Appendix D

TR-20

Appendix D-1

TR-20

Plumtree Branch and Little Plumtree Branch

Note: This section of Appendix D includes the TR-20 outputs used for calibration of the watershed with one drainage area along with the sub-divided drainage area TR-20 output with reach routing. The TR-20 schematic and reach routing cross section data area also included, providing background data for the sub-divided watershed TR-20.

```
*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20                                                       NOPLOTS
TITLE     Valley Mede Existing LU, Good and Fair Cond, Single DA
TITLE     2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions
 5 RAINFL 5              .1
 8          0.0000      0.0013      0.0023      0.0034      0.0044
 8          0.0055      0.0065      0.0076      0.0087      0.0098
 8          0.0109      0.0121      0.0132      0.0143      0.0155
 8          0.0167      0.0178      0.0190      0.0202      0.0214
 8          0.0226      0.0238      0.0251      0.0263      0.0276
 8          0.0288      0.0301      0.0314      0.0327      0.0340
 8          0.0353      0.0366      0.0379      0.0393      0.0406
 8          0.0420      0.0434      0.0447      0.0461      0.0475
 8          0.0489      0.0504      0.0518      0.0532      0.0547
 8          0.0562      0.0576      0.0591      0.0606      0.0621
 8          0.0636      0.0651      0.0667      0.0682      0.0697
 8          0.0713      0.0729      0.0745      0.0760      0.0776
 8          0.0793      0.0809      0.0826      0.0843      0.0861
 8          0.0879      0.0898      0.0916      0.0936      0.0955
 8          0.0975      0.0996      0.1017      0.1038      0.1060
 8          0.1082      0.1104      0.1127      0.1150      0.1174
 8          0.1198      0.1223      0.1247      0.1273      0.1298
 8          0.1324      0.1351      0.1378      0.1405      0.1432
 8          0.1461      0.1490      0.1521      0.1554      0.1588
 8          0.1623      0.1660      0.1699      0.1739      0.1780
 8          0.1823      0.1868      0.1914      0.1961      0.2010
 8          0.2061      0.2117      0.2179      0.2247      0.2321
 8          0.2400      0.2490      0.2591      0.2702      0.2825
 8          0.2955      0.3157      0.3370      0.3662      0.4067
 8          0.4766      0.5933      0.6338      0.6630      0.6843
 8          0.7045      0.7176      0.7298      0.7409      0.7510
 8          0.7600      0.7679      0.7753      0.7821      0.7883
 8          0.7939      0.7990      0.8039      0.8086      0.8132
 8          0.8177      0.8220      0.8261      0.8301      0.8340
 8          0.8377      0.8412      0.8446      0.8479      0.8510
 8          0.8540      0.8568      0.8595      0.8622      0.8649
 8          0.8676      0.8702      0.8727      0.8753      0.8778
 8          0.8802      0.8826      0.8850      0.8873      0.8896
 8          0.8918      0.8940      0.8962      0.8983      0.9004
 8          0.9025      0.9045      0.9064      0.9084      0.9103
 8          0.9121      0.9139      0.9157      0.9174      0.9191
 8          0.9208      0.9224      0.9240      0.9256      0.9271
 8          0.9287      0.9303      0.9318      0.9334      0.9349
 8          0.9364      0.9379      0.9394      0.9409      0.9424
 8          0.9439      0.9453      0.9468      0.9482      0.9496
```

```
                                                        VMEX
  8          0.9511      0.9525      0.9539      0.9553      0.9566

  8          0.9580      0.9594      0.9607      0.9621      0.9634

  8          0.9647      0.9660      0.9673      0.9686      0.9699

  8          0.9712      0.9724      0.9737      0.9749      0.9762

  8          0.9774      0.9786      0.9798      0.9810      0.9822

  8          0.9834      0.9845      0.9857      0.9868      0.9879

1


 *********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

  8          0.9891      0.9902      0.9913      0.9924      0.9935

  8          0.9945      0.9956      0.9967      0.9977      0.9987

  8          1.0000      1.0000      1.0000      1.0000      1.0000
  9 ENDTBL
  6 RUNOFF 1 001       1 1.9825      74.951       1.160      1        1  Good
  6 RUNOFF 1 002       1 1.9825      79.638       1.160      1        1  Fair
    ENDATA
  7 INCREM 6                     0.05
  7 COMPUT 7 001   002            0.0        3.19         1.05 2  1   2
    ENDCMP 1
  7 COMPUT 7 001   002            0.0        4.91         1.05 2  1   10
    ENDCMP 1
  7 COMPUT 7 001   002            0.0        7.23         1.05 2  1   50
    ENDCMP 1
  7 COMPUT 7 001   002            0.0        8.47         1.05 2  1   99
    ENDCMP 1
    ENDJOB 2

 ******************************END OF 80-80 LIST*******************************
1
 TR20 ------------------------------------------------------------------- SCS -
            Valley Mede Existing LU, Good and Fair Cond, Single DA      VERSION
 04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 11:43:39                    PASS   1   JOB NO.   1                     PAGE   1


 EXECUTIVE CONTROL INCREM    MAIN TIME INCREMENT =   .050 HOURS


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION   2
    STARTING TIME =   .00       RAIN DEPTH =  3.19       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. = 2            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.84                         583.6                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.08 WATERSHED INCHES;    1387 CFS-HRS;     114.6 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.82                         765.2                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.37 WATERSHED INCHES;    1753 CFS-HRS;     144.9 ACRE-FEET.


 EXECUTIVE CONTROL ENDCMP    COMPUTATIONS COMPLETED FOR PASS   1


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION   2
    STARTING TIME =   .00       RAIN DEPTH =  4.91       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. =10            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.81                        1339.2                       (RUNOFF)
```

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.37 WATERSHED INCHES; 3034 CFS-HRS; 250.7 ACRE-FEET.

1
TR20 ---------- SCS -
Valley Mede Existing LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:39 PASS 2 JOB NO. 1 PAGE 2

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.79	1582.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.78 WATERSHED INCHES; 3558 CFS-HRS; 294.0 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 2
STARTING TIME = .00 RAIN DEPTH = 7.23 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.78	2474.3	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.35 WATERSHED INCHES; 5560 CFS-HRS; 459.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.77	2759.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.86 WATERSHED INCHES; 6218 CFS-HRS; 513.9 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 2
STARTING TIME = .00 RAIN DEPTH = 8.47 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 5

1
TR20 ---------- SCS -
Valley Mede Existing LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:39 PASS 4 JOB NO. 1 PAGE 3

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.77	3104.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.46 WATERSHED INCHES; 6985 CFS-HRS; 577.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.77	3398.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.99 WATERSHED INCHES; 7670 CFS-HRS; 633.8 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

1
TR20 ---------- SCS -
Valley Mede Existing LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:39 SUMMARY, JOB NO. 1 PAGE 4

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.19 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 5, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	1.98	1.08	---	12.84	584	294.9
XSECTION 2	RUNOFF	1.98	1.37	---	12.82	765	386.4
RAINFALL OF 4.91 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
XSECTION 1	RUNOFF	1.98	2.37	---	12.81	1339	676.3
XSECTION 2	RUNOFF	1.98	2.78	---	12.79	1583	799.5
RAINFALL OF 7.23 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							
XSECTION 1	RUNOFF	1.98	4.35	---	12.78	2474	1249.5
XSECTION 2	RUNOFF	1.98	4.86	---	12.77	2759	1393.4
RAINFALL OF 8.47 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	1.98	5.46	---	12.77	3105	1568.2
XSECTION 2	RUNOFF	1.98	5.99	---	12.77	3399	1716.7

1
TR20 ---------- SCS -
Valley Mede Existing LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:39 SUMMARY, JOB NO. 1 PAGE 5

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	10	50	99
XSECTION 1	1.98				
ALTERNATE 1		584	1339	2474	3105
XSECTION 2	1.98				
ALTERNATE 1		765	1583	2759	3399

1
TR20 ---------- SCS -
Valley Mede Existing LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = vmex.dat , GIVEN DATA FILE
OUTPUT = vmex.OUT , DATED 04/24/**,11:43:39

FILES GENERATED - DATED 04/24/**,11:43:39

NONE!

TOTAL NUMBER OF WARNINGS = 0, MESSAGES = 0

*** TR-20 RUN COMPLETED ***

```
*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20                                                       NOPLOTS
TITLE     Valley Mede Ultimate LU, Good and Fair Cond, Single DA
TITLE     2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions
 5 RAINFL 5              .1
 8          0.0000      0.0013      0.0023      0.0034      0.0044
 8          0.0055      0.0065      0.0076      0.0087      0.0098
 8          0.0109      0.0121      0.0132      0.0143      0.0155
 8          0.0167      0.0178      0.0190      0.0202      0.0214
 8          0.0226      0.0238      0.0251      0.0263      0.0276
 8          0.0288      0.0301      0.0314      0.0327      0.0340
 8          0.0353      0.0366      0.0379      0.0393      0.0406
 8          0.0420      0.0434      0.0447      0.0461      0.0475
 8          0.0489      0.0504      0.0518      0.0532      0.0547
 8          0.0562      0.0576      0.0591      0.0606      0.0621
 8          0.0636      0.0651      0.0667      0.0682      0.0697
 8          0.0713      0.0729      0.0745      0.0760      0.0776
 8          0.0793      0.0809      0.0826      0.0843      0.0861
 8          0.0879      0.0898      0.0916      0.0936      0.0955
 8          0.0975      0.0996      0.1017      0.1038      0.1060
 8          0.1082      0.1104      0.1127      0.1150      0.1174
 8          0.1198      0.1223      0.1247      0.1273      0.1298
 8          0.1324      0.1351      0.1378      0.1405      0.1432
 8          0.1461      0.1490      0.1521      0.1554      0.1588
 8          0.1623      0.1660      0.1699      0.1739      0.1780
 8          0.1823      0.1868      0.1914      0.1961      0.2010
 8          0.2061      0.2117      0.2179      0.2247      0.2321
 8          0.2400      0.2490      0.2591      0.2702      0.2825
 8          0.2955      0.3157      0.3370      0.3662      0.4067
 8          0.4766      0.5933      0.6338      0.6630      0.6843
 8          0.7045      0.7176      0.7298      0.7409      0.7510
 8          0.7600      0.7679      0.7753      0.7821      0.7883
 8          0.7939      0.7990      0.8039      0.8086      0.8132
 8          0.8177      0.8220      0.8261      0.8301      0.8340
 8          0.8377      0.8412      0.8446      0.8479      0.8510
 8          0.8540      0.8568      0.8595      0.8622      0.8649
 8          0.8676      0.8702      0.8727      0.8753      0.8778
 8          0.8802      0.8826      0.8850      0.8873      0.8896
 8          0.8918      0.8940      0.8962      0.8983      0.9004
 8          0.9025      0.9045      0.9064      0.9084      0.9103
 8          0.9121      0.9139      0.9157      0.9174      0.9191
 8          0.9208      0.9224      0.9240      0.9256      0.9271
 8          0.9287      0.9303      0.9318      0.9334      0.9349
 8          0.9364      0.9379      0.9394      0.9409      0.9424
 8          0.9439      0.9453      0.9468      0.9482      0.9496
```

```
                                                        VMULT
  8          0.9511      0.9525      0.9539      0.9553      0.9566

  8          0.9580      0.9594      0.9607      0.9621      0.9634

  8          0.9647      0.9660      0.9673      0.9686      0.9699

  8          0.9712      0.9724      0.9737      0.9749      0.9762

  8          0.9774      0.9786      0.9798      0.9810      0.9822

  8          0.9834      0.9845      0.9857      0.9868      0.9879

1


 **********80-80 LIST OF INPUT DATA (CONTINUED)**********

  8          0.9891      0.9902      0.9913      0.9924      0.9935

  8          0.9945      0.9956      0.9967      0.9977      0.9987

  8          1.0000      1.0000      1.0000      1.0000      1.0000
  9 ENDTBL
  6 RUNOFF 1 001       1 1.9825      76.663       1.160      1        1  Good
  6 RUNOFF 1 002       1 1.9825      81.065       1.160      1        1  Fair
    ENDATA
  7 INCREM 6                     0.05
  7 COMPUT 7 001   002            0.0        3.19         1.05 2  1   2
    ENDCMP 1
  7 COMPUT 7 001   002            0.0        4.91         1.05 2  1   10
    ENDCMP 1
  7 COMPUT 7 001   002            0.0        7.23         1.05 2  1   50
    ENDCMP 1
  7 COMPUT 7 001   002            0.0        8.47         1.05 2  1   99
    ENDCMP 1
    ENDJOB 2

 ******************************END OF 80-80 LIST******************************
1
 TR20 ------------------------------------------------------------------- SCS -
            Valley Mede Ultimate LU, Good and Fair Cond, Single DA      VERSION
 04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 11:43:57                    PASS   1   JOB NO.   1                     PAGE   1


 EXECUTIVE CONTROL INCREM    MAIN TIME INCREMENT =   .050 HOURS


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION   2
    STARTING TIME =   .00       RAIN DEPTH =  3.19       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. = 2            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.83                         647.6                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.18 WATERSHED INCHES;    1515 CFS-HRS;     125.2 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.81                         823.6                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.47 WATERSHED INCHES;    1875 CFS-HRS;     154.9 ACRE-FEET.


 EXECUTIVE CONTROL ENDCMP    COMPUTATIONS COMPLETED FOR PASS   1


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION   2
    STARTING TIME =   .00       RAIN DEPTH =  4.91       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. =10            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.80                        1427.5                       (RUNOFF)
```

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.52 WATERSHED INCHES; 3222 CFS-HRS; 266.3 ACRE-FEET.

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:57 PASS 2 JOB NO. 1 PAGE 2

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.78	1657.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.91 WATERSHED INCHES; 3724 CFS-HRS; 307.8 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 2
STARTING TIME = .00 RAIN DEPTH = 7.23 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.78	2581.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.54 WATERSHED INCHES; 5802 CFS-HRS; 479.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.77	2842.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.01 WATERSHED INCHES; 6412 CFS-HRS; 529.9 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 2
STARTING TIME = .00 RAIN DEPTH = 8.47 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 5

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:57 PASS 4 JOB NO. 1 PAGE 3

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.77	3214.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.66 WATERSHED INCHES; 7242 CFS-HRS; 598.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.76	3484.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.14 WATERSHED INCHES; 7862 CFS-HRS; 649.7 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:57 SUMMARY, JOB NO. 1 PAGE 4

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.19 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 5, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	1.98	1.18	---	12.83	648	327.3
XSECTION 2	RUNOFF	1.98	1.47	---	12.81	824	416.2
RAINFALL OF 4.91 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
XSECTION 1	RUNOFF	1.98	2.52	---	12.80	1428	721.2
XSECTION 2	RUNOFF	1.98	2.91	---	12.78	1657	836.9
RAINFALL OF 7.23 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 50							
XSECTION 1	RUNOFF	1.98	4.54	---	12.78	2582	1304.0
XSECTION 2	RUNOFF	1.98	5.01	---	12.77	2842	1435.4
RAINFALL OF 8.47 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	1.98	5.66	---	12.77	3214	1623.2
XSECTION 2	RUNOFF	1.98	6.14	---	12.76	3485	1760.1

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
11:43:57 SUMMARY, JOB NO. 1 PAGE 5

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	10	50	99
XSECTION 1	1.98				
ALTERNATE 1		648	1428	2582	3214
XSECTION 2	1.98				
ALTERNATE 1		824	1657	2842	3485

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Good and Fair Cond, Single DA VERSION
04/24/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = vmult.dat , GIVEN DATA FILE
OUTPUT = vmult.OUT , DATED 04/24/**,11:43:57

FILES GENERATED - DATED 04/24/**,11:43:57

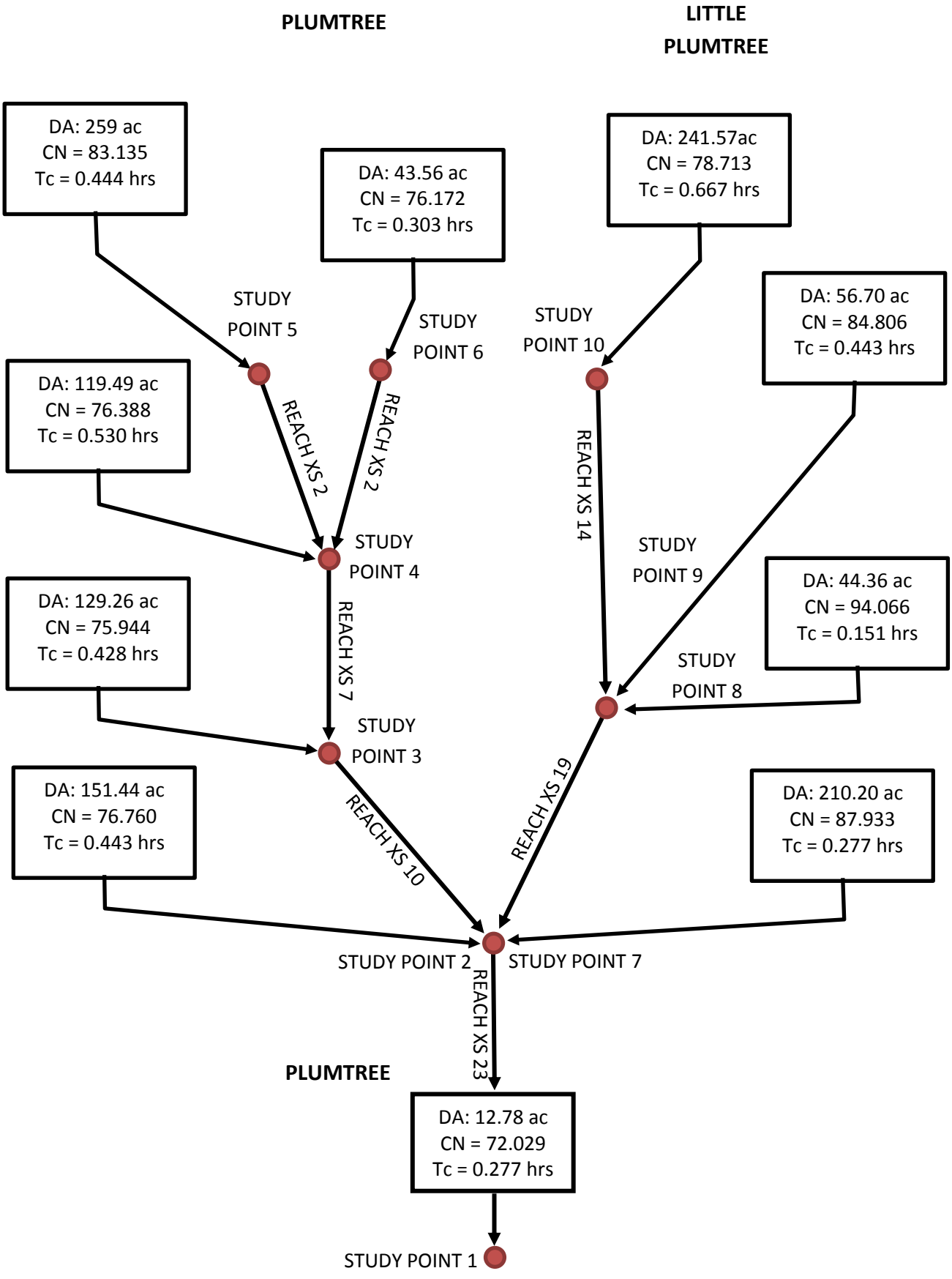
NONE!

TOTAL NUMBER OF WARNINGS = 0, MESSAGES = 0

*** TR-20 RUN COMPLETED ***

TR-20 SCHEMATIC

CN VALUES BASED ON ULTIMATE LAND USE, FAIR CONDITIONS



Rating Table for XS 2 (SP 4 RS 8374)

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	0.00572	ft/ft
Normal Depth	9.69	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	401.05
0+00	401.02
0+15	400.00
0+18	399.78
0+18	399.76
0+18	399.72
0+20	399.64
0+20	399.60
0+22	399.47
0+31	398.77
0+42	398.00
0+43	397.92
0+44	397.88
0+49	397.52
0+50	397.46
0+51	397.35
0+55	397.06
0+68	396.40
0+68	396.37
0+73	396.03
0+73	396.00
0+78	395.72
0+79	395.60
0+81	395.52
0+82	395.41
0+84	395.31
0+85	395.20

Rating Table for XS 2 (SP 4 RS 8374)

Input Data

Station (ft)	Elevation (ft)
1+04	394.00
1+09	393.72

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 401.05)	(2+73, 382.34)	0.075
(2+73, 382.34)	(2+92, 384.62)	0.040
(2+92, 384.62)	(3+60, 401.09)	0.085

Water Surface Elevation (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
380.31					
381.01	17.58	2.04	8.61	13.89	13.47
381.71	57.72	3.09	18.68	16.19	15.29
382.41	87.42	2.90	30.14	22.07	20.72
383.11	104.50	1.51	69.28	79.34	77.74
383.81	263.75	2.07	127.12	89.37	87.51
384.51	485.21	2.53	191.79	99.40	97.27
385.21	756.68	2.87	264.06	111.02	108.78
385.91	1097.04	3.19	343.49	120.49	118.15
386.61	1504.59	3.51	429.14	128.97	126.50
387.31	1935.42	3.71	521.71	141.26	138.70
388.01	2404.29	3.85	624.39	157.20	154.58
388.71	3010.65	4.09	736.45	168.32	165.60
389.41	3695.34	4.32	856.11	179.19	176.36
390.11	4464.50	4.54	983.39	189.76	186.83

Rating Table for XS 7 (SP 3 RS 6028)

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	0.00567	ft/ft
Normal Depth	4.47	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	382.80
0+20	382.41
0+22	382.31
0+25	382.00
0+29	381.21
0+34	380.00
0+39	378.96
0+48	377.02
0+53	376.00
0+54	375.96
0+54	375.94
0+64	375.32
0+75	374.08
0+76	374.00
0+76	374.00
0+80	373.50
0+80	373.47
0+80	373.45
0+81	373.50
1+08	372.93
1+32	372.05
1+33	372.00
1+52	371.00
1+83	368.87
2+04	368.60
2+04	368.60
2+05	368.59

Rating Table for XS 7 (SP 3 RS 6028)

Input Data

Station (ft)	Elevation (ft)
2+15	368.32
2+16	366.61

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 382.80)	(2+15, 368.32)	0.075
(2+15, 368.32)	(2+34, 368.82)	0.040
(2+34, 368.82)	(4+05, 394.17)	0.075

Water Surface Elevation (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
365.53					
366.13	2.41	1.30	1.85	5.81	5.64
366.73	13.26	2.23	5.96	8.39	7.89
367.33	32.81	2.95	11.12	10.26	9.32
367.93	56.86	3.28	17.33	13.64	12.32
368.53	58.83	2.17	27.09	26.46	24.94
369.13	87.92	1.63	53.94	59.07	57.49
369.73	182.33	1.97	92.49	72.64	71.01
370.33	312.70	2.24	139.48	87.41	85.73
370.93	486.35	2.49	195.36	102.28	100.55
371.53	699.83	2.68	260.83	119.76	117.98
372.13	968.75	2.88	336.90	137.49	135.67
372.73	1275.43	3.00	425.26	160.75	158.89
373.33	1614.79	3.05	529.26	192.51	190.61
373.93	2124.43	3.26	651.29	212.98	211.02
374.53	2756.14	3.52	782.07	226.93	224.91
375.13	3501.54	3.81	920.13	237.37	235.29
375.73	4298.02	4.04	1065.04	250.90	248.76

Rating Table for XS 10 (SP 2 RS 2331)

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	0.00376	ft/ft
Normal Depth	6.90	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	364.49
0+07	364.41
0+07	364.40
0+14	364.07
0+15	364.03
0+15	364.00
0+21	363.68
0+24	363.45
0+29	363.13
0+40	362.46
0+45	362.09
0+47	362.00
0+47	361.49
0+50	360.00
0+52	358.30
0+53	358.00
0+55	356.39
0+56	356.00
0+57	355.85
0+64	354.98
0+71	353.58
0+95	352.52
1+17	352.10
1+38	352.42
1+39	352.39
1+44	352.26
1+49	348.51

Rating Table for XS 10 (SP 2 RS 2331)

Input Data

Station (ft)	Elevation (ft)
1+54	348.10
1+60	348.42

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 364.49)	(1+44, 352.26)	0.075
(1+44, 352.26)	(1+64, 351.17)	0.040
(1+64, 351.17)	(3+19, 367.28)	0.075

Water Surface Elevation (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
348.10					
348.70	5.42	1.22	4.43	11.23	11.06
349.30	24.01	2.07	11.59	13.36	12.82
349.90	53.17	2.68	19.81	15.49	14.58
350.50	92.55	3.18	29.09	17.62	16.34
351.10	142.34	3.61	39.42	19.75	18.10
351.70	165.15	3.21	51.53	24.46	22.56
352.30	116.32	1.69	68.86	54.23	52.10
352.90	175.05	1.50	116.35	96.43	94.26
353.50	306.92	1.70	180.56	121.05	118.85
354.10	516.89	2.03	254.74	129.95	127.66
354.70	768.52	2.30	334.49	140.52	138.15
355.30	1065.05	2.53	420.62	151.69	149.25
355.90	1408.22	2.74	513.66	163.42	160.90
356.50	1807.31	2.95	613.67	174.47	171.81
357.10	2263.93	3.15	719.75	184.64	181.80
357.70	2774.44	3.34	831.81	194.72	191.70
358.30	3358.23	3.54	949.51	203.01	199.80

Rating Table for XS 14 (SP 8 RS 6309)

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	0.00657	ft/ft
Normal Depth	3.85	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	394.12
0+00	394.10
0+00	394.08
0+01	394.07
0+01	394.00
0+09	393.52
0+09	393.45
0+10	393.36
0+10	393.30
0+13	392.95
0+15	392.76
0+16	392.56
0+20	392.00
0+20	391.95
0+22	391.75
0+24	391.60
0+25	391.48
0+29	391.03
0+33	390.67
0+36	390.38
0+36	390.29
0+39	390.00
0+45	389.14
0+52	388.00
0+57	387.40
0+59	387.19
0+68	386.00

Rating Table for XS 14 (SP 8 RS 6309)

Input Data

Station (ft)	Elevation (ft)
0+71	385.39
0+73	385.16

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 394.12)	(1+73, 379.93)	0.085
(1+73, 379.93)	(1+91, 379.27)	0.040
(1+91, 379.27)	(2+87, 404.00)	0.085

Water Surface Elevation (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
376.15					
377.05	8.36	1.73	4.84	11.16	10.77
377.95	50.12	3.22	15.58	14.12	13.10
378.85	120.19	4.23	28.42	17.07	15.42
379.75	170.94	3.89	43.92	22.22	20.05
380.65	159.08	1.80	88.20	73.07	70.62
381.55	355.19	2.20	161.67	95.32	92.66
382.45	675.00	2.69	251.36	107.89	104.98
383.35	1104.38	3.16	349.36	116.38	113.21
384.25	1615.02	3.54	456.11	126.98	123.56
385.15	2234.68	3.91	571.32	136.07	132.41
386.05	2973.63	4.29	693.77	143.36	139.32
386.95	3792.19	4.61	822.71	151.71	147.23
387.85	4704.26	4.91	958.82	160.29	155.37
388.75	5747.20	5.22	1101.81	167.47	162.09
389.65	6882.68	5.50	1250.71	174.88	169.06
390.55	8093.30	5.75	1406.32	183.27	177.01
391.45	9366.77	5.97	1569.98	193.16	186.47
392.35	10762.79	6.18	1742.42	202.89	195.78

Rating Table for XS 14 (SP 8 RS 6309)

Input Data

Rating Table for XS 17 (SP 7 RS 2613)

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	0.00535	ft/ft
Normal Depth	6.58	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	386.00
0+04	385.16
0+10	384.46
0+11	384.22
0+13	384.00
0+16	383.53
0+21	382.82
0+28	381.75
0+29	381.71
0+32	381.10
0+43	380.36
0+45	380.16
0+48	380.00
0+53	379.59
0+70	378.00
0+86	376.00
0+94	374.78
1+00	374.00
1+06	373.52
1+16	372.58
1+22	372.00
1+29	371.54
1+31	371.46
1+38	371.12
1+60	370.94
1+61	371.07
1+71	370.38

Rating Table for XS 17 (SP 7 RS 2613)

Input Data

Station (ft)	Elevation (ft)
1+72	370.43
1+78	370.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 386.00)	(3+87, 357.27)	0.075
(3+87, 357.27)	(4+04, 357.94)	0.040
(4+04, 357.94)	(4+25, 358.03)	0.075
(4+25, 358.03)	(6+86, 380.00)	0.055

