	0.02	QV				

3+10	0.0038	0.02	QV				
3+15	0.0040	0.02	QV				
3+20	0.0041	0.02	QV				
3+25	0.0043	0.02	Q V				
3+30	0.0044	0.02	Q V				
3+35	0.0045	0.02	Q V				
3+40	0.0047	0.02	Q V				
3+45	0.0048	0.02	Q V				
3+50	0.0050	0.02	Q V				
3+55	0.0051	0.02	Q V				
4+ 0	0.0053	0.02	Q V				
4+ 5	0.0055	0.02	Q V				
4+10	0.0056	0.02	Q V				
4+15	0.0058	0.02	Q V				
4+20	0.0060	0.03	Q V				
4+25	0.0062	0.03	Q V				
4+30	0.0064	0.03	Q V				
4+35	0.0066	0.03	Q V				
4+40	0.0068	0.03	Q V				
4+45	0.0070	0.03	Q V				
4+50	0.0072	0.03	Q V				
4+55	0.0074	0.03	Q V				
5+ 0	0.0076	0.03	Q V				
5+ 5	0.0078	0.03	Q V				
5+10	0.0080	0.02	Q V				
5+15	0.0082	0.02	Q V				
5+20	0.0084	0.03	Q V				
5+25	0.0085	0.03	Q V				
5+30	0.0087	0.03	Q V				
5+35	0.0090	0.03	Q V				
5+40	0.0092	0.03	Q V				
5+45	0.0094	0.03	Q V				
5+50	0.0096	0.03	Q V				
5+55	0.0099	0.03	Q V				
6+ 0	0.0101	0.03	Q V				
6+ 5	0.0103	0.04	Q V				
6+10	0.0106	0.04	Q V				
6+15	0.0108	0.04	Q V				
6+20	0.0111	0.04	Q V				
6+25	0.0113	0.04	Q V				
6+30	0.0116	0.04	Q V				
6+35	0.0119	0.04	Q V				
6+40	0.0121	0.04	Q V				
6+45	0.0124	0.04	Q V				
6+50	0.0127	0.04	Q V				
6+55	0.0130	0.04	Q V				
7+ 0	0.0133	0.04	Q V				
7+ 5	0.0135	0.04	Q V				
7+10	0.0138	0.04	Q V				
7+15	0.0141	0.04	Q V				

7+20	0.0144	0.04	Q	V				
7+25	0.0147	0.04	Q	V				
7+30	0.0150	0.04	Q	V				
7+35	0.0153	0.05	Q	V				
7+40	0.0157	0.05	Q	V				
7+45	0.0160	0.05	Q	V				
7+50	0.0164	0.05	Q	V				
7+55	0.0167	0.05	Q	V				
8+ 0	0.0171	0.05	Q	V				
8+ 5	0.0175	0.06	Q	V				
8+10	0.0179	0.06	Q	V				
8+15	0.0183	0.06	Q	V				
8+20	0.0187	0.06	Q	V				
8+25	0.0192	0.06	Q	V				
8+30	0.0196	0.06	Q	V				
8+35	0.0200	0.06	Q	V				
8+40	0.0205	0.06	Q	V				
8+45	0.0209	0.07	Q	V				
8+50	0.0214	0.07	Q	V				
8+55	0.0219	0.07	Q	V				
9+ 0	0.0223	0.07	Q	V				
9+ 5	0.0228	0.07	Q	V				
9+10	0.0234	0.08	Q	V				
9+15	0.0239	0.08	Q	V				
9+20	0.0245	0.08	Q	V				
9+25	0.0250	0.08	Q	V				
9+30	0.0256	0.08	Q	V				
9+35	0.0262	0.08	Q	V				
9+40	0.0267	0.09	Q	V				
9+45	0.0273	0.09	Q	V				
9+50	0.0279	0.09	Q	V				
9+55	0.0286	0.09	Q	V				
10+ 0	0.0292	0.09	Q	V				
10+ 5	0.0297	0.07	Q	V				
10+10	0.0301	0.06	Q	V				
10+15	0.0305	0.06	Q	V				
10+20	0.0309	0.06	Q	V				
10+25	0.0314	0.06	Q	V				
10+30	0.0318	0.06	Q	V				
10+35	0.0323	0.07	Q	V				
10+40	0.0328	0.08	Q	V				
10+45	0.0334	0.08	Q	V				
10+50	0.0340	0.08	Q	V				
10+55	0.0345	0.08	Q	V				
11+ 0	0.0351	0.08	Q	V				
11+ 5	0.0356	0.08	Q	V				
11+10	0.0362	0.08	Q	V				
11+15	0.0367	0.08	Q	V				
11+20	0.0372	0.08	Q	V				
11+25	0.0378	0.08	Q	V				

11+30	0.0383	0.08	Q	V			
11+35	0.0388	0.07	Q	V			
11+40	0.0393	0.07	Q	V			
11+45	0.0397	0.07	Q	V			
11+50	0.0402	0.07	Q	V			
11+55	0.0407	0.07	Q	V			
12+ 0	0.0412	0.07	Q	V			
12+ 5	0.0419	0.09	Q	V			
12+10	0.0426	0.10	Q	V			
12+15	0.0433	0.10	Q	V			
12+20	0.0440	0.10	Q	V			
12+25	0.0447	0.11	Q	V			
12+30	0.0454	0.11	Q	V			
12+35	0.0462	0.11	Q	V			
12+40	0.0470	0.11	Q	V			
12+45	0.0478	0.11	Q	V			
12+50	0.0486	0.12	Q	V			
12+55	0.0494	0.12	Q	V			
13+ 0	0.0502	0.12	Q	V			
13+ 5	0.0511	0.13	Q	V			
13+10	0.0520	0.14	Q	V			
13+15	0.0530	0.14	Q	V			
13+20	0.0539	0.14	Q	V			
13+25	0.0549	0.14	Q	V			
13+30	0.0558	0.14	Q	V			
13+35	0.0566	0.11	Q	V			
13+40	0.0573	0.10	Q	V			
13+45	0.0579	0.09	Q	V			
13+50	0.0586	0.09	Q	V			
13+55	0.0592	0.09	Q	V			
14+ 0	0.0598	0.09	Q	V			
14+ 5	0.0606	0.10	Q	V			
14+10	0.0613	0.11	Q	V			
14+15	0.0621	0.11	Q	V			
14+20	0.0628	0.11	Q	V			
14+25	0.0635	0.11	Q	V			
14+30	0.0643	0.11	Q	V			
14+35	0.0650	0.11	Q	V			
14+40	0.0657	0.11	Q	V			
14+45	0.0664	0.11	Q	V			
14+50	0.0672	0.10	Q	V			
14+55	0.0679	0.10	Q	V			
15+ 0	0.0686	0.10	Q	V			
15+ 5	0.0692	0.10	Q	V			
15+10	0.0699	0.10	Q	V			
15+15	0.0706	0.10	Q	V			
15+20	0.0712	0.10	Q	V			
15+25	0.0719	0.09	Q	V			
15+30	0.0725	0.09	Q	V			
15+35	0.0731	0.08	Q	V			

15+40	0.0736	0.08	Q				V
15+45	0.0742	0.08	Q				V
15+50	0.0747	0.08	Q				V
15+55	0.0752	0.08	Q				V
16+ 0	0.0758	0.08	Q				V
16+ 5	0.0760	0.04	Q				V
16+10	0.0762	0.02	Q				V
16+15	0.0763	0.02	Q				V
16+20	0.0764	0.02	Q				V
16+25	0.0765	0.02	Q				V
16+30	0.0766	0.02	Q				V
16+35	0.0767	0.01	Q				V
16+40	0.0768	0.01	Q				V
16+45	0.0769	0.01	Q				V
16+50	0.0770	0.01	Q				V
16+55	0.0771	0.01	Q				V
17+ 0	0.0771	0.01	Q				V
17+ 5	0.0773	0.02	Q				V
17+10	0.0774	0.02	Q				V
17+15	0.0775	0.02	Q				V
17+20	0.0777	0.02	Q				V
17+25	0.0778	0.02	Q				V
17+30	0.0780	0.02	Q				V
17+35	0.0781	0.02	Q				V
17+40	0.0782	0.02	Q				V
17+45	0.0784	0.02	Q				V
17+50	0.0785	0.02	Q				V
17+55	0.0786	0.02	Q				V
18+ 0	0.0787	0.02	Q				V
18+ 5	0.0788	0.02	Q				V
18+10	0.0789	0.02	Q				V
18+15	0.0791	0.02	Q				V
18+20	0.0792	0.02	Q				V
18+25	0.0793	0.02	Q				V
18+30	0.0794	0.02	Q				V
18+35	0.0795	0.01	Q				V
18+40	0.0796	0.01	Q				V
18+45	0.0797	0.01	Q				V
18+50	0.0797	0.01	Q				V
18+55	0.0798	0.01	Q				V
19+ 0	0.0798	0.01	Q				V
19+ 5	0.0799	0.01	Q				V
19+10	0.0800	0.01	Q				V
19+15	0.0801	0.01	Q				V
19+20	0.0802	0.01	Q				V
19+25	0.0803	0.02	Q				V
19+30	0.0804	0.02	Q				V
19+35	0.0805	0.01	Q				V
19+40	0.0806	0.01	Q				V
19+45	0.0807	0.01	Q				V

19+50	0.0807	0.01	Q				V
19+55	0.0808	0.01	Q				V
20+ 0	0.0808	0.01	Q				V
20+ 5	0.0809	0.01	Q				V
20+10	0.0810	0.01	Q				V
20+15	0.0811	0.01	Q				V
20+20	0.0812	0.01	Q				V
20+25	0.0813	0.01	Q				V
20+30	0.0813	0.01	Q				V
20+35	0.0814	0.01	Q				V
20+40	0.0815	0.01	Q				V
20+45	0.0816	0.01	Q				V
20+50	0.0817	0.01	Q				V
20+55	0.0817	0.01	Q				V
21+ 0	0.0818	0.01	Q				V
21+ 5	0.0818	0.01	Q				V
21+10	0.0819	0.01	Q				V
21+15	0.0820	0.01	Q				V
21+20	0.0821	0.01	Q				V
21+25	0.0821	0.01	Q				V
21+30	0.0822	0.01	Q				V
21+35	0.0823	0.01	Q				V
21+40	0.0823	0.01	Q				V
21+45	0.0824	0.01	Q				V
21+50	0.0825	0.01	Q				V
21+55	0.0826	0.01	Q				V
22+ 0	0.0826	0.01	Q				V
22+ 5	0.0827	0.01	Q				V
22+10	0.0828	0.01	Q				V
22+15	0.0829	0.01	Q				V
22+20	0.0829	0.01	Q				V
22+25	0.0830	0.01	Q				V
22+30	0.0830	0.01	Q				V
22+35	0.0831	0.01	Q				V
22+40	0.0831	0.01	Q				V
22+45	0.0832	0.01	Q				V
22+50	0.0833	0.01	Q				V
22+55	0.0833	0.01	Q				V
23+ 0	0.0834	0.01	Q				V
23+ 5	0.0834	0.01	Q				V
23+10	0.0835	0.01	Q				V
23+15	0.0835	0.01	Q				V
23+20	0.0836	0.01	Q				V
23+25	0.0836	0.01	Q				V
23+30	0.0837	0.01	Q				V
23+35	0.0838	0.01	Q				V
23+40	0.0838	0.01	Q				V
23+45	0.0839	0.01	Q				V
23+50	0.0839	0.01	Q				V
23+55	0.0840	0.01	Q				V

24+ 0	0.0840	0.01	Q				V
24+ 5	0.0841	0.00	Q				V
24+10	0.0841	0.00	Q				V

Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
10-Year
1-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	0.48	0.51

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	1.34	1.42

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.836(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.836(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

Unit Hydrograph Data

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	365.687	62.565
2	0.167	731.374	33.756
3	0.250	1097.061	3.679
		Sum = 100.000	Sum= 1.067

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.441	(0.870)	0.318	0.124
2	0.17	4.50	0.451	(0.870)	0.325	0.126
3	0.25	5.40	0.541	(0.870)	0.390	0.152
4	0.33	5.40	0.541	(0.870)	0.390	0.152
5	0.42	5.70	0.572	(0.870)	0.412	0.160
6	0.50	6.40	0.642	(0.870)	0.462	0.180
7	0.58	7.90	0.792	(0.870)	0.570	0.222
8	0.67	9.10	0.912	(0.870)	0.657	0.255
9	0.75	12.80	1.283	0.870	(0.924)	0.413
10	0.83	25.60	2.567	0.870	(1.848)	1.696
11	0.92	7.90	0.792	(0.870)	0.570	0.222
12	1.00	4.90	0.491	(0.870)	0.354	0.138

(Loss Rate Not Used)

Sum = 100.0

Sum = 3.8

$$\text{Flood volume} = \text{Effective rainfall} \times 0.32(\text{In})$$

times area $1.1(\text{Ac.})/[(\text{In})/(\text{Ft.})] =$ $0.0(\text{Ac.Ft})$

$$\text{Total soil loss} = 0.52(\text{In})$$

Total soil loss = 0.046(Ac.Ft)

Total rainfall = 0.84(In)

Flood volume = 1229.8 Cubic Feet

Total soil loss = 1982.3 Cubic Feet

Peak flow rate of this hydrograph = 1.292(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0006	0.08	Q					
0+10	0.0015	0.13	Q V					
0+15	0.0025	0.15	Q V					
0+20	0.0036	0.16	Q V					
0+25	0.0048	0.17	Q V					
0+30	0.0060	0.18	Q V					
0+35	0.0075	0.22	Q V					
0+40	0.0093	0.26	Q V					
0+45	0.0119	0.38	Q V					
0+50	0.0208	1.29	Q V					
0+55	0.0262	0.78	Q V					

1+ 0	0.0278	0.24	Q				V
1+ 5	0.0282	0.06	Q				V
1+10	0.0282	0.01	Q				V

Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
10-Year
3-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	0.88	0.93

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	2.20	2.33

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.421(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.421(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.222	(0.870)	0.160	0.062
2	0.17	1.30	0.222	(0.870)	0.160	0.062
3	0.25	1.10	0.188	(0.870)	0.135	0.053
4	0.33	1.50	0.256	(0.870)	0.184	0.072
5	0.42	1.50	0.256	(0.870)	0.184	0.072
6	0.50	1.80	0.307	(0.870)	0.221	0.086
7	0.58	1.50	0.256	(0.870)	0.184	0.072
8	0.67	1.80	0.307	(0.870)	0.221	0.086
9	0.75	1.80	0.307	(0.870)	0.221	0.086
10	0.83	1.50	0.256	(0.870)	0.184	0.072
11	0.92	1.60	0.273	(0.870)	0.196	0.076
12	1.00	1.80	0.307	(0.870)	0.221	0.086
13	1.08	2.20	0.375	(0.870)	0.270	0.105
14	1.17	2.20	0.375	(0.870)	0.270	0.105
15	1.25	2.20	0.375	(0.870)	0.270	0.105
16	1.33	2.00	0.341	(0.870)	0.246	0.096
17	1.42	2.60	0.443	(0.870)	0.319	0.124
18	1.50	2.70	0.460	(0.870)	0.332	0.129
19	1.58	2.40	0.409	(0.870)	0.295	0.115
20	1.67	2.70	0.460	(0.870)	0.332	0.129
21	1.75	3.30	0.563	(0.870)	0.405	0.158
22	1.83	3.10	0.529	(0.870)	0.381	0.148
23	1.92	2.90	0.495	(0.870)	0.356	0.138
24	2.00	3.00	0.512	(0.870)	0.368	0.143
25	2.08	3.10	0.529	(0.870)	0.381	0.148
26	2.17	4.20	0.716	(0.870)	0.516	0.201
27	2.25	5.00	0.853	(0.870)	0.614	0.239
28	2.33	3.50	0.597	(0.870)	0.430	0.167
29	2.42	6.80	1.160	(0.870)	0.835	0.325
30	2.50	7.30	1.245	0.870	(0.896)	0.375
31	2.58	8.20	1.399	0.870	(1.007)	0.528
32	2.67	5.90	1.006	(0.870)	0.725	0.282
33	2.75	2.00	0.341	(0.870)	0.246	0.096
34	2.83	1.80	0.307	(0.870)	0.221	0.086
35	2.92	1.80	0.307	(0.870)	0.221	0.086
36	3.00	0.60	0.102	(0.870)	0.074	0.029

(Loss Rate Not Used)

Sum = 100.0

Sum = 4.9

Flood volume = Effective rainfall 0.41(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)

Total soil loss = 1.01(In)

Total soil loss = 0.089(Ac.Ft)

Total rainfall = 1.42(In)

Flood volume = 1581.9 Cubic Feet

Total soil loss = 3881.8 Cubic Feet

Peak flow rate of this hydrograph = 0.501(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003		0.04	Q				
0+10	0.0007		0.06	Q				
0+15	0.0011		0.06	QV				
0+20	0.0016		0.07	QV				
0+25	0.0021		0.08	Q V				
0+30	0.0027		0.09	Q V				
0+35	0.0033		0.08	Q V				
0+40	0.0039		0.09	Q V				
0+45	0.0045		0.09	Q V				
0+50	0.0051		0.08	Q V				
0+55	0.0056		0.08	Q V				
1+ 0	0.0062		0.09	Q V				
1+ 5	0.0070		0.10	Q V				
1+10	0.0077		0.11	Q V				
1+15	0.0085		0.11	Q V				
1+20	0.0092		0.11	Q V				
1+25	0.0101		0.12	Q V				
1+30	0.0110		0.13	Q V				
1+35	0.0119		0.13	Q V				
1+40	0.0128		0.13	Q V				
1+45	0.0139		0.16	Q V				
1+50	0.0150		0.16	Q V				
1+55	0.0160		0.15	Q V				
2+ 0	0.0171		0.15	Q V				
2+ 5	0.0181		0.16	Q V				
2+10	0.0195		0.19	Q V				
2+15	0.0211		0.24	Q V				
2+20	0.0225		0.21	Q V				
2+25	0.0245		0.29	Q V				
2+30	0.0271		0.37	Q V				
2+35	0.0305		0.50	Q V				
2+40	0.0332		0.39	Q V				
2+45	0.0345		0.19	Q V				
2+50	0.0352		0.10	Q V				
2+55	0.0358		0.09	Q V				
3+ 0	0.0362		0.05	Q V				
3+ 5	0.0363		0.01	Q V				
3+10	0.0363		0.00	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
10-Year
6-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	1.27	1.34

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	3.12	3.30

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 2.031(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.031(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
Minimum soil loss rate ((In/Hr)) = 0.435
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.122	(0.870)	0.088	0.034
2	0.17	0.60	0.146	(0.870)	0.105	0.041
3	0.25	0.60	0.146	(0.870)	0.105	0.041
4	0.33	0.60	0.146	(0.870)	0.105	0.041
5	0.42	0.60	0.146	(0.870)	0.105	0.041
6	0.50	0.70	0.171	(0.870)	0.123	0.048
7	0.58	0.70	0.171	(0.870)	0.123	0.048
8	0.67	0.70	0.171	(0.870)	0.123	0.048
9	0.75	0.70	0.171	(0.870)	0.123	0.048
10	0.83	0.70	0.171	(0.870)	0.123	0.048
11	0.92	0.70	0.171	(0.870)	0.123	0.048
12	1.00	0.80	0.195	(0.870)	0.140	0.055
13	1.08	0.80	0.195	(0.870)	0.140	0.055
14	1.17	0.80	0.195	(0.870)	0.140	0.055
15	1.25	0.80	0.195	(0.870)	0.140	0.055
16	1.33	0.80	0.195	(0.870)	0.140	0.055
17	1.42	0.80	0.195	(0.870)	0.140	0.055
18	1.50	0.80	0.195	(0.870)	0.140	0.055
19	1.58	0.80	0.195	(0.870)	0.140	0.055
20	1.67	0.80	0.195	(0.870)	0.140	0.055
21	1.75	0.80	0.195	(0.870)	0.140	0.055
22	1.83	0.80	0.195	(0.870)	0.140	0.055
23	1.92	0.80	0.195	(0.870)	0.140	0.055
24	2.00	0.90	0.219	(0.870)	0.158	0.061
25	2.08	0.80	0.195	(0.870)	0.140	0.055
26	2.17	0.90	0.219	(0.870)	0.158	0.061
27	2.25	0.90	0.219	(0.870)	0.158	0.061
28	2.33	0.90	0.219	(0.870)	0.158	0.061
29	2.42	0.90	0.219	(0.870)	0.158	0.061
30	2.50	0.90	0.219	(0.870)	0.158	0.061
31	2.58	0.90	0.219	(0.870)	0.158	0.061
32	2.67	0.90	0.219	(0.870)	0.158	0.061
33	2.75	1.00	0.244	(0.870)	0.175	0.068
34	2.83	1.00	0.244	(0.870)	0.175	0.068
35	2.92	1.00	0.244	(0.870)	0.175	0.068
36	3.00	1.00	0.244	(0.870)	0.175	0.068
37	3.08	1.00	0.244	(0.870)	0.175	0.068
38	3.17	1.10	0.268	(0.870)	0.193	0.075
39	3.25	1.10	0.268	(0.870)	0.193	0.075
40	3.33	1.10	0.268	(0.870)	0.193	0.075
41	3.42	1.20	0.292	(0.870)	0.211	0.082
42	3.50	1.30	0.317	(0.870)	0.228	0.089
43	3.58	1.40	0.341	(0.870)	0.246	0.096
44	3.67	1.40	0.341	(0.870)	0.246	0.096
45	3.75	1.50	0.366	(0.870)	0.263	0.102
46	3.83	1.50	0.366	(0.870)	0.263	0.102

47	3.92	1.60	0.390	(0.870)	0.281	0.109
48	4.00	1.60	0.390	(0.870)	0.281	0.109
49	4.08	1.70	0.414	(0.870)	0.298	0.116
50	4.17	1.80	0.439	(0.870)	0.316	0.123
51	4.25	1.90	0.463	(0.870)	0.333	0.130
52	4.33	2.00	0.487	(0.870)	0.351	0.136
53	4.42	2.10	0.512	(0.870)	0.369	0.143
54	4.50	2.10	0.512	(0.870)	0.369	0.143
55	4.58	2.20	0.536	(0.870)	0.386	0.150
56	4.67	2.30	0.561	(0.870)	0.404	0.157
57	4.75	2.40	0.585	(0.870)	0.421	0.164
58	4.83	2.40	0.585	(0.870)	0.421	0.164
59	4.92	2.50	0.609	(0.870)	0.439	0.171
60	5.00	2.60	0.634	(0.870)	0.456	0.177
61	5.08	3.10	0.756	(0.870)	0.544	0.212
62	5.17	3.60	0.877	(0.870)	0.632	0.246
63	5.25	3.90	0.951	(0.870)	0.684	0.266
64	5.33	4.20	1.024	(0.870)	0.737	0.287
65	5.42	4.70	1.146	(0.870)	0.825	0.321
66	5.50	5.60	1.365	0.870 (0.983)		0.494
67	5.58	1.90	0.463	(0.870)	0.333	0.130
68	5.67	0.90	0.219	(0.870)	0.158	0.061
69	5.75	0.60	0.146	(0.870)	0.105	0.041
70	5.83	0.50	0.122	(0.870)	0.088	0.034
71	5.92	0.30	0.073	(0.870)	0.053	0.020
72	6.00	0.20	0.049	(0.870)	0.035	0.014

(Loss Rate Not Used)

Sum = 100.0

Sum = 6.9

Flood volume = Effective rainfall 0.58(In)
times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.45(In)
Total soil loss = 0.128(Ac.Ft)
Total rainfall = 2.03(In)
Flood volume = 2222.2 Cubic Feet
Total soil loss = 5585.7 Cubic Feet

Peak flow rate of this hydrograph = 0.457(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0

0+ 5	0.0002	0.02	Q				
0+10	0.0004	0.04	Q				
0+15	0.0007	0.04	Q				

0+20	0.0010	0.04	Q				
0+25	0.0013	0.04	QV				
0+30	0.0017	0.05	QV				
0+35	0.0020	0.05	QV				
0+40	0.0024	0.05	QV				
0+45	0.0027	0.05	Q V				
0+50	0.0031	0.05	Q V				
0+55	0.0034	0.05	Q V				
1+ 0	0.0038	0.06	Q V				
1+ 5	0.0042	0.06	Q V				
1+10	0.0046	0.06	Q V				
1+15	0.0050	0.06	Q V				
1+20	0.0054	0.06	Q V				
1+25	0.0058	0.06	Q V				
1+30	0.0062	0.06	Q V				
1+35	0.0066	0.06	Q V				
1+40	0.0070	0.06	Q V				
1+45	0.0074	0.06	Q V				
1+50	0.0078	0.06	Q V				
1+55	0.0082	0.06	Q V				
2+ 0	0.0086	0.06	Q V				
2+ 5	0.0091	0.06	Q V				
2+10	0.0095	0.06	Q V				
2+15	0.0100	0.07	Q V				
2+20	0.0104	0.07	Q V				
2+25	0.0109	0.07	Q V				
2+30	0.0113	0.07	Q V				
2+35	0.0118	0.07	Q V				
2+40	0.0122	0.07	Q V				
2+45	0.0127	0.07	Q V				
2+50	0.0132	0.07	Q V				
2+55	0.0137	0.07	Q V				
3+ 0	0.0142	0.07	Q V				
3+ 5	0.0147	0.07	Q V				
3+10	0.0152	0.08	Q V				
3+15	0.0158	0.08	Q V				
3+20	0.0163	0.08	Q V				
3+25	0.0169	0.08	Q V				
3+30	0.0176	0.09	Q V				
3+35	0.0182	0.10	Q V				
3+40	0.0189	0.10	Q V				
3+45	0.0197	0.11	Q V				
3+50	0.0204	0.11	Q V				
3+55	0.0212	0.11	Q V				
4+ 0	0.0220	0.12	Q V				
4+ 5	0.0228	0.12	Q V				
4+10	0.0237	0.13	Q V				
4+15	0.0247	0.14	Q V				
4+20	0.0256	0.14	Q V				
4+25	0.0267	0.15	Q V				

4+30	0.0277	0.15	Q		V		
4+35	0.0288	0.16	Q		V		
4+40	0.0299	0.16	Q		V		
4+45	0.0311	0.17	Q		V		
4+50	0.0323	0.17	Q		V		
4+55	0.0336	0.18	Q		V		
5+ 0	0.0348	0.19	Q		V		
5+ 5	0.0363	0.21	Q		V		
5+10	0.0380	0.25	Q		V		
5+15	0.0399	0.27	Q			V	
5+20	0.0419	0.30	Q			V	
5+25	0.0442	0.33	Q			V	
5+30	0.0474	0.46	Q				V
5+35	0.0493	0.28	Q				V
5+40	0.0500	0.11	Q				V
5+45	0.0504	0.05	Q				V
5+50	0.0507	0.04	Q				V
5+55	0.0508	0.03	Q				V
6+ 0	0.0510	0.02	Q				V
6+ 5	0.0510	0.01	Q				V
6+10	0.0510	0.00	Q				V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A1POST2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A4
Post-development
10-Year
24-Hour

Drainage Area = 1.06(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.06(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 309.80(Ft.)
Length along longest watercourse measured to centroid = 167.16(Ft.)
Length along longest watercourse = 0.059 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 11.00(Ft.)
Slope along watercourse = 187.4758 Ft./Mi.
Average Manning's 'N' = 0.028
Lag time = 0.023 Hr.
Lag time = 1.37 Min.
25% of lag time = 0.34 Min.
40% of lag time = 0.55 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	2.43	2.57

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.06	6.58	6.97

STORM EVENT (YEAR) = 10.00
 Area Averaged 2-Year Rainfall = 2.430(In)
 Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.137(In)
 Areal adjustment factor = 100.00 %
 Adjusted average point rain = 4.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.059	32.00	0.000

Total Area Entered = 1.06(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
32.0	16.2	0.870	0.000	0.870	1.000	0.870
Sum (F) =						0.870

Area averaged mean soil loss (F) (In/Hr) = 0.870
 Minimum soil loss rate ((In/Hr)) = 0.435
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.720

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	365.687	62.565	0.668
2 0.167	731.374	33.756	0.360
3 0.250	1097.061	3.679	0.039
Sum = 100.000		Sum=	1.067

