THE TERRACES

MURRIETA

Preliminary Drainage Report

MURRIETA, CA 92562

DP-2022-2518

PROJECT NO.: 195120004
APN: 910-310-001, 910-310-002, 910-310-003, 910-310-004, 910-310-005, 910-310-007, 910-310-008, 910-310-009, 910-310-010, 910-310-015, 910-310-017, 910-310-018, 910-310-021, 910-310-022, 910-310-023, 910-310-024, 910-310-025, 910-310-026, 949-190-011, 949-190-012, 949-190-013, 949-190-014, 949-190-015, 949-190-016, 949-190-017, 949-190-018, 949-190-019

DECEMBER 2022

Project Applicant:

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This Drainage Report has been prepared by Kimley-Horn and Associates, Inc. under the direct supervision of the following Registered Civil engineer. The undersigned attests to the technical data contained in this study, and to the qualifications of technical specialists providing engineering computations upon which the recommendations and conclusions are based.

12/07/2022

Registered Civil Engineer

Date

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Appendix B Existing Rational Method

Appendix C Proposed Rational Method

Appendix D Existing 100 YR Unit Hydrograph

Appendix E Proposed Unit 100 YR Hydrograph

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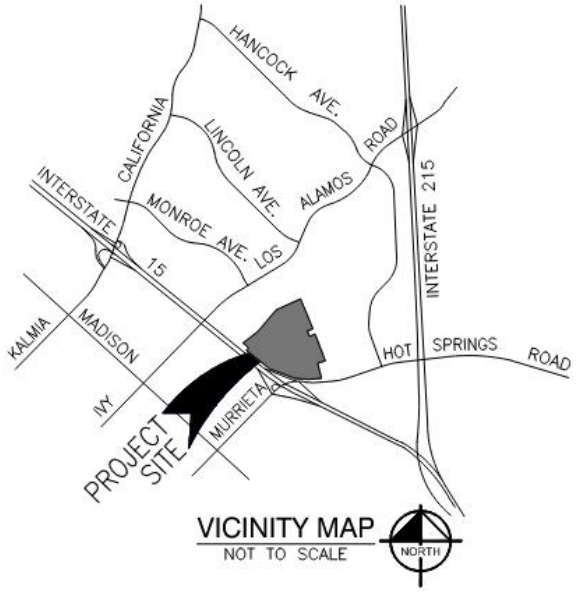
1 PROJECT DESCRIPTION

1.1 PROJECT DESCRIPTION

The Terraces project site will be a residential development and is approximately 37.8 AC within the City of Murrieta. Offsite flows that contribute to proposed infrastructure were included in this analysis, encompassing a total area of 56.2 acres. See **Figure 1-1** for Vicinity Map. The proposed project includes the construction of +/- 900 unit multifamily development with associated parking, landscaping, and sidewalk.

Figure 1–1 Vicinity Map



2 HYDROLOGIC ANALYSIS

2.1 ASSUMPTIONS

Contour information, aerial photographs and site observations were used to delineate the watershed boundary and drainage sub-basins for the project.

2.2 METHODOLOGY

The City of Murrieta is located within Riverside County. Drainage calculations comply with the requirements outlined in the Riverside County Flood Control and Water Conservation District's Hydrology Manual (RCFC & WCD) dated April 1978. Runoff values were calculated based on the 100-year storm event using the Modified Rational Method. The Rational Method was used to analyze the hydrology for the project. This methodology is typically used for small basins less than 500 acres in size because a uniform rainfall distribution is assumed for the entire duration.

Basin boundaries, initial subareas, and flow paths were delineated for each basin with AutoCAD Civil 3D software. These hydrologic parameters are shown for existing conditions and proposed conditions in **Exhibit A** and **Exhibit B** attached. Elevations, flow path slopes, and estimated shape of routing reaches was determined for each basin.

The RCFC & WCD Hydrology Manual was used to calculate loss rates and subsequent runoff coefficients for each basin based on land use type, hydrologic soil group, and Antecedent Moisture Condition (AMC). The AMC is a commonly used index used to describe how saturated a soil is before the design storm occurs. AMC III describes a watershed soil that is already saturated, typically used for the 100-year storm analysis. AMC II, a moderately wet condition, was used for the 10-year storm analysis.

Hydrologic soil group B was used for the entire project. Runoff coefficients for the project were determined using Plate D-5.7 of the RCFC & WCD Hydrology Manual.

Runoff calculations for the 100-year storm were performed using the rational method computer program Advanced Engineering Software (AES), 2011 version. This method calculates time of concentration and runoff rates using criteria as specified in the Hydrology Manual. This report will identify that proposed runoff leaving the site will be less than existing conditions. See **Appendix B and C** for AES rational method results.

The Unit Hydrograph Method was used to analyze the existing and proposed runoff volume from the site. Civil Design software was utilized to determine the pre- and post-development runoff volumes for the 10-year and 100-year storm event. This report will identify that the detla of proposed runoff volume produced on site and existing conditions will be stored using underground detention systems. See **Appendix C and D** for Civil Design Unit Hydrograph results.

Excerpts from the Hydrology Manual are contained in **Appendix A**.

2.2.1 EXISTING SITE HYDROLOGY

The existing site is undeveloped with hills, slopes and natural drainage courses. The topography of the site generally slopes to the southwest. There is no existing stormwater system on site. Runoff sheet flows to four separate discharge locations. Existing storm drain infrastructure for the project area is within Sparkman Ct. The lowest point is at the southwest corner where stormwater collects in a vegetated area along Murrieta Hot Springs Road.

The offsite and onsite tributary areas have been defined on the attached **Existing Drainage Exhibit**. Refer to **Table 2-1** for the calculated discharge to associated inlets from the existing project site.

Table 2–1 Existing Hydrology Conditions

DMA	Runoff Coefficient	plot (acres)	T_c (min)	100Yr Intensity	Flow Rate 100 Year (cfs)
Discharge to Outfall A					
A	0.68	16.45	18.23	2.50	28.52
Discharge to Outfall B					
B	0.63	20.1	18.23	2.50	32.02
Discharge to Outfall C					
C	0.73	15.5	11.28	3.26	39.64
Discharge to Outfall D					
D	0.66	4.43	13.89	2.90	8.56
Total	-	56.5	-	-	109.24

2.2.2 PROPOSED SITE HYDROLOGY

The area of disturbance for the proposed multi-family development is approximately 37.8 acres. 56.5 acres were analyzed in total to reflect offsite flows as well and ensure existing drainage patterns are maintained. The total site area was divided into four drainage management areas as shown on the attached **Proposed Drainage Exhibit**. The project proposes storm drain infrastructure to convey project runoff to existing discharge locations. **Table 2-3** below summarizes the total calculated discharge at the outlets for each DMA.

The project area had an anticipated total flow of 145.93 cfs.

Table 2–2 Proposed Hydrology Conditions

DMA	Runoff Coefficient	Area (acres)	T_c (min)	100Yr Intensity	Flow Rate 100 Year (cfs)
Discharge to Location 1					
A	0.72	14.79	10.90	3.32	40.23
Discharge to Location 2					
B	0.84	19.1	10.08	3.86	38.07
Discharge to Location 3					
C	0.75	10.16	8.09	3.45	47.67
Discharge to Location 4					
D	0.83	6.9	10.41	3.52	19.96
Total	-	56.5	-	-	145.93

The proposed project will reduce runoff to existing conditions as discussed in Section 3.2.

3 HYDRAULIC ANALYSIS

3.1 STORM DRAIN SIZE

During the preliminary phase of the project, storm drains are sized within the software program AES During final engineering, detailed hydraulic analyses will be performed for the proposed final storm drain alignments.

3.2 DETENTION BASIN

During the preliminary phase of the project, a delta of existing and proposed storm volume was used for detention sizing. The required volume to be stored for increased runoff mitigation was determined by taking the sum of the delta volume differences from proposed improvement areas between the post-project and pre-project unit hydrographs for the 100-year storm. The existing and proposed unit hydrograph storm volumes were determined using a computer program developed by Civil Design. Civil Design was used to estimate the 100-year peak flow rates and volumes over a 24-hour period for the proposed condition. These unit hydrograph calculations are included in this report as **Appendix D**. This method calculates a unit hydrograph using lag time, maximum watershed loss rates, low lost fraction and an S-graph as specified in the Hydrology Manual. The maximum watershed loss rate was obtained directly from the rational unit hydrographs that were prepared using the methodology described in Section E of the Hydrology Manual. The existing and proposed site unit hydrograph was used to initially size the detention basin.

Prior to discharge, runoff will be detained with underground basins. Existing and Proposed Unit Hydrographs are in **Appendix D and Appendix E**.

Table 3-1 Storage Summary

Basin ID	Existing 100-Year Volume (ac-ft)	Proposed 100-Year Volume (ac-ft)	Delta (Existing-Proposed) (ac-ft)	Total Proposed Storage (ac-ft)
A	3.01	2.16	-0.85	N/A
B	3.68	6.34	+2.66	3.35
C	2.83	3.54	+0.71	1.32
D	0.81	2.29	+1.48	1.49

4 RESULTS

4.1 DRAINAGE IMPROVEMENTS

Hydrology and hydraulic analyses were performed for the preliminary site layout. Drainage improvements include inlets, storm drain, and detention basin. The proposed drainage facilities will be designed to adequately convey the 100-year flow rates. The detention basins will provide storage to reduce discharge to existing conditions.

4.2 CEQA

- The proposed project will discharge runoff at existing locations and runoff rates.
- The proposed improvements will have no negative impacts to any adjacent properties.
- The proposed project is subject to the requirements as set forth in the general permit.
- The project is subject to Regional Board Order No. R9-2013-0001 as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100

APPENDICES

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APPENDIX A

HYDROLOGY EXHIBITS

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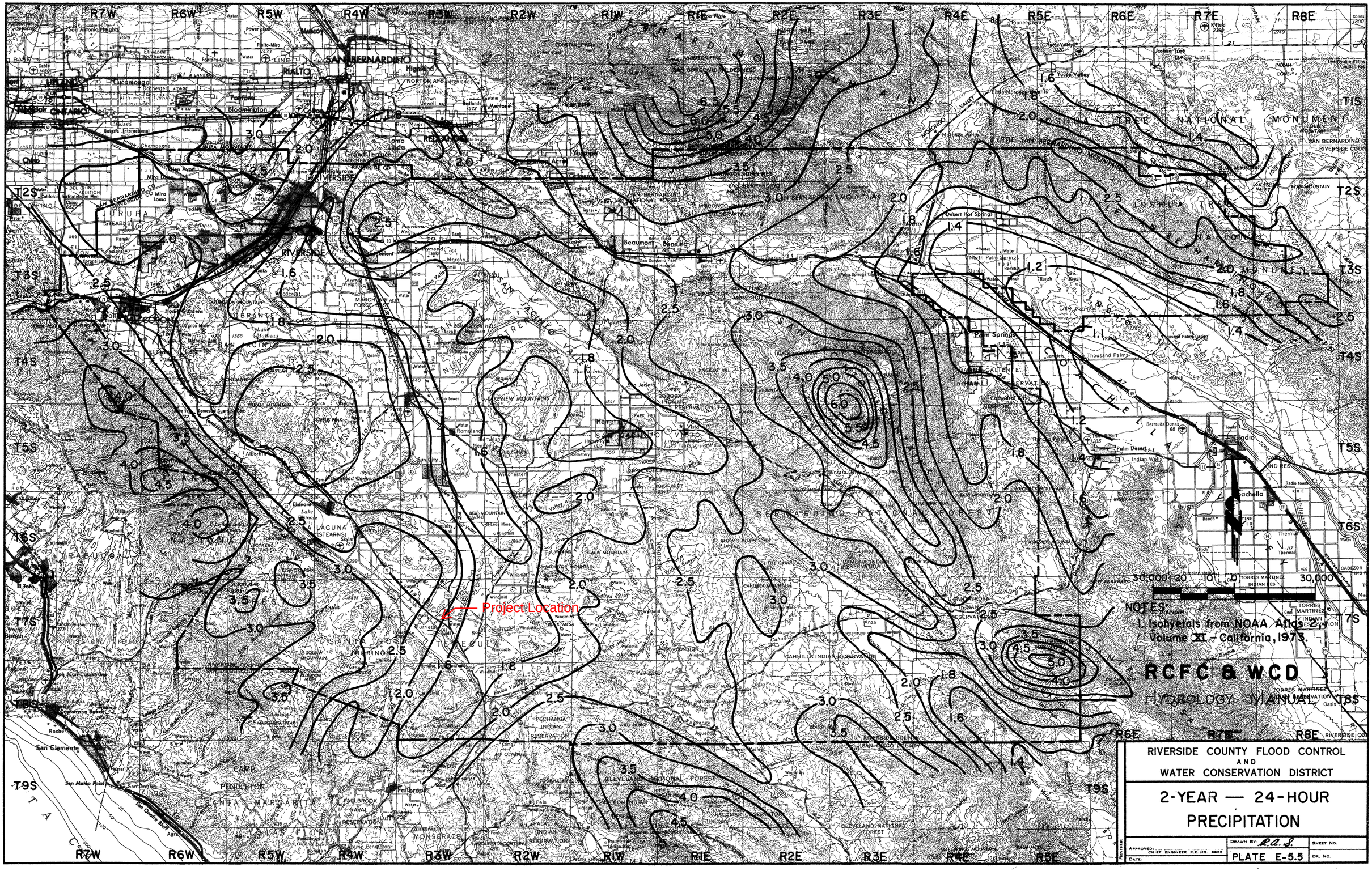

Project Location
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
DRAWN BY: R.A.S.
PLATE E-5.5
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
REVISED
SHEET NO.
DR. NO.

Project Location

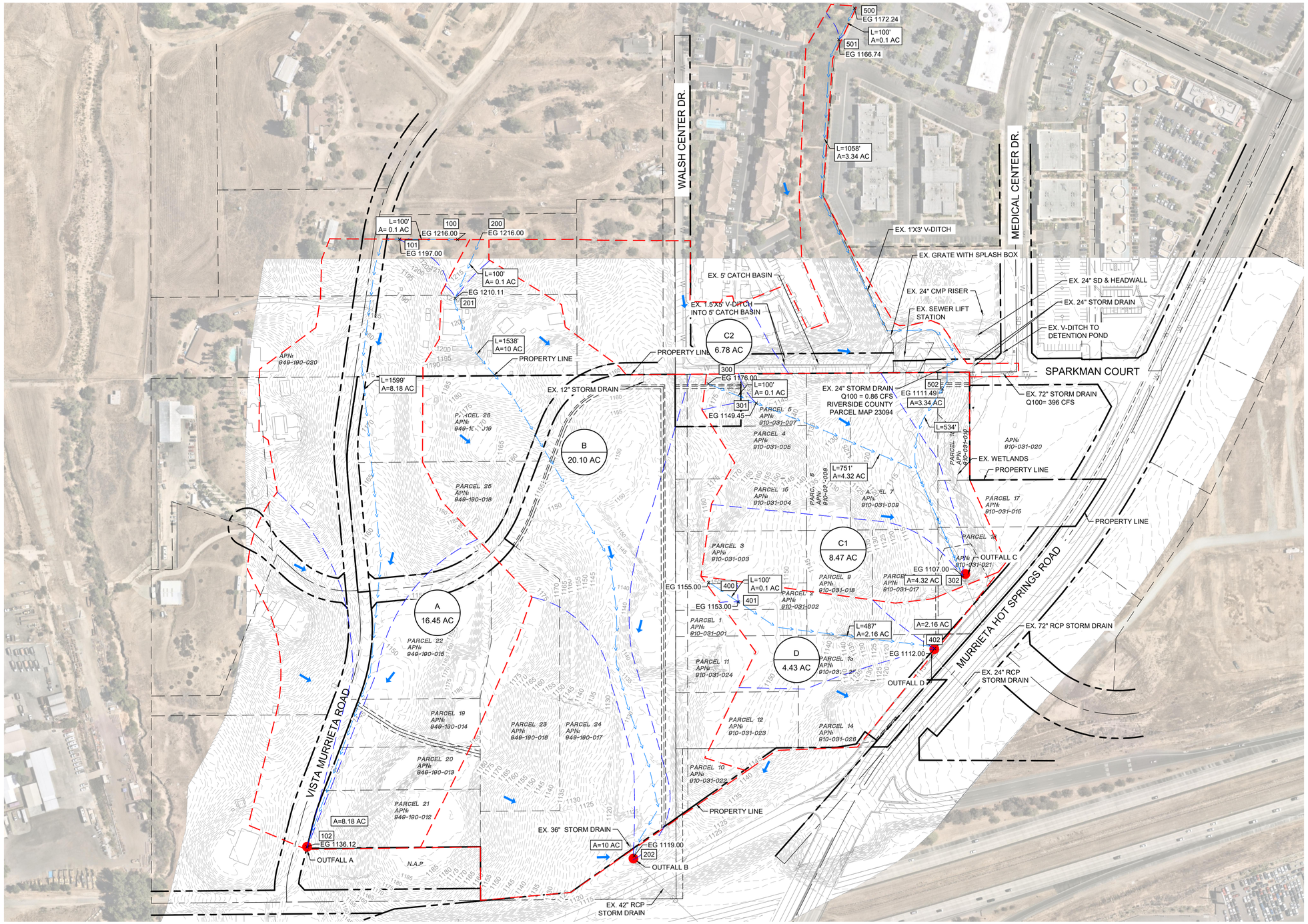
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100-YEAR — 24-HOUR PRECIPITATION

APPROVED: CHIEF ENGINEER R.E. NO. 8822	DRAWN BY:	SHEET NO.
DATE	PLATE E-5.6	DR. NO.
REVISED		



LEGEND

- DMA / AREA — ID / ACRES
- 100 — NODE
- DMA BOUNDARY
- DMA SUB BOUNDARY
- OVERLAND FLOW DIRECTION
- PROPERTY LINE/RIGHT-OF-WAY
- DISCHARGE LOCATION
- SD — EXISTING STORM DRAIN

RATIONAL METHOD SUMMARY TABLE - EXISTING CONDITIONS

DMA ID	AREA (AC)	Q100 (CFS)
A	16.45	28.52
B	20.1	32.02
C	15.5	39.64
D	4.43	8.56

NORTH

GRAPHIC SCALE IN FEET
0 60 120 240

No.	REVISIONS	DATE	BY

Kimley»Horn
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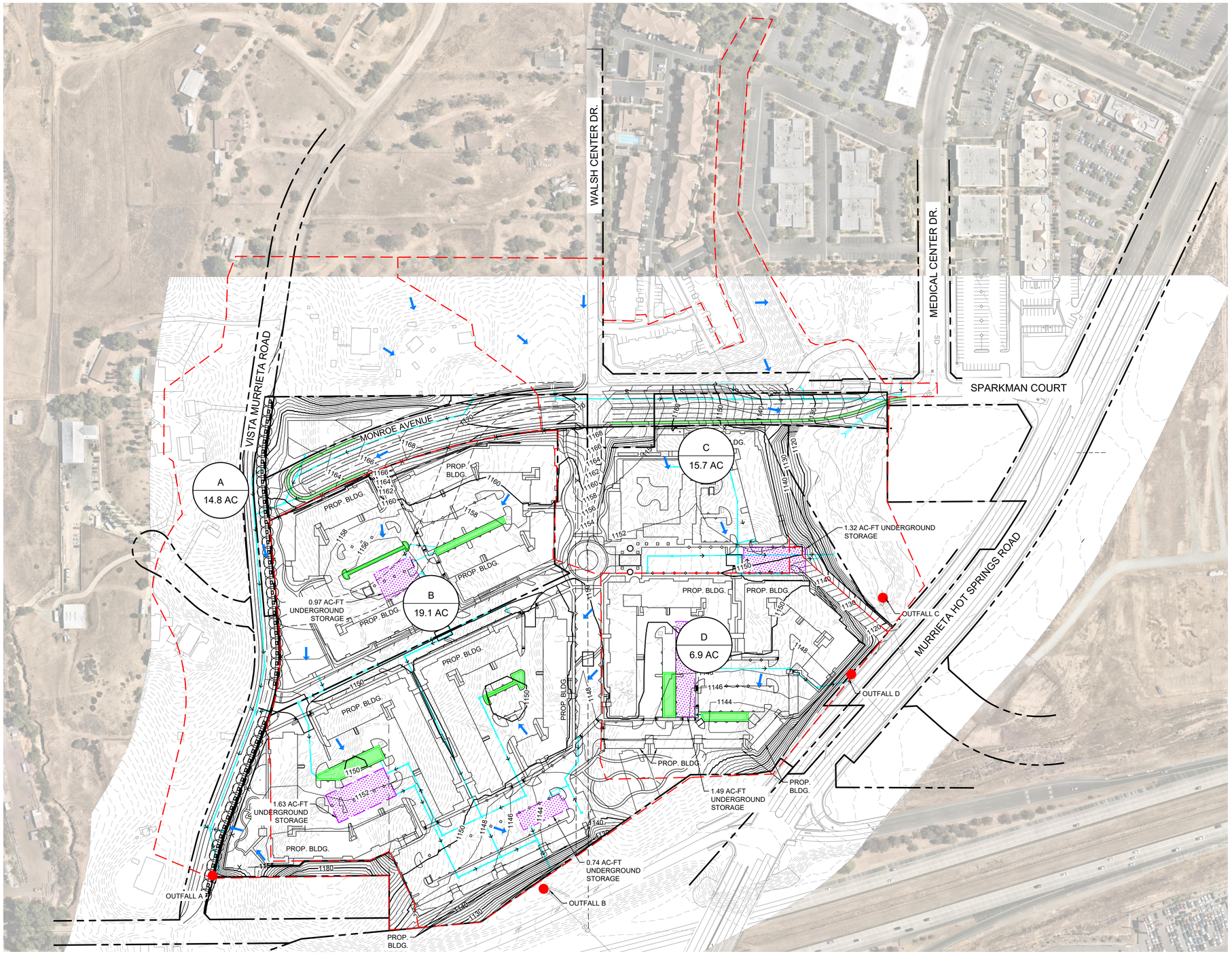
401 B STREET, SUITE 600; SAN DIEGO, CA 92101
PHONE: 619-234-9411
WWW.KIMLEY-HORN.COM

KHA PROJECT 195120004
DATE 12/6/2022
SCALE AS SHOWN
DESIGNED BY ___
DRAWN BY ___
CHECKED BY ___

EXISTING DRAINAGE EXHIBIT
FOR
THE TERRACES MURRIETA

CITY OF MURRIETA CA

SHEET NUMBER
1 OF 1



LEGEND

- DMA / AREA — ID / ACRES
- DMA BOUNDARY
- OVERLAND FLOW DIRECTION
- PROPERTY LINE/RIGHT-OF-WAY
- DISCHARGE LOCATION
- PROPOSED STORAGE VAULT
- PROPOSED BIORETENTION BASIN
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN

RATIONAL METHOD CONFLUENCE SUMMARY TABLE

DMA ID	PROPOSED TOTAL AREA (AC)	EXISTING Q100 (CFS)	PROPOSED Q100 (CFS)	PROPOSED MITIGATED Q100 (CFS)
A	14.8	28.52	40.23	28.0
B	19.1	32.02	38.07	32.0
C	15.7	39.64	47.67	39.0
D	6.9	8.56	20.14	8.0

HYDROGRAPH CONFLUENCE SUMMARY TABLE

DMA	EXISTING 100-YEAR VOLUME (AC-FT)	PROPOSED 100-YEAR VOLUME (AC-FT)	DETLA	PROPOSED STORAGE (AC-FT)
A	3.01	2.16	-0.85	N/A
B	3.68	6.34	2.66	3.35
C	2.83	3.54	0.71	1.32
D	0.81	2.29	1.48	1.49

NORTH

GRAPHIC SCALE IN FEET
0 60 120 240

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DATE	12/6/2022
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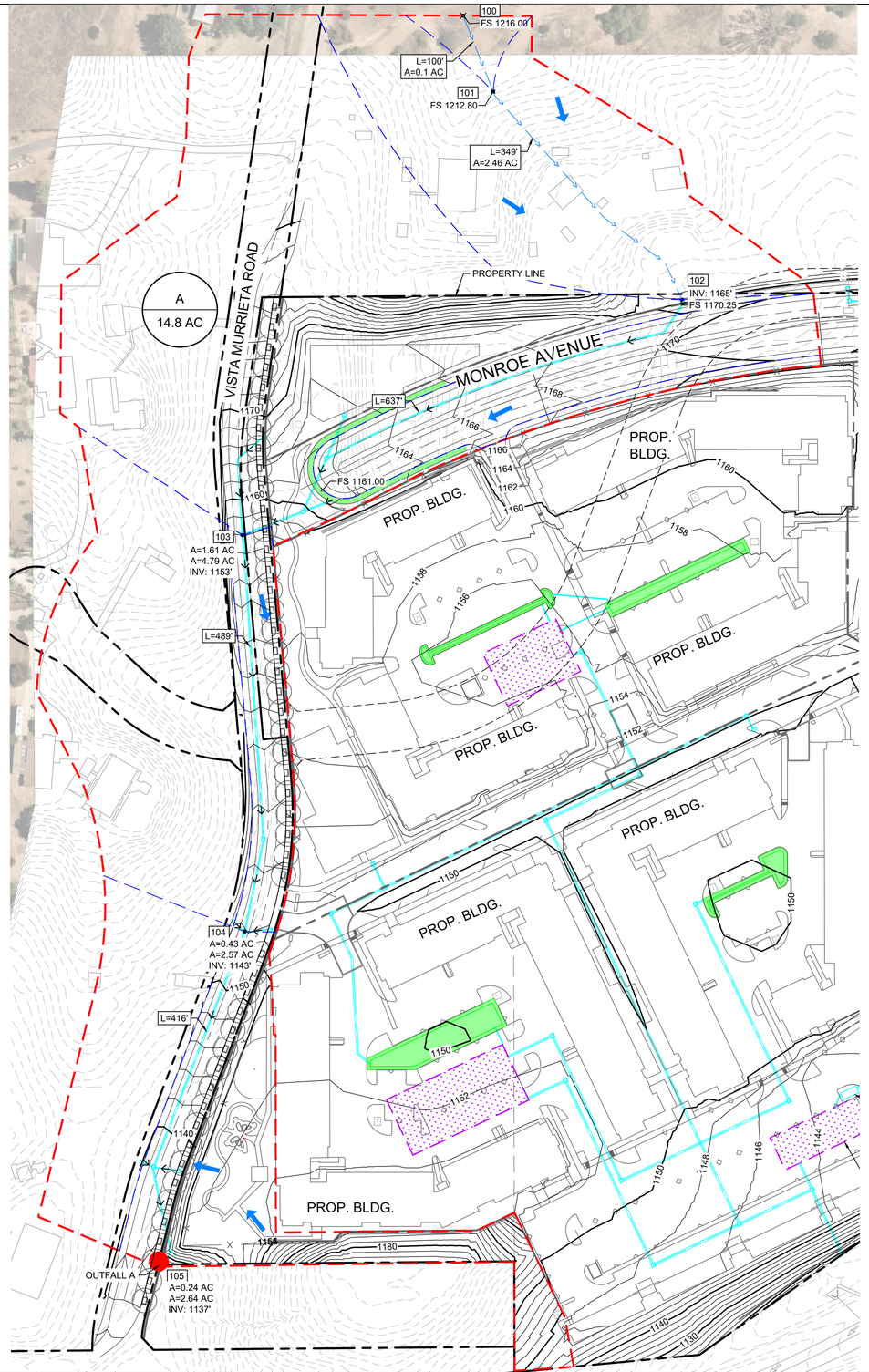
CHECKED BY	___

DRAINAGE HYDROGRAPH EXHIBIT
FOR
THE TERRACES MURRIETA

CITY OF MURRIETA CA

SHEET NUMBER
1 OF 5



LEGEND

- DMA / AREA — ID / ACRES
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- DMA SUBAREA BOUNDARY
- BMP SUB BOUNDARY
- DMA BOUNDARY
- OVERLAND FLOW DIRECTION
- PROPERTY LINE/RIGHT-OF-WAY
- DISCHARGE LOCATION
- PROPOSED STORAGE VAULT
- PROPOSED BIORETENTION BASIN
- PROPOSED STORM DRAIN
- SD — EXISTING STORM DRAIN

RATIONAL METHOD SUMMARY TABLE - PROPOSED CONDITIONS

DMA ID	AREA (AC)	Q100 (CFS)
A	14.8	40.23
B1	5.7	18.03
B2	6.4	11.88
B3	2.8	7.36
B4	4.2	13.95
C1	7.3	23.61
C2	8.4	26.66
D	6.9	20.14

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160

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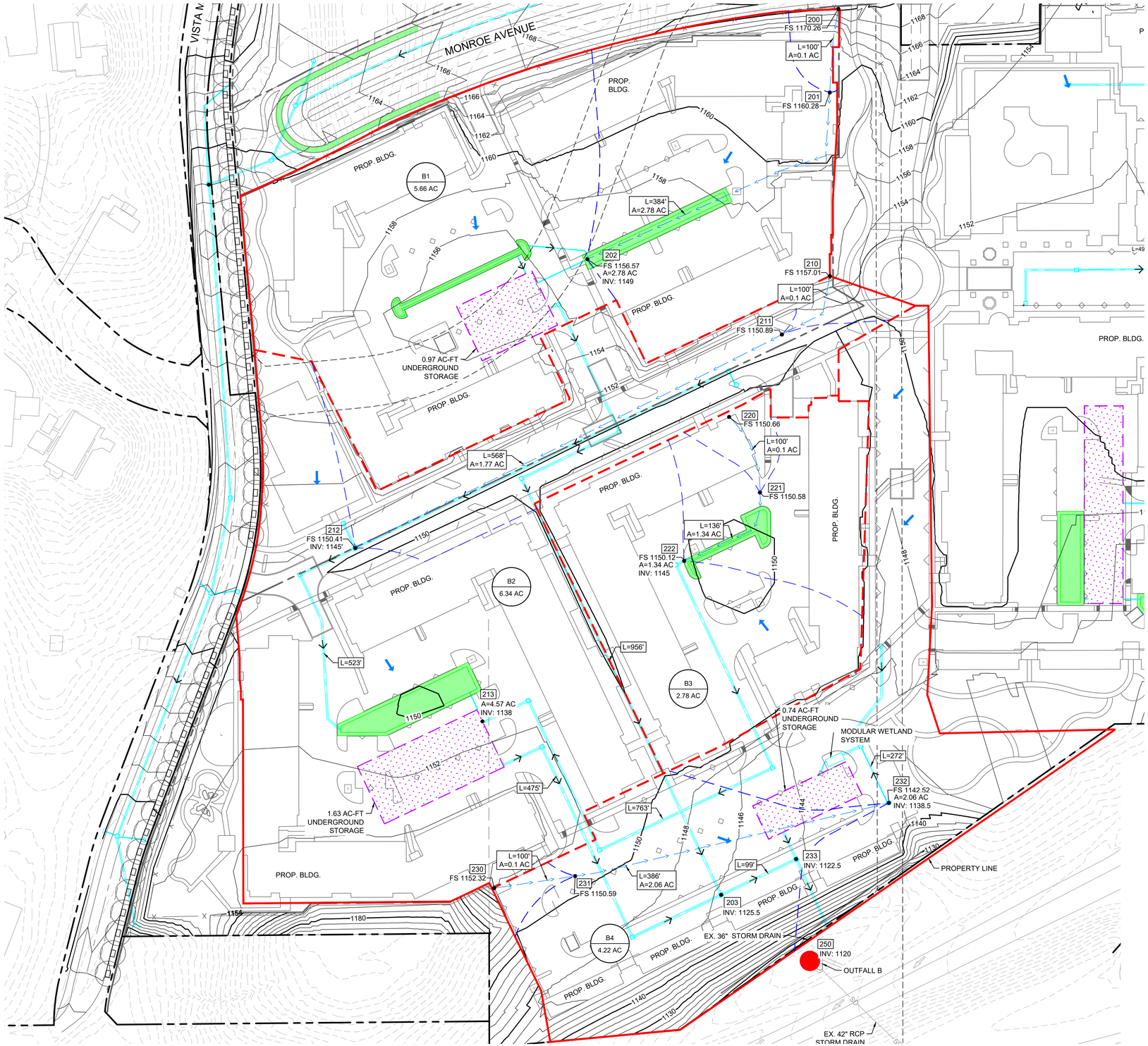
DESIGNED BY	___
DRAWN BY	___
CHECKED BY	___

PROPOSED DRAINAGE EXHIBIT - DMA A
FOR
THE TERRACES MURRIETA

CITY OF MURRIETA CA

SHEET NUMBER
2 OF 5



LEGEND

- DMA / AREA — ID / ACRES
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- DMA SUBAREA BOUNDARY
- BMP SUB BOUNDARY
- DMA BOUNDARY
- OVERLAND FLOW DIRECTION
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- PROPOSED STORM DRAIN
- SD — EXISTING STORM DRAIN

RATIONAL METHOD SUMMARY TABLE - PROPOSED CONDITIONS

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C2	8.4	26.66
D	6.9	20.14

NORTH

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0 30 60 120

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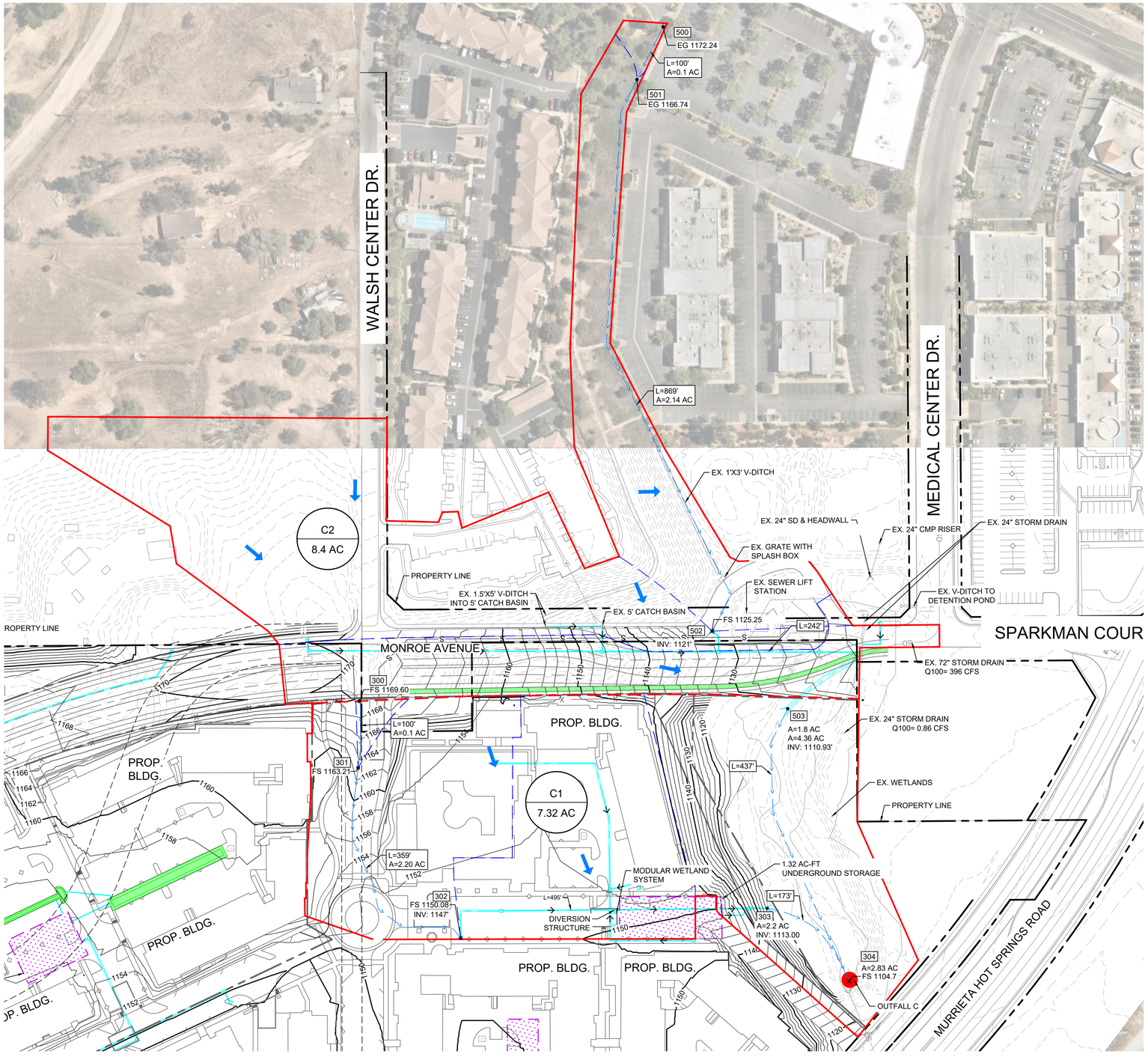
PROPOSED DRAINAGE EXHIBIT - DMA B
FOR
THE TERRACES MURRIETA

CITY OF MURRIETA CA

SHEET NUMBER
3 OF 5



LEGEND

- DMA / AREA — ID / ACRES
- 100 — NODE
- DMA SUBAREA BOUNDARY
- BMP SUB BOUNDARY
- DMA BOUNDARY
- OVERLAND FLOW DIRECTION
- PROPERTY LINE/RIGHT-OF-WAY
- DISCHARGE LOCATION
- PROPOSED STORAGE VAULT
- PROPOSED BIORETENTION BASIN
- PROPOSED STORM DRAIN
- SD — EXISTING STORM DRAIN

RATIONAL METHOD SUMMARY TABLE - PROPOSED CONDITIONS

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C2	8.4	26.66
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PROPOSED DRAINAGE EXHIBIT - DMA C
FOR
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CITY OF MURRIETA CA

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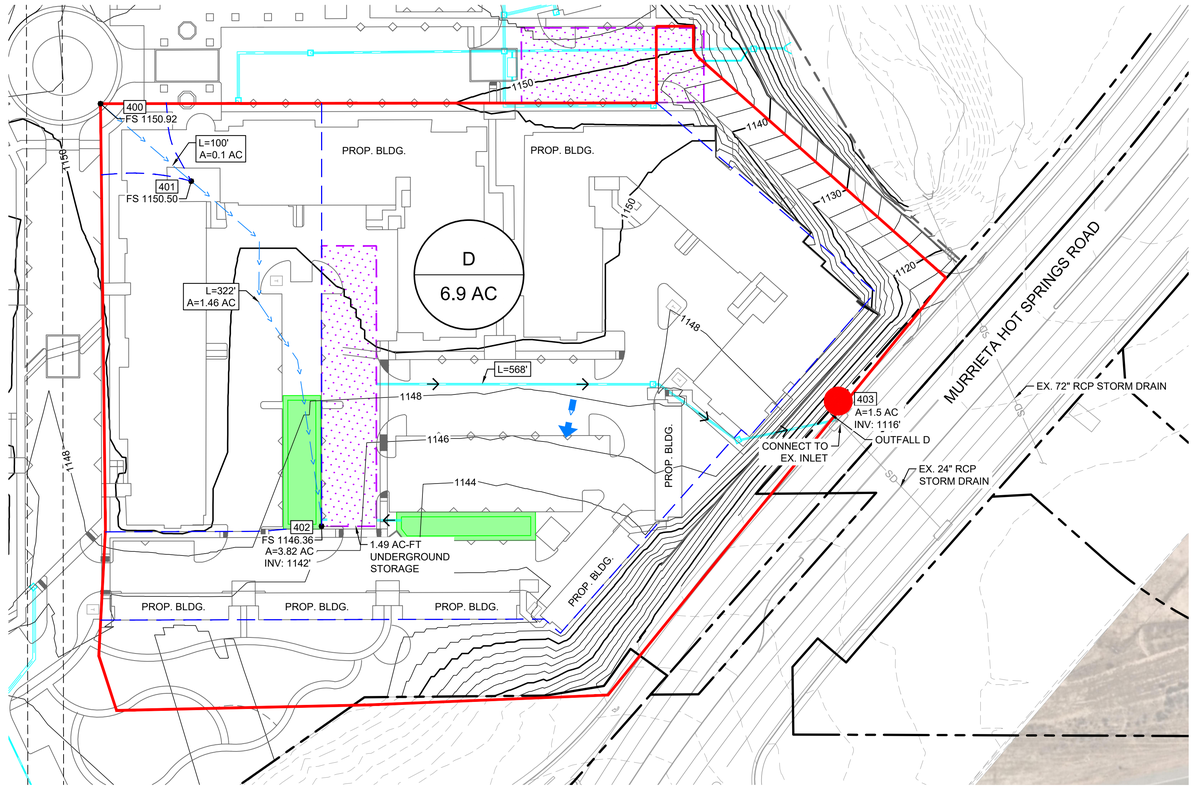

LEGEND

DMA / AREA	ID / ACRES
100	NODE
	DMA SUBAREA BOUNDARY
	BMP SUB BOUNDARY
	DMA BOUNDARY
	OVERLAND FLOW DIRECTION
	PROPERTY LINE/RIGHT-OF-WAY
	DISCHARGE LOCATION
	PROPOSED STORAGE VAULT
	PROPOSED BIORETENTION BASIN
	PROPOSED STORM DRAIN
SD	EXISTING STORM DRAIN

RATIONAL METHOD SUMMARY TABLE - PROPOSED CONDITIONS		
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B1	5.7	18.03
B2	6.4	11.88
B3	2.8	7.36
B4	4.2	13.95
C1	7.3	23.61
C2	8.4	26.66
D	6.9	19.96

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PROPOSED DRAINAGE EXHIBIT - DMA D
FOR
THE TERRACES MURRIETA

CITY OF MURRIETA CA

SHEET NUMBER
5 OF 5

APPENDIX B

EXISTING RATIONAL METHOD

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******************************************************************************
           RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
       RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                    (RCFC&WCD)  1978 HYDROLOGY MANUAL
        (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                    (Rational Tabling Version 18.0)
                Release Date: 07/01/2011  License ID 1499

                         Analysis prepared by:

                    Kimley-Horn and Associates, Inc.
                           765 The City Drive
                               Suite 200
                            Orange, CA 92868

 ************************* DESCRIPTION OF STUDY *************************
* THE TERRACES - MURRIETA                                                 *
* EXISTING 100-YEAR                                                       *
* 12/06/2022 RRO                                                          *
 ************************************************************************

  FILE NAME: TMEX100.DAT
  TIME/DATE OF STUDY: 11:44 12/06/2022
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.360
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.880
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.480
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.300
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.5505732
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.5495536
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.300
  SLOPE OF INTENSITY DURATION CURVE = 0.5496
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS SINGLE FAMILY(1-ACRE LOTS)
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1216.00
  DOWNSTREAM ELEVATION(FEET) =   1197.00
  ELEVATION DIFFERENCE(FEET) =     19.00
  TC = 0.469*[(  100.00**3)/(    19.00)]**.2 =    4.128
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.093
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7772
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.40
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.40

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1197.00  DOWNSTREAM(FEET) =   1137.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1599.91   CHANNEL SLOPE =  0.0375
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.502
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .6875
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       8.08
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.02
  AVERAGE FLOW DEPTH(FEET) =   0.20   TRAVEL TIME(MIN.) =  13.23
  Tc(MIN.) =   18.23
  SUBAREA AREA(ACRES) =     8.18       SUBAREA RUNOFF(CFS) =   14.06
  TOTAL AREA(ACRES) =        8.3         PEAK FLOW RATE(CFS) =      14.46

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.25   FLOW VELOCITY(FEET/SEC.) =   2.39
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =    1699.91 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.502
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .6875
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    8.18   SUBAREA RUNOFF(CFS) =   14.06
  TOTAL AREA(ACRES) =      16.5   TOTAL RUNOFF(CFS) =     28.52
  TC(MIN.) =   18.23

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1216.00
  DOWNSTREAM ELEVATION(FEET) =   1210.11
  ELEVATION DIFFERENCE(FEET) =      5.89
  TC = 0.709*[(  100.00**3)/(     5.89)]**.2 =    7.886
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.965
```

```
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7119
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.28
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.28

****************************************************************************
  FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1210.11  DOWNSTREAM(FEET) =   1119.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1538.00   CHANNEL SLOPE =  0.0592
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.502
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6344
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       8.66
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.48
  AVERAGE FLOW DEPTH(FEET) =   0.19   TRAVEL TIME(MIN.) =  10.34
  Tc(MIN.) =   18.23
  SUBAREA AREA(ACRES) =    10.00       SUBAREA RUNOFF(CFS) =   15.87
  TOTAL AREA(ACRES) =       10.1         PEAK FLOW RATE(CFS) =      16.15

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.24   FLOW VELOCITY(FEET/SEC.) =   2.85
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =    1638.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    202.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.502
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6344
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =   10.00   SUBAREA RUNOFF(CFS) =   15.87
  TOTAL AREA(ACRES) =       20.1   TOTAL RUNOFF(CFS) =      32.02
  TC(MIN.) =   18.23

****************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1176.00
  DOWNSTREAM ELEVATION(FEET) =   1149.45
  ELEVATION DIFFERENCE(FEET) =     26.55
  TC = 0.709*[(  100.00**3)/(    26.55)]**.2 =    5.836
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.679
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7353
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.34
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.34

****************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  51
----------------------------------------------------------------------------
```

```
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1149.45  DOWNSTREAM(FEET) =   1107.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   751.00   CHANNEL SLOPE =  0.0565
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.211
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6786
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       5.21
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.18
  AVERAGE FLOW DEPTH(FEET) =   0.16   TRAVEL TIME(MIN.) =   5.74
  Tc(MIN.) =   11.58
  SUBAREA AREA(ACRES) =     4.32       SUBAREA RUNOFF(CFS) =    9.41
  TOTAL AREA(ACRES) =        4.4         PEAK FLOW RATE(CFS) =       9.76

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.20   FLOW VELOCITY(FEET/SEC.) =   2.58
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =     851.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.211
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6786
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    4.32   SUBAREA RUNOFF(CFS) =    9.41
  TOTAL AREA(ACRES) =        8.7   TOTAL RUNOFF(CFS) =      19.17
  TC(MIN.) =   11.58

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   11.58
  RAINFALL INTENSITY(INCH/HR) =   3.21
  TOTAL STREAM AREA(ACRES) =     8.74
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     19.17

****************************************************************************
  FLOW PROCESS FROM NODE    500.00 TO NODE    501.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS SINGLE FAMILY(1-ACRE LOTS)
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1172.24
  DOWNSTREAM ELEVATION(FEET) =   1166.74
  ELEVATION DIFFERENCE(FEET) =      5.50
  TC = 0.469*[(  100.00**3)/(     5.50)]**.2 =    5.289
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.939
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7740
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.38
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.38
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1166.74  DOWNSTREAM(FEET) =   1111.49
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1058.00   CHANNEL SLOPE =  0.0522
  CHANNEL BASE(FEET) =    1.00   "Z" FACTOR =   3.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.092
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7533
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       5.58
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   8.18
  AVERAGE FLOW DEPTH(FEET) =   0.34   TRAVEL TIME(MIN.) =   2.16
  Tc(MIN.) =    7.45
  SUBAREA AREA(ACRES) =     3.34       SUBAREA RUNOFF(CFS) =   10.30
  TOTAL AREA(ACRES) =        3.4         PEAK FLOW RATE(CFS) =      10.68