Water Surface Elevation (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
353.42					
354.17	5.09	1.60	3.18	7.03	6.75
354.92	23.50	2.60	9.02	9.62	8.83
355.67	54.37	3.31	16.42	12.20	10.90
356.42	98.76	3.89	25.37	14.79	12.97
357.17	67.66	1.72	39.26	40.03	37.68
357.92	141.61	1.80	78.64	67.29	64.69
358.67	290.86	1.90	152.96	117.18	114.53
359.42	578.12	2.32	249.05	143.85	141.16
360.17	989.10	2.72	363.75	166.73	163.99
360.92	1520.99	3.08	494.51	187.50	184.70
361.67	2178.56	3.40	640.80	208.26	205.40
362.42	2981.64	3.72	802.19	227.03	224.08
363.17	3939.75	4.03	976.51	243.31	240.27
363.92	5049.66	4.34	1162.33	258.39	255.25
364.67	6325.86	4.66	1358.62	271.43	268.16
365.42	7734.95	4.94	1564.62	284.85	281.47

Rating Table for XS 21 (SP 1 RS 146)

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Channel Slope	0.00360	ft/ft
Normal Depth	9.27	ft

Section Definitions

Station (ft)	Elevation (ft)
0+00	359.00
0+06	358.83
0+16	358.07
0+16	358.02
0+17	358.00
0+21	357.01
0+26	356.00
0+28	355.50
0+30	355.06
0+35	354.18
0+35	354.08
0+36	354.00
0+38	353.72
0+38	353.66
0+42	353.18
0+44	352.85
0+46	352.61
0+51	352.01
0+51	352.00
0+53	351.88
0+60	351.50
0+61	351.44
0+66	351.17
0+67	351.09
0+70	350.94
0+73	350.72
0+76	350.54

Rating Table for XS 21 (SP 1 RS 146)

Input Data

Station (ft)	Elevation (ft)
0+81	350.00
1+00	348.85

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 359.00)	(2+15, 344.26)	0.075
(2+15, 344.26)	(2+36, 344.28)	0.040
(2+36, 344.28)	(3+46, 368.31)	0.075

Water Surface Elevation (ft)	Discharge (ft³/s)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
340.73					
341.48	9.64	1.46	6.59	12.38	12.11
342.23	39.11	2.36	16.56	15.18	14.47
342.98	85.34	3.02	28.29	17.97	16.83
343.73	148.51	3.55	41.80	20.77	19.19
344.48	146.45	2.53	57.99	31.97	30.05
345.23	162.66	1.76	92.62	64.24	62.27
345.98	273.72	1.84	148.97	90.05	88.02
346.73	453.62	2.02	224.13	113.35	111.18
347.48	714.72	2.27	314.46	131.36	128.99
348.23	1049.51	2.51	417.50	148.17	145.58
348.98	1470.76	2.76	532.23	162.55	159.75
349.73	1960.34	2.98	657.45	177.87	174.90
350.48	2559.41	3.23	793.58	189.94	186.84
351.23	3222.20	3.43	938.75	203.68	200.40
351.98	3947.27	3.60	1094.98	219.69	216.24