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.033	(1.543)	0.024	0.009
2	0.17	0.07	0.033	(1.537)	0.024	0.009
3	0.25	0.07	0.033	(1.531)	0.024	0.009
4	0.33	0.10	0.050	(1.525)	0.036	0.014
5	0.42	0.10	0.050	(1.519)	0.036	0.014
6	0.50	0.10	0.050	(1.513)	0.036	0.014
7	0.58	0.10	0.050	(1.507)	0.036	0.014
8	0.67	0.10	0.050	(1.501)	0.036	0.014
9	0.75	0.10	0.050	(1.496)	0.036	0.014
10	0.83	0.13	0.066	(1.490)	0.048	0.019
11	0.92	0.13	0.066	(1.484)	0.048	0.019
12	1.00	0.13	0.066	(1.478)	0.048	0.019
13	1.08	0.10	0.050	(1.472)	0.036	0.014
14	1.17	0.10	0.050	(1.466)	0.036	0.014
15	1.25	0.10	0.050	(1.460)	0.036	0.014
16	1.33	0.10	0.050	(1.455)	0.036	0.014
17	1.42	0.10	0.050	(1.449)	0.036	0.014
18	1.50	0.10	0.050	(1.443)	0.036	0.014
19	1.58	0.10	0.050	(1.437)	0.036	0.014
20	1.67	0.10	0.050	(1.432)	0.036	0.014
21	1.75	0.10	0.050	(1.426)	0.036	0.014
22	1.83	0.13	0.066	(1.420)	0.048	0.019
23	1.92	0.13	0.066	(1.414)	0.048	0.019
24	2.00	0.13	0.066	(1.409)	0.048	0.019
25	2.08	0.13	0.066	(1.403)	0.048	0.019
26	2.17	0.13	0.066	(1.397)	0.048	0.019
27	2.25	0.13	0.066	(1.392)	0.048	0.019
28	2.33	0.13	0.066	(1.386)	0.048	0.019
29	2.42	0.13	0.066	(1.380)	0.048	0.019
30	2.50	0.13	0.066	(1.375)	0.048	0.019
31	2.58	0.17	0.083	(1.369)	0.060	0.023
32	2.67	0.17	0.083	(1.363)	0.060	0.023
33	2.75	0.17	0.083	(1.358)	0.060	0.023
34	2.83	0.17	0.083	(1.352)	0.060	0.023
35	2.92	0.17	0.083	(1.347)	0.060	0.023
36	3.00	0.17	0.083	(1.341)	0.060	0.023
37	3.08	0.17	0.083	(1.336)	0.060	0.023
38	3.17	0.17	0.083	(1.330)	0.060	0.023
39	3.25	0.17	0.083	(1.324)	0.060	0.023
40	3.33	0.17	0.083	(1.319)	0.060	0.023
41	3.42	0.17	0.083	(1.313)	0.060	0.023
42	3.50	0.17	0.083	(1.308)	0.060	0.023
43	3.58	0.17	0.083	(1.302)	0.060	0.023
44	3.67	0.17	0.083	(1.297)	0.060	0.023
45	3.75	0.17	0.083	(1.292)	0.060	0.023
46	3.83	0.20	0.099	(1.286)	0.071	0.028

47	3.92	0.20	0.099	(1.281)	0.071	0.028
48	4.00	0.20	0.099	(1.275)	0.071	0.028
49	4.08	0.20	0.099	(1.270)	0.071	0.028
50	4.17	0.20	0.099	(1.264)	0.071	0.028
51	4.25	0.20	0.099	(1.259)	0.071	0.028
52	4.33	0.23	0.116	(1.254)	0.083	0.032
53	4.42	0.23	0.116	(1.248)	0.083	0.032
54	4.50	0.23	0.116	(1.243)	0.083	0.032
55	4.58	0.23	0.116	(1.238)	0.083	0.032
56	4.67	0.23	0.116	(1.232)	0.083	0.032
57	4.75	0.23	0.116	(1.227)	0.083	0.032
58	4.83	0.27	0.132	(1.222)	0.095	0.037
59	4.92	0.27	0.132	(1.216)	0.095	0.037
60	5.00	0.27	0.132	(1.211)	0.095	0.037
61	5.08	0.20	0.099	(1.206)	0.071	0.028
62	5.17	0.20	0.099	(1.201)	0.071	0.028
63	5.25	0.20	0.099	(1.195)	0.071	0.028
64	5.33	0.23	0.116	(1.190)	0.083	0.032
65	5.42	0.23	0.116	(1.185)	0.083	0.032
66	5.50	0.23	0.116	(1.180)	0.083	0.032
67	5.58	0.27	0.132	(1.175)	0.095	0.037
68	5.67	0.27	0.132	(1.169)	0.095	0.037
69	5.75	0.27	0.132	(1.164)	0.095	0.037
70	5.83	0.27	0.132	(1.159)	0.095	0.037
71	5.92	0.27	0.132	(1.154)	0.095	0.037
72	6.00	0.27	0.132	(1.149)	0.095	0.037
73	6.08	0.30	0.149	(1.144)	0.107	0.042
74	6.17	0.30	0.149	(1.139)	0.107	0.042
75	6.25	0.30	0.149	(1.134)	0.107	0.042
76	6.33	0.30	0.149	(1.129)	0.107	0.042
77	6.42	0.30	0.149	(1.124)	0.107	0.042
78	6.50	0.30	0.149	(1.118)	0.107	0.042
79	6.58	0.33	0.165	(1.113)	0.119	0.046
80	6.67	0.33	0.165	(1.108)	0.119	0.046
81	6.75	0.33	0.165	(1.103)	0.119	0.046
82	6.83	0.33	0.165	(1.098)	0.119	0.046
83	6.92	0.33	0.165	(1.093)	0.119	0.046
84	7.00	0.33	0.165	(1.089)	0.119	0.046
85	7.08	0.33	0.165	(1.084)	0.119	0.046
86	7.17	0.33	0.165	(1.079)	0.119	0.046
87	7.25	0.33	0.165	(1.074)	0.119	0.046
88	7.33	0.37	0.182	(1.069)	0.131	0.051
89	7.42	0.37	0.182	(1.064)	0.131	0.051
90	7.50	0.37	0.182	(1.059)	0.131	0.051
91	7.58	0.40	0.199	(1.054)	0.143	0.056
92	7.67	0.40	0.199	(1.049)	0.143	0.056
93	7.75	0.40	0.199	(1.045)	0.143	0.056
94	7.83	0.43	0.215	(1.040)	0.155	0.060
95	7.92	0.43	0.215	(1.035)	0.155	0.060
96	8.00	0.43	0.215	(1.030)	0.155	0.060

97	8.08	0.50	0.248	(1.025)	0.179	0.070
98	8.17	0.50	0.248	(1.021)	0.179	0.070
99	8.25	0.50	0.248	(1.016)	0.179	0.070
100	8.33	0.50	0.248	(1.011)	0.179	0.070
101	8.42	0.50	0.248	(1.006)	0.179	0.070
102	8.50	0.50	0.248	(1.002)	0.179	0.070
103	8.58	0.53	0.265	(0.997)	0.191	0.074
104	8.67	0.53	0.265	(0.992)	0.191	0.074
105	8.75	0.53	0.265	(0.988)	0.191	0.074
106	8.83	0.57	0.281	(0.983)	0.203	0.079
107	8.92	0.57	0.281	(0.978)	0.203	0.079
108	9.00	0.57	0.281	(0.974)	0.203	0.079
109	9.08	0.63	0.314	(0.969)	0.226	0.088
110	9.17	0.63	0.314	(0.964)	0.226	0.088
111	9.25	0.63	0.314	(0.960)	0.226	0.088
112	9.33	0.67	0.331	(0.955)	0.238	0.093
113	9.42	0.67	0.331	(0.951)	0.238	0.093
114	9.50	0.67	0.331	(0.946)	0.238	0.093
115	9.58	0.70	0.348	(0.942)	0.250	0.097
116	9.67	0.70	0.348	(0.937)	0.250	0.097
117	9.75	0.70	0.348	(0.933)	0.250	0.097
118	9.83	0.73	0.364	(0.928)	0.262	0.102
119	9.92	0.73	0.364	(0.924)	0.262	0.102
120	10.00	0.73	0.364	(0.919)	0.262	0.102
121	10.08	0.50	0.248	(0.915)	0.179	0.070
122	10.17	0.50	0.248	(0.910)	0.179	0.070
123	10.25	0.50	0.248	(0.906)	0.179	0.070
124	10.33	0.50	0.248	(0.901)	0.179	0.070
125	10.42	0.50	0.248	(0.897)	0.179	0.070
126	10.50	0.50	0.248	(0.893)	0.179	0.070
127	10.58	0.67	0.331	(0.888)	0.238	0.093
128	10.67	0.67	0.331	(0.884)	0.238	0.093
129	10.75	0.67	0.331	(0.880)	0.238	0.093
130	10.83	0.67	0.331	(0.875)	0.238	0.093
131	10.92	0.67	0.331	(0.871)	0.238	0.093
132	11.00	0.67	0.331	(0.867)	0.238	0.093
133	11.08	0.63	0.314	(0.863)	0.226	0.088
134	11.17	0.63	0.314	(0.858)	0.226	0.088
135	11.25	0.63	0.314	(0.854)	0.226	0.088
136	11.33	0.63	0.314	(0.850)	0.226	0.088
137	11.42	0.63	0.314	(0.846)	0.226	0.088
138	11.50	0.63	0.314	(0.841)	0.226	0.088
139	11.58	0.57	0.281	(0.837)	0.203	0.079
140	11.67	0.57	0.281	(0.833)	0.203	0.079
141	11.75	0.57	0.281	(0.829)	0.203	0.079
142	11.83	0.60	0.298	(0.825)	0.214	0.083
143	11.92	0.60	0.298	(0.821)	0.214	0.083
144	12.00	0.60	0.298	(0.817)	0.214	0.083
145	12.08	0.83	0.414	(0.812)	0.298	0.116
146	12.17	0.83	0.414	(0.808)	0.298	0.116

147	12.25	0.83	0.414	(0.804)	0.298	0.116
148	12.33	0.87	0.430	(0.800)	0.310	0.120
149	12.42	0.87	0.430	(0.796)	0.310	0.120
150	12.50	0.87	0.430	(0.792)	0.310	0.120
151	12.58	0.93	0.463	(0.788)	0.334	0.130
152	12.67	0.93	0.463	(0.784)	0.334	0.130
153	12.75	0.93	0.463	(0.780)	0.334	0.130
154	12.83	0.97	0.480	(0.776)	0.346	0.134
155	12.92	0.97	0.480	(0.773)	0.346	0.134
156	13.00	0.97	0.480	(0.769)	0.346	0.134
157	13.08	1.13	0.563	(0.765)	0.405	0.158
158	13.17	1.13	0.563	(0.761)	0.405	0.158
159	13.25	1.13	0.563	(0.757)	0.405	0.158
160	13.33	1.13	0.563	(0.753)	0.405	0.158
161	13.42	1.13	0.563	(0.749)	0.405	0.158
162	13.50	1.13	0.563	(0.746)	0.405	0.158
163	13.58	0.77	0.381	(0.742)	0.274	0.107
164	13.67	0.77	0.381	(0.738)	0.274	0.107
165	13.75	0.77	0.381	(0.734)	0.274	0.107
166	13.83	0.77	0.381	(0.730)	0.274	0.107
167	13.92	0.77	0.381	(0.727)	0.274	0.107
168	14.00	0.77	0.381	(0.723)	0.274	0.107
169	14.08	0.90	0.447	(0.719)	0.322	0.125
170	14.17	0.90	0.447	(0.716)	0.322	0.125
171	14.25	0.90	0.447	(0.712)	0.322	0.125
172	14.33	0.87	0.430	(0.708)	0.310	0.120
173	14.42	0.87	0.430	(0.705)	0.310	0.120
174	14.50	0.87	0.430	(0.701)	0.310	0.120
175	14.58	0.87	0.430	(0.698)	0.310	0.120
176	14.67	0.87	0.430	(0.694)	0.310	0.120
177	14.75	0.87	0.430	(0.690)	0.310	0.120
178	14.83	0.83	0.414	(0.687)	0.298	0.116
179	14.92	0.83	0.414	(0.683)	0.298	0.116
180	15.00	0.83	0.414	(0.680)	0.298	0.116
181	15.08	0.80	0.397	(0.676)	0.286	0.111
182	15.17	0.80	0.397	(0.673)	0.286	0.111
183	15.25	0.80	0.397	(0.669)	0.286	0.111
184	15.33	0.77	0.381	(0.666)	0.274	0.107
185	15.42	0.77	0.381	(0.663)	0.274	0.107
186	15.50	0.77	0.381	(0.659)	0.274	0.107
187	15.58	0.63	0.314	(0.656)	0.226	0.088
188	15.67	0.63	0.314	(0.652)	0.226	0.088
189	15.75	0.63	0.314	(0.649)	0.226	0.088
190	15.83	0.63	0.314	(0.646)	0.226	0.088
191	15.92	0.63	0.314	(0.642)	0.226	0.088
192	16.00	0.63	0.314	(0.639)	0.226	0.088
193	16.08	0.13	0.066	(0.636)	0.048	0.019
194	16.17	0.13	0.066	(0.633)	0.048	0.019
195	16.25	0.13	0.066	(0.629)	0.048	0.019
196	16.33	0.13	0.066	(0.626)	0.048	0.019

197	16.42	0.13	0.066	(0.623)	0.048	0.019
198	16.50	0.13	0.066	(0.620)	0.048	0.019
199	16.58	0.10	0.050	(0.617)	0.036	0.014
200	16.67	0.10	0.050	(0.614)	0.036	0.014
201	16.75	0.10	0.050	(0.610)	0.036	0.014
202	16.83	0.10	0.050	(0.607)	0.036	0.014
203	16.92	0.10	0.050	(0.604)	0.036	0.014
204	17.00	0.10	0.050	(0.601)	0.036	0.014
205	17.08	0.17	0.083	(0.598)	0.060	0.023
206	17.17	0.17	0.083	(0.595)	0.060	0.023
207	17.25	0.17	0.083	(0.592)	0.060	0.023
208	17.33	0.17	0.083	(0.589)	0.060	0.023
209	17.42	0.17	0.083	(0.586)	0.060	0.023
210	17.50	0.17	0.083	(0.583)	0.060	0.023
211	17.58	0.17	0.083	(0.580)	0.060	0.023
212	17.67	0.17	0.083	(0.578)	0.060	0.023
213	17.75	0.17	0.083	(0.575)	0.060	0.023
214	17.83	0.13	0.066	(0.572)	0.048	0.019
215	17.92	0.13	0.066	(0.569)	0.048	0.019
216	18.00	0.13	0.066	(0.566)	0.048	0.019
217	18.08	0.13	0.066	(0.563)	0.048	0.019
218	18.17	0.13	0.066	(0.561)	0.048	0.019
219	18.25	0.13	0.066	(0.558)	0.048	0.019
220	18.33	0.13	0.066	(0.555)	0.048	0.019
221	18.42	0.13	0.066	(0.552)	0.048	0.019
222	18.50	0.13	0.066	(0.550)	0.048	0.019
223	18.58	0.10	0.050	(0.547)	0.036	0.014
224	18.67	0.10	0.050	(0.544)	0.036	0.014
225	18.75	0.10	0.050	(0.542)	0.036	0.014
226	18.83	0.07	0.033	(0.539)	0.024	0.009
227	18.92	0.07	0.033	(0.537)	0.024	0.009
228	19.00	0.07	0.033	(0.534)	0.024	0.009
229	19.08	0.10	0.050	(0.532)	0.036	0.014
230	19.17	0.10	0.050	(0.529)	0.036	0.014
231	19.25	0.10	0.050	(0.527)	0.036	0.014
232	19.33	0.13	0.066	(0.524)	0.048	0.019
233	19.42	0.13	0.066	(0.522)	0.048	0.019
234	19.50	0.13	0.066	(0.519)	0.048	0.019
235	19.58	0.10	0.050	(0.517)	0.036	0.014
236	19.67	0.10	0.050	(0.515)	0.036	0.014
237	19.75	0.10	0.050	(0.512)	0.036	0.014
238	19.83	0.07	0.033	(0.510)	0.024	0.009
239	19.92	0.07	0.033	(0.508)	0.024	0.009
240	20.00	0.07	0.033	(0.505)	0.024	0.009
241	20.08	0.10	0.050	(0.503)	0.036	0.014
242	20.17	0.10	0.050	(0.501)	0.036	0.014
243	20.25	0.10	0.050	(0.499)	0.036	0.014
244	20.33	0.10	0.050	(0.497)	0.036	0.014
245	20.42	0.10	0.050	(0.495)	0.036	0.014
246	20.50	0.10	0.050	(0.492)	0.036	0.014

247	20.58	0.10	0.050	(0.490)	0.036	0.014
248	20.67	0.10	0.050	(0.488)	0.036	0.014
249	20.75	0.10	0.050	(0.486)	0.036	0.014
250	20.83	0.07	0.033	(0.484)	0.024	0.009
251	20.92	0.07	0.033	(0.482)	0.024	0.009
252	21.00	0.07	0.033	(0.480)	0.024	0.009
253	21.08	0.10	0.050	(0.478)	0.036	0.014
254	21.17	0.10	0.050	(0.477)	0.036	0.014
255	21.25	0.10	0.050	(0.475)	0.036	0.014
256	21.33	0.07	0.033	(0.473)	0.024	0.009
257	21.42	0.07	0.033	(0.471)	0.024	0.009
258	21.50	0.07	0.033	(0.469)	0.024	0.009
259	21.58	0.10	0.050	(0.468)	0.036	0.014
260	21.67	0.10	0.050	(0.466)	0.036	0.014
261	21.75	0.10	0.050	(0.464)	0.036	0.014
262	21.83	0.07	0.033	(0.463)	0.024	0.009
263	21.92	0.07	0.033	(0.461)	0.024	0.009
264	22.00	0.07	0.033	(0.460)	0.024	0.009
265	22.08	0.10	0.050	(0.458)	0.036	0.014
266	22.17	0.10	0.050	(0.457)	0.036	0.014
267	22.25	0.10	0.050	(0.455)	0.036	0.014
268	22.33	0.07	0.033	(0.454)	0.024	0.009
269	22.42	0.07	0.033	(0.452)	0.024	0.009
270	22.50	0.07	0.033	(0.451)	0.024	0.009
271	22.58	0.07	0.033	(0.450)	0.024	0.009
272	22.67	0.07	0.033	(0.448)	0.024	0.009
273	22.75	0.07	0.033	(0.447)	0.024	0.009
274	22.83	0.07	0.033	(0.446)	0.024	0.009
275	22.92	0.07	0.033	(0.445)	0.024	0.009
276	23.00	0.07	0.033	(0.444)	0.024	0.009
277	23.08	0.07	0.033	(0.443)	0.024	0.009
278	23.17	0.07	0.033	(0.442)	0.024	0.009
279	23.25	0.07	0.033	(0.441)	0.024	0.009
280	23.33	0.07	0.033	(0.440)	0.024	0.009
281	23.42	0.07	0.033	(0.439)	0.024	0.009
282	23.50	0.07	0.033	(0.438)	0.024	0.009
283	23.58	0.07	0.033	(0.438)	0.024	0.009
284	23.67	0.07	0.033	(0.437)	0.024	0.009
285	23.75	0.07	0.033	(0.436)	0.024	0.009
286	23.83	0.07	0.033	(0.436)	0.024	0.009
287	23.92	0.07	0.033	(0.436)	0.024	0.009
288	24.00	0.07	0.033	(0.435)	0.024	0.009

(Loss Rate Not Used)

Sum = 100.0

Sum = 13.9

Flood volume = Effective rainfall 1.16(In)

times area 1.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 2.98(In)

Total soil loss = 0.263(Ac.Ft)

Total rainfall = 4.14(In)

Flood volume = 4453.3 Cubic Feet

Total soil loss = 11451.3 Cubic Feet

Peak flow rate of this hydrograph = 0.168(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0001	0.01	Q				
0+15	0.0002	0.01	Q				
0+20	0.0003	0.01	Q				
0+25	0.0004	0.01	Q				
0+30	0.0005	0.01	Q				
0+35	0.0006	0.01	Q				
0+40	0.0007	0.01	Q				
0+45	0.0008	0.01	Q				
0+50	0.0009	0.02	Q				
0+55	0.0010	0.02	Q				
1+ 0	0.0012	0.02	Q				
1+ 5	0.0013	0.02	Q				
1+10	0.0014	0.02	Q				
1+15	0.0015	0.01	Q				
1+20	0.0016	0.01	Q				
1+25	0.0017	0.01	Q				
1+30	0.0018	0.01	Q				
1+35	0.0019	0.01	Q				
1+40	0.0020	0.01	Q				
1+45	0.0021	0.01	Q				
1+50	0.0022	0.02	Q				
1+55	0.0024	0.02	Q				
2+ 0	0.0025	0.02	Q				
2+ 5	0.0026	0.02	QV				
2+10	0.0028	0.02	QV				
2+15	0.0029	0.02	QV				
2+20	0.0030	0.02	QV				
2+25	0.0032	0.02	QV				
2+30	0.0033	0.02	QV				
2+35	0.0035	0.02	QV				
2+40	0.0036	0.02	QV				
2+45	0.0038	0.02	QV				
2+50	0.0040	0.02	QV				
2+55	0.0042	0.02	QV				
3+ 0	0.0043	0.02	QV				
3+ 5	0.0045	0.02	QV				

3+10	0.0047	0.02	QV				
3+15	0.0048	0.02	QV				
3+20	0.0050	0.02	QV				
3+25	0.0052	0.02	Q V				
3+30	0.0053	0.02	Q V				
3+35	0.0055	0.02	Q V				
3+40	0.0057	0.02	Q V				
3+45	0.0059	0.02	Q V				
3+50	0.0061	0.03	Q V				
3+55	0.0063	0.03	Q V				
4+ 0	0.0065	0.03	Q V				
4+ 5	0.0067	0.03	Q V				
4+10	0.0069	0.03	Q V				
4+15	0.0071	0.03	Q V				
4+20	0.0073	0.03	Q V				
4+25	0.0075	0.03	Q V				
4+30	0.0078	0.03	Q V				
4+35	0.0080	0.03	Q V				
4+40	0.0083	0.03	Q V				
4+45	0.0085	0.03	Q V				
4+50	0.0087	0.04	Q V				
4+55	0.0090	0.04	Q V				
5+ 0	0.0093	0.04	Q V				
5+ 5	0.0095	0.03	Q V				
5+10	0.0097	0.03	Q V				
5+15	0.0099	0.03	Q V				
5+20	0.0102	0.03	Q V				
5+25	0.0104	0.03	Q V				
5+30	0.0106	0.03	Q V				
5+35	0.0109	0.04	Q V				
5+40	0.0112	0.04	Q V				
5+45	0.0114	0.04	Q V				
5+50	0.0117	0.04	Q V				
5+55	0.0120	0.04	Q V				
6+ 0	0.0123	0.04	Q V				
6+ 5	0.0126	0.04	Q V				
6+10	0.0129	0.04	Q V				
6+15	0.0132	0.04	Q V				
6+20	0.0135	0.04	Q V				
6+25	0.0138	0.04	Q V				
6+30	0.0141	0.04	Q V				
6+35	0.0144	0.05	Q V				
6+40	0.0148	0.05	Q V				
6+45	0.0151	0.05	Q V				
6+50	0.0154	0.05	Q V				
6+55	0.0158	0.05	Q V				
7+ 0	0.0161	0.05	Q V				
7+ 5	0.0165	0.05	Q V				
7+10	0.0168	0.05	Q V				
7+15	0.0171	0.05	Q V				

7+20	0.0175	0.05	Q	V				
7+25	0.0179	0.05	Q	V				
7+30	0.0182	0.05	Q	V				
7+35	0.0186	0.06	Q	V				
7+40	0.0191	0.06	Q	V				
7+45	0.0195	0.06	Q	V				
7+50	0.0199	0.06	Q	V				
7+55	0.0203	0.06	Q	V				
8+ 0	0.0208	0.06	Q	V				
8+ 5	0.0213	0.07	Q	V				
8+10	0.0218	0.07	Q	V				
8+15	0.0223	0.07	Q	V				
8+20	0.0228	0.07	Q	V				
8+25	0.0233	0.07	Q	V				
8+30	0.0238	0.07	Q	V				
8+35	0.0243	0.08	Q	V				
8+40	0.0249	0.08	Q	V				
8+45	0.0254	0.08	Q	V				
8+50	0.0260	0.08	Q	V				
8+55	0.0266	0.08	Q	V				
9+ 0	0.0272	0.08	Q	V				
9+ 5	0.0278	0.09	Q	V				
9+10	0.0284	0.09	Q	V				
9+15	0.0291	0.09	Q	V				
9+20	0.0297	0.10	Q	V				
9+25	0.0304	0.10	Q	V				
9+30	0.0311	0.10	Q	V				
9+35	0.0318	0.10	Q	V				
9+40	0.0325	0.10	Q	V				
9+45	0.0332	0.10	Q	V				
9+50	0.0340	0.11	Q	V				
9+55	0.0347	0.11	Q	V				
10+ 0	0.0355	0.11	Q	V				
10+ 5	0.0361	0.09	Q	V				
10+10	0.0366	0.08	Q	V				
10+15	0.0371	0.07	Q	V				
10+20	0.0376	0.07	Q	V				
10+25	0.0381	0.07	Q	V				
10+30	0.0386	0.07	Q	V				
10+35	0.0393	0.09	Q	V				
10+40	0.0399	0.10	Q	V				
10+45	0.0406	0.10	Q	V				
10+50	0.0413	0.10	Q	V				
10+55	0.0420	0.10	Q	V				
11+ 0	0.0427	0.10	Q	V				
11+ 5	0.0433	0.10	Q	V				
11+10	0.0440	0.09	Q	V				
11+15	0.0446	0.09	Q	V				
11+20	0.0453	0.09	Q	V				
11+25	0.0459	0.09	Q	V				

11+30	0.0466	0.09	Q	V			
11+35	0.0472	0.09	Q	V			
11+40	0.0477	0.08	Q	V			
11+45	0.0483	0.08	Q	V			
11+50	0.0489	0.09	Q	V			
11+55	0.0495	0.09	Q	V			
12+ 0	0.0501	0.09	Q	V			
12+ 5	0.0509	0.11	Q	V			
12+10	0.0518	0.12	Q	V			
12+15	0.0526	0.12	Q	V			
12+20	0.0535	0.13	Q	V			
12+25	0.0544	0.13	Q	V			
12+30	0.0553	0.13	Q	V			
12+35	0.0562	0.13	Q	V			
12+40	0.0571	0.14	Q	V			
12+45	0.0581	0.14	Q	V			
12+50	0.0591	0.14	Q	V			
12+55	0.0600	0.14	Q	V			
13+ 0	0.0610	0.14	Q	V			
13+ 5	0.0621	0.16	Q	V			
13+10	0.0633	0.17	Q	V			
13+15	0.0644	0.17	Q	V			
13+20	0.0656	0.17	Q	V			
13+25	0.0668	0.17	Q	V			
13+30	0.0679	0.17	Q	V			
13+35	0.0688	0.13	Q	V			
13+40	0.0696	0.12	Q	V			
13+45	0.0704	0.11	Q	V			
13+50	0.0712	0.11	Q	V			
13+55	0.0720	0.11	Q	V			
14+ 0	0.0728	0.11	Q	V			
14+ 5	0.0736	0.13	Q	V			
14+10	0.0746	0.13	Q	V			
14+15	0.0755	0.13	Q	V			
14+20	0.0764	0.13	Q	V			
14+25	0.0773	0.13	Q	V			
14+30	0.0782	0.13	Q	V			
14+35	0.0790	0.13	Q	V			
14+40	0.0799	0.13	Q	V			
14+45	0.0808	0.13	Q	V			
14+50	0.0817	0.13	Q	V			
14+55	0.0825	0.12	Q	V			
15+ 0	0.0834	0.12	Q	V			
15+ 5	0.0842	0.12	Q	V			
15+10	0.0850	0.12	Q	V			
15+15	0.0858	0.12	Q	V			
15+20	0.0866	0.12	Q	V			
15+25	0.0874	0.11	Q	V			
15+30	0.0882	0.11	Q	V			
15+35	0.0889	0.10	Q	V			

15+40	0.0896	0.09	Q				V
15+45	0.0902	0.09	Q				V
15+50	0.0909	0.09	Q				V
15+55	0.0915	0.09	Q				V
16+ 0	0.0922	0.09	Q				V
16+ 5	0.0925	0.05	Q				V
16+10	0.0926	0.02	Q				V
16+15	0.0928	0.02	Q				V
16+20	0.0929	0.02	Q				V
16+25	0.0930	0.02	Q				V
16+30	0.0932	0.02	Q				V
16+35	0.0933	0.02	Q				V
16+40	0.0934	0.02	Q				V
16+45	0.0935	0.01	Q				V
16+50	0.0936	0.01	Q				V
16+55	0.0937	0.01	Q				V
17+ 0	0.0938	0.01	Q				V
17+ 5	0.0940	0.02	Q				V
17+10	0.0941	0.02	Q				V
17+15	0.0943	0.02	Q				V
17+20	0.0945	0.02	Q				V
17+25	0.0946	0.02	Q				V
17+30	0.0948	0.02	Q				V
17+35	0.0950	0.02	Q				V
17+40	0.0951	0.02	Q				V
17+45	0.0953	0.02	Q				V
17+50	0.0955	0.02	Q				V
17+55	0.0956	0.02	Q				V
18+ 0	0.0957	0.02	Q				V
18+ 5	0.0959	0.02	Q				V
18+10	0.0960	0.02	Q				V
18+15	0.0961	0.02	Q				V
18+20	0.0963	0.02	Q				V
18+25	0.0964	0.02	Q				V
18+30	0.0966	0.02	Q				V
18+35	0.0967	0.02	Q				V
18+40	0.0968	0.02	Q				V
18+45	0.0969	0.01	Q				V
18+50	0.0970	0.01	Q				V
18+55	0.0970	0.01	Q				V
19+ 0	0.0971	0.01	Q				V
19+ 5	0.0972	0.01	Q				V
19+10	0.0973	0.01	Q				V
19+15	0.0974	0.01	Q				V
19+20	0.0975	0.02	Q				V
19+25	0.0976	0.02	Q				V
19+30	0.0978	0.02	Q				V
19+35	0.0979	0.02	Q				V
19+40	0.0980	0.02	Q				V
19+45	0.0981	0.01	Q				V