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.46   FLOW VELOCITY(FEET/SEC.) =   9.73
  LONGEST FLOWPATH FROM NODE    500.00 TO NODE    502.00 =    1158.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    502.00 TO NODE    502.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.092
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7533
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    3.34   SUBAREA RUNOFF(CFS) =   10.30
  TOTAL AREA(ACRES) =        6.8   TOTAL RUNOFF(CFS) =      20.97
  TC(MIN.) =    7.45

****************************************************************************
  FLOW PROCESS FROM NODE    502.00 TO NODE    302.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1111.49  DOWNSTREAM(FEET) =   1107.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   534.00   CHANNEL SLOPE =  0.0084
  CHANNEL BASE(FEET) =   10.00   "Z" FACTOR =  14.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =      20.97
  FLOW VELOCITY(FEET/SEC.) =   2.32   FLOW DEPTH(FEET) =   0.52
  TRAVEL TIME(MIN.) =   3.83   Tc(MIN.) =   11.28
  LONGEST FLOWPATH FROM NODE    500.00 TO NODE    302.00 =    1692.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   11.28
  RAINFALL INTENSITY(INCH/HR) =   3.26
  TOTAL STREAM AREA(ACRES) =     6.78
```

```
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     20.97

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1       19.17    11.58        3.211          8.74
     2       20.97    11.28        3.258          6.78

 ********************************WARNING*********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1       39.64    11.28       3.258
     2       39.84    11.58       3.211

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      39.64   Tc(MIN.) =   11.28
 TOTAL AREA(ACRES) =       15.5
 LONGEST FLOWPATH FROM NODE    500.00 TO NODE    302.00 =    1692.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    400.00 TO NODE    401.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
        ASSUMED INITIAL SUBAREA UNIFORM
        DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
 UPSTREAM ELEVATION(FEET) =   1155.00
 DOWNSTREAM ELEVATION(FEET) =   1153.00
 ELEVATION DIFFERENCE(FEET) =      2.00
 TC = 0.709*[(  100.00**3)/(     2.00)]**.2 =    9.788
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.521
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6936
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =      0.24
 TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.24

****************************************************************************
 FLOW PROCESS FROM NODE    401.00 TO NODE    402.00 IS CODE =  51
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   1153.00  DOWNSTREAM(FEET) =   1112.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =   487.00   CHANNEL SLOPE =  0.0842
 CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
 MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   0.50
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.905
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6614
 SOIL CLASSIFICATION IS "B"
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.35
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.98
 AVERAGE FLOW DEPTH(FEET) =   0.11   TRAVEL TIME(MIN.) =   4.11
```

```
  Tc(MIN.) =   13.89
  SUBAREA AREA(ACRES) =     2.16       SUBAREA RUNOFF(CFS) =    4.16
  TOTAL AREA(ACRES) =        2.3         PEAK FLOW RATE(CFS) =       4.40

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.13   FLOW VELOCITY(FEET/SEC.) =   2.46
  LONGEST FLOWPATH FROM NODE    400.00 TO NODE    402.00 =     587.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    402.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.905
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6614
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.16   SUBAREA RUNOFF(CFS) =    4.16
  TOTAL AREA(ACRES) =        4.4   TOTAL RUNOFF(CFS) =       8.56
  TC(MIN.) =   13.89
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        4.4  TC(MIN.) =     13.89
  PEAK FLOW RATE(CFS)   =       8.56
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

APPENDIX C

PROPOSED RATIONAL METHOD

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```
**************************************************************************
           RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
       RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                    (RCFC&WCD)  1978 HYDROLOGY MANUAL
        (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                    (Rational Tabling Version 18.0)
                Release Date: 07/01/2011  License ID 1499

                         Analysis prepared by:

                    Kimley-Horn and Associates, Inc.
                           765 The City Drive
                               Suite 200
                            Orange, CA 92868

 ************************* DESCRIPTION OF STUDY *************************
* THE TERRACES - MURRIETA                                                *
* PROPOSED 100-YEAR                                                      *
* 12/06/2022 RRO                                                         *
 ************************************************************************

  FILE NAME: TMPR100.DAT
  TIME/DATE OF STUDY: 11:25 12/06/2022
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.360
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.880
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.480
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.300
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.5505732
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.5495536
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.300
  SLOPE OF INTENSITY DURATION CURVE = 0.5496
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS SINGLE FAMILY(1-ACRE LOTS)
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1216.00
  DOWNSTREAM ELEVATION(FEET) =   1212.80
  ELEVATION DIFFERENCE(FEET) =      3.20
  TC = 0.469*[(  100.00**3)/(     3.20)]**.2 =    5.894
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.653
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7677
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.36
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.36

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1212.80  DOWNSTREAM(FEET) =   1170.25
  CHANNEL LENGTH THRU SUBAREA(FEET) =   349.00   CHANNEL SLOPE =  0.1219
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.892
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7473
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.97
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.57
  AVERAGE FLOW DEPTH(FEET) =   0.12   TRAVEL TIME(MIN.) =   2.26
  Tc(MIN.) =    8.16
  SUBAREA AREA(ACRES) =     2.46       SUBAREA RUNOFF(CFS) =    7.16
  TOTAL AREA(ACRES) =        2.6         PEAK FLOW RATE(CFS) =       7.51

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.16   FLOW VELOCITY(FEET/SEC.) =   3.14
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     449.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1165.00  DOWNSTREAM(FEET) =  1153.00
  FLOW LENGTH(FEET) =   637.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  15.0 INCH PIPE IS  10.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.94
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.51
  PIPE TRAVEL TIME(MIN.) =   1.34    Tc(MIN.) =    9.49
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    103.00 =    1086.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.581
  *USER SPECIFIED(SUBAREA):
  SINGLE-FAMILY(1/4 ACRE LOT) RUNOFF COEFFICIENT = .9000
  SUBAREA AREA(ACRES) =    1.61   SUBAREA RUNOFF(CFS) =    5.19
  TOTAL AREA(ACRES) =        4.2   TOTAL RUNOFF(CFS) =      12.70
  TC(MIN.) =    9.49
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.581
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7370
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    4.79   SUBAREA RUNOFF(CFS) =   12.64
  TOTAL AREA(ACRES) =        9.0   TOTAL RUNOFF(CFS) =      25.34
  TC(MIN.) =    9.49

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    104.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1153.00  DOWNSTREAM(FEET) =  1143.00
  FLOW LENGTH(FEET) =   489.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  16.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.16
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      25.34
  PIPE TRAVEL TIME(MIN.) =   0.73    Tc(MIN.) =   10.22
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    104.00 =    1575.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.438
  *USER SPECIFIED(SUBAREA):
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .9000
  SUBAREA AREA(ACRES) =    0.43   SUBAREA RUNOFF(CFS) =    1.33
  TOTAL AREA(ACRES) =        9.4   TOTAL RUNOFF(CFS) =      26.67
  TC(MIN.) =   10.22

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.438
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7318
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.57   SUBAREA RUNOFF(CFS) =    6.47
  TOTAL AREA(ACRES) =       12.0   TOTAL RUNOFF(CFS) =      33.14
  TC(MIN.) =   10.22

****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    105.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1143.00  DOWNSTREAM(FEET) =  1137.00
  FLOW LENGTH(FEET) =   418.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.31
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      33.14
```

```
  PIPE TRAVEL TIME(MIN.) =   0.68    Tc(MIN.) =   10.90
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    105.00 =    1993.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.319
  *USER SPECIFIED(SUBAREA):
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .9000
  SUBAREA AREA(ACRES) =    0.24   SUBAREA RUNOFF(CFS) =    0.72
  TOTAL AREA(ACRES) =       12.2   TOTAL RUNOFF(CFS) =      33.86
  TC(MIN.) =   10.90

****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.319
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7273
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.64   SUBAREA RUNOFF(CFS) =    6.37
  TOTAL AREA(ACRES) =       14.8   TOTAL RUNOFF(CFS) =      40.23
  TC(MIN.) =   10.90

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS CONDOMINIUM
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1170.26
  DOWNSTREAM ELEVATION(FEET) =   1160.28
  ELEVATION DIFFERENCE(FEET) =      9.98
  TC = 0.359*[(  100.00**3)/(     9.98)]**.2 =    3.593
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.093
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8463
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.43
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.43

****************************************************************************
  FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1160.28  DOWNSTREAM(FEET) =   1156.57
  CHANNEL LENGTH THRU SUBAREA(FEET) =   384.00   CHANNEL SLOPE =  0.0097
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.804
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8320
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       4.92
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.83
  AVERAGE FLOW DEPTH(FEET) =   0.16   TRAVEL TIME(MIN.) =   3.50
```

```
  Tc(MIN.) =    8.50
  SUBAREA AREA(ACRES) =     2.78       SUBAREA RUNOFF(CFS) =    8.80
  TOTAL AREA(ACRES) =        2.9         PEAK FLOW RATE(CFS) =       9.23

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.21   FLOW VELOCITY(FEET/SEC.) =   2.14
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =     484.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    202.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.804
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8320
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.78   SUBAREA RUNOFF(CFS) =    8.80
  TOTAL AREA(ACRES) =        5.7   TOTAL RUNOFF(CFS) =     18.03
  TC(MIN.) =    8.50

****************************************************************************
  FLOW PROCESS FROM NODE    202.00 TO NODE    203.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1149.00  DOWNSTREAM(FEET) =  1125.50
  FLOW LENGTH(FEET) =   956.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  13.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.03
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      18.03
  PIPE TRAVEL TIME(MIN.) =   1.44    Tc(MIN.) =    9.95
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    203.00 =    1440.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    203.00 TO NODE    203.00 IS CODE =  10
----------------------------------------------------------------------------
  >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE    203.00 TO NODE    203.00 IS CODE =  13
----------------------------------------------------------------------------
  >>>>>CLEAR THE MAIN-STREAM MEMORY<<<<<
============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    211.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS CONDOMINIUM
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1157.01
  DOWNSTREAM ELEVATION(FEET) =   1150.89
  ELEVATION DIFFERENCE(FEET) =      6.12
  TC = 0.359*[(  100.00**3)/(     6.12)]**.2 =    3.963
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.093
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8463
```

```
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.43
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.43

****************************************************************************
  FLOW PROCESS FROM NODE    211.00 TO NODE    212.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1150.89  DOWNSTREAM(FEET) =   1150.41
  CHANNEL LENGTH THRU SUBAREA(FEET) =   568.00   CHANNEL SLOPE =  0.0008
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.319
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8020
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.20
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   0.59
  AVERAGE FLOW DEPTH(FEET) =   0.19   TRAVEL TIME(MIN.) =  15.94
  Tc(MIN.) =   20.94
  SUBAREA AREA(ACRES) =     1.77       SUBAREA RUNOFF(CFS) =    3.29
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       3.72

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.23   FLOW VELOCITY(FEET/SEC.) =   0.69
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    212.00 =     668.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    212.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1145.00  DOWNSTREAM(FEET) =  1138.00
  FLOW LENGTH(FEET) =   523.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   9.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.81
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.72
  PIPE TRAVEL TIME(MIN.) =   1.50    Tc(MIN.) =   22.44
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    213.00 =    1191.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    213.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.232
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .7994
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    4.57   SUBAREA RUNOFF(CFS) =    8.15
  TOTAL AREA(ACRES) =        6.4   TOTAL RUNOFF(CFS) =     11.88
  TC(MIN.) =   22.44

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    213.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   22.44
```

```
  RAINFALL INTENSITY(INCH/HR) =   2.23
  TOTAL STREAM AREA(ACRES) =     6.44
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     11.88

****************************************************************************
  FLOW PROCESS FROM NODE    220.00 TO NODE    221.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS CONDOMINIUM
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1150.66
  DOWNSTREAM ELEVATION(FEET) =   1150.58
  ELEVATION DIFFERENCE(FEET) =      0.08
  TC = 0.359*[(  100.00**3)/(     0.08)]**.2 =    9.433
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.594
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8289
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.30
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.30

****************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1150.58  DOWNSTREAM(FEET) =   1150.12
  CHANNEL LENGTH THRU SUBAREA(FEET) =   136.00   CHANNEL SLOPE =  0.0034
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.203
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8224
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.06
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.03
  AVERAGE FLOW DEPTH(FEET) =   0.14   TRAVEL TIME(MIN.) =   2.20
  Tc(MIN.) =   11.63
  SUBAREA AREA(ACRES) =     1.34       SUBAREA RUNOFF(CFS) =    3.53
  TOTAL AREA(ACRES) =        1.4         PEAK FLOW RATE(CFS) =       3.83

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.18   FLOW VELOCITY(FEET/SEC.) =   1.19
  LONGEST FLOWPATH FROM NODE    220.00 TO NODE    222.00 =     236.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.203
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8224
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    1.34   SUBAREA RUNOFF(CFS) =    3.53
  TOTAL AREA(ACRES) =        2.8   TOTAL RUNOFF(CFS) =      7.36
  TC(MIN.) =   11.63

****************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
```

```
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1145.00  DOWNSTREAM(FEET) =  1138.00
  FLOW LENGTH(FEET) =   763.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  11.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.09
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.36
  PIPE TRAVEL TIME(MIN.) =   2.09    Tc(MIN.) =   13.72
  LONGEST FLOWPATH FROM NODE    220.00 TO NODE    213.00 =     999.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    213.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   13.72
  RAINFALL INTENSITY(INCH/HR) =   2.93
  TOTAL STREAM AREA(ACRES) =     2.78
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      7.36

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       11.88    22.44        2.232          6.44
      2        7.36    13.72        2.925          2.78

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       14.62    13.72       2.925
      2       17.49    22.44       2.232

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      17.49   Tc(MIN.) =   22.44
  TOTAL AREA(ACRES) =        9.2
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    213.00 =    1191.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    213.00 TO NODE    203.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1138.00  DOWNSTREAM(FEET) =  1125.50
  FLOW LENGTH(FEET) =   475.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  12.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.26
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      17.49
  PIPE TRAVEL TIME(MIN.) =   0.70    Tc(MIN.) =   23.14
```

```
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    203.00 =    1666.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    203.00 TO NODE    203.00 IS CODE =  11
----------------------------------------------------------------------------
 >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
============================================================================

 ** MAIN STREAM CONFLUENCE DATA **
 STREAM     RUNOFF      Tc      INTENSITY     AREA
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
     1       17.49    23.14       2.195        9.22
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    203.00 =    1666.00 FEET.

 ** MEMORY BANK #  1 CONFLUENCE DATA **
 STREAM     RUNOFF      Tc      INTENSITY     AREA
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
     1       18.03     9.95       3.490        5.66
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    203.00 =    1440.00 FEET.

 **********************************WARNING**********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ***************************************************************************

 ** PEAK FLOW RATE TABLE **
 STREAM    RUNOFF       Tc      INTENSITY
 NUMBER     (CFS)     (MIN.)   (INCH/HOUR)
     1      25.55       9.95        3.490
     2      28.83      23.14        2.195

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      25.55   Tc(MIN.) =    9.95
 TOTAL AREA(ACRES) =       14.9

****************************************************************************
 FLOW PROCESS FROM NODE    203.00 TO NODE    233.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1125.50  DOWNSTREAM(FEET) =  1122.50
 FLOW LENGTH(FEET) =    99.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  21.0 INCH PIPE IS  16.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  12.72
 ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      25.55
 PIPE TRAVEL TIME(MIN.) =   0.13    Tc(MIN.) =   10.08
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    233.00 =    1765.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    233.00 TO NODE    233.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   10.08
 RAINFALL INTENSITY(INCH/HR) =   3.47
 TOTAL STREAM AREA(ACRES) =    14.88
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     25.55
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    230.00 TO NODE    231.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS CONDOMINIUM
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1152.32
  DOWNSTREAM ELEVATION(FEET) =   1150.59
  ELEVATION DIFFERENCE(FEET) =      1.73
  TC = 0.359*[(  100.00**3)/(     1.73)]**.2 =    5.102
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.037
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8458
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.43
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.43

****************************************************************************
  FLOW PROCESS FROM NODE    231.00 TO NODE    232.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1150.59  DOWNSTREAM(FEET) =   1142.52
  CHANNEL LENGTH THRU SUBAREA(FEET) =   386.00   CHANNEL SLOPE =  0.0209
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.938
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8338
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.88
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.23
  AVERAGE FLOW DEPTH(FEET) =   0.13   TRAVEL TIME(MIN.) =   2.88
  Tc(MIN.) =    7.99
  SUBAREA AREA(ACRES) =     2.06       SUBAREA RUNOFF(CFS) =    6.76
  TOTAL AREA(ACRES) =        2.2         PEAK FLOW RATE(CFS) =       7.19

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.16   FLOW VELOCITY(FEET/SEC.) =   2.73
  LONGEST FLOWPATH FROM NODE    230.00 TO NODE    232.00 =     486.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    232.00 TO NODE    232.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.938
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8338
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.06   SUBAREA RUNOFF(CFS) =    6.76
  TOTAL AREA(ACRES) =        4.2   TOTAL RUNOFF(CFS) =     13.95
  TC(MIN.) =    7.99

****************************************************************************
  FLOW PROCESS FROM NODE    232.00 TO NODE    233.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1142.52  DOWNSTREAM(FEET) =  1122.50
  FLOW LENGTH(FEET) =   272.00   MANNING'S N =  0.013
```

```
  DEPTH OF FLOW IN  15.0 INCH PIPE IS  10.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  15.52
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      13.95
  PIPE TRAVEL TIME(MIN.) =   0.29    Tc(MIN.) =    8.28
  LONGEST FLOWPATH FROM NODE    230.00 TO NODE    233.00 =     758.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    233.00 TO NODE    233.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.28
  RAINFALL INTENSITY(INCH/HR) =   3.86
  TOTAL STREAM AREA(ACRES) =     4.22
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     13.95

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       25.55    10.08        3.465         14.88
      2       13.95     8.28        3.861          4.22

 **********************************WARNING**********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ***************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       34.94     8.28       3.861
      2       38.07    10.08       3.465

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     38.07   Tc(MIN.) =   10.08
  TOTAL AREA(ACRES) =       19.1
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    233.00 =    1765.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    233.00 TO NODE    250.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1122.50  DOWNSTREAM(FEET) =  1120.00
  FLOW LENGTH(FEET) =    84.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  17.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  14.30
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      38.07
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =   10.18
  LONGEST FLOWPATH FROM NODE    210.00 TO NODE    250.00 =    1849.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
```

```
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS CONDOMINIUM
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1169.60
  DOWNSTREAM ELEVATION(FEET) =   1163.21
  ELEVATION DIFFERENCE(FEET) =      6.39
  TC = 0.359*[(  100.00**3)/(     6.39)]**.2 =    3.929
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.093
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8463
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.43
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.43

****************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1163.21  DOWNSTREAM(FEET) =   1147.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   359.00   CHANNEL SLOPE =  0.0452
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.284
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8381
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       4.40
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   3.23
  AVERAGE FLOW DEPTH(FEET) =   0.12   TRAVEL TIME(MIN.) =   1.85
  Tc(MIN.) =    6.85
  SUBAREA AREA(ACRES) =     2.20       SUBAREA RUNOFF(CFS) =    7.90
  TOTAL AREA(ACRES) =        2.3         PEAK FLOW RATE(CFS) =       8.33

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.15   FLOW VELOCITY(FEET/SEC.) =   3.75
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =     459.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    303.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1147.00  DOWNSTREAM(FEET) =  1113.00
  FLOW LENGTH(FEET) =   495.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   9.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  13.13
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       8.33
  PIPE TRAVEL TIME(MIN.) =   0.63    Tc(MIN.) =    7.48
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    303.00 =     954.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.082
```

```
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8357
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.20   SUBAREA RUNOFF(CFS) =    7.50
  TOTAL AREA(ACRES) =        4.5   TOTAL RUNOFF(CFS) =      15.83
  TC(MIN.) =    7.48

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    304.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1113.00  DOWNSTREAM(FEET) =   1104.70
  CHANNEL LENGTH THRU SUBAREA(FEET) =   173.00   CHANNEL SLOPE =  0.0480
  CHANNEL BASE(FEET) =   10.00   "Z" FACTOR =  14.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =      15.83
  FLOW VELOCITY(FEET/SEC.) =   3.97   FLOW DEPTH(FEET) =   0.29
  TRAVEL TIME(MIN.) =   0.73   Tc(MIN.) =    8.21
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    304.00 =    1127.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    304.00 TO NODE    304.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.879
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7086
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.83   SUBAREA RUNOFF(CFS) =    7.78
  TOTAL AREA(ACRES) =        7.3   TOTAL RUNOFF(CFS) =      23.61
  TC(MIN.) =    8.21

****************************************************************************
  FLOW PROCESS FROM NODE    304.00 TO NODE    304.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.21
  RAINFALL INTENSITY(INCH/HR) =   3.88
  TOTAL STREAM AREA(ACRES) =     7.33
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     23.61

****************************************************************************
  FLOW PROCESS FROM NODE    500.00 TO NODE    501.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS SINGLE FAMILY(1-ACRE LOTS)
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1172.24
  DOWNSTREAM ELEVATION(FEET) =   1166.74
  ELEVATION DIFFERENCE(FEET) =      5.50
  TC = 0.469*[(  100.00**3)/(     5.50)]**.2 =    5.289
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.939
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7740
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.38
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.38
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1166.74  DOWNSTREAM(FEET) =   1125.25
  CHANNEL LENGTH THRU SUBAREA(FEET) =   869.00   CHANNEL SLOPE =  0.0477
  CHANNEL BASE(FEET) =    1.00   "Z" FACTOR =   3.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.126
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7542
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.74
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   7.08
  AVERAGE FLOW DEPTH(FEET) =   0.29   TRAVEL TIME(MIN.) =   2.05
  Tc(MIN.) =    7.34
  SUBAREA AREA(ACRES) =     2.14       SUBAREA RUNOFF(CFS) =    6.66
  TOTAL AREA(ACRES) =        2.2         PEAK FLOW RATE(CFS) =       7.04

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.39   FLOW VELOCITY(FEET/SEC.) =   8.45
  LONGEST FLOWPATH FROM NODE    500.00 TO NODE    502.00 =     969.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    502.00 TO NODE    503.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1121.00  DOWNSTREAM(FEET) =  1110.93
  FLOW LENGTH(FEET) =   242.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   9.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.28
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.04
  PIPE TRAVEL TIME(MIN.) =   0.39    Tc(MIN.) =    7.73
  LONGEST FLOWPATH FROM NODE    500.00 TO NODE    503.00 =    1211.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    503.00 TO NODE    503.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.009
  *USER SPECIFIED(SUBAREA):
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .9000
  SUBAREA AREA(ACRES) =    1.80   SUBAREA RUNOFF(CFS) =    6.50
  TOTAL AREA(ACRES) =        4.0   TOTAL RUNOFF(CFS) =      13.54
  TC(MIN.) =    7.73

****************************************************************************
  FLOW PROCESS FROM NODE    503.00 TO NODE    503.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.009
  SINGLE-FAMILY(1-ACRE LOT) RUNOFF COEFFICIENT = .7508
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    4.36   SUBAREA RUNOFF(CFS) =   13.13
  TOTAL AREA(ACRES) =        8.4   TOTAL RUNOFF(CFS) =      26.66
  TC(MIN.) =    7.73
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    503.00 TO NODE    304.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1110.93  DOWNSTREAM(FEET) =   1104.70
  CHANNEL LENGTH THRU SUBAREA(FEET) =   437.00   CHANNEL SLOPE =  0.0143
  CHANNEL BASE(FEET) =   10.00   "Z" FACTOR =  14.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =      26.66
  FLOW VELOCITY(FEET/SEC.) =   3.00   FLOW DEPTH(FEET) =   0.52
  TRAVEL TIME(MIN.) =   2.43   Tc(MIN.) =   10.16
  LONGEST FLOWPATH FROM NODE    500.00 TO NODE    304.00 =    1648.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    304.00 TO NODE    304.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   10.16
  RAINFALL INTENSITY(INCH/HR) =   3.45
  TOTAL STREAM AREA(ACRES) =     8.40
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     26.66

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       23.61     8.21        3.879          7.33
      2       26.66    10.16        3.451          8.40

 *********************************WARNING**********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       45.16     8.21       3.879
      2       47.67    10.16       3.451

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      47.67   Tc(MIN.) =   10.16
  TOTAL AREA(ACRES) =       15.7
  LONGEST FLOWPATH FROM NODE    500.00 TO NODE    304.00 =    1648.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    400.00 TO NODE    401.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS CONDOMINIUM
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   100.00
  UPSTREAM ELEVATION(FEET) =   1150.92
  DOWNSTREAM ELEVATION(FEET) =   1150.50
  ELEVATION DIFFERENCE(FEET) =      0.42
  TC = 0.359*[(  100.00**3)/(     0.42)]**.2 =    6.771
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.312
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8384
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.36
  TOTAL AREA(ACRES) =      0.10   TOTAL RUNOFF(CFS) =      0.36

****************************************************************************
  FLOW PROCESS FROM NODE    401.00 TO NODE    402.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1150.50  DOWNSTREAM(FEET) =   1146.36
  CHANNEL LENGTH THRU SUBAREA(FEET) =   322.00   CHANNEL SLOPE =  0.0129
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  99.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.523
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8278
  SOIL CLASSIFICATION IS "B"
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.51
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.78
  AVERAGE FLOW DEPTH(FEET) =   0.12   TRAVEL TIME(MIN.) =   3.01
  Tc(MIN.) =    9.78
  SUBAREA AREA(ACRES) =     1.46       SUBAREA RUNOFF(CFS) =    4.26
  TOTAL AREA(ACRES) =        1.6         PEAK FLOW RATE(CFS) =       4.62

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.15   FLOW VELOCITY(FEET/SEC.) =   2.08
  LONGEST FLOWPATH FROM NODE    400.00 TO NODE    402.00 =     422.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    402.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.523
  CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8278
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    3.82   SUBAREA RUNOFF(CFS) =   11.14
  TOTAL AREA(ACRES) =        5.4   TOTAL RUNOFF(CFS) =      15.76
  TC(MIN.) =    9.78

****************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    403.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1142.00  DOWNSTREAM(FEET) =  1116.00
  FLOW LENGTH(FEET) =   568.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  11.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  13.49
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      15.76
  PIPE TRAVEL TIME(MIN.) =   0.70    Tc(MIN.) =   10.48
  LONGEST FLOWPATH FROM NODE    400.00 TO NODE    403.00 =     990.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE    403.00 TO NODE    403.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.391
 CONDOMINIUM DEVELOPMENT RUNOFF COEFFICIENT = .8257
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    1.50   SUBAREA RUNOFF(CFS) =    4.20
 TOTAL AREA(ACRES) =        6.9   TOTAL RUNOFF(CFS) =     19.96
 TC(MIN.) =   10.48
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        6.9  TC(MIN.) =     10.48
 PEAK FLOW RATE(CFS)   =      19.96
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

APPENDIX D

EXISTING UNIT HYDROGRAPH

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U n i t H y d r o g r a p h A n a l y s i s

Study date 06/07/22 File: EXISTINGA24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
EXISTING BASIN A
06/07/2022 RRO

Drainage Area = 16.45(Ac.) = 0.026 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 16.45(Ac.) = 0.026 Sq. Mi.
Length along longest watercourse = 1699.91(Ft.)
Length along longest watercourse measured to centroid = 887.10(Ft.)
Length along longest watercourse = 0.322 Mi.
Length along longest watercourse measured to centroid = 0.168 Mi.
Difference in elevation = 79.00(Ft.)
Slope along watercourse = 245.3777 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.084 Hr.
Lag time = 5.01 Min.
25% of lag time = 1.25 Min.
40% of lag time = 2.00 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]
       16.45            2.00                  32.90

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       16.45            5.00                  82.25

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    16.450           69.00         0.010
 Total Area Entered =     16.45(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.010        0.192       1.000      0.192
                                                 Sum (F) =   0.192
Area averaged mean soil loss (F) (In/Hr) =  0.192
Minimum soil loss rate ((In/Hr)) =  0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               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         99.762         19.127              3.171
    2   0.167        199.524         48.384              8.021
    3   0.250        299.286         15.671              2.598
    4   0.333        399.048          7.075              1.173
    5   0.417        498.810          3.985              0.661
    6   0.500        598.572          2.582              0.428
    7   0.583        698.334          1.608              0.267
    8   0.667        798.096          1.051              0.174
    9   0.750        897.858          0.518              0.086
                              Sum = 100.000   Sum=      16.579
```

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) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.341)	0.036	0.004
2	0.17	0.07	0.040	(0.339)	0.036	0.004
3	0.25	0.07	0.040	(0.338)	0.036	0.004
4	0.33	0.10	0.060	(0.337)	0.054	0.006
5	0.42	0.10	0.060	(0.335)	0.054	0.006
6	0.50	0.10	0.060	(0.334)	0.054	0.006
7	0.58	0.10	0.060	(0.333)	0.054	0.006
8	0.67	0.10	0.060	(0.331)	0.054	0.006
9	0.75	0.10	0.060	(0.330)	0.054	0.006
10	0.83	0.13	0.080	(0.329)	0.072	0.008
11	0.92	0.13	0.080	(0.327)	0.072	0.008
12	1.00	0.13	0.080	(0.326)	0.072	0.008
13	1.08	0.10	0.060	(0.325)	0.054	0.006
14	1.17	0.10	0.060	(0.324)	0.054	0.006
15	1.25	0.10	0.060	(0.322)	0.054	0.006
16	1.33	0.10	0.060	(0.321)	0.054	0.006
17	1.42	0.10	0.060	(0.320)	0.054	0.006
18	1.50	0.10	0.060	(0.318)	0.054	0.006
19	1.58	0.10	0.060	(0.317)	0.054	0.006
20	1.67	0.10	0.060	(0.316)	0.054	0.006
21	1.75	0.10	0.060	(0.315)	0.054	0.006
22	1.83	0.13	0.080	(0.313)	0.072	0.008
23	1.92	0.13	0.080	(0.312)	0.072	0.008
24	2.00	0.13	0.080	(0.311)	0.072	0.008
25	2.08	0.13	0.080	(0.310)	0.072	0.008
26	2.17	0.13	0.080	(0.308)	0.072	0.008
27	2.25	0.13	0.080	(0.307)	0.072	0.008
28	2.33	0.13	0.080	(0.306)	0.072	0.008
29	2.42	0.13	0.080	(0.305)	0.072	0.008
30	2.50	0.13	0.080	(0.303)	0.072	0.008
31	2.58	0.17	0.100	(0.302)	0.090	0.010
32	2.67	0.17	0.100	(0.301)	0.090	0.010
33	2.75	0.17	0.100	(0.300)	0.090	0.010
34	2.83	0.17	0.100	(0.298)	0.090	0.010
35	2.92	0.17	0.100	(0.297)	0.090	0.010
36	3.00	0.17	0.100	(0.296)	0.090	0.010
37	3.08	0.17	0.100	(0.295)	0.090	0.010
38	3.17	0.17	0.100	(0.294)	0.090	0.010
39	3.25	0.17	0.100	(0.292)	0.090	0.010
40	3.33	0.17	0.100	(0.291)	0.090	0.010
41	3.42	0.17	0.100	(0.290)	0.090	0.010
42	3.50	0.17	0.100	(0.289)	0.090	0.010
43	3.58	0.17	0.100	(0.287)	0.090	0.010

44	3.67	0.17	0.100	(0.286)	0.090	0.010
45	3.75	0.17	0.100	(0.285)	0.090	0.010
46	3.83	0.20	0.120	(0.284)	0.108	0.012
47	3.92	0.20	0.120	(0.283)	0.108	0.012
48	4.00	0.20	0.120	(0.281)	0.108	0.012
49	4.08	0.20	0.120	(0.280)	0.108	0.012
50	4.17	0.20	0.120	(0.279)	0.108	0.012
51	4.25	0.20	0.120	(0.278)	0.108	0.012
52	4.33	0.23	0.140	(0.277)	0.126	0.014
53	4.42	0.23	0.140	(0.275)	0.126	0.014
54	4.50	0.23	0.140	(0.274)	0.126	0.014
55	4.58	0.23	0.140	(0.273)	0.126	0.014
56	4.67	0.23	0.140	(0.272)	0.126	0.014
57	4.75	0.23	0.140	(0.271)	0.126	0.014
58	4.83	0.27	0.160	(0.270)	0.144	0.016
59	4.92	0.27	0.160	(0.268)	0.144	0.016
60	5.00	0.27	0.160	(0.267)	0.144	0.016
61	5.08	0.20	0.120	(0.266)	0.108	0.012
62	5.17	0.20	0.120	(0.265)	0.108	0.012
63	5.25	0.20	0.120	(0.264)	0.108	0.012
64	5.33	0.23	0.140	(0.263)	0.126	0.014
65	5.42	0.23	0.140	(0.262)	0.126	0.014
66	5.50	0.23	0.140	(0.260)	0.126	0.014
67	5.58	0.27	0.160	(0.259)	0.144	0.016
68	5.67	0.27	0.160	(0.258)	0.144	0.016
69	5.75	0.27	0.160	(0.257)	0.144	0.016
70	5.83	0.27	0.160	(0.256)	0.144	0.016
71	5.92	0.27	0.160	(0.255)	0.144	0.016
72	6.00	0.27	0.160	(0.254)	0.144	0.016
73	6.08	0.30	0.180	(0.252)	0.162	0.018
74	6.17	0.30	0.180	(0.251)	0.162	0.018
75	6.25	0.30	0.180	(0.250)	0.162	0.018
76	6.33	0.30	0.180	(0.249)	0.162	0.018
77	6.42	0.30	0.180	(0.248)	0.162	0.018
78	6.50	0.30	0.180	(0.247)	0.162	0.018
79	6.58	0.33	0.200	(0.246)	0.180	0.020
80	6.67	0.33	0.200	(0.245)	0.180	0.020
81	6.75	0.33	0.200	(0.244)	0.180	0.020
82	6.83	0.33	0.200	(0.242)	0.180	0.020
83	6.92	0.33	0.200	(0.241)	0.180	0.020
84	7.00	0.33	0.200	(0.240)	0.180	0.020
85	7.08	0.33	0.200	(0.239)	0.180	0.020
86	7.17	0.33	0.200	(0.238)	0.180	0.020
87	7.25	0.33	0.200	(0.237)	0.180	0.020
88	7.33	0.37	0.220	(0.236)	0.198	0.022
89	7.42	0.37	0.220	(0.235)	0.198	0.022
90	7.50	0.37	0.220	(0.234)	0.198	0.022
91	7.58	0.40	0.240	(0.233)	0.216	0.024
92	7.67	0.40	0.240	(0.232)	0.216	0.024
93	7.75	0.40	0.240	(0.231)	0.216	0.024
94	7.83	0.43	0.260	0.229	(0.234)	0.031

95	7.92	0.43	0.260	0.228	(	0.234)	0.032
96	8.00	0.43	0.260	0.227	(	0.234)	0.033
97	8.08	0.50	0.300	0.226	(	0.270)	0.074
98	8.17	0.50	0.300	0.225	(	0.270)	0.075
99	8.25	0.50	0.300	0.224	(	0.270)	0.076
100	8.33	0.50	0.300	0.223	(	0.270)	0.077
101	8.42	0.50	0.300	0.222	(	0.270)	0.078
102	8.50	0.50	0.300	0.221	(	0.270)	0.079
103	8.58	0.53	0.320	0.220	(	0.288)	0.100
104	8.67	0.53	0.320	0.219	(	0.288)	0.101
105	8.75	0.53	0.320	0.218	(	0.288)	0.102
106	8.83	0.57	0.340	0.217	(	0.306)	0.123
107	8.92	0.57	0.340	0.216	(	0.306)	0.124
108	9.00	0.57	0.340	0.215	(	0.306)	0.125
109	9.08	0.63	0.380	0.214	(	0.342)	0.166
110	9.17	0.63	0.380	0.213	(	0.342)	0.167
111	9.25	0.63	0.380	0.212	(	0.342)	0.168
112	9.33	0.67	0.400	0.211	(	0.360)	0.189
113	9.42	0.67	0.400	0.210	(	0.360)	0.190
114	9.50	0.67	0.400	0.209	(	0.360)	0.191
115	9.58	0.70	0.420	0.208	(	0.378)	0.212
116	9.67	0.70	0.420	0.207	(	0.378)	0.213
117	9.75	0.70	0.420	0.206	(	0.378)	0.214
118	9.83	0.73	0.440	0.205	(	0.396)	0.235
119	9.92	0.73	0.440	0.204	(	0.396)	0.236
120	10.00	0.73	0.440	0.203	(	0.396)	0.237
121	10.08	0.50	0.300	0.202	(	0.270)	0.098
122	10.17	0.50	0.300	0.201	(	0.270)	0.099
123	10.25	0.50	0.300	0.200	(	0.270)	0.100
124	10.33	0.50	0.300	0.199	(	0.270)	0.101
125	10.42	0.50	0.300	0.198	(	0.270)	0.102
126	10.50	0.50	0.300	0.197	(	0.270)	0.103
127	10.58	0.67	0.400	0.196	(	0.360)	0.204
128	10.67	0.67	0.400	0.195	(	0.360)	0.205
129	10.75	0.67	0.400	0.194	(	0.360)	0.206
130	10.83	0.67	0.400	0.193	(	0.360)	0.207
131	10.92	0.67	0.400	0.192	(	0.360)	0.208
132	11.00	0.67	0.400	0.191	(	0.360)	0.209
133	11.08	0.63	0.380	0.190	(	0.342)	0.190
134	11.17	0.63	0.380	0.189	(	0.342)	0.191
135	11.25	0.63	0.380	0.188	(	0.342)	0.192
136	11.33	0.63	0.380	0.188	(	0.342)	0.192
137	11.42	0.63	0.380	0.187	(	0.342)	0.193
138	11.50	0.63	0.380	0.186	(	0.342)	0.194
139	11.58	0.57	0.340	0.185	(	0.306)	0.155
140	11.67	0.57	0.340	0.184	(	0.306)	0.156
141	11.75	0.57	0.340	0.183	(	0.306)	0.157
142	11.83	0.60	0.360	0.182	(	0.324)	0.178
143	11.92	0.60	0.360	0.181	(	0.324)	0.179
144	12.00	0.60	0.360	0.180	(	0.324)	0.180
145	12.08	0.83	0.500	0.179	(	0.450)	0.321

146	12.17	0.83	0.500	0.178	(0.450)	0.322
147	12.25	0.83	0.500	0.178	(0.450)	0.322
148	12.33	0.87	0.520	0.177	(0.468)	0.343
149	12.42	0.87	0.520	0.176	(0.468)	0.344
150	12.50	0.87	0.520	0.175	(0.468)	0.345
151	12.58	0.93	0.560	0.174	(0.504)	0.386
152	12.67	0.93	0.560	0.173	(0.504)	0.387
153	12.75	0.93	0.560	0.172	(0.504)	0.388
154	12.83	0.97	0.580	0.171	(0.522)	0.409
155	12.92	0.97	0.580	0.170	(0.522)	0.409
156	13.00	0.97	0.580	0.170	(0.522)	0.410
157	13.08	1.13	0.680	0.169	(0.612)	0.511
158	13.17	1.13	0.680	0.168	(0.612)	0.512
159	13.25	1.13	0.680	0.167	(0.612)	0.513
160	13.33	1.13	0.680	0.166	(0.612)	0.514
161	13.42	1.13	0.680	0.165	(0.612)	0.515
162	13.50	1.13	0.680	0.165	(0.612)	0.515
163	13.58	0.77	0.460	0.164	(0.414)	0.296
164	13.67	0.77	0.460	0.163	(0.414)	0.297
165	13.75	0.77	0.460	0.162	(0.414)	0.298
166	13.83	0.77	0.460	0.161	(0.414)	0.299
167	13.92	0.77	0.460	0.160	(0.414)	0.300
168	14.00	0.77	0.460	0.160	(0.414)	0.300
169	14.08	0.90	0.540	0.159	(0.486)	0.381
170	14.17	0.90	0.540	0.158	(0.486)	0.382
171	14.25	0.90	0.540	0.157	(0.486)	0.383
172	14.33	0.87	0.520	0.156	(0.468)	0.364
173	14.42	0.87	0.520	0.156	(0.468)	0.364
174	14.50	0.87	0.520	0.155	(0.468)	0.365
175	14.58	0.87	0.520	0.154	(0.468)	0.366
176	14.67	0.87	0.520	0.153	(0.468)	0.367
177	14.75	0.87	0.520	0.152	(0.468)	0.368
178	14.83	0.83	0.500	0.152	(0.450)	0.348
179	14.92	0.83	0.500	0.151	(0.450)	0.349
180	15.00	0.83	0.500	0.150	(0.450)	0.350
181	15.08	0.80	0.480	0.149	(0.432)	0.331
182	15.17	0.80	0.480	0.148	(0.432)	0.331
183	15.25	0.80	0.480	0.148	(0.432)	0.332
184	15.33	0.77	0.460	0.147	(0.414)	0.313
185	15.42	0.77	0.460	0.146	(0.414)	0.314
186	15.50	0.77	0.460	0.145	(0.414)	0.315
187	15.58	0.63	0.380	0.145	(0.342)	0.235
188	15.67	0.63	0.380	0.144	(0.342)	0.236
189	15.75	0.63	0.380	0.143	(0.342)	0.237
190	15.83	0.63	0.380	0.143	(0.342)	0.237
191	15.92	0.63	0.380	0.142	(0.342)	0.238
192	16.00	0.63	0.380	0.141	(0.342)	0.239
193	16.08	0.13	0.080	(0.140)	0.072	0.008
194	16.17	0.13	0.080	(0.140)	0.072	0.008
195	16.25	0.13	0.080	(0.139)	0.072	0.008
196	16.33	0.13	0.080	(0.138)	0.072	0.008

197	16.42	0.13	0.080	(0.138)	0.072	0.008
198	16.50	0.13	0.080	(0.137)	0.072	0.008
199	16.58	0.10	0.060	(0.136)	0.054	0.006
200	16.67	0.10	0.060	(0.135)	0.054	0.006
201	16.75	0.10	0.060	(0.135)	0.054	0.006
202	16.83	0.10	0.060	(0.134)	0.054	0.006
203	16.92	0.10	0.060	(0.133)	0.054	0.006
204	17.00	0.10	0.060	(0.133)	0.054	0.006
205	17.08	0.17	0.100	(0.132)	0.090	0.010
206	17.17	0.17	0.100	(0.131)	0.090	0.010
207	17.25	0.17	0.100	(0.131)	0.090	0.010
208	17.33	0.17	0.100	(0.130)	0.090	0.010
209	17.42	0.17	0.100	(0.129)	0.090	0.010
210	17.50	0.17	0.100	(0.129)	0.090	0.010
211	17.58	0.17	0.100	(0.128)	0.090	0.010
212	17.67	0.17	0.100	(0.127)	0.090	0.010
213	17.75	0.17	0.100	(0.127)	0.090	0.010
214	17.83	0.13	0.080	(0.126)	0.072	0.008
215	17.92	0.13	0.080	(0.126)	0.072	0.008
216	18.00	0.13	0.080	(0.125)	0.072	0.008
217	18.08	0.13	0.080	(0.124)	0.072	0.008
218	18.17	0.13	0.080	(0.124)	0.072	0.008
219	18.25	0.13	0.080	(0.123)	0.072	0.008
220	18.33	0.13	0.080	(0.123)	0.072	0.008
221	18.42	0.13	0.080	(0.122)	0.072	0.008
222	18.50	0.13	0.080	(0.121)	0.072	0.008
223	18.58	0.10	0.060	(0.121)	0.054	0.006
224	18.67	0.10	0.060	(0.120)	0.054	0.006
225	18.75	0.10	0.060	(0.120)	0.054	0.006
226	18.83	0.07	0.040	(0.119)	0.036	0.004
227	18.92	0.07	0.040	(0.118)	0.036	0.004
228	19.00	0.07	0.040	(0.118)	0.036	0.004
229	19.08	0.10	0.060	(0.117)	0.054	0.006
230	19.17	0.10	0.060	(0.117)	0.054	0.006
231	19.25	0.10	0.060	(0.116)	0.054	0.006
232	19.33	0.13	0.080	(0.116)	0.072	0.008
233	19.42	0.13	0.080	(0.115)	0.072	0.008
234	19.50	0.13	0.080	(0.115)	0.072	0.008
235	19.58	0.10	0.060	(0.114)	0.054	0.006
236	19.67	0.10	0.060	(0.114)	0.054	0.006
237	19.75	0.10	0.060	(0.113)	0.054	0.006
238	19.83	0.07	0.040	(0.113)	0.036	0.004
239	19.92	0.07	0.040	(0.112)	0.036	0.004
240	20.00	0.07	0.040	(0.112)	0.036	0.004
241	20.08	0.10	0.060	(0.111)	0.054	0.006
242	20.17	0.10	0.060	(0.111)	0.054	0.006
243	20.25	0.10	0.060	(0.110)	0.054	0.006
244	20.33	0.10	0.060	(0.110)	0.054	0.006
245	20.42	0.10	0.060	(0.109)	0.054	0.006
246	20.50	0.10	0.060	(0.109)	0.054	0.006
247	20.58	0.10	0.060	(0.108)	0.054	0.006

248	20.67	0.10	0.060	(0.108)	0.054	0.006
249	20.75	0.10	0.060	(0.107)	0.054	0.006
250	20.83	0.07	0.040	(0.107)	0.036	0.004
251	20.92	0.07	0.040	(0.106)	0.036	0.004
252	21.00	0.07	0.040	(0.106)	0.036	0.004
253	21.08	0.10	0.060	(0.106)	0.054	0.006
254	21.17	0.10	0.060	(0.105)	0.054	0.006
255	21.25	0.10	0.060	(0.105)	0.054	0.006
256	21.33	0.07	0.040	(0.104)	0.036	0.004
257	21.42	0.07	0.040	(0.104)	0.036	0.004
258	21.50	0.07	0.040	(0.104)	0.036	0.004
259	21.58	0.10	0.060	(0.103)	0.054	0.006
260	21.67	0.10	0.060	(0.103)	0.054	0.006
261	21.75	0.10	0.060	(0.102)	0.054	0.006
262	21.83	0.07	0.040	(0.102)	0.036	0.004
263	21.92	0.07	0.040	(0.102)	0.036	0.004
264	22.00	0.07	0.040	(0.101)	0.036	0.004
265	22.08	0.10	0.060	(0.101)	0.054	0.006
266	22.17	0.10	0.060	(0.101)	0.054	0.006
267	22.25	0.10	0.060	(0.100)	0.054	0.006
268	22.33	0.07	0.040	(0.100)	0.036	0.004
269	22.42	0.07	0.040	(0.100)	0.036	0.004
270	22.50	0.07	0.040	(0.100)	0.036	0.004
271	22.58	0.07	0.040	(0.099)	0.036	0.004
272	22.67	0.07	0.040	(0.099)	0.036	0.004
273	22.75	0.07	0.040	(0.099)	0.036	0.004
274	22.83	0.07	0.040	(0.098)	0.036	0.004
275	22.92	0.07	0.040	(0.098)	0.036	0.004
276	23.00	0.07	0.040	(0.098)	0.036	0.004
277	23.08	0.07	0.040	(0.098)	0.036	0.004
278	23.17	0.07	0.040	(0.097)	0.036	0.004
279	23.25	0.07	0.040	(0.097)	0.036	0.004
280	23.33	0.07	0.040	(0.097)	0.036	0.004
281	23.42	0.07	0.040	(0.097)	0.036	0.004
282	23.50	0.07	0.040	(0.097)	0.036	0.004
283	23.58	0.07	0.040	(0.097)	0.036	0.004
284	23.67	0.07	0.040	(0.096)	0.036	0.004
285	23.75	0.07	0.040	(0.096)	0.036	0.004
286	23.83	0.07	0.040	(0.096)	0.036	0.004
287	23.92	0.07	0.040	(0.096)	0.036	0.004
288	24.00	0.07	0.040	(0.096)	0.036	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.4

Flood volume = Effective rainfall 2.20(In)
times area 16.4(Ac.)/[(In)/(Ft.)] = 3.0(Ac.Ft)
Total soil loss = 2.80(In)
Total soil loss = 3.841(Ac.Ft)
Total rainfall = 5.00(In)
Flood volume = 131252.4 Cubic Feet
Total soil loss = 167305.5 Cubic Feet

Peak flow rate of this hydrograph = 8.476(CFS)

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	0.0004	0.04	Q				
0+15	0.0008	0.06	Q				
0+20	0.0012	0.07	Q				
0+25	0.0018	0.08	Q				
0+30	0.0024	0.09	Q				
0+35	0.0031	0.10	Q				
0+40	0.0038	0.10	Q				
0+45	0.0045	0.10	Q				
0+50	0.0052	0.11	Q				
0+55	0.0060	0.12	Q				
1+ 0	0.0069	0.13	Q				
1+ 5	0.0077	0.12	Q				
1+10	0.0085	0.11	Q				
1+15	0.0092	0.10	Q				
1+20	0.0099	0.10	Q				
1+25	0.0106	0.10	Q				
1+30	0.0113	0.10	Q				
1+35	0.0120	0.10	Q				
1+40	0.0127	0.10	Q				
1+45	0.0134	0.10	Q				
1+50	0.0141	0.11	Q				
1+55	0.0149	0.12	Q				
2+ 0	0.0158	0.13	Q				
2+ 5	0.0167	0.13	Q				
2+10	0.0176	0.13	Q				
2+15	0.0185	0.13	Q				
2+20	0.0194	0.13	Q				
2+25	0.0203	0.13	Q				
2+30	0.0212	0.13	Q				
2+35	0.0222	0.14	Q				
2+40	0.0233	0.16	Q				
2+45	0.0244	0.16	Q				
2+50	0.0255	0.16	Q				
2+55	0.0266	0.16	Q				
3+ 0	0.0278	0.16	Q				
3+ 5	0.0289	0.17	Q				
3+10	0.0300	0.17	Q				
3+15	0.0312	0.17	Q				
3+20	0.0323	0.17	Q				

3+25	0.0335	0.17	Q	|	|	|	|
3+30	0.0346	0.17	Q	|	|	|	|
3+35	0.0357	0.17	Q	|	|	|	|
3+40	0.0369	0.17	Q	|	|	|	|
3+45	0.0380	0.17	Q	|	|	|	|
3+50	0.0392	0.17	Q	|	|	|	|
3+55	0.0405	0.19	Q	|	|	|	|
4+ 0	0.0418	0.19	Q	|	|	|	|
4+ 5	0.0432	0.20	Q	|	|	|	|
4+10	0.0445	0.20	Q	|	|	|	|
4+15	0.0459	0.20	Q	|	|	|	|
4+20	0.0473	0.20	Q	|	|	|	|
4+25	0.0488	0.22	Q	|	|	|	|
4+30	0.0504	0.23	Q	|	|	|	|
4+35	0.0520	0.23	Q	|	|	|	|
4+40	0.0536	0.23	Q	|	|	|	|
4+45	0.0552	0.23	Q	|	|	|	|
4+50	0.0568	0.24	Q	|	|	|	|
4+55	0.0586	0.25	VQ	|	|	|	|
5+ 0	0.0603	0.26	VQ	|	|	|	|
5+ 5	0.0621	0.25	Q	|	|	|	|
5+10	0.0636	0.22	Q	|	|	|	|
5+15	0.0650	0.21	Q	|	|	|	|
5+20	0.0665	0.21	Q	|	|	|	|
5+25	0.0680	0.23	Q	|	|	|	|
5+30	0.0696	0.23	Q	|	|	|	|
5+35	0.0712	0.24	Q	|	|	|	|
5+40	0.0730	0.25	VQ	|	|	|	|
5+45	0.0747	0.26	VQ	|	|	|	|
5+50	0.0765	0.26	|Q	|	|	|	|
5+55	0.0784	0.26	|Q	|	|	|	|
6+ 0	0.0802	0.26	|Q	|	|	|	|
6+ 5	0.0820	0.27	|Q	|	|	|	|
6+10	0.0840	0.29	|Q	|	|	|	|
6+15	0.0860	0.29	|Q	|	|	|	|
6+20	0.0881	0.30	|Q	|	|	|	|
6+25	0.0901	0.30	|Q	|	|	|	|
6+30	0.0922	0.30	|Q	|	|	|	|
6+35	0.0943	0.30	|Q	|	|	|	|
6+40	0.0965	0.32	|Q	|	|	|	|
6+45	0.0987	0.33	|Q	|	|	|	|
6+50	0.1010	0.33	|Q	|	|	|	|
6+55	0.1033	0.33	|Q	|	|	|	|
7+ 0	0.1055	0.33	|Q	|	|	|	|
7+ 5	0.1078	0.33	|Q	|	|	|	|
7+10	0.1101	0.33	|Q	|	|	|	|
7+15	0.1124	0.33	|Q	|	|	|	|
7+20	0.1147	0.34	|Q	|	|	|	|
7+25	0.1172	0.35	|Q	|	|	|	|
7+30	0.1196	0.36	|Q	|	|	|	|
7+35	0.1222	0.37	|Q	|	|	|	|

7+40	0.1248	0.39	Q			
7+45	0.1275	0.39	Q			
7+50	0.1304	0.42	Q			
7+55	0.1336	0.47	Q			
8+ 0	0.1371	0.50	VQ			
8+ 5	0.1416	0.65	VQ			
8+10	0.1484	0.99	V Q			
8+15	0.1561	1.12	V Q			
8+20	0.1643	1.18	V Q			
8+25	0.1727	1.23	V Q			
8+30	0.1814	1.26	V Q			
8+35	0.1907	1.35	V Q			
8+40	0.2013	1.54	V Q			
8+45	0.2124	1.61	V Q			
8+50	0.2242	1.71	V Q			
8+55	0.2373	1.91	V Q			
9+ 0	0.2510	1.98	V Q			
9+ 5	0.2659	2.16	V Q			
9+10	0.2831	2.51	V Q			
9+15	0.3013	2.64	V Q			
9+20	0.3204	2.77	V Q			
9+25	0.3410	2.98	V Q			
9+30	0.3621	3.07	V Q			
9+35	0.3840	3.18	V Q			
9+40	0.4073	3.38	V Q			
9+45	0.4312	3.46	V Q			
9+50	0.4558	3.57	V Q			
9+55	0.4817	3.76	V Q			
10+ 0	0.5081	3.84	V Q			
10+ 5	0.5318	3.44	V Q			
10+10	0.5481	2.35	V Q			
10+15	0.5619	2.02	VQ			
10+20	0.5748	1.87	Q			
10+25	0.5872	1.80	Q			
10+30	0.5993	1.76	Q			
10+35	0.6135	2.05	Q			
10+40	0.6331	2.85	V Q			
10+45	0.6545	3.11	V Q			
10+50	0.6769	3.24	V Q			
10+55	0.6998	3.33	V Q			
11+ 0	0.7231	3.39	V Q			
11+ 5	0.7462	3.36	V Q			
11+10	0.7685	3.24	V Q			
11+15	0.7906	3.21	V Q			
11+20	0.8127	3.20	V Q			
11+25	0.8347	3.20	VQ			
11+30	0.8569	3.21	VQ			
11+35	0.8782	3.09	VQ			
11+40	0.8973	2.78	Q			
11+45	0.9159	2.69	Q V			
11+50	0.9346	2.73	Q V			

11+55	0.9544	2.87	|	|QV	|	|	|
12+ 0	0.9746	2.92	|	|QV	|	|	|
12+ 5	0.9980	3.40	|	| Q	|	|	|
12+10	1.0293	4.54	|	| V Q	|	|	|
12+15	1.0632	4.93	|	| V Q|	|	|	|
12+20	1.0988	5.17	|	| V Q	|	|	|
12+25	1.1363	5.44	|	| V |Q	|	|	|
12+30	1.1747	5.57	|	| V | Q	|	|	|
12+35	1.2144	5.78	|	| V | Q	|	|	|
12+40	1.2568	6.15	|	| V | Q	|	|	|
12+45	1.3001	6.29	|	| V | Q	|	|	|
12+50	1.3443	6.42	|	| V | Q	|	|	|
12+55	1.3899	6.62	|	| V | Q	|	|	|
13+ 0	1.4361	6.71	|	| V| Q	|	|	|
13+ 5	1.4848	7.07	|	| V| Q	|	|	|
13+10	1.5393	7.91	|	| V |Q	|	|	|
13+15	1.5958	8.20	|	| |V | Q	|	|	|
13+20	1.6531	8.33	|	| |V | Q	|	|	|
13+25	1.7111	8.42	|	| | V | Q	|	|	|
13+30	1.7695	8.48	|	| | V | Q	|	|	|
13+35	1.8233	7.82	|	| | V |Q	|	|	|
13+40	1.8652	6.08	|	| | Q |	|	|	|
13+45	1.9034	5.53	|	| | Q V |	|	|	|
13+50	1.9398	5.29	|	| |Q V |	|	|	|
13+55	1.9753	5.16	|	| Q V |	|	|	|
14+ 0	2.0103	5.08	|	| Q V |	|	|	|
14+ 5	2.0467	5.29	|	| |Q V |	|	|	|
14+10	2.0874	5.90	|	| | Q V |	|	|	|
14+15	2.1294	6.11	|	| | Q V |	|	|	|
14+20	2.1718	6.15	|	| | Q V |	|	|	|
14+25	2.2135	6.06	|	| | Q V|	|	|	|
14+30	2.2552	6.05	|	| | Q V|	|	|	|
14+35	2.2969	6.06	|	| | Q V	|	|	|
14+40	2.3388	6.08	|	| | Q |V	|	|	|
14+45	2.3807	6.09	|	| | Q |V	|	|	|
14+50	2.4223	6.03	|	| | Q | V	|	|	|
14+55	2.4628	5.88	|	| | Q | V	|	|	|
15+ 0	2.5030	5.84	|	| | Q | V	|	|	|
15+ 5	2.5427	5.77	|	| | Q | V	|	|	|
15+10	2.5813	5.61	|	| | Q | V	|	|	|
15+15	2.6196	5.56	|	| | Q | V	|	|	|
15+20	2.6574	5.48	|	| | Q | V	|	|	|
15+25	2.6940	5.31	|	| | Q | V	|	|	|
15+30	2.7302	5.26	|	| | Q | V	|	|	|
15+35	2.7646	4.99	|	| | Q| V	|	|	|
15+40	2.7945	4.35	|	| | Q | V	|	|	|
15+45	2.8231	4.14	|	| | Q | V	|	|	|
15+50	2.8510	4.05	|	| | Q | V	|	|	|
15+55	2.8786	4.01	|	| | Q | V	|	|	|
16+ 0	2.9061	3.99	|	| | Q | V	|	|	|
16+ 5	2.9284	3.24	|	| Q | V	|	|	|

16+10	2.9379	1.38	| Q |	|	|	V|
16+15	2.9432	0.77	| Q |	|	|	V|
16+20	2.9467	0.50	| Q |	|	|	V|
16+25	2.9491	0.35	|Q |	|	|	V|
16+30	2.9509	0.25	|Q |	|	|	V|
16+35	2.9522	0.19	Q |	|	|	V|
16+40	2.9531	0.13	Q |	|	|	V|
16+45	2.9538	0.11	Q |	|	|	V|
16+50	2.9545	0.10	Q |	|	|	V|
16+55	2.9552	0.10	Q |	|	|	V|
17+ 0	2.9559	0.10	Q |	|	|	V|
17+ 5	2.9567	0.11	Q |	|	|	V|
17+10	2.9577	0.14	Q |	|	|	V|
17+15	2.9587	0.15	Q |	|	|	V|
17+20	2.9598	0.16	Q |	|	|	V|
17+25	2.9610	0.16	Q |	|	|	V|
17+30	2.9621	0.16	Q |	|	|	V|
17+35	2.9632	0.16	Q |	|	|	V|
17+40	2.9644	0.17	Q |	|	|	V|
17+45	2.9655	0.17	Q |	|	|	V|
17+50	2.9666	0.16	Q |	|	|	V|
17+55	2.9676	0.14	Q |	|	|	V|
18+ 0	2.9685	0.14	Q |	|	|	V|
18+ 5	2.9695	0.14	Q |	|	|	V|
18+10	2.9704	0.13	Q |	|	|	V|
18+15	2.9713	0.13	Q |	|	|	V|
18+20	2.9722	0.13	Q |	|	|	V|
18+25	2.9732	0.13	Q |	|	|	V|
18+30	2.9741	0.13	Q |	|	|	V|
18+35	2.9749	0.13	Q |	|	|	V|
18+40	2.9757	0.11	Q |	|	|	V|
18+45	2.9764	0.11	Q |	|	|	V|
18+50	2.9771	0.10	Q |	|	|	V|
18+55	2.9776	0.08	Q |	|	|	V|
19+ 0	2.9781	0.07	Q |	|	|	V|
19+ 5	2.9787	0.08	Q |	|	|	V|
19+10	2.9793	0.09	Q |	|	|	V|
19+15	2.9799	0.09	Q |	|	|	V|
19+20	2.9806	0.10	Q |	|	|	V|
19+25	2.9815	0.12	Q |	|	|	V|
19+30	2.9823	0.13	Q |	|	|	V|
19+35	2.9832	0.12	Q |	|	|	V|
19+40	2.9839	0.11	Q |	|	|	V|
19+45	2.9846	0.10	Q |	|	|	V|
19+50	2.9853	0.10	Q |	|	|	V|
19+55	2.9859	0.08	Q |	|	|	V|
20+ 0	2.9864	0.07	Q |	|	|	V|
20+ 5	2.9869	0.08	Q |	|	|	V|
20+10	2.9875	0.09	Q |	|	|	V|
20+15	2.9882	0.09	Q |	|	|	V|
20+20	2.9888	0.10	Q |	|	|	V|

20+25	2.9895	0.10	Q	|	|	|	V|
20+30	2.9902	0.10	Q	|	|	|	V|
20+35	2.9909	0.10	Q	|	|	|	V|
20+40	2.9915	0.10	Q	|	|	|	V|
20+45	2.9922	0.10	Q	|	|	|	V|
20+50	2.9929	0.09	Q	|	|	|	V|
20+55	2.9934	0.08	Q	|	|	|	V|
21+ 0	2.9939	0.07	Q	|	|	|	V|
21+ 5	2.9944	0.08	Q	|	|	|	V|
21+10	2.9950	0.09	Q	|	|	|	V|
21+15	2.9957	0.09	Q	|	|	|	V|
21+20	2.9963	0.09	Q	|	|	|	V|
21+25	2.9968	0.08	Q	|	|	|	V|
21+30	2.9973	0.07	Q	|	|	|	V|
21+35	2.9978	0.08	Q	|	|	|	V|
21+40	2.9985	0.09	Q	|	|	|	V|
21+45	2.9991	0.09	Q	|	|	|	V|
21+50	2.9997	0.09	Q	|	|	|	V|
21+55	3.0003	0.08	Q	|	|	|	V|
22+ 0	3.0008	0.07	Q	|	|	|	V|
22+ 5	3.0013	0.08	Q	|	|	|	V|
22+10	3.0019	0.09	Q	|	|	|	V|
22+15	3.0026	0.09	Q	|	|	|	V|
22+20	3.0032	0.09	Q	|	|	|	V|
22+25	3.0037	0.08	Q	|	|	|	V|
22+30	3.0042	0.07	Q	|	|	|	V|
22+35	3.0047	0.07	Q	|	|	|	V|
22+40	3.0051	0.07	Q	|	|	|	V|
22+45	3.0056	0.07	Q	|	|	|	V|
22+50	3.0061	0.07	Q	|	|	|	V|
22+55	3.0065	0.07	Q	|	|	|	V|
23+ 0	3.0070	0.07	Q	|	|	|	V|
23+ 5	3.0074	0.07	Q	|	|	|	V|
23+10	3.0079	0.07	Q	|	|	|	V|
23+15	3.0083	0.07	Q	|	|	|	V|
23+20	3.0088	0.07	Q	|	|	|	V|
23+25	3.0093	0.07	Q	|	|	|	V|
23+30	3.0097	0.07	Q	|	|	|	V|
23+35	3.0102	0.07	Q	|	|	|	V|
23+40	3.0106	0.07	Q	|	|	|	V|
23+45	3.0111	0.07	Q	|	|	|	V|
23+50	3.0115	0.07	Q	|	|	|	V|
23+55	3.0120	0.07	Q	|	|	|	V|
24+ 0	3.0125	0.07	Q	|	|	|	V|
24+ 5	3.0128	0.05	Q	|	|	|	V|
24+10	3.0130	0.02	Q	|	|	|	V|
24+15	3.0130	0.01	Q	|	|	|	V|
24+20	3.0131	0.01	Q	|	|	|	V|
24+25	3.0131	0.00	Q	|	|	|	V|
24+30	3.0131	0.00	Q	|	|	|	V|
24+35	3.0131	0.00	Q	|	|	|	V|

24+40	3.0131	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

Study date 06/07/22 File: EXISTINGB24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
EXISTING BASIN B
06/07/2022 RRO

Drainage Area = 20.10(Ac.) = 0.031 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 20.10(Ac.) = 0.031 Sq. Mi.
Length along longest watercourse = 1638.58(Ft.)
Length along longest watercourse measured to centroid = 1001.90(Ft.)
Length along longest watercourse = 0.310 Mi.
Length along longest watercourse measured to centroid = 0.190 Mi.
Difference in elevation = 97.00(Ft.)
Slope along watercourse = 312.5633 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.082 Hr.
Lag time = 4.94 Min.
25% of lag time = 1.24 Min.
40% of lag time = 1.98 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]
       20.10            2.00                  40.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       20.10            5.00                 100.50

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    20.100           69.00         0.010
 Total Area Entered =     20.10(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.010        0.192       1.000      0.192
                                                 Sum (F) =   0.192
Area averaged mean soil loss (F) (In/Hr) =  0.192
Minimum soil loss rate ((In/Hr)) =  0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               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        101.138         19.550              3.960
    2   0.167        202.276         48.484              9.821
    3   0.250        303.415         15.465              3.133
    4   0.333        404.553          7.003              1.419
    5   0.417        505.691          3.930              0.796
    6   0.500        606.829          2.541              0.515
    7   0.583        707.968          1.564              0.317
    8   0.667        809.106          1.463              0.296
                               Sum = 100.000   Sum=      20.257
------------------------------------------------------------------------
```