1

**********80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY**********

```
JOB TR-20                                                       NOPLOTS
TITLE     Valley Mede Ultimate LU, Fair Cond, Subdivided
TITLE     2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions
 2 XSECTN   002                   1.0      382.34
 8                             380.31       0.00        0.00
 8                             381.01      17.58        8.61
 8                             381.71      57.72       18.68
 8                             382.41      87.42       30.14
 8                             383.11     104.50       69.28
 8                             383.81     263.75      127.12
 8                             384.51     485.21      191.79
 8                             385.21     756.68      264.06
 8                             385.91    1097.04      343.49
 8                             386.61    1504.59      429.14
 8                             387.31    1935.42      521.71
 8                             388.01    2404.29      624.39
 8                             388.71    3010.65      736.45
 8                             389.41    3695.34      856.11
 8                             390.11    4464.50      983.39
 9 ENDTBL
 2 XSECTN   007                   1.0      368.32
 8                             365.53       0.00        0.00
 8                             366.13       2.41        1.85
 8                             366.73      13.26        5.96
 8                             367.33      32.81       11.12
 8                             367.93      56.86       17.33
 8                             368.53      58.83       27.09
 8                             369.13      87.92       53.94
 8                             369.73     182.33       92.49
 8                             370.33     312.70      139.48
 8                             370.93     486.35      195.36
 8                             371.53     699.83      260.83
 8                             372.13     968.75      336.90
 8                             372.73    1275.43      425.26
 8                             373.33    1614.79      529.26
 8                             373.93    2124.43      651.29
 8                             374.53    2756.14      782.07
 8                             375.13    3501.54      920.13
 8                             375.73    4298.02     1065.04
 9 ENDTBL
 2 XSECTN   010                   1.0      356.35
 8                             348.10       0.00        0.00
 8                             348.70       5.42        4.43
 8                             349.30      24.01       11.59
 8                             349.90      53.17       19.81
 8                             350.50      92.55       29.09
 8                             351.10     142.34       39.42
 8                             351.70     165.15       51.53
 8                             352.90     175.05      116.35
 8                             353.50     306.92      180.56
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**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
 8                             354.10     516.89      254.74
 8                             354.70     768.52      334.49
 8                             355.30    1065.05      420.62
 8                             355.90    1408.22      513.66
 8                             356.50    1807.31      613.67
 8                             357.10    2263.93      719.75
 8                             357.70    2774.44      831.81
 8                             358.30    3358.23      949.51
 9 ENDTBL
 2 XSECTN   014                   1.0      379.93
 8                             376.15       0.00        0.00
 8                             377.05       8.36        4.84
 8                             377.95      50.12       15.58
 8                             378.85     120.19       28.42
 8                             380.65     159.08       88.20
 8                             381.55     355.19      161.67
 8                             382.45     675.00      251.36
 8                             383.35    1104.38      349.36
 8                             384.25    1615.02      456.11
 8                             385.15    2234.68      571.32
 8                             386.05    2973.63      693.77
 8                             386.95    3792.19      822.71
 8                             387.85    4704.26      958.82
 8                             388.75    5747.20     1101.81
 8                             389.65    6882.68     1250.71
 8                             390.55    8093.30     1406.32
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  8                           391.45     9366.77     1569.98
  8                           392.35    10762.79     1742.42
  9 ENDTBL
  2 XSECTN   019                 1.0      357.27
  8                           353.42        0.00        0.00
  8                           354.17        5.09        3.18
  8                           354.92       23.50        9.02
  8                           355.67       54.37       16.42
  8                           357.17       67.66       39.26
  8                           357.92      141.61       78.64
  8                           358.67      290.86      152.96
  8                           359.42      578.12      249.05
  8                           360.17      989.10      363.75
  8                           360.92     1520.99      494.51
  8                           361.67     2178.56      640.80
  8                           362.42     2981.64      802.19
  8                           363.17     3939.75      976.51
  8                           363.92     5049.66     1162.33
  8                           364.67     6325.86     1358.62
  8                           365.42     7734.95     1564.62
  9 ENDTBL
  2 XSECTN   023                 1.0      344.26
  8                           340.73        0.00        0.00
  8                           341.48        9.64        6.59
1
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  8                           342.23       39.11       16.56
  8                           342.98       85.34       28.29
  8                           344.48      146.45       57.99
  8                           345.23      162.66       92.62
  8                           345.98      273.72      148.97
  8                           346.73      453.62      224.13
  8                           347.48      714.72      314.46
  8                           348.23     1049.51      417.50
  8                           348.98     1470.76      532.23
  8                           349.73     1960.34      657.45
  8                           350.48     2559.41      793.58
  8                           351.23     3222.20      938.75
  8                           351.98     3947.27     1094.98
  9 ENDTBL
  5 RAINFL 5                   .1
  8          0.0000      0.0013      0.0023      0.0034      0.0044

  8          0.0055      0.0065      0.0076      0.0087      0.0098

  8          0.0109      0.0121      0.0132      0.0143      0.0155

  8          0.0167      0.0178      0.0190      0.0202      0.0214

  8          0.0226      0.0238      0.0251      0.0263      0.0276

  8          0.0288      0.0301      0.0314      0.0327      0.0340

  8          0.0353      0.0366      0.0379      0.0393      0.0406

  8          0.0420      0.0434      0.0447      0.0461      0.0475

  8          0.0489      0.0504      0.0518      0.0532      0.0547

  8          0.0562      0.0576      0.0591      0.0606      0.0621

  8          0.0636      0.0651      0.0667      0.0682      0.0697

  8          0.0713      0.0729      0.0745      0.0760      0.0776

  8          0.0793      0.0809      0.0826      0.0843      0.0861

  8          0.0879      0.0898      0.0916      0.0936      0.0955

  8          0.0975      0.0996      0.1017      0.1038      0.1060

  8          0.1082      0.1104      0.1127      0.1150      0.1174

  8          0.1198      0.1223      0.1247      0.1273      0.1298

  8          0.1324      0.1351      0.1378      0.1405      0.1432

  8          0.1461      0.1490      0.1521      0.1554      0.1588

  8          0.1623      0.1660      0.1699      0.1739      0.1780

  8          0.1823      0.1868      0.1914      0.1961      0.2010

  8          0.2061      0.2117      0.2179      0.2247      0.2321
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  8          0.2400      0.2490      0.2591      0.2702      0.2825

  8          0.2955      0.3157      0.3370      0.3662      0.4067

  8          0.4766      0.5933      0.6338      0.6630      0.6843

  8          0.7045      0.7176      0.7298      0.7409      0.7510

  8          0.7600      0.7679      0.7753      0.7821      0.7883

  8          0.7939      0.7990      0.8039      0.8086      0.8132

  8          0.8177      0.8220      0.8261      0.8301      0.8340

  8          0.8377      0.8412      0.8446      0.8479      0.8510

  8          0.8540      0.8568      0.8595      0.8622      0.8649

  8          0.8676      0.8702      0.8727      0.8753      0.8778

  8          0.8802      0.8826      0.8850      0.8873      0.8896

  8          0.8918      0.8940      0.8962      0.8983      0.9004

  8          0.9025      0.9045      0.9064      0.9084      0.9103

1


 **********80-80 LIST OF INPUT DATA (CONTINUED)**********

  8          0.9121      0.9139      0.9157      0.9174      0.9191

  8          0.9208      0.9224      0.9240      0.9256      0.9271
  8          0.9287      0.9303      0.9318      0.9334      0.9349

  8          0.9364      0.9379      0.9394      0.9409      0.9424

  8          0.9439      0.9453      0.9468      0.9482      0.9496
  8          0.9511      0.9525      0.9539      0.9553      0.9566

  8          0.9580      0.9594      0.9607      0.9621      0.9634

  8          0.9647      0.9660      0.9673      0.9686      0.9699

  8          0.9712      0.9724      0.9737      0.9749      0.9762

  8          0.9774      0.9786      0.9798      0.9810      0.9822

  8          0.9834      0.9845      0.9857      0.9868      0.9879

  8          0.9891      0.9902      0.9913      0.9924      0.9935

  8          0.9945      0.9956      0.9967      0.9977      0.9987

  8          1.0000      1.0000      1.0000      1.0000      1.0000
  9 ENDTBL
  6 RUNOFF 1 001       1 0.4053      83.135       0.444       1        1  DA5
  6 REACH  3  02   1   2 3113                                  1        1
  6 RUNOFF 1 003       3 0.0673      77.021       0.303       1        1  DA6
  6 REACH  3  02   3   4 1954                                  1        1
  6 ADDHYD 4 004   2 4 1                                       1        1
  6 RUNOFF 1 005       2 0.1867      76.388       0.530       1        1  DA4
  6 ADDHYD 4 006   1 2 3                                       1        1
  6 REACH  3  07   3   4 2088                                  1        1
  6 RUNOFF 1 008       2 0.2020      75.944       0.428       1        1  DA3
  6 ADDHYD 4 009   4 2 3                                       1        1
  6 REACH  3  10   3   1 3852                                  1        1
  6 RUNOFF 1 011       2 0.2366      76.760       0.443       1        1  DA2
  6 ADDHYD 4 012   1 2 6                                       1 1      1
  6 RUNOFF 1 013       1 0.3775      78.713       0.667       1        1  DA10
  6 REACH  3  14   1   2 2484                                  1        1
  6 RUNOFF 1 015       3 0.0886      84.806       0.443       1        1  DA9
  6 ADDHYD 4 016   2 3 4                                       1        1
  6 RUNOFF 1 017       3 0.0693      94.066       0.151       1        1  DA8
  6 ADDHYD 4 018   4 3 2                                       1        1
  6 REACH  3 019   2   1 4092                                  1        1
  6 RUNOFF 1 020       2 0.3284      87.933       0.277       1        1  DA7
  6 ADDHYD 4 021   1 2 7                                       1 1      1
  6 ADDHYD 4 022   6 7 1                                       1        1
  6 REACH  3  23   1   2 586                                   1        1
  6 RUNOFF 1 024       3 0.0200      72.029       0.277       1        1  DA1
  6 ADDHYD 4 025   2 3 4                                       1 1      1
    ENDATA
  7 INCREM 6                    0.05
  7 COMPUT 7 001   025           0.0        2.64         1.05 2  1   1
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   ENDCMP 1
  7 COMPUT 7 001   025            0.0        3.19         1.05 2  1   2
   ENDCMP 1
  7 COMPUT 7 001   025            0.0        4.91         1.05 2  1   10
   ENDCMP 1
  7 COMPUT 7 001   025            0.0        7.23         1.05 2  1   50
1


 ********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

   ENDCMP 1
  7 COMPUT 7 001   025            0.0        8.47         1.05 2  1   99
   ENDCMP 1
   ENDJOB 2

 ******************************END OF 80-80 LIST*******************************
1
 TR20 ------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:30:14                     PASS   1   JOB NO.   1                      PAGE   1


 EXECUTIVE CONTROL INCREM    MAIN TIME INCREMENT =   .050 HOURS


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION  25
    STARTING TIME =   .00       RAIN DEPTH =  2.64       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. = 1            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.33                          222.9                       (RUNOFF)
       20.13                            7.5                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  1.17 WATERSHED INCHES;     306 CFS-HRS;      25.3 ACRE-FEET.


 OPERATION REACH    XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.76                          146.9                         383.30

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  1.17 WATERSHED INCHES;     306 CFS-HRS;      25.3 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   3

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.25                           29.6                       (RUNOFF)
       20.10                            1.0 *                     (RUNOFF)
                                         * FIRST POINT OF FLAT PEAK

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   .83 WATERSHED INCHES;      36 CFS-HRS;       3.0 ACRE-FEET.


 OPERATION REACH    XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.40                           24.2                         381.13

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   .83 WATERSHED INCHES;      36 CFS-HRS;       3.0 ACRE-FEET.
1
 TR20 ------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:30:14                     PASS   1   JOB NO.   1                      PAGE   2


 OPERATION ADDHYD   XSECTION   4

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.73                          161.5                       (NULL)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  1.12 WATERSHED INCHES;     342 CFS-HRS;      28.3 ACRE-FEET.
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OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.41	60.3	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.80 WATERSHED INCHES; 96 CFS-HRS; 8.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.66	203.6	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.03 WATERSHED INCHES; 438 CFS-HRS; 36.2 ACRE-FEET.

OPERATION REACH XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.92	181.4	369.72

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.03 WATERSHED INCHES; 438 CFS-HRS; 36.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.34	70.2	(RUNOFF)
23.13	2.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.78 WATERSHED INCHES; 101 CFS-HRS; 8.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 9

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.85	208.7	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.97 WATERSHED INCHES; 540 CFS-HRS; 44.6 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.29	172.7	352.61

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.97 WATERSHED INCHES; 540 CFS-HRS; 44.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.35	86.0	(RUNOFF)
20.13	3.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.82 WATERSHED INCHES; 125 CFS-HRS; 10.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.21	193.9	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.10 SQ.MI.

HRS								
10.75 CFS	.45	.52	.60	.68	.77	.89	1.02	1.19
11.15 CFS	1.41	1.67	1.99	2.38	2.85	3.39	4.02	4.75
11.55 CFS	5.62	6.66	7.94	9.51	11.42	13.74	16.63	20.31
11.95 CFS	25	32	42	55	73	92	111	126
12.35 CFS	136	143	147	150	153	156	160	164
12.75 CFS	168	173	177	181	185	188	190	192
13.15 CFS	193	194	194	193	191	189	186	183
13.55 CFS	180	176	172	168	163	158	154	149
13.95 CFS	144	140	135	131	126	122	118	113

14.35 CFS	109	106	102	98	95	91	88	85
14.75 CFS	82.39	79.62	76.98	74.47	72.07	69.79	67.61	65.53
15.15 CFS	63.54	61.63	59.81	58.08	56.45	54.90	53.44	52.07
15.55 CFS	50.78	49.56	48.40	47.28	46.22	45.20	44.24	43.32
15.95 CFS	42.46	41.63	40.84	40.09	39.36	38.68	38.02	37.41
16.35 CFS	36.82	36.26	35.72	35.20	34.70	34.23	33.77	33.33
16.75 CFS	32.92	32.52	32.14	31.77	31.41	31.07	30.74	30.42
17.15 CFS	30.11	29.80	29.49	29.19	28.89	28.61	28.34	28.07

1

17.55 CFS	27.80	27.53	27.27	27.00	26.74	26.49	26.24	25.99
17.95 CFS	25.75	25.51	25.27	25.04	24.80	24.57	24.34	24.11
18.35 CFS	23.88	23.66	23.44	23.22	23.02	22.82	22.64	22.46
18.75 CFS	22.29	22.12	21.95	21.79	21.63	21.47	21.32	21.16
19.15 CFS	21.02	20.87	20.74	20.61	20.49	20.38	20.27	20.17
19.55 CFS	20.07	19.97	19.87	19.76	19.67	19.57	19.48	19.39
19.95 CFS	19.30	19.22	19.15	19.08	19.02	18.95	18.89	18.82
20.35 CFS	18.75	18.67	18.59	18.51	18.44	18.37	18.32	18.26
20.75 CFS	18.20	18.15	18.09	18.03	17.97	17.91	17.85	17.78
21.15 CFS	17.71	17.65	17.58	17.53	17.47	17.42	17.37	17.32
21.55 CFS	17.27	17.21	17.15	17.09	17.03	16.97	16.91	16.85
21.95 CFS	16.80	16.75	16.71	16.65	16.59	16.53	16.47	16.41
22.35 CFS	16.35	16.30	16.25	16.20	16.15	16.09	16.03	15.97
22.75 CFS	15.91	15.85	15.79	15.72	15.66	15.60	15.54	15.49
23.15 CFS	15.44	15.39	15.34	15.28	15.22	15.16	15.10	15.04
23.55 CFS	14.97	14.91	14.84	14.78	14.73	14.68	14.63	14.57
23.95 CFS	14.51	14.46	14.39	14.29	14.10	13.79	13.37	12.91
24.35 CFS	12.42	11.94	11.50	11.09	10.71	10.35	9.98	9.62
24.75 CFS	9.26	8.89	8.52	8.15	7.78	7.40	7.03	6.66
25.15 CFS	6.29	5.93	5.58	5.24	4.91	4.59	4.29	4.00
25.55 CFS	3.72	3.45	3.20	2.97	2.74	2.53	2.34	2.15
25.95 CFS	1.98	1.82	1.67	1.54	1.41	1.29	1.18	1.08
26.35 CFS	.99	.90	.82	.75	.68	.62	.56	.51
26.75 CFS	.47							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.94 WATERSHED INCHES; 664 CFS-HRS; 54.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.50	128.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.92 WATERSHED INCHES; 223 CFS-HRS; 18.5 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.64	121.2	378.90

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.92 WATERSHED INCHES; 223 CFS-HRS; 18.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.33	53.2	(RUNOFF)
20.13	1.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.28 WATERSHED INCHES; 73 CFS-HRS; 6.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.57	154.5	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.99 WATERSHED INCHES; 296 CFS-HRS; 24.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	99.0	(RUNOFF)
17.34	2.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.00 WATERSHED INCHES; 89 CFS-HRS; 7.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.17	166.7	(NULL)
12.53	176.8	(NULL)
20.00	9.7	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.10 WATERSHED INCHES; 381 CFS-HRS; 31.5 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.10	131.5	357.82

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.09 WATERSHED INCHES; 377 CFS-HRS; 31.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	288.1	(RUNOFF)
18.66	7.5	(RUNOFF)
21.98	6.0	(RUNOFF)
24.03	5.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.50 WATERSHED INCHES; 317 CFS-HRS; 26.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	317.4	(NULL)
12.88	179.8	(NULL)
20.04	17.1	(NULL)
20.58	16.4	(NULL)
23.71	13.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .86 SQ.MI.

7.10 CFS	.49	.51	.52	.54	.55	.57	.59	.62
7.50 CFS	.66	.70	.76	.82	.88	.95	1.02	1.09
7.90 CFS	1.17	1.24	1.32	1.40	1.48	1.57	1.65	1.73
8.30 CFS	1.82	1.91	2.00	2.08	2.17	2.26	2.36	2.46
8.70 CFS	2.56	2.65	2.75	2.84	2.93	3.03	3.14	3.25
9.10 CFS	3.37	3.50	3.63	3.77	3.94	4.11	4.30	4.48
9.50 CFS	4.67	4.87	5.08	5.30	5.54	5.79	6.04	6.30
9.90 CFS	6.56	6.82	7.09	7.38	7.69	8.01	8.34	8.66
10.30 CFS	8.98	9.30	9.64	9.99	10.37	10.78	11.25	11.79
10.70 CFS	12.40	13.10	13.86	14.70	15.58	16.53	17.50	18.55
11.10 CFS	19.71	21.07	22.59	24.28	26.08	28.01	30.05	32.24
11.50 CFS	34.53	37.35	41.49	47.02	53.21	59.92	67.64	77.76
11.90 CFS	91	109	136	175	227	282	314	313
12.30 CFS	288	259	236	219	206	198	192	187
12.70 CFS	183	181	180	180	180	180	179	178
13.10 CFS	175	173	169	166	162	158	154	149
13.50 CFS	144	140	135	130	125	121	116	112
13.90 CFS	108	104	101	97	94	91	88	85
14.30 CFS	81.70	78.94	76.33	73.85	71.47	69.16	66.92	64.77
14.70 CFS	62.73	60.82	59.03	57.34	55.71	54.12	52.60	51.14
15.10 CFS	49.74	48.38	47.06	45.83	44.71	43.68	42.76	41.91
15.50 CFS	41.12	40.36	39.61	38.86	38.09	37.35	36.68	36.10
15.90 CFS	35.55	35.00	34.41	33.83	33.28	32.78	32.33	31.92
16.30 CFS	31.51	31.09	30.68	30.29	29.91	29.53	29.16	28.83
16.70 CFS	28.54	28.26	27.97	27.67	27.37	27.09	26.85	26.62
17.10 CFS	26.37	26.09	25.78	25.47	25.21	25.01	24.83	24.62
17.50 CFS	24.35	24.06	23.79	23.55	23.34	23.14	22.93	22.69
17.90 CFS	22.45	22.24	22.05	21.86	21.66	21.43	21.20	20.99
18.30 CFS	20.81	20.63	20.43	20.23	20.05	19.93	19.84	19.75

1

18.70 CFS	19.62	19.46	19.32	19.21	19.11	18.97	18.82	18.67
19.10 CFS	18.54	18.44	18.34	18.25	18.17	18.10	18.03	17.96
19.50 CFS	17.90	17.82	17.72	17.60	17.50	17.44	17.38	17.30
19.90 CFS	17.19	17.11	17.07	17.07	17.06	17.01	16.92	16.84
20.30 CFS	16.77	16.70	16.60	16.49	16.40	16.37	16.37	16.36
20.70 CFS	16.32	16.23	16.17	16.13	16.10	16.03	15.94	15.85
21.10 CFS	15.78	15.72	15.67	15.63	15.59	15.55	15.52	15.49
21.50 CFS	15.45	15.41	15.33	15.23	15.15	15.11	15.08	15.02
21.90 CFS	14.98	14.95	14.93	14.87	14.79	14.70	14.64	14.58
22.30 CFS	14.54	14.50	14.46	14.43	14.39	14.35	14.27	14.17
22.70 CFS	14.10	14.06	14.02	13.95	13.86	13.78	13.75	13.77
23.10 CFS	13.76	13.72	13.64	13.56	13.49	13.44	13.39	13.34
23.50 CFS	13.25	13.15	13.07	13.04	13.05	13.05	13.00	12.90
23.90 CFS	12.80	12.74	12.79	12.78				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.24 WATERSHED INCHES; 693 CFS-HRS; 57.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 22

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.26	424.2	(NULL)
13.07	368.0	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.06 WATERSHED INCHES; 1342 CFS-HRS; 110.9 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.36	402.8	346.52
13.16	366.9	346.37

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.06 WATERSHED INCHES; 1339 CFS-HRS; 110.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	6.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.60 WATERSHED INCHES; 8 CFS-HRS; .6 ACRE-FEET.

OPERATION ADDHYD XSECTION 25
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TR20 ---------- SCS -

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.36	407.7	(NULL)
13.16	368.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.98 SQ.MI.

HRS								
7.20 CFS	.49	.51	.52	.54	.55	.57	.60	.63
7.60 CFS	.67	.71	.77	.82	.89	.96	1.03	1.10
8.00 CFS	1.17	1.25	1.33	1.41	1.49	1.57	1.65	1.74
8.40 CFS	1.83	1.91	2.00	2.09	2.17	2.27	2.37	2.46
8.80 CFS	2.56	2.66	2.75	2.85	2.94	3.04	3.15	3.27
9.20 CFS	3.38	3.51	3.65	3.80	3.96	4.14	4.32	4.50
9.60 CFS	4.69	4.89	5.10	5.33	5.57	5.81	6.07	6.32
10.00 CFS	6.58	6.84	7.12	7.42	7.74	8.06	8.39	8.73
10.40 CFS	9.07	9.42	9.79	10.19	10.61	11.08	11.61	12.22
10.80 CFS	12.90	13.67	14.51	15.41	16.39	17.42	18.54	19.76
11.20 CFS	21.17	22.77	24.58	26.59	28.80	31.20	33.82	36.65
11.60 CFS	39.94	44.23	49.85	56.63	64.42	73.48	84.72	99.19
12.00 CFS	119	146	185	238	302	359	395	407
12.40 CFS	403	392	380	370	361	356	352	351
12.80 CFS	351	353	356	359	362	365	367	368
13.20 CFS	368	366	363	359	355	349	342	335
13.60 CFS	328	319	311	302	293	284	275	266
14.00 CFS	258	249	241	233	225	217	210	203
14.40 CFS	195	189	182	176	170	164	159	154
14.80 CFS	148	144	139	135	131	127	123	119
15.20 CFS	116	112	109	106	103	101	98	96
15.60 CFS	93.60	91.53	89.54	87.60	85.73	83.95	82.30	80.74

16.00 CFS	79.25	77.80	76.39	75.03	73.74	72.53	71.40	70.31
16.40 CFS	69.27	68.26	67.29	66.36	65.45	64.58	63.74	62.96
16.80 CFS	62.23	61.52	60.82	60.13	59.47	58.85	58.26	57.68
17.20 CFS	57.09	56.48	55.86	55.28	54.74	54.24	53.74	53.22
17.60 CFS	52.68	52.14	51.61	51.11	50.63	50.16	49.68	49.19
18.00 CFS	48.72	48.27	47.83	47.39	46.94	46.48	46.03	45.59
18.40 CFS	45.17	44.75	44.33	43.92	43.56	43.24	42.94	42.64
18.80 CFS	42.32	42.00	41.71	41.43	41.14	40.84	40.53	40.24
19.20 CFS	39.97	39.71	39.47	39.25	39.04	38.85	38.66	38.49
19.60 CFS	38.31	38.12	37.91	37.71	37.53	37.36	37.19	37.01
20.00 CFS	36.83	36.68	36.58	36.48	36.38	36.25	36.10	35.96
20.40 CFS	35.82	35.66	35.49	35.32	35.18	35.08	35.00	34.91
20.80 CFS	34.79	34.67	34.56	34.46	34.35	34.21	34.07	33.92
21.20 CFS	33.79	33.67	33.55	33.45	33.35	33.26	33.17	33.08
21.60 CFS	32.99	32.87	32.74	32.60	32.48	32.37	32.26	32.15
22.00 CFS	32.07	31.99	31.89	31.77	31.63	31.51	31.38	31.27
22.40 CFS	31.16	31.07	30.98	30.89	30.80	30.68	30.54	30.41
22.80 CFS	30.29	30.18	30.05	29.91	29.77	29.66	29.59	29.52
23.20 CFS	29.44	29.33	29.21	29.09	28.97	28.86	28.75	28.61
23.60 CFS	28.46	28.31	28.19	28.11	28.04	27.95	27.83	27.69
24.00 CFS	27.56	27.50						

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RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.05 WATERSHED INCHES; 1347 CFS-HRS; 111.3 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 3.19 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 2 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.33	306.8	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 421 CFS-HRS; 34.8 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.67	221.4	383.62

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 421 CFS-HRS; 34.8 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	44.4	(RUNOFF)
24.03	1.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.21 WATERSHED INCHES; 52 CFS-HRS; 4.3 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.42	37.7	381.36
24.13	1.0	380.35

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RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.20 WATERSHED INCHES; 52 CFS-HRS; 4.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 4

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)

12.64 248.8 (NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.55 WATERSHED INCHES; 473 CFS-HRS; 39.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.40	91.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.17 WATERSHED INCHES; 141 CFS-HRS; 11.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.57	321.3	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.44 WATERSHED INCHES; 614 CFS-HRS; 50.7 ACRE-FEET.

OPERATION REACH XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.81	285.9	370.21

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.44 WATERSHED INCHES; 614 CFS-HRS; 50.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.33	106.9	(RUNOFF)
20.14	4.0	(RUNOFF)
23.13	3.3	(RUNOFF)

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
09:30:14 PASS 2 JOB NO. 1 PAGE 11

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.14 WATERSHED INCHES; 149 CFS-HRS; 12.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 9

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.73	334.3	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.37 WATERSHED INCHES; 763 CFS-HRS; 63.0 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.26	264.5	353.31

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.37 WATERSHED INCHES; 762 CFS-HRS; 63.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.34	128.7	(RUNOFF)
20.13	4.8	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.19 WATERSHED INCHES; 182 CFS-HRS; 15.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.20	294.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.10 SQ.MI.

HRS									
9.90	CFS	.45	.51	.58	.65	.73	.81	.90	1.00
10.30	CFS	1.11	1.23	1.37	1.53	1.72	1.92	2.15	2.41
10.70	CFS	2.69	3.00	3.34	3.72	4.15	4.61	5.12	5.69

11.10 CFS	6.31	7.00	7.77	8.63	9.59	10.65	11.83	13.13
11.50 CFS	14.55	16.17	18.06	20.33	23.05	26.27	30.04	34.62
11.90 CFS	40	48	58	72	91	114	139	162
12.30 CFS	180	192	200	206	210	215	222	230
12.70 CFS	238	246	255	263	271	278	284	289
13.10 CFS	292	294	295	294	292	289	285	280
13.50 CFS	274	268	261	254	246	238	230	222
13.90 CFS	214	207	199	191	184	177	170	164

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14.30 CFS	157	151	145	139	134	129	124	119
14.70 CFS	115	111	107	103	100	96	93	90
15.10 CFS	87.19	84.48	81.89	79.44	77.12	74.92	72.85	70.91
15.50 CFS	69.08	67.35	65.72	64.17	62.68	61.25	59.89	58.60
15.90 CFS	57.39	56.23	55.13	54.08	53.07	52.11	51.20	50.34
16.30 CFS	49.52	48.75	48.01	47.30	46.62	45.97	45.35	44.75
16.70 CFS	44.18	43.64	43.12	42.63	42.14	41.68	41.23	40.80
17.10 CFS	40.38	39.98	39.57	39.16	38.76	38.38	38.02	37.66