19+50	0.0982	0.01	Q				V
19+55	0.0983	0.01	Q				V
20+ 0	0.0983	0.01	Q				V
20+ 5	0.0984	0.01	Q				V
20+10	0.0985	0.01	Q				V
20+15	0.0986	0.01	Q				V
20+20	0.0987	0.01	Q				V
20+25	0.0988	0.01	Q				V
20+30	0.0989	0.01	Q				V
20+35	0.0990	0.01	Q				V
20+40	0.0991	0.01	Q				V
20+45	0.0992	0.01	Q				V
20+50	0.0993	0.01	Q				V
20+55	0.0994	0.01	Q				V
21+ 0	0.0994	0.01	Q				V
21+ 5	0.0995	0.01	Q				V
21+10	0.0996	0.01	Q				V
21+15	0.0997	0.01	Q				V
21+20	0.0998	0.01	Q				V
21+25	0.0999	0.01	Q				V
21+30	0.1000	0.01	Q				V
21+35	0.1000	0.01	Q				V
21+40	0.1001	0.01	Q				V
21+45	0.1002	0.01	Q				V
21+50	0.1003	0.01	Q				V
21+55	0.1004	0.01	Q				V
22+ 0	0.1005	0.01	Q				V
22+ 5	0.1006	0.01	Q				V
22+10	0.1007	0.01	Q				V
22+15	0.1008	0.01	Q				V
22+20	0.1008	0.01	Q				V
22+25	0.1009	0.01	Q				V
22+30	0.1010	0.01	Q				V
22+35	0.1010	0.01	Q				V
22+40	0.1011	0.01	Q				V
22+45	0.1012	0.01	Q				V
22+50	0.1013	0.01	Q				V
22+55	0.1013	0.01	Q				V
23+ 0	0.1014	0.01	Q				V
23+ 5	0.1015	0.01	Q				V
23+10	0.1015	0.01	Q				V
23+15	0.1016	0.01	Q				V
23+20	0.1017	0.01	Q				V
23+25	0.1017	0.01	Q				V
23+30	0.1018	0.01	Q				V
23+35	0.1019	0.01	Q				V
23+40	0.1019	0.01	Q				V
23+45	0.1020	0.01	Q				V
23+50	0.1021	0.01	Q				V
23+55	0.1021	0.01	Q				V

24+ 0	0.1022	0.01	Q				V
24+ 5	0.1022	0.00	Q				V
24+10	0.1022	0.00	Q				V

Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
2-Year
1-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	0.48	0.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	1.34	1.70

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.483(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.483(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	67.679
2	0.167	880.839	32.321
		Sum = 100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.255	(0.170)	0.079	0.176
2	0.17	4.50	0.261	(0.170)	0.081	0.180
3	0.25	5.40	0.313	(0.170)	0.097	0.216
4	0.33	5.40	0.313	(0.170)	0.097	0.216
5	0.42	5.70	0.330	(0.170)	0.102	0.228
6	0.50	6.40	0.371	(0.170)	0.115	0.256
7	0.58	7.90	0.458	(0.170)	0.142	0.316
8	0.67	9.10	0.527	(0.170)	0.164	0.364
9	0.75	12.80	0.742	0.170	(0.230)	0.571
10	0.83	25.60	1.484	0.170	(0.460)	1.313
11	0.92	7.90	0.458	(0.170)	0.142	0.316
12	1.00	4.90	0.284	(0.170)	0.088	0.196

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.3

Flood volume = Effective rainfall 0.36(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.0(Ac.Ft)
Total soil loss = 0.12(In)
Total soil loss = 0.013(Ac.Ft)
Total rainfall = 0.48(In)
Flood volume = 1666.5 Cubic Feet
Total soil loss = 554.8 Cubic Feet

Peak flow rate of this hydrograph = 1.371(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0010	0.15	QV					
0+10	0.0026	0.23	Q V					
0+15	0.0044	0.26	Q V					
0+20	0.0063	0.28	Q V					
0+25	0.0083	0.29	Q V					
0+30	0.0105	0.32	Q V					
0+35	0.0131	0.38	Q	V				
0+40	0.0161	0.45	Q	V				
0+45	0.0206	0.64	Q		V			
0+50	0.0300	1.37	Q			V		
0+55	0.0356	0.82	Q				V	
1+ 0	0.0377	0.30	Q					V

1+ 5

0.0383

0.08 Q

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Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
2-Year
3-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	0.88	1.11

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	2.20	2.79

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 0.877(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.877(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
Sum =		100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.137	(0.170)	0.042	0.094
2	0.17	1.30	0.137	(0.170)	0.042	0.094
3	0.25	1.10	0.116	(0.170)	0.036	0.080
4	0.33	1.50	0.158	(0.170)	0.049	0.109
5	0.42	1.50	0.158	(0.170)	0.049	0.109
6	0.50	1.80	0.189	(0.170)	0.059	0.131
7	0.58	1.50	0.158	(0.170)	0.049	0.109
8	0.67	1.80	0.189	(0.170)	0.059	0.131
9	0.75	1.80	0.189	(0.170)	0.059	0.131
10	0.83	1.50	0.158	(0.170)	0.049	0.109
11	0.92	1.60	0.168	(0.170)	0.052	0.116
12	1.00	1.80	0.189	(0.170)	0.059	0.131
13	1.08	2.20	0.232	(0.170)	0.072	0.160
14	1.17	2.20	0.232	(0.170)	0.072	0.160
15	1.25	2.20	0.232	(0.170)	0.072	0.160
16	1.33	2.00	0.210	(0.170)	0.065	0.145
17	1.42	2.60	0.274	(0.170)	0.085	0.189
18	1.50	2.70	0.284	(0.170)	0.088	0.196
19	1.58	2.40	0.253	(0.170)	0.078	0.174
20	1.67	2.70	0.284	(0.170)	0.088	0.196
21	1.75	3.30	0.347	(0.170)	0.108	0.240
22	1.83	3.10	0.326	(0.170)	0.101	0.225
23	1.92	2.90	0.305	(0.170)	0.095	0.211
24	2.00	3.00	0.316	(0.170)	0.098	0.218
25	2.08	3.10	0.326	(0.170)	0.101	0.225
26	2.17	4.20	0.442	(0.170)	0.137	0.305
27	2.25	5.00	0.526	(0.170)	0.163	0.363
28	2.33	3.50	0.368	(0.170)	0.114	0.254
29	2.42	6.80	0.716	0.170	(0.222)	0.545
30	2.50	7.30	0.768	0.170	(0.238)	0.598
31	2.58	8.20	0.863	0.170	(0.268)	0.693
32	2.67	5.90	0.621	0.170	(0.192)	0.450
33	2.75	2.00	0.210	(0.170)	0.065	0.145
34	2.83	1.80	0.189	(0.170)	0.059	0.131
35	2.92	1.80	0.189	(0.170)	0.059	0.131
36	3.00	0.60	0.063	(0.170)	0.020	0.044

(Loss Rate Not Used)

Sum = 100.0

Sum = 7.5

Flood volume = Effective rainfall 0.62(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.25(In)
Total soil loss = 0.027(Ac.Ft)
Total rainfall = 0.88(In)
Flood volume = 2874.4 Cubic Feet
Total soil loss = 1159.1 Cubic Feet

Peak flow rate of this hydrograph = 0.846(CFS)

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3 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

 Hydrograph in 5 Minute intervals ((CFS))

 Time(h+m) Volume Ac.Ft Q(CFS) 0 2.5 5.0 7.5 10.0

0+ 5	0.0006	0.08	Q					
0+10	0.0014	0.12	Q					
0+15	0.0021	0.11	QV					
0+20	0.0030	0.13	QV					
0+25	0.0040	0.14	Q V					
0+30	0.0051	0.16	Q V					
0+35	0.0061	0.15	Q V					
0+40	0.0072	0.16	Q V					
0+45	0.0083	0.17	Q V					
0+50	0.0093	0.15	Q V					
0+55	0.0103	0.15	Q V					
1+ 0	0.0114	0.16	Q V					
1+ 5	0.0128	0.19	Q V					
1+10	0.0142	0.20	Q V					
1+15	0.0156	0.20	Q V					
1+20	0.0169	0.19	Q V					
1+25	0.0184	0.22	Q V					
1+30	0.0201	0.25	Q V					
1+35	0.0217	0.23	Q V					
1+40	0.0234	0.24	Q V					
1+45	0.0254	0.29	Q V					
1+50	0.0274	0.29	Q V					
1+55	0.0293	0.28	Q V					
2+ 0	0.0312	0.28	Q V					
2+ 5	0.0332	0.28	Q V					
2+10	0.0356	0.36	Q V					
2+15	0.0386	0.44	Q V					
2+20	0.0412	0.37	Q V					
2+25	0.0452	0.58	Q V					
2+30	0.0503	0.74	Q V					
2+35	0.0561	0.85	Q V					
2+40	0.0607	0.68	Q V					
2+45	0.0629	0.31	Q V					
2+50	0.0641	0.17	Q V					
2+55	0.0652	0.17	Q V					
3+ 0	0.0659	0.09	Q V					
3+ 5	0.0660	0.02	Q V					

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST62.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
2-Year
6-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	1.27	1.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	3.12	3.95

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.270(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.270(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	440.419	67.679	0.864
2 0.167	880.839	32.321	0.413
Sum = 100.000		Sum=	1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.076	(0.170)	0.024	0.053
2	0.17	0.60	0.091	(0.170)	0.028	0.063
3	0.25	0.60	0.091	(0.170)	0.028	0.063
4	0.33	0.60	0.091	(0.170)	0.028	0.063
5	0.42	0.60	0.091	(0.170)	0.028	0.063
6	0.50	0.70	0.107	(0.170)	0.033	0.074
7	0.58	0.70	0.107	(0.170)	0.033	0.074
8	0.67	0.70	0.107	(0.170)	0.033	0.074
9	0.75	0.70	0.107	(0.170)	0.033	0.074
10	0.83	0.70	0.107	(0.170)	0.033	0.074
11	0.92	0.70	0.107	(0.170)	0.033	0.074
12	1.00	0.80	0.122	(0.170)	0.038	0.084
13	1.08	0.80	0.122	(0.170)	0.038	0.084
14	1.17	0.80	0.122	(0.170)	0.038	0.084
15	1.25	0.80	0.122	(0.170)	0.038	0.084
16	1.33	0.80	0.122	(0.170)	0.038	0.084
17	1.42	0.80	0.122	(0.170)	0.038	0.084
18	1.50	0.80	0.122	(0.170)	0.038	0.084
19	1.58	0.80	0.122	(0.170)	0.038	0.084
20	1.67	0.80	0.122	(0.170)	0.038	0.084
21	1.75	0.80	0.122	(0.170)	0.038	0.084
22	1.83	0.80	0.122	(0.170)	0.038	0.084
23	1.92	0.80	0.122	(0.170)	0.038	0.084
24	2.00	0.90	0.137	(0.170)	0.043	0.095
25	2.08	0.80	0.122	(0.170)	0.038	0.084
26	2.17	0.90	0.137	(0.170)	0.043	0.095
27	2.25	0.90	0.137	(0.170)	0.043	0.095
28	2.33	0.90	0.137	(0.170)	0.043	0.095
29	2.42	0.90	0.137	(0.170)	0.043	0.095
30	2.50	0.90	0.137	(0.170)	0.043	0.095
31	2.58	0.90	0.137	(0.170)	0.043	0.095
32	2.67	0.90	0.137	(0.170)	0.043	0.095
33	2.75	1.00	0.152	(0.170)	0.047	0.105
34	2.83	1.00	0.152	(0.170)	0.047	0.105
35	2.92	1.00	0.152	(0.170)	0.047	0.105
36	3.00	1.00	0.152	(0.170)	0.047	0.105
37	3.08	1.00	0.152	(0.170)	0.047	0.105
38	3.17	1.10	0.168	(0.170)	0.052	0.116
39	3.25	1.10	0.168	(0.170)	0.052	0.116
40	3.33	1.10	0.168	(0.170)	0.052	0.116
41	3.42	1.20	0.183	(0.170)	0.057	0.126
42	3.50	1.30	0.198	(0.170)	0.061	0.137
43	3.58	1.40	0.213	(0.170)	0.066	0.147
44	3.67	1.40	0.213	(0.170)	0.066	0.147
45	3.75	1.50	0.229	(0.170)	0.071	0.158
46	3.83	1.50	0.229	(0.170)	0.071	0.158
47	3.92	1.60	0.244	(0.170)	0.076	0.168

48	4.00	1.60	0.244	(0.170)	0.076	0.168
49	4.08	1.70	0.259	(0.170)	0.080	0.179
50	4.17	1.80	0.274	(0.170)	0.085	0.189
51	4.25	1.90	0.290	(0.170)	0.090	0.200
52	4.33	2.00	0.305	(0.170)	0.094	0.210
53	4.42	2.10	0.320	(0.170)	0.099	0.221
54	4.50	2.10	0.320	(0.170)	0.099	0.221
55	4.58	2.20	0.335	(0.170)	0.104	0.231
56	4.67	2.30	0.351	(0.170)	0.109	0.242
57	4.75	2.40	0.366	(0.170)	0.113	0.252
58	4.83	2.40	0.366	(0.170)	0.113	0.252
59	4.92	2.50	0.381	(0.170)	0.118	0.263
60	5.00	2.60	0.396	(0.170)	0.123	0.273
61	5.08	3.10	0.472	(0.170)	0.146	0.326
62	5.17	3.60	0.549	(0.170)	0.170	0.379
63	5.25	3.90	0.594	0.170	(0.184)	0.424
64	5.33	4.20	0.640	0.170	(0.198)	0.470
65	5.42	4.70	0.716	0.170	(0.222)	0.546
66	5.50	5.60	0.853	0.170	(0.265)	0.683
67	5.58	1.90	0.290	(0.170)	0.090	0.200
68	5.67	0.90	0.137	(0.170)	0.043	0.095
69	5.75	0.60	0.091	(0.170)	0.028	0.063
70	5.83	0.50	0.076	(0.170)	0.024	0.053
71	5.92	0.30	0.046	(0.170)	0.014	0.032
72	6.00	0.20	0.030	(0.170)	0.009	0.021

(Loss Rate Not Used)

Sum = 100.0

Sum = 10.7

Flood volume = Effective rainfall 0.89(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.38(In)
Total soil loss = 0.040(Ac.Ft)
Total rainfall = 1.27(In)
Flood volume = 4102.1 Cubic Feet
Total soil loss = 1738.8 Cubic Feet

Peak flow rate of this hydrograph = 0.816(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q				
0+10	0.0008	0.08	Q				
0+15	0.0014	0.08	Q				
0+20	0.0019	0.08	Q				

0+25	0.0025	0.08	QV				
0+30	0.0031	0.09	QV				
0+35	0.0038	0.09	QV				
0+40	0.0044	0.09	QV				
0+45	0.0051	0.09	Q V				
0+50	0.0057	0.09	Q V				
0+55	0.0064	0.09	Q V				
1+ 0	0.0071	0.10	Q V				
1+ 5	0.0078	0.11	Q V				
1+10	0.0086	0.11	Q V				
1+15	0.0093	0.11	Q V				
1+20	0.0100	0.11	Q V				
1+25	0.0108	0.11	Q V				
1+30	0.0115	0.11	Q V				
1+35	0.0123	0.11	Q V				
1+40	0.0130	0.11	Q V				
1+45	0.0137	0.11	Q V				
1+50	0.0145	0.11	Q V				
1+55	0.0152	0.11	Q V				
2+ 0	0.0160	0.12	Q V				
2+ 5	0.0168	0.11	Q V				
2+10	0.0176	0.12	Q V				
2+15	0.0184	0.12	Q V				
2+20	0.0193	0.12	Q V				
2+25	0.0201	0.12	Q V				
2+30	0.0209	0.12	Q V				
2+35	0.0218	0.12	Q V				
2+40	0.0226	0.12	Q V				
2+45	0.0235	0.13	Q V				
2+50	0.0244	0.13	Q V				
2+55	0.0253	0.13	Q V				
3+ 0	0.0263	0.13	Q V				
3+ 5	0.0272	0.13	Q V				
3+10	0.0282	0.14	Q V				
3+15	0.0292	0.15	Q V				
3+20	0.0302	0.15	Q V				
3+25	0.0313	0.16	Q V				
3+30	0.0325	0.17	Q V				
3+35	0.0337	0.18	Q V				
3+40	0.0350	0.19	Q V				
3+45	0.0364	0.20	Q V				
3+50	0.0378	0.20	Q V				
3+55	0.0392	0.21	Q V				
4+ 0	0.0407	0.21	Q V				
4+ 5	0.0422	0.22	Q V				
4+10	0.0439	0.24	Q V				
4+15	0.0456	0.25	Q V				
4+20	0.0474	0.26	Q V				
4+25	0.0493	0.28	Q V				
4+30	0.0513	0.28	Q V				

4+35	0.0533	0.29	Q			V		
4+40	0.0554	0.30	Q			V		
4+45	0.0576	0.32	Q			V		
4+50	0.0598	0.32	Q			V		
4+55	0.0621	0.33	Q			V		
5+ 0	0.0645	0.34	Q			V		
5+ 5	0.0672	0.39	Q			V		
5+10	0.0704	0.46	Q			V		
5+15	0.0740	0.52	Q			V		
5+20	0.0780	0.58	Q				V	
5+25	0.0825	0.67	Q				V	
5+30	0.0882	0.82	Q					V
5+35	0.0913	0.45	Q					V
5+40	0.0924	0.16	Q					V
5+45	0.0931	0.09	Q					V
5+50	0.0936	0.07	Q					V
5+55	0.0939	0.05	Q					V
6+ 0	0.0941	0.03	Q					V
6+ 5	0.0942	0.01	Q					V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST242.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
2-Year
24-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	2.43	3.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	6.58	8.34

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 2.430(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.430(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
Sum =		100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.019	(0.302)	0.006	0.013
2	0.17	0.07	0.019	(0.301)	0.006	0.013
3	0.25	0.07	0.019	(0.300)	0.006	0.013
4	0.33	0.10	0.029	(0.299)	0.009	0.020
5	0.42	0.10	0.029	(0.297)	0.009	0.020
6	0.50	0.10	0.029	(0.296)	0.009	0.020
7	0.58	0.10	0.029	(0.295)	0.009	0.020
8	0.67	0.10	0.029	(0.294)	0.009	0.020
9	0.75	0.10	0.029	(0.293)	0.009	0.020
10	0.83	0.13	0.039	(0.292)	0.012	0.027
11	0.92	0.13	0.039	(0.291)	0.012	0.027
12	1.00	0.13	0.039	(0.289)	0.012	0.027
13	1.08	0.10	0.029	(0.288)	0.009	0.020
14	1.17	0.10	0.029	(0.287)	0.009	0.020
15	1.25	0.10	0.029	(0.286)	0.009	0.020
16	1.33	0.10	0.029	(0.285)	0.009	0.020
17	1.42	0.10	0.029	(0.284)	0.009	0.020
18	1.50	0.10	0.029	(0.283)	0.009	0.020
19	1.58	0.10	0.029	(0.281)	0.009	0.020
20	1.67	0.10	0.029	(0.280)	0.009	0.020
21	1.75	0.10	0.029	(0.279)	0.009	0.020
22	1.83	0.13	0.039	(0.278)	0.012	0.027
23	1.92	0.13	0.039	(0.277)	0.012	0.027
24	2.00	0.13	0.039	(0.276)	0.012	0.027
25	2.08	0.13	0.039	(0.275)	0.012	0.027
26	2.17	0.13	0.039	(0.274)	0.012	0.027
27	2.25	0.13	0.039	(0.273)	0.012	0.027
28	2.33	0.13	0.039	(0.271)	0.012	0.027
29	2.42	0.13	0.039	(0.270)	0.012	0.027
30	2.50	0.13	0.039	(0.269)	0.012	0.027
31	2.58	0.17	0.049	(0.268)	0.015	0.034
32	2.67	0.17	0.049	(0.267)	0.015	0.034
33	2.75	0.17	0.049	(0.266)	0.015	0.034
34	2.83	0.17	0.049	(0.265)	0.015	0.034
35	2.92	0.17	0.049	(0.264)	0.015	0.034
36	3.00	0.17	0.049	(0.263)	0.015	0.034
37	3.08	0.17	0.049	(0.262)	0.015	0.034
38	3.17	0.17	0.049	(0.260)	0.015	0.034
39	3.25	0.17	0.049	(0.259)	0.015	0.034
40	3.33	0.17	0.049	(0.258)	0.015	0.034
41	3.42	0.17	0.049	(0.257)	0.015	0.034
42	3.50	0.17	0.049	(0.256)	0.015	0.034
43	3.58	0.17	0.049	(0.255)	0.015	0.034
44	3.67	0.17	0.049	(0.254)	0.015	0.034
45	3.75	0.17	0.049	(0.253)	0.015	0.034
46	3.83	0.20	0.058	(0.252)	0.018	0.040
47	3.92	0.20	0.058	(0.251)	0.018	0.040

48	4.00	0.20	0.058	(0.250)	0.018	0.040
49	4.08	0.20	0.058	(0.249)	0.018	0.040
50	4.17	0.20	0.058	(0.248)	0.018	0.040
51	4.25	0.20	0.058	(0.247)	0.018	0.040
52	4.33	0.23	0.068	(0.245)	0.021	0.047
53	4.42	0.23	0.068	(0.244)	0.021	0.047
54	4.50	0.23	0.068	(0.243)	0.021	0.047
55	4.58	0.23	0.068	(0.242)	0.021	0.047
56	4.67	0.23	0.068	(0.241)	0.021	0.047
57	4.75	0.23	0.068	(0.240)	0.021	0.047
58	4.83	0.27	0.078	(0.239)	0.024	0.054
59	4.92	0.27	0.078	(0.238)	0.024	0.054
60	5.00	0.27	0.078	(0.237)	0.024	0.054
61	5.08	0.20	0.058	(0.236)	0.018	0.040
62	5.17	0.20	0.058	(0.235)	0.018	0.040
63	5.25	0.20	0.058	(0.234)	0.018	0.040
64	5.33	0.23	0.068	(0.233)	0.021	0.047
65	5.42	0.23	0.068	(0.232)	0.021	0.047
66	5.50	0.23	0.068	(0.231)	0.021	0.047
67	5.58	0.27	0.078	(0.230)	0.024	0.054
68	5.67	0.27	0.078	(0.229)	0.024	0.054
69	5.75	0.27	0.078	(0.228)	0.024	0.054
70	5.83	0.27	0.078	(0.227)	0.024	0.054
71	5.92	0.27	0.078	(0.226)	0.024	0.054
72	6.00	0.27	0.078	(0.225)	0.024	0.054
73	6.08	0.30	0.087	(0.224)	0.027	0.060
74	6.17	0.30	0.087	(0.223)	0.027	0.060
75	6.25	0.30	0.087	(0.222)	0.027	0.060
76	6.33	0.30	0.087	(0.221)	0.027	0.060
77	6.42	0.30	0.087	(0.220)	0.027	0.060
78	6.50	0.30	0.087	(0.219)	0.027	0.060
79	6.58	0.33	0.097	(0.218)	0.030	0.067
80	6.67	0.33	0.097	(0.217)	0.030	0.067
81	6.75	0.33	0.097	(0.216)	0.030	0.067
82	6.83	0.33	0.097	(0.215)	0.030	0.067
83	6.92	0.33	0.097	(0.214)	0.030	0.067
84	7.00	0.33	0.097	(0.213)	0.030	0.067
85	7.08	0.33	0.097	(0.212)	0.030	0.067
86	7.17	0.33	0.097	(0.211)	0.030	0.067
87	7.25	0.33	0.097	(0.210)	0.030	0.067
88	7.33	0.37	0.107	(0.209)	0.033	0.074
89	7.42	0.37	0.107	(0.208)	0.033	0.074
90	7.50	0.37	0.107	(0.207)	0.033	0.074
91	7.58	0.40	0.117	(0.206)	0.036	0.080
92	7.67	0.40	0.117	(0.205)	0.036	0.080
93	7.75	0.40	0.117	(0.205)	0.036	0.080
94	7.83	0.43	0.126	(0.204)	0.039	0.087
95	7.92	0.43	0.126	(0.203)	0.039	0.087
96	8.00	0.43	0.126	(0.202)	0.039	0.087
97	8.08	0.50	0.146	(0.201)	0.045	0.101

98	8.17	0.50	0.146	(0.200)	0.045	0.101
99	8.25	0.50	0.146	(0.199)	0.045	0.101
100	8.33	0.50	0.146	(0.198)	0.045	0.101
101	8.42	0.50	0.146	(0.197)	0.045	0.101
102	8.50	0.50	0.146	(0.196)	0.045	0.101
103	8.58	0.53	0.156	(0.195)	0.048	0.107
104	8.67	0.53	0.156	(0.194)	0.048	0.107
105	8.75	0.53	0.156	(0.193)	0.048	0.107
106	8.83	0.57	0.165	(0.192)	0.051	0.114
107	8.92	0.57	0.165	(0.192)	0.051	0.114
108	9.00	0.57	0.165	(0.191)	0.051	0.114
109	9.08	0.63	0.185	(0.190)	0.057	0.127
110	9.17	0.63	0.185	(0.189)	0.057	0.127
111	9.25	0.63	0.185	(0.188)	0.057	0.127
112	9.33	0.67	0.194	(0.187)	0.060	0.134
113	9.42	0.67	0.194	(0.186)	0.060	0.134
114	9.50	0.67	0.194	(0.185)	0.060	0.134
115	9.58	0.70	0.204	(0.184)	0.063	0.141
116	9.67	0.70	0.204	(0.183)	0.063	0.141
117	9.75	0.70	0.204	(0.183)	0.063	0.141
118	9.83	0.73	0.214	(0.182)	0.066	0.148
119	9.92	0.73	0.214	(0.181)	0.066	0.148
120	10.00	0.73	0.214	(0.180)	0.066	0.148
121	10.08	0.50	0.146	(0.179)	0.045	0.101
122	10.17	0.50	0.146	(0.178)	0.045	0.101
123	10.25	0.50	0.146	(0.177)	0.045	0.101
124	10.33	0.50	0.146	(0.177)	0.045	0.101
125	10.42	0.50	0.146	(0.176)	0.045	0.101
126	10.50	0.50	0.146	(0.175)	0.045	0.101
127	10.58	0.67	0.194	(0.174)	0.060	0.134
128	10.67	0.67	0.194	(0.173)	0.060	0.134
129	10.75	0.67	0.194	(0.172)	0.060	0.134
130	10.83	0.67	0.194	(0.171)	0.060	0.134
131	10.92	0.67	0.194	(0.171)	0.060	0.134
132	11.00	0.67	0.194	(0.170)	0.060	0.134
133	11.08	0.63	0.185	(0.169)	0.057	0.127
134	11.17	0.63	0.185	(0.168)	0.057	0.127
135	11.25	0.63	0.185	(0.167)	0.057	0.127
136	11.33	0.63	0.185	(0.166)	0.057	0.127
137	11.42	0.63	0.185	(0.166)	0.057	0.127
138	11.50	0.63	0.185	(0.165)	0.057	0.127
139	11.58	0.57	0.165	(0.164)	0.051	0.114
140	11.67	0.57	0.165	(0.163)	0.051	0.114
141	11.75	0.57	0.165	(0.162)	0.051	0.114
142	11.83	0.60	0.175	(0.162)	0.054	0.121
143	11.92	0.60	0.175	(0.161)	0.054	0.121
144	12.00	0.60	0.175	(0.160)	0.054	0.121
145	12.08	0.83	0.243	(0.159)	0.075	0.168
146	12.17	0.83	0.243	(0.158)	0.075	0.168
147	12.25	0.83	0.243	(0.158)	0.075	0.168

148	12.33	0.87	0.253	(0.157)	0.078	0.174
149	12.42	0.87	0.253	(0.156)	0.078	0.174
150	12.50	0.87	0.253	(0.155)	0.078	0.174
151	12.58	0.93	0.272	(0.154)	0.084	0.188
152	12.67	0.93	0.272	(0.154)	0.084	0.188
153	12.75	0.93	0.272	(0.153)	0.084	0.188
154	12.83	0.97	0.282	(0.152)	0.087	0.194
155	12.92	0.97	0.282	(0.151)	0.087	0.194
156	13.00	0.97	0.282	(0.151)	0.087	0.194
157	13.08	1.13	0.330	(0.150)	0.102	0.228
158	13.17	1.13	0.330	(0.149)	0.102	0.228
159	13.25	1.13	0.330	(0.148)	0.102	0.228
160	13.33	1.13	0.330	(0.147)	0.102	0.228
161	13.42	1.13	0.330	(0.147)	0.102	0.228
162	13.50	1.13	0.330	(0.146)	0.102	0.228
163	13.58	0.77	0.224	(0.145)	0.069	0.154
164	13.67	0.77	0.224	(0.145)	0.069	0.154
165	13.75	0.77	0.224	(0.144)	0.069	0.154
166	13.83	0.77	0.224	(0.143)	0.069	0.154
167	13.92	0.77	0.224	(0.142)	0.069	0.154
168	14.00	0.77	0.224	(0.142)	0.069	0.154
169	14.08	0.90	0.262	(0.141)	0.081	0.181
170	14.17	0.90	0.262	(0.140)	0.081	0.181
171	14.25	0.90	0.262	(0.139)	0.081	0.181
172	14.33	0.87	0.253	(0.139)	0.078	0.174
173	14.42	0.87	0.253	(0.138)	0.078	0.174
174	14.50	0.87	0.253	(0.137)	0.078	0.174
175	14.58	0.87	0.253	(0.137)	0.078	0.174
176	14.67	0.87	0.253	(0.136)	0.078	0.174
177	14.75	0.87	0.253	(0.135)	0.078	0.174
178	14.83	0.83	0.243	(0.134)	0.075	0.168
179	14.92	0.83	0.243	(0.134)	0.075	0.168
180	15.00	0.83	0.243	(0.133)	0.075	0.168
181	15.08	0.80	0.233	(0.132)	0.072	0.161
182	15.17	0.80	0.233	(0.132)	0.072	0.161
183	15.25	0.80	0.233	(0.131)	0.072	0.161
184	15.33	0.77	0.224	(0.130)	0.069	0.154
185	15.42	0.77	0.224	(0.130)	0.069	0.154
186	15.50	0.77	0.224	(0.129)	0.069	0.154
187	15.58	0.63	0.185	(0.128)	0.057	0.127
188	15.67	0.63	0.185	(0.128)	0.057	0.127
189	15.75	0.63	0.185	(0.127)	0.057	0.127
190	15.83	0.63	0.185	(0.126)	0.057	0.127
191	15.92	0.63	0.185	(0.126)	0.057	0.127
192	16.00	0.63	0.185	(0.125)	0.057	0.127
193	16.08	0.13	0.039	(0.125)	0.012	0.027
194	16.17	0.13	0.039	(0.124)	0.012	0.027
195	16.25	0.13	0.039	(0.123)	0.012	0.027
196	16.33	0.13	0.039	(0.123)	0.012	0.027
197	16.42	0.13	0.039	(0.122)	0.012	0.027