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) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.341)	0.036	0.004
2	0.17	0.07	0.040	(0.339)	0.036	0.004
3	0.25	0.07	0.040	(0.338)	0.036	0.004
4	0.33	0.10	0.060	(0.337)	0.054	0.006
5	0.42	0.10	0.060	(0.335)	0.054	0.006
6	0.50	0.10	0.060	(0.334)	0.054	0.006
7	0.58	0.10	0.060	(0.333)	0.054	0.006
8	0.67	0.10	0.060	(0.331)	0.054	0.006
9	0.75	0.10	0.060	(0.330)	0.054	0.006
10	0.83	0.13	0.080	(0.329)	0.072	0.008
11	0.92	0.13	0.080	(0.327)	0.072	0.008
12	1.00	0.13	0.080	(0.326)	0.072	0.008
13	1.08	0.10	0.060	(0.325)	0.054	0.006
14	1.17	0.10	0.060	(0.324)	0.054	0.006
15	1.25	0.10	0.060	(0.322)	0.054	0.006
16	1.33	0.10	0.060	(0.321)	0.054	0.006
17	1.42	0.10	0.060	(0.320)	0.054	0.006
18	1.50	0.10	0.060	(0.318)	0.054	0.006
19	1.58	0.10	0.060	(0.317)	0.054	0.006
20	1.67	0.10	0.060	(0.316)	0.054	0.006
21	1.75	0.10	0.060	(0.315)	0.054	0.006
22	1.83	0.13	0.080	(0.313)	0.072	0.008
23	1.92	0.13	0.080	(0.312)	0.072	0.008
24	2.00	0.13	0.080	(0.311)	0.072	0.008
25	2.08	0.13	0.080	(0.310)	0.072	0.008
26	2.17	0.13	0.080	(0.308)	0.072	0.008
27	2.25	0.13	0.080	(0.307)	0.072	0.008
28	2.33	0.13	0.080	(0.306)	0.072	0.008
29	2.42	0.13	0.080	(0.305)	0.072	0.008
30	2.50	0.13	0.080	(0.303)	0.072	0.008
31	2.58	0.17	0.100	(0.302)	0.090	0.010
32	2.67	0.17	0.100	(0.301)	0.090	0.010
33	2.75	0.17	0.100	(0.300)	0.090	0.010
34	2.83	0.17	0.100	(0.298)	0.090	0.010
35	2.92	0.17	0.100	(0.297)	0.090	0.010
36	3.00	0.17	0.100	(0.296)	0.090	0.010
37	3.08	0.17	0.100	(0.295)	0.090	0.010
38	3.17	0.17	0.100	(0.294)	0.090	0.010
39	3.25	0.17	0.100	(0.292)	0.090	0.010
40	3.33	0.17	0.100	(0.291)	0.090	0.010
41	3.42	0.17	0.100	(0.290)	0.090	0.010
42	3.50	0.17	0.100	(0.289)	0.090	0.010
43	3.58	0.17	0.100	(0.287)	0.090	0.010
44	3.67	0.17	0.100	(0.286)	0.090	0.010

45	3.75	0.17	0.100	(0.285)	0.090	0.010
46	3.83	0.20	0.120	(0.284)	0.108	0.012
47	3.92	0.20	0.120	(0.283)	0.108	0.012
48	4.00	0.20	0.120	(0.281)	0.108	0.012
49	4.08	0.20	0.120	(0.280)	0.108	0.012
50	4.17	0.20	0.120	(0.279)	0.108	0.012
51	4.25	0.20	0.120	(0.278)	0.108	0.012
52	4.33	0.23	0.140	(0.277)	0.126	0.014
53	4.42	0.23	0.140	(0.275)	0.126	0.014
54	4.50	0.23	0.140	(0.274)	0.126	0.014
55	4.58	0.23	0.140	(0.273)	0.126	0.014
56	4.67	0.23	0.140	(0.272)	0.126	0.014
57	4.75	0.23	0.140	(0.271)	0.126	0.014
58	4.83	0.27	0.160	(0.270)	0.144	0.016
59	4.92	0.27	0.160	(0.268)	0.144	0.016
60	5.00	0.27	0.160	(0.267)	0.144	0.016
61	5.08	0.20	0.120	(0.266)	0.108	0.012
62	5.17	0.20	0.120	(0.265)	0.108	0.012
63	5.25	0.20	0.120	(0.264)	0.108	0.012
64	5.33	0.23	0.140	(0.263)	0.126	0.014
65	5.42	0.23	0.140	(0.262)	0.126	0.014
66	5.50	0.23	0.140	(0.260)	0.126	0.014
67	5.58	0.27	0.160	(0.259)	0.144	0.016
68	5.67	0.27	0.160	(0.258)	0.144	0.016
69	5.75	0.27	0.160	(0.257)	0.144	0.016
70	5.83	0.27	0.160	(0.256)	0.144	0.016
71	5.92	0.27	0.160	(0.255)	0.144	0.016
72	6.00	0.27	0.160	(0.254)	0.144	0.016
73	6.08	0.30	0.180	(0.252)	0.162	0.018
74	6.17	0.30	0.180	(0.251)	0.162	0.018
75	6.25	0.30	0.180	(0.250)	0.162	0.018
76	6.33	0.30	0.180	(0.249)	0.162	0.018
77	6.42	0.30	0.180	(0.248)	0.162	0.018
78	6.50	0.30	0.180	(0.247)	0.162	0.018
79	6.58	0.33	0.200	(0.246)	0.180	0.020
80	6.67	0.33	0.200	(0.245)	0.180	0.020
81	6.75	0.33	0.200	(0.244)	0.180	0.020
82	6.83	0.33	0.200	(0.242)	0.180	0.020
83	6.92	0.33	0.200	(0.241)	0.180	0.020
84	7.00	0.33	0.200	(0.240)	0.180	0.020
85	7.08	0.33	0.200	(0.239)	0.180	0.020
86	7.17	0.33	0.200	(0.238)	0.180	0.020
87	7.25	0.33	0.200	(0.237)	0.180	0.020
88	7.33	0.37	0.220	(0.236)	0.198	0.022
89	7.42	0.37	0.220	(0.235)	0.198	0.022
90	7.50	0.37	0.220	(0.234)	0.198	0.022
91	7.58	0.40	0.240	(0.233)	0.216	0.024
92	7.67	0.40	0.240	(0.232)	0.216	0.024
93	7.75	0.40	0.240	(0.231)	0.216	0.024
94	7.83	0.43	0.260	0.229	(0.234)	0.031
95	7.92	0.43	0.260	0.228	(0.234)	0.032

96	8.00	0.43	0.260	0.227	(	0.234)	0.033
97	8.08	0.50	0.300	0.226	(	0.270)	0.074
98	8.17	0.50	0.300	0.225	(	0.270)	0.075
99	8.25	0.50	0.300	0.224	(	0.270)	0.076
100	8.33	0.50	0.300	0.223	(	0.270)	0.077
101	8.42	0.50	0.300	0.222	(	0.270)	0.078
102	8.50	0.50	0.300	0.221	(	0.270)	0.079
103	8.58	0.53	0.320	0.220	(	0.288)	0.100
104	8.67	0.53	0.320	0.219	(	0.288)	0.101
105	8.75	0.53	0.320	0.218	(	0.288)	0.102
106	8.83	0.57	0.340	0.217	(	0.306)	0.123
107	8.92	0.57	0.340	0.216	(	0.306)	0.124
108	9.00	0.57	0.340	0.215	(	0.306)	0.125
109	9.08	0.63	0.380	0.214	(	0.342)	0.166
110	9.17	0.63	0.380	0.213	(	0.342)	0.167
111	9.25	0.63	0.380	0.212	(	0.342)	0.168
112	9.33	0.67	0.400	0.211	(	0.360)	0.189
113	9.42	0.67	0.400	0.210	(	0.360)	0.190
114	9.50	0.67	0.400	0.209	(	0.360)	0.191
115	9.58	0.70	0.420	0.208	(	0.378)	0.212
116	9.67	0.70	0.420	0.207	(	0.378)	0.213
117	9.75	0.70	0.420	0.206	(	0.378)	0.214
118	9.83	0.73	0.440	0.205	(	0.396)	0.235
119	9.92	0.73	0.440	0.204	(	0.396)	0.236
120	10.00	0.73	0.440	0.203	(	0.396)	0.237
121	10.08	0.50	0.300	0.202	(	0.270)	0.098
122	10.17	0.50	0.300	0.201	(	0.270)	0.099
123	10.25	0.50	0.300	0.200	(	0.270)	0.100
124	10.33	0.50	0.300	0.199	(	0.270)	0.101
125	10.42	0.50	0.300	0.198	(	0.270)	0.102
126	10.50	0.50	0.300	0.197	(	0.270)	0.103
127	10.58	0.67	0.400	0.196	(	0.360)	0.204
128	10.67	0.67	0.400	0.195	(	0.360)	0.205
129	10.75	0.67	0.400	0.194	(	0.360)	0.206
130	10.83	0.67	0.400	0.193	(	0.360)	0.207
131	10.92	0.67	0.400	0.192	(	0.360)	0.208
132	11.00	0.67	0.400	0.191	(	0.360)	0.209
133	11.08	0.63	0.380	0.190	(	0.342)	0.190
134	11.17	0.63	0.380	0.189	(	0.342)	0.191
135	11.25	0.63	0.380	0.188	(	0.342)	0.192
136	11.33	0.63	0.380	0.188	(	0.342)	0.192
137	11.42	0.63	0.380	0.187	(	0.342)	0.193
138	11.50	0.63	0.380	0.186	(	0.342)	0.194
139	11.58	0.57	0.340	0.185	(	0.306)	0.155
140	11.67	0.57	0.340	0.184	(	0.306)	0.156
141	11.75	0.57	0.340	0.183	(	0.306)	0.157
142	11.83	0.60	0.360	0.182	(	0.324)	0.178
143	11.92	0.60	0.360	0.181	(	0.324)	0.179
144	12.00	0.60	0.360	0.180	(	0.324)	0.180
145	12.08	0.83	0.500	0.179	(	0.450)	0.321
146	12.17	0.83	0.500	0.178	(	0.450)	0.322

147	12.25	0.83	0.500		0.178	(0.450)	0.322
148	12.33	0.87	0.520		0.177	(0.468)	0.343
149	12.42	0.87	0.520		0.176	(0.468)	0.344
150	12.50	0.87	0.520		0.175	(0.468)	0.345
151	12.58	0.93	0.560		0.174	(0.504)	0.386
152	12.67	0.93	0.560		0.173	(0.504)	0.387
153	12.75	0.93	0.560		0.172	(0.504)	0.388
154	12.83	0.97	0.580		0.171	(0.522)	0.409
155	12.92	0.97	0.580		0.170	(0.522)	0.409
156	13.00	0.97	0.580		0.170	(0.522)	0.410
157	13.08	1.13	0.680		0.169	(0.612)	0.511
158	13.17	1.13	0.680		0.168	(0.612)	0.512
159	13.25	1.13	0.680		0.167	(0.612)	0.513
160	13.33	1.13	0.680		0.166	(0.612)	0.514
161	13.42	1.13	0.680		0.165	(0.612)	0.515
162	13.50	1.13	0.680		0.165	(0.612)	0.515
163	13.58	0.77	0.460		0.164	(0.414)	0.296
164	13.67	0.77	0.460		0.163	(0.414)	0.297
165	13.75	0.77	0.460		0.162	(0.414)	0.298
166	13.83	0.77	0.460		0.161	(0.414)	0.299
167	13.92	0.77	0.460		0.160	(0.414)	0.300
168	14.00	0.77	0.460		0.160	(0.414)	0.300
169	14.08	0.90	0.540		0.159	(0.486)	0.381
170	14.17	0.90	0.540		0.158	(0.486)	0.382
171	14.25	0.90	0.540		0.157	(0.486)	0.383
172	14.33	0.87	0.520		0.156	(0.468)	0.364
173	14.42	0.87	0.520		0.156	(0.468)	0.364
174	14.50	0.87	0.520		0.155	(0.468)	0.365
175	14.58	0.87	0.520		0.154	(0.468)	0.366
176	14.67	0.87	0.520		0.153	(0.468)	0.367
177	14.75	0.87	0.520		0.152	(0.468)	0.368
178	14.83	0.83	0.500		0.152	(0.450)	0.348
179	14.92	0.83	0.500		0.151	(0.450)	0.349
180	15.00	0.83	0.500		0.150	(0.450)	0.350
181	15.08	0.80	0.480		0.149	(0.432)	0.331
182	15.17	0.80	0.480		0.148	(0.432)	0.331
183	15.25	0.80	0.480		0.148	(0.432)	0.332
184	15.33	0.77	0.460		0.147	(0.414)	0.313
185	15.42	0.77	0.460		0.146	(0.414)	0.314
186	15.50	0.77	0.460		0.145	(0.414)	0.315
187	15.58	0.63	0.380		0.145	(0.342)	0.235
188	15.67	0.63	0.380		0.144	(0.342)	0.236
189	15.75	0.63	0.380		0.143	(0.342)	0.237
190	15.83	0.63	0.380		0.143	(0.342)	0.237
191	15.92	0.63	0.380		0.142	(0.342)	0.238
192	16.00	0.63	0.380		0.141	(0.342)	0.239
193	16.08	0.13	0.080	(0.140)		0.072	0.008
194	16.17	0.13	0.080	(0.140)		0.072	0.008
195	16.25	0.13	0.080	(0.139)		0.072	0.008
196	16.33	0.13	0.080	(0.138)		0.072	0.008
197	16.42	0.13	0.080	(0.138)		0.072	0.008

198	16.50	0.13	0.080	(0.137)	0.072	0.008
199	16.58	0.10	0.060	(0.136)	0.054	0.006
200	16.67	0.10	0.060	(0.135)	0.054	0.006
201	16.75	0.10	0.060	(0.135)	0.054	0.006
202	16.83	0.10	0.060	(0.134)	0.054	0.006
203	16.92	0.10	0.060	(0.133)	0.054	0.006
204	17.00	0.10	0.060	(0.133)	0.054	0.006
205	17.08	0.17	0.100	(0.132)	0.090	0.010
206	17.17	0.17	0.100	(0.131)	0.090	0.010
207	17.25	0.17	0.100	(0.131)	0.090	0.010
208	17.33	0.17	0.100	(0.130)	0.090	0.010
209	17.42	0.17	0.100	(0.129)	0.090	0.010
210	17.50	0.17	0.100	(0.129)	0.090	0.010
211	17.58	0.17	0.100	(0.128)	0.090	0.010
212	17.67	0.17	0.100	(0.127)	0.090	0.010
213	17.75	0.17	0.100	(0.127)	0.090	0.010
214	17.83	0.13	0.080	(0.126)	0.072	0.008
215	17.92	0.13	0.080	(0.126)	0.072	0.008
216	18.00	0.13	0.080	(0.125)	0.072	0.008
217	18.08	0.13	0.080	(0.124)	0.072	0.008
218	18.17	0.13	0.080	(0.124)	0.072	0.008
219	18.25	0.13	0.080	(0.123)	0.072	0.008
220	18.33	0.13	0.080	(0.123)	0.072	0.008
221	18.42	0.13	0.080	(0.122)	0.072	0.008
222	18.50	0.13	0.080	(0.121)	0.072	0.008
223	18.58	0.10	0.060	(0.121)	0.054	0.006
224	18.67	0.10	0.060	(0.120)	0.054	0.006
225	18.75	0.10	0.060	(0.120)	0.054	0.006
226	18.83	0.07	0.040	(0.119)	0.036	0.004
227	18.92	0.07	0.040	(0.118)	0.036	0.004
228	19.00	0.07	0.040	(0.118)	0.036	0.004
229	19.08	0.10	0.060	(0.117)	0.054	0.006
230	19.17	0.10	0.060	(0.117)	0.054	0.006
231	19.25	0.10	0.060	(0.116)	0.054	0.006
232	19.33	0.13	0.080	(0.116)	0.072	0.008
233	19.42	0.13	0.080	(0.115)	0.072	0.008
234	19.50	0.13	0.080	(0.115)	0.072	0.008
235	19.58	0.10	0.060	(0.114)	0.054	0.006
236	19.67	0.10	0.060	(0.114)	0.054	0.006
237	19.75	0.10	0.060	(0.113)	0.054	0.006
238	19.83	0.07	0.040	(0.113)	0.036	0.004
239	19.92	0.07	0.040	(0.112)	0.036	0.004
240	20.00	0.07	0.040	(0.112)	0.036	0.004
241	20.08	0.10	0.060	(0.111)	0.054	0.006
242	20.17	0.10	0.060	(0.111)	0.054	0.006
243	20.25	0.10	0.060	(0.110)	0.054	0.006
244	20.33	0.10	0.060	(0.110)	0.054	0.006
245	20.42	0.10	0.060	(0.109)	0.054	0.006
246	20.50	0.10	0.060	(0.109)	0.054	0.006
247	20.58	0.10	0.060	(0.108)	0.054	0.006
248	20.67	0.10	0.060	(0.108)	0.054	0.006

249	20.75	0.10	0.060	(0.107)	0.054	0.006
250	20.83	0.07	0.040	(0.107)	0.036	0.004
251	20.92	0.07	0.040	(0.106)	0.036	0.004
252	21.00	0.07	0.040	(0.106)	0.036	0.004
253	21.08	0.10	0.060	(0.106)	0.054	0.006
254	21.17	0.10	0.060	(0.105)	0.054	0.006
255	21.25	0.10	0.060	(0.105)	0.054	0.006
256	21.33	0.07	0.040	(0.104)	0.036	0.004
257	21.42	0.07	0.040	(0.104)	0.036	0.004
258	21.50	0.07	0.040	(0.104)	0.036	0.004
259	21.58	0.10	0.060	(0.103)	0.054	0.006
260	21.67	0.10	0.060	(0.103)	0.054	0.006
261	21.75	0.10	0.060	(0.102)	0.054	0.006
262	21.83	0.07	0.040	(0.102)	0.036	0.004
263	21.92	0.07	0.040	(0.102)	0.036	0.004
264	22.00	0.07	0.040	(0.101)	0.036	0.004
265	22.08	0.10	0.060	(0.101)	0.054	0.006
266	22.17	0.10	0.060	(0.101)	0.054	0.006
267	22.25	0.10	0.060	(0.100)	0.054	0.006
268	22.33	0.07	0.040	(0.100)	0.036	0.004
269	22.42	0.07	0.040	(0.100)	0.036	0.004
270	22.50	0.07	0.040	(0.100)	0.036	0.004
271	22.58	0.07	0.040	(0.099)	0.036	0.004
272	22.67	0.07	0.040	(0.099)	0.036	0.004
273	22.75	0.07	0.040	(0.099)	0.036	0.004
274	22.83	0.07	0.040	(0.098)	0.036	0.004
275	22.92	0.07	0.040	(0.098)	0.036	0.004
276	23.00	0.07	0.040	(0.098)	0.036	0.004
277	23.08	0.07	0.040	(0.098)	0.036	0.004
278	23.17	0.07	0.040	(0.097)	0.036	0.004
279	23.25	0.07	0.040	(0.097)	0.036	0.004
280	23.33	0.07	0.040	(0.097)	0.036	0.004
281	23.42	0.07	0.040	(0.097)	0.036	0.004
282	23.50	0.07	0.040	(0.097)	0.036	0.004
283	23.58	0.07	0.040	(0.097)	0.036	0.004
284	23.67	0.07	0.040	(0.096)	0.036	0.004
285	23.75	0.07	0.040	(0.096)	0.036	0.004
286	23.83	0.07	0.040	(0.096)	0.036	0.004
287	23.92	0.07	0.040	(0.096)	0.036	0.004
288	24.00	0.07	0.040	(0.096)	0.036	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.4

Flood volume = Effective rainfall 2.20(In)
times area 20.1(Ac.)/[(In)/(Ft.)] = 3.7(Ac.Ft)
Total soil loss = 2.80(In)
Total soil loss = 4.693(Ac.Ft)
Total rainfall = 5.00(In)
Flood volume = 160373.4 Cubic Feet
Total soil loss = 204427.3 Cubic Feet

Peak flow rate of this hydrograph = 10.360(CFS)

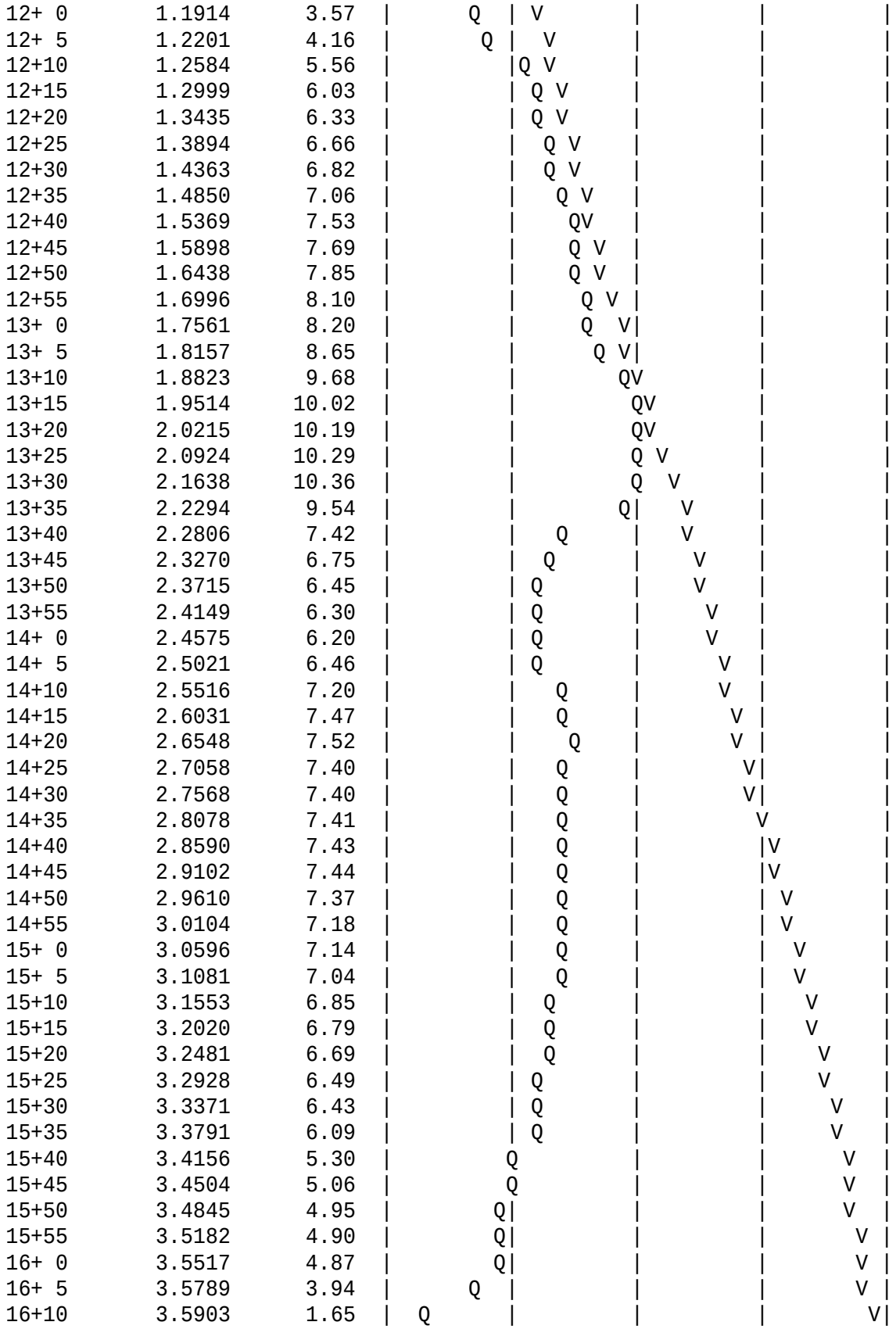
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.02	Q				
0+10	0.0005	0.06	Q				
0+15	0.0010	0.07	Q				
0+20	0.0015	0.08	Q				
0+25	0.0022	0.10	Q				
0+30	0.0030	0.11	Q				
0+35	0.0038	0.12	Q				
0+40	0.0046	0.12	Q				
0+45	0.0055	0.12	Q				
0+50	0.0063	0.13	Q				
0+55	0.0074	0.15	Q				
1+ 0	0.0084	0.16	Q				
1+ 5	0.0095	0.15	Q				
1+10	0.0104	0.13	Q				
1+15	0.0113	0.13	Q				
1+20	0.0121	0.12	Q				
1+25	0.0130	0.12	Q				
1+30	0.0138	0.12	Q				
1+35	0.0147	0.12	Q				
1+40	0.0155	0.12	Q				
1+45	0.0163	0.12	Q				
1+50	0.0172	0.13	Q				
1+55	0.0183	0.15	Q				
2+ 0	0.0193	0.16	Q				
2+ 5	0.0204	0.16	Q				
2+10	0.0215	0.16	Q				
2+15	0.0226	0.16	Q				
2+20	0.0237	0.16	Q				
2+25	0.0249	0.16	Q				
2+30	0.0260	0.16	Q				
2+35	0.0271	0.17	Q				
2+40	0.0285	0.19	Q				
2+45	0.0298	0.20	Q				
2+50	0.0312	0.20	Q				
2+55	0.0326	0.20	Q				
3+ 0	0.0339	0.20	Q				
3+ 5	0.0353	0.20	Q				
3+10	0.0367	0.20	Q				
3+15	0.0381	0.20	Q				
3+20	0.0395	0.20	Q				
3+25	0.0409	0.20	Q				

3+30	0.0423	0.20	Q				
3+35	0.0437	0.20	Q				
3+40	0.0451	0.20	Q				
3+45	0.0465	0.20	Q				
3+50	0.0480	0.21	Q				
3+55	0.0495	0.23	Q				
4+ 0	0.0512	0.24	Q				
4+ 5	0.0528	0.24	Q				
4+10	0.0545	0.24	Q				
4+15	0.0561	0.24	Q				
4+20	0.0579	0.25	Q				
4+25	0.0597	0.27	Q				
4+30	0.0616	0.28	Q				
4+35	0.0636	0.28	Q				
4+40	0.0655	0.28	Q				
4+45	0.0675	0.28	Q				
4+50	0.0695	0.29	Q				
4+55	0.0716	0.31	Q				
5+ 0	0.0738	0.32	Q				
5+ 5	0.0759	0.30	Q				
5+10	0.0777	0.27	Q				
5+15	0.0795	0.26	Q				
5+20	0.0813	0.26	Q				
5+25	0.0832	0.28	Q				
5+30	0.0851	0.28	Q				
5+35	0.0871	0.29	Q				
5+40	0.0892	0.31	Q				
5+45	0.0914	0.32	Q				
5+50	0.0936	0.32	QV				
5+55	0.0958	0.32	QV				
6+ 0	0.0980	0.32	QV				
6+ 5	0.1003	0.33	QV				
6+10	0.1027	0.35	QV				
6+15	0.1052	0.36	QV				
6+20	0.1077	0.36	QV				
6+25	0.1102	0.36	QV				
6+30	0.1127	0.36	QV				
6+35	0.1152	0.37	QV				
6+40	0.1179	0.39	QV				
6+45	0.1207	0.40	QV				
6+50	0.1235	0.40	QV				
6+55	0.1262	0.40	QV				
7+ 0	0.1290	0.40	QV				
7+ 5	0.1318	0.40	QV				
7+10	0.1346	0.41	QV				
7+15	0.1374	0.41	QV				
7+20	0.1402	0.41	QV				
7+25	0.1432	0.43	QV				
7+30	0.1462	0.44	QV				
7+35	0.1493	0.45	QV				
7+40	0.1526	0.47	QV				