17.50 CFS	37.31	36.96	36.60	36.25	35.90	35.56	35.23	34.90
17.90 CFS	34.57	34.25	33.93	33.62	33.30	32.99	32.68	32.37
18.30 CFS	32.06	31.76	31.46	31.16	30.87	30.60	30.33	30.08
18.70 CFS	29.84	29.60	29.36	29.13	28.91	28.69	28.47	28.25
19.10 CFS	28.04	27.84	27.64	27.46	27.29	27.12	26.97	26.82
19.50 CFS	26.68	26.55	26.41	26.27	26.14	26.01	25.89	25.76
19.90 CFS	25.64	25.53	25.42	25.32	25.23	25.15	25.06	24.97
20.30 CFS	24.88	24.79	24.69	24.58	24.48	24.39	24.30	24.23
20.70 CFS	24.15	24.08	24.00	23.92	23.85	23.77	23.68	23.60
21.10 CFS	23.51	23.42	23.33	23.25	23.17	23.10	23.03	22.96
21.50 CFS	22.89	22.82	22.75	22.66	22.58	22.50	22.42	22.34
21.90 CFS	22.26	22.19	22.13	22.06	21.99	21.91	21.83	21.75
22.30 CFS	21.67	21.59	21.52	21.45	21.38	21.31	21.24	21.16
22.70 CFS	21.08	21.00	20.92	20.83	20.75	20.66	20.58	20.51
23.10 CFS	20.45	20.38	20.31	20.24	20.16	20.08	20.00	19.92
23.50 CFS	19.83	19.74	19.65	19.57	19.49	19.42	19.36	19.28
23.90 CFS	19.20	19.12	19.05	18.97	18.83	18.58	18.18	17.68
24.30 CFS	17.13	16.56	16.00	15.49	15.02	14.58	14.13	13.68
24.70 CFS	13.22	12.75	12.26	11.75	11.23	10.70	10.17	9.63
25.10 CFS	9.09	8.56	8.03	7.52	7.03	6.55	6.09	5.65
25.50 CFS	5.24	4.84	4.47	4.12	3.79	3.48	3.19	2.92
25.90 CFS	2.67	2.44	2.23	2.04	1.86	1.69	1.54	1.40
26.30 CFS	1.27	1.15	1.05	.95	.86	.78	.70	.64
26.70 CFS	.58	.52	.47					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.33 WATERSHED INCHES; 944 CFS-HRS; 78.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.48	188.8	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.31 WATERSHED INCHES; 319 CFS-HRS; 26.4 ACRE-FEET.

OPERATION REACH XSECTION 14

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PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.74	153.2	380.38

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.31 WATERSHED INCHES; 319 CFS-HRS; 26.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	72.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.73 WATERSHED INCHES; 99 CFS-HRS; 8.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.65	189.9	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.39 WATERSHED INCHES; 418 CFS-HRS; 34.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	123.7	(RUNOFF)
15.84	3.5	(RUNOFF)
19.43	2.1	(RUNOFF)
19.74	2.0	(RUNOFF)
20.05	2.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.51 WATERSHED INCHES; 112 CFS-HRS; 9.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.17	212.0	(NULL)
12.56	213.2	(NULL)
20.00	12.6	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.50 WATERSHED INCHES; 518 CFS-HRS; 42.8 ACRE-FEET.

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OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.10	169.9	358.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.48 WATERSHED INCHES; 512 CFS-HRS; 42.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	380.2	(RUNOFF)
18.66	9.4	(RUNOFF)
20.66	8.3	(RUNOFF)
21.98	7.6	(RUNOFF)
24.03	6.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.98 WATERSHED INCHES; 420 CFS-HRS; 34.7 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	436.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .86 SQ.MI.

HRS									
6.00	CFS	.49	.50	.52	.53	.55	.56	.57	.59
6.40	CFS	.60	.62	.64	.67	.71	.76	.81	.88
6.80	CFS	.95	1.02	1.09	1.16	1.24	1.32	1.40	1.49
7.20	CFS	1.58	1.67	1.77	1.86	1.95	2.04	2.14	2.24
7.60	CFS	2.33	2.43	2.53	2.63	2.74	2.85	2.96	3.07
8.00	CFS	3.19	3.30	3.42	3.55	3.66	3.78	3.90	4.03
8.40	CFS	4.16	4.29	4.41	4.55	4.69	4.85	5.00	5.15
8.80	CFS	5.30	5.44	5.57	5.71	5.87	6.05	6.24	6.44
9.20	CFS	6.65	6.88	7.14	7.43	7.72	8.01	8.31	8.61
9.60	CFS	8.92	9.26	9.62	10.00	10.39	10.77	11.15	11.53
10.00	CFS	11.93	12.35	12.79	13.25	13.72	14.19	14.64	15.10
10.40	CFS	15.58	16.09	16.63	17.23	17.92	18.72	19.65	20.71
10.80	CFS	21.88	23.16	24.53	25.97	27.47	29.07	30.83	32.87
11.20	CFS	35.14	37.67	40.36	43.24	46.26	49.46	52.78	56.85
11.60	CFS	63	71	79	89	100	114	132	157
12.00	CFS	193	245	315	388	432	433	404	364
12.40	CFS	330	304	285	273	263	254	247	241
12.80	CFS	238	236	234	233	231	229	226	222
13.20	CFS	219	214	210	205	200	195	190	184
13.60	CFS	178	172	167	161	156	150	145	141

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14.00 CFS	136	132	127	123	119	115	111	107
14.40 CFS	103	100	97	94	91	88	85	82
14.80 CFS	79.67	77.29	75.00	72.77	70.64	68.59	66.62	64.70
15.20 CFS	62.86	61.14	59.55	58.10	56.79	55.58	54.47	53.40
15.60 CFS	52.36	51.32	50.27	49.25	48.33	47.52	46.76	46.00
16.00 CFS	45.22	44.42	43.67	42.98	42.36	41.79	41.22	40.64
16.40 CFS	40.08	39.55	39.02	38.50	38.00	37.54	37.13	36.75
16.80 CFS	36.36	35.94	35.54	35.17	34.83	34.51	34.18	33.81
17.20 CFS	33.40	32.98	32.63	32.36	32.11	31.82	31.48	31.10
17.60 CFS	30.74	30.41	30.13	29.87	29.59	29.28	28.97	28.69
18.00 CFS	28.43	28.19	27.93	27.63	27.34	27.06	26.82	26.59
18.40 CFS	26.33	26.07	25.84	25.68	25.56	25.44	25.28	25.08
18.80 CFS	24.90	24.76	24.62	24.45	24.26	24.07	23.90	23.76
19.20 CFS	23.63	23.51	23.41	23.31	23.21	23.12	23.04	22.94
19.60 CFS	22.81	22.65	22.52	22.44	22.36	22.25	22.11	22.00
20.00 CFS	21.94	21.93	21.91	21.85	21.74	21.63	21.53	21.44
20.40 CFS	21.31	21.17	21.06	21.01	21.00	20.99	20.93	20.82
20.80 CFS	20.74	20.69	20.64	20.56	20.44	20.33	20.23	20.16
21.20 CFS	20.09	20.03	19.98	19.93	19.89	19.85	19.80	19.74
21.60 CFS	19.64	19.52	19.42	19.37	19.31	19.24	19.19	19.16
22.00 CFS	19.12	19.05	18.94	18.84	18.75	18.67	18.61	18.56
22.40 CFS	18.51	18.47	18.43	18.37	18.27	18.15	18.05	18.00
22.80 CFS	17.94	17.85	17.74	17.64	17.60	17.61	17.60	17.55
23.20 CFS	17.45	17.35	17.27					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 926 CFS-HRS; 76.5 ACRE-FEET.

OPERATION ADDHYD XSECTION 22

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.26	595.9	(NULL)
13.09	518.2	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.45 WATERSHED INCHES; 1834 CFS-HRS; 151.6 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.35	573.5	347.07
13.17	517.0	346.91

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.45 WATERSHED INCHES; 1831 CFS-HRS; 151.3 ACRE-FEET.

1

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	10.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.92 WATERSHED INCHES; 12 CFS-HRS; 1.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.35	581.4	(NULL)
13.17	518.9	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.98 SQ.MI.

6.10 CFS	.49	.51	.52	.53	.55	.56	.58	.59
6.50 CFS	.61	.62	.65	.68	.73	.77	.83	.90
6.90 CFS	.96	1.03	1.11	1.18	1.26	1.34	1.43	1.52
7.30 CFS	1.61	1.70	1.79	1.88	1.97	2.07	2.16	2.26
7.70 CFS	2.36	2.45	2.56	2.66	2.76	2.87	2.98	3.10
8.10 CFS	3.21	3.33	3.45	3.57	3.69	3.81	3.93	4.06
8.50 CFS	4.19	4.32	4.45	4.59	4.73	4.89	5.04	5.19
8.90 CFS	5.33	5.47	5.61	5.76	5.93	6.11	6.29	6.50
9.30 CFS	6.72	6.98	7.26	7.55	7.86	8.18	8.50	8.83
9.70 CFS	9.19	9.57	9.98	10.40	10.83	11.27	11.71	12.16
10.10 CFS	12.64	13.14	13.66	14.21	14.76	15.32	15.90	16.50
10.50 CFS	17.13	17.82	18.58	19.42	20.39	21.49	22.75	24.15
10.90 CFS	25.70	27.39	29.20	31.13	33.19	35.44	37.96	40.79
11.30 CFS	43.96	47.42	51.17	55.21	59.53	64.14	69.41	76.17

11.70 CFS	85	95	107	121	138	159	187	227
12.10 CFS	282	358	446	523	569	581	571	551
12.50 CFS	531	513	501	494	490	488	489	493
12.90 CFS	498	503	509	514	517	519	519	517
13.30 CFS	513	508	501	493	483	473	462	449
13.70 CFS	437	424	410	397	384	371	358	346
14.10 CFS	333	321	310	298	287	277	267	257
14.50 CFS	248	239	230	222	214	206	199	192
14.90 CFS	186	180	174	169	163	158	153	149
15.30 CFS	145	140	137	133	130	127	124	121
15.70 CFS	118	116	113	111	108	106	104	102
16.10 CFS	101	99	97	95	94	92	91	90
16.50 CFS	88.37	87.12	85.92	84.76	83.65	82.62	81.65	80.71
16.90 CFS	79.78	78.88	78.01	77.19	76.40	75.64	74.86	74.05
17.30 CFS	73.24	72.46	71.75	71.09	70.44	69.75	69.04	68.32
17.70 CFS	67.63	66.96	66.33	65.71	65.08	64.44	63.82	63.22
18.10 CFS	62.65	62.07	61.47	60.87	60.27	59.70	59.15	58.60
18.50 CFS	58.04	57.50	57.02	56.60	56.21	55.81	55.38	54.96

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18.90 CFS	54.57	54.19	53.80	53.40	53.00	52.61	52.24	51.90
19.30 CFS	51.58	51.28	51.01	50.75	50.50	50.27	50.03	49.77
19.70 CFS	49.49	49.22	48.98	48.76	48.53	48.29	48.05	47.86
20.10 CFS	47.72	47.60	47.46	47.28	47.09	46.91	46.71	46.50
20.50 CFS	46.27	46.05	45.87	45.74	45.64	45.51	45.36	45.20
20.90 CFS	45.06	44.92	44.77	44.59	44.40	44.21	44.03	43.87
21.30 CFS	43.72	43.58	43.45	43.33	43.21	43.10	42.98	42.82
21.70 CFS	42.64	42.45	42.30	42.15	42.01	41.87	41.75	41.64
22.10 CFS	41.51	41.36	41.18	41.01	40.85	40.70	40.56	40.43
22.50 CFS	40.31	40.20	40.07	39.92	39.74	39.56	39.40	39.25
22.90 CFS	39.09	38.91	38.73	38.58	38.49	38.40	38.29	38.15
23.30 CFS	37.99							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.44 WATERSHED INCHES; 1842 CFS-HRS; 152.3 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 4.91 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	595.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.10 WATERSHED INCHES; 812 CFS-HRS; 67.1 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.56	469.2	384.46

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.10 WATERSHED INCHES; 812 CFS-HRS; 67.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	96.3	(RUNOFF)
21.97	2.2	(RUNOFF)
23.12	2.0	(RUNOFF)
24.03	1.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.55 WATERSHED INCHES; 111 CFS-HRS; 9.1 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.42	80.6	382.25
20.20	2.5 *	380.41
24.13	1.9	380.38

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.55 WATERSHED INCHES; 111 CFS-HRS; 9.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 4

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.54	539.0	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.02 WATERSHED INCHES; 923 CFS-HRS; 76.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.38	202.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.49 WATERSHED INCHES; 300 CFS-HRS; 24.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.50	718.6	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.87 WATERSHED INCHES; 1223 CFS-HRS; 101.1 ACRE-FEET.

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OPERATION REACH XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.69	643.9	371.37

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.87 WATERSHED INCHES; 1223 CFS-HRS; 101.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	238.2	(RUNOFF)
20.13	7.4	(RUNOFF)
23.13	5.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.45 WATERSHED INCHES; 320 CFS-HRS; 26.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 9

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.62	771.9	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.78 WATERSHED INCHES; 1543 CFS-HRS; 127.5 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.93	644.1	354.40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.78 WATERSHED INCHES; 1543 CFS-HRS; 127.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	283.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.53 WATERSHED INCHES; 386 CFS-HRS; 31.9 ACRE-FEET.

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.84	740.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.10 SQ.MI.

HRS								
7.50 CFS	.49	.56	.64	.73	.81	.91	1.00	1.10
7.90 CFS	1.21	1.32	1.43	1.54	1.66	1.78	1.91	2.04
8.30 CFS	2.18	2.33	2.49	2.66	2.84	3.04	3.26	3.48
8.70 CFS	3.72	3.97	4.24	4.52	4.81	5.11	5.43	5.77
9.10 CFS	6.12	6.49	6.87	7.27	7.69	8.13	8.59	9.07
9.50 CFS	9.57	10.09	10.64	11.21	11.81	12.44	13.10	13.80
9.90 CFS	14.52	15.28	16.07	16.89	17.74	18.64	19.58	20.55
10.30 CFS	21.55	22.58	23.65	24.75	25.89	27.08	28.32	29.64
10.70 CFS	31.04	32.54	34.15	35.88	37.73	39.72	41.85	44.13
11.10 CFS	46.59	49.27	52.21	55.44	58.98	62.86	67.07	71.64
11.50 CFS	77	82	88	96	105	115	127	141
11.90 CFS	157	179	207	244	294	356	423	488
12.30 CFS	541	582	613	636	655	673	692	710
12.70 CFS	724	734	739	740	737	730	718	703
13.10 CFS	685	665	642	618	593	567	541	515
13.50 CFS	490	465	441	418	396	375	354	336
13.90 CFS	318	301	286	271	258	245	234	223
14.30 CFS	213	204	195	187	180	173	167	161
14.70 CFS	155	150	146	141	137	133	130	126
15.10 CFS	123	120	117	114	111	109	106	104
15.50 CFS	102	100	98	96	94	93	91	90
15.90 CFS	88.17	86.84	85.57	84.36	83.21	82.10	81.05	80.06
16.30 CFS	79.12	78.23	77.38	76.56	75.76	74.98	74.21	73.47
16.70 CFS	72.76	72.08	71.43	70.78	70.15	69.52	68.91	68.32
17.10 CFS	67.74	67.16	66.57	65.97	65.37	64.79	64.23	63.68
17.50 CFS	63.13	62.57	61.99	61.41	60.83	60.26	59.70	59.14
17.90 CFS	58.57	58.01	57.46	56.91	56.37	55.82	55.28	54.73
18.30 CFS	54.19	53.66	53.14	52.63	52.12	51.64	51.20	50.78
18.70 CFS	50.38	50.00	49.63	49.27	48.92	48.59	48.26	47.95
19.10 CFS	47.64	47.35	47.07	46.82	46.58	46.36	46.15	45.96
19.50 CFS	45.78	45.60	45.43	45.24	45.06	44.88	44.71	44.54
19.90 CFS	44.37	44.20	44.04	43.90	43.78	43.65	43.53	43.40
20.30 CFS	43.26	43.11	42.94	42.77	42.60	42.44	42.30	42.17
20.70 CFS	42.04	41.91	41.78	41.64	41.51	41.37	41.22	41.06
21.10 CFS	40.91	40.75	40.59	40.44	40.30	40.17	40.04	39.91
21.50 CFS	39.79	39.67	39.54	39.39	39.24	39.09	38.95	38.81
21.90 CFS	38.68	38.56	38.44	38.33	38.19	38.05	37.91	37.76
22.30 CFS	37.61	37.47	37.34	37.22	37.09	36.97	36.84	36.69
22.70 CFS	36.54	36.38	36.23	36.08	35.93	35.76	35.61	35.48
23.10 CFS	35.35	35.23	35.11	34.97	34.83	34.68	34.54	34.39
23.50 CFS	34.24	34.09	33.92	33.77	33.63	33.51	33.38	33.25
23.90 CFS	33.11	32.96	32.84	32.70	32.47	32.01	31.23	30.19

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TR20 ---------- SCS -
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24.30 CFS	29.01	27.75	26.47	25.23	24.04	22.86	21.67	20.44
24.70 CFS	19.21	17.96	16.71	15.47	14.26	13.09	11.96	10.89
25.10 CFS	9.87	8.92	8.03	7.21	6.45	5.75	5.12	4.55
25.50 CFS	4.03	3.56	3.14	2.77	2.43	2.14	1.87	1.64
25.90 CFS	1.43	1.25	1.09	.95	.82	.72	.62	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.72 WATERSHED INCHES; 1928 CFS-HRS; 159.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.47	397.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.70 WATERSHED INCHES; 658 CFS-HRS; 54.3 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.70	331.9	381.44

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)

2.70 WATERSHED INCHES; 658 CFS-HRS; 54.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	135.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.26 WATERSHED INCHES; 187 CFS-HRS; 15.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.62	403.1	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.81 WATERSHED INCHES; 844 CFS-HRS; 69.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	199.4	(RUNOFF)
15.84	5.5	(RUNOFF)
17.34	4.3	(RUNOFF)
20.05	3.2	(RUNOFF)
20.61	3.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.12 WATERSHED INCHES; 184 CFS-HRS; 15.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.18	397.3	(NULL)
12.56	441.9	(NULL)
19.98	21.9	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.87 WATERSHED INCHES; 991 CFS-HRS; 81.9 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.98	361.2	358.85

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.84 WATERSHED INCHES; 981 CFS-HRS; 81.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	670.8	(RUNOFF)
18.66	15.4	(RUNOFF)
20.11	14.2	(RUNOFF)
20.66	13.5	(RUNOFF)
21.98	12.3	(RUNOFF)
23.11	11.3	(RUNOFF)
24.03	10.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.57 WATERSHED INCHES; 757 CFS-HRS; 62.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	824.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .86 SQ.MI.

3.85 CFS	.49	.51	.53	.56	.58	.60	.63	.65
4.25 CFS	.68	.70	.73	.75	.77	.80	.82	.86
4.65 CFS	.91	.97	1.04	1.13	1.22	1.32	1.42	1.52
5.05 CFS	1.62	1.72	1.82	1.93	2.04	2.15	2.25	2.35
5.45 CFS	2.44	2.54	2.65	2.76	2.88	3.00	3.10	3.20
5.85 CFS	3.28	3.37	3.47	3.59	3.73	3.86	3.98	4.09
6.25 CFS	4.22	4.35	4.50	4.65	4.81	4.98	5.15	5.33
6.65 CFS	5.51	5.68	5.85	6.02	6.21	6.41	6.60	6.78
7.05 CFS	6.97	7.19	7.43	7.67	7.90	8.11	8.32	8.53
7.45 CFS	8.76	9.00	9.23	9.45	9.66	9.89	10.13	10.38
7.85 CFS	10.64	10.90	11.17	11.45	11.72	12.00	12.29	12.55
8.25 CFS	12.79	13.06	13.36	13.67	13.96	14.24	14.54	14.89
8.65 CFS	15.27	15.65	16.02	16.37	16.69	17.01	17.34	17.73
9.05 CFS	18.19	18.68	19.19	19.72	20.33	21.01	21.76	22.52
9.45 CFS	23.29	24.04	24.79	25.58	26.44	27.36	28.33	29.30
9.85 CFS	30.26	31.20	32.14	33.12	34.16	35.27	36.43	37.59
10.25 CFS	38.73	39.85	40.98	42.14	43.37	44.67	46.09	47.68
10.65 CFS	49.56	51.71	54.14	56.79	59.65	62.64	65.78	69.02
11.05 CFS	72	76	81	85	91	96	102	108
11.45 CFS	115	121	130	141	157	174	193	214
11.85 CFS	241	275	322	387	481	606	737	816
12.25 CFS	819	769	698	638	592	562	541	526
12.65 CFS	513	501	493	487	482	478	473	466
13.05 CFS	459	450	439	428	416	404	392	379
13.45 CFS	365	352	338	325	312	299	287	275
13.85 CFS	264	253	243	233	224	216	207	199
14.25 CFS	191	184	177	170	164	158	153	147
14.65 CFS	142	137	133	129	125	121	117	114
15.05 CFS	110	107	104	101	98	96	94	92
15.45 CFS	89.69	87.95	86.30	84.69	83.06	81.43	79.85	78.43
15.85 CFS	77.19	76.04	74.89	73.69	72.48	71.33	70.28	69.34
16.25 CFS	68.48	67.63	66.76	65.91	65.10	64.31	63.52	62.75
16.65 CFS	62.04	61.42	60.84	60.25	59.61	58.98	58.39	57.87
17.05 CFS	57.39	56.88	56.29	55.63	54.96	54.40	53.96	53.57
17.45 CFS	53.11	52.56	51.94	51.34	50.80	50.33	49.91	49.45
17.85 CFS	48.94	48.42	47.94	47.51	47.11	46.68	46.18	45.68
18.25 CFS	45.21	44.80	44.41	43.99	43.54	43.15	42.87	42.68
18.65 CFS	42.49	42.22	41.88	41.58	41.34	41.12	40.84	40.53
19.05 CFS	40.21	39.93	39.70	39.50	39.31	39.14	38.98	38.84
19.45 CFS	38.70	38.57	38.41	38.20	37.94	37.73	37.60	37.47
19.85 CFS	37.30	37.08	36.88	36.80	36.79	36.77	36.66	36.49
20.25 CFS	36.30	36.15	35.99	35.79	35.55	35.36	35.27	35.26
20.65 CFS	35.25	35.15	34.97	34.83	34.74	34.66	34.52	34.32
21.05 CFS	34.13	33.96	33.83	33.72	33.63	33.54	33.46	33.38
21.45 CFS	33.30	33.23	33.13	32.97	32.75	32.58	32.48	32.39

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21.85 CFS	32.28	32.18	32.13	32.07	31.95	31.77	31.59	31.43

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.08 WATERSHED INCHES; 1716 CFS-HRS; 141.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 22

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.28	1313.2	(NULL)
12.77	1226.4	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.81 WATERSHED INCHES; 3552 CFS-HRS; 293.5 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.36	1297.7	348.67
12.83	1226.2	348.54

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.80 WATERSHED INCHES; 3547 CFS-HRS; 293.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	24.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.13 WATERSHED INCHES; 27 CFS-HRS; 2.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.36	1315.8	(NULL)
12.83	1232.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.98 SQ.MI.

HRS								
3.95 CFS	.50	.52	.54	.57	.59	.62	.64	.67
4.35 CFS	.69	.72	.74	.76	.79	.81	.85	.89
4.75 CFS	.95	1.01	1.09	1.18	1.27	1.37	1.47	1.57
5.15 CFS	1.67	1.77	1.88	1.99	2.10	2.20	2.30	2.40
5.55 CFS	2.49	2.60	2.71	2.83	2.94	3.05	3.15	3.24
5.95 CFS	3.33	3.42	3.54	3.67	3.80	3.92	4.04	4.16
6.35 CFS	4.29	4.43	4.58	4.74	4.91	5.08	5.25	5.43
6.75 CFS	5.61	5.77	5.94	6.13	6.34	6.54	6.74	6.94

1

7.15 CFS	7.18	7.43	7.71	7.98	8.24	8.50	8.77	9.06
7.55 CFS	9.36	9.66	9.96	10.26	10.57	10.89	11.23	11.58
7.95 CFS	11.94	12.32	12.70	13.09	13.49	13.89	14.28	14.66
8.35 CFS	15.06	15.49	15.95	16.41	16.87	17.36	17.90	18.49
8.75 CFS	19.10	19.72	20.33	20.94	21.54	22.17	22.86	23.62
9.15 CFS	24.44	25.30	26.19	27.16	28.22	29.37	30.58	31.81
9.55 CFS	33.05	34.33	35.65	37.05	38.54	40.11	41.74	43.39
9.95 CFS	45.06	46.76	48.52	50.36	52.30	54.33	56.42	58.53
10.35 CFS	60.67	62.83	65.06	67.37	69.78	72.35	75.13	78.21
10.75 CFS	82	85	90	94	99	104	109	115
11.15 CFS	121	128	135	144	152	162	172	183
11.55 CFS	195	208	225	246	271	299	332	370
11.95 CFS	418	482	569	690	852	1036	1193	1286
12.35 CFS	1315	1301	1275	1250	1234	1226	1226	1228
12.75 CFS	1231	1232	1232	1229	1223	1212	1196	1175
13.15 CFS	1150	1121	1088	1053	1016	979	940	901
13.55 CFS	862	823	785	748	713	679	646	615
13.95 CFS	586	559	533	508	486	464	444	425
14.35 CFS	407	390	374	360	346	333	321	310
14.75 CFS	299	289	280	271	263	256	248	241
15.15 CFS	235	228	222	216	211	206	201	197
15.55 CFS	193	189	186	182	179	175	172	169
15.95 CFS	167	164	162	159	157	154	152	150
16.35 CFS	149	147	145	143	142	140	139	137
16.75 CFS	136	135	133	132	131	129	128	127
17.15 CFS	126	125	124	122	121	120	119	118
17.55 CFS	117	116	115	114	112	111	110	109
17.95 CFS	108	107	106	105	104	103	102	101
18.35 CFS	100	99	98	97	96	96	95	94
18.75 CFS	93.63	92.92	92.24	91.62	91.03	90.42	89.79	89.15
19.15 CFS	88.55	88.01	87.50	87.04	86.62	86.23	85.86	85.52
19.55 CFS	85.20	84.87	84.49	84.06	83.66	83.32	83.00	82.67
19.95 CFS	82.29	81.92	81.65	81.46	81.30	81.09	80.81	80.51
20.35 CFS	80.20	79.89	79.54	79.14	78.77	78.49	78.30	78.14
20.75 CFS	77.93	77.66	77.38	77.14	76.91	76.64	76.32	75.97
21.15 CFS	75.64	75.34	75.06	74.80	74.57	74.34	74.13	73.93
21.55 CFS	73.73	73.51	73.23	72.90	72.57	72.30	72.05	71.80
21.95 CFS	71.57	71.38	71.19	70.97	70.68	70.36		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.79 WATERSHED INCHES; 3573 CFS-HRS; 295.3 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

1

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 7.23 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	995.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.25 WATERSHED INCHES; 1374 CFS-HRS; 113.5 ACRE-FEET.

OPERATION REACH XSECTION 2

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   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.49                          814.2                        385.33

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 5.24 WATERSHED INCHES;    1370 CFS-HRS;     113.2 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   3

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.23                          172.1                        (RUNOFF)
      20.12                            4.1                        (RUNOFF)
      23.77                            3.0                        (RUNOFF)
      24.03                            3.0                        (RUNOFF)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 4.57 WATERSHED INCHES;     199 CFS-HRS;      16.4 ACRE-FEET.


 OPERATION REACH    XSECTION   2

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.57                          117.9                        383.17

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 4.57 WATERSHED INCHES;     199 CFS-HRS;      16.4 ACRE-FEET.


 OPERATION ADDHYD   XSECTION   4
1
 TR20 ---------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.50                          927.4                        (NULL)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 5.14 WATERSHED INCHES;    1568 CFS-HRS;     129.6 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   5

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.37                          365.2                        (RUNOFF)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 4.50 WATERSHED INCHES;     542 CFS-HRS;      44.8 ACRE-FEET.


 OPERATION ADDHYD   XSECTION   6

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.47                         1263.0                        (NULL)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 4.96 WATERSHED INCHES;    2109 CFS-HRS;     174.3 ACRE-FEET.


 OPERATION REACH    XSECTION   7

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.64                         1142.1                        372.47

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 4.95 WATERSHED INCHES;    2104 CFS-HRS;     173.9 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   8

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.31                          432.9                        (RUNOFF)
      20.13                           12.0                        (RUNOFF)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                 4.45 WATERSHED INCHES;     580 CFS-HRS;      47.9 ACRE-FEET.


 OPERATION ADDHYD   XSECTION   9

   PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.57                         1390.7                        (NULL)
1
 TR20 ---------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
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RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.83 WATERSHED INCHES; 2684 CFS-HRS; 221.8 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.84	1194.9	355.53

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.81 WATERSHED INCHES; 2672 CFS-HRS; 220.8 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	509.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.54 WATERSHED INCHES; 694 CFS-HRS; 57.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.74	1394.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.10 SQ.MI.

HRS								
5.55 CFS	.47	.55	.64	.74	.84	.95	1.07	1.18
5.95 CFS	1.31	1.43	1.56	1.69	1.83	1.96	2.10	2.24
6.35 CFS	2.38	2.53	2.69	2.86	3.04	3.23	3.44	3.66
6.75 CFS	3.90	4.15	4.42	4.71	5.02	5.34	5.68	6.04
7.15 CFS	6.42	6.82	7.24	7.67	8.12	8.59	9.07	9.56
7.55 CFS	10.08	10.60	11.14	11.68	12.24	12.82	13.40	14.00
7.95 CFS	14.61	15.23	15.87	16.51	17.16	17.83	18.50	19.18
8.35 CFS	19.87	20.58	21.29	22.01	22.74	23.48	24.24	25.00
8.75 CFS	25.78	26.57	27.36	28.15	28.94	29.75	30.57	31.42
9.15 CFS	32.30	33.20	34.13	35.10	36.12	37.18	38.30	39.46
9.55 CFS	40.67	41.93	43.25	44.64	46.11	47.65	49.25	50.92
9.95 CFS	52.64	54.42	56.27	58.19	60.19	62.25	64.38	66.56
10.35 CFS	68.79	71.07	73.40	75.80	78.28	80.87	83.60	86.52
10.75 CFS	90	93	97	101	105	109	114	120
11.15 CFS	125	132	138	146	154	163	173	183
11.55 CFS	194	207	223	240	261	285	313	346
11.95 CFS	387	440	512	606	722	849	971	1073
12.35 CFS	1152	1213	1259	1295	1326	1355	1378	1391
12.75 CFS	1394	1387	1370	1344	1311	1272	1227	1178
13.15 CFS	1126	1073	1018	964	911	859	809	761
13.55 CFS	715	673	632	594	558	525	495	467

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13.95 CFS	441	417	395	375	356	339	324	310
14.35 CFS	297	285	274	264	255	246	238	231
14.75 CFS	224	218	212	206	201	196	192	187
15.15 CFS	183	178	174	171	167	163	160	157
15.55 CFS	154	151	148	146	143	141	139	137
15.95 CFS	135	133	131	130	128	127	125	124
16.35 CFS	123	121	120	119	118	117	116	114
16.75 CFS	113	112	111	110	110	109	108	107
17.15 CFS	106	105	104	103	102	101	100	100
17.55 CFS	98.63	97.71	96.78	95.84	94.92	94.02	93.12	92.21
17.95 CFS	91.30	90.41	89.52	88.64	87.77	86.89	86.02	85.15
18.35 CFS	84.31	83.47	82.65	81.86	81.10	80.39	79.73	79.11
18.75 CFS	78.51	77.94	77.39	76.87	76.37	75.89	75.42	74.97
19.15 CFS	74.54	74.13	73.75	73.40	73.08	72.78	72.50	72.24
19.55 CFS	71.98	71.72	71.45	71.18	70.91	70.65	70.40	70.14
19.95 CFS	69.88	69.64	69.42	69.22	69.03	68.83	68.62	68.40
20.35 CFS	68.17	67.91	67.64	67.36	67.10	66.87	66.66	66.45
20.75 CFS	66.24	66.03	65.80	65.58	65.36	65.12	64.87	64.61
21.15 CFS	64.36	64.10	63.86	63.63	63.41	63.20	63.00	62.80
21.55 CFS	62.60	62.39	62.16	61.93	61.69	61.46	61.24	61.03
21.95 CFS	60.83	60.65	60.46	60.25	60.02	59.79	59.55	59.31
22.35 CFS	59.08	58.87	58.67	58.47	58.27	58.05	57.82	57.57
22.75 CFS	57.33	57.08	56.84	56.58	56.32	56.08	55.86	55.65
23.15 CFS	55.45	55.25	55.03	54.81	54.57	54.34	54.11	53.88
23.55 CFS	53.63	53.37	53.11	52.89	52.69	52.50	52.29	52.05
23.95 CFS	51.82	51.61	51.37	50.97	50.22	48.99	47.34	45.38
24.35 CFS	43.27							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.75 WATERSHED INCHES; 3365 CFS-HRS; 278.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.46	698.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.76 WATERSHED INCHES; 1160 CFS-HRS; 95.9 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.65	615.0	382.28

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.76 WATERSHED INCHES; 1160 CFS-HRS; 95.9 ACRE-FEET.

1

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	222.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.41 WATERSHED INCHES; 309 CFS-HRS; 25.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.58	740.7	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.84 WATERSHED INCHES; 1455 CFS-HRS; 120.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	300.6	(RUNOFF)
15.84	8.2	(RUNOFF)
17.34	6.3	(RUNOFF)
18.61	5.1	(RUNOFF)
18.84	5.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.29 WATERSHED INCHES; 281 CFS-HRS; 23.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.54	803.4	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.85 WATERSHED INCHES; 1675 CFS-HRS; 138.4 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.92	690.9	359.63

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.81 WATERSHED INCHES; 1663 CFS-HRS; 137.5 ACRE-FEET.

1

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	1066.0	(RUNOFF)
18.66	23.4	(RUNOFF)

20.11	21.4	(RUNOFF)
20.66	20.5	(RUNOFF)
21.98	18.6	(RUNOFF)
23.11	17.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.72 WATERSHED INCHES; 1213 CFS-HRS; 100.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	1338.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .86 SQ.MI.

2.60 CFS	.47	.51	.55	.59	.64	.68	.73	.77
3.00 CFS	.81	.86	.90	.94	.99	1.03	1.09	1.16
3.40 CFS	1.26	1.38	1.53	1.70	1.87	2.05	2.22	2.40
3.80 CFS	2.57	2.75	2.93	3.11	3.29	3.48	3.68	3.88
4.20 CFS	4.08	4.26	4.43	4.60	4.77	4.97	5.18	5.39
4.60 CFS	5.57	5.74	5.91	6.10	6.30	6.51	6.72	6.92
5.00 CFS	7.12	7.32	7.51	7.71	7.94	8.18	8.40	8.59
5.40 CFS	8.76	8.92	9.12	9.35	9.60	9.85	10.09	10.30
5.80 CFS	10.47	10.61	10.76	10.96	11.21	11.51	11.77	12.00
6.20 CFS	12.23	12.48	12.74	13.03	13.34	13.69	14.05	14.42
6.60 CFS	14.80	15.19	15.56	15.90	16.28	16.72	17.16	17.57
7.00 CFS	17.98	18.43	18.94	19.50	20.06	20.60	21.10	21.58