198	16.50	0.13	0.039	(0.121)	0.012	0.027
199	16.58	0.10	0.029	(0.121)	0.009	0.020
200	16.67	0.10	0.029	(0.120)	0.009	0.020
201	16.75	0.10	0.029	(0.120)	0.009	0.020
202	16.83	0.10	0.029	(0.119)	0.009	0.020
203	16.92	0.10	0.029	(0.118)	0.009	0.020
204	17.00	0.10	0.029	(0.118)	0.009	0.020
205	17.08	0.17	0.049	(0.117)	0.015	0.034
206	17.17	0.17	0.049	(0.117)	0.015	0.034
207	17.25	0.17	0.049	(0.116)	0.015	0.034
208	17.33	0.17	0.049	(0.115)	0.015	0.034
209	17.42	0.17	0.049	(0.115)	0.015	0.034
210	17.50	0.17	0.049	(0.114)	0.015	0.034
211	17.58	0.17	0.049	(0.114)	0.015	0.034
212	17.67	0.17	0.049	(0.113)	0.015	0.034
213	17.75	0.17	0.049	(0.113)	0.015	0.034
214	17.83	0.13	0.039	(0.112)	0.012	0.027
215	17.92	0.13	0.039	(0.111)	0.012	0.027
216	18.00	0.13	0.039	(0.111)	0.012	0.027
217	18.08	0.13	0.039	(0.110)	0.012	0.027
218	18.17	0.13	0.039	(0.110)	0.012	0.027
219	18.25	0.13	0.039	(0.109)	0.012	0.027
220	18.33	0.13	0.039	(0.109)	0.012	0.027
221	18.42	0.13	0.039	(0.108)	0.012	0.027
222	18.50	0.13	0.039	(0.108)	0.012	0.027
223	18.58	0.10	0.029	(0.107)	0.009	0.020
224	18.67	0.10	0.029	(0.107)	0.009	0.020
225	18.75	0.10	0.029	(0.106)	0.009	0.020
226	18.83	0.07	0.019	(0.106)	0.006	0.013
227	18.92	0.07	0.019	(0.105)	0.006	0.013
228	19.00	0.07	0.019	(0.105)	0.006	0.013
229	19.08	0.10	0.029	(0.104)	0.009	0.020
230	19.17	0.10	0.029	(0.104)	0.009	0.020
231	19.25	0.10	0.029	(0.103)	0.009	0.020
232	19.33	0.13	0.039	(0.103)	0.012	0.027
233	19.42	0.13	0.039	(0.102)	0.012	0.027
234	19.50	0.13	0.039	(0.102)	0.012	0.027
235	19.58	0.10	0.029	(0.101)	0.009	0.020
236	19.67	0.10	0.029	(0.101)	0.009	0.020
237	19.75	0.10	0.029	(0.100)	0.009	0.020
238	19.83	0.07	0.019	(0.100)	0.006	0.013
239	19.92	0.07	0.019	(0.099)	0.006	0.013
240	20.00	0.07	0.019	(0.099)	0.006	0.013
241	20.08	0.10	0.029	(0.099)	0.009	0.020
242	20.17	0.10	0.029	(0.098)	0.009	0.020
243	20.25	0.10	0.029	(0.098)	0.009	0.020
244	20.33	0.10	0.029	(0.097)	0.009	0.020
245	20.42	0.10	0.029	(0.097)	0.009	0.020
246	20.50	0.10	0.029	(0.096)	0.009	0.020
247	20.58	0.10	0.029	(0.096)	0.009	0.020

248	20.67	0.10	0.029	(0.096)	0.009	0.020
249	20.75	0.10	0.029	(0.095)	0.009	0.020
250	20.83	0.07	0.019	(0.095)	0.006	0.013
251	20.92	0.07	0.019	(0.094)	0.006	0.013
252	21.00	0.07	0.019	(0.094)	0.006	0.013
253	21.08	0.10	0.029	(0.094)	0.009	0.020
254	21.17	0.10	0.029	(0.093)	0.009	0.020
255	21.25	0.10	0.029	(0.093)	0.009	0.020
256	21.33	0.07	0.019	(0.093)	0.006	0.013
257	21.42	0.07	0.019	(0.092)	0.006	0.013
258	21.50	0.07	0.019	(0.092)	0.006	0.013
259	21.58	0.10	0.029	(0.092)	0.009	0.020
260	21.67	0.10	0.029	(0.091)	0.009	0.020
261	21.75	0.10	0.029	(0.091)	0.009	0.020
262	21.83	0.07	0.019	(0.091)	0.006	0.013
263	21.92	0.07	0.019	(0.090)	0.006	0.013
264	22.00	0.07	0.019	(0.090)	0.006	0.013
265	22.08	0.10	0.029	(0.090)	0.009	0.020
266	22.17	0.10	0.029	(0.089)	0.009	0.020
267	22.25	0.10	0.029	(0.089)	0.009	0.020
268	22.33	0.07	0.019	(0.089)	0.006	0.013
269	22.42	0.07	0.019	(0.089)	0.006	0.013
270	22.50	0.07	0.019	(0.088)	0.006	0.013
271	22.58	0.07	0.019	(0.088)	0.006	0.013
272	22.67	0.07	0.019	(0.088)	0.006	0.013
273	22.75	0.07	0.019	(0.088)	0.006	0.013
274	22.83	0.07	0.019	(0.087)	0.006	0.013
275	22.92	0.07	0.019	(0.087)	0.006	0.013
276	23.00	0.07	0.019	(0.087)	0.006	0.013
277	23.08	0.07	0.019	(0.087)	0.006	0.013
278	23.17	0.07	0.019	(0.087)	0.006	0.013
279	23.25	0.07	0.019	(0.086)	0.006	0.013
280	23.33	0.07	0.019	(0.086)	0.006	0.013
281	23.42	0.07	0.019	(0.086)	0.006	0.013
282	23.50	0.07	0.019	(0.086)	0.006	0.013
283	23.58	0.07	0.019	(0.086)	0.006	0.013
284	23.67	0.07	0.019	(0.086)	0.006	0.013
285	23.75	0.07	0.019	(0.085)	0.006	0.013
286	23.83	0.07	0.019	(0.085)	0.006	0.013
287	23.92	0.07	0.019	(0.085)	0.006	0.013
288	24.00	0.07	0.019	(0.085)	0.006	0.013

(Loss Rate Not Used)

Sum = 100.0

Sum = 20.1

Flood volume = Effective rainfall 1.68(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 0.75(In)

Total soil loss = 0.080(Ac.Ft)

Total rainfall = 2.43(In)

Flood volume = 7711.5 Cubic Feet

Total soil loss = 3464.6 Cubic Feet

Peak flow rate of this hydrograph = 0.291(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.01	Q				
0+10	0.0002		0.02	Q				
0+15	0.0003		0.02	Q				
0+20	0.0005		0.02	Q				
0+25	0.0007		0.03	Q				
0+30	0.0008		0.03	Q				
0+35	0.0010		0.03	Q				
0+40	0.0012		0.03	Q				
0+45	0.0014		0.03	Q				
0+50	0.0016		0.03	Q				
0+55	0.0018		0.03	Q				
1+ 0	0.0020		0.03	Q				
1+ 5	0.0022		0.03	Q				
1+10	0.0024		0.03	Q				
1+15	0.0026		0.03	Q				
1+20	0.0028		0.03	Q				
1+25	0.0030		0.03	Q				
1+30	0.0031		0.03	Q				
1+35	0.0033		0.03	Q				
1+40	0.0035		0.03	Q				
1+45	0.0037		0.03	Q				
1+50	0.0039		0.03	Q				
1+55	0.0041		0.03	Q				
2+ 0	0.0043		0.03	Q				
2+ 5	0.0046		0.03	QV				
2+10	0.0048		0.03	QV				
2+15	0.0051		0.03	QV				
2+20	0.0053		0.03	QV				
2+25	0.0055		0.03	QV				
2+30	0.0058		0.03	QV				
2+35	0.0060		0.04	QV				
2+40	0.0063		0.04	QV				
2+45	0.0066		0.04	QV				
2+50	0.0069		0.04	QV				
2+55	0.0072		0.04	QV				
3+ 0	0.0075		0.04	QV				
3+ 5	0.0078		0.04	QV				
3+10	0.0081		0.04	QV				

3+15	0.0084	0.04	QV				
3+20	0.0087	0.04	QV				
3+25	0.0090	0.04	Q V				
3+30	0.0093	0.04	Q V				
3+35	0.0096	0.04	Q V				
3+40	0.0099	0.04	Q V				
3+45	0.0102	0.04	Q V				
3+50	0.0105	0.05	Q V				
3+55	0.0109	0.05	Q V				
4+ 0	0.0112	0.05	Q V				
4+ 5	0.0116	0.05	Q V				
4+10	0.0119	0.05	Q V				
4+15	0.0123	0.05	Q V				
4+20	0.0127	0.06	Q V				
4+25	0.0131	0.06	Q V				
4+30	0.0135	0.06	Q V				
4+35	0.0139	0.06	Q V				
4+40	0.0143	0.06	Q V				
4+45	0.0147	0.06	Q V				
4+50	0.0152	0.07	Q V				
4+55	0.0157	0.07	Q V				
5+ 0	0.0161	0.07	Q V				
5+ 5	0.0165	0.06	Q V				
5+10	0.0169	0.05	Q V				
5+15	0.0172	0.05	Q V				
5+20	0.0176	0.06	Q V				
5+25	0.0180	0.06	Q V				
5+30	0.0185	0.06	Q V				
5+35	0.0189	0.07	Q V				
5+40	0.0194	0.07	Q V				
5+45	0.0199	0.07	Q V				
5+50	0.0203	0.07	Q V				
5+55	0.0208	0.07	Q V				
6+ 0	0.0213	0.07	Q V				
6+ 5	0.0218	0.07	Q V				
6+10	0.0223	0.08	Q V				
6+15	0.0228	0.08	Q V				
6+20	0.0234	0.08	Q V				
6+25	0.0239	0.08	Q V				
6+30	0.0244	0.08	Q V				
6+35	0.0250	0.08	Q V				
6+40	0.0256	0.09	Q V				
6+45	0.0262	0.09	Q V				
6+50	0.0268	0.09	Q V				
6+55	0.0274	0.09	Q V				
7+ 0	0.0280	0.09	Q V				
7+ 5	0.0285	0.09	Q V				
7+10	0.0291	0.09	Q V				
7+15	0.0297	0.09	Q V				
7+20	0.0304	0.09	Q V				

7+25	0.0310	0.09	Q	V				
7+30	0.0317	0.09	Q	V				
7+35	0.0323	0.10	Q	V				
7+40	0.0331	0.10	Q	V				
7+45	0.0338	0.10	Q	V				
7+50	0.0345	0.11	Q	V				
7+55	0.0353	0.11	Q	V				
8+ 0	0.0360	0.11	Q	V				
8+ 5	0.0369	0.12	Q	V				
8+10	0.0378	0.13	Q	V				
8+15	0.0387	0.13	Q	V				
8+20	0.0395	0.13	Q	V				
8+25	0.0404	0.13	Q	V				
8+30	0.0413	0.13	Q	V				
8+35	0.0422	0.13	Q	V				
8+40	0.0432	0.14	Q	V				
8+45	0.0441	0.14	Q	V				
8+50	0.0451	0.14	Q	V				
8+55	0.0461	0.15	Q	V				
9+ 0	0.0471	0.15	Q	V				
9+ 5	0.0482	0.16	Q	V				
9+10	0.0493	0.16	Q	V				
9+15	0.0504	0.16	Q	V				
9+20	0.0516	0.17	Q	V				
9+25	0.0528	0.17	Q	V				
9+30	0.0540	0.17	Q	V				
9+35	0.0552	0.18	Q	V				
9+40	0.0564	0.18	Q	V				
9+45	0.0577	0.18	Q	V				
9+50	0.0589	0.19	Q	V				
9+55	0.0602	0.19	Q	V				
10+ 0	0.0615	0.19	Q	V				
10+ 5	0.0626	0.15	Q	V				
10+10	0.0634	0.13	Q	V				
10+15	0.0643	0.13	Q	V				
10+20	0.0652	0.13	Q	V				
10+25	0.0661	0.13	Q	V				
10+30	0.0670	0.13	Q	V				
10+35	0.0681	0.16	Q	V				
10+40	0.0693	0.17	Q	V				
10+45	0.0704	0.17	Q	V				
10+50	0.0716	0.17	Q	V				
10+55	0.0728	0.17	Q	V				
11+ 0	0.0740	0.17	Q	V				
11+ 5	0.0751	0.17	Q	V				
11+10	0.0762	0.16	Q	V				
11+15	0.0774	0.16	Q	V				
11+20	0.0785	0.16	Q	V				
11+25	0.0796	0.16	Q	V				
11+30	0.0807	0.16	Q	V				

11+35	0.0818	0.15	Q	V			
11+40	0.0828	0.15	Q	V			
11+45	0.0838	0.15	Q	V			
11+50	0.0848	0.15	Q	V			
11+55	0.0859	0.15	Q	V			
12+ 0	0.0869	0.15	Q	V			
12+ 5	0.0883	0.19	Q	V			
12+10	0.0898	0.21	Q	V			
12+15	0.0912	0.21	Q	V			
12+20	0.0927	0.22	Q	V			
12+25	0.0943	0.22	Q	V			
12+30	0.0958	0.22	Q	V			
12+35	0.0974	0.23	Q	V			
12+40	0.0991	0.24	Q	V			
12+45	0.1007	0.24	Q	V			
12+50	0.1024	0.25	Q	V			
12+55	0.1041	0.25	Q	V			
13+ 0	0.1058	0.25	Q	V			
13+ 5	0.1078	0.28	Q	V			
13+10	0.1098	0.29	Q	V			
13+15	0.1118	0.29	Q	V			
13+20	0.1138	0.29	Q	V			
13+25	0.1158	0.29	Q	V			
13+30	0.1178	0.29	Q	V			
13+35	0.1194	0.23	Q	V			
13+40	0.1207	0.20	Q	V			
13+45	0.1221	0.20	Q	V			
13+50	0.1234	0.20	Q	V			
13+55	0.1248	0.20	Q	V			
14+ 0	0.1261	0.20	Q	V			
14+ 5	0.1277	0.22	Q	V			
14+10	0.1292	0.23	Q	V			
14+15	0.1308	0.23	Q	V			
14+20	0.1324	0.23	Q	V			
14+25	0.1339	0.22	Q	V			
14+30	0.1355	0.22	Q	V			
14+35	0.1370	0.22	Q	V			
14+40	0.1385	0.22	Q	V			
14+45	0.1401	0.22	Q	V			
14+50	0.1416	0.22	Q	V			
14+55	0.1430	0.21	Q	V			
15+ 0	0.1445	0.21	Q	V			
15+ 5	0.1459	0.21	Q	V			
15+10	0.1474	0.21	Q	V			
15+15	0.1488	0.21	Q	V			
15+20	0.1502	0.20	Q	V			
15+25	0.1515	0.20	Q	V			
15+30	0.1529	0.20	Q	V			
15+35	0.1541	0.17	Q	V			
15+40	0.1552	0.16	Q	V			

15+45	0.1563	0.16	Q				V
15+50	0.1574	0.16	Q				V
15+55	0.1586	0.16	Q				V
16+ 0	0.1597	0.16	Q				V
16+ 5	0.1602	0.08	Q				V
16+10	0.1604	0.03	Q				V
16+15	0.1607	0.03	Q				V
16+20	0.1609	0.03	Q				V
16+25	0.1611	0.03	Q				V
16+30	0.1614	0.03	Q				V
16+35	0.1616	0.03	Q				V
16+40	0.1617	0.03	Q				V
16+45	0.1619	0.03	Q				V
16+50	0.1621	0.03	Q				V
16+55	0.1623	0.03	Q				V
17+ 0	0.1625	0.03	Q				V
17+ 5	0.1627	0.04	Q				V
17+10	0.1630	0.04	Q				V
17+15	0.1633	0.04	Q				V
17+20	0.1636	0.04	Q				V
17+25	0.1639	0.04	Q				V
17+30	0.1642	0.04	Q				V
17+35	0.1645	0.04	Q				V
17+40	0.1648	0.04	Q				V
17+45	0.1651	0.04	Q				V
17+50	0.1653	0.04	Q				V
17+55	0.1656	0.03	Q				V
18+ 0	0.1658	0.03	Q				V
18+ 5	0.1660	0.03	Q				V
18+10	0.1663	0.03	Q				V
18+15	0.1665	0.03	Q				V
18+20	0.1667	0.03	Q				V
18+25	0.1670	0.03	Q				V
18+30	0.1672	0.03	Q				V
18+35	0.1674	0.03	Q				V
18+40	0.1676	0.03	Q				V
18+45	0.1678	0.03	Q				V
18+50	0.1679	0.02	Q				V
18+55	0.1680	0.02	Q				V
19+ 0	0.1681	0.02	Q				V
19+ 5	0.1683	0.02	Q				V
19+10	0.1685	0.03	Q				V
19+15	0.1687	0.03	Q				V
19+20	0.1689	0.03	Q				V
19+25	0.1691	0.03	Q				V
19+30	0.1693	0.03	Q				V
19+35	0.1695	0.03	Q				V
19+40	0.1697	0.03	Q				V
19+45	0.1699	0.03	Q				V
19+50	0.1700	0.02	Q				V

19+55	0.1701	0.02	Q				V
20+ 0	0.1703	0.02	Q				V
20+ 5	0.1704	0.02	Q				V
20+10	0.1706	0.03	Q				V
20+15	0.1708	0.03	Q				V
20+20	0.1710	0.03	Q				V
20+25	0.1711	0.03	Q				V
20+30	0.1713	0.03	Q				V
20+35	0.1715	0.03	Q				V
20+40	0.1717	0.03	Q				V
20+45	0.1718	0.03	Q				V
20+50	0.1720	0.02	Q				V
20+55	0.1721	0.02	Q				V
21+ 0	0.1722	0.02	Q				V
21+ 5	0.1724	0.02	Q				V
21+10	0.1725	0.03	Q				V
21+15	0.1727	0.03	Q				V
21+20	0.1729	0.02	Q				V
21+25	0.1730	0.02	Q				V
21+30	0.1731	0.02	Q				V
21+35	0.1733	0.02	Q				V
21+40	0.1734	0.03	Q				V
21+45	0.1736	0.03	Q				V
21+50	0.1737	0.02	Q				V
21+55	0.1739	0.02	Q				V
22+ 0	0.1740	0.02	Q				V
22+ 5	0.1741	0.02	Q				V
22+10	0.1743	0.03	Q				V
22+15	0.1745	0.03	Q				V
22+20	0.1746	0.02	Q				V
22+25	0.1748	0.02	Q				V
22+30	0.1749	0.02	Q				V
22+35	0.1750	0.02	Q				V
22+40	0.1751	0.02	Q				V
22+45	0.1752	0.02	Q				V
22+50	0.1753	0.02	Q				V
22+55	0.1755	0.02	Q				V
23+ 0	0.1756	0.02	Q				V
23+ 5	0.1757	0.02	Q				V
23+10	0.1758	0.02	Q				V
23+15	0.1759	0.02	Q				V
23+20	0.1760	0.02	Q				V
23+25	0.1762	0.02	Q				V
23+30	0.1763	0.02	Q				V
23+35	0.1764	0.02	Q				V
23+40	0.1765	0.02	Q				V
23+45	0.1766	0.02	Q				V
23+50	0.1768	0.02	Q				V
23+55	0.1769	0.02	Q				V
24+ 0	0.1770	0.02	Q				V

24+ 5

0.1770

0.01 Q

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Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
5-Year
1-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	0.48	0.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	1.34	1.70

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.684(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.684(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
		Sum = 100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.361	(0.170)	0.112	0.249
2	0.17	4.50	0.369	(0.170)	0.114	0.255
3	0.25	5.40	0.443	(0.170)	0.137	0.306
4	0.33	5.40	0.443	(0.170)	0.137	0.306
5	0.42	5.70	0.468	(0.170)	0.145	0.323
6	0.50	6.40	0.525	(0.170)	0.163	0.362
7	0.58	7.90	0.648	0.170	(0.201)	0.478
8	0.67	9.10	0.747	0.170	(0.231)	0.576
9	0.75	12.80	1.050	0.170	(0.326)	0.880
10	0.83	25.60	2.100	0.170	(0.651)	1.930
11	0.92	7.90	0.648	0.170	(0.201)	0.478
12	1.00	4.90	0.402	(0.170)	0.125	0.277

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.4

Flood volume = Effective rainfall 0.53(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.016(Ac.Ft)
Total rainfall = 0.68(In)
Flood volume = 2460.2 Cubic Feet
Total soil loss = 684.4 Cubic Feet

Peak flow rate of this hydrograph = 2.032(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0015	0.22	QV				
0+10	0.0037	0.32	QV				
0+15	0.0063	0.37	Q V				
0+20	0.0089	0.39	Q V				
0+25	0.0117	0.41	Q V				
0+30	0.0148	0.45	Q V				
0+35	0.0187	0.56	Q V				
0+40	0.0235	0.70	Q V				
0+45	0.0304	1.00	Q V				
0+50	0.0443	2.03	Q V				
0+55	0.0527	1.21	Q V				
1+ 0	0.0557	0.44	Q V				

1+ 5

0.0565

0.11 Q

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Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST35.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
5-Year
3-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	0.88	1.11

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	2.20	2.79

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.187(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.187(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
Sum =		100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.185	(0.170)	0.057	0.128
2	0.17	1.30	0.185	(0.170)	0.057	0.128
3	0.25	1.10	0.157	(0.170)	0.049	0.108
4	0.33	1.50	0.214	(0.170)	0.066	0.147
5	0.42	1.50	0.214	(0.170)	0.066	0.147
6	0.50	1.80	0.256	(0.170)	0.079	0.177
7	0.58	1.50	0.214	(0.170)	0.066	0.147
8	0.67	1.80	0.256	(0.170)	0.079	0.177
9	0.75	1.80	0.256	(0.170)	0.079	0.177
10	0.83	1.50	0.214	(0.170)	0.066	0.147
11	0.92	1.60	0.228	(0.170)	0.071	0.157
12	1.00	1.80	0.256	(0.170)	0.079	0.177
13	1.08	2.20	0.313	(0.170)	0.097	0.216
14	1.17	2.20	0.313	(0.170)	0.097	0.216
15	1.25	2.20	0.313	(0.170)	0.097	0.216
16	1.33	2.00	0.285	(0.170)	0.088	0.197
17	1.42	2.60	0.370	(0.170)	0.115	0.256
18	1.50	2.70	0.385	(0.170)	0.119	0.265
19	1.58	2.40	0.342	(0.170)	0.106	0.236
20	1.67	2.70	0.385	(0.170)	0.119	0.265
21	1.75	3.30	0.470	(0.170)	0.146	0.324
22	1.83	3.10	0.442	(0.170)	0.137	0.305
23	1.92	2.90	0.413	(0.170)	0.128	0.285
24	2.00	3.00	0.427	(0.170)	0.132	0.295
25	2.08	3.10	0.442	(0.170)	0.137	0.305
26	2.17	4.20	0.598	0.170	(0.185)	0.428
27	2.25	5.00	0.712	0.170	(0.221)	0.542
28	2.33	3.50	0.498	(0.170)	0.155	0.344
29	2.42	6.80	0.968	0.170	(0.300)	0.798
30	2.50	7.30	1.040	0.170	(0.322)	0.869
31	2.58	8.20	1.168	0.170	(0.362)	0.997
32	2.67	5.90	0.840	0.170	(0.260)	0.670
33	2.75	2.00	0.285	(0.170)	0.088	0.197
34	2.83	1.80	0.256	(0.170)	0.079	0.177
35	2.92	1.80	0.256	(0.170)	0.079	0.177
36	3.00	0.60	0.085	(0.170)	0.026	0.059

(Loss Rate Not Used)

Sum = 100.0

Sum = 10.5

Flood volume = Effective rainfall 0.87(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.32(In)
Total soil loss = 0.033(Ac.Ft)
Total rainfall = 1.19(In)
Flood volume = 4007.4 Cubic Feet
Total soil loss = 1451.3 Cubic Feet

Peak flow rate of this hydrograph = 1.221(CFS)

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3 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

 Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0008		0.11	Q				
0+10	0.0019		0.16	Q				
0+15	0.0029		0.15	QV				
0+20	0.0041		0.17	QV				
0+25	0.0054		0.19	Q V				
0+30	0.0068		0.21	Q V				
0+35	0.0082		0.20	Q V				
0+40	0.0097		0.21	Q V				
0+45	0.0113		0.23	Q V				
0+50	0.0126		0.20	Q V				
0+55	0.0140		0.20	Q V				
1+ 0	0.0155		0.22	Q V				
1+ 5	0.0173		0.26	Q V				
1+10	0.0192		0.28	Q V				
1+15	0.0211		0.28	Q V				
1+20	0.0229		0.26	Q V				
1+25	0.0250		0.30	Q V				
1+30	0.0273		0.33	Q V				
1+35	0.0294		0.31	Q V				
1+40	0.0317		0.33	Q V				
1+45	0.0344		0.39	Q V				
1+50	0.0371		0.40	Q V				
1+55	0.0397		0.37	Q V				
2+ 0	0.0422		0.37	Q V				
2+ 5	0.0449		0.39	Q V				
2+10	0.0483		0.50	Q V				
2+15	0.0527		0.64	Q V				
2+20	0.0563		0.52	Q V				
2+25	0.0620		0.83	Q V				
2+30	0.0695		1.08	Q V				
2+35	0.0779		1.22	Q V				
2+40	0.0847		0.99	Q V				
2+45	0.0878		0.45	Q V				
2+50	0.0894		0.23	Q				
2+55	0.0910		0.23	Q				
3+ 0	0.0918		0.12	Q				
3+ 5	0.0920		0.02	Q				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST65.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
5-Year
6-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	1.27	1.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	3.12	3.95

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 1.703(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.703(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
Sum =		100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.102	(0.170)	0.032	0.071
2	0.17	0.60	0.123	(0.170)	0.038	0.085
3	0.25	0.60	0.123	(0.170)	0.038	0.085
4	0.33	0.60	0.123	(0.170)	0.038	0.085
5	0.42	0.60	0.123	(0.170)	0.038	0.085
6	0.50	0.70	0.143	(0.170)	0.044	0.099
7	0.58	0.70	0.143	(0.170)	0.044	0.099
8	0.67	0.70	0.143	(0.170)	0.044	0.099
9	0.75	0.70	0.143	(0.170)	0.044	0.099
10	0.83	0.70	0.143	(0.170)	0.044	0.099
11	0.92	0.70	0.143	(0.170)	0.044	0.099
12	1.00	0.80	0.164	(0.170)	0.051	0.113
13	1.08	0.80	0.164	(0.170)	0.051	0.113
14	1.17	0.80	0.164	(0.170)	0.051	0.113
15	1.25	0.80	0.164	(0.170)	0.051	0.113
16	1.33	0.80	0.164	(0.170)	0.051	0.113
17	1.42	0.80	0.164	(0.170)	0.051	0.113
18	1.50	0.80	0.164	(0.170)	0.051	0.113
19	1.58	0.80	0.164	(0.170)	0.051	0.113
20	1.67	0.80	0.164	(0.170)	0.051	0.113
21	1.75	0.80	0.164	(0.170)	0.051	0.113
22	1.83	0.80	0.164	(0.170)	0.051	0.113
23	1.92	0.80	0.164	(0.170)	0.051	0.113
24	2.00	0.90	0.184	(0.170)	0.057	0.127
25	2.08	0.80	0.164	(0.170)	0.051	0.113
26	2.17	0.90	0.184	(0.170)	0.057	0.127
27	2.25	0.90	0.184	(0.170)	0.057	0.127
28	2.33	0.90	0.184	(0.170)	0.057	0.127
29	2.42	0.90	0.184	(0.170)	0.057	0.127
30	2.50	0.90	0.184	(0.170)	0.057	0.127
31	2.58	0.90	0.184	(0.170)	0.057	0.127
32	2.67	0.90	0.184	(0.170)	0.057	0.127
33	2.75	1.00	0.204	(0.170)	0.063	0.141
34	2.83	1.00	0.204	(0.170)	0.063	0.141
35	2.92	1.00	0.204	(0.170)	0.063	0.141
36	3.00	1.00	0.204	(0.170)	0.063	0.141
37	3.08	1.00	0.204	(0.170)	0.063	0.141
38	3.17	1.10	0.225	(0.170)	0.070	0.155
39	3.25	1.10	0.225	(0.170)	0.070	0.155
40	3.33	1.10	0.225	(0.170)	0.070	0.155
41	3.42	1.20	0.245	(0.170)	0.076	0.169
42	3.50	1.30	0.266	(0.170)	0.082	0.183
43	3.58	1.40	0.286	(0.170)	0.089	0.197
44	3.67	1.40	0.286	(0.170)	0.089	0.197
45	3.75	1.50	0.307	(0.170)	0.095	0.212
46	3.83	1.50	0.307	(0.170)	0.095	0.212
47	3.92	1.60	0.327	(0.170)	0.101	0.226