7+45	0.1559	0.48	QV	|	|	|
7+50	0.1594	0.51	|Q	|	|	|
7+55	0.1634	0.58	|Q	|	|	|
8+ 0	0.1676	0.61	|Q	|	|	|
8+ 5	0.1731	0.80	|Q	|	|	|
8+10	0.1815	1.22	|VQ	|	|	|
8+15	0.1909	1.37	| Q	|	|	|
8+20	0.2009	1.45	| Q	|	|	|
8+25	0.2112	1.50	| VQ	|	|	|
8+30	0.2219	1.54	| VQ	|	|	|
8+35	0.2333	1.66	| VQ	|	|	|
8+40	0.2463	1.89	| VQ	|	|	|
8+45	0.2598	1.97	| VQ	|	|	|
8+50	0.2743	2.10	| V Q	|	|	|
8+55	0.2904	2.33	| VQ	|	|	|
9+ 0	0.3071	2.43	| VQ	|	|	|
9+ 5	0.3252	2.64	| V Q	|	|	|
9+10	0.3464	3.08	| V Q	|	|	|
9+15	0.3687	3.23	| V Q	|	|	|
9+20	0.3921	3.39	| V Q	|	|	|
9+25	0.4172	3.65	| V Q	|	|	|
9+30	0.4430	3.75	| V Q	|	|	|
9+35	0.4699	3.89	| V Q	|	|	|
9+40	0.4984	4.14	| V Q |	|	|
9+45	0.5275	4.23	| V Q |	|	|
9+50	0.5576	4.37	| V Q |	|	|
9+55	0.5893	4.60	| V Q|	|	|
10+ 0	0.6216	4.70	| V Q|	|	|
10+ 5	0.6505	4.20	| VQ |	|	|
10+10	0.6703	2.86	| Q V |	|	|
10+15	0.6872	2.45	| Q V |	|	|
10+20	0.7029	2.28	| Q V |	|	|
10+25	0.7180	2.20	| Q V |	|	|
10+30	0.7328	2.14	| Q V |	|	|
10+35	0.7501	2.52	| Q V |	|	|
10+40	0.7740	3.48	| Q V |	|	|
10+45	0.8003	3.81	| QV |	|	|
10+50	0.8276	3.97	| QV |	|	|
10+55	0.8556	4.07	| QV|	|	|
11+ 0	0.8841	4.14	| QV|	|	|
11+ 5	0.9124	4.11	| QV|	|	|
11+10	0.9397	3.96	| Q V	|	|
11+15	0.9667	3.92	| Q V	|	|
11+20	0.9937	3.91	| Q V	|	|
11+25	1.0206	3.91	| Q |V	|	|
11+30	1.0476	3.92	| Q |V	|	|
11+35	1.0736	3.78	| Q |V	|	|
11+40	1.0970	3.40	| Q |V	|	|
11+45	1.1197	3.29	| Q | V	|	|
11+50	1.1426	3.33	| Q | V	|	|
11+55	1.1668	3.51	| Q | V	|	|



16+15	3.5967	0.93	|Q	|	|	|	V|
16+20	3.6008	0.61	|Q	|	|	|	V|
16+25	3.6037	0.42	Q	|	|	|	V|
16+30	3.6058	0.30	Q	|	|	|	V|
16+35	3.6074	0.22	Q	|	|	|	V|
16+40	3.6083	0.13	Q	|	|	|	V|
16+45	3.6092	0.13	Q	|	|	|	V|
16+50	3.6100	0.13	Q	|	|	|	V|
16+55	3.6109	0.12	Q	|	|	|	V|
17+ 0	3.6117	0.12	Q	|	|	|	V|
17+ 5	3.6127	0.14	Q	|	|	|	V|
17+10	3.6139	0.18	Q	|	|	|	V|
17+15	3.6152	0.19	Q	|	|	|	V|
17+20	3.6166	0.19	Q	|	|	|	V|
17+25	3.6179	0.20	Q	|	|	|	V|
17+30	3.6193	0.20	Q	|	|	|	V|
17+35	3.6207	0.20	Q	|	|	|	V|
17+40	3.6221	0.20	Q	|	|	|	V|
17+45	3.6235	0.20	Q	|	|	|	V|
17+50	3.6248	0.19	Q	|	|	|	V|
17+55	3.6260	0.18	Q	|	|	|	V|
18+ 0	3.6272	0.17	Q	|	|	|	V|
18+ 5	3.6283	0.17	Q	|	|	|	V|
18+10	3.6295	0.16	Q	|	|	|	V|
18+15	3.6306	0.16	Q	|	|	|	V|
18+20	3.6317	0.16	Q	|	|	|	V|
18+25	3.6328	0.16	Q	|	|	|	V|
18+30	3.6339	0.16	Q	|	|	|	V|
18+35	3.6350	0.15	Q	|	|	|	V|
18+40	3.6359	0.13	Q	|	|	|	V|
18+45	3.6368	0.13	Q	|	|	|	V|
18+50	3.6376	0.12	Q	|	|	|	V|
18+55	3.6383	0.10	Q	|	|	|	V|
19+ 0	3.6389	0.09	Q	|	|	|	V|
19+ 5	3.6395	0.09	Q	|	|	|	V|
19+10	3.6403	0.11	Q	|	|	|	V|
19+15	3.6411	0.12	Q	|	|	|	V|
19+20	3.6420	0.13	Q	|	|	|	V|
19+25	3.6430	0.15	Q	|	|	|	V|
19+30	3.6441	0.15	Q	|	|	|	V|
19+35	3.6451	0.15	Q	|	|	|	V|
19+40	3.6460	0.13	Q	|	|	|	V|
19+45	3.6469	0.13	Q	|	|	|	V|
19+50	3.6477	0.12	Q	|	|	|	V|
19+55	3.6483	0.10	Q	|	|	|	V|
20+ 0	3.6490	0.09	Q	|	|	|	V|
20+ 5	3.6496	0.09	Q	|	|	|	V|
20+10	3.6504	0.11	Q	|	|	|	V|
20+15	3.6512	0.12	Q	|	|	|	V|
20+20	3.6520	0.12	Q	|	|	|	V|
20+25	3.6528	0.12	Q	|	|	|	V|

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  20+30       3.6536      0.12  Q          |          |          |         V|
  20+35       3.6545      0.12  Q          |          |          |         V|
  20+40       3.6553      0.12  Q          |          |          |         V|
  20+45       3.6561      0.12  Q          |          |          |         V|
  20+50       3.6569      0.11  Q          |          |          |         V|
  20+55       3.6576      0.09  Q          |          |          |         V|
  21+ 0       3.6582      0.09  Q          |          |          |         V|
  21+ 5       3.6588      0.09  Q          |          |          |         V|
  21+10       3.6596      0.11  Q          |          |          |         V|
  21+15       3.6604      0.12  Q          |          |          |         V|
  21+20       3.6611      0.11  Q          |          |          |         V|
  21+25       3.6618      0.09  Q          |          |          |         V|
  21+30       3.6624      0.09  Q          |          |          |         V|
  21+35       3.6630      0.09  Q          |          |          |         V|
  21+40       3.6638      0.11  Q          |          |          |         V|
  21+45       3.6646      0.12  Q          |          |          |         V|
  21+50       3.6653      0.11  Q          |          |          |         V|
  21+55       3.6660      0.09  Q          |          |          |         V|
  22+ 0       3.6666      0.09  Q          |          |          |         V|
  22+ 5       3.6672      0.09  Q          |          |          |         V|
  22+10       3.6679      0.11  Q          |          |          |         V|
  22+15       3.6687      0.12  Q          |          |          |         V|
  22+20       3.6695      0.11  Q          |          |          |         V|
  22+25       3.6701      0.09  Q          |          |          |         V|
  22+30       3.6707      0.09  Q          |          |          |         V|
  22+35       3.6713      0.08  Q          |          |          |         V|
  22+40       3.6719      0.08  Q          |          |          |         V|
  22+45       3.6725      0.08  Q          |          |          |         V|
  22+50       3.6730      0.08  Q          |          |          |         V|
  22+55       3.6736      0.08  Q          |          |          |         V|
  23+ 0       3.6741      0.08  Q          |          |          |         V|
  23+ 5       3.6747      0.08  Q          |          |          |         V|
  23+10       3.6753      0.08  Q          |          |          |         V|
  23+15       3.6758      0.08  Q          |          |          |         V|
  23+20       3.6764      0.08  Q          |          |          |         V|
  23+25       3.6769      0.08  Q          |          |          |         V|
  23+30       3.6775      0.08  Q          |          |          |         V|
  23+35       3.6780      0.08  Q          |          |          |         V|
  23+40       3.6786      0.08  Q          |          |          |         V|
  23+45       3.6792      0.08  Q          |          |          |         V|
  23+50       3.6797      0.08  Q          |          |          |         V|
  23+55       3.6803      0.08  Q          |          |          |         V|
  24+ 0       3.6808      0.08  Q          |          |          |         V|
  24+ 5       3.6813      0.07  Q          |          |          |         V|
  24+10       3.6815      0.03  Q          |          |          |         V|
  24+15       3.6816      0.01  Q          |          |          |         V|
  24+20       3.6816      0.01  Q          |          |          |         V|
  24+25       3.6816      0.00  Q          |          |          |         V|
  24+30       3.6817      0.00  Q          |          |          |         V|
  24+35       3.6817      0.00  Q          |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 12/06/22 File: existinge24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
EXISTING BASIN C
12/06/2022

Drainage Area = 15.50(Ac.) = 0.024 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.50(Ac.) = 0.024 Sq. Mi.
Length along longest watercourse = 1692.00(Ft.)
Length along longest watercourse measured to centroid = 846.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.160 Mi.
Difference in elevation = 65.00(Ft.)
Slope along watercourse = 202.8369 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.085 Hr.
Lag time = 5.09 Min.
25% of lag time = 1.27 Min.
40% of lag time = 2.04 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]
       15.50            2.00                  31.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       15.50            5.00                  77.50

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    15.500           69.00         0.010
 Total Area Entered =     15.50(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.010        0.192       1.000      0.192
                                                 Sum (F) =   0.192
Area averaged mean soil loss (F) (In/Hr) =  0.192
Minimum soil loss rate ((In/Hr)) =  0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

               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         98.142         18.629              2.910
    2   0.167        196.283         48.244              7.536
    3   0.250        294.425         15.925              2.488
    4   0.333        392.566          7.162              1.119
    5   0.417        490.708          4.052              0.633
    6   0.500        588.850          2.629              0.411
    7   0.583        686.991          1.660              0.259
    8   0.667        785.133          1.060              0.166
    9   0.750        883.274          0.639              0.100
                              Sum = 100.000   Sum=      15.621
```

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) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.341)		0.036	0.004
2	0.17	0.07	0.040	(0.339)		0.036	0.004
3	0.25	0.07	0.040	(0.338)		0.036	0.004
4	0.33	0.10	0.060	(0.337)		0.054	0.006
5	0.42	0.10	0.060	(0.335)		0.054	0.006
6	0.50	0.10	0.060	(0.334)		0.054	0.006
7	0.58	0.10	0.060	(0.333)		0.054	0.006
8	0.67	0.10	0.060	(0.331)		0.054	0.006
9	0.75	0.10	0.060	(0.330)		0.054	0.006
10	0.83	0.13	0.080	(0.329)		0.072	0.008
11	0.92	0.13	0.080	(0.327)		0.072	0.008
12	1.00	0.13	0.080	(0.326)		0.072	0.008
13	1.08	0.10	0.060	(0.325)		0.054	0.006
14	1.17	0.10	0.060	(0.324)		0.054	0.006
15	1.25	0.10	0.060	(0.322)		0.054	0.006
16	1.33	0.10	0.060	(0.321)		0.054	0.006
17	1.42	0.10	0.060	(0.320)		0.054	0.006
18	1.50	0.10	0.060	(0.318)		0.054	0.006
19	1.58	0.10	0.060	(0.317)		0.054	0.006
20	1.67	0.10	0.060	(0.316)		0.054	0.006
21	1.75	0.10	0.060	(0.315)		0.054	0.006
22	1.83	0.13	0.080	(0.313)		0.072	0.008
23	1.92	0.13	0.080	(0.312)		0.072	0.008
24	2.00	0.13	0.080	(0.311)		0.072	0.008
25	2.08	0.13	0.080	(0.310)		0.072	0.008
26	2.17	0.13	0.080	(0.308)		0.072	0.008
27	2.25	0.13	0.080	(0.307)		0.072	0.008
28	2.33	0.13	0.080	(0.306)		0.072	0.008
29	2.42	0.13	0.080	(0.305)		0.072	0.008
30	2.50	0.13	0.080	(0.303)		0.072	0.008
31	2.58	0.17	0.100	(0.302)		0.090	0.010
32	2.67	0.17	0.100	(0.301)		0.090	0.010
33	2.75	0.17	0.100	(0.300)		0.090	0.010
34	2.83	0.17	0.100	(0.298)		0.090	0.010
35	2.92	0.17	0.100	(0.297)		0.090	0.010
36	3.00	0.17	0.100	(0.296)		0.090	0.010
37	3.08	0.17	0.100	(0.295)		0.090	0.010
38	3.17	0.17	0.100	(0.294)		0.090	0.010
39	3.25	0.17	0.100	(0.292)		0.090	0.010
40	3.33	0.17	0.100	(0.291)		0.090	0.010
41	3.42	0.17	0.100	(0.290)		0.090	0.010
42	3.50	0.17	0.100	(0.289)		0.090	0.010
43	3.58	0.17	0.100	(0.287)		0.090	0.010

44	3.67	0.17	0.100	(0.286)	0.090	0.010
45	3.75	0.17	0.100	(0.285)	0.090	0.010
46	3.83	0.20	0.120	(0.284)	0.108	0.012
47	3.92	0.20	0.120	(0.283)	0.108	0.012
48	4.00	0.20	0.120	(0.281)	0.108	0.012
49	4.08	0.20	0.120	(0.280)	0.108	0.012
50	4.17	0.20	0.120	(0.279)	0.108	0.012
51	4.25	0.20	0.120	(0.278)	0.108	0.012
52	4.33	0.23	0.140	(0.277)	0.126	0.014
53	4.42	0.23	0.140	(0.275)	0.126	0.014
54	4.50	0.23	0.140	(0.274)	0.126	0.014
55	4.58	0.23	0.140	(0.273)	0.126	0.014
56	4.67	0.23	0.140	(0.272)	0.126	0.014
57	4.75	0.23	0.140	(0.271)	0.126	0.014
58	4.83	0.27	0.160	(0.270)	0.144	0.016
59	4.92	0.27	0.160	(0.268)	0.144	0.016
60	5.00	0.27	0.160	(0.267)	0.144	0.016
61	5.08	0.20	0.120	(0.266)	0.108	0.012
62	5.17	0.20	0.120	(0.265)	0.108	0.012
63	5.25	0.20	0.120	(0.264)	0.108	0.012
64	5.33	0.23	0.140	(0.263)	0.126	0.014
65	5.42	0.23	0.140	(0.262)	0.126	0.014
66	5.50	0.23	0.140	(0.260)	0.126	0.014
67	5.58	0.27	0.160	(0.259)	0.144	0.016
68	5.67	0.27	0.160	(0.258)	0.144	0.016
69	5.75	0.27	0.160	(0.257)	0.144	0.016
70	5.83	0.27	0.160	(0.256)	0.144	0.016
71	5.92	0.27	0.160	(0.255)	0.144	0.016
72	6.00	0.27	0.160	(0.254)	0.144	0.016
73	6.08	0.30	0.180	(0.252)	0.162	0.018
74	6.17	0.30	0.180	(0.251)	0.162	0.018
75	6.25	0.30	0.180	(0.250)	0.162	0.018
76	6.33	0.30	0.180	(0.249)	0.162	0.018
77	6.42	0.30	0.180	(0.248)	0.162	0.018
78	6.50	0.30	0.180	(0.247)	0.162	0.018
79	6.58	0.33	0.200	(0.246)	0.180	0.020
80	6.67	0.33	0.200	(0.245)	0.180	0.020
81	6.75	0.33	0.200	(0.244)	0.180	0.020
82	6.83	0.33	0.200	(0.242)	0.180	0.020
83	6.92	0.33	0.200	(0.241)	0.180	0.020
84	7.00	0.33	0.200	(0.240)	0.180	0.020
85	7.08	0.33	0.200	(0.239)	0.180	0.020
86	7.17	0.33	0.200	(0.238)	0.180	0.020
87	7.25	0.33	0.200	(0.237)	0.180	0.020
88	7.33	0.37	0.220	(0.236)	0.198	0.022
89	7.42	0.37	0.220	(0.235)	0.198	0.022
90	7.50	0.37	0.220	(0.234)	0.198	0.022
91	7.58	0.40	0.240	(0.233)	0.216	0.024
92	7.67	0.40	0.240	(0.232)	0.216	0.024
93	7.75	0.40	0.240	(0.231)	0.216	0.024
94	7.83	0.43	0.260	0.229	(0.234)	0.031

95	7.92	0.43	0.260	0.228	(	0.234)	0.032
96	8.00	0.43	0.260	0.227	(	0.234)	0.033
97	8.08	0.50	0.300	0.226	(	0.270)	0.074
98	8.17	0.50	0.300	0.225	(	0.270)	0.075
99	8.25	0.50	0.300	0.224	(	0.270)	0.076
100	8.33	0.50	0.300	0.223	(	0.270)	0.077
101	8.42	0.50	0.300	0.222	(	0.270)	0.078
102	8.50	0.50	0.300	0.221	(	0.270)	0.079
103	8.58	0.53	0.320	0.220	(	0.288)	0.100
104	8.67	0.53	0.320	0.219	(	0.288)	0.101
105	8.75	0.53	0.320	0.218	(	0.288)	0.102
106	8.83	0.57	0.340	0.217	(	0.306)	0.123
107	8.92	0.57	0.340	0.216	(	0.306)	0.124
108	9.00	0.57	0.340	0.215	(	0.306)	0.125
109	9.08	0.63	0.380	0.214	(	0.342)	0.166
110	9.17	0.63	0.380	0.213	(	0.342)	0.167
111	9.25	0.63	0.380	0.212	(	0.342)	0.168
112	9.33	0.67	0.400	0.211	(	0.360)	0.189
113	9.42	0.67	0.400	0.210	(	0.360)	0.190
114	9.50	0.67	0.400	0.209	(	0.360)	0.191
115	9.58	0.70	0.420	0.208	(	0.378)	0.212
116	9.67	0.70	0.420	0.207	(	0.378)	0.213
117	9.75	0.70	0.420	0.206	(	0.378)	0.214
118	9.83	0.73	0.440	0.205	(	0.396)	0.235
119	9.92	0.73	0.440	0.204	(	0.396)	0.236
120	10.00	0.73	0.440	0.203	(	0.396)	0.237
121	10.08	0.50	0.300	0.202	(	0.270)	0.098
122	10.17	0.50	0.300	0.201	(	0.270)	0.099
123	10.25	0.50	0.300	0.200	(	0.270)	0.100
124	10.33	0.50	0.300	0.199	(	0.270)	0.101
125	10.42	0.50	0.300	0.198	(	0.270)	0.102
126	10.50	0.50	0.300	0.197	(	0.270)	0.103
127	10.58	0.67	0.400	0.196	(	0.360)	0.204
128	10.67	0.67	0.400	0.195	(	0.360)	0.205
129	10.75	0.67	0.400	0.194	(	0.360)	0.206
130	10.83	0.67	0.400	0.193	(	0.360)	0.207
131	10.92	0.67	0.400	0.192	(	0.360)	0.208
132	11.00	0.67	0.400	0.191	(	0.360)	0.209
133	11.08	0.63	0.380	0.190	(	0.342)	0.190
134	11.17	0.63	0.380	0.189	(	0.342)	0.191
135	11.25	0.63	0.380	0.188	(	0.342)	0.192
136	11.33	0.63	0.380	0.188	(	0.342)	0.192
137	11.42	0.63	0.380	0.187	(	0.342)	0.193
138	11.50	0.63	0.380	0.186	(	0.342)	0.194
139	11.58	0.57	0.340	0.185	(	0.306)	0.155
140	11.67	0.57	0.340	0.184	(	0.306)	0.156
141	11.75	0.57	0.340	0.183	(	0.306)	0.157
142	11.83	0.60	0.360	0.182	(	0.324)	0.178
143	11.92	0.60	0.360	0.181	(	0.324)	0.179
144	12.00	0.60	0.360	0.180	(	0.324)	0.180
145	12.08	0.83	0.500	0.179	(	0.450)	0.321

146	12.17	0.83	0.500	0.178	(0.450)	0.322
147	12.25	0.83	0.500	0.178	(0.450)	0.322
148	12.33	0.87	0.520	0.177	(0.468)	0.343
149	12.42	0.87	0.520	0.176	(0.468)	0.344
150	12.50	0.87	0.520	0.175	(0.468)	0.345
151	12.58	0.93	0.560	0.174	(0.504)	0.386
152	12.67	0.93	0.560	0.173	(0.504)	0.387
153	12.75	0.93	0.560	0.172	(0.504)	0.388
154	12.83	0.97	0.580	0.171	(0.522)	0.409
155	12.92	0.97	0.580	0.170	(0.522)	0.409
156	13.00	0.97	0.580	0.170	(0.522)	0.410
157	13.08	1.13	0.680	0.169	(0.612)	0.511
158	13.17	1.13	0.680	0.168	(0.612)	0.512
159	13.25	1.13	0.680	0.167	(0.612)	0.513
160	13.33	1.13	0.680	0.166	(0.612)	0.514
161	13.42	1.13	0.680	0.165	(0.612)	0.515
162	13.50	1.13	0.680	0.165	(0.612)	0.515
163	13.58	0.77	0.460	0.164	(0.414)	0.296
164	13.67	0.77	0.460	0.163	(0.414)	0.297
165	13.75	0.77	0.460	0.162	(0.414)	0.298
166	13.83	0.77	0.460	0.161	(0.414)	0.299
167	13.92	0.77	0.460	0.160	(0.414)	0.300
168	14.00	0.77	0.460	0.160	(0.414)	0.300
169	14.08	0.90	0.540	0.159	(0.486)	0.381
170	14.17	0.90	0.540	0.158	(0.486)	0.382
171	14.25	0.90	0.540	0.157	(0.486)	0.383
172	14.33	0.87	0.520	0.156	(0.468)	0.364
173	14.42	0.87	0.520	0.156	(0.468)	0.364
174	14.50	0.87	0.520	0.155	(0.468)	0.365
175	14.58	0.87	0.520	0.154	(0.468)	0.366
176	14.67	0.87	0.520	0.153	(0.468)	0.367
177	14.75	0.87	0.520	0.152	(0.468)	0.368
178	14.83	0.83	0.500	0.152	(0.450)	0.348
179	14.92	0.83	0.500	0.151	(0.450)	0.349
180	15.00	0.83	0.500	0.150	(0.450)	0.350
181	15.08	0.80	0.480	0.149	(0.432)	0.331
182	15.17	0.80	0.480	0.148	(0.432)	0.331
183	15.25	0.80	0.480	0.148	(0.432)	0.332
184	15.33	0.77	0.460	0.147	(0.414)	0.313
185	15.42	0.77	0.460	0.146	(0.414)	0.314
186	15.50	0.77	0.460	0.145	(0.414)	0.315
187	15.58	0.63	0.380	0.145	(0.342)	0.235
188	15.67	0.63	0.380	0.144	(0.342)	0.236
189	15.75	0.63	0.380	0.143	(0.342)	0.237
190	15.83	0.63	0.380	0.143	(0.342)	0.237
191	15.92	0.63	0.380	0.142	(0.342)	0.238
192	16.00	0.63	0.380	0.141	(0.342)	0.239
193	16.08	0.13	0.080	(0.140)	0.072	0.008
194	16.17	0.13	0.080	(0.140)	0.072	0.008
195	16.25	0.13	0.080	(0.139)	0.072	0.008
196	16.33	0.13	0.080	(0.138)	0.072	0.008

197	16.42	0.13	0.080	(0.138)	0.072	0.008
198	16.50	0.13	0.080	(0.137)	0.072	0.008
199	16.58	0.10	0.060	(0.136)	0.054	0.006
200	16.67	0.10	0.060	(0.135)	0.054	0.006
201	16.75	0.10	0.060	(0.135)	0.054	0.006
202	16.83	0.10	0.060	(0.134)	0.054	0.006
203	16.92	0.10	0.060	(0.133)	0.054	0.006
204	17.00	0.10	0.060	(0.133)	0.054	0.006
205	17.08	0.17	0.100	(0.132)	0.090	0.010
206	17.17	0.17	0.100	(0.131)	0.090	0.010
207	17.25	0.17	0.100	(0.131)	0.090	0.010
208	17.33	0.17	0.100	(0.130)	0.090	0.010
209	17.42	0.17	0.100	(0.129)	0.090	0.010
210	17.50	0.17	0.100	(0.129)	0.090	0.010
211	17.58	0.17	0.100	(0.128)	0.090	0.010
212	17.67	0.17	0.100	(0.127)	0.090	0.010
213	17.75	0.17	0.100	(0.127)	0.090	0.010
214	17.83	0.13	0.080	(0.126)	0.072	0.008
215	17.92	0.13	0.080	(0.126)	0.072	0.008
216	18.00	0.13	0.080	(0.125)	0.072	0.008
217	18.08	0.13	0.080	(0.124)	0.072	0.008
218	18.17	0.13	0.080	(0.124)	0.072	0.008
219	18.25	0.13	0.080	(0.123)	0.072	0.008
220	18.33	0.13	0.080	(0.123)	0.072	0.008
221	18.42	0.13	0.080	(0.122)	0.072	0.008
222	18.50	0.13	0.080	(0.121)	0.072	0.008
223	18.58	0.10	0.060	(0.121)	0.054	0.006
224	18.67	0.10	0.060	(0.120)	0.054	0.006
225	18.75	0.10	0.060	(0.120)	0.054	0.006
226	18.83	0.07	0.040	(0.119)	0.036	0.004
227	18.92	0.07	0.040	(0.118)	0.036	0.004
228	19.00	0.07	0.040	(0.118)	0.036	0.004
229	19.08	0.10	0.060	(0.117)	0.054	0.006
230	19.17	0.10	0.060	(0.117)	0.054	0.006
231	19.25	0.10	0.060	(0.116)	0.054	0.006
232	19.33	0.13	0.080	(0.116)	0.072	0.008
233	19.42	0.13	0.080	(0.115)	0.072	0.008
234	19.50	0.13	0.080	(0.115)	0.072	0.008
235	19.58	0.10	0.060	(0.114)	0.054	0.006
236	19.67	0.10	0.060	(0.114)	0.054	0.006
237	19.75	0.10	0.060	(0.113)	0.054	0.006
238	19.83	0.07	0.040	(0.113)	0.036	0.004
239	19.92	0.07	0.040	(0.112)	0.036	0.004
240	20.00	0.07	0.040	(0.112)	0.036	0.004
241	20.08	0.10	0.060	(0.111)	0.054	0.006
242	20.17	0.10	0.060	(0.111)	0.054	0.006
243	20.25	0.10	0.060	(0.110)	0.054	0.006
244	20.33	0.10	0.060	(0.110)	0.054	0.006
245	20.42	0.10	0.060	(0.109)	0.054	0.006
246	20.50	0.10	0.060	(0.109)	0.054	0.006
247	20.58	0.10	0.060	(0.108)	0.054	0.006

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248  20.67     0.10      0.060       (  0.108)       0.054        0.006
249  20.75     0.10      0.060       (  0.107)       0.054        0.006
250  20.83     0.07      0.040       (  0.107)       0.036        0.004
251  20.92     0.07      0.040       (  0.106)       0.036        0.004
252  21.00     0.07      0.040       (  0.106)       0.036        0.004
253  21.08     0.10      0.060       (  0.106)       0.054        0.006
254  21.17     0.10      0.060       (  0.105)       0.054        0.006
255  21.25     0.10      0.060       (  0.105)       0.054        0.006
256  21.33     0.07      0.040       (  0.104)       0.036        0.004
257  21.42     0.07      0.040       (  0.104)       0.036        0.004
258  21.50     0.07      0.040       (  0.104)       0.036        0.004
259  21.58     0.10      0.060       (  0.103)       0.054        0.006
260  21.67     0.10      0.060       (  0.103)       0.054        0.006
261  21.75     0.10      0.060       (  0.102)       0.054        0.006
262  21.83     0.07      0.040       (  0.102)       0.036        0.004
263  21.92     0.07      0.040       (  0.102)       0.036        0.004
264  22.00     0.07      0.040       (  0.101)       0.036        0.004
265  22.08     0.10      0.060       (  0.101)       0.054        0.006
266  22.17     0.10      0.060       (  0.101)       0.054        0.006
267  22.25     0.10      0.060       (  0.100)       0.054        0.006
268  22.33     0.07      0.040       (  0.100)       0.036        0.004
269  22.42     0.07      0.040       (  0.100)       0.036        0.004
270  22.50     0.07      0.040       (  0.100)       0.036        0.004
271  22.58     0.07      0.040       (  0.099)       0.036        0.004
272  22.67     0.07      0.040       (  0.099)       0.036        0.004
273  22.75     0.07      0.040       (  0.099)       0.036        0.004
274  22.83     0.07      0.040       (  0.098)       0.036        0.004
275  22.92     0.07      0.040       (  0.098)       0.036        0.004
276  23.00     0.07      0.040       (  0.098)       0.036        0.004
277  23.08     0.07      0.040       (  0.098)       0.036        0.004
278  23.17     0.07      0.040       (  0.097)       0.036        0.004
279  23.25     0.07      0.040       (  0.097)       0.036        0.004
280  23.33     0.07      0.040       (  0.097)       0.036        0.004
281  23.42     0.07      0.040       (  0.097)       0.036        0.004
282  23.50     0.07      0.040       (  0.097)       0.036        0.004
283  23.58     0.07      0.040       (  0.097)       0.036        0.004
284  23.67     0.07      0.040       (  0.096)       0.036        0.004
285  23.75     0.07      0.040       (  0.096)       0.036        0.004
286  23.83     0.07      0.040       (  0.096)       0.036        0.004
287  23.92     0.07      0.040       (  0.096)       0.036        0.004
288  24.00     0.07      0.040       (  0.096)       0.036        0.004
                (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    26.4
       Flood volume = Effective rainfall      2.20(In)
        times area      15.5(Ac.)/[(In)/(Ft.)] =       2.8(Ac.Ft)
       Total soil loss =      2.80(In)
       Total soil loss =     3.619(Ac.Ft)
       Total rainfall =      5.00(In)
       Flood volume =      123672.9 Cubic Feet
       Total soil loss =      157643.6 Cubic Feet
       ---------------------------------------------------------------------
```

Peak flow rate of this hydrograph = 7.983(CFS)

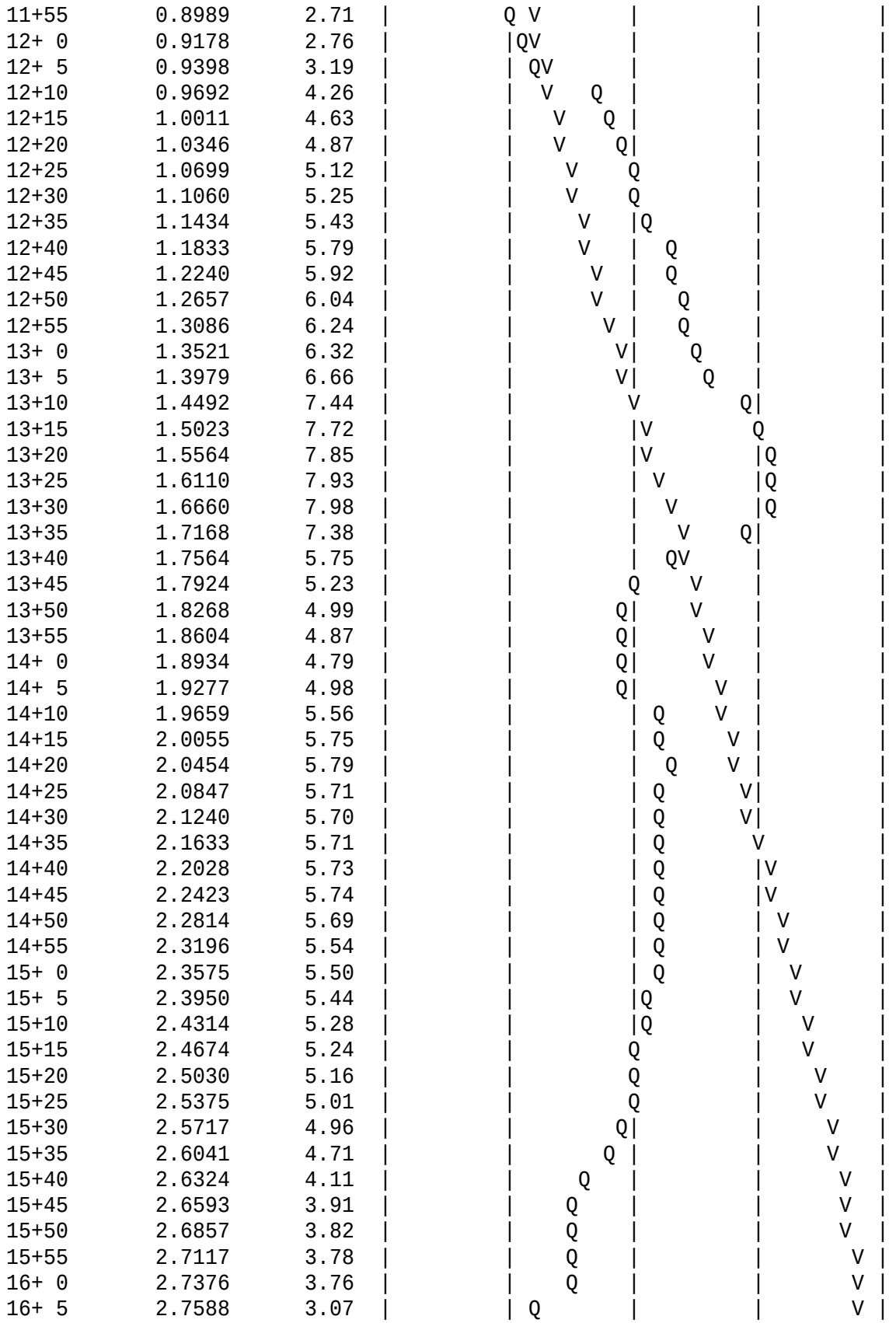
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0004	0.04	Q				
0+15	0.0007	0.05	Q				
0+20	0.0012	0.06	Q				
0+25	0.0017	0.08	Q				
0+30	0.0023	0.09	Q				
0+35	0.0029	0.09	Q				
0+40	0.0035	0.09	Q				
0+45	0.0042	0.09	Q				
0+50	0.0049	0.10	Q				
0+55	0.0057	0.11	Q				
1+ 0	0.0065	0.12	Q				
1+ 5	0.0073	0.12	Q				
1+10	0.0080	0.10	Q				
1+15	0.0087	0.10	Q				
1+20	0.0093	0.10	Q				
1+25	0.0100	0.10	Q				
1+30	0.0106	0.09	Q				
1+35	0.0113	0.09	Q				
1+40	0.0119	0.09	Q				
1+45	0.0126	0.09	Q				
1+50	0.0133	0.10	Q				
1+55	0.0140	0.11	Q				
2+ 0	0.0149	0.12	Q				
2+ 5	0.0157	0.12	Q				
2+10	0.0166	0.12	Q				
2+15	0.0174	0.12	Q				
2+20	0.0183	0.12	Q				
2+25	0.0191	0.12	Q				
2+30	0.0200	0.13	Q				
2+35	0.0209	0.13	Q				
2+40	0.0219	0.15	Q				
2+45	0.0229	0.15	Q				
2+50	0.0240	0.15	Q				
2+55	0.0251	0.15	Q				
3+ 0	0.0261	0.16	Q				
3+ 5	0.0272	0.16	Q				
3+10	0.0283	0.16	Q				
3+15	0.0293	0.16	Q				
3+20	0.0304	0.16	Q				

3+25	0.0315	0.16	Q	|	|	|	|
3+30	0.0326	0.16	Q	|	|	|	|
3+35	0.0337	0.16	Q	|	|	|	|
3+40	0.0347	0.16	Q	|	|	|	|
3+45	0.0358	0.16	Q	|	|	|	|
3+50	0.0369	0.16	Q	|	|	|	|
3+55	0.0381	0.18	Q	|	|	|	|
4+ 0	0.0394	0.18	Q	|	|	|	|
4+ 5	0.0407	0.18	Q	|	|	|	|
4+10	0.0419	0.19	Q	|	|	|	|
4+15	0.0432	0.19	Q	|	|	|	|
4+20	0.0446	0.19	Q	|	|	|	|
4+25	0.0460	0.21	Q	|	|	|	|
4+30	0.0475	0.21	Q	|	|	|	|
4+35	0.0489	0.22	Q	|	|	|	|
4+40	0.0504	0.22	Q	|	|	|	|
4+45	0.0519	0.22	Q	|	|	|	|
4+50	0.0535	0.22	Q	|	|	|	|
4+55	0.0551	0.24	Q	|	|	|	|
5+ 0	0.0568	0.24	Q	|	|	|	|
5+ 5	0.0584	0.24	Q	|	|	|	|
5+10	0.0599	0.21	Q	|	|	|	|
5+15	0.0612	0.20	Q	|	|	|	|
5+20	0.0626	0.20	Q	|	|	|	|
5+25	0.0641	0.21	Q	|	|	|	|
5+30	0.0655	0.22	Q	|	|	|	|
5+35	0.0671	0.22	Q	|	|	|	|
5+40	0.0687	0.24	Q	|	|	|	|
5+45	0.0704	0.24	Q	|	|	|	|
5+50	0.0721	0.25	QV	|	|	|	|
5+55	0.0738	0.25	QV	|	|	|	|
6+ 0	0.0755	0.25	QV	|	|	|	|
6+ 5	0.0773	0.26	|Q	|	|	|	|
6+10	0.0791	0.27	|Q	|	|	|	|
6+15	0.0810	0.28	|Q	|	|	|	|
6+20	0.0829	0.28	|Q	|	|	|	|
6+25	0.0849	0.28	|Q	|	|	|	|
6+30	0.0868	0.28	|Q	|	|	|	|
6+35	0.0888	0.29	|Q	|	|	|	|
6+40	0.0909	0.30	|Q	|	|	|	|
6+45	0.0930	0.31	|Q	|	|	|	|
6+50	0.0951	0.31	|Q	|	|	|	|
6+55	0.0972	0.31	|Q	|	|	|	|
7+ 0	0.0994	0.31	|Q	|	|	|	|
7+ 5	0.1015	0.31	|Q	|	|	|	|
7+10	0.1037	0.31	|Q	|	|	|	|
7+15	0.1058	0.31	|Q	|	|	|	|
7+20	0.1080	0.32	|Q	|	|	|	|
7+25	0.1103	0.33	|Q	|	|	|	|
7+30	0.1127	0.34	|Q	|	|	|	|
7+35	0.1150	0.35	|Q	|	|	|	|

```
 7+40       0.1175      0.36  |Q        |         |         |         |
 7+45       0.1201      0.37  |Q        |         |         |         |
 7+50       0.1228      0.39  |Q        |         |         |         |
 7+55       0.1258      0.44  |Q        |         |         |         |
 8+ 0       0.1291      0.47  |Q        |         |         |         |
 8+ 5       0.1333      0.61  |VQ       |         |         |         |
 8+10       0.1397      0.93  |V Q      |         |         |         |
 8+15       0.1469      1.05  | V Q     |         |         |         |
 8+20       0.1546      1.11  | V Q     |         |         |         |
 8+25       0.1626      1.15  | V Q     |         |         |         |
 8+30       0.1707      1.19  | V Q     |         |         |         |
 8+35       0.1795      1.27  | V  Q    |         |         |         |
 8+40       0.1895      1.45  | V  Q    |         |         |         |
 8+45       0.1999      1.52  | V   Q   |         |         |         |
 8+50       0.2110      1.61  | V   Q   |         |         |         |
 8+55       0.2234      1.79  |  V   Q  |         |         |         |
 9+ 0       0.2362      1.87  |  V   Q  |         |         |         |
 9+ 5       0.2502      2.03  |  V    Q |         |         |         |
 9+10       0.2664      2.36  |  V     Q|         |         |         |
 9+15       0.2835      2.49  |  V     Q|         |         |         |
 9+20       0.3015      2.61  |   V     Q         |         |         |
 9+25       0.3208      2.81  |   V     |Q        |         |         |
 9+30       0.3407      2.89  |   V     |Q        |         |         |
 9+35       0.3614      3.00  |    V    |Q        |         |         |
 9+40       0.3833      3.18  |    V    | Q       |         |         |
 9+45       0.4057      3.26  |    V    |  Q      |         |         |
 9+50       0.4289      3.36  |     V   |  Q      |         |         |
 9+55       0.4533      3.54  |     V   |   Q     |         |         |
10+ 0       0.4782      3.62  |     V   |   Q     |         |         |
10+ 5       0.5006      3.25  |      V  |  Q      |         |         |
10+10       0.5160      2.23  |      VQ |         |         |         |
10+15       0.5291      1.91  |      Q  |         |         |         |
10+20       0.5413      1.77  |      Q  |         |         |         |
10+25       0.5530      1.70  |     QV  |         |         |         |
10+30       0.5644      1.66  |     QV  |         |         |         |
10+35       0.5777      1.93  |      QV |         |         |         |
10+40       0.5961      2.68  |       V Q         |         |         |
10+45       0.6163      2.93  |       V |Q        |         |         |
10+50       0.6373      3.05  |       V | Q       |         |         |
10+55       0.6589      3.13  |        V| Q       |         |         |
11+ 0       0.6808      3.19  |        V| Q       |         |         |
11+ 5       0.7026      3.17  |        V| Q       |         |         |
11+10       0.7236      3.05  |         V Q       |         |         |
11+15       0.7445      3.02  |         V Q       |         |         |
11+20       0.7652      3.02  |         V Q       |         |         |
11+25       0.7860      3.02  |         |VQ       |         |         |
11+30       0.8069      3.02  |         |VQ       |         |         |
11+35       0.8269      2.92  |         |Q        |         |         |
11+40       0.8450      2.63  |         QV        |         |         |
11+45       0.8625      2.54  |         Q V       |         |         |
11+50       0.8802      2.57  |         Q V       |         |         |
```



16+10	2.7679	1.32	| Q |			V |
16+15	2.7730	0.74	| Q	|	|	| V|
16+20	2.7764	0.49	|Q	|	|	| V|
16+25	2.7787	0.34	|Q	|	|	| V|
16+30	2.7804	0.25	Q	|	|	| V|
16+35	2.7816	0.18	Q	|	|	| V|
16+40	2.7825	0.13	Q	|	|	| V|
16+45	2.7832	0.10	Q	|	|	| V|
16+50	2.7839	0.10	Q	|	|	| V|
16+55	2.7845	0.10	Q	|	|	| V|
17+ 0	2.7852	0.09	Q	|	|	| V|
17+ 5	2.7859	0.11	Q	|	|	| V|
17+10	2.7869	0.14	Q	|	|	| V|
17+15	2.7879	0.15	Q	|	|	| V|
17+20	2.7889	0.15	Q	|	|	| V|
17+25	2.7899	0.15	Q	|	|	| V|
17+30	2.7910	0.15	Q	|	|	| V|
17+35	2.7921	0.16	Q	|	|	| V|
17+40	2.7931	0.16	Q	|	|	| V|
17+45	2.7942	0.16	Q	|	|	| V|
17+50	2.7953	0.15	Q	|	|	| V|
17+55	2.7962	0.14	Q	|	|	| V|
18+ 0	2.7971	0.13	Q	|	|	| V|
18+ 5	2.7980	0.13	Q	|	|	| V|
18+10	2.7988	0.13	Q	|	|	| V|
18+15	2.7997	0.13	Q	|	|	| V|
18+20	2.8006	0.13	Q	|	|	| V|
18+25	2.8014	0.13	Q	|	|	| V|
18+30	2.8023	0.13	Q	|	|	| V|
18+35	2.8031	0.12	Q	|	|	| V|
18+40	2.8038	0.10	Q	|	|	| V|
18+45	2.8045	0.10	Q	|	|	| V|
18+50	2.8051	0.09	Q	|	|	| V|
18+55	2.8057	0.07	Q	|	|	| V|
19+ 0	2.8061	0.07	Q	|	|	| V|
19+ 5	2.8066	0.07	Q	|	|	| V|
19+10	2.8072	0.09	Q	|	|	| V|
19+15	2.8078	0.09	Q	|	|	| V|
19+20	2.8085	0.10	Q	|	|	| V|
19+25	2.8093	0.11	Q	|	|	| V|
19+30	2.8101	0.12	Q	|	|	| V|
19+35	2.8109	0.12	Q	|	|	| V|
19+40	2.8116	0.10	Q	|	|	| V|
19+45	2.8123	0.10	Q	|	|	| V|
19+50	2.8129	0.09	Q	|	|	| V|
19+55	2.8134	0.07	Q	|	|	| V|
20+ 0	2.8139	0.07	Q	|	|	| V|
20+ 5	2.8144	0.07	Q	|	|	| V|
20+10	2.8150	0.09	Q	|	|	| V|
20+15	2.8156	0.09	Q	|	|	| V|
20+20	2.8162	0.09	Q	|	|	| V|