7.40 CFS	22.10	22.66	23.22	23.78	24.30	24.82	25.36	25.95
7.80 CFS	26.56	27.17	27.80	28.46	29.12	29.78	30.46	31.14
8.20 CFS	31.76	32.35	32.98	33.68	34.37	35.02	35.65	36.32
8.60 CFS	37.07	37.88	38.68	39.43	40.14	40.80	41.43	42.08
9.00 CFS	42.85	43.74	44.68	45.64	46.66	47.80	49.08	50.47
9.40 CFS	51.89	53.31	54.69	56.10	57.56	59.14	60.82	62.59
9.80 CFS	64.37	66.14	67.86	69.59	71.38	73.29	75.30	77.41
10.20 CFS	79.52	81.61	83.64	85.68	87.77	89.98	92.31	94.85
10.60 CFS	98	101	105	109	114	119	124	130
11.00 CFS	135	141	148	155	163	172	182	192
11.40 CFS	203	214	225	239	259	284	313	344
11.80 CFS	379	423	479	554	659	807	1002	1203
12.20 CFS	1324	1332	1256	1154	1067	1008	967	943
12.60 CFS	928	915	904	895	888	882	874	862
13.00 CFS	846	827	805	780	752	724	695	666
13.40 CFS	636	607	577	549	521	494	468	444

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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13.80 CFS	422	400	381	362	345	329	314	300
14.20 CFS	287	274	263	252	242	233	224	216
14.60 CFS	208	201	194	188	182	177	172	167
15.00 CFS	162	158	153	149	146	142	139	136
15.40 CFS	133	130	128	126	124	122	120	117
15.80 CFS	116	114	112	111	109	108	106	105
16.20 CFS	104	102	101	100	99	98	97	96
16.60 CFS	94.75	93.80	92.96	92.17	91.35	90.47	89.60	88.79
17.00 CFS	88.06	87.37	86.63	85.78	84.84	83.87	83.06	82.42
17.40 CFS	81.83	81.15	80.34	79.42	78.53	77.73	77.03	76.37
17.80 CFS	75.67	74.90	74.11	73.38	72.73	72.10	71.42	70.67
18.20 CFS	69.90	69.19	68.54	67.94	67.28	66.59	65.99	65.56
18.60 CFS	65.23	64.92	64.49	63.98	63.52	63.15	62.80	62.38
19.00 CFS	61.91	61.44	61.04	60.69	60.39	60.12	59.87	59.65
19.40 CFS	59.44	59.24	59.05	58.83	58.53	58.15	57.86	57.67
19.80 CFS	57.48	57.23	56.92	56.65	56.52	56.52	56.47	56.32
20.20 CFS	56.07	55.80	55.57	55.33	55.03	54.67	54.40	54.26
20.60 CFS	54.23	54.20	54.05	53.79	53.58	53.44	53.30	53.08
21.00 CFS	52.80	52.50	52.25	52.05	51.88	51.72	51.58	51.45
21.40 CFS	51.33	51.21	51.09					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.11 WATERSHED INCHES; 2846 CFS-HRS; 235.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 22

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.30	2328.7	(NULL)
12.69	2295.3	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.78 WATERSHED INCHES; 6051 CFS-HRS; 500.0 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)

12.37	2318.3	350.18
12.75	2294.0	350.15

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.77 WATERSHED INCHES; 6044 CFS-HRS; 499.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	47.3	(RUNOFF)
20.66	1.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.03 WATERSHED INCHES; 52 CFS-HRS; 4.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.37	2351.0	(NULL)
12.74	2305.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.98 SQ.MI.

HRS									
2.70	CFS	.50	.54	.58	.62	.67	.71	.76	.80
3.10	CFS	.85	.89	.93	.97	1.01	1.07	1.14	1.23
3.50	CFS	1.35	1.49	1.65	1.82	2.00	2.17	2.35	2.52
3.90	CFS	2.70	2.88	3.06	3.24	3.43	3.62	3.83	4.02
4.30	CFS	4.21	4.38	4.55	4.72	4.92	5.12	5.33	5.52
4.70	CFS	5.69	5.86	6.05	6.24	6.45	6.66	6.86	7.07
5.10	CFS	7.27	7.48	7.70	7.94	8.21	8.47	8.72	8.94
5.50	CFS	9.17	9.43	9.73	10.06	10.40	10.73	11.05	11.34
5.90	CFS	11.60	11.87	12.18	12.54	12.95	13.35	13.72	14.09
6.30	CFS	14.47	14.87	15.29	15.75	16.24	16.76	17.30	17.87
6.70	CFS	18.47	19.05	19.63	20.26	20.95	21.67	22.39	23.12
7.10	CFS	23.89	24.74	25.66	26.61	27.57	28.51	29.44	30.42
7.50	CFS	31.44	32.49	33.56	34.61	35.67	36.76	37.90	39.08
7.90	CFS	40.28	41.51	42.78	44.06	45.36	46.68	48.03	49.33
8.30	CFS	50.61	51.92	53.30	54.71	56.08	57.45	58.85	60.33
8.70	CFS	61.89	63.46	65.02	66.53	68.00	69.44	70.90	72.46
9.10	CFS	74.16	75.93	77.77	79.69	81.74	83.97	86.36	88.84
9.50	CFS	91	94	97	99	102	105	108	112
9.90	CFS	115	119	122	126	129	133	137	142
10.30	CFS	146	150	154	159	163	168	173	178
10.70	CFS	184	191	198	206	215	224	234	244
11.10	CFS	255	266	279	294	310	327	345	364
11.50	CFS	385	407	432	464	503	549	600	659
11.90	CFS	729	816	930	1084	1295	1574	1886	2145
12.30	CFS	2299	2348	2337	2311	2292	2283	2285	2295
12.70	CFS	2303	2306	2301	2289	2267	2235	2193	2140
13.10	CFS	2079	2009	1933	1853	1771	1688	1605	1523
13.50	CFS	1443	1365	1290	1218	1149	1084	1023	967
13.90	CFS	914	865	819	777	739	703	669	638
14.30	CFS	610	583	558	536	515	496	478	462
14.70	CFS	446	432	418	406	394	384	373	364
15.10	CFS	354	345	337	328	321	313	306	300
15.50	CFS	294	289	283	278	274	269	264	260
15.90	CFS	256	252	249	245	242	239	236	233

1

16.30 CFS	230	228	225	223	220	218	216	214
16.70 CFS	212	210	208	206	204	202	200	199
17.10 CFS	197	195	194	192	190	188	187	185
17.50 CFS	183	182	180	178	176	175	173	172
17.90 CFS	170	168	167	165	163	162	160	159
18.30 CFS	157	155	154	152	151	149	148	147
18.70 CFS	146	145	144	143	142	141	140	139
19.10 CFS	138	137	137	136	135	135	134	134
19.50 CFS	133	133	132	132	131	130	130	129
19.90 CFS	129	128	128	127	127	127	127	126
20.30 CFS	126	125	125	124	124	123	123	122
20.70 CFS	122	122	121	121	120	120	120	119
21.10 CFS	119	118	118	117	117	116	116	116
21.50 CFS	115							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.76 WATERSHED INCHES; 6093 CFS-HRS; 503.5 ACRE-FEET.

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 EXECUTIVE CONTROL ENDCMP    COMPUTATIONS COMPLETED FOR PASS   4


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION  25
    STARTING TIME =   .00       RAIN DEPTH =  8.47       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. =99            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.31                         1200.1                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   6.39 WATERSHED INCHES;    1672 CFS-HRS;     138.2 ACRE-FEET.


 OPERATION REACH    XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.48                          998.8                        385.71

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   6.37 WATERSHED INCHES;    1667 CFS-HRS;     137.8 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   3
1
 TR20 ------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:30:14                     PASS   5   JOB NO.   1                     PAGE  35


    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.23                          212.8                        (RUNOFF)
       18.67                            5.3                        (RUNOFF)
       21.98                            4.2                        (RUNOFF)
       24.03                            3.6                        (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.70 WATERSHED INCHES;     248 CFS-HRS;      20.5 ACRE-FEET.


 OPERATION REACH    XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.51                          154.0                        383.33

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.70 WATERSHED INCHES;     248 CFS-HRS;      20.5 ACRE-FEET.


 OPERATION ADDHYD   XSECTION   4

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.49                         1152.3                       (NULL)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   6.27 WATERSHED INCHES;    1912 CFS-HRS;     158.0 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   5

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.37                          457.4                        (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.63 WATERSHED INCHES;     679 CFS-HRS;      56.1 ACRE-FEET.


 OPERATION ADDHYD   XSECTION   6

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.45                         1578.3                       (NULL)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   6.07 WATERSHED INCHES;    2585 CFS-HRS;     213.6 ACRE-FEET.


 OPERATION REACH    XSECTION   7
1
 TR20 ------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.62 1421.0 372.99

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.06 WATERSHED INCHES; 2578 CFS-HRS; 213.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.31 539.7 (RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.57 WATERSHED INCHES; 727 CFS-HRS; 60.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 9

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.56 1736.4 (NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.93 WATERSHED INCHES; 3299 CFS-HRS; 272.6 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.81 1506.1 356.05

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.91 WATERSHED INCHES; 3285 CFS-HRS; 271.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.32 630.0 (RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.67 WATERSHED INCHES; 866 CFS-HRS; 71.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.71 1764.7 (NULL)

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
09:30:14 PASS 5 JOB NO. 1 PAGE 37

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =	1.10 SQ.MI.		
4.90 CFS	.47	.56	.67	.79	.91	1.04	1.18	1.33
5.30 CFS	1.48	1.63	1.79	1.95	2.12	2.29	2.46	2.64
5.70 CFS	2.83	3.03	3.25	3.47	3.71	3.96	4.22	4.50
6.10 CFS	4.79	5.09	5.41	5.75	6.09	6.46	6.84	7.23
6.50 CFS	7.65	8.08	8.53	9.00	9.48	9.97	10.48	11.00
6.90 CFS	11.55	12.10	12.67	13.26	13.86	14.48	15.12	15.77
7.30 CFS	16.44	17.11	17.80	18.51	19.22	19.95	20.70	21.45
7.70 CFS	22.21	22.99	23.78	24.58	25.39	26.22	27.06	27.91
8.10 CFS	28.78	29.66	30.54	31.44	32.34	33.25	34.18	35.12
8.50 CFS	36.06	37.02	37.99	38.98	39.98	41.00	42.02	43.05
8.90 CFS	44.07	45.10	46.14	47.20	48.30	49.43	50.59	51.80
9.30 CFS	53.07	54.40	55.80	57.27	58.80	60.40	62.07	63.82
9.70 CFS	65.67	67.62	69.67	71.81	74.02	76.32	78.68	81.13
10.10 CFS	84	86	89	92	95	98	101	104
10.50 CFS	107	110	113	117	121	125	129	134
10.90 CFS	139	145	150	157	164	171	179	188
11.30 CFS	198	209	220	233	246	261	278	298
11.70 CFS	321	347	378	414	457	511	580	671
12.10 CFS	789	932	1088	1240	1369	1471	1550	1609
12.50 CFS	1656	1695	1729	1753	1764	1761	1744	1715
12.90 CFS	1675	1625	1568	1506	1438	1368	1297	1225
13.30 CFS	1155	1086	1020	957	897	841	788	739
13.70 CFS	693	650	611	574	541	510	482	457
14.10 CFS	434	412	393	375	359	344	331	318
14.50 CFS	307	297	287	279	270	263	256	249
14.90 CFS	243	237	231	226	221	216	211	206
15.30 CFS	202	197	193	189	186	182	179	176
15.70 CFS	173	170	167	165	162	160	158	156
16.10 CFS	154	152	151	149	147	146	145	143

16.50 CFS	142	140	139	138	137	135	134	133
16.90 CFS	132	131	130	129	127	126	125	124
17.30 CFS	123	122	121	120	119	118	117	115
17.70 CFS	114	113	112	111	110	109	108	107
18.10 CFS	106	105	104	103	102	101	100	99
18.50 CFS	97.56	96.65	95.81	95.03	94.29	93.58	92.90	92.25
18.90 CFS	91.64	91.06	90.50	89.95	89.43	88.93	88.46	88.02
19.30 CFS	87.61	87.24	86.89	86.56	86.25	85.95	85.65	85.34
19.70 CFS	85.01	84.70	84.40	84.11	83.80	83.48	83.19	82.93
20.10 CFS	82.70	82.47	82.24	81.99	81.72	81.44	81.13	80.81
20.50 CFS	80.48	80.17	79.88	79.63	79.38	79.12	78.86	78.59
20.90 CFS	78.33	78.05	77.77	77.47	77.16	76.86	76.55	76.26
21.30 CFS	75.99	75.72	75.47	75.22	74.99	74.75	74.50	74.22
21.70 CFS	73.94	73.65	73.38	73.12	72.86	72.62	72.40	72.18
22.10 CFS	71.92	71.65	71.37	71.08	70.80	70.53	70.27	70.02
22.50 CFS	69.79	69.55	69.29	69.01	68.71	68.41	68.12	67.83
22.90 CFS	67.52	67.20	66.91	66.64	66.39	66.16	65.91	65.65
23.30 CFS	65.38	65.10	64.82	64.54	64.26	63.97	63.66	63.36
23.70 CFS	63.09	62.84	62.61	62.35				

1

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.85 WATERSHED INCHES; 4144 CFS-HRS; 342.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.45	862.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.91 WATERSHED INCHES; 1440 CFS-HRS; 119.0 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.63	771.1	382.65

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.91 WATERSHED INCHES; 1439 CFS-HRS; 118.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	270.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.56 WATERSHED INCHES; 375 CFS-HRS; 31.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.57	926.6	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.94 WATERSHED INCHES; 1787 CFS-HRS; 147.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	353.6	(RUNOFF)
15.84	9.7	(RUNOFF)
17.34	7.4	(RUNOFF)
20.84	5.2	(RUNOFF)

1

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.47 WATERSHED INCHES; 334 CFS-HRS; 27.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.54	1002.2	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.95 WATERSHED INCHES; 2057 CFS-HRS; 170.0 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.85	872.5	359.96

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.92 WATERSHED INCHES; 2044 CFS-HRS; 168.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	1270.7	(RUNOFF)
18.66	27.6	(RUNOFF)
20.11	25.3	(RUNOFF)
20.66	24.2	(RUNOFF)
21.98	22.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.87 WATERSHED INCHES; 1456 CFS-HRS; 120.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	1683.8	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .86 SQ.MI.

HRS								
2.20 CFS	.48	.54	.60	.65	.71	.76	.82	.88
2.60 CFS	.93	.99	1.04	1.10	1.15	1.22	1.31	1.42
3.00 CFS	1.57	1.74	1.93	2.14	2.35	2.57	2.79	3.03
3.40 CFS	3.27	3.51	3.73	3.97	4.22	4.47	4.69	4.90
3.80 CFS	5.10	5.31	5.55	5.80	6.04	6.29	6.56	6.84
4.20 CFS	7.12	7.37	7.59	7.80	8.04	8.32	8.62	8.92
4.60 CFS	9.17	9.38	9.59	9.83	10.11	10.39	10.67	10.93
5.00 CFS	11.18	11.43	11.66	11.91	12.19	12.51	12.80	13.04

1

5.40 CFS	13.23	13.41	13.64	13.95	14.28	14.63	14.95	15.23
5.80 CFS	15.46	15.64	15.84	16.13	16.53	16.99	17.42	17.78
6.20 CFS	18.14	18.53	18.97	19.44	19.94	20.49	21.05	21.62
6.60 CFS	22.20	22.80	23.35	23.86	24.40	25.03	25.68	26.28
7.00 CFS	26.84	27.45	28.15	28.93	29.70	30.43	31.10	31.75
7.40 CFS	32.43	33.16	33.92	34.64	35.33	35.99	36.70	37.46
7.80 CFS	38.25	39.04	39.85	40.70	41.55	42.41	43.27	44.13
8.20 CFS	44.92	45.65	46.43	47.32	48.21	49.05	49.83	50.66
8.60 CFS	51.60	52.63	53.64	54.61	55.48	56.29	57.05	57.86
9.00 CFS	58.81	59.92	61.12	62.34	63.61	65.05	66.67	68.47
9.40 CFS	70.29	72.10	73.86	75.63	77.48	79.49	81.65	83.93
9.80 CFS	86	88	91	93	95	98	100	103
10.20 CFS	106	108	111	113	116	119	122	125
10.60 CFS	128	133	137	143	149	155	162	169
11.00 CFS	176	183	192	201	211	223	235	248
11.40 CFS	261	276	290	307	331	364	401	440
11.80 CFS	484	538	607	701	830	1013	1253	1506
12.20 CFS	1662	1678	1594	1470	1366	1291	1245	1216
12.60 CFS	1196	1177	1158	1140	1124	1107	1086	1061
13.00 CFS	1032	999	963	925	885	845	805	766
13.40 CFS	727	690	653	617	583	551	521	493
13.80 CFS	467	442	420	399	380	363	346	331
14.20 CFS	317	303	291	279	268	259	250	241
14.60 CFS	233	225	218	212	206	200	195	189
15.00 CFS	184	180	175	171	167	163	159	156
15.40 CFS	153	150	148	145	143	141	138	136
15.80 CFS	134	132	131	129	127	125	124	122
16.20 CFS	121	120	118	117	116	115	114	112
16.60 CFS	111	110	109	108	107	106	105	104
17.00 CFS	104	103	102	101	100	99	98	97
17.40 CFS	96.28	95.50	94.54	93.45	92.39	91.43	90.59	89.82
17.80 CFS	89.00	88.08	87.15	86.26	85.49	84.75	83.96	83.06
18.20 CFS	82.15	81.29	80.53	79.82	79.05	78.23	77.52	77.01
18.60 CFS	76.65	76.31	75.83	75.23	74.69	74.29	73.90	73.44
19.00 CFS	72.89	72.35	71.89	71.51	71.17	70.88	70.61	70.37
19.40 CFS	70.14	69.93	69.72	69.48	69.14	68.71	68.36	68.14
19.80 CFS	67.94	67.65	67.29	66.96	66.82	66.82	66.79	66.61
20.20 CFS	66.32	66.00	65.72	65.44	65.08	64.66	64.32	64.16
20.60 CFS	64.14	64.12	63.94	63.63	63.36	63.20	63.05	62.79
21.00 CFS	62.44	62.07	61.77	61.54	61.33	61.15	60.99	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.23 WATERSHED INCHES; 3470 CFS-HRS; 286.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 22

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
09:30:14 PASS 5 JOB NO. 1 PAGE 41

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	2964.5	(NULL)
12.65	2930.4	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.88 WATERSHED INCHES; 7438 CFS-HRS; 614.7 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.37	2954.7	350.93
12.70	2928.9	350.90

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.87 WATERSHED INCHES; 7430 CFS-HRS; 614.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	59.9	(RUNOFF)
24.03	1.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.11 WATERSHED INCHES; 66 CFS-HRS; 5.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.37	2995.4	(NULL)
12.70	2945.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = 1.98 SQ.MI.

2.25 CFS	.47	.52	.58	.64	.70	.75	.81	.87
2.65 CFS	.92	.97	1.03	1.08	1.14	1.21	1.29	1.40
3.05 CFS	1.54	1.70	1.89	2.09	2.30	2.52	2.74	2.98
3.45 CFS	3.22	3.45	3.68	3.92	4.17	4.41	4.64	4.85
3.85 CFS	5.05	5.26	5.50	5.74	5.99	6.24	6.50	6.78
4.25 CFS	7.06	7.32	7.54	7.75	7.99	8.27	8.58	8.90
4.65 CFS	9.19	9.45	9.70	10.00	10.33	10.69	11.05	11.41
5.05 CFS	11.77	12.13	12.49	12.87	13.28	13.73	14.18	14.58
5.45 CFS	14.94	15.28	15.68	16.13	16.63	17.16	17.67	18.15
5.85 CFS	18.60	19.02	19.45	19.97	20.61	21.33	22.05	22.73
6.25 CFS	23.40	24.12	24.89	25.72	26.59	27.51	28.48	29.48
6.65 CFS	30.50	31.56	32.59	33.60	34.65	35.79	36.97	38.14
7.05 CFS	39.29	40.48	41.77	43.15	44.57	45.97	47.32	48.66
7.45 CFS	50.03	51.47	52.94	54.41	55.85	57.28	58.76	60.29

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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7.85 CFS	61.87	63.47	65.10	66.78	68.49	70.21	71.94	73.69
8.25 CFS	75.40	77.05	78.73	80.52	82.35	84.15	85.90	87.69
8.65 CFS	90	92	94	96	98	99	101	103
9.05 CFS	105	107	110	112	114	117	120	123
9.45 CFS	126	129	133	136	140	143	147	152
9.85 CFS	156	160	165	169	174	179	184	189
10.25 CFS	195	200	206	211	217	223	229	235
10.65 CFS	242	250	258	268	278	289	301	313
11.05 CFS	327	340	356	372	391	411	433	457
11.45 CFS	482	509	537	569	609	660	719	785
11.85 CFS	860	950	1060	1206	1400	1669	2019	2411
12.25 CFS	2736	2926	2991	2979	2952	2931	2925	2930
12.65 CFS	2940	2945	2938	2918	2887	2843	2784	2712
13.05 CFS	2628	2534	2433	2325	2214	2102	1991	1883
13.45 CFS	1777	1675	1577	1484	1396	1313	1236	1163
13.85 CFS	1097	1035	978	926	878	834	793	756
14.25 CFS	721	689	660	633	608	586	565	546
14.65 CFS	528	511	495	481	467	455	443	432
15.05 CFS	421	411	401	391	382	373	365	357

15.45 CFS	350	344	337	332	326	320	315	310
15.85 CFS	305	300	296	292	289	285	281	278
16.25 CFS	274	272	269	266	263	261	258	255
16.65 CFS	253	251	248	246	244	242	240	238
17.05 CFS	236	234	232	230	227	225	223	221
17.45 CFS	219	218	216	213	211	209	207	205
17.85 CFS	203	201	199	197	195	194	192	190
18.25 CFS	188	186	184	182	180	179	177	175
18.65 CFS	174	173	172	171	169	168	167	166
19.05 CFS	165	164	163	162	161	161	160	159
19.45 CFS	159	158	158	157	156	156	155	154
19.85 CFS	154	153	153	152	151	151	151	151
20.25 CFS	150	149	149	148	148	147	146	146
20.65 CFS	145	145	145	144	144	143	143	142
21.05 CFS	142	141	140	140	139	139		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.86 WATERSHED INCHES; 7492 CFS-HRS; 619.2 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 5

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 2.64 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 5, ARC 2
MAIN TIME INCREMENT .050 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	.41	1.17	---	12.33	223	543.9
XSECTION 2	REACH	.41	1.17	383.30	12.76	147	358.5
XSECTION 3	RUNOFF	.07	.83	---	12.25	30	428.6
XSECTION 2	REACH	.07	.83	381.13	12.40	24	342.9
XSECTION 4	ADDHYD	.47	1.12	---	12.73	161	342.6
XSECTION 5	RUNOFF	.19	.80	---	12.41	60	315.8
XSECTION 6	ADDHYD	.66	1.03	---	12.66	204	309.1
XSECTION 7	REACH	.66	1.03	369.72	12.92	181	274.2
XSECTION 8	RUNOFF	.20	.78	---	12.34	70	350.0
XSECTION 9	ADDHYD	.86	.97	---	12.85	209	243.0
XSECTION 10	REACH	.86	.97	352.61	13.29	173	201.2
XSECTION 11	RUNOFF	.24	.82	---	12.35	86	358.3
XSECTION 12	ADDHYD	1.10	.94	---	13.21	194	176.4
XSECTION 13	RUNOFF	.38	.92	---	12.50	129	339.5
XSECTION 14	REACH	.38	.92	378.90	12.64	121	318.4
XSECTION 15	RUNOFF	.09	1.28	---	12.33	53	588.9
XSECTION 16	ADDHYD	.47	.99	---	12.57	154	327.7
XSECTION 17	RUNOFF	.07	2.00	---	12.14	99	1414.3
XSECTION 18	ADDHYD	.54	1.10	---	12.53	177	327.8
XSECTION 19	REACH	.54	1.09	357.82	13.10	132	244.4
XSECTION 20	RUNOFF	.33	1.50	---	12.22	288	872.7
XSECTION 21	ADDHYD	.86	1.24	---	12.22	317	368.6
XSECTION 22	ADDHYD	1.96	1.06	---	12.26	424	216.3
XSECTION 23	REACH	1.96	1.06	346.52	12.36	403	205.6
XSECTION 24	RUNOFF	.02	.60	---	12.24	6	300.0
XSECTION 25	ADDHYD	1.98	1.05	---	12.36	408	206.1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.19 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	.41	1.61	---	12.33	307	748.8
XSECTION 2	REACH	.41	1.61	383.62	12.67	221	539.0
XSECTION 3	RUNOFF	.07	1.21	---	12.24	44	628.6
XSECTION 2	REACH	.07	1.20	381.36	12.42	38	542.9
XSECTION 4	ADDHYD	.47	1.55	---	12.64	249	529.8
XSECTION 5	RUNOFF	.19	1.17	---	12.40	92	484.2
XSECTION 6	ADDHYD	.66	1.44	---	12.57	321	486.4
XSECTION 7	REACH	.66	1.44	370.21	12.81	286	433.3
XSECTION 8	RUNOFF	.20	1.14	---	12.33	107	535.0
XSECTION 9	ADDHYD	.86	1.37	---	12.73	334	388.4
XSECTION 10	REACH	.86	1.37	353.31	13.26	265	308.1
XSECTION 11	RUNOFF	.24	1.19	---	12.34	129	537.5
XSECTION 12	ADDHYD	1.10	1.33	---	13.20	295	268.2
XSECTION 13	RUNOFF	.38	1.31	---	12.48	189	497.4
XSECTION 14	REACH	.38	1.31	380.38	12.74	153	402.6
XSECTION 15	RUNOFF	.09	1.73	---	12.32	73	811.1
XSECTION 16	ADDHYD	.47	1.39	---	12.65	190	404.3
XSECTION 17	RUNOFF	.07	2.51	---	12.14	124	1771.4
XSECTION 18	ADDHYD	.54	1.50	---	12.56	213	394.4
XSECTION 19	REACH	.54	1.48	358.06	13.10	170	314.8
XSECTION 20	RUNOFF	.33	1.98	---	12.21	380	1151.5
XSECTION 21	ADDHYD	.86	1.66	---	12.23	437	508.1
XSECTION 22	ADDHYD	1.96	1.45	---	12.26	596	304.1
XSECTION 23	REACH	1.96	1.45	347.07	12.35	573	292.3

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SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 2							
XSECTION 24	RUNOFF	.02	.92	---	12.23	10	500.0
XSECTION 25	ADDHYD	1.98	1.44	---	12.35	581	293.4
RAINFALL OF 4.91 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 10							
XSECTION 1	RUNOFF	.41	3.10	---	12.32	596	1453.7
XSECTION 2	REACH	.41	3.10	384.46	12.56	469	1143.9
XSECTION 3	RUNOFF	.07	2.55	---	12.23	96	1371.4
XSECTION 2	REACH	.07	2.55	382.25	12.42	81	1157.1
XSECTION 4	ADDHYD	.47	3.02	---	12.54	539	1146.8
XSECTION 5	RUNOFF	.19	2.49	---	12.38	202	1063.2
XSECTION 6	ADDHYD	.66	2.87	---	12.50	719	1089.4
XSECTION 7	REACH	.66	2.87	371.37	12.69	644	975.8
XSECTION 8	RUNOFF	.20	2.45	---	12.32	238	1190.0
XSECTION 9	ADDHYD	.86	2.78	---	12.62	772	897.7
XSECTION 10	REACH	.86	2.78	354.40	12.93	644	748.8
XSECTION 11	RUNOFF	.24	2.53	---	12.32	283	1179.2
XSECTION 12	ADDHYD	1.10	2.72	---	12.84	741	673.6
XSECTION 13	RUNOFF	.38	2.70	---	12.47	397	1044.7
XSECTION 14	REACH	.38	2.70	381.44	12.70	332	873.7
XSECTION 15	RUNOFF	.09	3.26	---	12.32	136	1511.1
XSECTION 16	ADDHYD	.47	2.81	---	12.62	403	857.4

XSECTION	17	RUNOFF	.07	4.12	---	12.14	199	2842.9
XSECTION	18	ADDHYD	.54	2.87	---	12.56	442	818.5
XSECTION	19	REACH	.54	2.84	358.85	12.98	361	668.5
XSECTION	20	RUNOFF	.33	3.57	---	12.21	671	2033.3
XSECTION	21	ADDHYD	.86	3.08	---	12.23	824	958.1
XSECTION	22	ADDHYD	1.96	2.81	---	12.28	1313	669.9
XSECTION	23	REACH	1.96	2.80	348.67	12.36	1298	662.2

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SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 10							
XSECTION 24	RUNOFF	.02	2.13	---	12.22	25	1250.0
XSECTION 25	ADDHYD	1.98	2.79	---	12.36	1316	664.6

RAINFALL OF 7.23 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE	1	STORM	50					
XSECTION	1	RUNOFF	.41	5.25	---	12.31	995	2426.8
XSECTION	2	REACH	.41	5.24	385.33	12.49	814	1985.4
XSECTION	3	RUNOFF	.07	4.57	---	12.23	172	2457.1
XSECTION	2	REACH	.07	4.57	383.17	12.57	118	1685.7
XSECTION	4	ADDHYD	.47	5.14	---	12.50	927	1972.3
XSECTION	5	RUNOFF	.19	4.50	---	12.37	365	1921.1
XSECTION	6	ADDHYD	.66	4.96	---	12.47	1263	1913.6
XSECTION	7	REACH	.66	4.95	372.47	12.64	1142	1730.3
XSECTION	8	RUNOFF	.20	4.45	---	12.31	433	2165.0
XSECTION	9	ADDHYD	.86	4.83	---	12.57	1391	1617.4
XSECTION	10	REACH	.86	4.81	355.53	12.84	1195	1389.5
XSECTION	11	RUNOFF	.24	4.54	---	12.32	509	2120.8
XSECTION	12	ADDHYD	1.10	4.75	---	12.74	1395	1268.2
XSECTION	13	RUNOFF	.38	4.76	---	12.46	698	1836.8
XSECTION	14	REACH	.38	4.76	382.28	12.65	615	1618.4
XSECTION	15	RUNOFF	.09	5.41	---	12.31	223	2477.8
XSECTION	16	ADDHYD	.47	4.84	---	12.58	741	1576.6
XSECTION	17	RUNOFF	.07	6.29	---	12.14	301	4300.0
XSECTION	18	ADDHYD	.54	4.85	---	12.54	803	1487.0
XSECTION	19	REACH	.54	4.81	359.63	12.92	691	1279.6
XSECTION	20	RUNOFF	.33	5.72	---	12.21	1066	3230.3
XSECTION	21	ADDHYD	.86	5.11	---	12.23	1339	1557.0
XSECTION	22	ADDHYD	1.96	4.78	---	12.30	2329	1188.3
XSECTION	23	REACH	1.96	4.77	350.18	12.37	2318	1182.7

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SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 50							
XSECTION 24	RUNOFF	.02	4.03	---	12.21	47	2350.0

XSECTION	25	ADDHYD	1.98	4.76	---	12.37	2351	1187.4

RAINFALL OF 8.47 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 99

XSECTION	1	RUNOFF	.41	6.39	---	12.31	1200	2926.8
XSECTION	2	REACH	.41	6.37	385.71	12.48	999	2436.6
XSECTION	3	RUNOFF	.07	5.70	---	12.23	213	3042.9
XSECTION	2	REACH	.07	5.70	383.33	12.51	154	2200.0
XSECTION	4	ADDHYD	.47	6.27	---	12.49	1152	2451.1
XSECTION	5	RUNOFF	.19	5.63	---	12.37	457	2405.3
XSECTION	6	ADDHYD	.66	6.07	---	12.45	1578	2390.9
XSECTION	7	REACH	.66	6.06	372.99	12.62	1421	2153.0
XSECTION	8	RUNOFF	.20	5.57	---	12.31	540	2700.0
XSECTION	9	ADDHYD	.86	5.93	---	12.56	1736	2018.6
XSECTION	10	REACH	.86	5.91	356.05	12.81	1506	1751.2
XSECTION	11	RUNOFF	.24	5.67	---	12.32	630	2625.0
XSECTION	12	ADDHYD	1.10	5.85	---	12.71	1765	1604.5
XSECTION	13	RUNOFF	.38	5.91	---	12.45	862	2268.4
XSECTION	14	REACH	.38	5.91	382.65	12.63	771	2028.9
XSECTION	15	RUNOFF	.09	6.56	---	12.31	271	3011.1
XSECTION	16	ADDHYD	.47	5.94	---	12.57	927	1972.3
XSECTION	17	RUNOFF	.07	7.47	---	12.14	354	5057.1
XSECTION	18	ADDHYD	.54	5.95	---	12.54	1002	1855.6
XSECTION	19	REACH	.54	5.92	359.96	12.85	872	1614.8
XSECTION	20	RUNOFF	.33	6.87	---	12.21	1271	3851.5
XSECTION	21	ADDHYD	.86	6.23	---	12.23	1684	1958.1
XSECTION	22	ADDHYD	1.96	5.88	---	12.31	2964	1512.2
XSECTION	23	REACH	1.96	5.87	350.93	12.37	2955	1507.7

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SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)

ALTERNATE 1 STORM 99

XSECTION	24	RUNOFF	.02	5.11	---	12.21	60	3000.0
XSECTION	25	ADDHYD	1.98	5.86	---	12.37	2995	1512.6

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SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE K* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFLOW PEAK (CFS)	INFLOW TIME (HR)	OUTFLOW PEAK (CFS)	OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)

BASEFLOW IS .0 CFS

ALTERNATE 1 STORM 1

2	3113		222	12.4	147	12.8	.62	1.23	.265	.662	.12
2	1954		30	12.3	24	12.4	.64	1.53	.073	.816	.30
7	2088		204	12.6	181	12.9	.71	1.23	.084	.890	.19
10	3852		209	12.9	173	13.3	.49	1.28	.153	.827	.10

14	2484	129	12.5	121	12.6	.81	1.47	.033	.940	.35
19	4092	176	12.6	132	13.1	1.06	1.12	.247	.746	.09
23	586	424	12.3	402	12.4	.95	1.14	.015	.949	.52

ALTERNATE 1 STORM 2

2	3113	305	12.4	221	12.6	.40	1.34	.195	.725	.15
2	1954	44	12.3	37	12.4	.64	1.53	.062	.844	.33
7	2088	321	12.6	286	12.8	.62	1.26	.080	.891	.22
10	3852	334	12.8	265	13.3	.39	1.29	.184	.792	.10
14	2484	189	12.5	153	12.8	.75	1.23	.133	.812	.17
19	4092	213	12.6	170	13.1	1.08	1.11	.215	.797	.09
23	586	595	12.3	573	12.4	.75	1.19	.012	.963	.57

ALTERNATE 1 STORM 10

2	3113	594	12.3	469	12.6	.28	1.42	.130	.790	.20
2	1954	96	12.3	80	12.4	.87	1.35	.084	.838	.31
7	2088	719	12.5	643	12.7	.59	1.27	.072	.896	.26
10	3852	771	12.6	644	12.9	.23	1.40	.130	.835	.14
14	2484	397	12.4	332	12.7	.57	1.27	.118	.836	.19
19	4092	442	12.6	361	13.0	.88	1.16	.192	.817	.10
23	586	1311	12.3	1296	12.4	.45	1.29	.008	.989	.69?

ALTERNATE 1 STORM 50

2	3113	994	12.3	814	12.5	.29	1.41	.105	.819	.22
2	1954	171	12.3	117	12.6	.75	1.17	.223	.688	.17

1

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE K* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFLOW PEAK (CFS)	INFLOW TIME (HR)	OUTFLOW PEAK (CFS)	OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)
ALTERNATE 1 STORM 50											
7	2088		1261	12.4	1141	12.6	.66	1.25	.067	.905	.28
10	3852		1389	12.6	1194	12.9	.22	1.40	.107	.860	.16
14	2484		698	12.4	615	12.6	.37	1.36	.078	.881	.24
19	4092		803	12.6	690	12.9	.47	1.30	.135	.859	.14
23	586		2329	12.3	2313	12.4	.35	1.33	.005	.993	.78?
ALTERNATE 1 STORM 99											
2	3113		1198	12.3	997	12.5	.29	1.41	.095	.832	.24
2	1954		211	12.3	154	12.5	.60	1.24	.181	.730	.19
7	2088		1578	12.4	1418	12.6	.78	1.22	.073	.898	.28
10	3852		1736	12.6	1506	12.8	.22	1.40	.100	.867	.17
14	2484		862	12.4	770	12.6	.33	1.38	.067	.893	.25
19	4092		1002	12.6	872	12.9	.40	1.32	.121	.871	.15
23	586		2963	12.3	2947	12.4	.33	1.34	.005	.995	.82?

1

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1	2	10	50	99
XSECTION 1	.41					

ALTERNATE	1	223	307	596	995	1200
XSECTION 2	.07					
ALTERNATE	1	24	38	81	118	154
XSECTION 3	.07					
ALTERNATE	1	30	44	96	172	213
XSECTION 4	.47					
ALTERNATE	1	161	249	539	927	1152
XSECTION 5	.19					
ALTERNATE	1	60	92	202	365	457
XSECTION 6	.66					
ALTERNATE	1	204	321	719	1263	1578
XSECTION 7	.66					
ALTERNATE	1	181	286	644	1142	1421
XSECTION 8	.20					
ALTERNATE	1	70	107	238	433	540
XSECTION 9	.86					
ALTERNATE	1	209	334	772	1391	1736
XSECTION 10	.86					
ALTERNATE	1	173	265	644	1195	1506
XSECTION 11	.24					
ALTERNATE	1	86	129	283	509	630
XSECTION 12	1.10					
ALTERNATE	1	194	295	741	1395	1765
XSECTION 13	.38					
ALTERNATE	1	129	189	397	698	862
XSECTION 14	.38					

1

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1	2	10	50	99
XSECTION 14		.38					
ALTERNATE	1		121	153	332	615	771
XSECTION 15		.09					
ALTERNATE	1		53	73	136	223	271
XSECTION 16		.47					
ALTERNATE	1		154	190	403	741	927
XSECTION 17		.07					
ALTERNATE	1		99	124	199	301	354
XSECTION 18		.54					