48	4.00	1.60	0.327	(0.170)	0.101	0.226
49	4.08	1.70	0.347	(0.170)	0.108	0.240
50	4.17	1.80	0.368	(0.170)	0.114	0.254
51	4.25	1.90	0.388	(0.170)	0.120	0.268
52	4.33	2.00	0.409	(0.170)	0.127	0.282
53	4.42	2.10	0.429	(0.170)	0.133	0.296
54	4.50	2.10	0.429	(0.170)	0.133	0.296
55	4.58	2.20	0.450	(0.170)	0.139	0.310
56	4.67	2.30	0.470	(0.170)	0.146	0.324
57	4.75	2.40	0.491	(0.170)	0.152	0.338
58	4.83	2.40	0.491	(0.170)	0.152	0.338
59	4.92	2.50	0.511	(0.170)	0.158	0.353
60	5.00	2.60	0.531	(0.170)	0.165	0.367
61	5.08	3.10	0.634	0.170 (0.196)		0.463
62	5.17	3.60	0.736	0.170 (0.228)		0.565
63	5.25	3.90	0.797	0.170 (0.247)		0.627
64	5.33	4.20	0.858	0.170 (0.266)		0.688
65	5.42	4.70	0.961	0.170 (0.298)		0.790
66	5.50	5.60	1.145	0.170 (0.355)		0.974
67	5.58	1.90	0.388	(0.170)	0.120	0.268
68	5.67	0.90	0.184	(0.170)	0.057	0.127
69	5.75	0.60	0.123	(0.170)	0.038	0.085
70	5.83	0.50	0.102	(0.170)	0.032	0.071
71	5.92	0.30	0.061	(0.170)	0.019	0.042
72	6.00	0.20	0.041	(0.170)	0.013	0.028

(Loss Rate Not Used)

Sum = 100.0

Sum = 14.7

Flood volume = Effective rainfall 1.22(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.48(In)
Total soil loss = 0.051(Ac.Ft)
Total rainfall = 1.70(In)
Flood volume = 5623.0 Cubic Feet
Total soil loss = 2210.9 Cubic Feet

Peak flow rate of this hydrograph = 1.169(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0011	0.10	Q				
0+15	0.0019	0.11	Q				
0+20	0.0026	0.11	Q				

0+25	0.0034	0.11	QV				
0+30	0.0042	0.12	QV				
0+35	0.0051	0.13	QV				
0+40	0.0059	0.13	QV				
0+45	0.0068	0.13	Q V				
0+50	0.0077	0.13	Q V				
0+55	0.0085	0.13	Q V				
1+ 0	0.0095	0.14	Q V				
1+ 5	0.0105	0.14	Q V				
1+10	0.0115	0.14	Q V				
1+15	0.0125	0.14	Q V				
1+20	0.0135	0.14	Q V				
1+25	0.0144	0.14	Q V				
1+30	0.0154	0.14	Q V				
1+35	0.0164	0.14	Q V				
1+40	0.0174	0.14	Q V				
1+45	0.0184	0.14	Q V				
1+50	0.0194	0.14	Q V				
1+55	0.0204	0.14	Q V				
2+ 0	0.0215	0.16	Q V				
2+ 5	0.0225	0.15	Q V				
2+10	0.0236	0.16	Q V				
2+15	0.0247	0.16	Q V				
2+20	0.0258	0.16	Q V				
2+25	0.0269	0.16	Q V				
2+30	0.0281	0.16	Q V				
2+35	0.0292	0.16	Q V				
2+40	0.0303	0.16	Q V				
2+45	0.0315	0.17	Q V				
2+50	0.0327	0.18	Q V				
2+55	0.0340	0.18	Q V				
3+ 0	0.0352	0.18	Q V				
3+ 5	0.0365	0.18	Q V				
3+10	0.0378	0.19	Q V				
3+15	0.0391	0.20	Q V				
3+20	0.0405	0.20	Q V				
3+25	0.0420	0.21	Q V				
3+30	0.0435	0.23	Q V				
3+35	0.0452	0.25	Q V				
3+40	0.0470	0.25	Q V				
3+45	0.0488	0.26	Q V				
3+50	0.0506	0.27	Q V				
3+55	0.0526	0.28	Q V				
4+ 0	0.0546	0.29	Q V				
4+ 5	0.0566	0.30	Q V				
4+10	0.0588	0.32	Q V				
4+15	0.0612	0.34	Q V				
4+20	0.0636	0.35	Q V				
4+25	0.0662	0.37	Q V				
4+30	0.0688	0.38	Q V				

4+35	0.0715	0.39	Q			V		
4+40	0.0743	0.41	Q			V		
4+45	0.0772	0.43	Q			V		
4+50	0.0802	0.43	Q			V		
4+55	0.0833	0.44	Q			V		
5+ 0	0.0864	0.46	Q			V		
5+ 5	0.0902	0.55	Q			V		
5+10	0.0949	0.68	Q			V		
5+15	0.1003	0.78	Q			V	V	
5+20	0.1061	0.85	Q			V	V	
5+25	0.1128	0.97	Q			V	V	
5+30	0.1209	1.17	Q			V	V	V
5+35	0.1252	0.63	Q			V	V	V
5+40	0.1267	0.22	Q			V	V	V
5+45	0.1276	0.13	Q			V	V	V
5+50	0.1283	0.10	Q			V	V	V
5+55	0.1287	0.07	Q			V	V	V
6+ 0	0.1290	0.04	Q			V	V	V
6+ 5	0.1291	0.01	Q			V	V	V

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST245.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
5-Year
24-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	2.43	3.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	6.58	8.34

STORM EVENT (YEAR) = 5.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 3.402(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.402(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	39.0	0.679	0.832	0.170	1.000	0.170
Sum (F) =						0.170

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	440.419	67.679	0.864
2 0.167	880.839	32.321	0.413
Sum = 100.000		Sum=	1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.027	(0.302)	0.008	0.019
2	0.17	0.07	0.027	(0.301)	0.008	0.019
3	0.25	0.07	0.027	(0.300)	0.008	0.019
4	0.33	0.10	0.041	(0.299)	0.013	0.028
5	0.42	0.10	0.041	(0.297)	0.013	0.028
6	0.50	0.10	0.041	(0.296)	0.013	0.028
7	0.58	0.10	0.041	(0.295)	0.013	0.028
8	0.67	0.10	0.041	(0.294)	0.013	0.028
9	0.75	0.10	0.041	(0.293)	0.013	0.028
10	0.83	0.13	0.054	(0.292)	0.017	0.038
11	0.92	0.13	0.054	(0.291)	0.017	0.038
12	1.00	0.13	0.054	(0.289)	0.017	0.038
13	1.08	0.10	0.041	(0.288)	0.013	0.028
14	1.17	0.10	0.041	(0.287)	0.013	0.028
15	1.25	0.10	0.041	(0.286)	0.013	0.028
16	1.33	0.10	0.041	(0.285)	0.013	0.028
17	1.42	0.10	0.041	(0.284)	0.013	0.028
18	1.50	0.10	0.041	(0.283)	0.013	0.028
19	1.58	0.10	0.041	(0.281)	0.013	0.028
20	1.67	0.10	0.041	(0.280)	0.013	0.028
21	1.75	0.10	0.041	(0.279)	0.013	0.028
22	1.83	0.13	0.054	(0.278)	0.017	0.038
23	1.92	0.13	0.054	(0.277)	0.017	0.038
24	2.00	0.13	0.054	(0.276)	0.017	0.038
25	2.08	0.13	0.054	(0.275)	0.017	0.038
26	2.17	0.13	0.054	(0.274)	0.017	0.038
27	2.25	0.13	0.054	(0.273)	0.017	0.038
28	2.33	0.13	0.054	(0.271)	0.017	0.038
29	2.42	0.13	0.054	(0.270)	0.017	0.038
30	2.50	0.13	0.054	(0.269)	0.017	0.038
31	2.58	0.17	0.068	(0.268)	0.021	0.047
32	2.67	0.17	0.068	(0.267)	0.021	0.047
33	2.75	0.17	0.068	(0.266)	0.021	0.047
34	2.83	0.17	0.068	(0.265)	0.021	0.047
35	2.92	0.17	0.068	(0.264)	0.021	0.047
36	3.00	0.17	0.068	(0.263)	0.021	0.047
37	3.08	0.17	0.068	(0.262)	0.021	0.047
38	3.17	0.17	0.068	(0.260)	0.021	0.047
39	3.25	0.17	0.068	(0.259)	0.021	0.047
40	3.33	0.17	0.068	(0.258)	0.021	0.047
41	3.42	0.17	0.068	(0.257)	0.021	0.047
42	3.50	0.17	0.068	(0.256)	0.021	0.047
43	3.58	0.17	0.068	(0.255)	0.021	0.047
44	3.67	0.17	0.068	(0.254)	0.021	0.047
45	3.75	0.17	0.068	(0.253)	0.021	0.047
46	3.83	0.20	0.082	(0.252)	0.025	0.056
47	3.92	0.20	0.082	(0.251)	0.025	0.056

48	4.00	0.20	0.082	(0.250)	0.025	0.056
49	4.08	0.20	0.082	(0.249)	0.025	0.056
50	4.17	0.20	0.082	(0.248)	0.025	0.056
51	4.25	0.20	0.082	(0.247)	0.025	0.056
52	4.33	0.23	0.095	(0.245)	0.030	0.066
53	4.42	0.23	0.095	(0.244)	0.030	0.066
54	4.50	0.23	0.095	(0.243)	0.030	0.066
55	4.58	0.23	0.095	(0.242)	0.030	0.066
56	4.67	0.23	0.095	(0.241)	0.030	0.066
57	4.75	0.23	0.095	(0.240)	0.030	0.066
58	4.83	0.27	0.109	(0.239)	0.034	0.075
59	4.92	0.27	0.109	(0.238)	0.034	0.075
60	5.00	0.27	0.109	(0.237)	0.034	0.075
61	5.08	0.20	0.082	(0.236)	0.025	0.056
62	5.17	0.20	0.082	(0.235)	0.025	0.056
63	5.25	0.20	0.082	(0.234)	0.025	0.056
64	5.33	0.23	0.095	(0.233)	0.030	0.066
65	5.42	0.23	0.095	(0.232)	0.030	0.066
66	5.50	0.23	0.095	(0.231)	0.030	0.066
67	5.58	0.27	0.109	(0.230)	0.034	0.075
68	5.67	0.27	0.109	(0.229)	0.034	0.075
69	5.75	0.27	0.109	(0.228)	0.034	0.075
70	5.83	0.27	0.109	(0.227)	0.034	0.075
71	5.92	0.27	0.109	(0.226)	0.034	0.075
72	6.00	0.27	0.109	(0.225)	0.034	0.075
73	6.08	0.30	0.122	(0.224)	0.038	0.085
74	6.17	0.30	0.122	(0.223)	0.038	0.085
75	6.25	0.30	0.122	(0.222)	0.038	0.085
76	6.33	0.30	0.122	(0.221)	0.038	0.085
77	6.42	0.30	0.122	(0.220)	0.038	0.085
78	6.50	0.30	0.122	(0.219)	0.038	0.085
79	6.58	0.33	0.136	(0.218)	0.042	0.094
80	6.67	0.33	0.136	(0.217)	0.042	0.094
81	6.75	0.33	0.136	(0.216)	0.042	0.094
82	6.83	0.33	0.136	(0.215)	0.042	0.094
83	6.92	0.33	0.136	(0.214)	0.042	0.094
84	7.00	0.33	0.136	(0.213)	0.042	0.094
85	7.08	0.33	0.136	(0.212)	0.042	0.094
86	7.17	0.33	0.136	(0.211)	0.042	0.094
87	7.25	0.33	0.136	(0.210)	0.042	0.094
88	7.33	0.37	0.150	(0.209)	0.046	0.103
89	7.42	0.37	0.150	(0.208)	0.046	0.103
90	7.50	0.37	0.150	(0.207)	0.046	0.103
91	7.58	0.40	0.163	(0.206)	0.051	0.113
92	7.67	0.40	0.163	(0.205)	0.051	0.113
93	7.75	0.40	0.163	(0.205)	0.051	0.113
94	7.83	0.43	0.177	(0.204)	0.055	0.122
95	7.92	0.43	0.177	(0.203)	0.055	0.122
96	8.00	0.43	0.177	(0.202)	0.055	0.122
97	8.08	0.50	0.204	(0.201)	0.063	0.141

98	8.17	0.50	0.204	(0.200)	0.063	0.141
99	8.25	0.50	0.204	(0.199)	0.063	0.141
100	8.33	0.50	0.204	(0.198)	0.063	0.141
101	8.42	0.50	0.204	(0.197)	0.063	0.141
102	8.50	0.50	0.204	(0.196)	0.063	0.141
103	8.58	0.53	0.218	(0.195)	0.067	0.150
104	8.67	0.53	0.218	(0.194)	0.067	0.150
105	8.75	0.53	0.218	(0.193)	0.067	0.150
106	8.83	0.57	0.231	(0.192)	0.072	0.160
107	8.92	0.57	0.231	(0.192)	0.072	0.160
108	9.00	0.57	0.231	(0.191)	0.072	0.160
109	9.08	0.63	0.259	(0.190)	0.080	0.178
110	9.17	0.63	0.259	(0.189)	0.080	0.178
111	9.25	0.63	0.259	(0.188)	0.080	0.178
112	9.33	0.67	0.272	(0.187)	0.084	0.188
113	9.42	0.67	0.272	(0.186)	0.084	0.188
114	9.50	0.67	0.272	(0.185)	0.084	0.188
115	9.58	0.70	0.286	(0.184)	0.089	0.197
116	9.67	0.70	0.286	(0.183)	0.089	0.197
117	9.75	0.70	0.286	(0.183)	0.089	0.197
118	9.83	0.73	0.299	(0.182)	0.093	0.207
119	9.92	0.73	0.299	(0.181)	0.093	0.207
120	10.00	0.73	0.299	(0.180)	0.093	0.207
121	10.08	0.50	0.204	(0.179)	0.063	0.141
122	10.17	0.50	0.204	(0.178)	0.063	0.141
123	10.25	0.50	0.204	(0.177)	0.063	0.141
124	10.33	0.50	0.204	(0.177)	0.063	0.141
125	10.42	0.50	0.204	(0.176)	0.063	0.141
126	10.50	0.50	0.204	(0.175)	0.063	0.141
127	10.58	0.67	0.272	(0.174)	0.084	0.188
128	10.67	0.67	0.272	(0.173)	0.084	0.188
129	10.75	0.67	0.272	(0.172)	0.084	0.188
130	10.83	0.67	0.272	(0.171)	0.084	0.188
131	10.92	0.67	0.272	(0.171)	0.084	0.188
132	11.00	0.67	0.272	(0.170)	0.084	0.188
133	11.08	0.63	0.259	(0.169)	0.080	0.178
134	11.17	0.63	0.259	(0.168)	0.080	0.178
135	11.25	0.63	0.259	(0.167)	0.080	0.178
136	11.33	0.63	0.259	(0.166)	0.080	0.178
137	11.42	0.63	0.259	(0.166)	0.080	0.178
138	11.50	0.63	0.259	(0.165)	0.080	0.178
139	11.58	0.57	0.231	(0.164)	0.072	0.160
140	11.67	0.57	0.231	(0.163)	0.072	0.160
141	11.75	0.57	0.231	(0.162)	0.072	0.160
142	11.83	0.60	0.245	(0.162)	0.076	0.169
143	11.92	0.60	0.245	(0.161)	0.076	0.169
144	12.00	0.60	0.245	(0.160)	0.076	0.169
145	12.08	0.83	0.340	(0.159)	0.105	0.235
146	12.17	0.83	0.340	(0.158)	0.105	0.235
147	12.25	0.83	0.340	(0.158)	0.105	0.235

148	12.33	0.87	0.354	(0.157)	0.110	0.244
149	12.42	0.87	0.354	(0.156)	0.110	0.244
150	12.50	0.87	0.354	(0.155)	0.110	0.244
151	12.58	0.93	0.381	(0.154)	0.118	0.263
152	12.67	0.93	0.381	(0.154)	0.118	0.263
153	12.75	0.93	0.381	(0.153)	0.118	0.263
154	12.83	0.97	0.395	(0.152)	0.122	0.272
155	12.92	0.97	0.395	(0.151)	0.122	0.272
156	13.00	0.97	0.395	(0.151)	0.122	0.272
157	13.08	1.13	0.463	(0.150)	0.143	0.319
158	13.17	1.13	0.463	(0.149)	0.143	0.319
159	13.25	1.13	0.463	(0.148)	0.143	0.319
160	13.33	1.13	0.463	(0.147)	0.143	0.319
161	13.42	1.13	0.463	(0.147)	0.143	0.319
162	13.50	1.13	0.463	(0.146)	0.143	0.319
163	13.58	0.77	0.313	(0.145)	0.097	0.216
164	13.67	0.77	0.313	(0.145)	0.097	0.216
165	13.75	0.77	0.313	(0.144)	0.097	0.216
166	13.83	0.77	0.313	(0.143)	0.097	0.216
167	13.92	0.77	0.313	(0.142)	0.097	0.216
168	14.00	0.77	0.313	(0.142)	0.097	0.216
169	14.08	0.90	0.367	(0.141)	0.114	0.254
170	14.17	0.90	0.367	(0.140)	0.114	0.254
171	14.25	0.90	0.367	(0.139)	0.114	0.254
172	14.33	0.87	0.354	(0.139)	0.110	0.244
173	14.42	0.87	0.354	(0.138)	0.110	0.244
174	14.50	0.87	0.354	(0.137)	0.110	0.244
175	14.58	0.87	0.354	(0.137)	0.110	0.244
176	14.67	0.87	0.354	(0.136)	0.110	0.244
177	14.75	0.87	0.354	(0.135)	0.110	0.244
178	14.83	0.83	0.340	(0.134)	0.105	0.235
179	14.92	0.83	0.340	(0.134)	0.105	0.235
180	15.00	0.83	0.340	(0.133)	0.105	0.235
181	15.08	0.80	0.327	(0.132)	0.101	0.225
182	15.17	0.80	0.327	(0.132)	0.101	0.225
183	15.25	0.80	0.327	(0.131)	0.101	0.225
184	15.33	0.77	0.313	(0.130)	0.097	0.216
185	15.42	0.77	0.313	(0.130)	0.097	0.216
186	15.50	0.77	0.313	(0.129)	0.097	0.216
187	15.58	0.63	0.259	(0.128)	0.080	0.178
188	15.67	0.63	0.259	(0.128)	0.080	0.178
189	15.75	0.63	0.259	(0.127)	0.080	0.178
190	15.83	0.63	0.259	(0.126)	0.080	0.178
191	15.92	0.63	0.259	(0.126)	0.080	0.178
192	16.00	0.63	0.259	(0.125)	0.080	0.178
193	16.08	0.13	0.054	(0.125)	0.017	0.038
194	16.17	0.13	0.054	(0.124)	0.017	0.038
195	16.25	0.13	0.054	(0.123)	0.017	0.038
196	16.33	0.13	0.054	(0.123)	0.017	0.038
197	16.42	0.13	0.054	(0.122)	0.017	0.038

198	16.50	0.13	0.054	(0.121)	0.017	0.038
199	16.58	0.10	0.041	(0.121)	0.013	0.028
200	16.67	0.10	0.041	(0.120)	0.013	0.028
201	16.75	0.10	0.041	(0.120)	0.013	0.028
202	16.83	0.10	0.041	(0.119)	0.013	0.028
203	16.92	0.10	0.041	(0.118)	0.013	0.028
204	17.00	0.10	0.041	(0.118)	0.013	0.028
205	17.08	0.17	0.068	(0.117)	0.021	0.047
206	17.17	0.17	0.068	(0.117)	0.021	0.047
207	17.25	0.17	0.068	(0.116)	0.021	0.047
208	17.33	0.17	0.068	(0.115)	0.021	0.047
209	17.42	0.17	0.068	(0.115)	0.021	0.047
210	17.50	0.17	0.068	(0.114)	0.021	0.047
211	17.58	0.17	0.068	(0.114)	0.021	0.047
212	17.67	0.17	0.068	(0.113)	0.021	0.047
213	17.75	0.17	0.068	(0.113)	0.021	0.047
214	17.83	0.13	0.054	(0.112)	0.017	0.038
215	17.92	0.13	0.054	(0.111)	0.017	0.038
216	18.00	0.13	0.054	(0.111)	0.017	0.038
217	18.08	0.13	0.054	(0.110)	0.017	0.038
218	18.17	0.13	0.054	(0.110)	0.017	0.038
219	18.25	0.13	0.054	(0.109)	0.017	0.038
220	18.33	0.13	0.054	(0.109)	0.017	0.038
221	18.42	0.13	0.054	(0.108)	0.017	0.038
222	18.50	0.13	0.054	(0.108)	0.017	0.038
223	18.58	0.10	0.041	(0.107)	0.013	0.028
224	18.67	0.10	0.041	(0.107)	0.013	0.028
225	18.75	0.10	0.041	(0.106)	0.013	0.028
226	18.83	0.07	0.027	(0.106)	0.008	0.019
227	18.92	0.07	0.027	(0.105)	0.008	0.019
228	19.00	0.07	0.027	(0.105)	0.008	0.019
229	19.08	0.10	0.041	(0.104)	0.013	0.028
230	19.17	0.10	0.041	(0.104)	0.013	0.028
231	19.25	0.10	0.041	(0.103)	0.013	0.028
232	19.33	0.13	0.054	(0.103)	0.017	0.038
233	19.42	0.13	0.054	(0.102)	0.017	0.038
234	19.50	0.13	0.054	(0.102)	0.017	0.038
235	19.58	0.10	0.041	(0.101)	0.013	0.028
236	19.67	0.10	0.041	(0.101)	0.013	0.028
237	19.75	0.10	0.041	(0.100)	0.013	0.028
238	19.83	0.07	0.027	(0.100)	0.008	0.019
239	19.92	0.07	0.027	(0.099)	0.008	0.019
240	20.00	0.07	0.027	(0.099)	0.008	0.019
241	20.08	0.10	0.041	(0.099)	0.013	0.028
242	20.17	0.10	0.041	(0.098)	0.013	0.028
243	20.25	0.10	0.041	(0.098)	0.013	0.028
244	20.33	0.10	0.041	(0.097)	0.013	0.028
245	20.42	0.10	0.041	(0.097)	0.013	0.028
246	20.50	0.10	0.041	(0.096)	0.013	0.028
247	20.58	0.10	0.041	(0.096)	0.013	0.028

248	20.67	0.10	0.041	(0.096)	0.013	0.028
249	20.75	0.10	0.041	(0.095)	0.013	0.028
250	20.83	0.07	0.027	(0.095)	0.008	0.019
251	20.92	0.07	0.027	(0.094)	0.008	0.019
252	21.00	0.07	0.027	(0.094)	0.008	0.019
253	21.08	0.10	0.041	(0.094)	0.013	0.028
254	21.17	0.10	0.041	(0.093)	0.013	0.028
255	21.25	0.10	0.041	(0.093)	0.013	0.028
256	21.33	0.07	0.027	(0.093)	0.008	0.019
257	21.42	0.07	0.027	(0.092)	0.008	0.019
258	21.50	0.07	0.027	(0.092)	0.008	0.019
259	21.58	0.10	0.041	(0.092)	0.013	0.028
260	21.67	0.10	0.041	(0.091)	0.013	0.028
261	21.75	0.10	0.041	(0.091)	0.013	0.028
262	21.83	0.07	0.027	(0.091)	0.008	0.019
263	21.92	0.07	0.027	(0.090)	0.008	0.019
264	22.00	0.07	0.027	(0.090)	0.008	0.019
265	22.08	0.10	0.041	(0.090)	0.013	0.028
266	22.17	0.10	0.041	(0.089)	0.013	0.028
267	22.25	0.10	0.041	(0.089)	0.013	0.028
268	22.33	0.07	0.027	(0.089)	0.008	0.019
269	22.42	0.07	0.027	(0.089)	0.008	0.019
270	22.50	0.07	0.027	(0.088)	0.008	0.019
271	22.58	0.07	0.027	(0.088)	0.008	0.019
272	22.67	0.07	0.027	(0.088)	0.008	0.019
273	22.75	0.07	0.027	(0.088)	0.008	0.019
274	22.83	0.07	0.027	(0.087)	0.008	0.019
275	22.92	0.07	0.027	(0.087)	0.008	0.019
276	23.00	0.07	0.027	(0.087)	0.008	0.019
277	23.08	0.07	0.027	(0.087)	0.008	0.019
278	23.17	0.07	0.027	(0.087)	0.008	0.019
279	23.25	0.07	0.027	(0.086)	0.008	0.019
280	23.33	0.07	0.027	(0.086)	0.008	0.019
281	23.42	0.07	0.027	(0.086)	0.008	0.019
282	23.50	0.07	0.027	(0.086)	0.008	0.019
283	23.58	0.07	0.027	(0.086)	0.008	0.019
284	23.67	0.07	0.027	(0.086)	0.008	0.019
285	23.75	0.07	0.027	(0.085)	0.008	0.019
286	23.83	0.07	0.027	(0.085)	0.008	0.019
287	23.92	0.07	0.027	(0.085)	0.008	0.019
288	24.00	0.07	0.027	(0.085)	0.008	0.019

(Loss Rate Not Used)

Sum = 100.0

Sum = 28.2

Flood volume = Effective rainfall 2.35(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

Total soil loss = 1.05(In)

Total soil loss = 0.111(Ac.Ft)

Total rainfall = 3.40(In)

Flood volume = 10796.2 Cubic Feet

Total soil loss = 4850.5 Cubic Feet

Peak flow rate of this hydrograph = 0.408(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001		0.02	Q				
0+10	0.0003		0.02	Q				
0+15	0.0004		0.02	Q				
0+20	0.0007		0.03	Q				
0+25	0.0009		0.04	Q				
0+30	0.0012		0.04	Q				
0+35	0.0014		0.04	Q				
0+40	0.0017		0.04	Q				
0+45	0.0019		0.04	Q				
0+50	0.0022		0.04	Q				
0+55	0.0025		0.05	Q				
1+ 0	0.0029		0.05	Q				
1+ 5	0.0031		0.04	Q				
1+10	0.0034		0.04	Q				
1+15	0.0036		0.04	Q				
1+20	0.0039		0.04	Q				
1+25	0.0041		0.04	Q				
1+30	0.0044		0.04	Q				
1+35	0.0046		0.04	Q				
1+40	0.0049		0.04	Q				
1+45	0.0051		0.04	Q				
1+50	0.0054		0.04	Q				
1+55	0.0058		0.05	Q				
2+ 0	0.0061		0.05	Q				
2+ 5	0.0064		0.05	QV				
2+10	0.0068		0.05	QV				
2+15	0.0071		0.05	QV				
2+20	0.0074		0.05	QV				
2+25	0.0077		0.05	QV				
2+30	0.0081		0.05	QV				
2+35	0.0085		0.06	QV				
2+40	0.0089		0.06	QV				
2+45	0.0093		0.06	QV				
2+50	0.0097		0.06	QV				
2+55	0.0101		0.06	QV				
3+ 0	0.0105		0.06	QV				
3+ 5	0.0109		0.06	QV				
3+10	0.0114		0.06	QV				

3+15	0.0118	0.06	QV				
3+20	0.0122	0.06	QV				
3+25	0.0126	0.06	Q V				
3+30	0.0130	0.06	Q V				
3+35	0.0134	0.06	Q V				
3+40	0.0138	0.06	Q V				
3+45	0.0142	0.06	Q V				
3+50	0.0147	0.07	Q V				
3+55	0.0152	0.07	Q V				
4+ 0	0.0157	0.07	Q V				
4+ 5	0.0162	0.07	Q V				
4+10	0.0167	0.07	Q V				
4+15	0.0172	0.07	Q V				
4+20	0.0177	0.08	Q V				
4+25	0.0183	0.08	Q V				
4+30	0.0189	0.08	Q V				
4+35	0.0195	0.08	Q V				
4+40	0.0201	0.08	Q V				
4+45	0.0206	0.08	Q V				
4+50	0.0213	0.09	Q V				
4+55	0.0219	0.10	Q V				
5+ 0	0.0226	0.10	Q V				
5+ 5	0.0231	0.08	Q V				
5+10	0.0236	0.07	Q V				
5+15	0.0241	0.07	Q V				
5+20	0.0247	0.08	Q V				
5+25	0.0253	0.08	Q V				
5+30	0.0258	0.08	Q V				
5+35	0.0265	0.09	Q V				
5+40	0.0271	0.10	Q V				
5+45	0.0278	0.10	Q V				
5+50	0.0285	0.10	Q V				
5+55	0.0291	0.10	Q V				
6+ 0	0.0298	0.10	Q V				
6+ 5	0.0305	0.10	Q V				
6+10	0.0312	0.11	Q V				
6+15	0.0320	0.11	Q V				
6+20	0.0327	0.11	Q V				
6+25	0.0335	0.11	Q V				
6+30	0.0342	0.11	Q V				
6+35	0.0350	0.12	Q V				
6+40	0.0358	0.12	Q V				
6+45	0.0367	0.12	Q V				
6+50	0.0375	0.12	Q V				
6+55	0.0383	0.12	Q V				
7+ 0	0.0391	0.12	Q V				
7+ 5	0.0400	0.12	Q V				
7+10	0.0408	0.12	Q V				
7+15	0.0416	0.12	Q V				
7+20	0.0425	0.13	Q V				