20+25	2.8168	0.09	Q	|	|	|	V|
20+30	2.8175	0.09	Q	|	|	|	V|
20+35	2.8181	0.09	Q	|	|	|	V|
20+40	2.8188	0.09	Q	|	|	|	V|
20+45	2.8194	0.09	Q	|	|	|	V|
20+50	2.8200	0.09	Q	|	|	|	V|
20+55	2.8205	0.07	Q	|	|	|	V|
21+ 0	2.8210	0.07	Q	|	|	|	V|
21+ 5	2.8215	0.07	Q	|	|	|	V|
21+10	2.8221	0.09	Q	|	|	|	V|
21+15	2.8227	0.09	Q	|	|	|	V|
21+20	2.8233	0.09	Q	|	|	|	V|
21+25	2.8238	0.07	Q	|	|	|	V|
21+30	2.8242	0.07	Q	|	|	|	V|
21+35	2.8247	0.07	Q	|	|	|	V|
21+40	2.8253	0.09	Q	|	|	|	V|
21+45	2.8259	0.09	Q	|	|	|	V|
21+50	2.8265	0.09	Q	|	|	|	V|
21+55	2.8270	0.07	Q	|	|	|	V|
22+ 0	2.8275	0.07	Q	|	|	|	V|
22+ 5	2.8279	0.07	Q	|	|	|	V|
22+10	2.8285	0.09	Q	|	|	|	V|
22+15	2.8291	0.09	Q	|	|	|	V|
22+20	2.8297	0.09	Q	|	|	|	V|
22+25	2.8302	0.07	Q	|	|	|	V|
22+30	2.8307	0.07	Q	|	|	|	V|
22+35	2.8311	0.07	Q	|	|	|	V|
22+40	2.8316	0.06	Q	|	|	|	V|
22+45	2.8320	0.06	Q	|	|	|	V|
22+50	2.8324	0.06	Q	|	|	|	V|
22+55	2.8329	0.06	Q	|	|	|	V|
23+ 0	2.8333	0.06	Q	|	|	|	V|
23+ 5	2.8337	0.06	Q	|	|	|	V|
23+10	2.8342	0.06	Q	|	|	|	V|
23+15	2.8346	0.06	Q	|	|	|	V|
23+20	2.8350	0.06	Q	|	|	|	V|
23+25	2.8355	0.06	Q	|	|	|	V|
23+30	2.8359	0.06	Q	|	|	|	V|
23+35	2.8363	0.06	Q	|	|	|	V|
23+40	2.8368	0.06	Q	|	|	|	V|
23+45	2.8372	0.06	Q	|	|	|	V|
23+50	2.8376	0.06	Q	|	|	|	V|
23+55	2.8380	0.06	Q	|	|	|	V|
24+ 0	2.8385	0.06	Q	|	|	|	V|
24+ 5	2.8388	0.05	Q	|	|	|	V|
24+10	2.8390	0.02	Q	|	|	|	V|
24+15	2.8390	0.01	Q	|	|	|	V|
24+20	2.8391	0.01	Q	|	|	|	V|
24+25	2.8391	0.00	Q	|	|	|	V|
24+30	2.8391	0.00	Q	|	|	|	V|
24+35	2.8391	0.00	Q	|	|	|	V|

```
   24+40        2.8391      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Study date 06/07/22 File: EXISTINGD24100.out

++

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
EXISTING BASIN D
06/07/2022 RRO

Drainage Area = 4.43(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.43(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 745.70(Ft.)
Length along longest watercourse measured to centroid = 481.80(Ft.)
Length along longest watercourse = 0.141 Mi.
Length along longest watercourse measured to centroid = 0.091 Mi.
Difference in elevation = 43.00(Ft.)
Slope along watercourse = 304.4656 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.046 Hr.
Lag time = 2.79 Min.
25% of lag time = 0.70 Min.
40% of lag time = 1.12 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]
        4.43            2.00                  8.86

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.43            5.00                 22.15

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.430           69.00         0.010
 Total Area Entered =      4.43(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  84.4      0.194     0.010        0.192       1.000      0.192
                                                 Sum (F) =   0.192
Area averaged mean soil loss (F) (In/Hr) =  0.192
Minimum soil loss rate ((In/Hr)) =  0.096
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

                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        179.265         39.577              1.767
    2   0.167        358.531         44.839              2.002
    3   0.250        537.796          9.693              0.433
    4   0.333        717.062          3.980              0.178
    5   0.417        896.327          1.911              0.085
                              Sum = 100.000   Sum=       4.465
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 The following loss rate calculations reflect use of the minimum calculated loss
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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) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.341)	0.036	0.004
2	0.17	0.07	0.040	(0.339)	0.036	0.004
3	0.25	0.07	0.040	(0.338)	0.036	0.004
4	0.33	0.10	0.060	(0.337)	0.054	0.006
5	0.42	0.10	0.060	(0.335)	0.054	0.006
6	0.50	0.10	0.060	(0.334)	0.054	0.006
7	0.58	0.10	0.060	(0.333)	0.054	0.006
8	0.67	0.10	0.060	(0.331)	0.054	0.006
9	0.75	0.10	0.060	(0.330)	0.054	0.006
10	0.83	0.13	0.080	(0.329)	0.072	0.008
11	0.92	0.13	0.080	(0.327)	0.072	0.008
12	1.00	0.13	0.080	(0.326)	0.072	0.008
13	1.08	0.10	0.060	(0.325)	0.054	0.006
14	1.17	0.10	0.060	(0.324)	0.054	0.006
15	1.25	0.10	0.060	(0.322)	0.054	0.006
16	1.33	0.10	0.060	(0.321)	0.054	0.006
17	1.42	0.10	0.060	(0.320)	0.054	0.006
18	1.50	0.10	0.060	(0.318)	0.054	0.006
19	1.58	0.10	0.060	(0.317)	0.054	0.006
20	1.67	0.10	0.060	(0.316)	0.054	0.006
21	1.75	0.10	0.060	(0.315)	0.054	0.006
22	1.83	0.13	0.080	(0.313)	0.072	0.008
23	1.92	0.13	0.080	(0.312)	0.072	0.008
24	2.00	0.13	0.080	(0.311)	0.072	0.008
25	2.08	0.13	0.080	(0.310)	0.072	0.008
26	2.17	0.13	0.080	(0.308)	0.072	0.008
27	2.25	0.13	0.080	(0.307)	0.072	0.008
28	2.33	0.13	0.080	(0.306)	0.072	0.008
29	2.42	0.13	0.080	(0.305)	0.072	0.008
30	2.50	0.13	0.080	(0.303)	0.072	0.008
31	2.58	0.17	0.100	(0.302)	0.090	0.010
32	2.67	0.17	0.100	(0.301)	0.090	0.010
33	2.75	0.17	0.100	(0.300)	0.090	0.010
34	2.83	0.17	0.100	(0.298)	0.090	0.010
35	2.92	0.17	0.100	(0.297)	0.090	0.010
36	3.00	0.17	0.100	(0.296)	0.090	0.010
37	3.08	0.17	0.100	(0.295)	0.090	0.010
38	3.17	0.17	0.100	(0.294)	0.090	0.010
39	3.25	0.17	0.100	(0.292)	0.090	0.010
40	3.33	0.17	0.100	(0.291)	0.090	0.010
41	3.42	0.17	0.100	(0.290)	0.090	0.010
42	3.50	0.17	0.100	(0.289)	0.090	0.010
43	3.58	0.17	0.100	(0.287)	0.090	0.010
44	3.67	0.17	0.100	(0.286)	0.090	0.010
45	3.75	0.17	0.100	(0.285)	0.090	0.010
46	3.83	0.20	0.120	(0.284)	0.108	0.012
47	3.92	0.20	0.120	(0.283)	0.108	0.012

48	4.00	0.20	0.120	(0.281)	0.108	0.012
49	4.08	0.20	0.120	(0.280)	0.108	0.012
50	4.17	0.20	0.120	(0.279)	0.108	0.012
51	4.25	0.20	0.120	(0.278)	0.108	0.012
52	4.33	0.23	0.140	(0.277)	0.126	0.014
53	4.42	0.23	0.140	(0.275)	0.126	0.014
54	4.50	0.23	0.140	(0.274)	0.126	0.014
55	4.58	0.23	0.140	(0.273)	0.126	0.014
56	4.67	0.23	0.140	(0.272)	0.126	0.014
57	4.75	0.23	0.140	(0.271)	0.126	0.014
58	4.83	0.27	0.160	(0.270)	0.144	0.016
59	4.92	0.27	0.160	(0.268)	0.144	0.016
60	5.00	0.27	0.160	(0.267)	0.144	0.016
61	5.08	0.20	0.120	(0.266)	0.108	0.012
62	5.17	0.20	0.120	(0.265)	0.108	0.012
63	5.25	0.20	0.120	(0.264)	0.108	0.012
64	5.33	0.23	0.140	(0.263)	0.126	0.014
65	5.42	0.23	0.140	(0.262)	0.126	0.014
66	5.50	0.23	0.140	(0.260)	0.126	0.014
67	5.58	0.27	0.160	(0.259)	0.144	0.016
68	5.67	0.27	0.160	(0.258)	0.144	0.016
69	5.75	0.27	0.160	(0.257)	0.144	0.016
70	5.83	0.27	0.160	(0.256)	0.144	0.016
71	5.92	0.27	0.160	(0.255)	0.144	0.016
72	6.00	0.27	0.160	(0.254)	0.144	0.016
73	6.08	0.30	0.180	(0.252)	0.162	0.018
74	6.17	0.30	0.180	(0.251)	0.162	0.018
75	6.25	0.30	0.180	(0.250)	0.162	0.018
76	6.33	0.30	0.180	(0.249)	0.162	0.018
77	6.42	0.30	0.180	(0.248)	0.162	0.018
78	6.50	0.30	0.180	(0.247)	0.162	0.018
79	6.58	0.33	0.200	(0.246)	0.180	0.020
80	6.67	0.33	0.200	(0.245)	0.180	0.020
81	6.75	0.33	0.200	(0.244)	0.180	0.020
82	6.83	0.33	0.200	(0.242)	0.180	0.020
83	6.92	0.33	0.200	(0.241)	0.180	0.020
84	7.00	0.33	0.200	(0.240)	0.180	0.020
85	7.08	0.33	0.200	(0.239)	0.180	0.020
86	7.17	0.33	0.200	(0.238)	0.180	0.020
87	7.25	0.33	0.200	(0.237)	0.180	0.020
88	7.33	0.37	0.220	(0.236)	0.198	0.022
89	7.42	0.37	0.220	(0.235)	0.198	0.022
90	7.50	0.37	0.220	(0.234)	0.198	0.022
91	7.58	0.40	0.240	(0.233)	0.216	0.024
92	7.67	0.40	0.240	(0.232)	0.216	0.024
93	7.75	0.40	0.240	(0.231)	0.216	0.024
94	7.83	0.43	0.260	0.229	(0.234)	0.031
95	7.92	0.43	0.260	0.228	(0.234)	0.032
96	8.00	0.43	0.260	0.227	(0.234)	0.033
97	8.08	0.50	0.300	0.226	(0.270)	0.074
98	8.17	0.50	0.300	0.225	(0.270)	0.075

99	8.25	0.50	0.300	0.224	(	0.270)	0.076
100	8.33	0.50	0.300	0.223	(	0.270)	0.077
101	8.42	0.50	0.300	0.222	(	0.270)	0.078
102	8.50	0.50	0.300	0.221	(	0.270)	0.079
103	8.58	0.53	0.320	0.220	(	0.288)	0.100
104	8.67	0.53	0.320	0.219	(	0.288)	0.101
105	8.75	0.53	0.320	0.218	(	0.288)	0.102
106	8.83	0.57	0.340	0.217	(	0.306)	0.123
107	8.92	0.57	0.340	0.216	(	0.306)	0.124
108	9.00	0.57	0.340	0.215	(	0.306)	0.125
109	9.08	0.63	0.380	0.214	(	0.342)	0.166
110	9.17	0.63	0.380	0.213	(	0.342)	0.167
111	9.25	0.63	0.380	0.212	(	0.342)	0.168
112	9.33	0.67	0.400	0.211	(	0.360)	0.189
113	9.42	0.67	0.400	0.210	(	0.360)	0.190
114	9.50	0.67	0.400	0.209	(	0.360)	0.191
115	9.58	0.70	0.420	0.208	(	0.378)	0.212
116	9.67	0.70	0.420	0.207	(	0.378)	0.213
117	9.75	0.70	0.420	0.206	(	0.378)	0.214
118	9.83	0.73	0.440	0.205	(	0.396)	0.235
119	9.92	0.73	0.440	0.204	(	0.396)	0.236
120	10.00	0.73	0.440	0.203	(	0.396)	0.237
121	10.08	0.50	0.300	0.202	(	0.270)	0.098
122	10.17	0.50	0.300	0.201	(	0.270)	0.099
123	10.25	0.50	0.300	0.200	(	0.270)	0.100
124	10.33	0.50	0.300	0.199	(	0.270)	0.101
125	10.42	0.50	0.300	0.198	(	0.270)	0.102
126	10.50	0.50	0.300	0.197	(	0.270)	0.103
127	10.58	0.67	0.400	0.196	(	0.360)	0.204
128	10.67	0.67	0.400	0.195	(	0.360)	0.205
129	10.75	0.67	0.400	0.194	(	0.360)	0.206
130	10.83	0.67	0.400	0.193	(	0.360)	0.207
131	10.92	0.67	0.400	0.192	(	0.360)	0.208
132	11.00	0.67	0.400	0.191	(	0.360)	0.209
133	11.08	0.63	0.380	0.190	(	0.342)	0.190
134	11.17	0.63	0.380	0.189	(	0.342)	0.191
135	11.25	0.63	0.380	0.188	(	0.342)	0.192
136	11.33	0.63	0.380	0.188	(	0.342)	0.192
137	11.42	0.63	0.380	0.187	(	0.342)	0.193
138	11.50	0.63	0.380	0.186	(	0.342)	0.194
139	11.58	0.57	0.340	0.185	(	0.306)	0.155
140	11.67	0.57	0.340	0.184	(	0.306)	0.156
141	11.75	0.57	0.340	0.183	(	0.306)	0.157
142	11.83	0.60	0.360	0.182	(	0.324)	0.178
143	11.92	0.60	0.360	0.181	(	0.324)	0.179
144	12.00	0.60	0.360	0.180	(	0.324)	0.180
145	12.08	0.83	0.500	0.179	(	0.450)	0.321
146	12.17	0.83	0.500	0.178	(	0.450)	0.322
147	12.25	0.83	0.500	0.178	(	0.450)	0.322
148	12.33	0.87	0.520	0.177	(	0.468)	0.343
149	12.42	0.87	0.520	0.176	(	0.468)	0.344

150	12.50	0.87	0.520	0.175	(0.468)	0.345
151	12.58	0.93	0.560	0.174	(0.504)	0.386
152	12.67	0.93	0.560	0.173	(0.504)	0.387
153	12.75	0.93	0.560	0.172	(0.504)	0.388
154	12.83	0.97	0.580	0.171	(0.522)	0.409
155	12.92	0.97	0.580	0.170	(0.522)	0.409
156	13.00	0.97	0.580	0.170	(0.522)	0.410
157	13.08	1.13	0.680	0.169	(0.612)	0.511
158	13.17	1.13	0.680	0.168	(0.612)	0.512
159	13.25	1.13	0.680	0.167	(0.612)	0.513
160	13.33	1.13	0.680	0.166	(0.612)	0.514
161	13.42	1.13	0.680	0.165	(0.612)	0.515
162	13.50	1.13	0.680	0.165	(0.612)	0.515
163	13.58	0.77	0.460	0.164	(0.414)	0.296
164	13.67	0.77	0.460	0.163	(0.414)	0.297
165	13.75	0.77	0.460	0.162	(0.414)	0.298
166	13.83	0.77	0.460	0.161	(0.414)	0.299
167	13.92	0.77	0.460	0.160	(0.414)	0.300
168	14.00	0.77	0.460	0.160	(0.414)	0.300
169	14.08	0.90	0.540	0.159	(0.486)	0.381
170	14.17	0.90	0.540	0.158	(0.486)	0.382
171	14.25	0.90	0.540	0.157	(0.486)	0.383
172	14.33	0.87	0.520	0.156	(0.468)	0.364
173	14.42	0.87	0.520	0.156	(0.468)	0.364
174	14.50	0.87	0.520	0.155	(0.468)	0.365
175	14.58	0.87	0.520	0.154	(0.468)	0.366
176	14.67	0.87	0.520	0.153	(0.468)	0.367
177	14.75	0.87	0.520	0.152	(0.468)	0.368
178	14.83	0.83	0.500	0.152	(0.450)	0.348
179	14.92	0.83	0.500	0.151	(0.450)	0.349
180	15.00	0.83	0.500	0.150	(0.450)	0.350
181	15.08	0.80	0.480	0.149	(0.432)	0.331
182	15.17	0.80	0.480	0.148	(0.432)	0.331
183	15.25	0.80	0.480	0.148	(0.432)	0.332
184	15.33	0.77	0.460	0.147	(0.414)	0.313
185	15.42	0.77	0.460	0.146	(0.414)	0.314
186	15.50	0.77	0.460	0.145	(0.414)	0.315
187	15.58	0.63	0.380	0.145	(0.342)	0.235
188	15.67	0.63	0.380	0.144	(0.342)	0.236
189	15.75	0.63	0.380	0.143	(0.342)	0.237
190	15.83	0.63	0.380	0.143	(0.342)	0.237
191	15.92	0.63	0.380	0.142	(0.342)	0.238
192	16.00	0.63	0.380	0.141	(0.342)	0.239
193	16.08	0.13	0.080	(0.140)	0.072	0.008
194	16.17	0.13	0.080	(0.140)	0.072	0.008
195	16.25	0.13	0.080	(0.139)	0.072	0.008
196	16.33	0.13	0.080	(0.138)	0.072	0.008
197	16.42	0.13	0.080	(0.138)	0.072	0.008
198	16.50	0.13	0.080	(0.137)	0.072	0.008
199	16.58	0.10	0.060	(0.136)	0.054	0.006
200	16.67	0.10	0.060	(0.135)	0.054	0.006

201	16.75	0.10	0.060	(0.135)	0.054	0.006
202	16.83	0.10	0.060	(0.134)	0.054	0.006
203	16.92	0.10	0.060	(0.133)	0.054	0.006
204	17.00	0.10	0.060	(0.133)	0.054	0.006
205	17.08	0.17	0.100	(0.132)	0.090	0.010
206	17.17	0.17	0.100	(0.131)	0.090	0.010
207	17.25	0.17	0.100	(0.131)	0.090	0.010
208	17.33	0.17	0.100	(0.130)	0.090	0.010
209	17.42	0.17	0.100	(0.129)	0.090	0.010
210	17.50	0.17	0.100	(0.129)	0.090	0.010
211	17.58	0.17	0.100	(0.128)	0.090	0.010
212	17.67	0.17	0.100	(0.127)	0.090	0.010
213	17.75	0.17	0.100	(0.127)	0.090	0.010
214	17.83	0.13	0.080	(0.126)	0.072	0.008
215	17.92	0.13	0.080	(0.126)	0.072	0.008
216	18.00	0.13	0.080	(0.125)	0.072	0.008
217	18.08	0.13	0.080	(0.124)	0.072	0.008
218	18.17	0.13	0.080	(0.124)	0.072	0.008
219	18.25	0.13	0.080	(0.123)	0.072	0.008
220	18.33	0.13	0.080	(0.123)	0.072	0.008
221	18.42	0.13	0.080	(0.122)	0.072	0.008
222	18.50	0.13	0.080	(0.121)	0.072	0.008
223	18.58	0.10	0.060	(0.121)	0.054	0.006
224	18.67	0.10	0.060	(0.120)	0.054	0.006
225	18.75	0.10	0.060	(0.120)	0.054	0.006
226	18.83	0.07	0.040	(0.119)	0.036	0.004
227	18.92	0.07	0.040	(0.118)	0.036	0.004
228	19.00	0.07	0.040	(0.118)	0.036	0.004
229	19.08	0.10	0.060	(0.117)	0.054	0.006
230	19.17	0.10	0.060	(0.117)	0.054	0.006
231	19.25	0.10	0.060	(0.116)	0.054	0.006
232	19.33	0.13	0.080	(0.116)	0.072	0.008
233	19.42	0.13	0.080	(0.115)	0.072	0.008
234	19.50	0.13	0.080	(0.115)	0.072	0.008
235	19.58	0.10	0.060	(0.114)	0.054	0.006
236	19.67	0.10	0.060	(0.114)	0.054	0.006
237	19.75	0.10	0.060	(0.113)	0.054	0.006
238	19.83	0.07	0.040	(0.113)	0.036	0.004
239	19.92	0.07	0.040	(0.112)	0.036	0.004
240	20.00	0.07	0.040	(0.112)	0.036	0.004
241	20.08	0.10	0.060	(0.111)	0.054	0.006
242	20.17	0.10	0.060	(0.111)	0.054	0.006
243	20.25	0.10	0.060	(0.110)	0.054	0.006
244	20.33	0.10	0.060	(0.110)	0.054	0.006
245	20.42	0.10	0.060	(0.109)	0.054	0.006
246	20.50	0.10	0.060	(0.109)	0.054	0.006
247	20.58	0.10	0.060	(0.108)	0.054	0.006
248	20.67	0.10	0.060	(0.108)	0.054	0.006
249	20.75	0.10	0.060	(0.107)	0.054	0.006
250	20.83	0.07	0.040	(0.107)	0.036	0.004
251	20.92	0.07	0.040	(0.106)	0.036	0.004

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252  21.00     0.07      0.040       (  0.106)       0.036        0.004
253  21.08     0.10      0.060       (  0.106)       0.054        0.006
254  21.17     0.10      0.060       (  0.105)       0.054        0.006
255  21.25     0.10      0.060       (  0.105)       0.054        0.006
256  21.33     0.07      0.040       (  0.104)       0.036        0.004
257  21.42     0.07      0.040       (  0.104)       0.036        0.004
258  21.50     0.07      0.040       (  0.104)       0.036        0.004
259  21.58     0.10      0.060       (  0.103)       0.054        0.006
260  21.67     0.10      0.060       (  0.103)       0.054        0.006
261  21.75     0.10      0.060       (  0.102)       0.054        0.006
262  21.83     0.07      0.040       (  0.102)       0.036        0.004
263  21.92     0.07      0.040       (  0.102)       0.036        0.004
264  22.00     0.07      0.040       (  0.101)       0.036        0.004
265  22.08     0.10      0.060       (  0.101)       0.054        0.006
266  22.17     0.10      0.060       (  0.101)       0.054        0.006
267  22.25     0.10      0.060       (  0.100)       0.054        0.006
268  22.33     0.07      0.040       (  0.100)       0.036        0.004
269  22.42     0.07      0.040       (  0.100)       0.036        0.004
270  22.50     0.07      0.040       (  0.100)       0.036        0.004
271  22.58     0.07      0.040       (  0.099)       0.036        0.004
272  22.67     0.07      0.040       (  0.099)       0.036        0.004
273  22.75     0.07      0.040       (  0.099)       0.036        0.004
274  22.83     0.07      0.040       (  0.098)       0.036        0.004
275  22.92     0.07      0.040       (  0.098)       0.036        0.004
276  23.00     0.07      0.040       (  0.098)       0.036        0.004
277  23.08     0.07      0.040       (  0.098)       0.036        0.004
278  23.17     0.07      0.040       (  0.097)       0.036        0.004
279  23.25     0.07      0.040       (  0.097)       0.036        0.004
280  23.33     0.07      0.040       (  0.097)       0.036        0.004
281  23.42     0.07      0.040       (  0.097)       0.036        0.004
282  23.50     0.07      0.040       (  0.097)       0.036        0.004
283  23.58     0.07      0.040       (  0.097)       0.036        0.004
284  23.67     0.07      0.040       (  0.096)       0.036        0.004
285  23.75     0.07      0.040       (  0.096)       0.036        0.004
286  23.83     0.07      0.040       (  0.096)       0.036        0.004
287  23.92     0.07      0.040       (  0.096)       0.036        0.004
288  24.00     0.07      0.040       (  0.096)       0.036        0.004
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    26.4
       Flood volume = Effective rainfall      2.20(In)
        times area       4.4(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
       Total soil loss =      2.80(In)
       Total soil loss =     1.034(Ac.Ft)
       Total rainfall =      5.00(In)
       Flood volume =       35347.8 Cubic Feet
       Total soil loss =       45056.0 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      2.299(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
```

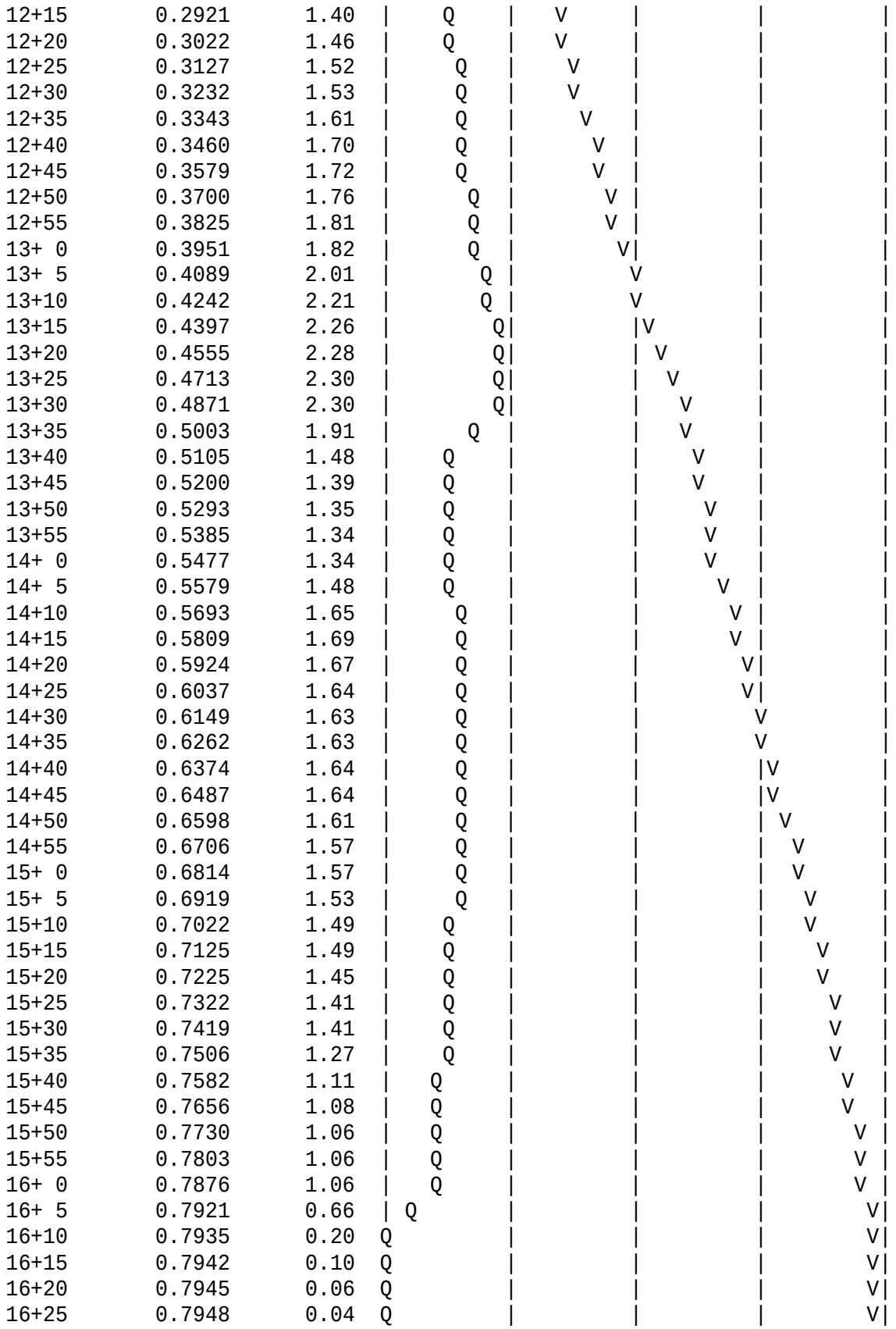
R u n o f f H y d r o g r a p h

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	0.0002	0.02	Q				
0+15	0.0003	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.03	Q				
0+30	0.0008	0.03	Q				
0+35	0.0010	0.03	Q				
0+40	0.0011	0.03	Q				
0+45	0.0013	0.03	Q				
0+50	0.0015	0.03	Q				
0+55	0.0018	0.03	Q				
1+ 0	0.0020	0.04	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	0.0032	0.03	Q				
1+35	0.0034	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	0.0042	0.03	Q				
2+ 0	0.0044	0.04	Q				
2+ 5	0.0047	0.04	Q				
2+10	0.0049	0.04	Q				
2+15	0.0051	0.04	Q				
2+20	0.0054	0.04	Q				
2+25	0.0056	0.04	Q				
2+30	0.0059	0.04	Q				
2+35	0.0062	0.04	Q				
2+40	0.0065	0.04	Q				
2+45	0.0068	0.04	Q				
2+50	0.0071	0.04	Q				
2+55	0.0074	0.04	Q				
3+ 0	0.0077	0.04	Q				
3+ 5	0.0080	0.04	Q				
3+10	0.0083	0.04	Q				
3+15	0.0086	0.04	Q				
3+20	0.0089	0.04	Q				
3+25	0.0092	0.04	Q				
3+30	0.0095	0.04	Q				
3+35	0.0098	0.04	Q				
3+40	0.0101	0.04	Q				

3+45	0.0104	0.04	Q				
3+50	0.0108	0.05	Q				
3+55	0.0111	0.05	Q				
4+ 0	0.0115	0.05	Q				
4+ 5	0.0119	0.05	Q				
4+10	0.0122	0.05	Q				
4+15	0.0126	0.05	Q				
4+20	0.0130	0.06	Q				
4+25	0.0134	0.06	Q				
4+30	0.0139	0.06	Q				
4+35	0.0143	0.06	Q				
4+40	0.0147	0.06	Q				
4+45	0.0151	0.06	Q				
4+50	0.0156	0.07	Q				
4+55	0.0161	0.07	Q				
5+ 0	0.0166	0.07	Q				
5+ 5	0.0170	0.06	Q				
5+10	0.0174	0.06	Q				
5+15	0.0178	0.05	Q				
5+20	0.0182	0.06	Q				
5+25	0.0186	0.06	Q				
5+30	0.0190	0.06	Q				
5+35	0.0195	0.07	Q				
5+40	0.0200	0.07	Q				
5+45	0.0204	0.07	QV				
5+50	0.0209	0.07	QV				
5+55	0.0214	0.07	QV				
6+ 0	0.0219	0.07	QV				
6+ 5	0.0224	0.08	QV				
6+10	0.0230	0.08	QV				
6+15	0.0235	0.08	QV				
6+20	0.0241	0.08	QV				
6+25	0.0246	0.08	QV				
6+30	0.0252	0.08	QV				
6+35	0.0258	0.08	QV				
6+40	0.0264	0.09	QV				
6+45	0.0270	0.09	QV				
6+50	0.0276	0.09	QV				
6+55	0.0282	0.09	QV				
7+ 0	0.0288	0.09	QV				
7+ 5	0.0294	0.09	QV				
7+10	0.0301	0.09	QV				
7+15	0.0307	0.09	QV				
7+20	0.0313	0.09	QV				
7+25	0.0320	0.10	QV				
7+30	0.0327	0.10	QV				
7+35	0.0334	0.10	QV				
7+40	0.0341	0.11	QV				
7+45	0.0348	0.11	QV				
7+50	0.0356	0.12	QV				
7+55	0.0366	0.13	QV				

8+ 0	0.0375	0.14	QV	|	|	|	|
8+ 5	0.0390	0.22	QV	|	|	|	|
8+10	0.0411	0.30	|QV	|	|	|	|
8+15	0.0433	0.32	|QV	|	|	|	|
8+20	0.0457	0.34	|QV	|	|	|	|
8+25	0.0480	0.34	|QV	|	|	|	|
8+30	0.0504	0.35	|QV	|	|	|	|
8+35	0.0531	0.39	|QV	|	|	|	|
8+40	0.0561	0.43	|QV	|	|	|	|
8+45	0.0592	0.45	|QV	|	|	|	|
8+50	0.0625	0.49	|Q V	|	|	|	|
8+55	0.0662	0.54	| QV	|	|	|	|
9+ 0	0.0700	0.55	| QV	|	|	|	|
9+ 5	0.0743	0.63	| QV	|	|	|	|
9+10	0.0793	0.72	| QV	|	|	|	|
9+15	0.0843	0.74	| Q V	|	|	|	|
9+20	0.0897	0.78	| QV	|	|	|	|
9+25	0.0955	0.83	| QV	|	|	|	|
9+30	0.1013	0.85	| QV	|	|	|	|
9+35	0.1074	0.89	| Q V	|	|	|	|
9+40	0.1139	0.93	| Q V	|	|	|	|
9+45	0.1204	0.95	| Q V	|	|	|	|
9+50	0.1272	0.99	| Q V	|	|	|	|
9+55	0.1343	1.04	| Q V	|	|	|	|
10+ 0	0.1416	1.05	| Q V	|	|	|	|
10+ 5	0.1472	0.81	| Q V	|	|	|	|
10+10	0.1509	0.54	| Q V	|	|	|	|
10+15	0.1542	0.48	|Q V	|	|	|	|
10+20	0.1573	0.46	|Q V	|	|	|	|
10+25	0.1604	0.45	|Q V	|	|	|	|
10+30	0.1636	0.46	|Q V |	|	|	|
10+35	0.1680	0.64	| Q V |	|	|	|
10+40	0.1738	0.84	| Q V |	|	|	|
10+45	0.1799	0.89	| Q V |	|	|	|
10+50	0.1862	0.91	| Q V|	|	|	|
10+55	0.1926	0.92	| Q V|	|	|	|
11+ 0	0.1989	0.93	| Q V|	|	|	|
11+ 5	0.2051	0.90	| Q V	|	|	|
11+10	0.2111	0.86	| Q V	|	|	|
11+15	0.2170	0.86	| Q V	|	|	|
11+20	0.2229	0.86	| Q V	|	|	|
11+25	0.2288	0.86	| Q |V	|	|	|
11+30	0.2348	0.86	| Q |V	|	|	|
11+35	0.2403	0.80	| Q |V	|	|	|
11+40	0.2452	0.72	| Q | V	|	|	|
11+45	0.2501	0.71	| Q | V	|	|	|
11+50	0.2552	0.74	| Q | V	|	|	|
11+55	0.2606	0.78	| Q | V	|	|	|
12+ 0	0.2661	0.79	| Q | V	|	|	|
12+ 5	0.2733	1.05	| Q | V	|	|	|
12+10	0.2825	1.34	| Q | V	|	|	|



16+30	0.7950	0.04	Q	|	|	|	V|
16+35	0.7952	0.03	Q	|	|	|	V|
16+40	0.7954	0.03	Q	|	|	|	V|
16+45	0.7956	0.03	Q	|	|	|	V|
16+50	0.7958	0.03	Q	|	|	|	V|
16+55	0.7960	0.03	Q	|	|	|	V|
17+ 0	0.7962	0.03	Q	|	|	|	V|
17+ 5	0.7964	0.03	Q	|	|	|	V|
17+10	0.7967	0.04	Q	|	|	|	V|
17+15	0.7970	0.04	Q	|	|	|	V|
17+20	0.7973	0.04	Q	|	|	|	V|
17+25	0.7976	0.04	Q	|	|	|	V|
17+30	0.7979	0.04	Q	|	|	|	V|
17+35	0.7982	0.04	Q	|	|	|	V|
17+40	0.7985	0.04	Q	|	|	|	V|
17+45	0.7988	0.04	Q	|	|	|	V|
17+50	0.7991	0.04	Q	|	|	|	V|
17+55	0.7994	0.04	Q	|	|	|	V|
18+ 0	0.7996	0.04	Q	|	|	|	V|
18+ 5	0.7999	0.04	Q	|	|	|	V|
18+10	0.8001	0.04	Q	|	|	|	V|
18+15	0.8004	0.04	Q	|	|	|	V|
18+20	0.8006	0.04	Q	|	|	|	V|
18+25	0.8009	0.04	Q	|	|	|	V|
18+30	0.8011	0.04	Q	|	|	|	V|
18+35	0.8013	0.03	Q	|	|	|	V|
18+40	0.8015	0.03	Q	|	|	|	V|
18+45	0.8017	0.03	Q	|	|	|	V|
18+50	0.8019	0.02	Q	|	|	|	V|
18+55	0.8020	0.02	Q	|	|	|	V|
19+ 0	0.8021	0.02	Q	|	|	|	V|
19+ 5	0.8023	0.02	Q	|	|	|	V|
19+10	0.8025	0.03	Q	|	|	|	V|
19+15	0.8026	0.03	Q	|	|	|	V|
19+20	0.8029	0.03	Q	|	|	|	V|
19+25	0.8031	0.03	Q	|	|	|	V|
19+30	0.8033	0.04	Q	|	|	|	V|
19+35	0.8036	0.03	Q	|	|	|	V|
19+40	0.8037	0.03	Q	|	|	|	V|
19+45	0.8039	0.03	Q	|	|	|	V|
19+50	0.8041	0.02	Q	|	|	|	V|
19+55	0.8042	0.02	Q	|	|	|	V|
20+ 0	0.8044	0.02	Q	|	|	|	V|
20+ 5	0.8045	0.02	Q	|	|	|	V|
20+10	0.8047	0.03	Q	|	|	|	V|
20+15	0.8049	0.03	Q	|	|	|	V|
20+20	0.8050	0.03	Q	|	|	|	V|
20+25	0.8052	0.03	Q	|	|	|	V|
20+30	0.8054	0.03	Q	|	|	|	V|
20+35	0.8056	0.03	Q	|	|	|	V|
20+40	0.8058	0.03	Q	|	|	|	V|

```
   20+45       0.8060      0.03  Q          |          |          |         V|
   20+50       0.8061      0.02  Q          |          |          |         V|
   20+55       0.8063      0.02  Q          |          |          |         V|
   21+ 0       0.8064      0.02  Q          |          |          |         V|
   21+ 5       0.8065      0.02  Q          |          |          |         V|
   21+10       0.8067      0.03  Q          |          |          |         V|
   21+15       0.8069      0.03  Q          |          |          |         V|
   21+20       0.8070      0.02  Q          |          |          |         V|
   21+25       0.8072      0.02  Q          |          |          |         V|
   21+30       0.8073      0.02  Q          |          |          |         V|
   21+35       0.8075      0.02  Q          |          |          |         V|
   21+40       0.8076      0.03  Q          |          |          |         V|
   21+45       0.8078      0.03  Q          |          |          |         V|
   21+50       0.8080      0.02  Q          |          |          |         V|
   21+55       0.8081      0.02  Q          |          |          |         V|
   22+ 0       0.8082      0.02  Q          |          |          |         V|
   22+ 5       0.8084      0.02  Q          |          |          |         V|
   22+10       0.8086      0.03  Q          |          |          |         V|
   22+15       0.8087      0.03  Q          |          |          |         V|
   22+20       0.8089      0.02  Q          |          |          |         V|
   22+25       0.8090      0.02  Q          |          |          |         V|
   22+30       0.8092      0.02  Q          |          |          |         V|
   22+35       0.8093      0.02  Q          |          |          |         V|
   22+40       0.8094      0.02  Q          |          |          |         V|
   22+45       0.8095      0.02  Q          |          |          |         V|
   22+50       0.8096      0.02  Q          |          |          |         V|
   22+55       0.8098      0.02  Q          |          |          |         V|
   23+ 0       0.8099      0.02  Q          |          |          |         V|
   23+ 5       0.8100      0.02  Q          |          |          |         V|
   23+10       0.8101      0.02  Q          |          |          |         V|
   23+15       0.8103      0.02  Q          |          |          |         V|
   23+20       0.8104      0.02  Q          |          |          |         V|
   23+25       0.8105      0.02  Q          |          |          |         V|
   23+30       0.8106      0.02  Q          |          |          |         V|
   23+35       0.8108      0.02  Q          |          |          |         V|
   23+40       0.8109      0.02  Q          |          |          |         V|
   23+45       0.8110      0.02  Q          |          |          |         V|
   23+50       0.8111      0.02  Q          |          |          |         V|
   23+55       0.8112      0.02  Q          |          |          |         V|
   24+ 0       0.8114      0.02  Q          |          |          |         V|
   24+ 5       0.8114      0.01  Q          |          |          |         V|
   24+10       0.8115      0.00  Q          |          |          |         V|
   24+15       0.8115      0.00  Q          |          |          |         V|
   24+20       0.8115      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
```

APPENDIX E

PROPOSED UNIT HYDROGRAPH

U n i t H y d r o g r a p h A n a l y s i s

Study date 12/02/22 File: proposeda24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
PROPOSED BASIN A
12/02/2022

Drainage Area = 14.80(Ac.) = 0.023 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 14.80(Ac.) = 0.023 Sq. Mi.
Length along longest watercourse = 1993.00(Ft.)
Length along longest watercourse measured to centroid = 996.50(Ft.)
Length along longest watercourse = 0.377 Mi.
Length along longest watercourse measured to centroid = 0.189 Mi.
Difference in elevation = 79.00(Ft.)
Slope along watercourse = 209.2925 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.048 Hr.
Lag time = 2.87 Min.
25% of lag time = 0.72 Min.
40% of lag time = 1.15 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]
       14.80            2.00                  29.60

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       14.80            5.00                  74.00

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    14.800           56.00         0.100
 Total Area Entered =     14.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  74.8      0.305     0.100        0.278       1.000      0.278
                                                 Sum (F) =   0.278
Area averaged mean soil loss (F) (In/Hr) =  0.278
Minimum soil loss rate ((In/Hr)) =  0.139
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.820
------------------------------------------------------------------------

                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        174.352         38.591              5.756
    2   0.167        348.704         45.196              6.741
    3   0.250        523.056          9.928              1.481
    4   0.333        697.408          4.126              0.615
    5   0.417        871.760          2.159              0.322
                              Sum = 100.000   Sum=      14.916
------------------------------------------------------------------------

 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) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.493)	0.033	0.007
2	0.17	0.07	0.040	(0.491)	0.033	0.007
3	0.25	0.07	0.040	(0.489)	0.033	0.007
4	0.33	0.10	0.060	(0.487)	0.049	0.011
5	0.42	0.10	0.060	(0.485)	0.049	0.011
6	0.50	0.10	0.060	(0.483)	0.049	0.011
7	0.58	0.10	0.060	(0.481)	0.049	0.011
8	0.67	0.10	0.060	(0.479)	0.049	0.011
9	0.75	0.10	0.060	(0.477)	0.049	0.011
10	0.83	0.13	0.080	(0.476)	0.066	0.014
11	0.92	0.13	0.080	(0.474)	0.066	0.014
12	1.00	0.13	0.080	(0.472)	0.066	0.014
13	1.08	0.10	0.060	(0.470)	0.049	0.011
14	1.17	0.10	0.060	(0.468)	0.049	0.011
15	1.25	0.10	0.060	(0.466)	0.049	0.011
16	1.33	0.10	0.060	(0.464)	0.049	0.011
17	1.42	0.10	0.060	(0.463)	0.049	0.011
18	1.50	0.10	0.060	(0.461)	0.049	0.011
19	1.58	0.10	0.060	(0.459)	0.049	0.011
20	1.67	0.10	0.060	(0.457)	0.049	0.011
21	1.75	0.10	0.060	(0.455)	0.049	0.011
22	1.83	0.13	0.080	(0.453)	0.066	0.014
23	1.92	0.13	0.080	(0.452)	0.066	0.014
24	2.00	0.13	0.080	(0.450)	0.066	0.014
25	2.08	0.13	0.080	(0.448)	0.066	0.014
26	2.17	0.13	0.080	(0.446)	0.066	0.014
27	2.25	0.13	0.080	(0.444)	0.066	0.014
28	2.33	0.13	0.080	(0.442)	0.066	0.014
29	2.42	0.13	0.080	(0.441)	0.066	0.014
30	2.50	0.13	0.080	(0.439)	0.066	0.014
31	2.58	0.17	0.100	(0.437)	0.082	0.018
32	2.67	0.17	0.100	(0.435)	0.082	0.018
33	2.75	0.17	0.100	(0.433)	0.082	0.018
34	2.83	0.17	0.100	(0.432)	0.082	0.018
35	2.92	0.17	0.100	(0.430)	0.082	0.018
36	3.00	0.17	0.100	(0.428)	0.082	0.018
37	3.08	0.17	0.100	(0.426)	0.082	0.018
38	3.17	0.17	0.100	(0.425)	0.082	0.018
39	3.25	0.17	0.100	(0.423)	0.082	0.018
40	3.33	0.17	0.100	(0.421)	0.082	0.018
41	3.42	0.17	0.100	(0.419)	0.082	0.018
42	3.50	0.17	0.100	(0.418)	0.082	0.018
43	3.58	0.17	0.100	(0.416)	0.082	0.018
44	3.67	0.17	0.100	(0.414)	0.082	0.018
45	3.75	0.17	0.100	(0.412)	0.082	0.018
46	3.83	0.20	0.120	(0.411)	0.098	0.022
47	3.92	0.20	0.120	(0.409)	0.098	0.022

48	4.00	0.20	0.120	(0.407)	0.098	0.022
49	4.08	0.20	0.120	(0.405)	0.098	0.022
50	4.17	0.20	0.120	(0.404)	0.098	0.022
51	4.25	0.20	0.120	(0.402)	0.098	0.022
52	4.33	0.23	0.140	(0.400)	0.115	0.025
53	4.42	0.23	0.140	(0.399)	0.115	0.025
54	4.50	0.23	0.140	(0.397)	0.115	0.025
55	4.58	0.23	0.140	(0.395)	0.115	0.025
56	4.67	0.23	0.140	(0.393)	0.115	0.025
57	4.75	0.23	0.140	(0.392)	0.115	0.025
58	4.83	0.27	0.160	(0.390)	0.131	0.029
59	4.92	0.27	0.160	(0.388)	0.131	0.029
60	5.00	0.27	0.160	(0.387)	0.131	0.029
61	5.08	0.20	0.120	(0.385)	0.098	0.022
62	5.17	0.20	0.120	(0.383)	0.098	0.022
63	5.25	0.20	0.120	(0.382)	0.098	0.022
64	5.33	0.23	0.140	(0.380)	0.115	0.025
65	5.42	0.23	0.140	(0.378)	0.115	0.025
66	5.50	0.23	0.140	(0.377)	0.115	0.025
67	5.58	0.27	0.160	(0.375)	0.131	0.029
68	5.67	0.27	0.160	(0.373)	0.131	0.029
69	5.75	0.27	0.160	(0.372)	0.131	0.029
70	5.83	0.27	0.160	(0.370)	0.131	0.029
71	5.92	0.27	0.160	(0.368)	0.131	0.029
72	6.00	0.27	0.160	(0.367)	0.131	0.029
73	6.08	0.30	0.180	(0.365)	0.148	0.032
74	6.17	0.30	0.180	(0.364)	0.148	0.032
75	6.25	0.30	0.180	(0.362)	0.148	0.032
76	6.33	0.30	0.180	(0.360)	0.148	0.032
77	6.42	0.30	0.180	(0.359)	0.148	0.032
78	6.50	0.30	0.180	(0.357)	0.148	0.032
79	6.58	0.33	0.200	(0.355)	0.164	0.036
80	6.67	0.33	0.200	(0.354)	0.164	0.036
81	6.75	0.33	0.200	(0.352)	0.164	0.036
82	6.83	0.33	0.200	(0.351)	0.164	0.036
83	6.92	0.33	0.200	(0.349)	0.164	0.036
84	7.00	0.33	0.200	(0.348)	0.164	0.036
85	7.08	0.33	0.200	(0.346)	0.164	0.036
86	7.17	0.33	0.200	(0.344)	0.164	0.036
87	7.25	0.33	0.200	(0.343)	0.164	0.036
88	7.33	0.37	0.220	(0.341)	0.180	0.040
89	7.42	0.37	0.220	(0.340)	0.180	0.040
90	7.50	0.37	0.220	(0.338)	0.180	0.040
91	7.58	0.40	0.240	(0.337)	0.197	0.043
92	7.67	0.40	0.240	(0.335)	0.197	0.043
93	7.75	0.40	0.240	(0.333)	0.197	0.043
94	7.83	0.43	0.260	(0.332)	0.213	0.047
95	7.92	0.43	0.260	(0.330)	0.213	0.047
96	8.00	0.43	0.260	(0.329)	0.213	0.047
97	8.08	0.50	0.300	(0.327)	0.246	0.054
98	8.17	0.50	0.300	(0.326)	0.246	0.054