```
   ALTERNATE    1                177       213       442       803      1002

 XSECTION   19          .54
 ---------------------------
   ALTERNATE    1                132       170       361       691       872

 XSECTION   20          .33
 ---------------------------
   ALTERNATE    1                288       380       671      1066      1271

 XSECTION   21          .86
 ---------------------------
   ALTERNATE    1                317       437       824      1339      1684

 XSECTION   22         1.96
 ---------------------------
   ALTERNATE    1                424       596      1313      2329      2964

 XSECTION   23         1.96
 ---------------------------
   ALTERNATE    1                403       573      1298      2318      2955

 XSECTION   24          .02
 ---------------------------
   ALTERNATE    1                  6        10        25        47        60

 XSECTION   25         1.98
 ---------------------------
   ALTERNATE    1                408       581      1316      2351      2995
1
 TR20 ---------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST



 END OF  1 JOBS IN THIS RUN




                    SCS  TR-20,  VERSION 2.04TEST
                                  FILES

     INPUT  = vmreach.dat                          , GIVEN DATA FILE
     OUTPUT = vmreach.OUT                          , DATED 10/19/**,09:30:14

              FILES GENERATED - DATED 10/19/**,09:30:14

                               NONE!


            TOTAL NUMBER OF WARNINGS =   0,  MESSAGES =   0

                      *** TR-20 RUN COMPLETED ***
```

1

**********80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY**********

```
JOB TR-20                                                    NOPLOTS
TITLE     Valley Mede Ultimate LU, Fair Cond, Subdivided
TITLE     July 30, 2016 storm
 2 XSECTN   002                  1.0      382.34
 8                            380.31       0.00        0.00
 8                            381.01      17.58        8.61
 8                            381.71      57.72       18.68
 8                            382.41      87.42       30.14
 8                            383.11     104.50       69.28
 8                            383.81     263.75      127.12
 8                            384.51     485.21      191.79
 8                            385.21     756.68      264.06
 8                            385.91    1097.04      343.49
 8                            386.61    1504.59      429.14
 8                            387.31    1935.42      521.71
 8                            388.01    2404.29      624.39
 8                            388.71    3010.65      736.45
 8                            389.41    3695.34      856.11
 8                            390.11    4464.50      983.39
 9 ENDTBL
 2 XSECTN   007                  1.0      368.32
 8                            365.53       0.00        0.00
 8                            366.13       2.41        1.85
 8                            366.73      13.26        5.96
 8                            367.33      32.81       11.12
 8                            367.93      56.86       17.33
 8                            368.53      58.83       27.09
 8                            369.13      87.92       53.94
 8                            369.73     182.33       92.49
 8                            370.33     312.70      139.48
 8                            370.93     486.35      195.36
 8                            371.53     699.83      260.83
 8                            372.13     968.75      336.90
 8                            372.73    1275.43      425.26
 8                            373.33    1614.79      529.26
 8                            373.93    2124.43      651.29
 8                            374.53    2756.14      782.07
 8                            375.13    3501.54      920.13
 8                            375.73    4298.02     1065.04
 9 ENDTBL
 2 XSECTN   010                  1.0      356.35
 8                            348.10       0.00        0.00
 8                            348.70       5.42        4.43
 8                            349.30      24.01       11.59
 8                            349.90      53.17       19.81
 8                            350.50      92.55       29.09
 8                            351.10     142.34       39.42
 8                            351.70     165.15       51.53
 8                            352.90     175.05      116.35
 8                            353.50     306.92      180.56
```

1

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
 8                            354.10     516.89      254.74
 8                            354.70     768.52      334.49
 8                            355.30    1065.05      420.62
 8                            355.90    1408.22      513.66
 8                            356.50    1807.31      613.67
 8                            357.10    2263.93      719.75
 8                            357.70    2774.44      831.81
 8                            358.30    3358.23      949.51
 9 ENDTBL
 2 XSECTN   014                  1.0      379.93
 8                            376.15       0.00        0.00
 8                            377.05       8.36        4.84
 8                            377.95      50.12       15.58
 8                            378.85     120.19       28.42
 8                            380.65     159.08       88.20
 8                            381.55     355.19      161.67
 8                            382.45     675.00      251.36
 8                            383.35    1104.38      349.36
 8                            384.25    1615.02      456.11
 8                            385.15    2234.68      571.32
 8                            386.05    2973.63      693.77
 8                            386.95    3792.19      822.71
 8                            387.85    4704.26      958.82
 8                            388.75    5747.20     1101.81
 8                            389.65    6882.68     1250.71
 8                            390.55    8093.30     1406.32
```

```
                                                    VMJULY
  8                              391.45     9366.77     1569.98
  8                              392.35    10762.79     1742.42
  9 ENDTBL
  2 XSECTN   019                    1.0      357.27
  8                              353.42        0.00        0.00
  8                              354.17        5.09        3.18
  8                              354.92       23.50        9.02
  8                              355.67       54.37       16.42
  8                              357.17       67.66       39.26
  8                              357.92      141.61       78.64
  8                              358.67      290.86      152.96
  8                              359.42      578.12      249.05
  8                              360.17      989.10      363.75
  8                              360.92     1520.99      494.51
  8                              361.67     2178.56      640.80
  8                              362.42     2981.64      802.19
  8                              363.17     3939.75      976.51
  8                              363.92     5049.66     1162.33
  8                              364.67     6325.86     1358.62
  8                              365.42     7734.95     1564.62
  9 ENDTBL
  2 XSECTN   023                    1.0      344.26
  8                              340.73        0.00        0.00
  8                              341.48        9.64        6.59
1


 **********80-80 LIST OF INPUT DATA (CONTINUED)**********

  8                              342.23       39.11       16.56
  8                              342.98       85.34       28.29
  8                              344.48      146.45       57.99
  8                              345.23      162.66       92.62
  8                              345.98      273.72      148.97
  8                              346.73      453.62      224.13
  8                              347.48      714.72      314.46
  8                              348.23     1049.51      417.50
  8                              348.98     1470.76      532.23
  8                              349.73     1960.34      657.45
  8                              350.48     2559.41      793.58
  8                              351.23     3222.20      938.75
  8                              351.98     3947.27     1094.98
  9 ENDTBL
  5 RAINFL 5              0.05
  8               0.0000       0.0061      0.0061      0.0061      0.0061
  8               0.0061       0.0121      0.0242      0.0364      0.0424
  8               0.0424       0.0424      0.0424      0.0485      0.0606
  8               0.0667       0.0727      0.0727      0.0727      0.0727
  8               0.0788       0.0848      0.1030      0.1212      0.1333
  8               0.1576       0.1818      0.1879      0.2000      0.2182
  8               0.2242       0.2303      0.2424      0.2606      0.2909
  8               0.3212       0.3576      0.4061      0.4667      0.5394
  8               0.6061       0.6606      0.7030      0.7394      0.7576
  8               0.7758       0.7939      0.8182      0.8424      0.8788
  8               0.9091       0.9212      0.9333      0.9455      0.9515
  8               0.9576       0.9697      0.9758      0.9818      0.9818
  8               0.9818       0.9818      0.9818      0.9879      0.9879
  8               0.9879       0.9879      0.9939      0.9939      0.9939
  8               0.9939       0.9939      1.0000      1.0000      1.0000
  9 ENDTBL
  6 RUNOFF 1 001       1 0.4053      83.135       0.444      1         1  DA5
  6 REACH  3  02   1   2 3113                                 1         1
  6 RUNOFF 1 003       3 0.0673      77.021       0.303      1         1  DA6
  6 REACH  3  02   3   4 1954                                 1         1
  6 ADDHYD 4 004   2 4 1                                      1         1
  6 RUNOFF 1 005       2 0.1867      76.388       0.530      1         1  DA4
  6 ADDHYD 4 006   1 2 3                                      1         1
  6 REACH  3  07   3   4 2088                                 1         1
  6 RUNOFF 1 008       2 0.2020      75.944       0.428      1         1  DA3
  6 ADDHYD 4 009   4 2 3                                      1         1
  6 REACH  3  10   3   1 3852                                 1         1
  6 RUNOFF 1 011       2 0.2366      76.760       0.443      1         1  DA2
  6 ADDHYD 4 012   1 2 6                                      1 1       1
  6 RUNOFF 1 013       1 0.3775      78.713       0.667      1         1  DA10
  6 REACH  3  14   1   2 2484                                 1         1
  6 RUNOFF 1 015       3 0.0886      84.806       0.443      1         1  DA9
  6 ADDHYD 4 016   2 3 4                                      1         1
  6 RUNOFF 1 017       3 0.0693      94.066       0.151      1         1  DA8
  6 ADDHYD 4 018   4 3 2                                      1         1
1


 **********80-80 LIST OF INPUT DATA (CONTINUED)**********

  6 REACH  3 019   2   1 4092                                 1         1
  6 RUNOFF 1 020       2 0.3284      87.933       0.277      1         1  DA7
```

```
  6 ADDHYD 4 021   1 2 7                                    1 1       1
  6 ADDHYD 4 022   6 7 1                                    1         1
  6 REACH  3  23   1   2 586                                1         1
  6 RUNOFF 1 024       3 0.0200      72.029       0.277      1         1  DA1
  6 ADDHYD 4 025   2 3 4                                    1 1       1
    ENDATA
  7 INCREM 6             0.06
  7 COMPUT 7 001   025   0.0                6.60         1.05 2  1   01
    ENDCMP 1
    ENDJOB 2

 ******************************END OF 80-80 LIST*******************************
1
 TR20 ------------------------------------------------------------------------ SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/**                     July 30, 2016 storm                      2.04TEST
 09:30:24                    PASS   1   JOB NO.   1                    PAGE   1


 EXECUTIVE CONTROL INCREM    MAIN TIME INCREMENT =   .060 HOURS


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION  25
    STARTING TIME =   .00       RAIN DEPTH =  6.60       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .060 HOURS
    ALTERNATE NO. = 1           STORM NO. = 1            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        2.25                         1333.1                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  4.66 WATERSHED INCHES;    1219 CFS-HRS;     100.8 ACRE-FEET.


 OPERATION REACH    XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        2.43                         1128.4                         385.96

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  4.66 WATERSHED INCHES;    1219 CFS-HRS;     100.8 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   3

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        2.17                          223.2                       (RUNOFF)
        2.56                          131.6                       (RUNOFF)
        3.73                            7.1                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  4.01 WATERSHED INCHES;     174 CFS-HRS;      14.4 ACRE-FEET.


 OPERATION REACH    XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        2.42                          167.8                         383.39

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  4.01 WATERSHED INCHES;     174 CFS-HRS;      14.4 ACRE-FEET.
1
 TR20 ------------------------------------------------------------------------ SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/**                     July 30, 2016 storm                      2.04TEST
 09:30:24                    PASS   1   JOB NO.   1                    PAGE   2


 OPERATION ADDHYD   XSECTION   4

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        2.43                         1296.1                       (NULL)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  4.57 WATERSHED INCHES;    1393 CFS-HRS;     115.2 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   5

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
        2.31                          488.2                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
```

3.94 WATERSHED INCHES; 475 CFS-HRS; 39.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.40	1757.4	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.39 WATERSHED INCHES; 1868 CFS-HRS; 154.4 ACRE-FEET.