7+25	0.0434	0.13	Q	V				
7+30	0.0443	0.13	Q	V				
7+35	0.0453	0.14	Q	V				
7+40	0.0463	0.14	Q	V				
7+45	0.0473	0.14	Q	V				
7+50	0.0483	0.15	Q	V				
7+55	0.0494	0.16	Q	V				
8+ 0	0.0505	0.16	Q	V				
8+ 5	0.0516	0.17	Q	V				
8+10	0.0529	0.18	Q	V				
8+15	0.0541	0.18	Q	V				
8+20	0.0554	0.18	Q	V				
8+25	0.0566	0.18	Q	V				
8+30	0.0578	0.18	Q	V				
8+35	0.0591	0.19	Q	V				
8+40	0.0605	0.19	Q	V				
8+45	0.0618	0.19	Q	V				
8+50	0.0632	0.20	Q	V				
8+55	0.0646	0.20	Q	V				
9+ 0	0.0660	0.20	Q	V				
9+ 5	0.0675	0.22	Q	V				
9+10	0.0691	0.23	Q	V				
9+15	0.0706	0.23	Q	V				
9+20	0.0723	0.24	Q	V				
9+25	0.0739	0.24	Q	V				
9+30	0.0756	0.24	Q	V				
9+35	0.0773	0.25	Q	V				
9+40	0.0790	0.25	Q	V				
9+45	0.0807	0.25	Q	V				
9+50	0.0825	0.26	Q	V				
9+55	0.0843	0.26	Q	V				
10+ 0	0.0862	0.26	Q	V				
10+ 5	0.0876	0.21	Q	V				
10+10	0.0888	0.18	Q	V				
10+15	0.0901	0.18	Q	V				
10+20	0.0913	0.18	Q	V				
10+25	0.0925	0.18	Q	V				
10+30	0.0938	0.18	Q	V				
10+35	0.0953	0.22	Q	V				
10+40	0.0970	0.24	Q	V				
10+45	0.0986	0.24	Q	V				
10+50	0.1003	0.24	Q	V				
10+55	0.1019	0.24	Q	V				
11+ 0	0.1036	0.24	Q	V				
11+ 5	0.1052	0.23	Q	V				
11+10	0.1067	0.23	Q	V				
11+15	0.1083	0.23	Q	V				
11+20	0.1099	0.23	Q	V				
11+25	0.1114	0.23	Q	V				
11+30	0.1130	0.23	Q	V				

11+35	0.1145	0.21	Q	V			
11+40	0.1159	0.20	Q	V			
11+45	0.1173	0.20	Q	V			
11+50	0.1187	0.21	Q	V			
11+55	0.1202	0.22	Q	V			
12+ 0	0.1217	0.22	Q	V			
12+ 5	0.1236	0.27	Q	V			
12+10	0.1257	0.30	Q	V			
12+15	0.1277	0.30	Q	V			
12+20	0.1298	0.31	Q	V			
12+25	0.1320	0.31	Q	V			
12+30	0.1341	0.31	Q	V			
12+35	0.1364	0.33	Q	V			
12+40	0.1387	0.34	Q	V			
12+45	0.1410	0.34	Q	V			
12+50	0.1434	0.34	Q	V			
12+55	0.1458	0.35	Q	V			
13+ 0	0.1482	0.35	Q	V			
13+ 5	0.1509	0.39	Q	V			
13+10	0.1537	0.41	Q	V			
13+15	0.1565	0.41	Q	V			
13+20	0.1593	0.41	Q	V			
13+25	0.1621	0.41	Q	V			
13+30	0.1649	0.41	Q	V			
13+35	0.1671	0.32	Q	V			
13+40	0.1690	0.28	Q	V			
13+45	0.1709	0.28	Q	V			
13+50	0.1728	0.28	Q	V			
13+55	0.1747	0.28	Q	V			
14+ 0	0.1766	0.28	Q	V			
14+ 5	0.1787	0.31	Q	V			
14+10	0.1810	0.32	Q	V			
14+15	0.1832	0.32	Q	V			
14+20	0.1854	0.32	Q	V			
14+25	0.1875	0.31	Q	V			
14+30	0.1897	0.31	Q	V			
14+35	0.1918	0.31	Q	V			
14+40	0.1939	0.31	Q	V			
14+45	0.1961	0.31	Q	V			
14+50	0.1982	0.30	Q	V			
14+55	0.2003	0.30	Q	V			
15+ 0	0.2023	0.30	Q	V			
15+ 5	0.2043	0.29	Q	V			
15+10	0.2063	0.29	Q	V			
15+15	0.2083	0.29	Q	V			
15+20	0.2102	0.28	Q	V			
15+25	0.2121	0.28	Q	V			
15+30	0.2140	0.28	Q	V			
15+35	0.2157	0.24	Q	V			
15+40	0.2173	0.23	Q	V			

15+45	0.2188	0.23	Q				V
15+50	0.2204	0.23	Q				V
15+55	0.2220	0.23	Q				V
16+ 0	0.2235	0.23	Q				V
16+ 5	0.2243	0.11	Q				V
16+10	0.2246	0.05	Q				V
16+15	0.2249	0.05	Q				V
16+20	0.2253	0.05	Q				V
16+25	0.2256	0.05	Q				V
16+30	0.2259	0.05	Q				V
16+35	0.2262	0.04	Q				V
16+40	0.2265	0.04	Q				V
16+45	0.2267	0.04	Q				V
16+50	0.2269	0.04	Q				V
16+55	0.2272	0.04	Q				V
17+ 0	0.2274	0.04	Q				V
17+ 5	0.2278	0.05	Q				V
17+10	0.2282	0.06	Q				V
17+15	0.2286	0.06	Q				V
17+20	0.2290	0.06	Q				V
17+25	0.2295	0.06	Q				V
17+30	0.2299	0.06	Q				V
17+35	0.2303	0.06	Q				V
17+40	0.2307	0.06	Q				V
17+45	0.2311	0.06	Q				V
17+50	0.2315	0.05	Q				V
17+55	0.2318	0.05	Q				V
18+ 0	0.2321	0.05	Q				V
18+ 5	0.2325	0.05	Q				V
18+10	0.2328	0.05	Q				V
18+15	0.2331	0.05	Q				V
18+20	0.2334	0.05	Q				V
18+25	0.2338	0.05	Q				V
18+30	0.2341	0.05	Q				V
18+35	0.2344	0.04	Q				V
18+40	0.2346	0.04	Q				V
18+45	0.2349	0.04	Q				V
18+50	0.2351	0.03	Q				V
18+55	0.2352	0.02	Q				V
19+ 0	0.2354	0.02	Q				V
19+ 5	0.2356	0.03	Q				V
19+10	0.2359	0.04	Q				V
19+15	0.2361	0.04	Q				V
19+20	0.2364	0.04	Q				V
19+25	0.2368	0.05	Q				V
19+30	0.2371	0.05	Q				V
19+35	0.2374	0.04	Q				V
19+40	0.2376	0.04	Q				V
19+45	0.2379	0.04	Q				V
19+50	0.2380	0.03	Q				V

19+55	0.2382	0.02	Q				V
20+ 0	0.2384	0.02	Q				V
20+ 5	0.2386	0.03	Q				V
20+10	0.2388	0.04	Q				V
20+15	0.2391	0.04	Q				V
20+20	0.2393	0.04	Q				V
20+25	0.2396	0.04	Q				V
20+30	0.2398	0.04	Q				V
20+35	0.2401	0.04	Q				V
20+40	0.2403	0.04	Q				V
20+45	0.2406	0.04	Q				V
20+50	0.2408	0.03	Q				V
20+55	0.2409	0.02	Q				V
21+ 0	0.2411	0.02	Q				V
21+ 5	0.2413	0.03	Q				V
21+10	0.2416	0.04	Q				V
21+15	0.2418	0.04	Q				V
21+20	0.2420	0.03	Q				V
21+25	0.2422	0.02	Q				V
21+30	0.2423	0.02	Q				V
21+35	0.2426	0.03	Q				V
21+40	0.2428	0.04	Q				V
21+45	0.2431	0.04	Q				V
21+50	0.2432	0.03	Q				V
21+55	0.2434	0.02	Q				V
22+ 0	0.2436	0.02	Q				V
22+ 5	0.2438	0.03	Q				V
22+10	0.2440	0.04	Q				V
22+15	0.2443	0.04	Q				V
22+20	0.2445	0.03	Q				V
22+25	0.2447	0.02	Q				V
22+30	0.2448	0.02	Q				V
22+35	0.2450	0.02	Q				V
22+40	0.2451	0.02	Q				V
22+45	0.2453	0.02	Q				V
22+50	0.2455	0.02	Q				V
22+55	0.2456	0.02	Q				V
23+ 0	0.2458	0.02	Q				V
23+ 5	0.2460	0.02	Q				V
23+10	0.2461	0.02	Q				V
23+15	0.2463	0.02	Q				V
23+20	0.2465	0.02	Q				V
23+25	0.2466	0.02	Q				V
23+30	0.2468	0.02	Q				V
23+35	0.2470	0.02	Q				V
23+40	0.2471	0.02	Q				V
23+45	0.2473	0.02	Q				V
23+50	0.2475	0.02	Q				V
23+55	0.2476	0.02	Q				V
24+ 0	0.2478	0.02	Q				V

24+ 5

0.2478

0.01 Q

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Unit Hydrograph Analysis

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
10-Year
1-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	0.48	0.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	1.34	1.70

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.483(In)
Area Averaged 100-Year Rainfall = 1.340(In)

Point rain (area averaged) = 0.836(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.836(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	59.0	0.480	0.832	0.121	1.000	0.121
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.170

Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)

Note: User entry of the f value

Soil low loss rate (decimal) = 0.310

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h VALLEY S-Curve

----- Unit Hydrograph Data -----

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	67.679
2	0.167	880.839	32.321
		Sum = 100.000	Sum= 1.277

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	4.40	0.441	(0.170)	0.137	0.304
2	0.17	4.50	0.451	(0.170)	0.140	0.311
3	0.25	5.40	0.541	(0.170)	0.168	0.374
4	0.33	5.40	0.541	(0.170)	0.168	0.374
5	0.42	5.70	0.572	0.170	(0.177)	0.401
6	0.50	6.40	0.642	0.170	(0.199)	0.471
7	0.58	7.90	0.792	0.170	(0.246)	0.622
8	0.67	9.10	0.912	0.170	(0.283)	0.742
9	0.75	12.80	1.283	0.170	(0.398)	1.113
10	0.83	25.60	2.567	0.170	(0.796)	2.396
11	0.92	7.90	0.792	0.170	(0.246)	0.622
12	1.00	4.90	0.491	(0.170)	0.152	0.339

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.1

Flood volume = Effective rainfall 0.67(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.16(In)
Total soil loss = 0.017(Ac.Ft)
Total rainfall = 0.84(In)
Flood volume = 3092.6 Cubic Feet
Total soil loss = 750.3 Cubic Feet

Peak flow rate of this hydrograph = 2.532(CFS)

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1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0018	0.26	Q				
0+10	0.0045	0.39	QV				
0+15	0.0076	0.45	Q V				
0+20	0.0109	0.48	Q V				
0+25	0.0144	0.50	Q V				
0+30	0.0183	0.57	Q V				
0+35	0.0234	0.73	Q V				
0+40	0.0296	0.90	Q V				
0+45	0.0383	1.27	Q V				
0+50	0.0557	2.53	Q V				
0+55	0.0662	1.53	Q V				

1+ 0	0.0700	0.55	Q				v
1+ 5	0.0710	0.14	Q				v

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
10-Year
3-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	0.88	1.11

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	2.20	2.79

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.877(In)
Area Averaged 100-Year Rainfall = 2.200(In)

Point rain (area averaged) = 1.421(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.421(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	59.0	0.480	0.832	0.121	1.000	0.121
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.170

Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)

Note: User entry of the f value

Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
Sum = 100.000		Sum=	1.277

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	1.30	0.222	(0.170)	0.069	0.153
2	0.17	1.30	0.222	(0.170)	0.069	0.153
3	0.25	1.10	0.188	(0.170)	0.058	0.129
4	0.33	1.50	0.256	(0.170)	0.079	0.177
5	0.42	1.50	0.256	(0.170)	0.079	0.177
6	0.50	1.80	0.307	(0.170)	0.095	0.212
7	0.58	1.50	0.256	(0.170)	0.079	0.177
8	0.67	1.80	0.307	(0.170)	0.095	0.212
9	0.75	1.80	0.307	(0.170)	0.095	0.212
10	0.83	1.50	0.256	(0.170)	0.079	0.177
11	0.92	1.60	0.273	(0.170)	0.085	0.188
12	1.00	1.80	0.307	(0.170)	0.095	0.212
13	1.08	2.20	0.375	(0.170)	0.116	0.259
14	1.17	2.20	0.375	(0.170)	0.116	0.259
15	1.25	2.20	0.375	(0.170)	0.116	0.259
16	1.33	2.00	0.341	(0.170)	0.106	0.235
17	1.42	2.60	0.443	(0.170)	0.137	0.306
18	1.50	2.70	0.460	(0.170)	0.143	0.318
19	1.58	2.40	0.409	(0.170)	0.127	0.282
20	1.67	2.70	0.460	(0.170)	0.143	0.318
21	1.75	3.30	0.563	0.170	(0.174)	0.392
22	1.83	3.10	0.529	(0.170)	0.164	0.365
23	1.92	2.90	0.495	(0.170)	0.153	0.341
24	2.00	3.00	0.512	(0.170)	0.159	0.353
25	2.08	3.10	0.529	(0.170)	0.164	0.365
26	2.17	4.20	0.716	0.170	(0.222)	0.546
27	2.25	5.00	0.853	0.170	(0.264)	0.682
28	2.33	3.50	0.597	0.170	(0.185)	0.426
29	2.42	6.80	1.160	0.170	(0.360)	0.989
30	2.50	7.30	1.245	0.170	(0.386)	1.075
31	2.58	8.20	1.399	0.170	(0.434)	1.228
32	2.67	5.90	1.006	0.170	(0.312)	0.836
33	2.75	2.00	0.341	(0.170)	0.106	0.235
34	2.83	1.80	0.307	(0.170)	0.095	0.212
35	2.92	1.80	0.307	(0.170)	0.095	0.212
36	3.00	0.60	0.102	(0.170)	0.032	0.071

(Loss Rate Not Used)

Sum = 100.0

Sum = 12.7

Flood volume = Effective rainfall 1.06(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)

Total soil loss = 0.36(In)

Total soil loss = 0.038(Ac.Ft)

Total rainfall = 1.42(In)

Flood volume = 4883.5 Cubic Feet

Total soil loss = 1653.3 Cubic Feet

Peak flow rate of this hydrograph = 1.506(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0009		0.13	Q				
0+10	0.0023		0.20	Q				
0+15	0.0035		0.18	QV				
0+20	0.0049		0.21	QV				
0+25	0.0064		0.23	Q V				
0+30	0.0082		0.26	QV				
0+35	0.0099		0.24	Q V				
0+40	0.0116		0.26	Q V				
0+45	0.0135		0.27	Q V				
0+50	0.0151		0.24	Q V				
0+55	0.0168		0.24	Q V				
1+ 0	0.0186		0.26	Q V				
1+ 5	0.0207		0.31	Q V				
1+10	0.0230		0.33	Q V				
1+15	0.0253		0.33	Q V				
1+20	0.0274		0.31	Q V				
1+25	0.0299		0.36	Q V				
1+30	0.0326		0.40	Q V				
1+35	0.0352		0.38	Q V				
1+40	0.0379		0.39	Q V				
1+45	0.0412		0.47	Q V				
1+50	0.0445		0.48	Q V				
1+55	0.0475		0.45	Q V				
2+ 0	0.0506		0.45	Q V				
2+ 5	0.0538		0.46	Q V				
2+10	0.0581		0.62	Q V				
2+15	0.0637		0.82	Q V				
2+20	0.0682		0.65	Q V				
2+25	0.0753		1.03	Q V				
2+30	0.0845		1.34	Q V				
2+35	0.0948		1.51	Q V				
2+40	0.1033		1.23	Q V				
2+45	0.1071		0.55	Q V				
2+50	0.1090		0.28	Q V				
2+55	0.1109		0.27	Q V				
3+ 0	0.1119		0.15	Q V				
3+ 5	0.1121		0.03	Q V				

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
10-Year
6-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	1.27	1.61

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	3.12	3.95

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.270(In)
Area Averaged 100-Year Rainfall = 3.120(In)

Point rain (area averaged) = 2.031(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.031(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	59.0	0.480	0.832	0.121	1.000	0.121
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Note: User entry of the f value
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	440.419	67.679	0.864
2 0.167	880.839	32.321	0.413
Sum = 100.000		Sum=	1.277

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.50	0.122	(0.170)	0.038	0.084
2	0.17	0.60	0.146	(0.170)	0.045	0.101
3	0.25	0.60	0.146	(0.170)	0.045	0.101
4	0.33	0.60	0.146	(0.170)	0.045	0.101
5	0.42	0.60	0.146	(0.170)	0.045	0.101
6	0.50	0.70	0.171	(0.170)	0.053	0.118
7	0.58	0.70	0.171	(0.170)	0.053	0.118
8	0.67	0.70	0.171	(0.170)	0.053	0.118
9	0.75	0.70	0.171	(0.170)	0.053	0.118
10	0.83	0.70	0.171	(0.170)	0.053	0.118
11	0.92	0.70	0.171	(0.170)	0.053	0.118
12	1.00	0.80	0.195	(0.170)	0.060	0.135
13	1.08	0.80	0.195	(0.170)	0.060	0.135
14	1.17	0.80	0.195	(0.170)	0.060	0.135
15	1.25	0.80	0.195	(0.170)	0.060	0.135
16	1.33	0.80	0.195	(0.170)	0.060	0.135
17	1.42	0.80	0.195	(0.170)	0.060	0.135
18	1.50	0.80	0.195	(0.170)	0.060	0.135
19	1.58	0.80	0.195	(0.170)	0.060	0.135
20	1.67	0.80	0.195	(0.170)	0.060	0.135
21	1.75	0.80	0.195	(0.170)	0.060	0.135
22	1.83	0.80	0.195	(0.170)	0.060	0.135
23	1.92	0.80	0.195	(0.170)	0.060	0.135
24	2.00	0.90	0.219	(0.170)	0.068	0.151
25	2.08	0.80	0.195	(0.170)	0.060	0.135
26	2.17	0.90	0.219	(0.170)	0.068	0.151
27	2.25	0.90	0.219	(0.170)	0.068	0.151
28	2.33	0.90	0.219	(0.170)	0.068	0.151
29	2.42	0.90	0.219	(0.170)	0.068	0.151
30	2.50	0.90	0.219	(0.170)	0.068	0.151
31	2.58	0.90	0.219	(0.170)	0.068	0.151
32	2.67	0.90	0.219	(0.170)	0.068	0.151
33	2.75	1.00	0.244	(0.170)	0.076	0.168
34	2.83	1.00	0.244	(0.170)	0.076	0.168
35	2.92	1.00	0.244	(0.170)	0.076	0.168
36	3.00	1.00	0.244	(0.170)	0.076	0.168
37	3.08	1.00	0.244	(0.170)	0.076	0.168
38	3.17	1.10	0.268	(0.170)	0.083	0.185
39	3.25	1.10	0.268	(0.170)	0.083	0.185
40	3.33	1.10	0.268	(0.170)	0.083	0.185
41	3.42	1.20	0.292	(0.170)	0.091	0.202
42	3.50	1.30	0.317	(0.170)	0.098	0.219
43	3.58	1.40	0.341	(0.170)	0.106	0.235
44	3.67	1.40	0.341	(0.170)	0.106	0.235
45	3.75	1.50	0.366	(0.170)	0.113	0.252
46	3.83	1.50	0.366	(0.170)	0.113	0.252

47	3.92	1.60	0.390	(0.170)	0.121	0.269
48	4.00	1.60	0.390	(0.170)	0.121	0.269
49	4.08	1.70	0.414	(0.170)	0.128	0.286
50	4.17	1.80	0.439	(0.170)	0.136	0.303
51	4.25	1.90	0.463	(0.170)	0.144	0.320
52	4.33	2.00	0.487	(0.170)	0.151	0.336
53	4.42	2.10	0.512	(0.170)	0.159	0.353
54	4.50	2.10	0.512	(0.170)	0.159	0.353
55	4.58	2.20	0.536	(0.170)	0.166	0.370
56	4.67	2.30	0.561	0.170 (0.174)		0.390
57	4.75	2.40	0.585	0.170 (0.181)		0.415
58	4.83	2.40	0.585	0.170 (0.181)		0.415
59	4.92	2.50	0.609	0.170 (0.189)		0.439
60	5.00	2.60	0.634	0.170 (0.196)		0.463
61	5.08	3.10	0.756	0.170 (0.234)		0.585
62	5.17	3.60	0.877	0.170 (0.272)		0.707
63	5.25	3.90	0.951	0.170 (0.295)		0.780
64	5.33	4.20	1.024	0.170 (0.317)		0.853
65	5.42	4.70	1.146	0.170 (0.355)		0.975
66	5.50	5.60	1.365	0.170 (0.423)		1.194
67	5.58	1.90	0.463	(0.170)	0.144	0.320
68	5.67	0.90	0.219	(0.170)	0.068	0.151
69	5.75	0.60	0.146	(0.170)	0.045	0.101
70	5.83	0.50	0.122	(0.170)	0.038	0.084
71	5.92	0.30	0.073	(0.170)	0.023	0.050
72	6.00	0.20	0.049	(0.170)	0.015	0.034

(Loss Rate Not Used)

Sum = 100.0

Sum = 17.8

Flood volume = Effective rainfall 1.48(In)
times area 1.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.55(In)
Total soil loss = 0.058(Ac.Ft)
Total rainfall = 2.03(In)
Flood volume = 6807.2 Cubic Feet
Total soil loss = 2534.3 Cubic Feet

Peak flow rate of this hydrograph = 1.435(CFS)

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6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0

0+ 5	0.0005	0.07	Q				
0+10	0.0013	0.12	Q				
0+15	0.0022	0.13	Q				

0+20	0.0031	0.13	Q				
0+25	0.0040	0.13	QV				
0+30	0.0050	0.14	QV				
0+35	0.0060	0.15	QV				
0+40	0.0071	0.15	QV				
0+45	0.0081	0.15	Q V				
0+50	0.0091	0.15	Q V				
0+55	0.0102	0.15	Q V				
1+ 0	0.0113	0.16	Q V				
1+ 5	0.0125	0.17	Q V				
1+10	0.0137	0.17	Q V				
1+15	0.0149	0.17	Q V				
1+20	0.0160	0.17	Q V				
1+25	0.0172	0.17	Q V				
1+30	0.0184	0.17	Q V				
1+35	0.0196	0.17	Q V				
1+40	0.0208	0.17	Q V				
1+45	0.0220	0.17	Q V				
1+50	0.0231	0.17	Q V				
1+55	0.0243	0.17	Q V				
2+ 0	0.0256	0.19	Q V				
2+ 5	0.0268	0.18	Q V				
2+10	0.0281	0.19	Q V				
2+15	0.0295	0.19	Q V				
2+20	0.0308	0.19	Q V				
2+25	0.0321	0.19	Q V				
2+30	0.0335	0.19	Q V				
2+35	0.0348	0.19	Q V				
2+40	0.0361	0.19	Q V				
2+45	0.0376	0.21	Q V				
2+50	0.0390	0.21	Q V				
2+55	0.0405	0.21	Q V				
3+ 0	0.0420	0.21	Q V				
3+ 5	0.0435	0.21	Q V				
3+10	0.0450	0.23	Q V				
3+15	0.0467	0.24	Q V				
3+20	0.0483	0.24	Q V				
3+25	0.0500	0.25	Q V				
3+30	0.0519	0.27	Q V				
3+35	0.0539	0.29	Q V				
3+40	0.0560	0.30	Q V				
3+45	0.0582	0.32	Q V				
3+50	0.0604	0.32	Q V				
3+55	0.0627	0.34	Q V				
4+ 0	0.0651	0.34	Q V				
4+ 5	0.0675	0.36	Q V				
4+10	0.0702	0.38	Q V				
4+15	0.0729	0.40	Q V				
4+20	0.0758	0.42	Q V				
4+25	0.0789	0.44	Q V				

4+30	0.0820	0.45	Q		V		
4+35	0.0852	0.47	Q		V		
4+40	0.0886	0.49	Q		V		
4+45	0.0922	0.52	Q		V		
4+50	0.0958	0.53	Q		V		
4+55	0.0996	0.55	Q		V		
5+ 0	0.1036	0.58	Q		V		
5+ 5	0.1084	0.70	Q		V		
5+10	0.1143	0.85	Q		V		
5+15	0.1209	0.97	Q		V		
5+20	0.1282	1.06	Q		V		
5+25	0.1365	1.20	Q		V		
5+30	0.1464	1.44	Q		V		
5+35	0.1517	0.77	Q		V		
5+40	0.1535	0.26	Q		V		
5+45	0.1545	0.15	Q		V		
5+50	0.1553	0.11	Q		V		
5+55	0.1558	0.08	Q		V		
6+ 0	0.1562	0.05	Q		V		
6+ 5	0.1563	0.01	Q		V		

Unit Hydrograph Analysis

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Study date 01/26/25 File: A2POST2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6690

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area A5
Post-development
10-Year
24-Hour

Drainage Area = 1.27(Ac.) = 0.002 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.27(Ac.) =
0.002 Sq. Mi.
Length along longest watercourse = 448.82(Ft.)
Length along longest watercourse measured to centroid = 166.35(Ft.)
Length along longest watercourse = 0.085 Mi.
Length along longest watercourse measured to centroid = 0.032 Mi.
Difference in elevation = 3.30(Ft.)
Slope along watercourse = 38.8218 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.019 Hr.
Lag time = 1.14 Min.
25% of lag time = 0.28 Min.
40% of lag time = 0.45 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	2.43	3.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.27	6.58	8.34

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.430(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.137(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.137(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.267	59.00	0.832

Total Area Entered = 1.27(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
59.0	59.0	0.480	0.832	0.121	1.000	0.121
Sum (F) =						0.121

Area averaged mean soil loss (F) (In/Hr) = 0.170
Minimum soil loss rate ((In/Hr)) = 0.085
(for 24 hour storm duration)
Note: User entry of the f value
Soil low loss rate (decimal) = 0.310

Unit Hydrograph VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	440.419	0.864
2	0.167	880.839	0.413
Sum = 100.000		Sum=	1.277

The following loss rate calculations reflect use of the minimum calculated loss

rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.033	(0.302)	0.010	0.023
2	0.17	0.07	0.033	(0.301)	0.010	0.023
3	0.25	0.07	0.033	(0.300)	0.010	0.023
4	0.33	0.10	0.050	(0.299)	0.015	0.034
5	0.42	0.10	0.050	(0.297)	0.015	0.034
6	0.50	0.10	0.050	(0.296)	0.015	0.034
7	0.58	0.10	0.050	(0.295)	0.015	0.034
8	0.67	0.10	0.050	(0.294)	0.015	0.034
9	0.75	0.10	0.050	(0.293)	0.015	0.034
10	0.83	0.13	0.066	(0.292)	0.021	0.046
11	0.92	0.13	0.066	(0.291)	0.021	0.046
12	1.00	0.13	0.066	(0.289)	0.021	0.046
13	1.08	0.10	0.050	(0.288)	0.015	0.034
14	1.17	0.10	0.050	(0.287)	0.015	0.034
15	1.25	0.10	0.050	(0.286)	0.015	0.034
16	1.33	0.10	0.050	(0.285)	0.015	0.034
17	1.42	0.10	0.050	(0.284)	0.015	0.034
18	1.50	0.10	0.050	(0.283)	0.015	0.034
19	1.58	0.10	0.050	(0.281)	0.015	0.034
20	1.67	0.10	0.050	(0.280)	0.015	0.034
21	1.75	0.10	0.050	(0.279)	0.015	0.034
22	1.83	0.13	0.066	(0.278)	0.021	0.046
23	1.92	0.13	0.066	(0.277)	0.021	0.046
24	2.00	0.13	0.066	(0.276)	0.021	0.046
25	2.08	0.13	0.066	(0.275)	0.021	0.046
26	2.17	0.13	0.066	(0.274)	0.021	0.046
27	2.25	0.13	0.066	(0.273)	0.021	0.046
28	2.33	0.13	0.066	(0.271)	0.021	0.046
29	2.42	0.13	0.066	(0.270)	0.021	0.046
30	2.50	0.13	0.066	(0.269)	0.021	0.046
31	2.58	0.17	0.083	(0.268)	0.026	0.057
32	2.67	0.17	0.083	(0.267)	0.026	0.057
33	2.75	0.17	0.083	(0.266)	0.026	0.057
34	2.83	0.17	0.083	(0.265)	0.026	0.057
35	2.92	0.17	0.083	(0.264)	0.026	0.057
36	3.00	0.17	0.083	(0.263)	0.026	0.057
37	3.08	0.17	0.083	(0.262)	0.026	0.057
38	3.17	0.17	0.083	(0.260)	0.026	0.057
39	3.25	0.17	0.083	(0.259)	0.026	0.057
40	3.33	0.17	0.083	(0.258)	0.026	0.057
41	3.42	0.17	0.083	(0.257)	0.026	0.057
42	3.50	0.17	0.083	(0.256)	0.026	0.057
43	3.58	0.17	0.083	(0.255)	0.026	0.057
44	3.67	0.17	0.083	(0.254)	0.026	0.057
45	3.75	0.17	0.083	(0.253)	0.026	0.057
46	3.83	0.20	0.099	(0.252)	0.031	0.069