99	8.25	0.50	0.300	(	0.324)	0.246		0.054
100	8.33	0.50	0.300	(	0.323)	0.246		0.054
101	8.42	0.50	0.300	(	0.321)	0.246		0.054
102	8.50	0.50	0.300	(	0.320)	0.246		0.054
103	8.58	0.53	0.320	(	0.318)	0.262		0.058
104	8.67	0.53	0.320	(	0.317)	0.262		0.058
105	8.75	0.53	0.320	(	0.315)	0.262		0.058
106	8.83	0.57	0.340	(	0.314)	0.279		0.061
107	8.92	0.57	0.340	(	0.312)	0.279		0.061
108	9.00	0.57	0.340	(	0.311)	0.279		0.061
109	9.08	0.63	0.380		0.309	(	0.312)	0.071
110	9.17	0.63	0.380		0.308	(	0.312)	0.072
111	9.25	0.63	0.380		0.306	(	0.312)	0.074
112	9.33	0.67	0.400		0.305	(	0.328)	0.095
113	9.42	0.67	0.400		0.304	(	0.328)	0.096
114	9.50	0.67	0.400		0.302	(	0.328)	0.098
115	9.58	0.70	0.420		0.301	(	0.344)	0.119
116	9.67	0.70	0.420		0.299	(	0.344)	0.121
117	9.75	0.70	0.420		0.298	(	0.344)	0.122
118	9.83	0.73	0.440		0.296	(	0.361)	0.144
119	9.92	0.73	0.440		0.295	(	0.361)	0.145
120	10.00	0.73	0.440		0.293	(	0.361)	0.147
121	10.08	0.50	0.300	(	0.292)	0.246		0.054
122	10.17	0.50	0.300	(	0.291)	0.246		0.054
123	10.25	0.50	0.300	(	0.289)	0.246		0.054
124	10.33	0.50	0.300	(	0.288)	0.246		0.054
125	10.42	0.50	0.300	(	0.286)	0.246		0.054
126	10.50	0.50	0.300	(	0.285)	0.246		0.054
127	10.58	0.67	0.400		0.284	(	0.328)	0.116
128	10.67	0.67	0.400		0.282	(	0.328)	0.118
129	10.75	0.67	0.400		0.281	(	0.328)	0.119
130	10.83	0.67	0.400		0.279	(	0.328)	0.121
131	10.92	0.67	0.400		0.278	(	0.328)	0.122
132	11.00	0.67	0.400		0.277	(	0.328)	0.123
133	11.08	0.63	0.380		0.275	(	0.312)	0.105
134	11.17	0.63	0.380		0.274	(	0.312)	0.106
135	11.25	0.63	0.380		0.273	(	0.312)	0.107
136	11.33	0.63	0.380		0.271	(	0.312)	0.109
137	11.42	0.63	0.380		0.270	(	0.312)	0.110
138	11.50	0.63	0.380		0.269	(	0.312)	0.111
139	11.58	0.57	0.340		0.267	(	0.279)	0.073
140	11.67	0.57	0.340		0.266	(	0.279)	0.074
141	11.75	0.57	0.340		0.265	(	0.279)	0.075
142	11.83	0.60	0.360		0.263	(	0.295)	0.097
143	11.92	0.60	0.360		0.262	(	0.295)	0.098
144	12.00	0.60	0.360		0.261	(	0.295)	0.099
145	12.08	0.83	0.500		0.259	(	0.410)	0.241
146	12.17	0.83	0.500		0.258	(	0.410)	0.242
147	12.25	0.83	0.500		0.257	(	0.410)	0.243
148	12.33	0.87	0.520		0.256	(	0.426)	0.264
149	12.42	0.87	0.520		0.254	(	0.426)	0.266

150	12.50	0.87	0.520	0.253	(0.426)	0.267
151	12.58	0.93	0.560	0.252	(0.459)	0.308
152	12.67	0.93	0.560	0.250	(0.459)	0.310
153	12.75	0.93	0.560	0.249	(0.459)	0.311
154	12.83	0.97	0.580	0.248	(0.476)	0.332
155	12.92	0.97	0.580	0.247	(0.476)	0.333
156	13.00	0.97	0.580	0.245	(0.476)	0.335
157	13.08	1.13	0.680	0.244	(0.558)	0.436
158	13.17	1.13	0.680	0.243	(0.558)	0.437
159	13.25	1.13	0.680	0.242	(0.558)	0.438
160	13.33	1.13	0.680	0.240	(0.558)	0.440
161	13.42	1.13	0.680	0.239	(0.558)	0.441
162	13.50	1.13	0.680	0.238	(0.558)	0.442
163	13.58	0.77	0.460	0.237	(0.377)	0.223
164	13.67	0.77	0.460	0.236	(0.377)	0.224
165	13.75	0.77	0.460	0.234	(0.377)	0.226
166	13.83	0.77	0.460	0.233	(0.377)	0.227
167	13.92	0.77	0.460	0.232	(0.377)	0.228
168	14.00	0.77	0.460	0.231	(0.377)	0.229
169	14.08	0.90	0.540	0.230	(0.443)	0.310
170	14.17	0.90	0.540	0.228	(0.443)	0.312
171	14.25	0.90	0.540	0.227	(0.443)	0.313
172	14.33	0.87	0.520	0.226	(0.426)	0.294
173	14.42	0.87	0.520	0.225	(0.426)	0.295
174	14.50	0.87	0.520	0.224	(0.426)	0.296
175	14.58	0.87	0.520	0.223	(0.426)	0.297
176	14.67	0.87	0.520	0.222	(0.426)	0.298
177	14.75	0.87	0.520	0.220	(0.426)	0.300
178	14.83	0.83	0.500	0.219	(0.410)	0.281
179	14.92	0.83	0.500	0.218	(0.410)	0.282
180	15.00	0.83	0.500	0.217	(0.410)	0.283
181	15.08	0.80	0.480	0.216	(0.394)	0.264
182	15.17	0.80	0.480	0.215	(0.394)	0.265
183	15.25	0.80	0.480	0.214	(0.394)	0.266
184	15.33	0.77	0.460	0.213	(0.377)	0.247
185	15.42	0.77	0.460	0.212	(0.377)	0.248
186	15.50	0.77	0.460	0.210	(0.377)	0.250
187	15.58	0.63	0.380	0.209	(0.312)	0.171
188	15.67	0.63	0.380	0.208	(0.312)	0.172
189	15.75	0.63	0.380	0.207	(0.312)	0.173
190	15.83	0.63	0.380	0.206	(0.312)	0.174
191	15.92	0.63	0.380	0.205	(0.312)	0.175
192	16.00	0.63	0.380	0.204	(0.312)	0.176
193	16.08	0.13	0.080	(0.203)	0.066	0.014
194	16.17	0.13	0.080	(0.202)	0.066	0.014
195	16.25	0.13	0.080	(0.201)	0.066	0.014
196	16.33	0.13	0.080	(0.200)	0.066	0.014
197	16.42	0.13	0.080	(0.199)	0.066	0.014
198	16.50	0.13	0.080	(0.198)	0.066	0.014
199	16.58	0.10	0.060	(0.197)	0.049	0.011
200	16.67	0.10	0.060	(0.196)	0.049	0.011

201	16.75	0.10	0.060	(0.195)	0.049	0.011
202	16.83	0.10	0.060	(0.194)	0.049	0.011
203	16.92	0.10	0.060	(0.193)	0.049	0.011
204	17.00	0.10	0.060	(0.192)	0.049	0.011
205	17.08	0.17	0.100	(0.191)	0.082	0.018
206	17.17	0.17	0.100	(0.190)	0.082	0.018
207	17.25	0.17	0.100	(0.189)	0.082	0.018
208	17.33	0.17	0.100	(0.188)	0.082	0.018
209	17.42	0.17	0.100	(0.187)	0.082	0.018
210	17.50	0.17	0.100	(0.186)	0.082	0.018
211	17.58	0.17	0.100	(0.185)	0.082	0.018
212	17.67	0.17	0.100	(0.184)	0.082	0.018
213	17.75	0.17	0.100	(0.183)	0.082	0.018
214	17.83	0.13	0.080	(0.183)	0.066	0.014
215	17.92	0.13	0.080	(0.182)	0.066	0.014
216	18.00	0.13	0.080	(0.181)	0.066	0.014
217	18.08	0.13	0.080	(0.180)	0.066	0.014
218	18.17	0.13	0.080	(0.179)	0.066	0.014
219	18.25	0.13	0.080	(0.178)	0.066	0.014
220	18.33	0.13	0.080	(0.177)	0.066	0.014
221	18.42	0.13	0.080	(0.176)	0.066	0.014
222	18.50	0.13	0.080	(0.176)	0.066	0.014
223	18.58	0.10	0.060	(0.175)	0.049	0.011
224	18.67	0.10	0.060	(0.174)	0.049	0.011
225	18.75	0.10	0.060	(0.173)	0.049	0.011
226	18.83	0.07	0.040	(0.172)	0.033	0.007
227	18.92	0.07	0.040	(0.171)	0.033	0.007
228	19.00	0.07	0.040	(0.171)	0.033	0.007
229	19.08	0.10	0.060	(0.170)	0.049	0.011
230	19.17	0.10	0.060	(0.169)	0.049	0.011
231	19.25	0.10	0.060	(0.168)	0.049	0.011
232	19.33	0.13	0.080	(0.167)	0.066	0.014
233	19.42	0.13	0.080	(0.167)	0.066	0.014
234	19.50	0.13	0.080	(0.166)	0.066	0.014
235	19.58	0.10	0.060	(0.165)	0.049	0.011
236	19.67	0.10	0.060	(0.164)	0.049	0.011
237	19.75	0.10	0.060	(0.164)	0.049	0.011
238	19.83	0.07	0.040	(0.163)	0.033	0.007
239	19.92	0.07	0.040	(0.162)	0.033	0.007
240	20.00	0.07	0.040	(0.161)	0.033	0.007
241	20.08	0.10	0.060	(0.161)	0.049	0.011
242	20.17	0.10	0.060	(0.160)	0.049	0.011
243	20.25	0.10	0.060	(0.159)	0.049	0.011
244	20.33	0.10	0.060	(0.159)	0.049	0.011
245	20.42	0.10	0.060	(0.158)	0.049	0.011
246	20.50	0.10	0.060	(0.157)	0.049	0.011
247	20.58	0.10	0.060	(0.157)	0.049	0.011
248	20.67	0.10	0.060	(0.156)	0.049	0.011
249	20.75	0.10	0.060	(0.155)	0.049	0.011
250	20.83	0.07	0.040	(0.155)	0.033	0.007
251	20.92	0.07	0.040	(0.154)	0.033	0.007

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252  21.00     0.07      0.040       (  0.153)       0.033        0.007
253  21.08     0.10      0.060       (  0.153)       0.049        0.011
254  21.17     0.10      0.060       (  0.152)       0.049        0.011
255  21.25     0.10      0.060       (  0.152)       0.049        0.011
256  21.33     0.07      0.040       (  0.151)       0.033        0.007
257  21.42     0.07      0.040       (  0.150)       0.033        0.007
258  21.50     0.07      0.040       (  0.150)       0.033        0.007
259  21.58     0.10      0.060       (  0.149)       0.049        0.011
260  21.67     0.10      0.060       (  0.149)       0.049        0.011
261  21.75     0.10      0.060       (  0.148)       0.049        0.011
262  21.83     0.07      0.040       (  0.148)       0.033        0.007
263  21.92     0.07      0.040       (  0.147)       0.033        0.007
264  22.00     0.07      0.040       (  0.147)       0.033        0.007
265  22.08     0.10      0.060       (  0.146)       0.049        0.011
266  22.17     0.10      0.060       (  0.146)       0.049        0.011
267  22.25     0.10      0.060       (  0.145)       0.049        0.011
268  22.33     0.07      0.040       (  0.145)       0.033        0.007
269  22.42     0.07      0.040       (  0.144)       0.033        0.007
270  22.50     0.07      0.040       (  0.144)       0.033        0.007
271  22.58     0.07      0.040       (  0.144)       0.033        0.007
272  22.67     0.07      0.040       (  0.143)       0.033        0.007
273  22.75     0.07      0.040       (  0.143)       0.033        0.007
274  22.83     0.07      0.040       (  0.142)       0.033        0.007
275  22.92     0.07      0.040       (  0.142)       0.033        0.007
276  23.00     0.07      0.040       (  0.142)       0.033        0.007
277  23.08     0.07      0.040       (  0.141)       0.033        0.007
278  23.17     0.07      0.040       (  0.141)       0.033        0.007
279  23.25     0.07      0.040       (  0.141)       0.033        0.007
280  23.33     0.07      0.040       (  0.140)       0.033        0.007
281  23.42     0.07      0.040       (  0.140)       0.033        0.007
282  23.50     0.07      0.040       (  0.140)       0.033        0.007
283  23.58     0.07      0.040       (  0.140)       0.033        0.007
284  23.67     0.07      0.040       (  0.140)       0.033        0.007
285  23.75     0.07      0.040       (  0.139)       0.033        0.007
286  23.83     0.07      0.040       (  0.139)       0.033        0.007
287  23.92     0.07      0.040       (  0.139)       0.033        0.007
288  24.00     0.07      0.040       (  0.139)       0.033        0.007
                (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    21.0
      Flood volume = Effective rainfall      1.75(In)
       times area      14.8(Ac.)/[(In)/(Ft.)] =       2.2(Ac.Ft)
      Total soil loss =      3.25(In)
      Total soil loss =     4.006(Ac.Ft)
      Total rainfall =      5.00(In)
      Flood volume =       94129.3 Cubic Feet
      Total soil loss =      174482.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      6.580(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
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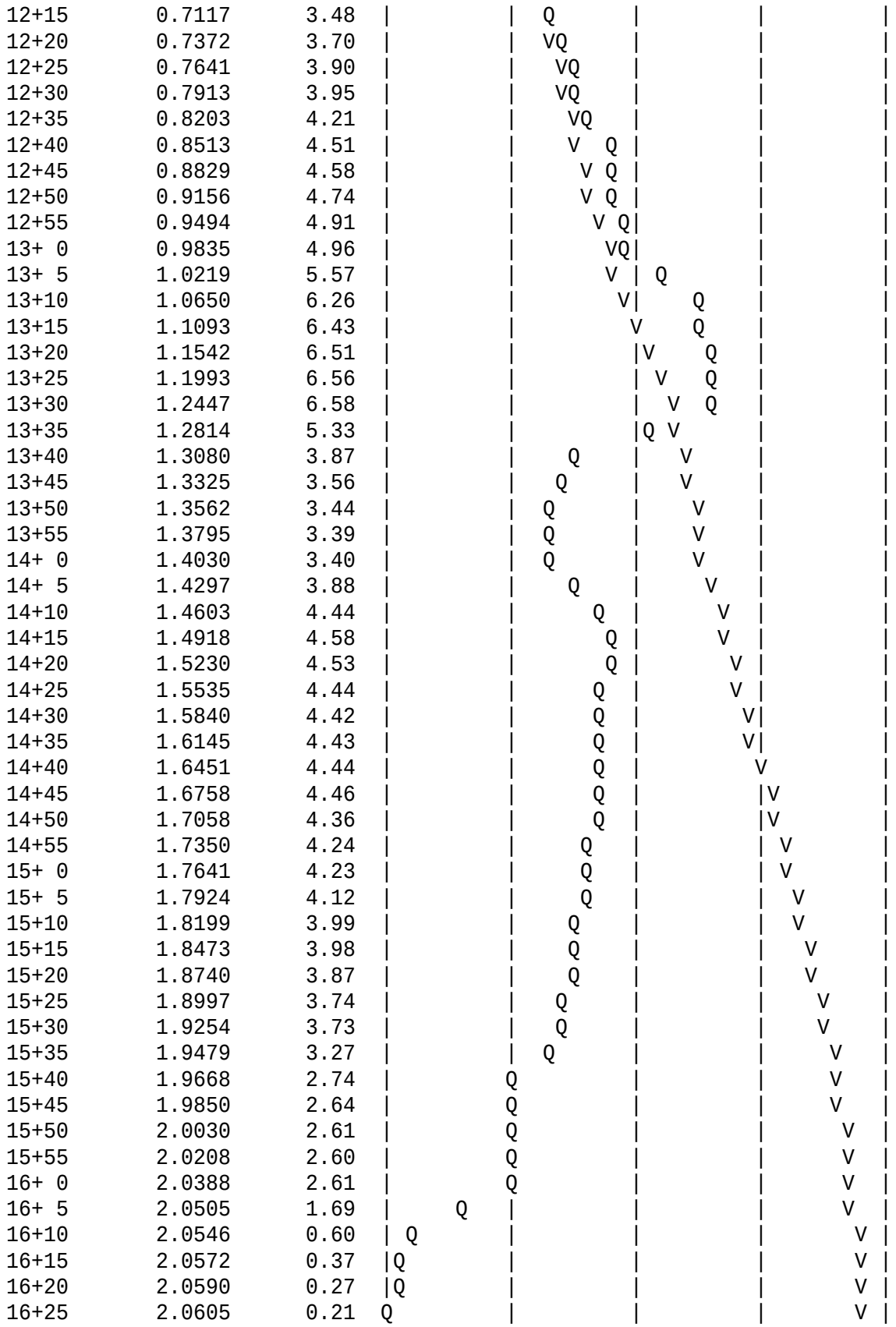
R u n o f f H y d r o g r a p h

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	0.0009	0.09	Q				
0+15	0.0016	0.10	Q				
0+20	0.0025	0.13	Q				
0+25	0.0035	0.15	Q				
0+30	0.0046	0.16	Q				
0+35	0.0057	0.16	Q				
0+40	0.0068	0.16	Q				
0+45	0.0079	0.16	Q				
0+50	0.0092	0.18	Q				
0+55	0.0106	0.21	Q				
1+ 0	0.0121	0.21	Q				
1+ 5	0.0134	0.19	Q				
1+10	0.0146	0.17	Q				
1+15	0.0157	0.16	Q				
1+20	0.0168	0.16	Q				
1+25	0.0179	0.16	Q				
1+30	0.0190	0.16	Q				
1+35	0.0201	0.16	Q				
1+40	0.0212	0.16	Q				
1+45	0.0224	0.16	Q				
1+50	0.0236	0.18	Q				
1+55	0.0250	0.21	Q				
2+ 0	0.0265	0.21	Q				
2+ 5	0.0280	0.21	Q				
2+10	0.0294	0.21	Q				
2+15	0.0309	0.21	Q				
2+20	0.0324	0.21	Q				
2+25	0.0339	0.21	Q				
2+30	0.0354	0.21	Q				
2+35	0.0370	0.24	Q				
2+40	0.0388	0.26	VQ				
2+45	0.0406	0.27	VQ				
2+50	0.0424	0.27	VQ				
2+55	0.0443	0.27	VQ				
3+ 0	0.0461	0.27	VQ				
3+ 5	0.0480	0.27	VQ				
3+10	0.0498	0.27	VQ				
3+15	0.0517	0.27	VQ				
3+20	0.0535	0.27	VQ				
3+25	0.0554	0.27	|Q				
3+30	0.0572	0.27	|Q				
3+35	0.0591	0.27	|Q				
3+40	0.0609	0.27	|Q				

3+45	0.0628	0.27	|Q	|	|	|	|
3+50	0.0648	0.29	|Q	|	|	|	|
3+55	0.0669	0.31	|Q	|	|	|	|
4+ 0	0.0691	0.32	|Q	|	|	|	|
4+ 5	0.0713	0.32	|Q	|	|	|	|
4+10	0.0736	0.32	|Q	|	|	|	|
4+15	0.0758	0.32	|Q	|	|	|	|
4+20	0.0781	0.34	|Q	|	|	|	|
4+25	0.0807	0.37	|Q	|	|	|	|
4+30	0.0832	0.37	|Q	|	|	|	|
4+35	0.0858	0.37	|Q	|	|	|	|
4+40	0.0884	0.38	|Q	|	|	|	|
4+45	0.0910	0.38	|Q	|	|	|	|
4+50	0.0937	0.40	|Q	|	|	|	|
4+55	0.0966	0.42	|Q	|	|	|	|
5+ 0	0.0996	0.43	|Q	|	|	|	|
5+ 5	0.1022	0.39	|Q	|	|	|	|
5+10	0.1046	0.34	|Q	|	|	|	|
5+15	0.1069	0.33	|Q	|	|	|	|
5+20	0.1092	0.35	|QV	|	|	|	|
5+25	0.1118	0.37	|QV	|	|	|	|
5+30	0.1143	0.37	|QV	|	|	|	|
5+35	0.1171	0.40	|QV	|	|	|	|
5+40	0.1200	0.42	|QV	|	|	|	|
5+45	0.1229	0.43	|QV	|	|	|	|
5+50	0.1258	0.43	|QV	|	|	|	|
5+55	0.1288	0.43	|QV	|	|	|	|
6+ 0	0.1318	0.43	|QV	|	|	|	|
6+ 5	0.1349	0.45	|QV	|	|	|	|
6+10	0.1381	0.47	|QV	|	|	|	|
6+15	0.1414	0.48	|QV	|	|	|	|
6+20	0.1448	0.48	|QV	|	|	|	|
6+25	0.1481	0.48	|QV	|	|	|	|
6+30	0.1514	0.48	|QV	|	|	|	|
6+35	0.1549	0.50	| Q	|	|	|	|
6+40	0.1585	0.53	| Q	|	|	|	|
6+45	0.1622	0.53	| QV	|	|	|	|
6+50	0.1659	0.54	| QV	|	|	|	|
6+55	0.1696	0.54	| QV	|	|	|	|
7+ 0	0.1733	0.54	| QV	|	|	|	|
7+ 5	0.1770	0.54	| QV	|	|	|	|
7+10	0.1807	0.54	| QV	|	|	|	|
7+15	0.1844	0.54	| QV	|	|	|	|
7+20	0.1882	0.56	| QV	|	|	|	|
7+25	0.1923	0.58	| QV	|	|	|	|
7+30	0.1963	0.59	| QV	|	|	|	|
7+35	0.2005	0.61	| QV	|	|	|	|
7+40	0.2049	0.64	| QV	|	|	|	|
7+45	0.2093	0.64	| QV	|	|	|	|
7+50	0.2139	0.66	| QV	|	|	|	|
7+55	0.2186	0.69	| Q V	|	|	|	|

8+ 0	0.2234	0.70	Q V			
8+ 5	0.2285	0.74	Q V			
8+10	0.2339	0.79	QV			
8+15	0.2394	0.80	QV			
8+20	0.2450	0.80	QV			
8+25	0.2505	0.81	QV			
8+30	0.2561	0.81	QV			
8+35	0.2618	0.83	QV			
8+40	0.2676	0.85	QV			
8+45	0.2735	0.86	Q V			
8+50	0.2796	0.88	Q V			
8+55	0.2858	0.90	Q V			
9+ 0	0.2921	0.91	Q V			
9+ 5	0.2987	0.97	Q V			
9+10	0.3059	1.04	QV			
9+15	0.3133	1.07	QV			
9+20	0.3216	1.21	QV			
9+25	0.3311	1.37	QV			
9+30	0.3409	1.42	QV			
9+35	0.3517	1.57	Q			
9+40	0.3637	1.74	Q			
9+45	0.3760	1.79	VQ			
9+50	0.3893	1.94	Q			
9+55	0.4038	2.10	VQ			
10+ 0	0.4186	2.15	VQ			
10+ 5	0.4299	1.64	QV			
10+10	0.4370	1.03	Q V			
10+15	0.4431	0.89	Q V			
10+20	0.4489	0.84	Q V			
10+25	0.4544	0.81	Q V			
10+30	0.4600	0.81	Q V			
10+35	0.4680	1.17	Q V			
10+40	0.4790	1.59	Q V			
10+45	0.4907	1.70	Q V			
10+50	0.5028	1.76	Q V			
10+55	0.5152	1.80	Q V			
11+ 0	0.5278	1.82	Q V			
11+ 5	0.5397	1.73	Q V			
11+10	0.5508	1.61	Q V			
11+15	0.5618	1.60	Q V			
11+20	0.5729	1.61	Q V			
11+25	0.5841	1.62	Q V			
11+30	0.5955	1.64	Q V			
11+35	0.6053	1.43	Q V			
11+40	0.6135	1.18	Q V			
11+45	0.6214	1.15	Q V			
11+50	0.6300	1.26	Q V			
11+55	0.6396	1.40	Q V			
12+ 0	0.6496	1.45	Q V			
12+ 5	0.6653	2.28	Q V			
12+10	0.6877	3.25	VQ			



16+30	2.0620	0.21	Q	|	|	|	V |
16+35	2.0633	0.19	Q	|	|	|	V |
16+40	2.0645	0.17	Q	|	|	|	V |
16+45	2.0656	0.16	Q	|	|	|	V |
16+50	2.0667	0.16	Q	|	|	|	V |
16+55	2.0678	0.16	Q	|	|	|	V |
17+ 0	2.0689	0.16	Q	|	|	|	V |
17+ 5	2.0703	0.20	Q	|	|	|	V |
17+10	2.0721	0.25	|Q	|	|	|	V |
17+15	2.0739	0.26	|Q	|	|	|	V |
17+20	2.0757	0.27	|Q	|	|	|	V |
17+25	2.0776	0.27	|Q	|	|	|	V |
17+30	2.0794	0.27	|Q	|	|	|	V |
17+35	2.0813	0.27	|Q	|	|	|	V |
17+40	2.0831	0.27	|Q	|	|	|	V |
17+45	2.0850	0.27	|Q	|	|	|	V |
17+50	2.0867	0.25	Q	|	|	|	V |
17+55	2.0882	0.22	Q	|	|	|	V |
18+ 0	2.0897	0.22	Q	|	|	|	V |
18+ 5	2.0912	0.22	Q	|	|	|	V |
18+10	2.0927	0.21	Q	|	|	|	V |
18+15	2.0942	0.21	Q	|	|	|	V |
18+20	2.0956	0.21	Q	|	|	|	V |
18+25	2.0971	0.21	Q	|	|	|	V |
18+30	2.0986	0.21	Q	|	|	|	V |
18+35	2.0999	0.19	Q	|	|	|	V |
18+40	2.1011	0.17	Q	|	|	|	V |
18+45	2.1022	0.16	Q	|	|	|	V |
18+50	2.1032	0.14	Q	|	|	|	V |
18+55	2.1040	0.12	Q	|	|	|	V |
19+ 0	2.1048	0.11	Q	|	|	|	V |
19+ 5	2.1057	0.13	Q	|	|	|	V |
19+10	2.1067	0.15	Q	|	|	|	V |
19+15	2.1078	0.16	Q	|	|	|	V|
19+20	2.1090	0.18	Q	|	|	|	V|
19+25	2.1105	0.21	Q	|	|	|	V|
19+30	2.1119	0.21	Q	|	|	|	V|
19+35	2.1132	0.19	Q	|	|	|	V|
19+40	2.1144	0.17	Q	|	|	|	V|
19+45	2.1156	0.16	Q	|	|	|	V|
19+50	2.1165	0.14	Q	|	|	|	V|
19+55	2.1173	0.12	Q	|	|	|	V|
20+ 0	2.1181	0.11	Q	|	|	|	V|
20+ 5	2.1190	0.13	Q	|	|	|	V|
20+10	2.1200	0.15	Q	|	|	|	V|
20+15	2.1211	0.16	Q	|	|	|	V|
20+20	2.1222	0.16	Q	|	|	|	V|
20+25	2.1233	0.16	Q	|	|	|	V|
20+30	2.1244	0.16	Q	|	|	|	V|
20+35	2.1255	0.16	Q	|	|	|	V|
20+40	2.1267	0.16	Q	|	|	|	V|

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   20+45       2.1278      0.16  Q         |         |         |         V|
   20+50       2.1287      0.14  Q         |         |         |         V|
   20+55       2.1295      0.12  Q         |         |         |         V|
   21+ 0       2.1303      0.11  Q         |         |         |         V|
   21+ 5       2.1312      0.13  Q         |         |         |         V|
   21+10       2.1322      0.15  Q         |         |         |         V|
   21+15       2.1333      0.16  Q         |         |         |         V|
   21+20       2.1343      0.14  Q         |         |         |         V|
   21+25       2.1351      0.12  Q         |         |         |         V|
   21+30       2.1358      0.11  Q         |         |         |         V|
   21+35       2.1367      0.13  Q         |         |         |         V|
   21+40       2.1378      0.15  Q         |         |         |         V|
   21+45       2.1389      0.16  Q         |         |         |         V|
   21+50       2.1398      0.14  Q         |         |         |         V|
   21+55       2.1406      0.12  Q         |         |         |         V|
   22+ 0       2.1414      0.11  Q         |         |         |         V|
   22+ 5       2.1423      0.13  Q         |         |         |         V|
   22+10       2.1433      0.15  Q         |         |         |         V|
   22+15       2.1444      0.16  Q         |         |         |         V|
   22+20       2.1454      0.14  Q         |         |         |         V|
   22+25       2.1462      0.12  Q         |         |         |         V|
   22+30       2.1469      0.11  Q         |         |         |         V|
   22+35       2.1477      0.11  Q         |         |         |         V|
   22+40       2.1484      0.11  Q         |         |         |         V|
   22+45       2.1492      0.11  Q         |         |         |         V|
   22+50       2.1499      0.11  Q         |         |         |         V|
   22+55       2.1507      0.11  Q         |         |         |         V|
   23+ 0       2.1514      0.11  Q         |         |         |         V|
   23+ 5       2.1521      0.11  Q         |         |         |         V|
   23+10       2.1529      0.11  Q         |         |         |         V|
   23+15       2.1536      0.11  Q         |         |         |         V|
   23+20       2.1544      0.11  Q         |         |         |         V|
   23+25       2.1551      0.11  Q         |         |         |         V|
   23+30       2.1558      0.11  Q         |         |         |         V|
   23+35       2.1566      0.11  Q         |         |         |         V|
   23+40       2.1573      0.11  Q         |         |         |         V|
   23+45       2.1581      0.11  Q         |         |         |         V|
   23+50       2.1588      0.11  Q         |         |         |         V|
   23+55       2.1595      0.11  Q         |         |         |         V|
   24+ 0       2.1603      0.11  Q         |         |         |         V|
   24+ 5       2.1607      0.07  Q         |         |         |         V|
   24+10       2.1608      0.02  Q         |         |         |         V|
   24+15       2.1609      0.01  Q         |         |         |         V|
   24+20       2.1609      0.00  Q         |         |         |          V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

Study date 12/02/22 File: proposedb24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
PROPOSED BASIN B
12/02/2022

Drainage Area = 19.10(Ac.) = 0.030 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 19.10(Ac.) = 0.030 Sq. Mi.
Length along longest watercourse = 1849.00(Ft.)
Length along longest watercourse measured to centroid = 924.50(Ft.)
Length along longest watercourse = 0.350 Mi.
Length along longest watercourse measured to centroid = 0.175 Mi.
Difference in elevation = 37.00(Ft.)
Slope along watercourse = 105.6571 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.051 Hr.
Lag time = 3.08 Min.
25% of lag time = 0.77 Min.
40% of lag time = 1.23 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]
       19.10            2.00                  38.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       19.10            5.00                  95.50

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    19.100           56.00         0.800
 Total Area Entered =     19.10(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  74.8      0.305     0.800        0.086       1.000      0.086
                                                 Sum (F) =   0.086
Area averaged mean soil loss (F) (In/Hr) =  0.086
Minimum soil loss rate ((In/Hr)) =  0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.260
------------------------------------------------------------------------

                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        162.098         35.979              6.926
    2   0.167        324.196         46.110              8.876
    3   0.250        486.295         10.525              2.026
    4   0.333        648.393          4.514              0.869
    5   0.417        810.491          2.871              0.553
                              Sum = 100.000   Sum=      19.249
------------------------------------------------------------------------

 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) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.152)	0.010	0.030
2	0.17	0.07	0.040	(0.151)	0.010	0.030
3	0.25	0.07	0.040	(0.150)	0.010	0.030
4	0.33	0.10	0.060	(0.150)	0.016	0.044
5	0.42	0.10	0.060	(0.149)	0.016	0.044
6	0.50	0.10	0.060	(0.149)	0.016	0.044
7	0.58	0.10	0.060	(0.148)	0.016	0.044
8	0.67	0.10	0.060	(0.147)	0.016	0.044
9	0.75	0.10	0.060	(0.147)	0.016	0.044
10	0.83	0.13	0.080	(0.146)	0.021	0.059
11	0.92	0.13	0.080	(0.146)	0.021	0.059
12	1.00	0.13	0.080	(0.145)	0.021	0.059
13	1.08	0.10	0.060	(0.145)	0.016	0.044
14	1.17	0.10	0.060	(0.144)	0.016	0.044
15	1.25	0.10	0.060	(0.143)	0.016	0.044
16	1.33	0.10	0.060	(0.143)	0.016	0.044
17	1.42	0.10	0.060	(0.142)	0.016	0.044
18	1.50	0.10	0.060	(0.142)	0.016	0.044
19	1.58	0.10	0.060	(0.141)	0.016	0.044
20	1.67	0.10	0.060	(0.141)	0.016	0.044
21	1.75	0.10	0.060	(0.140)	0.016	0.044
22	1.83	0.13	0.080	(0.139)	0.021	0.059
23	1.92	0.13	0.080	(0.139)	0.021	0.059
24	2.00	0.13	0.080	(0.138)	0.021	0.059
25	2.08	0.13	0.080	(0.138)	0.021	0.059
26	2.17	0.13	0.080	(0.137)	0.021	0.059
27	2.25	0.13	0.080	(0.137)	0.021	0.059
28	2.33	0.13	0.080	(0.136)	0.021	0.059
29	2.42	0.13	0.080	(0.136)	0.021	0.059
30	2.50	0.13	0.080	(0.135)	0.021	0.059
31	2.58	0.17	0.100	(0.134)	0.026	0.074
32	2.67	0.17	0.100	(0.134)	0.026	0.074
33	2.75	0.17	0.100	(0.133)	0.026	0.074
34	2.83	0.17	0.100	(0.133)	0.026	0.074
35	2.92	0.17	0.100	(0.132)	0.026	0.074
36	3.00	0.17	0.100	(0.132)	0.026	0.074
37	3.08	0.17	0.100	(0.131)	0.026	0.074
38	3.17	0.17	0.100	(0.131)	0.026	0.074
39	3.25	0.17	0.100	(0.130)	0.026	0.074
40	3.33	0.17	0.100	(0.130)	0.026	0.074
41	3.42	0.17	0.100	(0.129)	0.026	0.074
42	3.50	0.17	0.100	(0.128)	0.026	0.074
43	3.58	0.17	0.100	(0.128)	0.026	0.074
44	3.67	0.17	0.100	(0.127)	0.026	0.074
45	3.75	0.17	0.100	(0.127)	0.026	0.074
46	3.83	0.20	0.120	(0.126)	0.031	0.089
47	3.92	0.20	0.120	(0.126)	0.031	0.089

48	4.00	0.20	0.120	(0.125)	0.031	0.089
49	4.08	0.20	0.120	(0.125)	0.031	0.089
50	4.17	0.20	0.120	(0.124)	0.031	0.089
51	4.25	0.20	0.120	(0.124)	0.031	0.089
52	4.33	0.23	0.140	(0.123)	0.036	0.104
53	4.42	0.23	0.140	(0.123)	0.036	0.104
54	4.50	0.23	0.140	(0.122)	0.036	0.104
55	4.58	0.23	0.140	(0.122)	0.036	0.104
56	4.67	0.23	0.140	(0.121)	0.036	0.104
57	4.75	0.23	0.140	(0.121)	0.036	0.104
58	4.83	0.27	0.160	(0.120)	0.042	0.118
59	4.92	0.27	0.160	(0.119)	0.042	0.118
60	5.00	0.27	0.160	(0.119)	0.042	0.118
61	5.08	0.20	0.120	(0.118)	0.031	0.089
62	5.17	0.20	0.120	(0.118)	0.031	0.089
63	5.25	0.20	0.120	(0.117)	0.031	0.089
64	5.33	0.23	0.140	(0.117)	0.036	0.104
65	5.42	0.23	0.140	(0.116)	0.036	0.104
66	5.50	0.23	0.140	(0.116)	0.036	0.104
67	5.58	0.27	0.160	(0.115)	0.042	0.118
68	5.67	0.27	0.160	(0.115)	0.042	0.118
69	5.75	0.27	0.160	(0.114)	0.042	0.118
70	5.83	0.27	0.160	(0.114)	0.042	0.118
71	5.92	0.27	0.160	(0.113)	0.042	0.118
72	6.00	0.27	0.160	(0.113)	0.042	0.118
73	6.08	0.30	0.180	(0.112)	0.047	0.133
74	6.17	0.30	0.180	(0.112)	0.047	0.133
75	6.25	0.30	0.180	(0.111)	0.047	0.133
76	6.33	0.30	0.180	(0.111)	0.047	0.133
77	6.42	0.30	0.180	(0.110)	0.047	0.133
78	6.50	0.30	0.180	(0.110)	0.047	0.133
79	6.58	0.33	0.200	(0.109)	0.052	0.148
80	6.67	0.33	0.200	(0.109)	0.052	0.148
81	6.75	0.33	0.200	(0.108)	0.052	0.148
82	6.83	0.33	0.200	(0.108)	0.052	0.148
83	6.92	0.33	0.200	(0.107)	0.052	0.148
84	7.00	0.33	0.200	(0.107)	0.052	0.148
85	7.08	0.33	0.200	(0.106)	0.052	0.148
86	7.17	0.33	0.200	(0.106)	0.052	0.148
87	7.25	0.33	0.200	(0.105)	0.052	0.148
88	7.33	0.37	0.220	(0.105)	0.057	0.163
89	7.42	0.37	0.220	(0.105)	0.057	0.163
90	7.50	0.37	0.220	(0.104)	0.057	0.163
91	7.58	0.40	0.240	(0.104)	0.062	0.178
92	7.67	0.40	0.240	(0.103)	0.062	0.178
93	7.75	0.40	0.240	(0.103)	0.062	0.178
94	7.83	0.43	0.260	(0.102)	0.068	0.192
95	7.92	0.43	0.260	(0.102)	0.068	0.192
96	8.00	0.43	0.260	(0.101)	0.068	0.192
97	8.08	0.50	0.300	(0.101)	0.078	0.222
98	8.17	0.50	0.300	(0.100)	0.078	0.222

99	8.25	0.50	0.300	(0.100)	0.078	0.222
100	8.33	0.50	0.300	(0.099)	0.078	0.222
101	8.42	0.50	0.300	(0.099)	0.078	0.222
102	8.50	0.50	0.300	(0.098)	0.078	0.222
103	8.58	0.53	0.320	(0.098)	0.083	0.237
104	8.67	0.53	0.320	(0.097)	0.083	0.237
105	8.75	0.53	0.320	(0.097)	0.083	0.237
106	8.83	0.57	0.340	(0.097)	0.088	0.252
107	8.92	0.57	0.340	(0.096)	0.088	0.252
108	9.00	0.57	0.340	(0.096)	0.088	0.252
109	9.08	0.63	0.380	0.095	(0.099)	0.285
110	9.17	0.63	0.380	0.095	(0.099)	0.285
111	9.25	0.63	0.380	0.094	(0.099)	0.286
112	9.33	0.67	0.400	0.094	(0.104)	0.306
113	9.42	0.67	0.400	0.093	(0.104)	0.307
114	9.50	0.67	0.400	0.093	(0.104)	0.307
115	9.58	0.70	0.420	0.092	(0.109)	0.327
116	9.67	0.70	0.420	0.092	(0.109)	0.328
117	9.75	0.70	0.420	0.092	(0.109)	0.328
118	9.83	0.73	0.440	0.091	(0.114)	0.349
119	9.92	0.73	0.440	0.091	(0.114)	0.349
120	10.00	0.73	0.440	0.090	(0.114)	0.350
121	10.08	0.50	0.300	(0.090)	0.078	0.222
122	10.17	0.50	0.300	(0.089)	0.078	0.222
123	10.25	0.50	0.300	(0.089)	0.078	0.222
124	10.33	0.50	0.300	(0.089)	0.078	0.222
125	10.42	0.50	0.300	(0.088)	0.078	0.222
126	10.50	0.50	0.300	(0.088)	0.078	0.222
127	10.58	0.67	0.400	0.087	(0.104)	0.313
128	10.67	0.67	0.400	0.087	(0.104)	0.313
129	10.75	0.67	0.400	0.086	(0.104)	0.314
130	10.83	0.67	0.400	0.086	(0.104)	0.314
131	10.92	0.67	0.400	0.086	(0.104)	0.314
132	11.00	0.67	0.400	0.085	(0.104)	0.315
133	11.08	0.63	0.380	0.085	(0.099)	0.295
134	11.17	0.63	0.380	0.084	(0.099)	0.296
135	11.25	0.63	0.380	0.084	(0.099)	0.296
136	11.33	0.63	0.380	0.083	(0.099)	0.297
137	11.42	0.63	0.380	0.083	(0.099)	0.297
138	11.50	0.63	0.380	0.083	(0.099)	0.297
139	11.58	0.57	0.340	0.082	(0.088)	0.258
140	11.67	0.57	0.340	0.082	(0.088)	0.258
141	11.75	0.57	0.340	0.081	(0.088)	0.259
142	11.83	0.60	0.360	0.081	(0.094)	0.279
143	11.92	0.60	0.360	0.081	(0.094)	0.279
144	12.00	0.60	0.360	0.080	(0.094)	0.280
145	12.08	0.83	0.500	0.080	(0.130)	0.420
146	12.17	0.83	0.500	0.079	(0.130)	0.421
147	12.25	0.83	0.500	0.079	(0.130)	0.421
148	12.33	0.87	0.520	0.079	(0.135)	0.441
149	12.42	0.87	0.520	0.078	(0.135)	0.442

150	12.50	0.87	0.520	0.078	(0.135)	0.442
151	12.58	0.93	0.560	0.077	(0.146)	0.483
152	12.67	0.93	0.560	0.077	(0.146)	0.483
153	12.75	0.93	0.560	0.077	(0.146)	0.483
154	12.83	0.97	0.580	0.076	(0.151)	0.504
155	12.92	0.97	0.580	0.076	(0.151)	0.504
156	13.00	0.97	0.580	0.076	(0.151)	0.504
157	13.08	1.13	0.680	0.075	(0.177)	0.605
158	13.17	1.13	0.680	0.075	(0.177)	0.605
159	13.25	1.13	0.680	0.074	(0.177)	0.606
160	13.33	1.13	0.680	0.074	(0.177)	0.606
161	13.42	1.13	0.680	0.074	(0.177)	0.606
162	13.50	1.13	0.680	0.073	(0.177)	0.607
163	13.58	0.77	0.460	0.073	(0.120)	0.387
164	13.67	0.77	0.460	0.072	(0.120)	0.387
165	13.75	0.77	0.460	0.072	(0.120)	0.388
166	13.83	0.77	0.460	0.072	(0.120)	0.388
167	13.92	0.77	0.460	0.071	(0.120)	0.389
168	14.00	0.77	0.460	0.071	(0.120)	0.389
169	14.08	0.90	0.540	0.071	(0.140)	0.469
170	14.17	0.90	0.540	0.070	(0.140)	0.470
171	14.25	0.90	0.540	0.070	(0.140)	0.470
172	14.33	0.87	0.520	0.070	(0.135)	0.450
173	14.42	0.87	0.520	0.069	(0.135)	0.451
174	14.50	0.87	0.520	0.069	(0.135)	0.451
175	14.58	0.87	0.520	0.069	(0.135)	0.451
176	14.67	0.87	0.520	0.068	(0.135)	0.452
177	14.75	0.87	0.520	0.068	(0.135)	0.452
178	14.83	0.83	0.500	0.067	(0.130)	0.433
179	14.92	0.83	0.500	0.067	(0.130)	0.433
180	15.00	0.83	0.500	0.067	(0.130)	0.433
181	15.08	0.80	0.480	0.066	(0.125)	0.414
182	15.17	0.80	0.480	0.066	(0.125)	0.414
183	15.25	0.80	0.480	0.066	(0.125)	0.414
184	15.33	0.77	0.460	0.065	(0.120)	0.395
185	15.42	0.77	0.460	0.065	(0.120)	0.395
186	15.50	0.77	0.460	0.065	(0.120)	0.395
187	15.58	0.63	0.380	0.064	(0.099)	0.316
188	15.67	0.63	0.380	0.064	(0.099)	0.316
189	15.75	0.63	0.380	0.064	(0.099)	0.316
190	15.83	0.63	0.380	0.063	(0.099)	0.317
191	15.92	0.63	0.380	0.063	(0.099)	0.317
192	16.00	0.63	0.380	0.063	(0.099)	0.317
193	16.08	0.13	0.080	(0.062)	0.021	0.059
194	16.17	0.13	0.080	(0.062)	0.021	0.059
195	16.25	0.13	0.080	(0.062)	0.021	0.059
196	16.33	0.13	0.080	(0.062)	0.021	0.059
197	16.42	0.13	0.080	(0.061)	0.021	0.059
198	16.50	0.13	0.080	(0.061)	0.021	0.059
199	16.58	0.10	0.060	(0.061)	0.016	0.044
200	16.67	0.10	0.060	(0.060)	0.016	0.044

201	16.75	0.10	0.060	(0.060)	0.016	0.044
202	16.83	0.10	0.060	(0.060)	0.016	0.044
203	16.92	0.10	0.060	(0.059)	0.016	0.044
204	17.00	0.10	0.060	(0.059)	0.016	0.044
205	17.08	0.17	0.100	(0.059)	0.026	0.074
206	17.17	0.17	0.100	(0.058)	0.026	0.074
207	17.25	0.17	0.100	(0.058)	0.026	0.074
208	17.33	0.17	0.100	(0.058)	0.026	0.074
209	17.42	0.17	0.100	(0.058)	0.026	0.074
210	17.50	0.17	0.100	(0.057)	0.026	0.074
211	17.58	0.17	0.100	(0.057)	0.026	0.074
212	17.67	0.17	0.100	(0.057)	0.026	0.074
213	17.75	0.17	0.100	(0.056)	0.026	0.074
214	17.83	0.13	0.080	(0.056)	0.021	0.059
215	17.92	0.13	0.080	(0.056)	0.021	0.059
216	18.00	0.13	0.080	(0.056)	0.021	0.059
217	18.08	0.13	0.080	(0.055)	0.021	0.059
218	18.17	0.13	0.080	(0.055)	0.021	0.059
219	18.25	0.13	0.080	(0.055)	0.021	0.059
220	18.33	0.13	0.080	(0.055)	0.021	0.059
221	18.42	0.13	0.080	(0.054)	0.021	0.059
222	18.50	0.13	0.080	(0.054)	0.021	0.059
223	18.58	0.10	0.060	(0.054)	0.016	0.044
224	18.67	0.10	0.060	(0.053)	0.016	0.044
225	18.75	0.10	0.060	(0.053)	0.016	0.044
226	18.83	0.07	0.040	(0.053)	0.010	0.030
227	18.92	0.07	0.040	(0.053)	0.010	0.030
228	19.00	0.07	0.040	(0.052)	0.010	0.030
229	19.08	0.10	0.060	(0.052)	0.016	0.044
230	19.17	0.10	0.060	(0.052)	0.016	0.044
231	19.25	0.10	0.060	(0.052)	0.016	0.044
232	19.33	0.13	0.080	(0.051)	0.021	0.059
233	19.42	0.13	0.080	(0.051)	0.021	0.059
234	19.50	0.13	0.080	(0.051)	0.021	0.059
235	19.58	0.10	0.060	(0.051)	0.016	0.044
236	19.67	0.10	0.060	(0.051)	0.016	0.044
237	19.75	0.10	0.060	(0.050)	0.016	0.044
238	19.83	0.07	0.040	(0.050)	0.010	0.030
239	19.92	0.07	0.040	(0.050)	0.010	0.030
240	20.00	0.07	0.040	(0.050)	0.010	0.030
241	20.08	0.10	0.060	(0.049)	0.016	0.044
242	20.17	0.10	0.060	(0.049)	0.016	0.044
243	20.25	0.10	0.060	(0.049)	0.016	0.044
244	20.33	0.10	0.060	(0.049)	0.016	0.044
245	20.42	0.10	0.060	(0.049)	0.016	0.044
246	20.50	0.10	0.060	(0.048)	0.016	0.044
247	20.58	0.10	0.060	(0.048)	0.016	0.044
248	20.67	0.10	0.060	(0.048)	0.016	0.044
249	20.75	0.10	0.060	(0.048)	0.016	0.044
250	20.83	0.07	0.040	(0.048)	0.010	0.030
251	20.92	0.07	0.040	(0.047)	0.010	0.030