OPERATION REACH XSECTION 7

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.60	1605.9	373.31

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.39 WATERSHED INCHES; 1868 CFS-HRS; 154.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.25	575.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.89 WATERSHED INCHES; 508 CFS-HRS; 42.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 9
1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/19/** July 30, 2016 storm 2.04TEST
09:30:24 PASS 1 JOB NO. 1 PAGE 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.58	2002.0	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.27 WATERSHED INCHES; 2376 CFS-HRS; 196.4 ACRE-FEET.

OPERATION REACH XSECTION 10

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.84	1786.2	356.47

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.27 WATERSHED INCHES; 2376 CFS-HRS; 196.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.26	673.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.98 WATERSHED INCHES; 608 CFS-HRS; 50.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 12

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.74	2156.6	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .060 hr, DRAINAGE AREA = 1.10 SQ.MI.

HRS								
1.14 CFS	.50	2.02	6.56	15.67	29.87	48.77	69.79	92.47
1.62 CFS	117	144	180	232	304	404	541	715
2.10 CFS	916	1126	1316	1477	1608	1716	1818	1923
2.58 CFS	2024	2105	2150	2155	2127	2074	2005	1924
3.06 CFS	1827	1717	1598	1475	1353	1233	1118	1007
3.54 CFS	902	801	710	627	553	485	424	368
4.02 CFS	319	276	238	205	177	152	130	110
4.50 CFS	93.70	79.14	66.57	55.76	46.52	38.67	32.04	26.44
4.98 CFS	21.73	17.83	14.58	11.90	9.68	7.85	6.35	5.13
5.46 CFS	4.13	3.32	2.66	2.13	1.70	1.36	1.08	.86
5.94 CFS	.68	.54	.43					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.21 WATERSHED INCHES; 2984 CFS-HRS; 246.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 13
1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.41	945.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.19 WATERSHED INCHES; 1021 CFS-HRS; 84.3 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.63	862.4	382.84

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.19 WATERSHED INCHES; 1021 CFS-HRS; 84.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.25	301.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.85 WATERSHED INCHES; 277 CFS-HRS; 22.9 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.59	1058.2	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.31 WATERSHED INCHES; 1298 CFS-HRS; 107.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.49	8.2	(RUNOFF)
.80	20.8	(RUNOFF)
1.34	93.0	(RUNOFF)
1.48	71.9	(RUNOFF)
2.05	363.6	(RUNOFF)
2.52	170.1	(RUNOFF)
3.22	12.6	(RUNOFF)
3.42	13.2	(RUNOFF)
3.67	13.1	(RUNOFF)

1

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.89 WATERSHED INCHES; 263 CFS-HRS; 21.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.49	8.2	(NULL)
.80	21.0	(NULL)
1.39	118.5	(NULL)
2.54	1218.9	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.52 WATERSHED INCHES; 1561 CFS-HRS; 129.0 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.95	10.2	354.38
2.80	1044.1	360.25

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.52 WATERSHED INCHES; 1561 CFS-HRS; 129.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)

.90	19.9	(RUNOFF)
1.47	247.5	(RUNOFF)
2.14	1387.6	(RUNOFF)
2.56	724.2	(RUNOFF)
3.44	44.6	(RUNOFF)
3.73	39.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.19 WATERSHED INCHES; 1101 CFS-HRS; 91.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.91	29.8	(NULL)
1.53	320.3	(NULL)
2.17	1865.5	(NULL)
2.60	1673.3	(NULL)

1

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1

HRS	MAIN TIME INCREMENT = .060 hr,			DRAINAGE AREA =				.86 SQ.MI.
.42 CFS	.06	.74	2.11	2.88	3.23	6.16	14.35	24.60
.90 CFS	30	27	23	29	52	98	155	222
1.38 CFS	281	309	319	319	312	328	397	527
1.86 CFS	699	922	1213	1526	1771	1862	1826	1703
2.34 CFS	1574	1501	1517	1597	1669	1652	1575	1478
2.82 CFS	1395	1333	1274	1198	1101	1005	927	869
3.30 CFS	808	744	687	632	570	509	464	427
3.78 CFS	381	332	287	250	218	191	167	146
4.26 CFS	127	111	96	83	72	62	53	45
4.74 CFS	38.48	32.66	27.64	23.33	19.64	16.50	13.83	11.57
5.22 CFS	9.66	8.06	6.71	5.58	4.63	3.84	3.18	2.63
5.70 CFS	2.17	1.79	1.47	1.21	.99	.81	.66	.54
6.18 CFS	.44							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.77 WATERSHED INCHES; 2662 CFS-HRS; 220.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 22

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.91	29.8	(NULL)
2.65	3758.5	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.46 WATERSHED INCHES; 5646 CFS-HRS; 466.5 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.97	29.5	341.99
2.71	3755.0	351.78

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.46 WATERSHED INCHES; 5646 CFS-HRS; 466.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
2.16	60.0	(RUNOFF)
2.57	36.3	(RUNOFF)
3.44	2.4	(RUNOFF)
3.73	2.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.49 WATERSHED INCHES; 45 CFS-HRS; 3.7 ACRE-FEET.

1

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
.97	29.5	(NULL)
2.37	3222.3	(NULL)

2.71 3781.9 (NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
HRS MAIN TIME INCREMENT = .060 hr, DRAINAGE AREA = 1.98 SQ.MI.

.48 CFS	.06	.69	2.02	2.83	3.20	5.97	13.81	23.91
.96 CFS	29	27	24	29	51	97	158	234
1.44 CFS	308	358	391	414	432	476	581	764
1.92 CFS	1012	1339	1773	2266	2717	3024	3180	3218
2.40 CFS	3217	3249	3363	3545	3714	3780	3749	3656
2.88 CFS	3544	3427	3298	3140	2946	2739	2541	2359
3.36 CFS	2176	1992	1819	1653	1484	1323	1185	1064
3.84 CFS	944	826	718	625	543	471	409	355
4.32 CFS	307	265	229	196	167	143	121	102
4.80 CFS	86.09	72.26	60.47	50.45	41.95	34.81	28.82	23.80
5.28 CFS	19.62	16.14	13.26	10.87	8.89	7.27	5.93	4.83
5.76 CFS	3.93	3.19	2.59	2.10	1.70	1.37	1.11	.89
6.24 CFS	.72	.58	.46					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.45 WATERSHED INCHES; 5691 CFS-HRS; 470.3 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

1

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

RAINFALL OF 6.60 inches AND 3.60 hr DURATION, BEGINS AT .0 hrs.
RAINTABLE NUMBER 5, ARC 2
MAIN TIME INCREMENT .060 HOURS

ALTERNATE 1 STORM 1

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
XSECTION 1	RUNOFF	.41	4.66	---	2.25	1333	3251.2
XSECTION 2	REACH	.41	4.66	385.96	2.43	1128	2751.2
XSECTION 3	RUNOFF	.07	4.01	---	2.17	223	3185.7
XSECTION 2	REACH	.07	4.01	383.39	2.42	168	2400.0
XSECTION 4	ADDHYD	.47	4.57	---	2.43	1296	2757.4
XSECTION 5	RUNOFF	.19	3.94	---	2.31	488	2568.4
XSECTION 6	ADDHYD	.66	4.39	---	2.40	1757	2662.1
XSECTION 7	REACH	.66	4.39	373.31	2.60	1606	2433.3
XSECTION 8	RUNOFF	.20	3.89	---	2.25	575	2875.0
XSECTION 9	ADDHYD	.86	4.27	---	2.58	2002	2327.9
XSECTION 10	REACH	.86	4.27	356.47	2.84	1786	2076.7
XSECTION 11	RUNOFF	.24	3.98	---	2.26	674	2808.3
XSECTION 12	ADDHYD	1.10	4.21	---	2.74	2157	1960.9
XSECTION 13	RUNOFF	.38	4.19	---	2.41	945	2486.8
XSECTION 14	REACH	.38	4.19	382.84	2.63	862	2268.4
XSECTION 15	RUNOFF	.09	4.85	---	2.25	302	3355.6
XSECTION 16	ADDHYD	.47	4.31	---	2.59	1058	2251.1
XSECTION 17	RUNOFF	.07	5.89	---	2.05	364	5200.0
XSECTION 18	ADDHYD	.54	4.52	---	2.54	1219	2257.4
XSECTION 19	REACH	.54	4.52	360.25	2.80	1044	1933.3
XSECTION 20	RUNOFF	.33	5.19	---	2.14	1388	4206.1
XSECTION 21	ADDHYD	.86	4.77	---	2.17	1865	2168.6
XSECTION 22	ADDHYD	1.96	4.46	---	2.65	3758	1917.3
XSECTION 23	REACH	1.96	4.46	351.78	2.71	3755	1915.8
XSECTION 24	RUNOFF	.02	3.49	---	2.16	60	3000.0
XSECTION 25	ADDHYD	1.98	4.45	---	2.71	3782	1910.1

1

SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.

QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE K* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFLOW PEAK (CFS)	HYDROGRAPH INFLOW TIME (HR)	HYDROGRAPH OUTFLOW PEAK (CFS)	HYDROGRAPH OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	Q-A EQ. POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
2	3113		1323	2.2	1123	2.4	.29	1.41	.164	.848	.28
2	1954		223	2.2	167	2.4	.55	1.26	.284	.751	.23
7	2088		1757	2.4	1604	2.6	.76	1.22	.119	.913	.33
10	3852		2002	2.6	1785	2.8	.22	1.40	.182	.891	.21
14	2484		945	2.4	862	2.6	.32	1.39	.116	.913	.31
19	4092		1216	2.5	1044	2.8	.38	1.34	.206	.858	.18
23	586		3757	2.6	3752	2.7	.33	1.34	.009	.999	.94?

1

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1
XSECTION 1	.41	
ALTERNATE 1		1333
XSECTION 2	.07	
ALTERNATE 1		168
XSECTION 3	.07	
ALTERNATE 1		223
XSECTION 4	.47	
ALTERNATE 1		1296
XSECTION 5	.19	
ALTERNATE 1		488
XSECTION 6	.66	
ALTERNATE 1		1757
XSECTION 7	.66	
ALTERNATE 1		1606
XSECTION 8	.20	
ALTERNATE 1		575
XSECTION 9	.86	
ALTERNATE 1		2002
XSECTION 10	.86	
ALTERNATE 1		1786
XSECTION 11	.24	
ALTERNATE 1		674
XSECTION 12	1.10	
ALTERNATE 1		2157

```
 XSECTION   13          .38
 ---------------------------
    ALTERNATE    1                945

 XSECTION   14          .38
 ---------------------------
1
 TR20 ---------------------------------------------------------------------- SCS -
               Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/**                      July 30, 2016 storm                     2.04TEST
 09:30:24                      SUMMARY, JOB NO.   1                    PAGE  11


                              SUMMARY TABLE 3
                              ---------------
      STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
      QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

 XSECTION/          DRAINAGE
 STRUCTURE            AREA       STORM NUMBERS.....
   ID               (SQ MI)          1


 XSECTION   14          .38
 ---------------------------
    ALTERNATE    1                862

 XSECTION   15          .09
 ---------------------------
    ALTERNATE    1                302

 XSECTION   16          .47
 ---------------------------
    ALTERNATE    1               1058

 XSECTION   17          .07
 ---------------------------
    ALTERNATE    1                364

 XSECTION   18          .54
 ---------------------------
    ALTERNATE    1               1219

 XSECTION   19          .54
 ---------------------------
    ALTERNATE    1               1044

 XSECTION   20          .33
 ---------------------------
    ALTERNATE    1               1388

 XSECTION   21          .86
 ---------------------------
    ALTERNATE    1               1865

 XSECTION   22         1.96
 ---------------------------
    ALTERNATE    1               3758

 XSECTION   23         1.96
 ---------------------------
    ALTERNATE    1               3755

 XSECTION   24          .02
 ---------------------------
    ALTERNATE    1                 60

 XSECTION   25         1.98
 ---------------------------
    ALTERNATE    1               3782
1
 TR20 ---------------------------------------------------------------------- SCS -
               Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/19/**                      July 30, 2016 storm                     2.04TEST



 END OF  1 JOBS IN THIS RUN
```

```
               SCS  TR-20,  VERSION 2.04TEST
                              FILES

INPUT  = vmjuly.dat                              , GIVEN DATA FILE
OUTPUT = vmjuly.OUT                              , DATED 10/19/**,09:30:24

         FILES GENERATED - DATED 10/19/**,09:30:24

                          NONE!


      TOTAL NUMBER OF WARNINGS =   0,  MESSAGES =   0

                *** TR-20 RUN COMPLETED ***
```

1

**********80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY**********

```
JOB TR-20                                                    NOPLOTS
TITLE     Valley Mede Ultimate LU, Fair Cond, Subdivided UNSTEADY
TITLE     2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions
 2 XSECTN   002                   1.0      382.34
 8                             380.31       0.00        0.00
 8                             381.01      17.58        8.61
 8                             381.71      57.72       18.68
 8                             382.41      87.42       30.14
 8                             383.11     104.50       69.28
 8                             383.81     263.75      127.12
 8                             384.51     485.21      191.79
 8                             385.21     756.68      264.06
 8                             385.91    1097.04      343.49
 8                             386.61    1504.59      429.14
 8                             387.31    1935.42      521.71
 8                             388.01    2404.29      624.39
 8                             388.71    3010.65      736.45
 8                             389.41    3695.34      856.11
 8                             390.11    4464.50      983.39
 9 ENDTBL
 2 XSECTN   007                   1.0      368.32
 8                             365.53       0.00        0.00
 8                             366.13       2.41        1.85
 8                             366.73      13.26        5.96
 8                             367.33      32.81       11.12
 8                             367.93      56.86       17.33
 8                             368.53      58.83       27.09
 8                             369.13      87.92       53.94
 8                             369.73     182.33       92.49
 8                             370.33     312.70      139.48
 8                             370.93     486.35      195.36
 8                             371.53     699.83      260.83
 8                             372.13     968.75      336.90
 8                             372.73    1275.43      425.26
 8                             373.33    1614.79      529.26
 8                             373.93    2124.43      651.29
 8                             374.53    2756.14      782.07
 8                             375.13    3501.54      920.13
 8                             375.73    4298.02     1065.04
 9 ENDTBL
 2 XSECTN   010                   1.0      356.35
 8                             348.10       0.00        0.00
 8                             348.70       5.42        4.43
 8                             349.30      24.01       11.59
 8                             349.90      53.17       19.81
 8                             350.50      92.55       29.09
 8                             351.10     142.34       39.42
 8                             351.70     165.15       51.53
 8                             352.90     175.05      116.35
 8                             353.50     306.92      180.56
```