47	3.92	0.20	0.099	(0.251)	0.031	0.069
48	4.00	0.20	0.099	(0.250)	0.031	0.069
49	4.08	0.20	0.099	(0.249)	0.031	0.069
50	4.17	0.20	0.099	(0.248)	0.031	0.069
51	4.25	0.20	0.099	(0.247)	0.031	0.069
52	4.33	0.23	0.116	(0.245)	0.036	0.080
53	4.42	0.23	0.116	(0.244)	0.036	0.080
54	4.50	0.23	0.116	(0.243)	0.036	0.080
55	4.58	0.23	0.116	(0.242)	0.036	0.080
56	4.67	0.23	0.116	(0.241)	0.036	0.080
57	4.75	0.23	0.116	(0.240)	0.036	0.080
58	4.83	0.27	0.132	(0.239)	0.041	0.091
59	4.92	0.27	0.132	(0.238)	0.041	0.091
60	5.00	0.27	0.132	(0.237)	0.041	0.091
61	5.08	0.20	0.099	(0.236)	0.031	0.069
62	5.17	0.20	0.099	(0.235)	0.031	0.069
63	5.25	0.20	0.099	(0.234)	0.031	0.069
64	5.33	0.23	0.116	(0.233)	0.036	0.080
65	5.42	0.23	0.116	(0.232)	0.036	0.080
66	5.50	0.23	0.116	(0.231)	0.036	0.080
67	5.58	0.27	0.132	(0.230)	0.041	0.091
68	5.67	0.27	0.132	(0.229)	0.041	0.091
69	5.75	0.27	0.132	(0.228)	0.041	0.091
70	5.83	0.27	0.132	(0.227)	0.041	0.091
71	5.92	0.27	0.132	(0.226)	0.041	0.091
72	6.00	0.27	0.132	(0.225)	0.041	0.091
73	6.08	0.30	0.149	(0.224)	0.046	0.103
74	6.17	0.30	0.149	(0.223)	0.046	0.103
75	6.25	0.30	0.149	(0.222)	0.046	0.103
76	6.33	0.30	0.149	(0.221)	0.046	0.103
77	6.42	0.30	0.149	(0.220)	0.046	0.103
78	6.50	0.30	0.149	(0.219)	0.046	0.103
79	6.58	0.33	0.165	(0.218)	0.051	0.114
80	6.67	0.33	0.165	(0.217)	0.051	0.114
81	6.75	0.33	0.165	(0.216)	0.051	0.114
82	6.83	0.33	0.165	(0.215)	0.051	0.114
83	6.92	0.33	0.165	(0.214)	0.051	0.114
84	7.00	0.33	0.165	(0.213)	0.051	0.114
85	7.08	0.33	0.165	(0.212)	0.051	0.114
86	7.17	0.33	0.165	(0.211)	0.051	0.114
87	7.25	0.33	0.165	(0.210)	0.051	0.114
88	7.33	0.37	0.182	(0.209)	0.056	0.126
89	7.42	0.37	0.182	(0.208)	0.056	0.126
90	7.50	0.37	0.182	(0.207)	0.056	0.126
91	7.58	0.40	0.199	(0.206)	0.062	0.137
92	7.67	0.40	0.199	(0.205)	0.062	0.137
93	7.75	0.40	0.199	(0.205)	0.062	0.137
94	7.83	0.43	0.215	(0.204)	0.067	0.148
95	7.92	0.43	0.215	(0.203)	0.067	0.148
96	8.00	0.43	0.215	(0.202)	0.067	0.148

97	8.08	0.50	0.248	(0.201)	0.077	0.171
98	8.17	0.50	0.248	(0.200)	0.077	0.171
99	8.25	0.50	0.248	(0.199)	0.077	0.171
100	8.33	0.50	0.248	(0.198)	0.077	0.171
101	8.42	0.50	0.248	(0.197)	0.077	0.171
102	8.50	0.50	0.248	(0.196)	0.077	0.171
103	8.58	0.53	0.265	(0.195)	0.082	0.183
104	8.67	0.53	0.265	(0.194)	0.082	0.183
105	8.75	0.53	0.265	(0.193)	0.082	0.183
106	8.83	0.57	0.281	(0.192)	0.087	0.194
107	8.92	0.57	0.281	(0.192)	0.087	0.194
108	9.00	0.57	0.281	(0.191)	0.087	0.194
109	9.08	0.63	0.314	(0.190)	0.097	0.217
110	9.17	0.63	0.314	(0.189)	0.097	0.217
111	9.25	0.63	0.314	(0.188)	0.097	0.217
112	9.33	0.67	0.331	(0.187)	0.103	0.228
113	9.42	0.67	0.331	(0.186)	0.103	0.228
114	9.50	0.67	0.331	(0.185)	0.103	0.228
115	9.58	0.70	0.348	(0.184)	0.108	0.240
116	9.67	0.70	0.348	(0.183)	0.108	0.240
117	9.75	0.70	0.348	(0.183)	0.108	0.240
118	9.83	0.73	0.364	(0.182)	0.113	0.251
119	9.92	0.73	0.364	(0.181)	0.113	0.251
120	10.00	0.73	0.364	(0.180)	0.113	0.251
121	10.08	0.50	0.248	(0.179)	0.077	0.171
122	10.17	0.50	0.248	(0.178)	0.077	0.171
123	10.25	0.50	0.248	(0.177)	0.077	0.171
124	10.33	0.50	0.248	(0.177)	0.077	0.171
125	10.42	0.50	0.248	(0.176)	0.077	0.171
126	10.50	0.50	0.248	(0.175)	0.077	0.171
127	10.58	0.67	0.331	(0.174)	0.103	0.228
128	10.67	0.67	0.331	(0.173)	0.103	0.228
129	10.75	0.67	0.331	(0.172)	0.103	0.228
130	10.83	0.67	0.331	(0.171)	0.103	0.228
131	10.92	0.67	0.331	(0.171)	0.103	0.228
132	11.00	0.67	0.331	(0.170)	0.103	0.228
133	11.08	0.63	0.314	(0.169)	0.097	0.217
134	11.17	0.63	0.314	(0.168)	0.097	0.217
135	11.25	0.63	0.314	(0.167)	0.097	0.217
136	11.33	0.63	0.314	(0.166)	0.097	0.217
137	11.42	0.63	0.314	(0.166)	0.097	0.217
138	11.50	0.63	0.314	(0.165)	0.097	0.217
139	11.58	0.57	0.281	(0.164)	0.087	0.194
140	11.67	0.57	0.281	(0.163)	0.087	0.194
141	11.75	0.57	0.281	(0.162)	0.087	0.194
142	11.83	0.60	0.298	(0.162)	0.092	0.206
143	11.92	0.60	0.298	(0.161)	0.092	0.206
144	12.00	0.60	0.298	(0.160)	0.092	0.206
145	12.08	0.83	0.414	(0.159)	0.128	0.285
146	12.17	0.83	0.414	(0.158)	0.128	0.285

147	12.25	0.83	0.414	(0.158)	0.128	0.285
148	12.33	0.87	0.430	(0.157)	0.133	0.297
149	12.42	0.87	0.430	(0.156)	0.133	0.297
150	12.50	0.87	0.430	(0.155)	0.133	0.297
151	12.58	0.93	0.463	(0.154)	0.144	0.320
152	12.67	0.93	0.463	(0.154)	0.144	0.320
153	12.75	0.93	0.463	(0.153)	0.144	0.320
154	12.83	0.97	0.480	(0.152)	0.149	0.331
155	12.92	0.97	0.480	(0.151)	0.149	0.331
156	13.00	0.97	0.480	(0.151)	0.149	0.331
157	13.08	1.13	0.563	0.150 (0.174)		0.413
158	13.17	1.13	0.563	0.149 (0.174)		0.414
159	13.25	1.13	0.563	0.148 (0.174)		0.414
160	13.33	1.13	0.563	0.147 (0.174)		0.415
161	13.42	1.13	0.563	0.147 (0.174)		0.416
162	13.50	1.13	0.563	0.146 (0.174)		0.417
163	13.58	0.77	0.381	(0.145)	0.118	0.263
164	13.67	0.77	0.381	(0.145)	0.118	0.263
165	13.75	0.77	0.381	(0.144)	0.118	0.263
166	13.83	0.77	0.381	(0.143)	0.118	0.263
167	13.92	0.77	0.381	(0.142)	0.118	0.263
168	14.00	0.77	0.381	(0.142)	0.118	0.263
169	14.08	0.90	0.447	(0.141)	0.139	0.308
170	14.17	0.90	0.447	(0.140)	0.139	0.308
171	14.25	0.90	0.447	(0.139)	0.139	0.308
172	14.33	0.87	0.430	(0.139)	0.133	0.297
173	14.42	0.87	0.430	(0.138)	0.133	0.297
174	14.50	0.87	0.430	(0.137)	0.133	0.297
175	14.58	0.87	0.430	(0.137)	0.133	0.297
176	14.67	0.87	0.430	(0.136)	0.133	0.297
177	14.75	0.87	0.430	(0.135)	0.133	0.297
178	14.83	0.83	0.414	(0.134)	0.128	0.285
179	14.92	0.83	0.414	(0.134)	0.128	0.285
180	15.00	0.83	0.414	(0.133)	0.128	0.285
181	15.08	0.80	0.397	(0.132)	0.123	0.274
182	15.17	0.80	0.397	(0.132)	0.123	0.274
183	15.25	0.80	0.397	(0.131)	0.123	0.274
184	15.33	0.77	0.381	(0.130)	0.118	0.263
185	15.42	0.77	0.381	(0.130)	0.118	0.263
186	15.50	0.77	0.381	(0.129)	0.118	0.263
187	15.58	0.63	0.314	(0.128)	0.097	0.217
188	15.67	0.63	0.314	(0.128)	0.097	0.217
189	15.75	0.63	0.314	(0.127)	0.097	0.217
190	15.83	0.63	0.314	(0.126)	0.097	0.217
191	15.92	0.63	0.314	(0.126)	0.097	0.217
192	16.00	0.63	0.314	(0.125)	0.097	0.217
193	16.08	0.13	0.066	(0.125)	0.021	0.046
194	16.17	0.13	0.066	(0.124)	0.021	0.046
195	16.25	0.13	0.066	(0.123)	0.021	0.046
196	16.33	0.13	0.066	(0.123)	0.021	0.046

197	16.42	0.13	0.066	(0.122)	0.021	0.046
198	16.50	0.13	0.066	(0.121)	0.021	0.046
199	16.58	0.10	0.050	(0.121)	0.015	0.034
200	16.67	0.10	0.050	(0.120)	0.015	0.034
201	16.75	0.10	0.050	(0.120)	0.015	0.034
202	16.83	0.10	0.050	(0.119)	0.015	0.034
203	16.92	0.10	0.050	(0.118)	0.015	0.034
204	17.00	0.10	0.050	(0.118)	0.015	0.034
205	17.08	0.17	0.083	(0.117)	0.026	0.057
206	17.17	0.17	0.083	(0.117)	0.026	0.057
207	17.25	0.17	0.083	(0.116)	0.026	0.057
208	17.33	0.17	0.083	(0.115)	0.026	0.057
209	17.42	0.17	0.083	(0.115)	0.026	0.057
210	17.50	0.17	0.083	(0.114)	0.026	0.057
211	17.58	0.17	0.083	(0.114)	0.026	0.057
212	17.67	0.17	0.083	(0.113)	0.026	0.057
213	17.75	0.17	0.083	(0.113)	0.026	0.057
214	17.83	0.13	0.066	(0.112)	0.021	0.046
215	17.92	0.13	0.066	(0.111)	0.021	0.046
216	18.00	0.13	0.066	(0.111)	0.021	0.046
217	18.08	0.13	0.066	(0.110)	0.021	0.046
218	18.17	0.13	0.066	(0.110)	0.021	0.046
219	18.25	0.13	0.066	(0.109)	0.021	0.046
220	18.33	0.13	0.066	(0.109)	0.021	0.046
221	18.42	0.13	0.066	(0.108)	0.021	0.046
222	18.50	0.13	0.066	(0.108)	0.021	0.046
223	18.58	0.10	0.050	(0.107)	0.015	0.034
224	18.67	0.10	0.050	(0.107)	0.015	0.034
225	18.75	0.10	0.050	(0.106)	0.015	0.034
226	18.83	0.07	0.033	(0.106)	0.010	0.023
227	18.92	0.07	0.033	(0.105)	0.010	0.023
228	19.00	0.07	0.033	(0.105)	0.010	0.023
229	19.08	0.10	0.050	(0.104)	0.015	0.034
230	19.17	0.10	0.050	(0.104)	0.015	0.034
231	19.25	0.10	0.050	(0.103)	0.015	0.034
232	19.33	0.13	0.066	(0.103)	0.021	0.046
233	19.42	0.13	0.066	(0.102)	0.021	0.046
234	19.50	0.13	0.066	(0.102)	0.021	0.046
235	19.58	0.10	0.050	(0.101)	0.015	0.034
236	19.67	0.10	0.050	(0.101)	0.015	0.034
237	19.75	0.10	0.050	(0.100)	0.015	0.034
238	19.83	0.07	0.033	(0.100)	0.010	0.023
239	19.92	0.07	0.033	(0.099)	0.010	0.023
240	20.00	0.07	0.033	(0.099)	0.010	0.023
241	20.08	0.10	0.050	(0.099)	0.015	0.034
242	20.17	0.10	0.050	(0.098)	0.015	0.034
243	20.25	0.10	0.050	(0.098)	0.015	0.034
244	20.33	0.10	0.050	(0.097)	0.015	0.034
245	20.42	0.10	0.050	(0.097)	0.015	0.034
246	20.50	0.10	0.050	(0.096)	0.015	0.034

247	20.58	0.10	0.050	(0.096)	0.015	0.034
248	20.67	0.10	0.050	(0.096)	0.015	0.034
249	20.75	0.10	0.050	(0.095)	0.015	0.034
250	20.83	0.07	0.033	(0.095)	0.010	0.023
251	20.92	0.07	0.033	(0.094)	0.010	0.023
252	21.00	0.07	0.033	(0.094)	0.010	0.023
253	21.08	0.10	0.050	(0.094)	0.015	0.034
254	21.17	0.10	0.050	(0.093)	0.015	0.034
255	21.25	0.10	0.050	(0.093)	0.015	0.034
256	21.33	0.07	0.033	(0.093)	0.010	0.023
257	21.42	0.07	0.033	(0.092)	0.010	0.023
258	21.50	0.07	0.033	(0.092)	0.010	0.023
259	21.58	0.10	0.050	(0.092)	0.015	0.034
260	21.67	0.10	0.050	(0.091)	0.015	0.034
261	21.75	0.10	0.050	(0.091)	0.015	0.034
262	21.83	0.07	0.033	(0.091)	0.010	0.023
263	21.92	0.07	0.033	(0.090)	0.010	0.023
264	22.00	0.07	0.033	(0.090)	0.010	0.023
265	22.08	0.10	0.050	(0.090)	0.015	0.034
266	22.17	0.10	0.050	(0.089)	0.015	0.034
267	22.25	0.10	0.050	(0.089)	0.015	0.034
268	22.33	0.07	0.033	(0.089)	0.010	0.023
269	22.42	0.07	0.033	(0.089)	0.010	0.023
270	22.50	0.07	0.033	(0.088)	0.010	0.023
271	22.58	0.07	0.033	(0.088)	0.010	0.023
272	22.67	0.07	0.033	(0.088)	0.010	0.023
273	22.75	0.07	0.033	(0.088)	0.010	0.023
274	22.83	0.07	0.033	(0.087)	0.010	0.023
275	22.92	0.07	0.033	(0.087)	0.010	0.023
276	23.00	0.07	0.033	(0.087)	0.010	0.023
277	23.08	0.07	0.033	(0.087)	0.010	0.023
278	23.17	0.07	0.033	(0.087)	0.010	0.023
279	23.25	0.07	0.033	(0.086)	0.010	0.023
280	23.33	0.07	0.033	(0.086)	0.010	0.023
281	23.42	0.07	0.033	(0.086)	0.010	0.023
282	23.50	0.07	0.033	(0.086)	0.010	0.023
283	23.58	0.07	0.033	(0.086)	0.010	0.023
284	23.67	0.07	0.033	(0.086)	0.010	0.023
285	23.75	0.07	0.033	(0.085)	0.010	0.023
286	23.83	0.07	0.033	(0.085)	0.010	0.023
287	23.92	0.07	0.033	(0.085)	0.010	0.023
288	24.00	0.07	0.033	(0.085)	0.010	0.023

(Loss Rate Not Used)

Sum = 100.0

Sum = 34.4

Flood volume = Effective rainfall 2.87(In)

times area 1.3(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)

Total soil loss = 1.27(In)

Total soil loss = 0.134(Ac.Ft)

Total rainfall = 4.14(In)

Flood volume = 13190.7 Cubic Feet

Total soil loss = 5837.7 Cubic Feet

Peak flow rate of this hydrograph = 0.532(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0003	0.03	Q				
0+15	0.0005	0.03	Q				
0+20	0.0008	0.04	Q				
0+25	0.0011	0.04	Q				
0+30	0.0014	0.04	Q				
0+35	0.0017	0.04	Q				
0+40	0.0020	0.04	Q				
0+45	0.0023	0.04	Q				
0+50	0.0027	0.05	Q				
0+55	0.0031	0.06	Q				
1+ 0	0.0035	0.06	Q				
1+ 5	0.0038	0.05	Q				
1+10	0.0041	0.04	Q				
1+15	0.0044	0.04	Q				
1+20	0.0047	0.04	Q				
1+25	0.0050	0.04	Q				
1+30	0.0053	0.04	Q				
1+35	0.0056	0.04	Q				
1+40	0.0059	0.04	Q				
1+45	0.0062	0.04	Q				
1+50	0.0066	0.05	Q				
1+55	0.0070	0.06	Q				
2+ 0	0.0074	0.06	Q				
2+ 5	0.0078	0.06	QV				
2+10	0.0082	0.06	QV				
2+15	0.0086	0.06	QV				
2+20	0.0090	0.06	QV				
2+25	0.0094	0.06	QV				
2+30	0.0098	0.06	QV				
2+35	0.0103	0.07	QV				
2+40	0.0108	0.07	QV				
2+45	0.0113	0.07	QV				
2+50	0.0118	0.07	QV				
2+55	0.0123	0.07	QV				
3+ 0	0.0128	0.07	QV				
3+ 5	0.0133	0.07	QV				

3+10	0.0138	0.07	QV				
3+15	0.0143	0.07	QV				
3+20	0.0148	0.07	QV				
3+25	0.0153	0.07	Q V				
3+30	0.0158	0.07	Q V				
3+35	0.0163	0.07	Q V				
3+40	0.0168	0.07	Q V				
3+45	0.0173	0.07	Q V				
3+50	0.0179	0.08	Q V				
3+55	0.0185	0.09	Q V				
4+ 0	0.0191	0.09	Q V				
4+ 5	0.0197	0.09	Q V				
4+10	0.0203	0.09	Q V				
4+15	0.0209	0.09	Q V				
4+20	0.0216	0.10	Q V				
4+25	0.0223	0.10	Q V				
4+30	0.0230	0.10	Q V				
4+35	0.0237	0.10	Q V				
4+40	0.0244	0.10	Q V				
4+45	0.0251	0.10	Q V				
4+50	0.0259	0.11	Q V				
4+55	0.0267	0.12	Q V				
5+ 0	0.0275	0.12	Q V				
5+ 5	0.0281	0.10	Q V				
5+10	0.0287	0.09	Q V				
5+15	0.0293	0.09	Q V				
5+20	0.0300	0.10	Q V				
5+25	0.0307	0.10	Q V				
5+30	0.0314	0.10	Q V				
5+35	0.0322	0.11	Q V				
5+40	0.0330	0.12	Q V				
5+45	0.0338	0.12	Q V				
5+50	0.0346	0.12	Q V				
5+55	0.0354	0.12	Q V				
6+ 0	0.0362	0.12	Q V				
6+ 5	0.0371	0.13	Q V				
6+10	0.0380	0.13	Q V				
6+15	0.0389	0.13	Q V				
6+20	0.0398	0.13	Q V				
6+25	0.0407	0.13	Q V				
6+30	0.0416	0.13	Q V				
6+35	0.0426	0.14	Q V				
6+40	0.0436	0.15	Q V				
6+45	0.0446	0.15	Q V				
6+50	0.0456	0.15	Q V				
6+55	0.0466	0.15	Q V				
7+ 0	0.0476	0.15	Q V				
7+ 5	0.0486	0.15	Q V				
7+10	0.0496	0.15	Q V				
7+15	0.0506	0.15	Q V				

7+20	0.0517	0.16	Q	V				
7+25	0.0528	0.16	Q	V				
7+30	0.0539	0.16	Q	V				
7+35	0.0551	0.17	Q	V				
7+40	0.0563	0.18	Q	V				
7+45	0.0575	0.18	Q	V				
7+50	0.0588	0.18	Q	V				
7+55	0.0601	0.19	Q	V				
8+ 0	0.0614	0.19	Q	V				
8+ 5	0.0628	0.21	Q	V				
8+10	0.0643	0.22	Q	V				
8+15	0.0658	0.22	Q	V				
8+20	0.0673	0.22	Q	V				
8+25	0.0688	0.22	Q	V				
8+30	0.0703	0.22	Q	V				
8+35	0.0719	0.23	Q	V				
8+40	0.0735	0.23	Q	V				
8+45	0.0751	0.23	Q	V				
8+50	0.0768	0.24	Q	V				
8+55	0.0785	0.25	Q	V				
9+ 0	0.0802	0.25	Q	V				
9+ 5	0.0821	0.27	Q	V				
9+10	0.0840	0.28	Q	V				
9+15	0.0859	0.28	Q	V				
9+20	0.0879	0.29	Q	V				
9+25	0.0899	0.29	Q	V				
9+30	0.0919	0.29	Q	V				
9+35	0.0940	0.30	Q	V				
9+40	0.0961	0.31	Q	V				
9+45	0.0982	0.31	Q	V				
9+50	0.1004	0.32	Q	V				
9+55	0.1026	0.32	Q	V				
10+ 0	0.1048	0.32	Q	V				
10+ 5	0.1065	0.25	Q	V				
10+10	0.1080	0.22	Q	V				
10+15	0.1095	0.22	Q	V				
10+20	0.1110	0.22	Q	V				
10+25	0.1125	0.22	Q	V				
10+30	0.1141	0.22	Q	V				
10+35	0.1159	0.27	Q	V				
10+40	0.1179	0.29	Q	V				
10+45	0.1199	0.29	Q	V				
10+50	0.1219	0.29	Q	V				
10+55	0.1239	0.29	Q	V				
11+ 0	0.1259	0.29	Q	V				
11+ 5	0.1279	0.28	Q	V				
11+10	0.1298	0.28	Q	V				
11+15	0.1317	0.28	Q	V				
11+20	0.1336	0.28	Q	V				
11+25	0.1355	0.28	Q	V				

11+30	0.1374	0.28	Q		V			
11+35	0.1392	0.26	Q		V			
11+40	0.1409	0.25	Q		V			
11+45	0.1426	0.25	Q		V			
11+50	0.1444	0.26	Q		V			
11+55	0.1462	0.26	Q		V			
12+ 0	0.1480	0.26	Q		V			
12+ 5	0.1503	0.33	Q		V			
12+10	0.1528	0.36	Q		V			
12+15	0.1553	0.36	Q		V			
12+20	0.1579	0.37	Q		V			
12+25	0.1605	0.38	Q		V			
12+30	0.1631	0.38	Q		V			
12+35	0.1659	0.40	Q		V			
12+40	0.1687	0.41	Q		V			
12+45	0.1715	0.41	Q		V			
12+50	0.1744	0.42	Q		V			
12+55	0.1773	0.42	Q		V			
13+ 0	0.1802	0.42	Q		V			
13+ 5	0.1836	0.49	Q		V			
13+10	0.1872	0.53	Q		V			
13+15	0.1909	0.53	Q		V			
13+20	0.1945	0.53	Q		V			
13+25	0.1982	0.53	Q		V			
13+30	0.2019	0.53	Q		V			
13+35	0.2046	0.40	Q		V			
13+40	0.2069	0.34	Q		V			
13+45	0.2092	0.34	Q		V			
13+50	0.2115	0.34	Q		V			
13+55	0.2139	0.34	Q		V			
14+ 0	0.2162	0.34	Q		V			
14+ 5	0.2188	0.38	Q		V			
14+10	0.2215	0.39	Q		V			
14+15	0.2242	0.39	Q		V			
14+20	0.2268	0.38	Q		V			
14+25	0.2294	0.38	Q		V			
14+30	0.2320	0.38	Q		V			
14+35	0.2347	0.38	Q		V			
14+40	0.2373	0.38	Q		V			
14+45	0.2399	0.38	Q		V			
14+50	0.2424	0.37	Q		V			
14+55	0.2449	0.36	Q		V			
15+ 0	0.2474	0.36	Q		V			
15+ 5	0.2499	0.35	Q		V			
15+10	0.2523	0.35	Q		V			
15+15	0.2547	0.35	Q		V			
15+20	0.2571	0.34	Q		V			
15+25	0.2594	0.34	Q		V			
15+30	0.2617	0.34	Q		V			
15+35	0.2637	0.30	Q		V			