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252  21.00     0.07      0.040       (  0.047)       0.010        0.030
253  21.08     0.10      0.060       (  0.047)       0.016        0.044
254  21.17     0.10      0.060       (  0.047)       0.016        0.044
255  21.25     0.10      0.060       (  0.047)       0.016        0.044
256  21.33     0.07      0.040       (  0.046)       0.010        0.030
257  21.42     0.07      0.040       (  0.046)       0.010        0.030
258  21.50     0.07      0.040       (  0.046)       0.010        0.030
259  21.58     0.10      0.060       (  0.046)       0.016        0.044
260  21.67     0.10      0.060       (  0.046)       0.016        0.044
261  21.75     0.10      0.060       (  0.046)       0.016        0.044
262  21.83     0.07      0.040       (  0.045)       0.010        0.030
263  21.92     0.07      0.040       (  0.045)       0.010        0.030
264  22.00     0.07      0.040       (  0.045)       0.010        0.030
265  22.08     0.10      0.060       (  0.045)       0.016        0.044
266  22.17     0.10      0.060       (  0.045)       0.016        0.044
267  22.25     0.10      0.060       (  0.045)       0.016        0.044
268  22.33     0.07      0.040       (  0.045)       0.010        0.030
269  22.42     0.07      0.040       (  0.044)       0.010        0.030
270  22.50     0.07      0.040       (  0.044)       0.010        0.030
271  22.58     0.07      0.040       (  0.044)       0.010        0.030
272  22.67     0.07      0.040       (  0.044)       0.010        0.030
273  22.75     0.07      0.040       (  0.044)       0.010        0.030
274  22.83     0.07      0.040       (  0.044)       0.010        0.030
275  22.92     0.07      0.040       (  0.044)       0.010        0.030
276  23.00     0.07      0.040       (  0.044)       0.010        0.030
277  23.08     0.07      0.040       (  0.043)       0.010        0.030
278  23.17     0.07      0.040       (  0.043)       0.010        0.030
279  23.25     0.07      0.040       (  0.043)       0.010        0.030
280  23.33     0.07      0.040       (  0.043)       0.010        0.030
281  23.42     0.07      0.040       (  0.043)       0.010        0.030
282  23.50     0.07      0.040       (  0.043)       0.010        0.030
283  23.58     0.07      0.040       (  0.043)       0.010        0.030
284  23.67     0.07      0.040       (  0.043)       0.010        0.030
285  23.75     0.07      0.040       (  0.043)       0.010        0.030
286  23.83     0.07      0.040       (  0.043)       0.010        0.030
287  23.92     0.07      0.040       (  0.043)       0.010        0.030
288  24.00     0.07      0.040       (  0.043)       0.010        0.030
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    47.8
      Flood volume = Effective rainfall      3.99(In)
       times area      19.1(Ac.)/[(In)/(Ft.)] =       6.3(Ac.Ft)
      Total soil loss =      1.01(In)
      Total soil loss =     1.615(Ac.Ft)
      Total rainfall =      5.00(In)
      Flood volume =      276316.4 Cubic Feet
      Total soil loss =       70335.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     11.679(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
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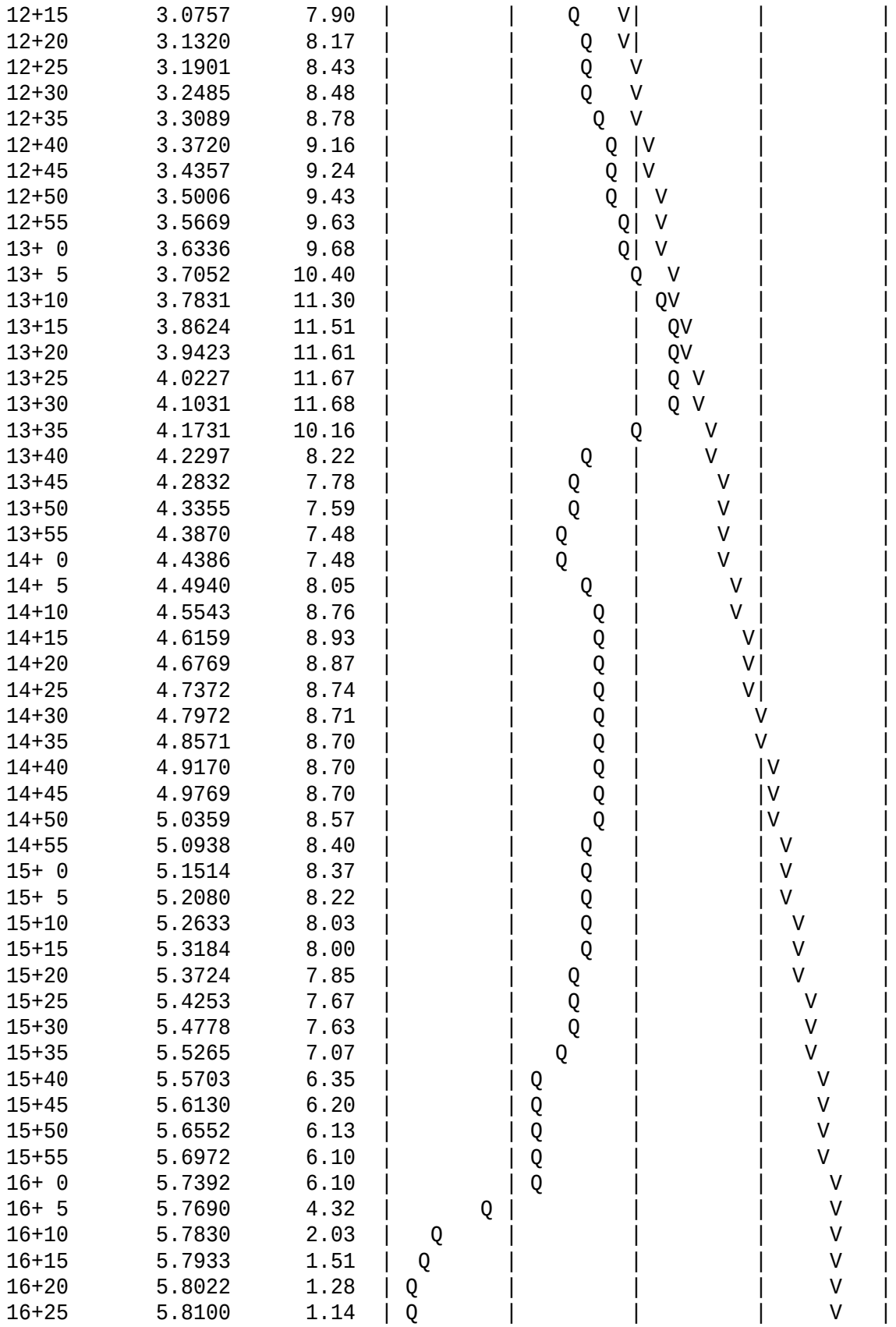
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0014	0.21	Q				
0+10	0.0046	0.47	Q				
0+15	0.0083	0.53	VQ				
0+20	0.0128	0.66	VQ				
0+25	0.0183	0.80	VQ				
0+30	0.0241	0.83	VQ				
0+35	0.0299	0.85	VQ				
0+40	0.0358	0.86	VQ				
0+45	0.0417	0.86	VQ				
0+50	0.0483	0.96	VQ				
0+55	0.0558	1.09	V Q				
1+ 0	0.0635	1.12	V Q				
1+ 5	0.0706	1.03	V Q				
1+10	0.0768	0.91	VQ				
1+15	0.0828	0.88	VQ				
1+20	0.0888	0.86	VQ				
1+25	0.0947	0.86	VQ				
1+30	0.1006	0.86	VQ				
1+35	0.1065	0.86	VQ				
1+40	0.1124	0.86	VQ				
1+45	0.1182	0.86	VQ				
1+50	0.1248	0.96	VQ				
1+55	0.1323	1.09	V Q				
2+ 0	0.1400	1.12	V Q				
2+ 5	0.1478	1.13	V Q				
2+10	0.1557	1.14	V Q				
2+15	0.1635	1.14	|VQ				
2+20	0.1714	1.14	|VQ				
2+25	0.1792	1.14	|VQ				
2+30	0.1871	1.14	|VQ				
2+35	0.1957	1.24	|VQ				
2+40	0.2051	1.37	|VQ				
2+45	0.2148	1.40	|VQ				
2+50	0.2245	1.42	|VQ				
2+55	0.2344	1.43	|VQ				
3+ 0	0.2442	1.43	|VQ				
3+ 5	0.2540	1.43	|VQ				
3+10	0.2638	1.43	|VQ				
3+15	0.2736	1.43	|VQ				
3+20	0.2834	1.43	|VQ				
3+25	0.2933	1.43	|VQ				
3+30	0.3031	1.43	|VQ				
3+35	0.3129	1.43	|VQ				
3+40	0.3227	1.43	| Q				

3+45	0.3325	1.43	Q				
3+50	0.3430	1.53	VQ				
3+55	0.3545	1.66	VQ				
4+ 0	0.3661	1.69	VQ				
4+ 5	0.3778	1.70	VQ				
4+10	0.3896	1.71	VQ				
4+15	0.4014	1.71	VQ				
4+20	0.4139	1.81	VQ				
4+25	0.4272	1.94	VQ				
4+30	0.4408	1.97	VQ				
4+35	0.4545	1.99	VQ				
4+40	0.4683	2.00	VQ				
4+45	0.4820	2.00	Q				
4+50	0.4965	2.10	VQ				
4+55	0.5118	2.23	VQ				
5+ 0	0.5274	2.26	VQ				
5+ 5	0.5416	2.07	VQ				
5+10	0.5541	1.81	Q				
5+15	0.5661	1.75	Q				
5+20	0.5787	1.83	Q				
5+25	0.5921	1.94	Q				
5+30	0.6057	1.97	Q				
5+35	0.6201	2.09	VQ				
5+40	0.6355	2.23	Q				
5+45	0.6510	2.26	Q				
5+50	0.6667	2.27	Q				
5+55	0.6824	2.28	Q				
6+ 0	0.6981	2.28	Q				
6+ 5	0.7145	2.38	Q				
6+10	0.7318	2.51	VQ				
6+15	0.7493	2.54	VQ				
6+20	0.7669	2.56	VQ				
6+25	0.7846	2.57	VQ				
6+30	0.8023	2.57	Q				
6+35	0.8206	2.67	Q				
6+40	0.8399	2.80	Q				
6+45	0.8594	2.83	Q				
6+50	0.8790	2.84	Q				
6+55	0.8986	2.85	Q				
7+ 0	0.9182	2.85	Q				
7+ 5	0.9379	2.85	Q				
7+10	0.9575	2.85	QV				
7+15	0.9771	2.85	QV				
7+20	0.9975	2.95	QV				
7+25	1.0187	3.08	Q				
7+30	1.0402	3.11	Q				
7+35	1.0624	3.23	Q				
7+40	1.0856	3.37	Q				
7+45	1.1090	3.40	Q				
7+50	1.1332	3.51	Q				
7+55	1.1584	3.65	Q				

8+ 0	1.1838	3.68	Q				
8+ 5	1.2106	3.90	Q				
8+10	1.2394	4.17	VQ				
8+15	1.2685	4.23	VQ				
8+20	1.2979	4.26	Q				
8+25	1.3273	4.28	Q				
8+30	1.3568	4.28	Q				
8+35	1.3869	4.38	Q				
8+40	1.4180	4.51	VQ				
8+45	1.4492	4.54	Q				
8+50	1.4813	4.65	Q				
8+55	1.5143	4.79	Q				
9+ 0	1.5475	4.82	Q				
9+ 5	1.5824	5.07	VQ				
9+10	1.6194	5.37	Q				
9+15	1.6570	5.45	Q				
9+20	1.6957	5.62	VQ				
9+25	1.7358	5.83	VQ				
9+30	1.7763	5.88	Q				
9+35	1.8179	6.04	VQ				
9+40	1.8609	6.24	VQ				
9+45	1.9042	6.29	Q				
9+50	1.9486	6.45	Q				
9+55	1.9944	6.65	VQ				
10+ 0	2.0406	6.70	VQ				
10+ 5	2.0807	5.84	Q V				
10+10	2.1132	4.72	Q V				
10+15	2.1439	4.46	Q V				
10+20	2.1738	4.35	Q V				
10+25	2.2033	4.28	Q V				
10+30	2.2327	4.28	Q V				
10+35	2.2665	4.90	Q V				
10+40	2.3059	5.71	Q V				
10+45	2.3465	5.90	Q V				
10+50	2.3878	5.99	Q V				
10+55	2.4294	6.05	Q V				
11+ 0	2.4711	6.06	Q V				
11+ 5	2.5119	5.93	Q V				
11+10	2.5516	5.76	Q V				
11+15	2.5910	5.72	Q V				
11+20	2.6303	5.71	Q V				
11+25	2.6697	5.71	Q V				
11+30	2.7091	5.72	Q V				
11+35	2.7466	5.45	Q V				
11+40	2.7817	5.10	Q V				
11+45	2.8164	5.03	Q V				
11+50	2.8518	5.14	Q V				
11+55	2.8883	5.30	Q V				
12+ 0	2.9252	5.35	Q V				
12+ 5	2.9689	6.35	Q V				
12+10	3.0213	7.61	Q V				



16+30	5.8179	1.14	| Q	|	|	|	V |
16+35	5.8250	1.04	| Q	|	|	|	V |
16+40	5.8313	0.91	|Q	|	|	|	V |
16+45	5.8373	0.88	|Q	|	|	|	V |
16+50	5.8433	0.86	|Q	|	|	|	V |
16+55	5.8491	0.86	|Q	|	|	|	V |
17+ 0	5.8550	0.86	|Q	|	|	|	V |
17+ 5	5.8623	1.06	| Q	|	|	|	V |
17+10	5.8714	1.32	| Q	|	|	|	V |
17+15	5.8810	1.38	| Q	|	|	|	V |
17+20	5.8907	1.41	| Q	|	|	|	V |
17+25	5.9005	1.43	| Q	|	|	|	V |
17+30	5.9103	1.43	| Q	|	|	|	V |
17+35	5.9201	1.43	| Q	|	|	|	V |
17+40	5.9299	1.43	| Q	|	|	|	V |
17+45	5.9397	1.43	| Q	|	|	|	V |
17+50	5.9489	1.32	| Q	|	|	|	V |
17+55	5.9571	1.19	| Q	|	|	|	V |
18+ 0	5.9651	1.16	| Q	|	|	|	V |
18+ 5	5.9730	1.15	| Q	|	|	|	V |
18+10	5.9808	1.14	| Q	|	|	|	V |
18+15	5.9887	1.14	| Q	|	|	|	V |
18+20	5.9965	1.14	| Q	|	|	|	V |
18+25	6.0044	1.14	| Q	|	|	|	V |
18+30	6.0122	1.14	| Q	|	|	|	V |
18+35	6.0194	1.04	| Q	|	|	|	V |
18+40	6.0256	0.91	|Q	|	|	|	V |
18+45	6.0316	0.88	|Q	|	|	|	V |
18+50	6.0369	0.76	|Q	|	|	|	V |
18+55	6.0412	0.62	|Q	|	|	|	V |
19+ 0	6.0452	0.59	|Q	|	|	|	V |
19+ 5	6.0499	0.68	|Q	|	|	|	V |
19+10	6.0555	0.80	|Q	|	|	|	V |
19+15	6.0612	0.83	|Q	|	|	|	V |
19+20	6.0677	0.95	|Q	|	|	|	V |
19+25	6.0752	1.09	| Q	|	|	|	V |
19+30	6.0829	1.12	| Q	|	|	|	V |
19+35	6.0900	1.03	| Q	|	|	|	V |
19+40	6.0963	0.91	|Q	|	|	|	V |
19+45	6.1023	0.88	|Q	|	|	|	V |
19+50	6.1075	0.76	|Q	|	|	|	V |
19+55	6.1118	0.62	|Q	|	|	|	V |
20+ 0	6.1159	0.59	|Q	|	|	|	V |
20+ 5	6.1206	0.68	|Q	|	|	|	V |
20+10	6.1261	0.80	|Q	|	|	|	V |
20+15	6.1319	0.83	|Q	|	|	|	V |
20+20	6.1377	0.85	|Q	|	|	|	V |
20+25	6.1436	0.86	|Q	|	|	|	V |
20+30	6.1495	0.86	|Q	|	|	|	V |
20+35	6.1554	0.86	|Q	|	|	|	V |
20+40	6.1613	0.86	|Q	|	|	|	V |

```
   20+45       6.1671      0.86  |Q        |         |         |       V |
   20+50       6.1723      0.75  |Q        |         |         |       V |
   20+55       6.1766      0.62  |Q        |         |         |       V |
   21+ 0       6.1807      0.59  |Q        |         |         |       V |
   21+ 5       6.1854      0.68  |Q        |         |         |        V|
   21+10       6.1909      0.80  |Q        |         |         |        V|
   21+15       6.1966      0.83  |Q        |         |         |        V|
   21+20       6.2018      0.74  |Q        |         |         |        V|
   21+25       6.2060      0.62  |Q        |         |         |        V|
   21+30       6.2101      0.59  |Q        |         |         |        V|
   21+35       6.2148      0.68  |Q        |         |         |        V|
   21+40       6.2203      0.80  |Q        |         |         |        V|
   21+45       6.2261      0.83  |Q        |         |         |        V|
   21+50       6.2312      0.74  |Q        |         |         |        V|
   21+55       6.2355      0.62  |Q        |         |         |        V|
   22+ 0       6.2396      0.59  |Q        |         |         |        V|
   22+ 5       6.2443      0.68  |Q        |         |         |        V|
   22+10       6.2498      0.80  |Q        |         |         |        V|
   22+15       6.2555      0.83  |Q        |         |         |        V|
   22+20       6.2607      0.74  |Q        |         |         |        V|
   22+25       6.2649      0.62  |Q        |         |         |        V|
   22+30       6.2690      0.59  |Q        |         |         |        V|
   22+35       6.2730      0.58  |Q        |         |         |        V|
   22+40       6.2769      0.57  |Q        |         |         |        V|
   22+45       6.2808      0.57  |Q        |         |         |        V|
   22+50       6.2848      0.57  |Q        |         |         |        V|
   22+55       6.2887      0.57  |Q        |         |         |        V|
   23+ 0       6.2926      0.57  |Q        |         |         |        V|
   23+ 5       6.2965      0.57  |Q        |         |         |        V|
   23+10       6.3005      0.57  |Q        |         |         |        V|
   23+15       6.3044      0.57  |Q        |         |         |        V|
   23+20       6.3083      0.57  |Q        |         |         |        V|
   23+25       6.3123      0.57  |Q        |         |         |        V|
   23+30       6.3162      0.57  |Q        |         |         |        V|
   23+35       6.3201      0.57  |Q        |         |         |        V|
   23+40       6.3240      0.57  |Q        |         |         |        V|
   23+45       6.3280      0.57  |Q        |         |         |        V|
   23+50       6.3319      0.57  |Q        |         |         |        V|
   23+55       6.3358      0.57  |Q        |         |         |        V|
   24+ 0       6.3397      0.57  |Q        |         |         |        V|
   24+ 5       6.3422      0.36  Q         |         |         |        V|
   24+10       6.3429      0.10  Q         |         |         |        V|
   24+15       6.3432      0.04  Q         |         |         |        V|
   24+20       6.3434      0.02  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Study date 12/06/22 File: proposedc24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
PROPOSED BASIN C
12/06/2022

Drainage Area = 15.70(Ac.) = 0.025 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.70(Ac.) = 0.025 Sq. Mi.
Length along longest watercourse = 1648.00(Ft.)
Length along longest watercourse measured to centroid = 824.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.156 Mi.
Difference in elevation = 68.00(Ft.)
Slope along watercourse = 217.8641 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.041 Hr.
Lag time = 2.46 Min.
25% of lag time = 0.62 Min.
40% of lag time = 0.99 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]
       15.70            2.00                  31.40

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       15.70            5.00                  78.50

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    15.700           56.00         0.400
 Total Area Entered =     15.70(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  74.8      0.305     0.400        0.195       1.000      0.195
                                                 Sum (F) =   0.195
Area averaged mean soil loss (F) (In/Hr) =  0.195
Minimum soil loss rate ((In/Hr)) =  0.098
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.580
------------------------------------------------------------------------

                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        202.991         43.914             6.948
    2   0.167        405.982         43.159             6.829
    3   0.250        608.974          8.673             1.372
    4   0.333        811.965          4.254             0.673
                              Sum = 100.000   Sum=      15.823
------------------------------------------------------------------------

 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) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.346)	0.023	0.017
2	0.17	0.07	0.040	(0.345)	0.023	0.017
3	0.25	0.07	0.040	(0.344)	0.023	0.017
4	0.33	0.10	0.060	(0.342)	0.035	0.025
5	0.42	0.10	0.060	(0.341)	0.035	0.025
6	0.50	0.10	0.060	(0.340)	0.035	0.025
7	0.58	0.10	0.060	(0.338)	0.035	0.025
8	0.67	0.10	0.060	(0.337)	0.035	0.025
9	0.75	0.10	0.060	(0.336)	0.035	0.025
10	0.83	0.13	0.080	(0.334)	0.046	0.034
11	0.92	0.13	0.080	(0.333)	0.046	0.034
12	1.00	0.13	0.080	(0.332)	0.046	0.034
13	1.08	0.10	0.060	(0.331)	0.035	0.025
14	1.17	0.10	0.060	(0.329)	0.035	0.025
15	1.25	0.10	0.060	(0.328)	0.035	0.025
16	1.33	0.10	0.060	(0.327)	0.035	0.025
17	1.42	0.10	0.060	(0.325)	0.035	0.025
18	1.50	0.10	0.060	(0.324)	0.035	0.025
19	1.58	0.10	0.060	(0.323)	0.035	0.025
20	1.67	0.10	0.060	(0.321)	0.035	0.025
21	1.75	0.10	0.060	(0.320)	0.035	0.025
22	1.83	0.13	0.080	(0.319)	0.046	0.034
23	1.92	0.13	0.080	(0.318)	0.046	0.034
24	2.00	0.13	0.080	(0.316)	0.046	0.034
25	2.08	0.13	0.080	(0.315)	0.046	0.034
26	2.17	0.13	0.080	(0.314)	0.046	0.034
27	2.25	0.13	0.080	(0.312)	0.046	0.034
28	2.33	0.13	0.080	(0.311)	0.046	0.034
29	2.42	0.13	0.080	(0.310)	0.046	0.034
30	2.50	0.13	0.080	(0.309)	0.046	0.034
31	2.58	0.17	0.100	(0.307)	0.058	0.042
32	2.67	0.17	0.100	(0.306)	0.058	0.042
33	2.75	0.17	0.100	(0.305)	0.058	0.042
34	2.83	0.17	0.100	(0.304)	0.058	0.042
35	2.92	0.17	0.100	(0.302)	0.058	0.042
36	3.00	0.17	0.100	(0.301)	0.058	0.042
37	3.08	0.17	0.100	(0.300)	0.058	0.042
38	3.17	0.17	0.100	(0.299)	0.058	0.042
39	3.25	0.17	0.100	(0.297)	0.058	0.042
40	3.33	0.17	0.100	(0.296)	0.058	0.042
41	3.42	0.17	0.100	(0.295)	0.058	0.042
42	3.50	0.17	0.100	(0.294)	0.058	0.042
43	3.58	0.17	0.100	(0.292)	0.058	0.042
44	3.67	0.17	0.100	(0.291)	0.058	0.042
45	3.75	0.17	0.100	(0.290)	0.058	0.042
46	3.83	0.20	0.120	(0.289)	0.070	0.050
47	3.92	0.20	0.120	(0.288)	0.070	0.050
48	4.00	0.20	0.120	(0.286)	0.070	0.050

49	4.08	0.20	0.120	(0.285)	0.070	0.050
50	4.17	0.20	0.120	(0.284)	0.070	0.050
51	4.25	0.20	0.120	(0.283)	0.070	0.050
52	4.33	0.23	0.140	(0.281)	0.081	0.059
53	4.42	0.23	0.140	(0.280)	0.081	0.059
54	4.50	0.23	0.140	(0.279)	0.081	0.059
55	4.58	0.23	0.140	(0.278)	0.081	0.059
56	4.67	0.23	0.140	(0.277)	0.081	0.059
57	4.75	0.23	0.140	(0.275)	0.081	0.059
58	4.83	0.27	0.160	(0.274)	0.093	0.067
59	4.92	0.27	0.160	(0.273)	0.093	0.067
60	5.00	0.27	0.160	(0.272)	0.093	0.067
61	5.08	0.20	0.120	(0.271)	0.070	0.050
62	5.17	0.20	0.120	(0.270)	0.070	0.050
63	5.25	0.20	0.120	(0.268)	0.070	0.050
64	5.33	0.23	0.140	(0.267)	0.081	0.059
65	5.42	0.23	0.140	(0.266)	0.081	0.059
66	5.50	0.23	0.140	(0.265)	0.081	0.059
67	5.58	0.27	0.160	(0.264)	0.093	0.067
68	5.67	0.27	0.160	(0.263)	0.093	0.067
69	5.75	0.27	0.160	(0.261)	0.093	0.067
70	5.83	0.27	0.160	(0.260)	0.093	0.067
71	5.92	0.27	0.160	(0.259)	0.093	0.067
72	6.00	0.27	0.160	(0.258)	0.093	0.067
73	6.08	0.30	0.180	(0.257)	0.104	0.076
74	6.17	0.30	0.180	(0.256)	0.104	0.076
75	6.25	0.30	0.180	(0.255)	0.104	0.076
76	6.33	0.30	0.180	(0.253)	0.104	0.076
77	6.42	0.30	0.180	(0.252)	0.104	0.076
78	6.50	0.30	0.180	(0.251)	0.104	0.076
79	6.58	0.33	0.200	(0.250)	0.116	0.084
80	6.67	0.33	0.200	(0.249)	0.116	0.084
81	6.75	0.33	0.200	(0.248)	0.116	0.084
82	6.83	0.33	0.200	(0.247)	0.116	0.084
83	6.92	0.33	0.200	(0.246)	0.116	0.084
84	7.00	0.33	0.200	(0.244)	0.116	0.084
85	7.08	0.33	0.200	(0.243)	0.116	0.084
86	7.17	0.33	0.200	(0.242)	0.116	0.084
87	7.25	0.33	0.200	(0.241)	0.116	0.084
88	7.33	0.37	0.220	(0.240)	0.128	0.092
89	7.42	0.37	0.220	(0.239)	0.128	0.092
90	7.50	0.37	0.220	(0.238)	0.128	0.092
91	7.58	0.40	0.240	(0.237)	0.139	0.101
92	7.67	0.40	0.240	(0.236)	0.139	0.101
93	7.75	0.40	0.240	(0.235)	0.139	0.101
94	7.83	0.43	0.260	(0.233)	0.151	0.109
95	7.92	0.43	0.260	(0.232)	0.151	0.109
96	8.00	0.43	0.260	(0.231)	0.151	0.109
97	8.08	0.50	0.300	(0.230)	0.174	0.126
98	8.17	0.50	0.300	(0.229)	0.174	0.126
99	8.25	0.50	0.300	(0.228)	0.174	0.126

100	8.33	0.50	0.300	(0.227)	0.174	0.126
101	8.42	0.50	0.300	(0.226)	0.174	0.126
102	8.50	0.50	0.300	(0.225)	0.174	0.126
103	8.58	0.53	0.320	(0.224)	0.186	0.134
104	8.67	0.53	0.320	(0.223)	0.186	0.134
105	8.75	0.53	0.320	(0.222)	0.186	0.134
106	8.83	0.57	0.340	(0.221)	0.197	0.143
107	8.92	0.57	0.340	(0.220)	0.197	0.143
108	9.00	0.57	0.340	(0.219)	0.197	0.143
109	9.08	0.63	0.380	0.218	(0.220)	0.162
110	9.17	0.63	0.380	0.217	(0.220)	0.163
111	9.25	0.63	0.380	0.216	(0.220)	0.164
112	9.33	0.67	0.400	0.214	(0.232)	0.186
113	9.42	0.67	0.400	0.213	(0.232)	0.187
114	9.50	0.67	0.400	0.212	(0.232)	0.188
115	9.58	0.70	0.420	0.211	(0.244)	0.209
116	9.67	0.70	0.420	0.210	(0.244)	0.210
117	9.75	0.70	0.420	0.209	(0.244)	0.211
118	9.83	0.73	0.440	0.208	(0.255)	0.232
119	9.92	0.73	0.440	0.207	(0.255)	0.233
120	10.00	0.73	0.440	0.206	(0.255)	0.234
121	10.08	0.50	0.300	(0.205)	0.174	0.126
122	10.17	0.50	0.300	(0.204)	0.174	0.126
123	10.25	0.50	0.300	(0.203)	0.174	0.126
124	10.33	0.50	0.300	(0.202)	0.174	0.126
125	10.42	0.50	0.300	(0.201)	0.174	0.126
126	10.50	0.50	0.300	(0.200)	0.174	0.126
127	10.58	0.67	0.400	0.199	(0.232)	0.201
128	10.67	0.67	0.400	0.198	(0.232)	0.202
129	10.75	0.67	0.400	0.198	(0.232)	0.202
130	10.83	0.67	0.400	0.197	(0.232)	0.203
131	10.92	0.67	0.400	0.196	(0.232)	0.204
132	11.00	0.67	0.400	0.195	(0.232)	0.205
133	11.08	0.63	0.380	0.194	(0.220)	0.186
134	11.17	0.63	0.380	0.193	(0.220)	0.187
135	11.25	0.63	0.380	0.192	(0.220)	0.188
136	11.33	0.63	0.380	0.191	(0.220)	0.189
137	11.42	0.63	0.380	0.190	(0.220)	0.190
138	11.50	0.63	0.380	0.189	(0.220)	0.191
139	11.58	0.57	0.340	0.188	(0.197)	0.152
140	11.67	0.57	0.340	0.187	(0.197)	0.153
141	11.75	0.57	0.340	0.186	(0.197)	0.154
142	11.83	0.60	0.360	0.185	(0.209)	0.175
143	11.92	0.60	0.360	0.184	(0.209)	0.176
144	12.00	0.60	0.360	0.183	(0.209)	0.177
145	12.08	0.83	0.500	0.182	(0.290)	0.318
146	12.17	0.83	0.500	0.182	(0.290)	0.318
147	12.25	0.83	0.500	0.181	(0.290)	0.319
148	12.33	0.87	0.520	0.180	(0.302)	0.340
149	12.42	0.87	0.520	0.179	(0.302)	0.341
150	12.50	0.87	0.520	0.178	(0.302)	0.342

151	12.58	0.93	0.560	0.177	(0.325)	0.383
152	12.67	0.93	0.560	0.176	(0.325)	0.384
153	12.75	0.93	0.560	0.175	(0.325)	0.385
154	12.83	0.97	0.580	0.174	(0.336)	0.406
155	12.92	0.97	0.580	0.173	(0.336)	0.407
156	13.00	0.97	0.580	0.173	(0.336)	0.407
157	13.08	1.13	0.680	0.172	(0.394)	0.508
158	13.17	1.13	0.680	0.171	(0.394)	0.509
159	13.25	1.13	0.680	0.170	(0.394)	0.510
160	13.33	1.13	0.680	0.169	(0.394)	0.511
161	13.42	1.13	0.680	0.168	(0.394)	0.512
162	13.50	1.13	0.680	0.167	(0.394)	0.513
163	13.58	0.77	0.460	0.167	(0.267)	0.293
164	13.67	0.77	0.460	0.166	(0.267)	0.294
165	13.75	0.77	0.460	0.165	(0.267)	0.295
166	13.83	0.77	0.460	0.164	(0.267)	0.296
167	13.92	0.77	0.460	0.163	(0.267)	0.297
168	14.00	0.77	0.460	0.162	(0.267)	0.298
169	14.08	0.90	0.540	0.162	(0.313)	0.378
170	14.17	0.90	0.540	0.161	(0.313)	0.379
171	14.25	0.90	0.540	0.160	(0.313)	0.380
172	14.33	0.87	0.520	0.159	(0.302)	0.361
173	14.42	0.87	0.520	0.158	(0.302)	0.362
174	14.50	0.87	0.520	0.157	(0.302)	0.363
175	14.58	0.87	0.520	0.157	(0.302)	0.363
176	14.67	0.87	0.520	0.156	(0.302)	0.364
177	14.75	0.87	0.520	0.155	(0.302)	0.365
178	14.83	0.83	0.500	0.154	(0.290)	0.346
179	14.92	0.83	0.500	0.153	(0.290)	0.347
180	15.00	0.83	0.500	0.153	(0.290)	0.347
181	15.08	0.80	0.480	0.152	(0.278)	0.328
182	15.17	0.80	0.480	0.151	(0.278)	0.329
183	15.25	0.80	0.480	0.150	(0.278)	0.330
184	15.33	0.77	0.460	0.150	(0.267)	0.310
185	15.42	0.77	0.460	0.149	(0.267)	0.311
186	15.50	0.77	0.460	0.148	(0.267)	0.312
187	15.58	0.63	0.380	0.147	(0.220)	0.233
188	15.67	0.63	0.380	0.146	(0.220)	0.233
189	15.75	0.63	0.380	0.146	(0.220)	0.234
190	15.83	0.63	0.380	0.145	(0.220)	0.235
191	15.92	0.63	0.380	0.144	(0.220)	0.236
192	16.00	0.63	0.380	0.144	(0.220)	0.236
193	16.08	0.13	0.080	(0.143)	0.046	0.034
194	16.17	0.13	0.080	(0.142)	0.046	0.034
195	16.25	0.13	0.080	(0.141)	0.046	0.034
196	16.33	0.13	0.080	(0.141)	0.046	0.034
197	16.42	0.13	0.080	(0.140)	0.046	0.034
198	16.50	0.13	0.080	(0.139)	0.046	0.034
199	16.58	0.10	0.060	(0.138)	0.035	0.025
200	16.67	0.10	0.060	(0.138)	0.035	0.025
201	16.75	0.10	0.060	(0.137)	0.035	0.025

202	16.83	0.10	0.060	(0.136)	0.035	0.025
203	16.92	0.10	0.060	(0.136)	0.035	0.025
204	17.00	0.10	0.060	(0.135)	0.035	0.025
205	17.08	0.17	0.100	(0.134)	0.058	0.042
206	17.17	0.17	0.100	(0.134)	0.058	0.042
207	17.25	0.17	0.100	(0.133)	0.058	0.042
208	17.33	0.17	0.100	(0.132)	0.058	0.042
209	17.42	0.17	0.100	(0.132)	0.058	0.042
210	17.50	0.17	0.100	(0.131)	0.058	0.042
211	17.58	0.17	0.100	(0.130)	0.058	0.042
212	17.67	0.17	0.100	(0.130)	0.058	0.042
213	17.75	0.17	0.100	(0.129)	0.058	0.042
214	17.83	0.13	0.080	(0.128)	0.046	0.034
215	17.92	0.13	0.080	(0.128)	0.046	0.034
216	18.00	0.13	0.080	(0.127)	0.046	0.034
217	18.08	0.13	0.080	(0.126)	0.046	0.034
218	18.17	0.13	0.080	(0.126)	0.046	0.034
219	18.25	0.13	0.080	(0.125)	0.046	0.034
220	18.33	0.13	0.080	(0.125)	0.046	0.034
221	18.42	0.13	0.080	(0.124)	0.046	0.034
222	18.50	0.13	0.080	(0.123)	0.046	0.034
223	18.58	0.10	0.060	(0.123)	0.035	0.025
224	18.67	0.10	0.060	(0.122)	0.035	0.025
225	18.75	0.10	0.060	(0.122)	0.035	0.025
226	18.83	0.07	0.040	(0.121)	0.023	0.017
227	18.92	0.07	0.040	(0.120)	0.023	0.017
228	19.00	0.07	0.040	(0.120)	0.023	0.017
229	19.08	0.10	0.060	(0.119)	0.035	0.025
230	19.17	0.10	0.060	(0.119)	0.035	0.025
231	19.25	0.10	0.060	(0.118)	0.035	0.025
232	19.33	0.13	0.080	(0.118)	0.046	0.034
233	19.42	0.13	0.080	(0.117)	0.046	0.034
234	19.50	0.13	0.080	(0.117)	0.046	0.034
235	19.58	0.10	0.060	(0.116)	0.035	0.025
236	19.67	0.10	0.060	(0.116)	0.035	0.025
237	19.75	0.10	0.060	(0.115)	0.035	0.025
238	19.83	0.07	0.040	(0.115)	0.023	0.017
239	19.92	0.07	0.040	(0.114)	0.023	0.017
240	20.00	0.07	0.040	(0.113)	0.023	0.017
241	20.08	0.10	0.060	(0.113)	0.035	0.025
242	20.17	0.10	0.060	(0.112)	0.035	0.025
243	20.25	0.10	0.060	(0.112)	0.035	0.025
244	20.33	0.10	0.060	(0.112)	0.035	0.025
245	20.42	0.10	0.060	(0.111)	0.035	0.025
246	20.50	0.10	0.060	(0.111)	0.035	0.025
247	20.58	0.10	0.060	(0.110)	0.035	0.025
248	20.67	0.10	0.060	(0.110)	0.035	0.025
249	20.75	0.10	0.060	(0.109)	0.035	0.025
250	20.83	0.07	0.040	(0.109)	0.023	0.017
251	20.92	0.07	0.040	(0.108)	0.023	0.017
252	21.00	0.07	0.040	(0.108)	0.023	0.017

253	21.08	0.10	0.060	(0.107)	0.035	0.025
254	21.17	0.10	0.060	(0.107)	0.035	0.025
255	21.25	0.10	0.060	(0.107)	0.035	0.025
256	21.33	0.07	0.040	(0.106)	0.023	0.017
257	21.42	0.07	0.040	(0.106)	0.023	0.017
258	21.50	0.07	0.040	(0.105)	0.023	0.017
259	21.58	0.10	0.060	(0.105)	0.035	0.025
260	21.67	0.10	0.060	(0.105)	0.035	0.025
261	21.75	0.10	0.060	(0.104)	0.035	0.025
262	21.83	0.07	0.040	(0.104)	0.023	0.017
263	21.92	0.07	0.040	(0.104)	0.023	0.017
264	22.00	0.07	0.040	(0.103)	0.023	0.017
265	22.08	0.10	0.060	(0.103)	0.035	0.025
266	22.17	0.10	0.060	(0.103)	0.035	0.025
267	22.25	0.10	0.060	(0.102)	0.035	0.025
268	22.33	0.07	0.040	(0.102)	0.023	0.017
269	22.42	0.07	0.040	(0.102)	0.023	0.017
270	22.50	0.07	0.040	(0.101)	0.023	0.017
271	22.58	0.07	0.040	(0.101)	0.023	0.017
272	22.67	0.07	0.040	(0.101)	0.023	0.017
273	22.75	0.07	0.040	(0.100)	0.023	0.017
274	22.83	0.07	0.040	(0.100)	0.023	0.017
275	22.92	0.07	0.040	(0.100)	0.023	0.017
276	23.00	0.07	0.040	(0.100)	0.023	0.017
277	23.08	0.07	0.040	(0.099)	0.023	0.017
278	23.17	0.07	0.040	(0.099)	0.023	0.017
279	23.25	0.07	0.040	(0.099)	0.023	0.017
280	23.33	0.07	0.040	(0.099)	0.023	0.017
281	23.42	0.07	0.040	(0.099)	0.023	0.017
282	23.50	0.07	0.040	(0.098)	0.023	0.017
283	23.58	0.07	0.040	(0.098)	0.023	0.017
284	23.67	0.07	0.040	(0.098)	0.023	0.017
285	23.75	0.07	0.040	(0.098)	0.023	0.017
286	23.83	0.07	0.040	(0.098)	0.023	0.017
287	23.92	0.07	0.040	(0.098)	0.023	0.017
288	24.00	0.07	0.040	(0.098)	0.023	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.5

Flood volume = Effective rainfall 2.71(In)
times area 15.7(Ac.)/[(In)/(Ft.)] = 3.5(Ac.Ft)
Total soil loss = 2.29(In)
Total soil loss = 2.997(Ac.Ft)
Total rainfall = 5.00(In)
Flood volume = 154400.7 Cubic Feet
Total soil loss = 130545.5 Cubic Feet

Peak flow rate of this hydrograph = 8.105(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	0.0008	0.12	Q				
0+10	0.0024	0.23	Q				
0+15	0.0042	0.25	VQ				
0+20	0.0064	0.32	VQ				
0+25	0.0090	0.38	VQ				
0+30	0.0117	0.39	VQ				
0+35	0.0145	0.40	VQ				
0+40	0.0172	0.40	VQ				
0+45	0.0200	0.40	VQ				
0+50	0.0231	0.46	VQ				
0+55	0.0267	0.51	V Q				
1+ 0	0.0303	0.53	V Q				
1+ 5	0.0335	0.47	VQ				
1+10	0.0364	0.42	VQ				
1+15	0.0392	0.40	VQ				
1+20	0.0419	0.40	VQ				
1+25	0.0447	0.40	VQ				
1+30	0.0474	0.40	VQ				
1+35	0.0502	0.40	VQ				
1+40	0.0529	0.40	VQ				
1+45	0.0557	0.40	VQ				
1+50	0.0588	0.46	VQ				
1+55	0.0624	0.51	V Q				
2+ 0	0.0660	0.53	V Q				
2+ 5	0.0697	0.53	V Q				
2+10	0.0733	0.53	V Q				
2+15	0.0770	0.53	V Q				
2+20	0.0807	0.53	V Q				
2+25	0.0843	0.53	V Q				
2+30	0.0880	0.53	V Q				
2+35	0.0920	0.59	|VQ				
2+40	0.0965	0.65	|VQ				
2+45	0.1010	0.66	|VQ				
2+50	0.1056	0.66	|VQ				
2+55	0.1102	0.66	|VQ				
3+ 0	0.1148	0.66	|VQ				
3+ 5	0.1194	0.66	|VQ				
3+10	0.1239	0.66	|VQ				
3+15	0.1285	0.66	|VQ				
3+20	0.1331	0.66	|VQ				
3+25	0.1377	0.66	|VQ				
3+30	0.1423	0.66	|VQ				
3+35	0.1468	0.66	|VQ				
3+40	0.1514	0.66	|VQ				
3+45	0.1560	0.66	|VQ				

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3+50       0.1610      0.72  |VQ       |         |         |         |
3+55       0.1664      0.78  |V Q      |         |         |         |
4+ 0       0.1718      0.79  |V Q      |         |         |         |
4+ 5       0.1773      0.80  | VQ      |         |         |         |
4+10       0.1828      0.80  | VQ      |         |         |         |
4+15       0.1883      0.80  | VQ      |         |         |         |
4+20       0.1942      0.86  | VQ      |         |         |         |
4+25       0.2005      0.91  | VQ      |         |         |         |
4+30       0.2069      0.93  | VQ      |         |         |         |
4+35       0.2133      0.93  | VQ      |         |         |         |
4+40       0.2197      0.93  | VQ      |         |         |         |
4+45       0.2261      0.93  | VQ      |         |         |         |
4+50       0.2329      0.99  | VQ      |         |         |         |
4+55       0.2401      1.05  | V Q     |         |         |         |
5+ 0       0.2474      1.06  | V Q     |         |         |         |
5+ 5       0.2539      0.95  | VQ      |         |         |         |
5+10       0.2596      0.83  | VQ      |         |         |         |
5+15       0.2652      0.81  | VQ      |         |         |         |
5+20       0.2711      0.86  |  Q      |         |         |         |
5+25       0.2774      0.91  |  Q      |         |         |         |
5+30       0.2838      0.93  |  Q      |         |         |         |
5+35       0.2906      0.99  |  Q      |         |         |         |
5+40       0.2978      1.05  |  VQ     |         |         |         |
5+45       0.3051      1.06  |  VQ     |         |         |         |
5+50       0.3124      1.06  |  VQ     |         |         |         |
5+55       0.3197      1.06  |  VQ     |         |         |         |
6+ 0       0.3271      1.06  |  VQ     |         |         |         |
6+ 5       0.3348      1.12  |  VQ     |         |         |         |
6+10       0.3429      1.18  |  VQ     |         |         |         |
6+15       0.3511      1.19  |  VQ     |         |         |         |
6+20       0.3594      1.20  |   Q     |         |         |         |
6+25       0.3676      1.20  |   Q     |         |         |         |
6+30       0.3759      1.20  |   Q     |         |         |         |
6+35       0.3845      1.26  |   VQ    |         |         |         |
6+40       0.3935      1.31  |   VQ    |         |         |         |
6+45       0.4027      1.32  |   VQ    |         |         |         |
6+50       0.4118      1.33  |   VQ    |         |         |         |
6+55       0.4210      1.33  |   VQ    |         |         |         |
7+ 0       0.4301      1.33  |   VQ    |         |         |         |
7+ 5       0.4393      1.33  |   VQ    |         |         |         |
7+10       0.4484      1.33  |    Q    |         |         |         |
7+15       0.4576      1.33  |    Q    |         |         |         |
7+20       0.4672      1.39  |    Q    |         |         |         |
7+25       0.4771      1.45  |    Q    |         |         |         |
7+30       0.4872      1.46  |    Q    |         |         |         |
7+35       0.4976      1.52  |    VQ   |         |         |         |
7+40       0.5085      1.58  |    VQ   |         |         |         |
7+45       0.5195      1.59  |    VQ   |         |         |         |
7+50       0.5308      1.65  |    VQ   |         |         |         |
7+55       0.5426      1.71  |     Q   |         |         |         |
8+ 0       0.5545      1.72  |     Q   |         |         |         |
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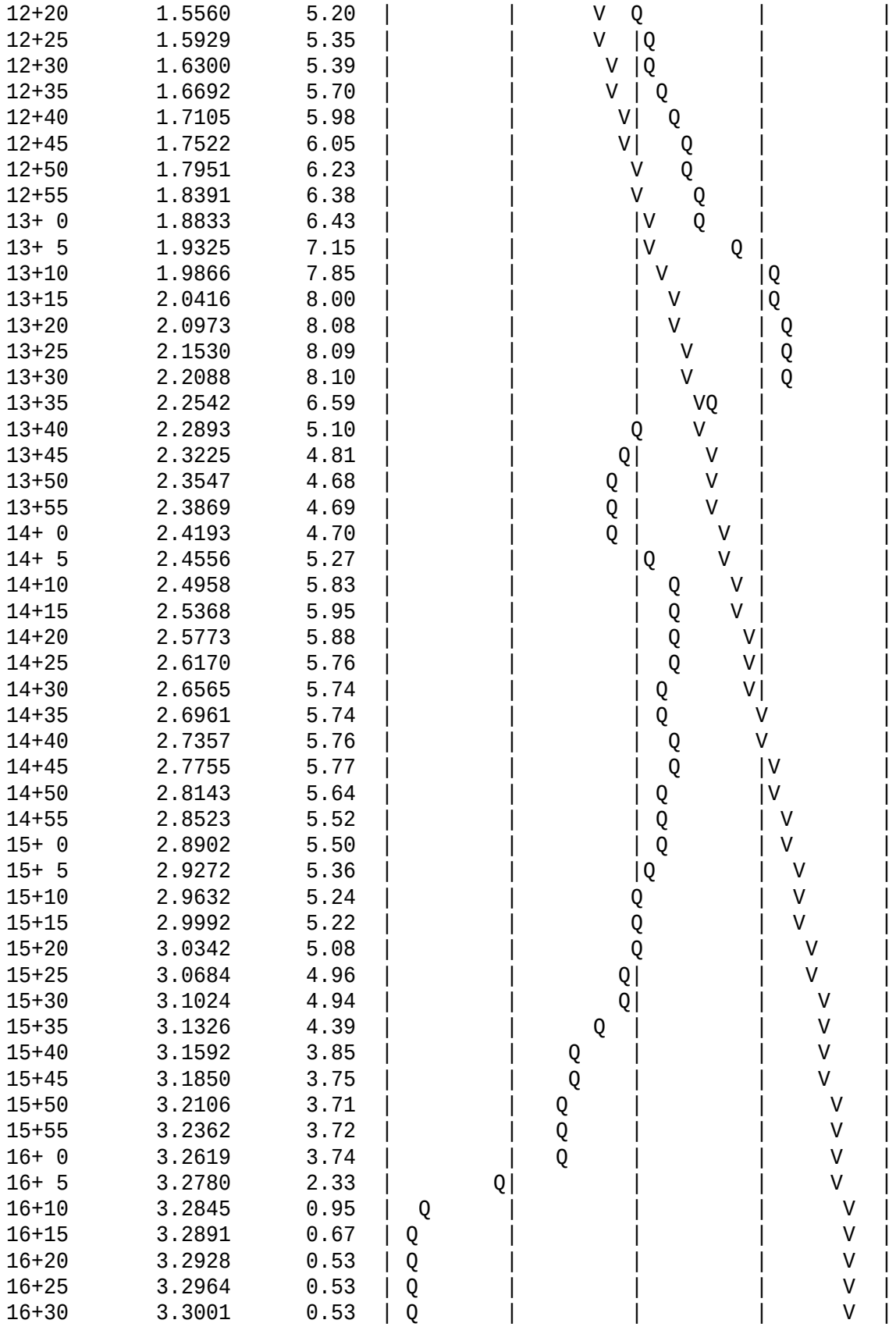
8+ 5	0.5672	1.85	VQ				
8+10	0.5807	1.96	VQ				
8+15	0.5944	1.98	VQ				
8+20	0.6081	1.99	VQ				
8+25	0.6218	1.99	Q				
8+30	0.6356	1.99	Q				
8+35	0.6497	2.05	VQ				
8+40	0.6643	2.11	VQ				
8+45	0.6789	2.12	VQ				
8+50	0.6939	2.19	VQ				
8+55	0.7094	2.24	Q				
9+ 0	0.7249	2.25	VQ				
9+ 5	0.7414	2.40	VQ				
9+10	0.7589	2.54	V Q				
9+15	0.7767	2.58	V Q				
9+20	0.7956	2.75	V Q				
9+25	0.8156	2.90	V|Q				
9+30	0.8358	2.94	V|Q				
9+35	0.8573	3.11	V| Q				
9+40	0.8797	3.27	V| Q				
9+45	0.9025	3.31	V Q				
9+50	0.9265	3.48	V Q				
9+55	0.9515	3.63	V Q				
10+ 0	0.9768	3.67	|V Q				
10+ 5	0.9971	2.95	|Q				
10+10	1.0123	2.21	Q |V				
10+15	1.0266	2.07	Q |V				
10+20	1.0403	1.99	Q |V				
10+25	1.0540	1.99	Q |V				
10+30	1.0678	1.99	Q | V				
10+35	1.0851	2.51	Q V				
10+40	1.1059	3.03	| Q				
10+45	1.1276	3.14	| Q				
10+50	1.1497	3.21	| Q				
10+55	1.1719	3.22	| QV				
11+ 0	1.1942	3.24	| QV				
11+ 5	1.2157	3.12	| QV				
11+10	1.2363	2.99	|Q V				
11+15	1.2569	2.98	|Q V				
11+20	1.2774	2.98	|Q V				
11+25	1.2981	3.00	|Q V				
11+30	1.3188	3.01	| Q V				
11+35	1.3378	2.75	|Q V				
11+40	1.3549	2.49	Q| V				
11+45	1.3718	2.45	Q| V				
11+50	1.3896	2.58	Q V				
11+55	1.4084	2.73	Q V				
12+ 0	1.4275	2.77	|Q V				
12+ 5	1.4535	3.77	| QV				
12+10	1.4861	4.74	| V Q				
12+15	1.5202	4.95	| V Q				



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16+35       3.3034      0.47  |Q        |         |         |       V  |
16+40       3.3062      0.42  |Q        |         |         |       V  |
16+45       3.3090      0.40  |Q        |         |         |       V  |
16+50       3.3118      0.40  |Q        |         |         |       V  |
16+55       3.3145      0.40  |Q        |         |         |       V  |
17+ 0       3.3173      0.40  |Q        |         |         |       V  |
17+ 5       3.3208      0.52  | Q       |         |         |       V  |
17+10       3.3251      0.63  | Q       |         |         |       V  |
17+15       3.3296      0.65  | Q       |         |         |       V  |
17+20       3.3342      0.66  | Q       |         |         |       V  |
17+25       3.3388      0.66  | Q       |         |         |       V  |
17+30       3.3434      0.66  | Q       |         |         |       V  |
17+35       3.3480      0.66  | Q       |         |         |       V  |
17+40       3.3525      0.66  | Q       |         |         |       V  |
17+45       3.3571      0.66  | Q       |         |         |       V  |
17+50       3.3613      0.61  | Q       |         |         |       V  |
17+55       3.3651      0.55  | Q       |         |         |       V  |
18+ 0       3.3688      0.54  | Q       |         |         |        V |
18+ 5       3.3724      0.53  | Q       |         |         |        V |
18+10       3.3761      0.53  | Q       |         |         |        V |
18+15       3.3798      0.53  | Q       |         |         |        V |
18+20       3.3834      0.53  | Q       |         |         |        V |
18+25       3.3871      0.53  | Q       |         |         |        V |
18+30       3.3908      0.53  | Q       |         |         |        V |
18+35       3.3940      0.47  |Q        |         |         |        V |
18+40       3.3969      0.42  |Q        |         |         |        V |
18+45       3.3997      0.40  |Q        |         |         |        V |
18+50       3.4020      0.34  |Q        |         |         |        V |
18+55       3.4040      0.28  |Q        |         |         |        V |
19+ 0       3.4058      0.27  |Q        |         |         |        V |
19+ 5       3.4081      0.32  |Q        |         |         |        V |
19+10       3.4107      0.38  |Q        |         |         |        V |
19+15       3.4134      0.39  |Q        |         |         |        V |
19+20       3.4166      0.46  |Q        |         |         |        V |
19+25       3.4201      0.51  | Q       |         |         |        V |
19+30       3.4237      0.53  | Q       |         |         |        V |
19+35       3.4270      0.47  |Q        |         |         |        V |
19+40       3.4299      0.42  |Q        |         |         |        V |
19+45       3.4326      0.40  |Q        |         |         |        V |
19+50       3.4350      0.34  |Q        |         |         |        V |
19+55       3.4369      0.28  |Q        |         |         |        V |
20+ 0       3.4388      0.27  |Q        |         |         |        V |
20+ 5       3.4410      0.32  |Q        |         |         |        V |
20+10       3.4437      0.38  |Q        |         |         |        V |
20+15       3.4464      0.39  |Q        |         |         |        V |
20+20       3.4491      0.40  |Q        |         |         |        V |
20+25       3.4519      0.40  |Q        |         |         |        V |
20+30       3.4546      0.40  |Q        |         |         |        V |
20+35       3.4574      0.40  |Q        |         |         |         V|
20+40       3.4601      0.40  |Q        |         |         |         V|
20+45       3.4629      0.40  |Q        |         |         |         V|
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   20+50       3.4652      0.34  |Q        |         |         |        V|
   20+55       3.4672      0.28  |Q        |         |         |        V|
   21+ 0       3.4690      0.27  |Q        |         |         |        V|
   21+ 5       3.4713      0.32  |Q        |         |         |        V|
   21+10       3.4739      0.38  |Q        |         |         |        V|
   21+15       3.4766      0.39  |Q        |         |         |        V|
   21+20       3.4789      0.34  |Q        |         |         |        V|
   21+25       3.4809      0.28  |Q        |         |         |        V|
   21+30       3.4828      0.27  |Q        |         |         |        V|
   21+35       3.4850      0.32  |Q        |         |         |        V|
   21+40       3.4876      0.38  |Q        |         |         |        V|
   21+45       3.4903      0.39  |Q        |         |         |        V|
   21+50       3.4927      0.34  |Q        |         |         |        V|
   21+55       3.4946      0.28  |Q        |         |         |        V|
   22+ 0       3.4965      0.27  |Q        |         |         |        V|
   22+ 5       3.4987      0.32  |Q        |         |         |        V|
   22+10       3.5014      0.38  |Q        |         |         |        V|
   22+15       3.5041      0.39  |Q        |         |         |        V|
   22+20       3.5064      0.34  |Q        |         |         |        V|
   22+25       3.5084      0.28  |Q        |         |         |        V|
   22+30       3.5102      0.27  |Q        |         |         |        V|
   22+35       3.5121      0.27  |Q        |         |         |        V|
   22+40       3.5139      0.27  |Q        |         |         |        V|
   22+45       3.5157      0.27  |Q        |         |         |        V|
   22+50       3.5176      0.27  |Q        |         |         |        V|
   22+55       3.5194      0.27  |Q        |         |         |        V|
   23+ 0       3.5212      0.27  |Q        |         |         |        V|
   23+ 5       3.5231      0.27  |Q        |         |         |        V|
   23+10       3.5249      0.27  |Q        |         |         |        V|
   23+15       3.5267      0.27  |Q        |         |         |        V|
   23+20       3.5286      0.27  |Q        |         |         |        V|
   23+25       3.5304      0.27  |Q        |         |         |        V|
   23+30       3.5322      0.27  |Q        |         |         |        V|
   23+35       3.5341      0.27  |Q        |         |         |        V|
   23+40       3.5359      0.27  |Q        |         |         |        V|
   23+45       3.5377      0.27  |Q        |         |         |        V|
   23+50       3.5395      0.27  |Q        |         |         |        V|
   23+55       3.5414      0.27  |Q        |         |         |        V|
   24+ 0       3.5432      0.27  |Q        |         |         |        V|
   24+ 5       3.5442      0.15  Q         |         |         |        V|
   24+10       3.5445      0.03  Q         |         |         |        V|
   24+15       3.5446      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

Study date 12/02/22 File: proposedd24100.out

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

Program License Serial Number 6443

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

English Units used in output format

THE TERRACES - MURRIETA
PROPOSED BASIN D
12/02/2022

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 990.00(Ft.)
Length along longest watercourse measured to centroid = 495.00(Ft.)
Length along longest watercourse = 0.188 Mi.
Length along longest watercourse measured to centroid = 0.094 Mi.
Difference in elevation = 35.00(Ft.)
Slope along watercourse = 186.6667 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.029 Hr.
Lag time = 1.72 Min.
25% of lag time = 0.43 Min.
40% of lag time = 0.69 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]
        6.90            2.00                  13.80

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        6.90            5.00                  34.50

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.000(In)
Area Averaged 100-Year Rainfall =    5.000(In)

Point rain (area averaged) =    5.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    5.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     6.900           56.00         0.800
 Total Area Entered =      6.90(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  74.8      0.305     0.800        0.086       1.000      0.086
                                                 Sum (F) =   0.086
Area averaged mean soil loss (F) (In/Hr) =  0.086
Minimum soil loss rate ((In/Hr)) =  0.043
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.260
------------------------------------------------------------------------

                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        290.355         55.668              3.871
    2   0.167        580.710         37.666              2.619
    3   0.250        871.065          6.666              0.464
                               Sum = 100.000   Sum=       6.954
------------------------------------------------------------------------

 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) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.040	(0.152)		0.010	0.030
2	0.17	0.07	0.040	(0.151)		0.010	0.030
3	0.25	0.07	0.040	(0.150)		0.010	0.030
4	0.33	0.10	0.060	(0.150)		0.016	0.044
5	0.42	0.10	0.060	(0.149)		0.016	0.044
6	0.50	0.10	0.060	(0.149)		0.016	0.044
7	0.58	0.10	0.060	(0.148)		0.016	0.044
8	0.67	0.10	0.060	(0.147)		0.016	0.044
9	0.75	0.10	0.060	(0.147)		0.016	0.044
10	0.83	0.13	0.080	(0.146)		0.021	0.059
11	0.92	0.13	0.080	(0.146)		0.021	0.059
12	1.00	0.13	0.080	(0.145)		0.021	0.059
13	1.08	0.10	0.060	(0.145)		0.016	0.044
14	1.17	0.10	0.060	(0.144)		0.016	0.044
15	1.25	0.10	0.060	(0.143)		0.016	0.044
16	1.33	0.10	0.060	(0.143)		0.016	0.044
17	1.42	0.10	0.060	(0.142)		0.016	0.044
18	1.50	0.10	0.060	(0.142)		0.016	0.044
19	1.58	0.10	0.060	(0.141)		0.016	0.044
20	1.67	0.10	0.060	(0.141)		0.016	0.044
21	1.75	0.10	0.060	(0.140)		0.016	0.044
22	1.83	0.13	0.080	(0.139)		0.021	0.059
23	1.92	0.13	0.080	(0.139)		0.021	0.059
24	2.00	0.13	0.080	(0.138)		0.021	0.059
25	2.08	0.13	0.080	(0.138)		0.021	0.059
26	2.17	0.13	0.080	(0.137)		0.021	0.059
27	2.25	0.13	0.080	(0.137)		0.021	0.059
28	2.33	0.13	0.080	(0.136)		0.021	0.059
29	2.42	0.13	0.080	(0.136)		0.021	0.059
30	2.50	0.13	0.080	(0.135)		0.021	0.059
31	2.58	0.17	0.100	(0.134)		0.026	0.074
32	2.67	0.17	0.100	(0.134)		0.026	0.074
33	2.75	0.17	0.100	(0.133)		0.026	0.074
34	2.83	0.17	0.100	(0.133)		0.026	0.074
35	2.92	0.17	0.100	(0.132)		0.026	0.074
36	3.00	0.17	0.100	(0.132)		0.026	0.074
37	3.08	0.17	0.100	(0.131)		0.026	0.074
38	3.17	0.17	0.100	(0.131)		0.026	0.074
39	3.25	0.17	0.100	(0.130)		0.026	0.074
40	3.33	0.17	0.100	(0.130)		0.026	0.074
41	3.42	0.17	0.100	(0.129)		0.026	0.074
42	3.50	0.17	0.100	(0.128)		0.026	0.074
43	3.58	0.17	0.100	(0.128)		0.026	0.074
44	3.67	0.17	0.100	(0.127)		0.026	0.074
45	3.75	0.17	0.100	(0.127)		0.026	0.074
46	3.83	0.20	0.120	(0.126)		0.031	0.089
47	3.92	0.20	0.120	(0.126)		0.031	0.089
48	4.00	0.20	0.120	(0.125)		0.031	0.089
49	4.08	0.20	0.120	(0.125)		0.031	0.089

50	4.17	0.20	0.120	(0.124)	0.031	0.089
51	4.25	0.20	0.120	(0.124)	0.031	0.089
52	4.33	0.23	0.140	(0.123)	0.036	0.104
53	4.42	0.23	0.140	(0.123)	0.036	0.104
54	4.50	0.23	0.140	(0.122)	0.036	0.104
55	4.58	0.23	0.140	(0.122)	0.036	0.104
56	4.67	0.23	0.140	(0.121)	0.036	0.104
57	4.75	0.23	0.140	(0.121)	0.036	0.104
58	4.83	0.27	0.160	(0.120)	0.042	0.118
59	4.92	0.27	0.160	(0.119)	0.042	0.118
60	5.00	0.27	0.160	(0.119)	0.042	0.118
61	5.08	0.20	0.120	(0.118)	0.031	0.089
62	5.17	0.20	0.120	(0.118)	0.031	0.089
63	5.25	0.20	0.120	(0.117)	0.031	0.089
64	5.33	0.23	0.140	(0.117)	0.036	0.104
65	5.42	0.23	0.140	(0.116)	0.036	0.104
66	5.50	0.23	0.140	(0.116)	0.036	0.104
67	5.58	0.27	0.160	(0.115)	0.042	0.118
68	5.67	0.27	0.160	(0.115)	0.042	0.118
69	5.75	0.27	0.160	(0.114)	0.042	0.118
70	5.83	0.27	0.160	(0.114)	0.042	0.118
71	5.92	0.27	0.160	(0.113)	0.042	0.118
72	6.00	0.27	0.160	(0.113)	0.042	0.118
73	6.08	0.30	0.180	(0.112)	0.047	0.133
74	6.17	0.30	0.180	(0.112)	0.047	0.133
75	6.25	0.30	0.180	(0.111)	0.047	0.133
76	6.33	0.30	0.180	(0.111)	0.047	0.133
77	6.42	0.30	0.180	(0.110)	0.047	0.133
78	6.50	0.30	0.180	(0.110)	0.047	0.133
79	6.58	0.33	0.200	(0.109)	0.052	0.148
80	6.67	0.33	0.200	(0.109)	0.052	0.148
81	6.75	0.33	0.200	(0.108)	0.052	0.148
82	6.83	0.33	0.200	(0.108)	0.052	0.148
83	6.92	0.33	0.200	(0.107)	0.052	0.148
84	7.00	0.33	0.200	(0.107)	0.052	0.148
85	7.08	0.33	0.200	(0.106)	0.052	0.148
86	7.17	0.33	0.200	(0.106)	0.052	0.148
87	7.25	0.33	0.200	(0.105)	0.052	0.148
88	7.33	0.37	0.220	(0.105)	0.057	0.163
89	7.42	0.37	0.220	(0.105)	0.057	0.163
90	7.50	0.37	0.220	(0.104)	0.057	0.163
91	7.58	0.40	0.240	(0.104)	0.062	0.178
92	7.67	0.40	0.240	(0.103)	0.062	0.178
93	7.75	0.40	0.240	(0.103)	0.062	0.178
94	7.83	0.43	0.260	(0.102)	0.068	0.192
95	7.92	0.43	0.260	(0.102)	0.068	0.192
96	8.00	0.43	0.260	(0.101)	0.068	0.192
97	8.08	0.50	0.300	(0.101)	0.078	0.222
98	8.17	0.50	0.300	(0.100)	0.078	0.222
99	8.25	0.50	0.300	(0.100)	0.078	0.222
100	8.33	0.50	0.300	(0.099)	0.078	0.222

101	8.42	0.50	0.300	(0.099)	0.078	0.222
102	8.50	0.50	0.300	(0.098)	0.078	0.222
103	8.58	0.53	0.320	(0.098)	0.083	0.237
104	8.67	0.53	0.320	(0.097)	0.083	0.237
105	8.75	0.53	0.320	(0.097)	0.083	0.237
106	8.83	0.57	0.340	(0.097)	0.088	0.252
107	8.92	0.57	0.340	(0.096)	0.088	0.252
108	9.00	0.57	0.340	(0.096)	0.088	0.252
109	9.08	0.63	0.380	0.095	(0.099)	0.285
110	9.17	0.63	0.380	0.095	(0.099)	0.285
111	9.25	0.63	0.380	0.094	(0.099)	0.286
112	9.33	0.67	0.400	0.094	(0.104)	0.306
113	9.42	0.67	0.400	0.093	(0.104)	0.307
114	9.50	0.67	0.400	0.093	(0.104)	0.307
115	9.58	0.70	0.420	0.092	(0.109)	0.328
116	9.67	0.70	0.420	0.092	(0.109)	0.328
117	9.75	0.70	0.420	0.092	(0.109)	0.328
118	9.83	0.73	0.440	0.091	(0.114)	0.349
119	9.92	0.73	0.440	0.091	(0.114)	0.349
120	10.00	0.73	0.440	0.090	(0.114)	0.350
121	10.08	0.50	0.300	(0.090)	0.078	0.222
122	10.17	0.50	0.300	(0.089)	0.078	0.222
123	10.25	0.50	0.300	(0.089)	0.078	0.222
124	10.33	0.50	0.300	(0.089)	0.078	0.222
125	10.42	0.50	0.300	(0.088)	0.078	0.222
126	10.50	0.50	0.300	(0.088)	0.078	0.222
127	10.58	0.67	0.400	0.087	(0.104)	0.313
128	10.67	0.67	0.400	0.087	(0.104)	0.313
129	10.75	0.67	0.400	0.086	(0.104)	0.314
130	10.83	0.67	0.400	0.086	(0.104)	0.314
131	10.92	0.67	0.400	0.086	(0.104)	0.314
132	11.00	0.67	0.400	0.085	(0.104)	0.315
133	11.08	0.63	0.380	0.085	(0.099)	0.295
134	11.17	0.63	0.380	0.084	(0.099)	0.296
135	11.25	0.63	0.380	0.084	(0.099)	0.296
136	11.33	0.63	0.380	0.083	(0.099)	0.297
137	11.42	0.63	0.380	0.083	(0.099)	0.297
138	11.50	0.63	0.380	0.083	(0.099)	0.297
139	11.58	0.57	0.340	0.082	(0.088)	0.258
140	11.67	0.57	0.340	0.082	(0.088)	0.258
141	11.75	0.57	0.340	0.081	(0.088)	0.259
142	11.83	0.60	0.360	0.081	(0.094)	0.279
143	11.92	0.60	0.360	0.081	(0.094)	0.279
144	12.00	0.60	0.360	0.080	(0.094)	0.280
145	12.08	0.83	0.500	0.080	(0.130)	0.420
146	12.17	0.83	0.500	0.079	(0.130)	0.421
147	12.25	0.83	0.500	0.079	(0.130)	0.421
148	12.33	0.87	0.520	0.079	(0.135)	0.441
149	12.42	0.87	0.520	0.078	(0.135)	0.442
150	12.50	0.87	0.520	0.078	(0.135)	0.442
151	12.58	0.93	0.560	0.077	(0.146)	0.483

152	12.67	0.93	0.560		0.077	(0.146)	0.483
153	12.75	0.93	0.560		0.077	(0.146)	0.483
154	12.83	0.97	0.580		0.076	(0.151)	0.504
155	12.92	0.97	0.580		0.076	(0.151)	0.504
156	13.00	0.97	0.580		0.076	(0.151)	0.504
157	13.08	1.13	0.680		0.075	(0.177)	0.605
158	13.17	1.13	0.680		0.075	(0.177)	0.605
159	13.25	1.13	0.680		0.074	(0.177)	0.606
160	13.33	1.13	0.680		0.074	(0.177)	0.606
161	13.42	1.13	0.680		0.074	(0.177)	0.606
162	13.50	1.13	0.680		0.073	(0.177)	0.607
163	13.58	0.77	0.460		0.073	(0.120)	0.387
164	13.67	0.77	0.460		0.072	(0.120)	0.388
165	13.75	0.77	0.460		0.072	(0.120)	0.388
166	13.83	0.77	0.460		0.072	(0.120)	0.388
167	13.92	0.77	0.460		0.071	(0.120)	0.389
168	14.00	0.77	0.460		0.071	(0.120)	0.389
169	14.08	0.90	0.540		0.071	(0.140)	0.469
170	14.17	0.90	0.540		0.070	(0.140)	0.470
171	14.25	0.90	0.540		0.070	(0.140)	0.470
172	14.33	0.87	0.520		0.070	(0.135)	0.450
173	14.42	0.87	0.520		0.069	(0.135)	0.451
174	14.50	0.87	0.520		0.069	(0.135)	0.451
175	14.58	0.87	0.520		0.069	(0.135)	0.451
176	14.67	0.87	0.520		0.068	(0.135)	0.452
177	14.75	0.87	0.520		0.068	(0.135)	0.452
178	14.83	0.83	0.500		0.067	(0.130)	0.433
179	14.92	0.83	0.500		0.067	(0.130)	0.433
180	15.00	0.83	0.500		0.067	(0.130)	0.433
181	15.08	0.80	0.480		0.066	(0.125)	0.414
182	15.17	0.80	0.480		0.066	(0.125)	0.414
183	15.25	0.80	0.480		0.066	(0.125)	0.414
184	15.33	0.77	0.460		0.065	(0.120)	0.395
185	15.42	0.77	0.460		0.065	(0.120)	0.395
186	15.50	0.77	0.460		0.065	(0.120)	0.395
187	15.58	0.63	0.380		0.064	(0.099)	0.316
188	15.67	0.63	0.380		0.064	(0.099)	0.316
189	15.75	0.63	0.380		0.064	(0.099)	0.316
190	15.83	0.63	0.380		0.063	(0.099)	0.317
191	15.92	0.63	0.380		0.063	(0.099)	0.317
192	16.00	0.63	0.380		0.063	(0.099)	0.317
193	16.08	0.13	0.080	(	0.062)	0.021	0.059
194	16.17	0.13	0.080	(	0.062)	0.021	0.059
195	16.25	0.13	0.080	(	0.062)	0.021	0.059
196	16.33	0.13	0.080	(	0.062)	0.021	0.059
197	16.42	0.13	0.080	(	0.061)	0.021	0.059
198	16.50	0.13	0.080	(	0.061)	0.021	0.059
199	16.58	0.10	0.060	(	0.061)	0.016	0.044
200	16.67	0.10	0.060	(	0.060)	0.016	0.044
201	16.75	0.10	0.060	(	0.060)	0.016	0.044
202	16.83	0.10	0.060	(	0.060)	0.016	0.044

203	16.92	0.10	0.060	(0.059)	0.016	0.044
204	17.00	0.10	0.060	(0.059)	0.016	0.044
205	17.08	0.17	0.100	(0.059)	0.026	0.074
206	17.17	0.17	0.100	(0.058)	0.026	0.074
207	17.25	0.17	0.100	(0.058)	0.026	0.074
208	17.33	0.17	0.100	(0.058)	0.026	0.074
209	17.42	0.17	0.100	(0.058)	0.026	0.074
210	17.50	0.17	0.100	(0.057)	0.026	0.074
211	17.58	0.17	0.100	(0.057)	0.026	0.074
212	17.67	0.17	0.100	(0.057)	0.026	0.074
213	17.75	0.17	0.100	(0.056)	0.026	0.074
214	17.83	0.13	0.080	(0.056)	0.021	0.059
215	17.92	0.13	0.080	(0.056)	0.021	0.059
216	18.00	0.13	0.080	(0.056)	0.021	0.059
217	18.08	0.13	0.080	(0.055)	0.021	0.059
218	18.17	0.13	0.080	(0.055)	0.021	0.059
219	18.25	0.13	0.080	(0.055)	0.021	0.059
220	18.33	0.13	0.080	(0.055)	0.021	0.059
221	18.42	0.13	0.080	(0.054)	0.021	0.059
222	18.50	0.13	0.080	(0.054)	0.021	0.059
223	18.58	0.10	0.060	(0.054)	0.016	0.044
224	18.67	0.10	0.060	(0.053)	0.016	0.044
225	18.75	0.10	0.060	(0.053)	0.016	0.044
226	18.83	0.07	0.040	(0.053)	0.010	0.030
227	18.92	0.07	0.040	(0.053)	0.010	0.030
228	19.00	0.07	0.040	(0.052)	0.010	0.030
229	19.08	0.10	0.060	(0.052)	0.016	0.044
230	19.17	0.10	0.060	(0.052)	0.016	0.044
231	19.25	0.10	0.060	(0.052)	0.016	0.044
232	19.33	0.13	0.080	(0.051)	0.021	0.059
233	19.42	0.13	0.080	(0.051)	0.021	0.059
234	19.50	0.13	0.080	(0.051)	0.021	0.059
235	19.58	0.10	0.060	(0.051)	0.016	0.044
236	19.67	0.10	0.060	(0.051)	0.016	0.044
237	19.75	0.10	0.060	(0.050)	0.016	0.044
238	19.83	0.07	0.040	(0.050)	0.010	0.030
239	19.92	0.07	0.040	(0.050)	0.010	0.030
240	20.00	0.07	0.040	(0.050)	0.010	0.030
241	20.08	0.10	0.060	(0.049)	0.016	0.044
242	20.17	0.10	0.060	(0.049)	0.016	0.044
243	20.25	0.10	0.060	(0.049)	0.016	0.044
244	20.33	0.10	0.060	(0.049)	0.016	0.044
245	20.42	0.10	0.060	(0.049)	0.016	0.044
246	20.50	0.10	0.060	(0.048)	0.016	0.044
247	20.58	0.10	0.060	(0.048)	0.016	0.044
248	20.67	0.10	0.060	(0.048)	0.016	0.044
249	20.75	0.10	0.060	(0.048)	0.016	0.044
250	20.83	0.07	0.040	(0.048)	0.010	0.030
251	20.92	0.07	0.040	(0.047)	0.010	0.030
252	21.00	0.07	0.040	(0.047)	0.010	0.030
253	21.08	0.10	0.060	(0.047)	0.016	0.044

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254  21.17     0.10      0.060       (  0.047)       0.016        0.044
255  21.25     0.10      0.060       (  0.047)       0.016        0.044
256  21.33     0.07      0.040       (  0.046)       0.010        0.030
257  21.42     0.07      0.040       (  0.046)       0.010        0.030
258  21.50     0.07      0.040       (  0.046)       0.010        0.030
259  21.58     0.10      0.060       (  0.046)       0.016        0.044
260  21.67     0.10      0.060       (  0.046)       0.016        0.044
261  21.75     0.10      0.060       (  0.046)       0.016        0.044
262  21.83     0.07      0.040       (  0.045)       0.010        0.030
263  21.92     0.07      0.040       (  0.045)       0.010        0.030
264  22.00     0.07      0.040       (  0.045)       0.010        0.030
265  22.08     0.10      0.060       (  0.045)       0.016        0.044
266  22.17     0.10      0.060       (  0.045)       0.016        0.044
267  22.25     0.10      0.060       (  0.045)       0.016        0.044
268  22.33     0.07      0.040       (  0.045)       0.010        0.030
269  22.42     0.07      0.040       (  0.044)       0.010        0.030
270  22.50     0.07      0.040       (  0.044)       0.010        0.030
271  22.58     0.07      0.040       (  0.044)       0.010        0.030
272  22.67     0.07      0.040       (  0.044)       0.010        0.030
273  22.75     0.07      0.040       (  0.044)       0.010        0.030
274  22.83     0.07      0.040       (  0.044)       0.010        0.030
275  22.92     0.07      0.040       (  0.044)       0.010        0.030
276  23.00     0.07      0.040       (  0.044)       0.010        0.030
277  23.08     0.07      0.040       (  0.043)       0.010        0.030
278  23.17     0.07      0.040       (  0.043)       0.010        0.030
279  23.25     0.07      0.040       (  0.043)       0.010        0.030
280  23.33     0.07      0.040       (  0.043)       0.010        0.030
281  23.42     0.07      0.040       (  0.043)       0.010        0.030
282  23.50     0.07      0.040       (  0.043)       0.010        0.030
283  23.58     0.07      0.040       (  0.043)       0.010        0.030
284  23.67     0.07      0.040       (  0.043)       0.010        0.030
285  23.75     0.07      0.040       (  0.043)       0.010        0.030
286  23.83     0.07      0.040       (  0.043)       0.010        0.030
287  23.92     0.07      0.040       (  0.043)       0.010        0.030
288  24.00     0.07      0.040       (  0.043)       0.010        0.030
               (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    47.8
       Flood volume = Effective rainfall      3.99(In)
        times area       6.9(Ac.)/[(In)/(Ft.)] =       2.3(Ac.Ft)
       Total soil loss =      1.01(In)
       Total soil loss =     0.583(Ac.Ft)
       Total rainfall =      5.00(In)
       Flood volume =       99823.8 Cubic Feet
       Total soil loss =       25409.5 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      4.220(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          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
       ---------------------------------------------------------------------
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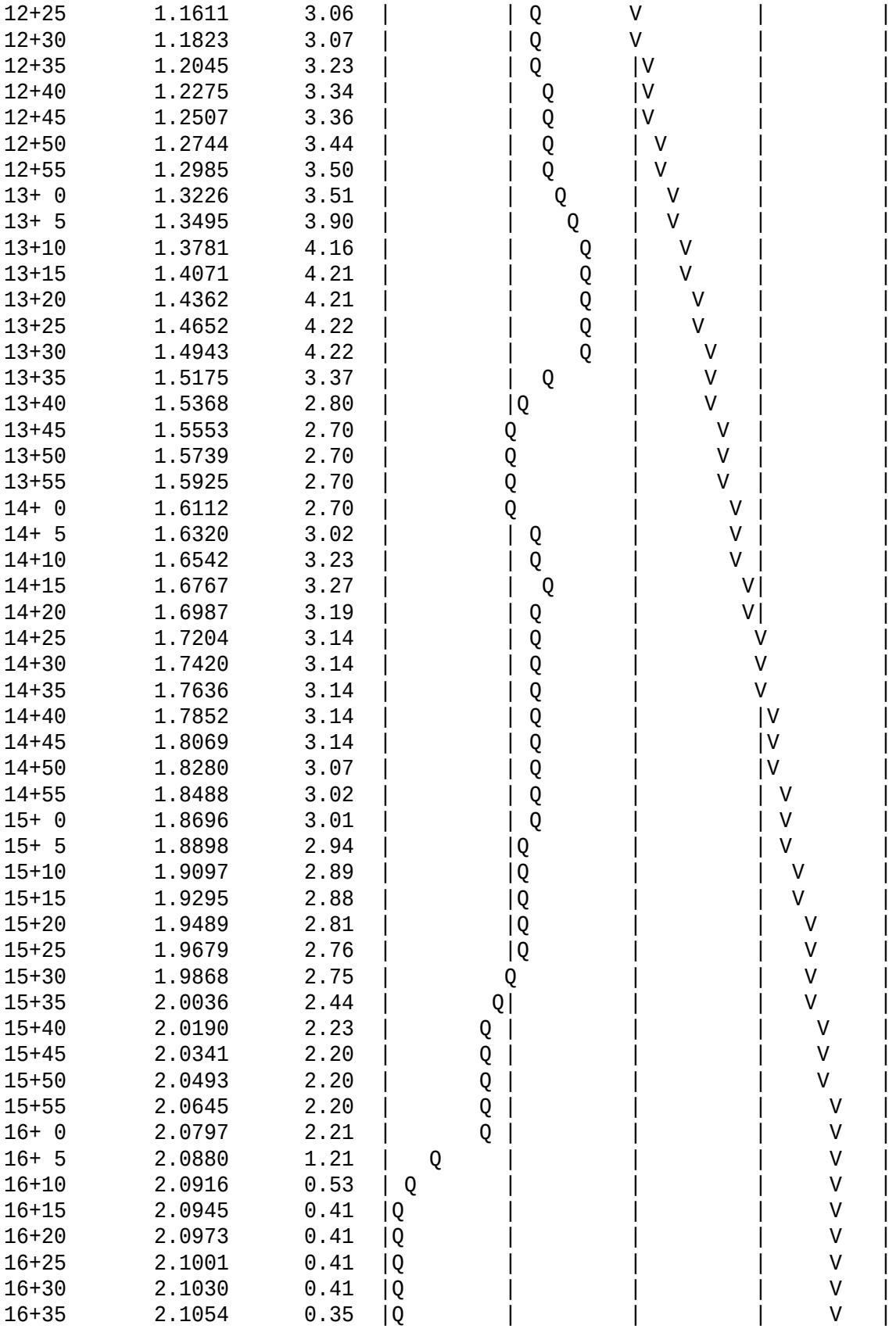
Hydrograph in 5 Minute intervals ((CFS))

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	0.0021	0.19	Q				
0+15	0.0035	0.21	Q				
0+20	0.0053	0.26	VQ				
0+25	0.0074	0.30	VQ				
0+30	0.0096	0.31	VQ				
0+35	0.0117	0.31	VQ				
0+40	0.0138	0.31	VQ				
0+45	0.0159	0.31	VQ				
0+50	0.0185	0.37	VQ				
0+55	0.0212	0.41	VQ				
1+ 0	0.0241	0.41	VQ				
1+ 5	0.0265	0.35	VQ				
1+10	0.0287	0.32	VQ				
1+15	0.0308	0.31	VQ				
1+20	0.0330	0.31	VQ				
1+25	0.0351	0.31	VQ				
1+30	0.0372	0.31	VQ				
1+35	0.0393	0.31	VQ				
1+40	0.0415	0.31	VQ				
1+45	0.0436	0.31	VQ				
1+50	0.0461	0.37	VQ				
1+55	0.0489	0.41	VQ				
2+ 0	0.0517	0.41	VQ				
2+ 5	0.0546	0.41	VQ				
2+10	0.0574	0.41	|Q				
2+15	0.0603	0.41	|Q				
2+20	0.0631	0.41	|Q				
2+25	0.0659	0.41	|Q				
2+30	0.0688	0.41	|Q				
2+35	0.0720	0.47	|Q				
2+40	0.0755	0.51	|VQ				
2+45	0.0790	0.51	|VQ				
2+50	0.0826	0.51	|VQ				
2+55	0.0861	0.51	|VQ				
3+ 0	0.0897	0.51	|VQ				
3+ 5	0.0932	0.51	|VQ				
3+10	0.0968	0.51	|VQ				
3+15	0.1003	0.51	|VQ				
3+20	0.1039	0.51	|VQ				
3+25	0.1074	0.51	|VQ				
3+30	0.1109	0.51	|VQ				
3+35	0.1145	0.51	|VQ				
3+40	0.1180	0.51	| Q				
3+45	0.1216	0.51	| Q				
3+50	0.1255	0.57	| Q				

3+55	0.1297	0.61	Q				
4+ 0	0.1340	0.62	Q				
4+ 5	0.1382	0.62	Q				
4+10	0.1425	0.62	Q				
4+15	0.1468	0.62	Q				
4+20	0.1514	0.68	Q				
4+25	0.1563	0.71	Q				
4+30	0.1613	0.72	Q				
4+35	0.1662	0.72	Q				
4+40	0.1712	0.72	Q				
4+45	0.1762	0.72	QV				
4+50	0.1815	0.78	Q				
4+55	0.1872	0.82	Q				
5+ 0	0.1928	0.82	Q				
5+ 5	0.1977	0.71	QV				
5+10	0.2021	0.63	QV				
5+15	0.2063	0.62	QV				
5+20	0.2110	0.68	QV				
5+25	0.2159	0.71	QV				
5+30	0.2209	0.72	QV				
5+35	0.2262	0.78	Q				
5+40	0.2318	0.82	QV				
5+45	0.2375	0.82	QV				
5+50	0.2432	0.82	QV				
5+55	0.2489	0.82	QV				
6+ 0	0.2545	0.82	QV				
6+ 5	0.2606	0.88	QV				
6+10	0.2669	0.92	QV				
6+15	0.2733	0.93	QV				
6+20	0.2797	0.93	QV				
6+25	0.2861	0.93	QV				
6+30	0.2925	0.93	Q V				
6+35	0.2992	0.98	Q V				
6+40	0.3063	1.02	QV				
6+45	0.3134	1.03	QV				
6+50	0.3205	1.03	QV				
6+55	0.3276	1.03	QV				
7+ 0	0.3347	1.03	QV				
7+ 5	0.3417	1.03	QV				
7+10	0.3488	1.03	Q V				
7+15	0.3559	1.03	Q V				
7+20	0.3634	1.09	Q V				
7+25	0.3712	1.13	Q V				
7+30	0.3790	1.13	Q V				
7+35	0.3872	1.19	Q V				
7+40	0.3956	1.23	Q V				
7+45	0.4041	1.24	Q V				
7+50	0.4130	1.29	Q V				
7+55	0.4222	1.33	Q V				
8+ 0	0.4314	1.34	Q V				
8+ 5	0.4414	1.45	Q V				

8+10	0.4520	1.53	QV				
8+15	0.4626	1.54	Q V				
8+20	0.4733	1.54	Q V				
8+25	0.4839	1.54	Q V				
8+30	0.4945	1.54	Q V				
8+35	0.5056	1.60	Q V				
8+40	0.5169	1.64	Q V				
8+45	0.5282	1.65	Q V				
8+50	0.5400	1.70	Q V				
8+55	0.5520	1.74	Q V				
9+ 0	0.5640	1.75	Q V				
9+ 5	0.5770	1.88	Q V				
9+10	0.5905	1.97	Q V				
9+15	0.6042	1.99	Q V				
9+20	0.6184	2.07	Q V				
9+25	0.6330	2.12	Q |V				
9+30	0.6477	2.13	Q |V				
9+35	0.6630	2.22	Q |V				
9+40	0.6786	2.27	Q|V				
9+45	0.6944	2.28	Q| V				
9+50	0.7106	2.36	Q| V				
9+55	0.7273	2.42	Q| V				
10+ 0	0.7440	2.43	Q| V				
10+ 5	0.7574	1.94	Q | V				
10+10	0.7684	1.60	Q | V				
10+15	0.7791	1.54	Q | V				
10+20	0.7897	1.54	Q | V				
10+25	0.8004	1.54	Q | V				
10+30	0.8110	1.54	Q | V				
10+35	0.8240	1.90	Q | V				
10+40	0.8388	2.14	Q | V				
10+45	0.8538	2.18	Q | V				
10+50	0.8688	2.18	Q | V				
10+55	0.8839	2.19	Q | V				
11+ 0	0.8989	2.19	Q | V				
11+ 5	0.9135	2.11	Q | V				
11+10	0.9277	2.07	Q | V				
11+15	0.9419	2.06	Q | V				
11+20	0.9561	2.06	Q | V				
11+25	0.9703	2.06	Q | V				
11+30	0.9846	2.07	Q | V				
11+35	0.9977	1.92	Q | V				
11+40	1.0102	1.81	Q | V				
11+45	1.0226	1.80	Q | V				
11+50	1.0355	1.88	Q | V				
11+55	1.0489	1.93	Q | V				
12+ 0	1.0623	1.95	Q | V				
12+ 5	1.0794	2.49	Q| V				
12+10	1.0991	2.86	|Q V|				
12+15	1.1193	2.93	|Q V|				
12+20	1.1400	3.01	| Q V|				



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16+40       2.1076      0.32  |Q        |         |         |     V   |
16+45       2.1097      0.31  |Q        |         |         |     V   |
16+50       2.1118      0.31  |Q        |         |         |     V   |
16+55       2.1140      0.31  |Q        |         |         |     V   |
17+ 0       2.1161      0.31  |Q        |         |         |     V   |
17+ 5       2.1190      0.42  |Q        |         |         |     V   |
17+10       2.1225      0.50  | Q       |         |         |      V  |
17+15       2.1260      0.51  | Q       |         |         |      V  |
17+20       2.1296      0.51  | Q       |         |         |      V  |
17+25       2.1331      0.51  | Q       |         |         |      V  |
17+30       2.1367      0.51  | Q       |         |         |      V  |
17+35       2.1402      0.51  | Q       |         |         |      V  |
17+40       2.1437      0.51  | Q       |         |         |      V  |
17+45       2.1473      0.51  | Q       |         |         |      V  |
17+50       2.1504      0.46  |Q        |         |         |      V  |
17+55       2.1533      0.42  |Q        |         |         |      V  |
18+ 0       2.1562      0.41  |Q        |         |         |      V  |
18+ 5       2.1590      0.41  |Q        |         |         |      V  |
18+10       2.1618      0.41  |Q        |         |         |      V  |
18+15       2.1647      0.41  |Q        |         |         |      V  |
18+20       2.1675      0.41  |Q        |         |         |      V  |
18+25       2.1703      0.41  |Q        |         |         |      V  |
18+30       2.1732      0.41  |Q        |         |         |      V  |
18+35       2.1756      0.35  |Q        |         |         |      V  |
18+40       2.1778      0.32  |Q        |         |         |       V |
18+45       2.1799      0.31  |Q        |         |         |       V |
18+50       2.1817      0.25  |Q        |         |         |       V |
18+55       2.1831      0.21  Q        |         |         |       V |
19+ 0       2.1845      0.21  Q        |         |         |       V |
19+ 5       2.1864      0.26  |Q        |         |         |       V |
19+10       2.1884      0.30  |Q        |         |         |       V |
19+15       2.1906      0.31  |Q        |         |         |       V |
19+20       2.1931      0.37  |Q        |         |         |       V |
19+25       2.1959      0.41  |Q        |         |         |       V |
19+30       2.1987      0.41  |Q        |         |         |       V |
19+35       2.2012      0.35  |Q        |         |         |       V |
19+40       2.2033      0.32  |Q        |         |         |       V |
19+45       2.2055      0.31  |Q        |         |         |       V |
19+50       2.2072      0.25  |Q        |         |         |       V |
19+55       2.2087      0.21  Q        |         |         |       V |
20+ 0       2.2101      0.21  Q        |         |         |       V |
20+ 5       2.2119      0.26  |Q        |         |         |       V |
20+10       2.2140      0.30  |Q        |         |         |       V |
20+15       2.2161      0.31  |Q        |         |         |       V |
20+20       2.2182      0.31  |Q        |         |         |       V |
20+25       2.2203      0.31  |Q        |         |         |       V |
20+30       2.2225      0.31  |Q        |         |         |       V |
20+35       2.2246      0.31  |Q        |         |         |       V |
20+40       2.2267      0.31  |Q        |         |         |       V |
20+45       2.2289      0.31  |Q        |         |         |       V |
20+50       2.2306      0.25  |Q        |         |         |       V |
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   20+55       2.2321      0.21  Q          |          |          |        V |
   21+ 0       2.2335      0.21  Q          |          |          |        V |
   21+ 5       2.2353      0.26  |Q         |          |          |         V|
   21+10       2.2374      0.30  |Q         |          |          |         V|
   21+15       2.2395      0.31  |Q         |          |          |         V|
   21+20       2.2412      0.25  |Q         |          |          |         V|
   21+25       2.2427      0.21  Q          |          |          |         V|
   21+30       2.2441      0.21  Q          |          |          |         V|
   21+35       2.2459      0.26  |Q         |          |          |         V|
   21+40       2.2480      0.30  |Q         |          |          |         V|
   21+45       2.2501      0.31  |Q         |          |          |         V|
   21+50       2.2519      0.25  |Q         |          |          |         V|
   21+55       2.2533      0.21  Q          |          |          |         V|
   22+ 0       2.2547      0.21  Q          |          |          |         V|
   22+ 5       2.2566      0.26  |Q         |          |          |         V|
   22+10       2.2586      0.30  |Q         |          |          |         V|
   22+15       2.2608      0.31  |Q         |          |          |         V|
   22+20       2.2625      0.25  |Q         |          |          |         V|
   22+25       2.2640      0.21  Q          |          |          |         V|
   22+30       2.2654      0.21  Q          |          |          |         V|
   22+35       2.2668      0.21  Q          |          |          |         V|
   22+40       2.2682      0.21  Q          |          |          |         V|
   22+45       2.2696      0.21  Q          |          |          |         V|
   22+50       2.2711      0.21  Q          |          |          |         V|
   22+55       2.2725      0.21  Q          |          |          |         V|
   23+ 0       2.2739      0.21  Q          |          |          |         V|
   23+ 5       2.2753      0.21  Q          |          |          |         V|
   23+10       2.2767      0.21  Q          |          |          |         V|
   23+15       2.2782      0.21  Q          |          |          |         V|
   23+20       2.2796      0.21  Q          |          |          |         V|
   23+25       2.2810      0.21  Q          |          |          |         V|
   23+30       2.2824      0.21  Q          |          |          |         V|
   23+35       2.2838      0.21  Q          |          |          |         V|
   23+40       2.2852      0.21  Q          |          |          |         V|
   23+45       2.2867      0.21  Q          |          |          |         V|
   23+50       2.2881      0.21  Q          |          |          |         V|
   23+55       2.2895      0.21  Q          |          |          |         V|
   24+ 0       2.2909      0.21  Q          |          |          |         V|
   24+ 5       2.2915      0.09  Q          |          |          |         V|
   24+10       2.2916      0.01  Q          |          |          |         V|
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