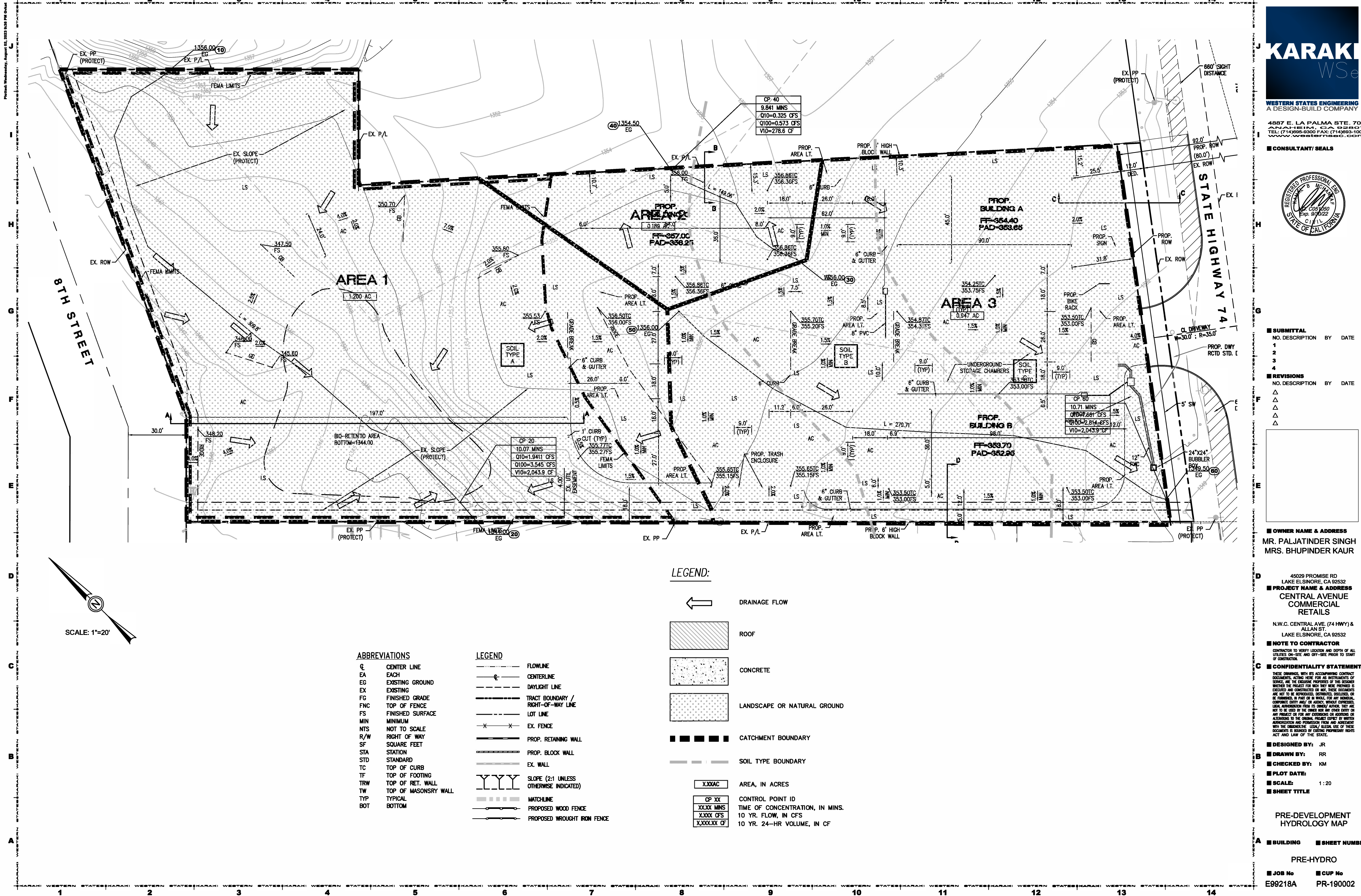
15+40	0.2656	0.28	Q				V
15+45	0.2675	0.28	Q				V
15+50	0.2694	0.28	Q				V
15+55	0.2714	0.28	Q				V
16+ 0	0.2733	0.28	Q				V
16+ 5	0.2742	0.13	Q				V
16+10	0.2746	0.06	Q				V
16+15	0.2750	0.06	Q				V
16+20	0.2754	0.06	Q				V
16+25	0.2758	0.06	Q				V
16+30	0.2762	0.06	Q				V
16+35	0.2765	0.05	Q				V
16+40	0.2768	0.04	Q				V
16+45	0.2771	0.04	Q				V
16+50	0.2774	0.04	Q				V
16+55	0.2777	0.04	Q				V
17+ 0	0.2780	0.04	Q				V
17+ 5	0.2784	0.06	Q				V
17+10	0.2789	0.07	Q				V
17+15	0.2794	0.07	Q				V
17+20	0.2799	0.07	Q				V
17+25	0.2805	0.07	Q				V
17+30	0.2810	0.07	Q				V
17+35	0.2815	0.07	Q				V
17+40	0.2820	0.07	Q				V
17+45	0.2825	0.07	Q				V
17+50	0.2829	0.06	Q				V
17+55	0.2833	0.06	Q				V
18+ 0	0.2837	0.06	Q				V
18+ 5	0.2841	0.06	Q				V
18+10	0.2845	0.06	Q				V
18+15	0.2849	0.06	Q				V
18+20	0.2853	0.06	Q				V
18+25	0.2857	0.06	Q				V
18+30	0.2861	0.06	Q				V
18+35	0.2864	0.05	Q				V
18+40	0.2867	0.04	Q				V
18+45	0.2870	0.04	Q				V
18+50	0.2873	0.03	Q				V
18+55	0.2875	0.03	Q				V
19+ 0	0.2877	0.03	Q				V
19+ 5	0.2880	0.04	Q				V
19+10	0.2883	0.04	Q				V
19+15	0.2886	0.04	Q				V
19+20	0.2889	0.05	Q				V
19+25	0.2893	0.06	Q				V
19+30	0.2897	0.06	Q				V
19+35	0.2901	0.05	Q				V
19+40	0.2904	0.04	Q				V
19+45	0.2907	0.04	Q				V

19+50	0.2909	0.03	Q				V
19+55	0.2911	0.03	Q				V
20+ 0	0.2913	0.03	Q				V
20+ 5	0.2916	0.04	Q				V
20+10	0.2919	0.04	Q				V
20+15	0.2922	0.04	Q				V
20+20	0.2925	0.04	Q				V
20+25	0.2928	0.04	Q				V
20+30	0.2931	0.04	Q				V
20+35	0.2934	0.04	Q				V
20+40	0.2937	0.04	Q				V
20+45	0.2940	0.04	Q				V
20+50	0.2942	0.03	Q				V
20+55	0.2944	0.03	Q				V
21+ 0	0.2946	0.03	Q				V
21+ 5	0.2949	0.04	Q				V
21+10	0.2952	0.04	Q				V
21+15	0.2955	0.04	Q				V
21+20	0.2957	0.03	Q				V
21+25	0.2959	0.03	Q				V
21+30	0.2961	0.03	Q				V
21+35	0.2964	0.04	Q				V
21+40	0.2967	0.04	Q				V
21+45	0.2970	0.04	Q				V
21+50	0.2972	0.03	Q				V
21+55	0.2974	0.03	Q				V
22+ 0	0.2976	0.03	Q				V
22+ 5	0.2979	0.04	Q				V
22+10	0.2982	0.04	Q				V
22+15	0.2985	0.04	Q				V
22+20	0.2987	0.03	Q				V
22+25	0.2989	0.03	Q				V
22+30	0.2991	0.03	Q				V
22+35	0.2993	0.03	Q				V
22+40	0.2995	0.03	Q				V
22+45	0.2997	0.03	Q				V
22+50	0.2999	0.03	Q				V
22+55	0.3001	0.03	Q				V
23+ 0	0.3003	0.03	Q				V
23+ 5	0.3005	0.03	Q				V
23+10	0.3007	0.03	Q				V
23+15	0.3009	0.03	Q				V
23+20	0.3011	0.03	Q				V
23+25	0.3013	0.03	Q				V
23+30	0.3015	0.03	Q				V
23+35	0.3017	0.03	Q				V
23+40	0.3019	0.03	Q				V
23+45	0.3021	0.03	Q				V
23+50	0.3024	0.03	Q				V
23+55	0.3026	0.03	Q				V

24+ 0	0.3028	0.03	Q				V
24+ 5	0.3028	0.01	Q				V

ATTACHMENT E
Hydrology Map Exhibits

Printed Wednesday, August 02, 2023 10:58 PM (GMT-7)



SUBMITTAL		
NO.	DESCRIPTION	BY DATE
1		
2		
3		
4		

REVISIONS		
NO.	DESCRIPTION	BY DATE
Δ		
Δ		
Δ		
Δ		

OWNER NAME & ADDRESS
MR. PALJATINDER SINGH
MRS. BHUPINDER KAUR

45029 PROMISE RD
LAKE ELSINORE, CA 92532
PROJECT NAME & ADDRESS
CENTRAL AVENUE
COMMERCIAL
RETAILS

N.W.C. CENTRAL AVE. (74 HWY) &
ALLAN ST.
LAKE ELSINORE, CA 92532

NOTE TO CONTRACTOR
CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES ON-SITE AND OFF-SITE PRIOR TO START OF CONSTRUCTION.

CONFIDENTIALITY STATEMENT
THESE DRAWINGS, WITH ITS ACCOMPANYING CONTRACT DOCUMENTS, ACTING HERE FOR AS INSTRUMENTS OF SERVICE, ARE THE EXCLUSIVE PROPERTY OF THIS DESIGNER. WHICHEVER THE PROJECT FOR WHICH THESE DRAWINGS ARE PREPARED AND CONSTRUCTED OR NOT, THESE DOCUMENTS ARE NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR BE FURNISHED, IN PART OR IN WHOLE, FOR ANY INDIVIDUAL, COMPANY, OR ENTITY (ANY) OR AGENCY, WITHOUT EXPRESS WRITTEN AUTHORIZATION FROM ITS DESIGNER. ANY SUCH USE, OR ALTERATIONS TO THE ORIGINAL PROJECT, WITHOUT WRITTEN AUTHORIZATION AND PERMISSION FROM AND AGREEMENT WITH THE DESIGNER, IS ILLEGAL. UNLAWFUL USE OF THESE DOCUMENTS IS PROHIBITED BY THE DESIGNER'S RIGHTS ACT AND LAW OF THE STATE.

DESIGNED BY: JR
DRAWN BY: RR
CHECKED BY: KM
PLOT DATE:
SCALE: 1:20
SHEET TITLE

PRE-DEVELOPMENT
HYDROLOGY MAP

BUILDING **SHEET NUMBER**

PRE-HYDRO

JOB No **CUP No**
E99218A PR-190002

ATTACHMENT F
CULCTEC Calcs



CULTEC Stormwater Design Calculator

Please Fill in the Shaded Cells

Project Information:

Project Name
Address
City
State/Province
ZIP/Postal Code
Country

Calculations Performed By:

Name
Company Name
Address
City
State/Province
ZIP/Postal Code
Country
Phone
Email

Kamal B Mchantaf

Date:

January 27, 2025

Project Number:

--

Input Project Requirements

Unit of Measure
Select Model

Imperial
Recharger 902HD

Stone Porosity

40%

Number of HVLV Internal Manifolds

2 Internal Manifolds

Stone Depth **Above** Chamber

12

inches

Stone Depth **Below** Chamber

9

inches

Stone **Between** Chamber rows

9

inches

☒ Include Separator Row

Workable Bed Depth

10.00

feet

Max. Bed Width

25.00

feet

Storage Volume Required

9364.30

cu. feet

Stone Base Elevation

0.00

feet

Additional Information:

Other models are available if products above do not meet your requirements. Contact CULTEC for further design assistance.
Call CULTEC at 203-775-4416 for pricing information.

Hyperlinks to product specific webpages:

Please visit our website for more information such as CAD details, spec information, brochures, installation instructions, and other design tools on certain models.

[Contactor Field Drain C-4HD](#)

[Contactor 100HD](#)

[Recharger 150XLHD](#)

[Recharger 180HD](#)

[Recharger 280HD](#)

[Recharger 330XLHD](#)

[Recharger 360HD](#)

[Recharger 902HD](#)

[HVLV SFCx2 Feed Connector](#)

[HVLV FC-24 Feed Connector](#)

[HVLV FC-48 Feed Connector](#)

[CULTEC No. 4800 Woven Geotextile](#)

[CULTEC No. 410 Non-Woven Geotextile](#)

For design assistance, drawings and pricing
send these calculations to:

<mailto:tech@cultec.com>

Website:

www.cultec.com



CULTEC Stormwater Design Calculator

Date: January 27, 2025

Project Information:

Calculations Performed By:

Kamal B Mchantaf

RECHARGER 902HD



Recharger 902HD Chamber Specifications

Height	48.0	inches
Width	78.0	inches
Length	4.10	feet
Installed Length	3.67	feet
Bare Chamber Volume	63.47	cu. feet
Installed Chamber Volume	99.22	cu. feet

Breakdown of Storage Provided by Recharger 902HD Stormwater System

Within Chambers	5,728.86	cu. feet
Within Feed Connectors	2.74	cu. feet
Within Stone	3,685.17	cu. feet
Total Storage Provided	9,416.8	cu. feet
Total Storage Required	9364.30	cu. feet

Materials List

Recharger 902HD

Total Number of Chambers Required	90	pieces
Separator Row Chambers	30	pieces
Chamber Units	90	pieces
End Caps	6	pieces
HVLV FC-48 Feed Connectors	4	pieces
CULTEC No. 410 Non-Woven Geotextile	939	sq. yards
CULTEC No. 4800 Woven Geotextile	163	feet
Stone	341	cu. yards

Separator Row Qty Included in Total

Based on 2 Internal Manifolds

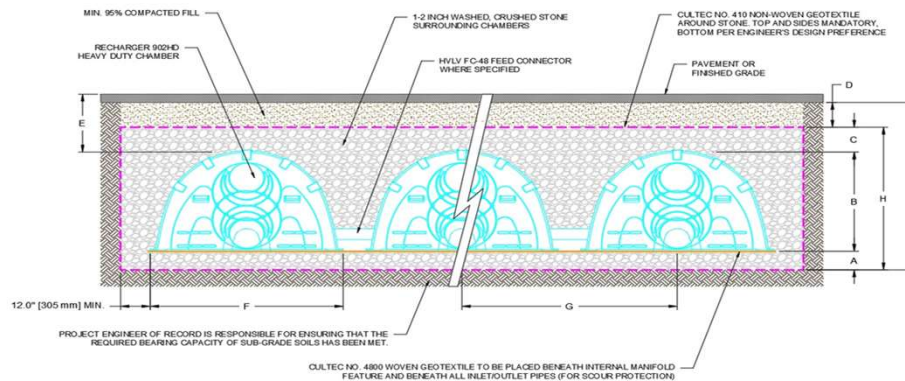
Bed Detail



Bed detail for reference only. Not project specific. Not to scale.

Bed Layout Information

Number of Rows Wide	3	pieces
Number of Chambers Long	30	pieces
Chamber Row Width	21.00	feet
Chamber Row Length	111.00	feet
Bed Width	23.00	feet
Bed Length	113.00	feet
Bed Area Required	2599.05	sq. feet
Length of Separator Row	111.00	feet



Conceptual graphic only. Not job specific.

Cross Section Table Reference

A	Depth of Stone Base	9.0	inches
B	Chamber Height	48.0	inches
C	Depth of Stone Above Units	12.0	inches
D	Depth of 95% Compacted Fill	12.0	inches
E	Max. Depth Allowed Above the Chamber	8.33	feet
F	Chamber Width	78.0	inches
G	Center to Center Spacing	7.25	feet
H	Effective Depth	5.75	feet
I	Bed Depth	6.75	feet



CULTEC Stage-Storage Calculations

Date: January 27, 2025

Project Information:

Project Number:

0

Chamber Model -
Number of Rows -
Total Number of Chambers -
HVLV FC-48 Feed Connectors -
Stone Void -
Stone Base -
Stone Above Units -
Area -
Base of Stone Elevation -

Recharger 902HD
3
90
4
40
9
12
2599.05
0.00

units
units
units
%
inches
inches
ft2

Recharger 902HD Incremental Storage Volumes

Height of System		Chamber Volume		HVLV Feed Connector Volume		Stone Volume		Cumulative Storage Volume		Total Cumulative Storage Volume		Elevation	
in	mm	ft ³	m ³	ft3	m3	ft ³	m ³	ft ³	m ³	ft ³	m ³	ft	m
69.0	1753	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	9416.46	266.64	5.75	1.75
68.0	1727	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	9329.82	264.19	5.67	1.73
67.0	1702	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	9243.19	261.74	5.58	1.70
66.0	1676	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	9156.55	259.28	5.50	1.68
65.0	1651	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	9069.92	256.83	5.42	1.65
64.0	1626	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8983.28	254.38	5.33	1.63
63.0	1600	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8896.65	251.92	5.25	1.60
62.0	1575	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8810.01	249.47	5.17	1.57
61.0	1549	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8723.38	247.02	5.08	1.55
60.0	1524	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8636.74	244.56	5.00	1.52
59.0	1499	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8550.11	242.11	4.92	1.50
58.0	1473	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	8463.47	239.66	4.83	1.47
57.0	1448	6.7	0.2	0.0	0.0	83.9	2.4	90.665	2.6	8376.84	237.21	4.75	1.45
56.0	1422	16.7	0.5	0.0	0.0	80.0	2.3	96.640	2.7	8286.17	234.64	4.67	1.42
55.0	1397	23.3	0.7	0.0	0.0	77.3	2.2	100.600	2.8	8189.52	231.90	4.58	1.40
54.0	1372	39.8	1.1	0.0	0.0	70.7	2.0	110.534	3.1	8088.94	229.05	4.50	1.37
53.0	1346	53.1	1.5	0.0	0.0	65.4	1.9	118.489	3.4	7978.40	225.92	4.42	1.35
52.0	1321	66.2	1.9	0.0	0.0	60.1	1.7	126.374	3.6	7859.91	222.57	4.33	1.32
51.0	1295	72.9	2.1	0.0	0.0	57.5	1.6	130.369	3.7	7733.54	218.99	4.25	1.30
50.0	1270	79.5	2.3	0.0	0.0	54.8	1.6	134.329	3.8	7603.17	215.30	4.17	1.27
49.0	1245	89.4	2.5	0.0	0.0	50.9	1.4	140.269	4.0	7468.84	211.49	4.08	1.24
48.0	1219	89.4	2.5	0.0	0.0	50.9	1.4	140.269	4.0	7328.57	207.52	4.00	1.22
47.0	1194	96.0	2.7	0.0	0.0	48.2	1.4	144.229	4.1	7188.30	203.55	3.92	1.19
46.0	1168	99.3	2.8	0.0	0.0	46.9	1.3	146.244	4.1	7044.07	199.47	3.83	1.17
45.0	1143	102.6	2.9	0.0	0.0	45.6	1.3	148.189	4.2	6897.83	195.32	3.75	1.14
44.0	1118	109.2	3.1	0.0	0.0	43.0	1.2	152.149	4.3	6749.64	191.13	3.67	1.12
43.0	1092	112.5	3.2	0.0	0.0	41.6	1.2	154.164	4.4	6597.49	186.82	3.58	1.09
42.0	1067	115.8	3.3	0.0	0.0	40.3	1.1	155.109	4.4	6443.32	182.45	3.50	1.07
41.0	1041	115.8	3.3	0.0	0.0	40.3	1.1	155.109	4.4	6287.21	178.03	3.42	1.04
40.0	1016	119.1	3.4	0.0	0.0	39.0	1.1	158.124	4.5	6131.11	173.61	3.33	1.02
39.0	991	122.4	3.5	0.0	0.0	37.7	1.1	160.069	4.5	5972.98	169.14	3.25	0.99
38.0	965	125.8	3.6	0.0	0.0	36.3	1.0	162.119	4.6	5812.91	164.60	3.17	0.97
37.0	940	129.0	3.7	0.0	0.0	35.0	1.0	164.029	4.6	5650.79	160.01	3.08	0.94
36.0	914	129.0	3.7	0.0	0.0	35.0	1.0	164.064	4.6	5486.76	155.37	3.00	0.91
35.0	889	132.3	3.7	0.0	0.0	33.7	1.0	166.044	4.7	5322.70	150.72	2.92	0.89
34.0	864	132.3	3.7	0.0	0.0	33.7	1.0	166.009	4.7	5156.66	146.02	2.83	0.86
33.0	838	135.6	3.8	0.0	0.0	32.4	0.9	168.024	4.8	4990.65	141.32	2.75	0.84
32.0	813	135.6	3.8	0.0	0.0	32.4	0.9	168.024	4.8	4822.62	136.56	2.67	0.81
31.0	787	135.7	3.8	0.0	0.0	32.4	0.9	168.059	4.8	4654.60	131.80	2.58	0.79
30.0	762	138.9	3.9	0.0	0.0	31.1	0.9	170.004	4.8	4486.54	127.04	2.50	0.76
29.0	737	138.9	3.9	0.0	0.0	31.1	0.9	170.004	4.8	4316.53	122.23	2.42	0.74
28.0	711	138.9	3.9	0.0	0.0	31.1	0.9	170.004	4.8	4146.53	117.42	2.33	0.71
27.0	686	142.2	4.0	0.0	0.0	29.7	0.8	171.984	4.9	3976.53	112.60	2.25	0.69
26.0	660	142.2	4.0	0.0	0.0	29.7	0.8	171.984	4.9	3804.54	107.73	2.17	0.66
25.0	635	145.6	4.1	0.0	0.0	28.4	0.8	173.999	4.9	3632.56	102.86	2.08	0.64
24.0	610	145.5	4.1	0.0	0.0	28.4	0.8	173.964	4.9	3458.56	97.94	2.00	0.61
23.0	584	148.8	4.2	0.0	0.0	27.1	0.8	175.944	5.0	3284.59	93.01	1.92	0.58
22.0	559	148.8	4.2	0.0	0.0	27.1	0.8	175.944	5.0	3108.65	88.03	1.83	0.56
21.0	533	148.9	4.2	0.0	0.0	27.1	0.8	175.986	5.0	2932.71	83.04	1.75	0.53
20.0	508	148.8	4.2	0.1	0.0	27.1	0.8	176.000	5.0	2756.72	78.06	1.67	0.51
19.0	483	152.2	4.3	0.2	0.0	25.7	0.7	178.067	5.0	2580.72	73.08	1.58	0.48
18.0	457	152.2	4.3	0.2	0.0	25.7	0.7	178.090	5.0	2402.65	68.04	1.50	0.46
17.0	432	152.2	4.3	0.2	0.0	25.7	0.7	178.105	5.0	2224.56	62.99	1.42	0.43
16.0	406	152.2	4.3	0.3	0.0	25.7	0.7	178.112	5.0	2046.46	57.95	1.33	0.41
15.0	381	155.4	4.4	0.3	0.0	24.3	0.7	180.064	5.1	1868.35	52.91	1.25	0.38
14.0	356	155.5	4.4	0.3	0.0	24.3	0.7	180.106	5.1	1688.28	47.81	1.17	0.36
13.0	330	158.8	4.5	0.3	0.0	23.0	0.7	182.090	5.2	1508.17	42.71	1.08	0.33
12.0	305	158.9	4.5	0.3	0.0	23.0	0.7	182.129	5.2	1326.08	37.55	1.00	0.30
11.0	279	158.8	4.5	0.3	0.0	23.0	0.7	182.097	5.2	1143.96	32.39	0.92	0.28
10.0	254	158.9	4.5	0.3	0.0	23.0	0.7	182.145	5.2	961.86	27.24	0.83	0.25
9.0	229	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	779.71	22.08	0.75	0.23
8.0	203	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	693.08	19.63	0.67	0.20
7.0	178	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	606.44	17.17	0.58	0.18
6.0	152	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	519.81	14.72	0.50	0.15
5.0	127	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	433.17	12.27	0.42	0.13
4.0	102	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	346.54	9.81	0.33	0.10
3.0	76	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	259.90	7.36	0.25	0.08
2.0	51	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	173.27	4.91	0.17	0.05
1.0	25	0.0	0.0	0.0	0.0	86.6	2.5	86.635	2.5	86.63	2.45	0.08	0.03
0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	0.0	0.00	0.00	0.00	0.00
-1.0													
-2.0													
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-5.0													
-6.0													
-7.0													
-8.0													
-9.0													
-10.0													
-11.0													

Top of Stone Elevation

Top of Chamber Elevation

Bottom of Chamber Elevation

Bottom of Stone Elevation

Recharger 902HD Incremental Storage Volumes													
Height of System		Chamber Volume		HVLV Feed Connector Volume		Stone Volume		Cumulative Storage Volume		Total Cumulative Storage Volume		Elevation	
in	mm	ft ³	m ³	ft3	m3	ft ³	m ³	ft ³	m ³	ft ³	m ³	ft	m
-12.0													
-13.0													
-14.0													
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ATTACHMENT G
Grading Plans

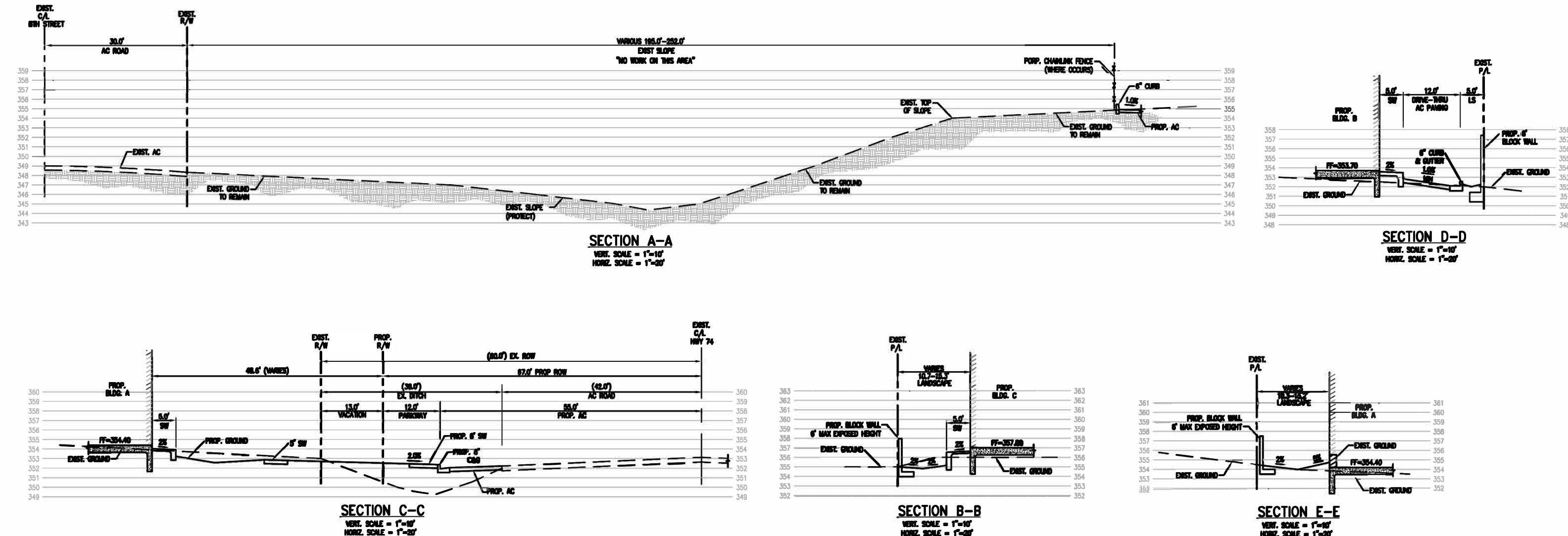
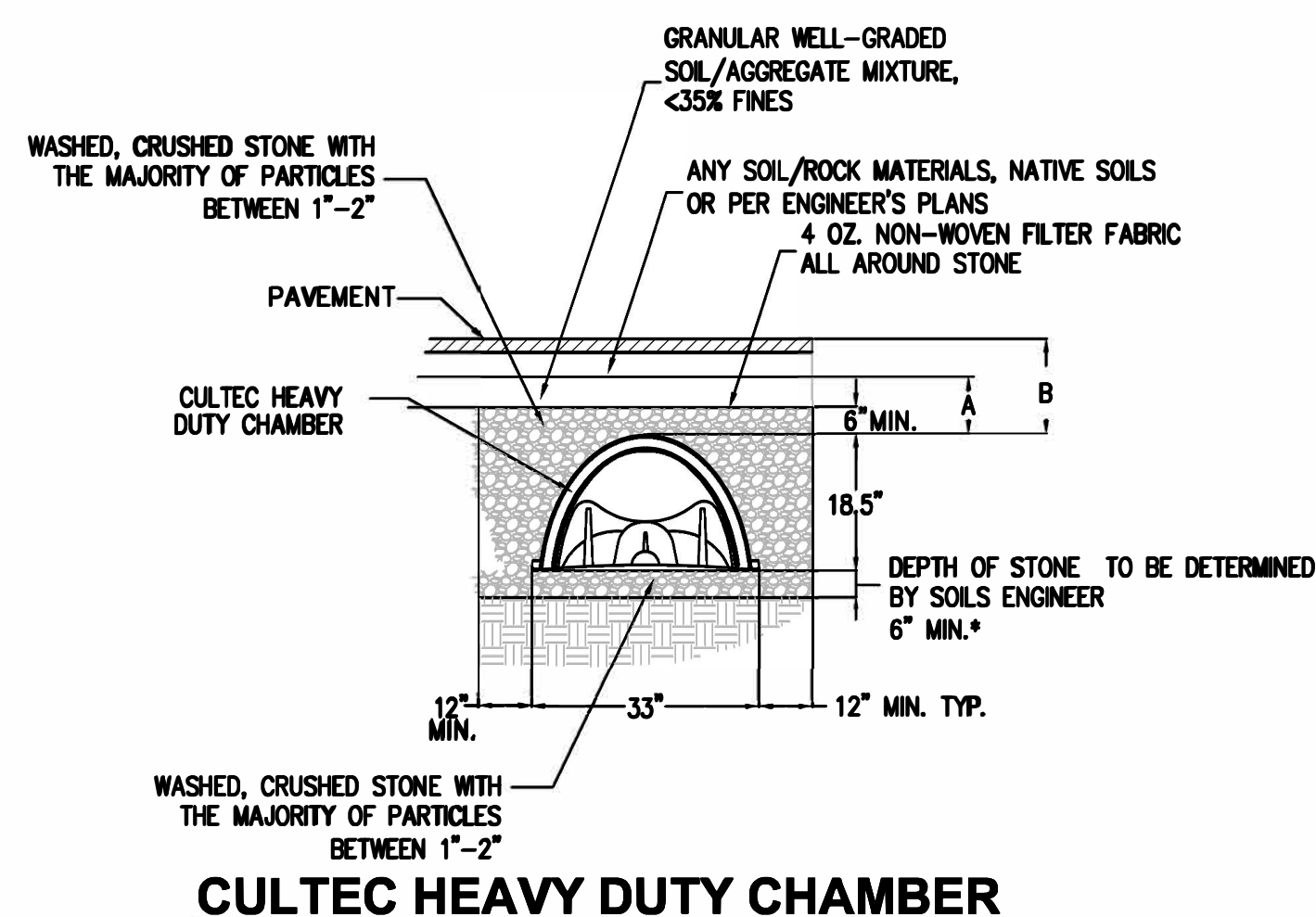


RAW CUT:	670	CY
RAW FILL:	570	CY
RAW EXPORT:	100	CY (C)

ABBREVIATIONS

LEGEND

	FLOWLINE	348
	CENTERLINE	347
	DAYLIGHT LINE	348
	TRACT BOUNDARY / RIGHT-OF-WAY LINE	346
	LOT LINE	345
	EX. FENCE	345
	PROP. RETAINING WALL	345
	PROP. BLOCK WALL	345
	EX. WALL	345
	SLOPE (2:1 UNLESS OTHERWISE INDICATED)	345
	MATCHLINE	345
	PROPOSED WOOD FENCE	345
	PROPOSED WROUGHT IRON FENCE	345



ATTACHMENT H
FIRMette Map

National Flood Hazard Layer FIRMette



Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, ARD</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		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 <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

117°20'4"W 33°42'14"N



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 1/27/2025 at 6:00 AM 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.