1

**********80-80 LIST OF INPUT DATA (CONTINUED)**********

```
 8                             354.10     516.89      254.74
 8                             354.70     768.52      334.49
 8                             355.30    1065.05      420.62
 8                             355.90    1408.22      513.66
 8                             356.50    1807.31      613.67
 8                             357.10    2263.93      719.75
 8                             357.70    2774.44      831.81
 8                             358.30    3358.23      949.51
 9 ENDTBL
 2 XSECTN   014                   1.0      379.93
 8                             376.15       0.00        0.00
 8                             377.05       8.36        4.84
 8                             377.95      50.12       15.58
 8                             378.85     120.19       28.42
 8                             380.65     159.08       88.20
 8                             381.55     355.19      161.67
 8                             382.45     675.00      251.36
 8                             383.35    1104.38      349.36
 8                             384.25    1615.02      456.11
 8                             385.15    2234.68      571.32
 8                             386.05    2973.63      693.77
 8                             386.95    3792.19      822.71
 8                             387.85    4704.26      958.82
 8                             388.75    5747.20     1101.81
 8                             389.65    6882.68     1250.71
 8                             390.55    8093.30     1406.32
```

```
                                                    UNSTDY
  8                             391.45     9366.77     1569.98
  8                             392.35    10762.79     1742.42
  9 ENDTBL
  2 XSECTN   019                   1.0      357.27
  8                             353.42        0.00        0.00
  8                             354.17        5.09        3.18
  8                             354.92       23.50        9.02
  8                             355.67       54.37       16.42
  8                             357.17       67.66       39.26
  8                             357.92      141.61       78.64
  8                             358.67      290.86      152.96
  8                             359.42      578.12      249.05
  8                             360.17      989.10      363.75
  8                             360.92     1520.99      494.51
  8                             361.67     2178.56      640.80
  8                             362.42     2981.64      802.19
  8                             363.17     3939.75      976.51
  8                             363.92     5049.66     1162.33
  8                             364.67     6325.86     1358.62
  8                             365.42     7734.95     1564.62
  9 ENDTBL
  2 XSECTN   023                   1.0      344.26
  8                             340.73        0.00        0.00
  8                             341.48        9.64        6.59
1


 **********80-80 LIST OF INPUT DATA (CONTINUED)**********

  8                             342.23       39.11       16.56
  8                             342.98       85.34       28.29
  8                             344.48      146.45       57.99
  8                             345.23      162.66       92.62
  8                             345.98      273.72      148.97
  8                             346.73      453.62      224.13
  8                             347.48      714.72      314.46
  8                             348.23     1049.51      417.50
  8                             348.98     1470.76      532.23
  8                             349.73     1960.34      657.45
  8                             350.48     2559.41      793.58
  8                             351.23     3222.20      938.75
  8                             351.98     3947.27     1094.98
  9 ENDTBL
  5 RAINFL 5                 .1
  8          0.0000      0.0013      0.0023      0.0034      0.0044

  8          0.0055      0.0065      0.0076      0.0087      0.0098

  8          0.0109      0.0121      0.0132      0.0143      0.0155

  8          0.0167      0.0178      0.0190      0.0202      0.0214

  8          0.0226      0.0238      0.0251      0.0263      0.0276

  8          0.0288      0.0301      0.0314      0.0327      0.0340

  8          0.0353      0.0366      0.0379      0.0393      0.0406

  8          0.0420      0.0434      0.0447      0.0461      0.0475

  8          0.0489      0.0504      0.0518      0.0532      0.0547

  8          0.0562      0.0576      0.0591      0.0606      0.0621

  8          0.0636      0.0651      0.0667      0.0682      0.0697

  8          0.0713      0.0729      0.0745      0.0760      0.0776

  8          0.0793      0.0809      0.0826      0.0843      0.0861

  8          0.0879      0.0898      0.0916      0.0936      0.0955

  8          0.0975      0.0996      0.1017      0.1038      0.1060

  8          0.1082      0.1104      0.1127      0.1150      0.1174

  8          0.1198      0.1223      0.1247      0.1273      0.1298

  8          0.1324      0.1351      0.1378      0.1405      0.1432

  8          0.1461      0.1490      0.1521      0.1554      0.1588

  8          0.1623      0.1660      0.1699      0.1739      0.1780

  8          0.1823      0.1868      0.1914      0.1961      0.2010

  8          0.2061      0.2117      0.2179      0.2247      0.2321
```

```
  8          0.2400      0.2490      0.2591      0.2702      0.2825

  8          0.2955      0.3157      0.3370      0.3662      0.4067

  8          0.4766      0.5933      0.6338      0.6630      0.6843

  8          0.7045      0.7176      0.7298      0.7409      0.7510

  8          0.7600      0.7679      0.7753      0.7821      0.7883

  8          0.7939      0.7990      0.8039      0.8086      0.8132

  8          0.8177      0.8220      0.8261      0.8301      0.8340

  8          0.8377      0.8412      0.8446      0.8479      0.8510

  8          0.8540      0.8568      0.8595      0.8622      0.8649

  8          0.8676      0.8702      0.8727      0.8753      0.8778

  8          0.8802      0.8826      0.8850      0.8873      0.8896

  8          0.8918      0.8940      0.8962      0.8983      0.9004

  8          0.9025      0.9045      0.9064      0.9084      0.9103

1


 **********80-80 LIST OF INPUT DATA (CONTINUED)**********

  8          0.9121      0.9139      0.9157      0.9174      0.9191

  8          0.9208      0.9224      0.9240      0.9256      0.9271
  8          0.9287      0.9303      0.9318      0.9334      0.9349

  8          0.9364      0.9379      0.9394      0.9409      0.9424

  8          0.9439      0.9453      0.9468      0.9482      0.9496
  8          0.9511      0.9525      0.9539      0.9553      0.9566

  8          0.9580      0.9594      0.9607      0.9621      0.9634

  8          0.9647      0.9660      0.9673      0.9686      0.9699

  8          0.9712      0.9724      0.9737      0.9749      0.9762

  8          0.9774      0.9786      0.9798      0.9810      0.9822

  8          0.9834      0.9845      0.9857      0.9868      0.9879

  8          0.9891      0.9902      0.9913      0.9924      0.9935

  8          0.9945      0.9956      0.9967      0.9977      0.9987

  8          1.0000      1.0000      1.0000      1.0000      1.0000
  9 ENDTBL
  6 RUNOFF 1 001       1 0.4053      83.135       0.444      1 1      1  DA5
  6 RUNOFF 1 003       3 0.0673      77.021       0.303      1        1  DA6
  6 REACH  3  02   3   4 1954                                 1        1
  6 RUNOFF 1 005       2 0.1867      76.388       0.530      1        1  DA4
  6 ADDHYD 4 006   4 2 3                                      1 1      1
  6 RUNOFF 1 008       2 0.2020      75.944       0.428      1 1      1  DA3
  6 RUNOFF 1 011       2 0.2366      76.760       0.443      1 1      1  DA2
  6 RUNOFF 1 013       1 0.3775      78.713       0.667      1        1  DA10
  6 REACH  3  14   1   2 2484                                 1        1
  6 RUNOFF 1 015       3 0.0886      84.806       0.443      1        1  DA9
  6 ADDHYD 4 016   2 3 4                                      1        1
  6 RUNOFF 1 017       3 0.0693      94.066       0.151      1        1  DA8
  6 ADDHYD 4 018   4 3 2                                      1        1
  6 REACH  3 019   2   1 4092                                 1        1
  6 RUNOFF 1 020       2 0.3284      87.933       0.277      1        1  DA7
  6 ADDHYD 4 021   1 2 7                                      1        1
  6 REACH  3  23   7   2 586                                  1        1
  6 RUNOFF 1 024       3 0.0200      72.029       0.277      1        1  DA1
  6 ADDHYD 4 025   2 3 4                                      1 1      1
    ENDATA
  7 INCREM 6                     0.05
  7 COMPUT 7 001   025            0.0        2.64         1.05 2  1   1
    ENDCMP 1
  7 COMPUT 7 001   025            0.0        3.19         1.05 2  1   2
    ENDCMP 1
  7 COMPUT 7 001   025            0.0        4.91         1.05 2  1   10
    ENDCMP 1
  7 COMPUT 7 001   025            0.0        7.23         1.05 2  1   50
    ENDCMP 1
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                                                    UNSTDY
  7 COMPUT 7 001   025            0.0        8.47         1.05 2  1   99
    ENDCMP 1
    ENDJOB 2

 ******************************END OF 80-80 LIST*********************************
1
 TR20 ------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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 EXECUTIVE CONTROL INCREM    MAIN TIME INCREMENT =   .050 HOURS


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO XSECTION  25
    STARTING TIME =   .00       RAIN DEPTH =  2.64       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. = 1            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.33                          222.9                       (RUNOFF)
       20.13                            7.5                       (RUNOFF)

                    HYDROGRAPH POINTS FOR   ALTERNATE = 1,   STORM = 1
     HRS      MAIN TIME INCREMENT =  .050 hr,       DRAINAGE AREA =    .41 SQ.MI.
     9.75 CFS       .41     .51     .63     .75     .88    1.02    1.16    1.31
    10.15 CFS      1.47    1.64    1.81    2.00    2.18    2.37    2.57    2.78
    10.55 CFS      2.99    3.23    3.49    3.78    4.11    4.47    4.89    5.34
    10.95 CFS      5.84    6.38    6.96    7.59    8.29    9.08    9.96   10.94
    11.35 CFS     12.03   13.21   14.48   15.88   17.49   19.45   21.93   25.03
    11.75 CFS        29      33      39      46      55      69      88     114
    12.15 CFS       147     180     207     221     222     212     196     177
    12.55 CFS       158     142     128     115     104      93      85      77
    12.95 CFS     70.92   65.68   61.18   57.19   53.60   50.36   47.43   44.80
    13.35 CFS     42.40   40.23   38.23   36.43   34.77   33.20   31.72   30.34
    13.75 CFS     29.07   27.93   26.93   26.07   25.33   24.70   24.15   23.67
    14.15 CFS     23.23   22.80   22.39   21.98   21.58   21.20   20.84   20.50
    14.55 CFS     20.16   19.81   19.44   19.07   18.70   18.34   17.99   17.65
    14.95 CFS     17.32   16.99   16.65   16.30   15.95   15.60   15.26   14.93
    15.35 CFS     14.64   14.39   14.20   14.05   13.93   13.83   13.73   13.62
    15.75 CFS     13.50   13.38   13.27   13.18   13.10   13.01   12.92   12.81
    16.15 CFS     12.70   12.59   12.49   12.40   12.31   12.22   12.13   12.03
    16.55 CFS     11.92   11.81   11.70   11.60   11.51   11.43   11.34   11.26
    16.95 CFS     11.17   11.08   11.00   10.93   10.84   10.74   10.63   10.51
    17.35 CFS     10.40   10.31   10.23   10.14   10.04    9.93    9.81    9.70
    17.75 CFS      9.59    9.50    9.41    9.31    9.22    9.13    9.04    8.96
    18.15 CFS      8.88    8.79    8.70    8.62    8.54    8.46    8.38    8.31
    18.55 CFS      8.25    8.22    8.21    8.19    8.18    8.16    8.14    8.12
    18.95 CFS      8.10    8.07    8.03    7.99    7.96    7.92    7.89    7.87
    19.35 CFS      7.86    7.85    7.84    7.84    7.83    7.81    7.78    7.75
    19.75 CFS      7.71    7.68    7.65    7.61    7.58    7.55    7.54    7.54
    20.15 CFS      7.54    7.53    7.51    7.49    7.45    7.41    7.36    7.31
    20.55 CFS      7.27    7.24    7.23    7.22    7.21    7.20    7.18    7.16
    20.95 CFS      7.14    7.11    7.07    7.04    7.00    6.96    6.93    6.91
    21.35 CFS      6.90    6.89    6.88    6.87    6.86    6.84    6.82    6.78
    21.75 CFS      6.74    6.71    6.69    6.66    6.65    6.64    6.63    6.60
    22.15 CFS      6.57    6.53    6.50    6.46    6.44    6.42    6.40    6.39
1
 TR20 ------------------------------------------------------------------- SCS -
                Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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    22.55 CFS      6.38    6.35    6.32    6.28    6.25    6.21    6.18    6.14
    22.95 CFS      6.10    6.08    6.06    6.06    6.06    6.05    6.03    6.00
    23.35 CFS      5.98    5.95    5.91    5.88    5.84    5.80    5.76    5.74
    23.75 CFS      5.73    5.72    5.71    5.68    5.66    5.64    5.61    5.48
    24.15 CFS      5.19    4.68    4.01    3.29    2.58    1.96    1.46    1.10
    24.55 CFS       .83     .63     .47

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                  1.17 WATERSHED INCHES;     306 CFS-HRS;      25.3 ACRE-FEET.


 OPERATION RUNOFF   XSECTION   3

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.25                           29.6                       (RUNOFF)
       20.10                            1.0 *                     (RUNOFF)
                                            * FIRST POINT OF FLAT PEAK

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   .83 WATERSHED INCHES;      36 CFS-HRS;       3.0 ACRE-FEET.
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OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.40	24.2	381.13

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.83 WATERSHED INCHES; 36 CFS-HRS; 3.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.41	60.3	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.80 WATERSHED INCHES; 96 CFS-HRS; 8.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.41	84.5	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .25 SQ.MI.

HRS								
11.30 CFS	.46	.67	.92	1.23	1.59	2.01	2.53	3.17
11.70 CFS	3.98	4.99	6.25	7.82	9.86	12.63	16.53	22.22
12.10 CFS	30.32	41.04	53.67	66.24	76.30	82.42	84.47	83.14

1

12.50 CFS	79.41	74.19	68.40	62.78	57.49	52.54	47.97	43.85
12.90 CFS	40.20	37.01	34.23	31.82	29.72	27.86	26.18	24.66
13.30 CFS	23.29	22.05	20.92	19.90	18.96	18.08	17.25	16.46
13.70 CFS	15.72	15.03	14.41	13.86	13.37	12.94	12.57	12.25
14.10 CFS	11.97	11.72	11.49	11.28	11.07	10.87	10.68	10.50
14.50 CFS	10.32	10.16	9.99	9.82	9.64	9.47	9.29	9.12
14.90 CFS	8.95	8.79	8.62	8.46	8.30	8.13	7.96	7.79
15.30 CFS	7.63	7.47	7.34	7.22	7.12	7.04	6.98	6.92
15.70 CFS	6.87	6.81	6.76	6.70	6.65	6.61	6.56	6.52
16.10 CFS	6.47	6.42	6.37	6.32	6.27	6.23	6.18	6.14
16.50 CFS	6.09	6.04	5.99	5.94	5.89	5.84	5.80	5.76
16.90 CFS	5.72	5.67	5.63	5.59	5.55	5.51	5.47	5.42
17.30 CFS	5.37	5.31	5.26	5.22	5.17	5.13	5.08	5.02
17.70 CFS	4.97	4.92	4.87	4.82	4.77	4.72	4.68	4.63
18.10 CFS	4.59	4.55	4.51	4.46	4.42	4.38	4.34	4.30
18.50 CFS	4.26	4.23	4.21	4.19	4.18	4.17	4.16	4.15
18.90 CFS	4.14	4.13	4.12	4.10	4.08	4.07	4.05	4.03
19.30 CFS	4.02	4.01	4.00	4.00	4.00	3.99	3.99	3.98
19.70 CFS	3.96	3.95	3.93	3.92	3.90	3.89	3.87	3.86
20.10 CFS	3.85	3.85	3.85	3.84	3.83	3.82	3.80	3.78
20.50 CFS	3.76	3.74	3.72	3.71	3.71	3.70	3.69	3.68
20.90 CFS	3.68	3.67	3.66	3.64	3.62	3.61	3.59	3.57
21.30 CFS	3.56	3.55	3.54	3.53	3.53	3.53	3.52	3.51
21.70 CFS	3.50	3.48	3.46	3.45	3.44	3.43	3.42	3.41
22.10 CFS	3.40	3.39	3.38	3.36	3.34	3.33	3.31	3.30
22.50 CFS	3.30	3.29	3.28	3.27	3.25	3.24	3.22	3.20
22.90 CFS	3.19	3.17	3.15	3.14	3.13	3.13	3.12	3.12
23.30 CFS	3.11	3.09	3.08	3.07	3.05	3.03	3.01	2.99
23.70 CFS	2.98	2.97	2.96	2.96	2.95	2.93	2.92	2.91
24.10 CFS	2.88	2.80	2.63	2.37	2.06	1.72	1.40	1.11
24.50 CFS	.87	.67	.52	.41				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.81 WATERSHED INCHES; 132 CFS-HRS; 10.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.34	70.2	(RUNOFF)
23.13	2.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .20 SQ.MI.

HRS								
11.35 CFS	.45	.66	.91	1.21	1.58	2.04	2.65	3.41
11.75 CFS	4.37	5.56	7.10	9.15	12.03	16.21	22.52	31.51
12.15 CFS	42.66	54.39	63.94	69.27	70.08	67.51	62.73	57.01
12.55 CFS	51.60	46.86	42.57	38.59	34.98	31.79	29.02	26.65
12.95 CFS	24.69	23.04	21.62	20.33	19.16	18.09	17.11	16.21
13.35 CFS	15.40	14.66	14.00	13.39	12.81	12.26	11.74	11.24
13.75 CFS	10.80	10.39	10.05	9.74	9.49	9.27	9.08	8.91

1

14.15 CFS	8.76	8.61	8.46	8.32	8.18	8.04	7.91	7.79
14.55 CFS	7.67	7.54	7.41	7.27	7.13	7.00	6.87	6.74
14.95 CFS	6.62	6.50	6.37	6.24	6.11	5.98	5.85	5.73
15.35 CFS	5.62	5.53	5.46	5.41	5.37	5.34	5.30	5.26
15.75 CFS	5.22	5.17	5.13	5.10	5.08	5.05	5.01	4.97
16.15 CFS	4.93	4.89	4.85	4.82	4.78	4.75	4.72	4.68
16.55 CFS	4.64	4.60	4.56	4.52	4.49	4.46	4.42	4.39
16.95 CFS	4.36	4.33	4.30	4.27	4.24	4.20	4.15	4.11
17.35 CFS	4.07	4.03	4.00	3.97	3.93	3.89	3.84	3.80
17.75 CFS	3.76	3.72	3.69	3.65	3.62	3.58	3.55	3.52
18.15 CFS	3.49	3.45	3.42	3.39	3.36	3.33	3.30	3.27
18.55 CFS	3.25	3.24	3.24	3.23	3.23	3.22	3.21	3.21
18.95 CFS	3.20	3.19	3.17	3.16	3.14	3.13	3.12	3.12
19.35 CFS	3.11	3.11	3.11	3.11	3.10	3.10	3.08	3.07
19.75 CFS	3.06	3.04	3.03	3.02	3.01	3.00	2.99	2.99
20.15 CFS	2.99	2.99	2.98	2.97	2.96	2.94	2.92	2.90
20.55 CFS	2.89	2.88	2.88	2.88	2.87	2.87	2.86	2.85
20.95 CFS	2.85	2.83	2.82	2.80	2.79	2.77	2.76	2.76
21.35 CFS	2.75	2.75	2.75	2.74	2.74	2.73	2.72	2.71
21.75 CFS	2.69	2.68	2.67	2.66	2.66	2.66	2.65	2.64
22.15 CFS	2.63	2.61	2.60	2.58	2.57	2.57	2.56	2.56
22.55 CFS	2.55	2.55	2.53	2.52	2.50	2.49	2.48	2.46
22.95 CFS	2.45	2.43	2.43	2.43	2.43	2.43	2.42	2.41
23.35 CFS	2.40	2.39	2.37	2.36	2.34	2.33	2.31	2.30
23.75 CFS	2.30	2.30	2.30	2.28	2.27	2.27	2.26	2.21
24.15 CFS	2.08	1.85	1.57	1.26	.97	.73	.54	.40

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.78 WATERSHED INCHES; 101 CFS-HRS; 8.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.35	86.0	(RUNOFF)
20.13	3.6	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .24 SQ.MI.

HRS								
11.20 CFS	.33	.51	.73	.99	1.30	1.66	2.07	2.56
11.60 CFS	3.17	3.93	4.90	6.10	7.57	9.45	11.91	15.34
12.00 CFS	20.21	27.56	38.19	51.39	65.64	77.61	84.35	86.03
12.40 CFS	83.52	78.22	71.37	64.60	58.69	53.35	48.42	43.89
12.80 CFS	39.91	36.41	33.40	30.87	28.75	26.91	25.26	23.78
13.20 CFS	22.42	21.19	20.07	19.05	18.12	17.27	16.49	15.76
13.60 CFS	15.08	14.42	13.81	13.25	12.75	12.31	11.93	11.60
14.00 CFS	11.32	11.08	10.87	10.68	10.49	10.31	10.13	9.95
14.40 CFS	9.79	9.63	9.48	9.32	9.17	9.01	8.84	8.67
14.80 CFS	8.51	8.35	8.20	8.05	7.90	7.75	7.59	7.43
15.20 CFS	7.27	7.11	6.96	6.83	6.72	6.63	6.56	6.51
15.60 CFS	6.47	6.42	6.37	6.32	6.27	6.22	6.18	6.14

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16.00 CFS	6.11	6.06	6.02	5.97	5.92	5.87	5.83	5.79
16.40 CFS	5.75	5.71	5.66	5.61	5.56	5.51	5.47	5.43
16.80 CFS	5.39	5.35	5.31	5.27	5.23	5.20	5.16	5.12
17.20 CFS	5.08	5.03	4.97	4.92	4.88	4.84	4.80	4.76
17.60 CFS	4.70	4.65	4.60	4.55	4.51	4.46	4.42	4.38
18.00 CFS	4.33	4.30	4.26	4.22	4.18	4.14	4.10	4.06
18.40 CFS	4.02	3.99	3.96	3.93	3.92	3.91	3.90	3.90
18.80 CFS	3.89	3.88	3.87	3.86	3.85	3.83	3.81	3.80
19.20 CFS	3.78	3.77	3.76	3.75	3.75	3.75	3.74	3.74
19.60 CFS	3.73	3.72	3.70	3.69	3.67	3.66	3.64	3.63
20.00 CFS	3.61	3.61	3.61	3.61	3.61	3.60	3.59	3.57
20.40 CFS	3.55	3.53	3.50	3.48	3.47	3.47	3.47	3.46
20.80 CFS	3.46	3.45	3.44	3.43	3.42	3.40	3.38	3.36
21.20 CFS	3.35	3.33	3.32	3.32	3.31	3.31	3.31	3.30
21.60 CFS	3.29	3.28	3.26	3.25	3.23	3.22	3.21	3.20
22.00 CFS	3.20	3.19	3.18	3.17	3.15	3.13	3.12	3.10
22.40 CFS	3.09	3.09	3.08	3.08	3.07	3.05	3.03	3.02
22.80 CFS	3.00	2.98	2.97	2.95	2.94	2.93	2.93	2.93
23.20 CFS	2.92	2.91	2.90	2.89	2.87	2.86	2.84	2.83
23.60 CFS	2.80	2.79	2.78	2.77	2.77	2.77	2.75	2.74
24.00 CFS	2.73	2.72	2.66	2.52	2.27	1.94	1.59	1.25
24.40 CFS	.95	.71	.53	.40				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.82 WATERSHED INCHES; 125 CFS-HRS; 10.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.50	128.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.92 WATERSHED INCHES; 223 CFS-HRS; 18.5 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.64	121.2	378.90

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.92 WATERSHED INCHES; 223 CFS-HRS; 18.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.33	53.2	(RUNOFF)
20.13	1.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.28 WATERSHED INCHES; 73 CFS-HRS; 6.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.57	154.5	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.99 WATERSHED INCHES; 296 CFS-HRS; 24.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	99.0	(RUNOFF)
17.34	2.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.00 WATERSHED INCHES; 89 CFS-HRS; 7.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.17	166.7	(NULL)
12.53	176.8	(NULL)
20.00	9.7	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.10 WATERSHED INCHES; 381 CFS-HRS; 31.5 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
13.10	131.5	357.82

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.09 WATERSHED INCHES; 377 CFS-HRS; 31.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	288.1	(RUNOFF)
18.66	7.5	(RUNOFF)
21.98	6.0	(RUNOFF)
24.03	5.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.50 WATERSHED INCHES; 317 CFS-HRS; 26.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	317.4	(NULL)
12.88	179.8	(NULL)
20.04	17.1	(NULL)
20.58	16.4	(NULL)
23.71	13.0	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.24 WATERSHED INCHES; 693 CFS-HRS; 57.3 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	293.5	346.06

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.24 WATERSHED INCHES; 691 CFS-HRS; 57.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	6.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.60 WATERSHED INCHES; 8 CFS-HRS; .6 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	298.9	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 1
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .88 SQ.MI.

HRS									
7.20 CFS	.49	.51	.52	.54	.55	.57	.60	.63	
7.60 CFS	.66	.71	.76	.82	.88	.95	1.02	1.09	

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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8.00 CFS	1.16	1.24	1.32	1.40	1.48	1.56	1.64	1.73
8.40 CFS	1.81	1.90	1.99	2.08	2.16	2.26	2.35	2.45
8.80 CFS	2.55	2.64	2.74	2.83	2.93	3.03	3.14	3.25
9.20 CFS	3.37	3.49	3.63	3.78	3.94	4.11	4.29	4.47
9.60 CFS	4.66	4.86	5.07	5.30	5.53	5.78	6.03	6.29
10.00 CFS	6.55	6.81	7.09	7.38	7.69	8.00	8.32	8.64
10.40 CFS	8.96	9.29	9.63	9.99	10.37	10.80	11.27	11.82
10.80 CFS	12.44	13.13	13.89	14.71	15.59	16.51	17.50	18.57
11.20 CFS	19.78	21.14	22.66	24.32	26.10	28.02	30.06	32.23
11.60 CFS	34.73	38.04	42.45	47.77	53.82	60.78	69.40	80.54
12.00 CFS	96	117	147	189	237	277	297	295
12.40 CFS	279	260	242	226	214	204	197	191
12.80 CFS	187	184	183	182	182	181	180	178
13.20 CFS	176	174	170	167	163	159	155	150
13.60 CFS	145	141	136	131	126	122	118	113
14.00 CFS	109	106	102	98	95	92	89	86
14.40 CFS	82.67	79.90	77.26	74.75	72.32	69.98	67.73	65.58
14.80 CFS	63.54	61.62	59.80	58.07	56.40	54.80	53.26	51.78
15.20 CFS	50.35	48.98	47.67	46.45	45.32	44.29	43.35	42.48
15.60 CFS	41.67	40.88	40.11	39.33	38.58	37.86	37.21	36.61
16.00 CFS	36.03	35.44	34.86	34.29	33.75	33.26	32.80	32.36
16.40 CFS	31.93	31.51	31.10	30.71	30.32	29.94	29.58	29.25
16.80 CFS	28.95	28.65	28.35	28.05	27.76	27.49	27.24	26.99
17.20 CFS	26.72	26.43	26.12	25.84	25.60	25.39	25.17	24.93
17.60 CFS	24.66	24.39	24.13	23.90	23.68	23.46	23.23	23.00
18.00 CFS	22.77	22.56	22.36	22.16	21.94	21.72	21.50	21.30
18.40 CFS	21.11	20.91	20.71	20.52	20.37	20.25	20.14	20.02
18.80 CFS	19.88	19.74	19.61	19.50	19.37	19.23	19.09	18.95
19.20 CFS	18.83	18.72	18.62	18.53	18.45	18.37	18.30	18.23
19.60 CFS	18.16	18.07	17.97	17.86	17.78	17.71	17.63	17.54
20.00 CFS	17.45	17.39	17.36	17.34	17.30	17.24	17.17	17.09
20.40 CFS	17.02	16.93	16.83	16.74	16.68	16.65	16.63	16.59
20.80 CFS	16.53	16.47	16.42	16.38	16.33	16.25	16.17	16.09
21.20 CFS	16.02	15.97	15.92	15.87	15.83	15.79	15.76	15.72
21.60 CFS	15.68	15.62	15.54	15.46	15.40	15.35	15.30	15.25
22.00 CFS	15.22	15.19	15.14	15.07	15.00	14.93	14.87	14.81
22.40 CFS	14.76	14.72	14.69	14.65	14.61	14.55	14.47	14.39
22.80 CFS	14.33	14.28	14.22	14.14	14.07	14.02	14.00	13.99

23.20 CFS	13.95	13.90	13.83	13.76	13.71	13.65	13.60	13.52
23.60 CFS	13.43	13.35	13.30	13.27	13.26	13.23	13.16	13.08
24.00 CFS	13.01	13.00						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.23 WATERSHED INCHES; 699 CFS-HRS; 57.8 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

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EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 3.19 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 2 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.33	306.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.41 SQ.MI.
8.90 CFS	.49	.57	.66	.75	.85	.95	1.06	1.17
9.30 CFS	1.29	1.42	1.56	1.71	1.86	2.02	2.18	2.36
9.70 CFS	2.54	2.73	2.93	3.14	3.36	3.58	3.80	4.04
10.10 CFS	4.29	4.54	4.81	5.09	5.37	5.65	5.94	6.24
10.50 CFS	6.55	6.88	7.24	7.65	8.10	8.62	9.21	9.86
10.90 CFS	10.59	11.37	12.21	13.11	14.08	15.16	16.36	17.70
11.30 CFS	19.18	20.82	22.59	24.50	26.54	28.89	31.75	35.39
11.70 CFS	40	45	52	60	70	84	103	130
12.10 CFS	166	209	253	287	305	305	291	269
12.50 CFS	242	216	193	173	155	139	125	113
12.90 CFS	103	95	87	81	76	71	67	63
13.30 CFS	59.10	55.88	52.97	50.31	47.90	45.68	43.60	41.64
13.70 CFS	39.82	38.14	36.64	35.31	34.17	33.18	32.34	31.62
14.10 CFS	30.98	30.39	29.82	29.27	28.73	28.20	27.70	27.23
14.50 CFS	26.77	26.32	25.86	25.38	24.89	24.39	23.92	23.45
14.90 CFS	23.01	22.57	22.13	21.68	21.23	20.77	20.31	19.86
15.30 CFS	19.44	19.06	18.74	18.48	18.28	18.12	17.98	17.85
15.70 CFS	17.71	17.55	17.39	17.25	17.13	17.02	16.91	16.78
16.10 CFS	16.64	16.49	16.35	16.22	16.10	15.98	15.86	15.73
16.50 CFS	15.60	15.46	15.32	15.18	15.05	14.93	14.82	14.71
16.90 CFS	14.59	14.48	14.37	14.26	14.16	14.05	13.91	13.77
17.30 CFS	13.61	13.47	13.36	13.25	13.13	13.00	12.85	12.70
17.70 CFS	12.55	12.42	12.29	12.17	12.05	11.92	11.81	11.70
18.10 CFS	11.59	11.48	11.37	11.25	11.14	11.04	10.93	10.83
18.50 CFS	10.75	10.67	10.63	10.61	10.59	10.57	10.55	10.52
18.90 CFS	10.50	10.47	10.43	10.38	10.33	10.28	10.23	10.19
19.30 CFS	10.17	10.15	10.13	10.13	10.12	10.10	10.08	10.04
19.70 CFS	10.00	9.95	9.91	9.87	9.82	9.78	9.74	9.73
20.10 CFS	9.72	9.72	9.71	9.69	9.65	9.61	9.55	9.49
20.50 CFS	9.42	9.36	9.34	9.32	9.32	9.30	9.28	9.26
20.90 CFS	9.23	9.21	9.16	9.12	9.07	9.02	8.97	8.93
21.30 CFS	8.90	8.88	8.87	8.86	8.85	8.84	8.81	8.77
21.70 CFS	8.73	8.68	8.64	8.61	8.58	8.56	8.55	8.53
22.10 CFS	8.50	8.46	8.41	8.36	8.32	8.28	8.26	8.24
22.50 CFS	8.22	8.20	8.18	8.13	8.08	8.04	7.99	7.95
22.90 CFS	7.90	7.85	7.82	7.80	7.79	7.79	7.78	7.75

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23.30 CFS	7.72	7.68	7.64	7.60	7.56	7.51	7.45	7.40
23.70 CFS	7.38	7.37	7.36	7.34	7.30	7.27	7.25	7.21
24.10 CFS	7.06	6.68	6.02	5.16	4.22	3.32	2.52	1.88
24.50 CFS	1.42	1.07	.81	.61	.46			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.61 WATERSHED INCHES; 421 CFS-HRS; 34.8 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.24	44.4	(RUNOFF)
24.03	1.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)

1.21 WATERSHED INCHES; 52 CFS-HRS; 4.3 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.42	37.7	381.36
24.13	1.0	380.35

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.20 WATERSHED INCHES; 52 CFS-HRS; 4.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.40	91.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.17 WATERSHED INCHES; 141 CFS-HRS; 11.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.41	129.4	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.25 SQ.MI.
10.75 CFS	.46	.59	.75	.92	1.12	1.35	1.60	1.88
11.15 CFS	2.18	2.53	2.92	3.36	3.86	4.41	5.02	5.70
11.55 CFS	6.47	7.37	8.45	9.79	11.46	13.50	16.03	19.19
11.95 CFS	23	29	37	49	63	81	100	115
12.35 CFS	126	129	127	121	112	103	94	85
12.75 CFS	77.45	70.33	63.89	58.23	53.30	49.04	45.39	42.24

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TR20 ---------- SCS -
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10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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13.15 CFS	39.47	36.99	34.76	32.75	30.94	29.31	27.83	26.48
13.55 CFS	25.22	24.04	22.92	21.87	20.89	20.01	19.22	18.52
13.95 CFS	17.90	17.37	16.90	16.50	16.15	15.83	15.53	15.24
14.35 CFS	14.96	14.69	14.43	14.18	13.95	13.71	13.48	13.24
14.75 CFS	12.99	12.75	12.50	12.27	12.04	11.82	11.59	11.36
15.15 CFS	11.13	10.90	10.67	10.44	10.22	10.03	9.86	9.72
15.55 CFS	9.60	9.51	9.43	9.36	9.28	9.20	9.13	9.05
15.95 CFS	8.99	8.93	8.87	8.80	8.73	8.66	8.59	8.52
16.35 CFS	8.46	8.40	8.34	8.28	8.21	8.14	8.07	8.00
16.75 CFS	7.93	7.87	7.81	7.75	7.69	7.64	7.58	7.53
17.15 CFS	7.47	7.41	7.35	7.28	7.20	7.13	7.07	7.01
17.55 CFS	6.94	6.88	6.80	6.73	6.66	6.58	6.52	6.45
17.95 CFS	6.39	6.33	6.27	6.21	6.15	6.09	6.03	5.98
18.35 CFS	5.92	5.86	5.81	5.76	5.71	5.68	5.65	5.63
18.75 CFS	5.62	5.61	5.59	5.58	5.57	5.55	5.53	5.51
19.15 CFS	5.48	5.46	5.44	5.42	5.40	5.39	5.39	5.38
19.55 CFS	5.37	5.37	5.35	5.34	5.32	5.30	5.27	5.25
19.95 CFS	5.23	5.21	5.19	5.18	5.18	5.17	5.17	5.15
20.35 CFS	5.14	5.12	5.09	5.06	5.03	5.00	4.99	4.98
20.75 CFS	4.97	4.96	4.95	4.94	4.93	4.91	4.89	4.87
21.15 CFS	4.84	4.82	4.80	4.78	4.76	4.75	4.74	4.73
21.55 CFS	4.73	4.72	4.71	4.69	4.67	4.65	4.63	4.61
21.95 CFS	4.59	4.58	4.57	4.56	4.55	4.53	4.51	4.48
22.35 CFS	4.46	4.44	4.43	4.42	4.40	4.39	4.38	4.36
22.75 CFS	4.34	4.31	4.29	4.27	4.24	4.22	4.20	4.19
23.15 CFS	4.18	4.18	4.17	4.16	4.14	4.13	4.11	4.08
23.55 CFS	4.06	4.04	4.01	3.99	3.97	3.96	3.95	3.94
23.95 CFS	3.93	3.91	3.89	3.85	3.76	3.57	3.26	2.86
24.35 CFS	2.41	1.97	1.56	1.21	.93	.72	.56	.43

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.18 WATERSHED INCHES; 193 CFS-HRS; 16.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.33	106.9	(RUNOFF)
20.14	4.0	(RUNOFF)
23.13	3.3	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.20 SQ.MI.
10.80 CFS	.38	.51	.66	.82	1.01	1.22	1.46	1.73
11.20 CFS	2.03	2.38	2.77	3.21	3.70	4.23	4.82	5.51
11.60 CFS	6.35	7.43	8.77	10.43	12.43	14.96	18.28	22.86
12.00 CFS	29	39	53	69	86	99	106	106

12.40 CFS	102	94	85	76	69	62	56	50
12.80 CFS	45.67	41.51	37.99	35.08	32.64	30.52	28.63	26.93
13.20 CFS	25.37	23.96	22.68	21.51	20.45	19.50	18.63	17.81
13.60 CFS	17.03	16.29	15.60	14.96	14.40	13.90	13.48	13.12

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14.00 CFS	12.81	12.55	12.31	12.09	11.88	11.67	11.46	11.26
14.40 CFS	11.07	10.89	10.72	10.55	10.37	10.18	9.99	9.79
14.80 CFS	9.61	9.43	9.25	9.08	8.91	8.73	8.55	8.37
15.20 CFS	8.19	8.01	7.84	7.69	7.57	7.47	7.40	7.34
15.60 CFS	7.29	7.25	7.19	7.13	7.07	7.01	6.97	6.93
16.00 CFS	6.89	6.84	6.78	6.72	6.66	6.61	6.57	6.52
16.40 CFS	6.47	6.42	6.37	6.32	6.26	6.20	6.15	6.11
16.80 CFS	6.06	6.02	5.97	5.93	5.88	5.84	5.80	5.76
17.20 CFS	5.70	5.64	5.58	5.53	5.48	5.44	5.39	5.34
17.60 CFS	5.28	5.22	5.16	5.10	5.05	5.00	4.95	4.90
18.00 CFS	4.86	4.81	4.77	4.73	4.68	4.63	4.59	4.55
18.40 CFS	4.51	4.47	4.43	4.40	4.39	4.38	4.38	4.37
18.80 CFS	4.36	4.35	4.34	4.33	4.31	4.29	4.27	4.25
19.20 CFS	4.23	4.22	4.21	4.21	4.20	4.20	4.20	4.19
19.60 CFS	4.18	4.17	4.15	4.13	4.11	4.10	4.08	4.06
20.00 CFS	4.04	4.04	4.04	4.04	4.04	4.03	4.01	3.99
20.40 CFS	3.97	3.94	3.92	3.89	3.88	3.88	3.88	3.87
20.80 CFS	3.86	3.86	3.85	3.83	3.82	3.80	3.78	3.76
21.20 CFS	3.74	3.72	3.71	3.70	3.70	3.70	3.69	3.69
21.60 CFS	3.68	3.66	3.64	3.62	3.61	3.59	3.58	3.58
22.00 CFS	3.57	3.57	3.55	3.53	3.51	3.49	3.48	3.46
22.40 CFS	3.45	3.45	3.44	3.43	3.42	3.40	3.38	3.36
22.80 CFS	3.34	3.33	3.31	3.28	3.27	3.26	3.26	3.27
23.20 CFS	3.26	3.25	3.24	3.22	3.20	3.19	3.17	3.15
23.60 CFS	3.12	3.10	3.09	3.09	3.09	3.08	3.06	3.05
24.00 CFS	3.04	3.02	2.96	2.78	2.48	2.10	1.69	1.30
24.40 CFS	.97	.72	.54	.40				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.14 WATERSHED INCHES; 149 CFS-HRS; 12.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.34	128.7	(RUNOFF)
20.13	4.8	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA = .24 SQ.MI.			
10.65 CFS	.42	.55	.69	.85	1.03	1.23	1.46	1.71
11.05 CFS	1.98	2.28	2.63	3.01	3.45	3.93	4.48	5.08
11.45 CFS	5.74	6.46	7.30	8.33	9.64	11.30	13.33	15.78
11.85 CFS	19	23	28	36	47	63	82	102
12.25 CFS	118	127	129	124	116	105	95	85
12.65 CFS	77.18	69.68	62.89	56.92	51.73	47.27	43.54	40.43
13.05 CFS	37.76	35.38	33.22	31.26	29.48	27.88	26.42	25.10
13.45 CFS	23.88	22.78	21.76	20.79	19.88	19.03	18.25	17.55
13.85 CFS	16.93	16.39	15.94	15.55	15.21	14.91	14.64	14.38
14.25 CFS	14.12	13.87	13.62	13.39	13.17	12.96	12.75	12.53
14.65 CFS	12.30	12.07	11.84	11.61	11.39	11.18	10.97	10.76

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15.05 CFS	10.55	10.34	10.12	9.89	9.68	9.48	9.30	9.14
15.45 CFS	9.02	8.92	8.85	8.79	8.73	8.66	8.59	8.51
15.85 CFS	8.44	8.39	8.34	8.29	8.23	8.16	8.09	8.02
16.25 CFS	7.96	7.90	7.85	7.79	7.73	7.67	7.60	7.53
16.65 CFS	7.46	7.40	7.35	7.29	7.24	7.18	7.13	7.08
17.05 CFS	7.03	6.98	6.93	6.86	6.79	6.72	6.65	6.59
17.45 CFS	6.54	6.48	6.42	6.35	6.28	6.20	6.14	6.08
17.85 CFS	6.02	5.96	5.90	5.84	5.79	5.74	5.68	5.63
18.25 CFS	5.57	5.52	5.47	5.42	5.37	5.33	5.29	5.27
18.65 CFS	5.26	5.25	5.24	5.23	5.22	5.21	5.20	5.18
19.05 CFS	5.15	5.13	5.11	5.08	5.07	5.05	5.04	5.04
19.45 CFS	5.04	5.03	5.03	5.01	5.00	4.98	4.95	4.93
19.85 CFS	4.91	4.89	4.87	4.85	4.84	4.84	4.84	4.84
20.25 CFS	4.83	4.81	4.79	4.76	4.73	4.70	4.67	4.66
20.65 CFS	4.65	4.65	4.64	4.63	4.62	4.61	4.60	4.58
21.05 CFS	4.55	4.53	4.51	4.48	4.46	4.45	4.44	4.43
21.45 CFS	4.43	4.43	4.42	4.41	4.39	4.37	4.34	4.32
21.85 CFS	4.31	4.29	4.28	4.28	4.27	4.26	4.24	4.21
22.25 CFS	4.19	4.17	4.15	4.14	4.13	4.12	4.11	4.10
22.65 CFS	4.08	4.05	4.03	4.01	3.99	3.96	3.94	3.92
23.05 CFS	3.91	3.91	3.91	3.91	3.89	3.88	3.86	3.84

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                                                    UNSTDY
   23.45 CFS      3.82    3.80    3.77    3.74    3.72    3.71    3.70    3.70
   23.85 CFS      3.69    3.67    3.65    3.65    3.62    3.55    3.36    3.02
   24.25 CFS      2.59    2.12    1.66    1.26     .94     .70     .53     .40

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.19 WATERSHED INCHES;     182 CFS-HRS;      15.0 ACRE-FEET.


 OPERATION RUNOFF   XSECTION  13

   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.48                        188.8                       (RUNOFF)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.31 WATERSHED INCHES;     319 CFS-HRS;      26.4 ACRE-FEET.


 OPERATION REACH    XSECTION  14

   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.74                        153.2                        380.38

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.31 WATERSHED INCHES;     319 CFS-HRS;      26.4 ACRE-FEET.


 OPERATION RUNOFF   XSECTION  15
1
 TR20 ---------------------------------------------------------------------- SCS -
               Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 14:04:54                    PASS   2   JOB NO.   1                     PAGE  14


   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.32                         72.9                       (RUNOFF)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.73 WATERSHED INCHES;      99 CFS-HRS;       8.2 ACRE-FEET.


 OPERATION ADDHYD   XSECTION  16

   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.65                        189.9                       (NULL)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.39 WATERSHED INCHES;     418 CFS-HRS;      34.6 ACRE-FEET.


 OPERATION RUNOFF   XSECTION  17

   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.14                        123.7                       (RUNOFF)
      15.84                          3.5                       (RUNOFF)
      19.43                          2.1                       (RUNOFF)
      19.74                          2.0                       (RUNOFF)
      20.05                          2.0                       (RUNOFF)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                2.51 WATERSHED INCHES;     112 CFS-HRS;       9.3 ACRE-FEET.


 OPERATION ADDHYD   XSECTION  18

   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      12.17                        212.0                       (NULL)
      12.56                        213.2                       (NULL)
      20.00                         12.6                       (NULL)

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.50 WATERSHED INCHES;     518 CFS-HRS;      42.8 ACRE-FEET.


 OPERATION REACH    XSECTION  19

   PEAK TIME(HRS)             PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
      13.10                        169.9                        358.06

   RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                1.48 WATERSHED INCHES;     512 CFS-HRS;      42.3 ACRE-FEET.
1
 TR20 ---------------------------------------------------------------------- SCS -
               Valley Mede Ultimate LU, Fair Cond, Subdivided          VERSION
 10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 14:04:54                    PASS   2   JOB NO.   1                     PAGE  15
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OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	380.2	(RUNOFF)
18.66	9.4	(RUNOFF)
20.66	8.3	(RUNOFF)
21.98	7.6	(RUNOFF)
24.03	6.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.98 WATERSHED INCHES; 420 CFS-HRS; 34.7 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	436.7	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 926 CFS-HRS; 76.5 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	411.5	346.55

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.66 WATERSHED INCHES; 924 CFS-HRS; 76.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	10.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
.92 WATERSHED INCHES; 12 CFS-HRS; 1.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	420.3	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .88 SQ.MI.

HRS								
6.10 CFS	.49	.50	.52	.53	.55	.56	.57	.59
6.50 CFS	.60	.62	.65	.68	.72	.77	.82	.89

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
14:04:54 PASS 2 JOB NO. 1 PAGE 16

6.90 CFS	.95	1.02	1.10	1.17	1.25	1.33	1.41	1.50
7.30 CFS	1.59	1.68	1.77	1.86	1.96	2.05	2.15	2.24
7.70 CFS	2.34	2.44	2.54	2.64	2.75	2.86	2.97	3.08
8.10 CFS	3.20	3.31	3.43	3.55	3.67	3.79	3.91	4.04
8.50 CFS	4.17	4.30	4.43	4.56	4.71	4.86	5.01	5.16
8.90 CFS	5.31	5.45	5.59	5.73	5.90	6.08	6.27	6.47
9.30 CFS	6.68	6.92	7.18	7.46	7.75	8.04	8.34	8.64
9.70 CFS	8.97	9.31	9.67	10.04	10.42	10.80	11.18	11.57
10.10 CFS	11.97	12.40	12.84	13.30	13.76	14.22	14.68	15.15
10.50 CFS	15.64	16.15	16.71	17.34	18.06	18.88	19.83	20.90
10.90 CFS	22.08	23.35	24.72	26.15	27.67	29.32	31.18	33.26
11.30 CFS	35.59	38.13	40.87	43.78	46.86	50.11	53.84	58.75
11.70 CFS	65	73	82	92	104	120	141	171
12.10 CFS	214	272	338	392	418	415	392	362
12.50 CFS	335	311	293	279	267	258	251	245
12.90 CFS	242	239	237	235	233	230	227	224
13.30 CFS	220	215	211	206	201	196	190	185
13.70 CFS	179	173	167	162	156	151	146	141
14.10 CFS	137	132	128	124	119	115	112	108
14.50 CFS	104	101	98	94	91	88	86	83
14.90 CFS	80.36	77.95	75.63	73.40	71.25	69.19	67.19	65.27
15.30 CFS	63.45	61.74	60.17	58.73	57.42	56.20	55.07	53.98
15.70 CFS	52.91	51.84	50.80	49.83	48.94	48.11	47.32	46.52
16.10 CFS	45.73	44.95	44.22	43.55	42.92	42.32	41.73	41.16
16.50 CFS	40.60	40.05	39.52	39.00	38.51	38.06	37.65	37.24
16.90 CFS	36.83	36.42	36.03	35.66	35.32	34.98	34.62	34.23
17.30 CFS	33.82	33.45	33.12	32.84	32.54	32.22	31.87	31.50
17.70 CFS	31.16	30.85	30.56	30.27	29.97	29.67	29.37	29.09
18.10 CFS	28.83	28.57	28.29	28.00	27.71	27.45	27.20	26.94
18.50 CFS	26.68	26.44	26.24	26.09	25.95	25.80	25.62	25.44
18.90 CFS	25.28	25.13	24.97	24.79	24.61	24.43	24.27	24.13
19.30 CFS	24.00	23.88	23.77	23.67	23.58	23.49	23.39	23.27

19.70 CFS	23.13	23.00	22.89	22.80	22.69	22.57	22.45	22.37
20.10 CFS	22.33	22.30	22.24	22.16	22.07	21.97	21.87	21.75
20.50 CFS	21.62	21.50	21.42	21.38	21.35	21.31	21.23	21.15
20.90 CFS	21.09	21.03	20.95	20.86	20.75	20.65	20.56	20.49
21.30 CFS	20.42	20.36	20.31	20.26	20.21	20.17	20.11	20.03
21.70 CFS	19.93	19.83	19.75	19.69	19.62	19.56	19.51	19.47
22.10 CFS	19.41	19.33	19.23	19.13	19.05	18.98	18.92	18.87
22.50 CFS	18.82	18.77	18.72	18.64	18.53	18.43	18.36	18.29
22.90 CFS	18.21	18.11	18.01	17.95	17.92	17.91	17.87	17.80
23.30 CFS	17.71							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.64 WATERSHED INCHES; 936 CFS-HRS; 77.3 ACRE-FEET.

1

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 4.91 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	595.7	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .41 SQ.MI.

HRS								
6.75 CFS	.44	.53	.63	.73	.83	.94	1.05	1.17
7.15 CFS	1.29	1.41	1.54	1.67	1.81	1.94	2.07	2.21
7.55 CFS	2.35	2.49	2.64	2.78	2.93	3.08	3.23	3.39
7.95 CFS	3.55	3.72	3.89	4.07	4.25	4.42	4.60	4.77
8.35 CFS	4.95	5.13	5.31	5.49	5.67	5.86	6.06	6.27
8.75 CFS	6.48	6.69	6.89	7.09	7.28	7.48	7.69	7.92
9.15 CFS	8.17	8.44	8.73	9.06	9.41	9.79	10.20	10.61
9.55 CFS	11.04	11.47	11.92	12.39	12.89	13.41	13.94	14.47
9.95 CFS	15.01	15.55	16.11	16.68	17.28	17.90	18.53	19.17
10.35 CFS	19.80	20.44	21.09	21.76	22.48	23.27	24.17	25.21
10.75 CFS	26.41	27.78	29.32	31.02	32.86	34.81	36.88	39.09
11.15 CFS	41.53	44.24	47.24	50.54	54.13	57.97	62.04	66.39
11.55 CFS	71	77	85	95	106	119	136	156
11.95 CFS	183	219	270	339	421	503	565	594
12.35 CFS	588	557	509	454	402	358	319	285
12.75 CFS	255	228	205	186	170	157	145	135
13.15 CFS	126	118	111	105	99	93	89	84
13.55 CFS	80.29	76.57	73.06	69.80	66.81	64.12	61.76	59.71
13.95 CFS	57.96	56.47	55.18	54.03	52.98	51.97	50.98	50.01
14.35 CFS	49.07	48.18	47.33	46.52	45.71	44.89	44.05	43.18
14.75 CFS	42.32	41.48	40.67	39.88	39.11	38.33	37.55	36.76
15.15 CFS	35.96	35.14	34.35	33.61	32.94	32.37	31.91	31.56
15.55 CFS	31.28	31.05	30.82	30.56	30.28	30.00	29.75	29.53
15.95 CFS	29.34	29.13	28.91	28.66	28.40	28.15	27.92	27.71
16.35 CFS	27.50	27.29	27.07	26.83	26.59	26.33	26.08	25.86
16.75 CFS	25.65	25.46	25.26	25.06	24.85	24.66	24.48	24.30
17.15 CFS	24.10	23.87	23.61	23.35	23.10	22.89	22.70	22.50
17.55 CFS	22.27	22.02	21.76	21.50	21.27	21.05	20.84	20.62
17.95 CFS	20.41	20.21	20.02	19.83	19.64	19.45	19.25	19.05
18.35 CFS	18.87	18.69	18.52	18.36	18.24	18.16	18.12	18.09
18.75 CFS	18.06	18.01	17.97	17.92	17.87	17.79	17.71	17.62
19.15 CFS	17.54	17.46	17.39	17.35	17.31	17.29	17.27	17.25
19.55 CFS	17.23	17.19	17.12	17.04	16.96	16.89	16.82	16.74
19.95 CFS	16.65	16.60	16.56	16.56	16.55	16.54	16.49	16.44

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20.35 CFS	16.36	16.26	16.15	16.03	15.94	15.89	15.86	15.84
20.75 CFS	15.82	15.78	15.74	15.70	15.65	15.58	15.50	15.41
21.15 CFS	15.33	15.24	15.18	15.13	15.10	15.07	15.05	15.04
21.55 CFS	15.01	14.97	14.90	14.82	14.74	14.67	14.61	14.56
21.95 CFS	14.52	14.51	14.48	14.42	14.35	14.27	14.19	14.11
22.35 CFS	14.05	14.00	13.97	13.94	13.91	13.86	13.79	13.70
22.75 CFS	13.62	13.55	13.47	13.39	13.30	13.24	13.21	13.20
23.15 CFS	13.20	13.17	13.13	13.08	13.01	12.94	12.88	12.80
23.55 CFS	12.71	12.61	12.53	12.49	12.47	12.45	12.41	12.36
23.95 CFS	12.30	12.26	12.19	11.92	11.27	10.17	8.72	7.15
24.35 CFS	5.62	4.27	3.19	2.40	1.81	1.36	1.03	.77

24.75 CFS .58 .43

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.10 WATERSHED INCHES; 812 CFS-HRS; 67.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	96.3	(RUNOFF)
21.97	2.2	(RUNOFF)
23.12	2.0	(RUNOFF)
24.03	1.9	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.55 WATERSHED INCHES; 111 CFS-HRS; 9.1 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.42	80.6	382.25
20.20	2.5 *	380.41
24.13	1.9	380.38

* FIRST POINT OF FLAT PEAK

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.55 WATERSHED INCHES; 111 CFS-HRS; 9.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.38	202.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.49 WATERSHED INCHES; 300 CFS-HRS; 24.8 ACRE-FEET.

1

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.40	282.2	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .25 SQ.MI.

HRS								
8.85 CFS	.43	.51	.59	.68	.76	.86	.95	1.05
9.25 CFS	1.16	1.27	1.39	1.51	1.65	1.79	1.94	2.09
9.65 CFS	2.25	2.42	2.60	2.79	2.98	3.19	3.40	3.61
10.05 CFS	3.83	4.06	4.30	4.55	4.81	5.07	5.35	5.62
10.45 CFS	5.91	6.20	6.50	6.83	7.18	7.57	8.01	8.50
10.85 CFS	9.06	9.68	10.37	11.11	11.92	12.79	13.74	14.77
11.25 CFS	15.93	17.20	18.62	20.16	21.84	23.66	25.69	28.02
11.65 CFS	30.79	34.22	38.46	43.61	49.82	57.49	67.37	80.55
12.05 CFS	99	123	155	191	228	259	277	282
12.45 CFS	275	260	239	217	196	177	160	145
12.85 CFS	131	118	108	99	91	84	78	73
13.25 CFS	68.24	64.06	60.32	56.96	53.94	51.19	48.65	46.27
13.65 CFS	44.03	41.93	40.00	38.25	36.70	35.31	34.10	33.04
14.05 CFS	32.13	31.33	30.63	29.99	29.39	28.82	28.27	27.74
14.45 CFS	27.23	26.75	26.28	25.82	25.36	24.90	24.42	23.95
14.85 CFS	23.49	23.03	22.59	22.16	21.72	21.29	20.85	20.41
15.25 CFS	19.96	19.53	19.12	18.75	18.42	18.15	17.92	17.74
15.65 CFS	17.58	17.44	17.29	17.14	16.98	16.84	16.72	16.60
16.05 CFS	16.48	16.35	16.22	16.08	15.95	15.82	15.70	15.58
16.45 CFS	15.46	15.34	15.21	15.08	14.94	14.81	14.68	14.56
16.85 CFS	14.45	14.34	14.22	14.11	14.01	13.90	13.80	13.68
17.25 CFS	13.56	13.42	13.28	13.15	13.03	12.92	12.80	12.67
17.65 CFS	12.54	12.40	12.26	12.12	12.00	11.88	11.76	11.64
18.05 CFS	11.52	11.41	11.31	11.20	11.09	10.98	10.87	10.77
18.45 CFS	10.67	10.57	10.49	10.42	10.36	10.33	10.30	10.28
18.85 CFS	10.25	10.22	10.20	10.17	10.13	10.09	10.04	10.00
19.25 CFS	9.95	9.92	9.89	9.87	9.85	9.84	9.82	9.81
19.65 CFS	9.79	9.75	9.71	9.67	9.63	9.59	9.55	9.51
20.05 CFS	9.48	9.46	9.45	9.44	9.42	9.40	9.37	9.33
20.45 CFS	9.28	9.23	9.17	9.12	9.09	9.07	9.05	9.03
20.85 CFS	9.01	8.99	8.97	8.94	8.90	8.86	8.81	8.77
21.25 CFS	8.73	8.69	8.66	8.64	8.62	8.61	8.59	8.58
21.65 CFS	8.55	8.52	8.48	8.44	8.40	8.37	8.34	8.32
22.05 CFS	8.30	8.28	8.25	8.22	8.17	8.13	8.09	8.06
22.45 CFS	8.03	8.01	7.99	7.96	7.94	7.90	7.86	7.81
22.85 CFS	7.77	7.73	7.68	7.64	7.61	7.58	7.57	7.56

23.25 CFS	7.55	7.52	7.50	7.46	7.43	7.39	7.35	7.30
23.65 CFS	7.25	7.21	7.18	7.16	7.15	7.12	7.10	7.07
24.05 CFS	7.04	6.96	6.80	6.46	5.90	5.18	4.38	3.58
24.45 CFS	2.85	2.22	1.72	1.34	1.04	.81	.62	.48

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RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.51 WATERSHED INCHES; 411 CFS-HRS; 34.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	238.2	(RUNOFF)
20.13	7.4	(RUNOFF)
23.13	5.9	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .20 SQ.MI.

HRS								
9.05 CFS	.49	.57	.64	.73	.81	.90	1.00	1.11
9.45 CFS	1.22	1.33	1.45	1.58	1.71	1.84	1.99	2.14
9.85 CFS	2.30	2.47	2.63	2.81	2.99	3.17	3.37	3.57
10.25 CFS	3.78	3.99	4.21	4.43	4.65	4.89	5.14	5.42
10.65 CFS	5.73	6.08	6.49	6.94	7.45	8.00	8.60	9.25
11.05 CFS	9.94	10.68	11.50	12.43	13.47	14.63	15.90	17.27
11.45 CFS	18.74	20.32	22.14	24.38	27.24	30.80	35.08	40.08
11.85 CFS	46	54	65	80	101	131	166	200
12.25 CFS	226	237	235	222	202	180	161	144
12.65 CFS	129	115	103	93	84	76	70	65
13.05 CFS	60.40	56.44	52.88	49.67	46.77	44.15	41.79	39.65
13.45 CFS	37.73	35.99	34.35	32.80	31.34	29.97	28.72	27.60
13.85 CFS	26.63	25.79	25.07	24.47	23.94	23.48	23.04	22.63
14.25 CFS	22.21	21.80	21.40	21.03	20.67	20.33	19.99	19.64
14.65 CFS	19.27	18.90	18.52	18.16	17.81	17.48	17.14	16.80
15.05 CFS	16.46	16.12	15.77	15.41	15.07	14.75	14.46	14.23
15.45 CFS	14.04	13.90	13.79	13.69	13.59	13.48	13.36	13.24
15.85 CFS	13.14	13.05	12.97	12.88	12.79	12.68	12.56	12.45
16.25 CFS	12.35	12.27	12.18	12.09	11.99	11.89	11.78	11.67
16.65 CFS	11.56	11.46	11.37	11.29	11.21	11.12	11.03	10.94
17.05 CFS	10.87	10.79	10.70	10.60	10.48	10.37	10.26	10.17
17.45 CFS	10.09	10.00	9.90	9.79	9.67	9.56	9.45	9.36
17.85 CFS	9.27	9.17	9.08	8.99	8.91	8.83	8.75	8.66
18.25 CFS	8.57	8.49	8.41	8.33	8.25	8.19	8.13	8.10
18.65 CFS	8.09	8.08	8.06	8.05	8.03	8.01	7.99	7.95
19.05 CFS	7.92	7.88	7.84	7.80	7.78	7.76	7.74	7.74
19.45 CFS	7.73	7.72	7.72	7.70	7.67	7.63	7.59	7.56
19.85 CFS	7.53	7.49	7.46	7.43	7.42	7.42	7.42	7.41
20.25 CFS	7.40	7.37	7.33	7.29	7.24	7.18	7.14	7.12
20.65 CFS	7.11	7.11	7.10	7.08	7.07	7.05	7.03	6.99
21.05 CFS	6.96	6.92	6.88	6.84	6.81	6.79	6.78	6.77
21.45 CFS	6.76	6.76	6.75	6.73	6.70	6.66	6.62	6.59
21.85 CFS	6.57	6.55	6.53	6.52	6.51	6.49	6.45	6.42
22.25 CFS	6.38	6.35	6.32	6.30	6.29	6.28	6.26	6.24
22.65 CFS	6.21	6.17	6.13	6.10	6.06	6.02	5.99	5.96
23.05 CFS	5.95	5.95	5.95	5.94	5.92	5.89	5.86	5.83
23.45 CFS	5.80	5.77	5.73	5.68	5.65	5.63	5.62	5.62

1

23.85 CFS	5.60	5.57	5.54	5.53	5.50	5.38	5.06	4.52
24.25 CFS	3.82	3.08	2.37	1.77	1.31	.97	.73	.54
24.65 CFS	.40							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.45 WATERSHED INCHES; 320 CFS-HRS; 26.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	283.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .24 SQ.MI.

HRS								
8.75 CFS	.44	.52	.59	.67	.76	.84	.93	1.02
9.15 CFS	1.12	1.22	1.33	1.44	1.57	1.70	1.84	1.98
9.55 CFS	2.13	2.29	2.45	2.62	2.80	3.00	3.19	3.40
9.95 CFS	3.60	3.82	4.04	4.26	4.50	4.75	5.01	5.27
10.35 CFS	5.54	5.80	6.08	6.37	6.68	7.01	7.38	7.81
10.75 CFS	8.29	8.84	9.45	10.13	10.86	11.64	12.48	13.39

11.15 CFS	14.39	15.52	16.78	18.17	19.69	21.34	23.11	25.01
11.55 CFS	27.19	29.86	33.23	37.46	42.54	48.59	55.98	65.36
11.95 CFS	78	95	120	153	193	234	266	282
12.35 CFS	281	268	246	221	197	176	158	142
12.75 CFS	127	114	103	94	86	79	74	69
13.15 CFS	64.51	60.53	56.94	53.71	50.79	48.13	45.71	43.52
13.55 CFS	41.51	39.62	37.84	36.17	34.64	33.27	32.07	31.02
13.95 CFS	30.13	29.38	28.72	28.14	27.60	27.09	26.59	26.09
14.35 CFS	25.61	25.16	24.72	24.31	23.90	23.48	23.04	22.60
14.75 CFS	22.15	21.72	21.30	20.90	20.50	20.10	19.69	19.28
15.15 CFS	18.86	18.44	18.03	17.64	17.30	17.00	16.77	16.59
15.55 CFS	16.45	16.33	16.21	16.08	15.93	15.79	15.66	15.55
15.95 CFS	15.45	15.35	15.23	15.10	14.97	14.84	14.72	14.61
16.35 CFS	14.50	14.40	14.28	14.16	14.03	13.90	13.77	13.65
16.75 CFS	13.55	13.45	13.35	13.24	13.13	13.03	12.94	12.85
17.15 CFS	12.74	12.62	12.49	12.35	12.22	12.11	12.01	11.91
17.55 CFS	11.79	11.66	11.52	11.39	11.27	11.15	11.04	10.93
17.95 CFS	10.82	10.71	10.61	10.52	10.42	10.31	10.21	10.11
18.35 CFS	10.01	9.92	9.83	9.75	9.68	9.64	9.62	9.60
18.75 CFS	9.59	9.56	9.54	9.52	9.49	9.45	9.41	9.37
19.15 CFS	9.32	9.28	9.25	9.22	9.20	9.19	9.18	9.18
19.55 CFS	9.17	9.14	9.11	9.07	9.02	8.99	8.95	8.91
19.95 CFS	8.87	8.83	8.82	8.81	8.81	8.80	8.78	8.75
20.35 CFS	8.71	8.66	8.60	8.54	8.50	8.47	8.45	8.45
20.75 CFS	8.43	8.41	8.39	8.37	8.35	8.31	8.27	8.22
21.15 CFS	8.17	8.13	8.10	8.07	8.05	8.04	8.03	8.02
21.55 CFS	8.01	7.99	7.95	7.91	7.87	7.83	7.80	7.78
21.95 CFS	7.76	7.75	7.73	7.70	7.67	7.62	7.58	7.54
22.35 CFS	7.51	7.48	7.47	7.45	7.44	7.41	7.37	7.33
22.75 CFS	7.28	7.24	7.21	7.16	7.12	7.08	7.07	7.06

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23.15 CFS	7.06	7.05	7.03	7.00	6.96	6.93	6.89	6.85
23.55 CFS	6.80	6.75	6.71	6.69	6.68	6.67	6.65	6.62
23.95 CFS	6.58	6.58	6.55	6.43	6.09	5.48	4.68	3.82
24.35 CFS	2.99	2.26	1.68	1.27	.96	.72	.54	.41

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.53 WATERSHED INCHES; 386 CFS-HRS; 31.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.47	397.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.70 WATERSHED INCHES; 658 CFS-HRS; 54.3 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.70	331.9	381.44

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.70 WATERSHED INCHES; 658 CFS-HRS; 54.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	135.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.26 WATERSHED INCHES; 187 CFS-HRS; 15.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.62	403.1	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.81 WATERSHED INCHES; 844 CFS-HRS; 69.7 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	199.4	(RUNOFF)
15.84	5.5	(RUNOFF)
17.34	4.3	(RUNOFF)
20.05	3.2	(RUNOFF)
20.61	3.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.12 WATERSHED INCHES; 184 CFS-HRS; 15.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.18	397.3	(NULL)
12.56	441.9	(NULL)
19.98	21.9	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.87 WATERSHED INCHES; 991 CFS-HRS; 81.9 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.98	361.2	358.85

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.84 WATERSHED INCHES; 981 CFS-HRS; 81.1 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	670.8	(RUNOFF)
18.66	15.4	(RUNOFF)
20.11	14.2	(RUNOFF)
20.66	13.5	(RUNOFF)
21.98	12.3	(RUNOFF)
23.11	11.3	(RUNOFF)
24.03	10.5	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.57 WATERSHED INCHES; 757 CFS-HRS; 62.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

1
TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
14:04:54 PASS 3 JOB NO. 1 PAGE 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	824.2	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.08 WATERSHED INCHES; 1716 CFS-HRS; 141.8 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	796.4	347.66

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.07 WATERSHED INCHES; 1713 CFS-HRS; 141.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	24.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.13 WATERSHED INCHES; 27 CFS-HRS; 2.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	817.7	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .88 SQ.MI.

3.95 CFS	.49	.52	.54	.56	.59	.61	.64	.66

4.35 CFS	.69	.71	.74	.76	.78	.81	.84	.88
4.75 CFS	.94	1.00	1.08	1.17	1.26	1.36	1.46	1.55
5.15 CFS	1.65	1.76	1.86	1.97	2.08	2.18	2.28	2.38
5.55 CFS	2.48	2.58	2.69	2.81	2.92	3.03	3.13	3.22
5.95 CFS	3.31	3.41	3.52	3.65	3.78	3.90	4.02	4.14
6.35 CFS	4.27	4.41	4.56	4.71	4.88	5.05	5.22	5.40
6.75 CFS	5.58	5.74	5.91	6.09	6.29	6.48	6.66	6.85
7.15 CFS	7.06	7.28	7.52	7.75	7.97	8.18	8.40	8.62
7.55 CFS	8.86	9.09	9.31	9.53	9.75	9.99	10.23	10.48
7.95 CFS	10.74	11.00	11.28	11.55	11.83	12.11	12.38	12.63
8.35 CFS	12.89	13.18	13.48	13.78	14.06	14.35	14.68	15.05
8.75 CFS	15.42	15.79	16.15	16.48	16.81	17.14	17.50	17.93
9.15 CFS	18.39	18.89	19.40	19.97	20.61	21.32	22.06	22.82
9.55 CFS	23.57	24.33	25.12	25.95	26.85	27.79	28.76	29.73
9.95 CFS	30.69	31.65	32.63	33.66	34.75	35.89	37.05	38.21
10.35 CFS	39.36	40.51	41.68	42.90	44.18	45.56	47.09	48.86
10.75 CFS	50.88	53.19	55.74	58.51	61.45	64.55	67.78	71.18

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11.15 CFS	75	79	84	89	94	100	106	113
11.55 CFS	119	127	137	151	168	186	207	232
11.95 CFS	263	306	365	449	561	686	781	817
12.35 CFS	798	745	686	635	596	567	546	530
12.75 CFS	516	505	497	491	486	480	474	467
13.15 CFS	459	449	438	427	415	402	390	376
13.55 CFS	363	349	336	322	309	297	285	273
13.95 CFS	262	252	242	232	223	214	206	198
14.35 CFS	190	183	176	170	164	158	153	147
14.75 CFS	142	137	133	129	125	121	117	114
15.15 CFS	111	107	104	102	99	96	94	92
15.55 CFS	90.32	88.60	86.93	85.28	83.64	82.03	80.53	79.19
15.95 CFS	77.97	76.78	75.58	74.36	73.18	72.07	71.07	70.15
16.35 CFS	69.27	68.38	67.52	66.68	65.86	65.05	64.27	63.53
16.75 CFS	62.86	62.24	61.63	60.99	60.36	59.75	59.20	58.68
17.15 CFS	58.16	57.58	56.95	56.29	55.69	55.19	54.75	54.29
17.55 CFS	53.76	53.17	52.57	52.00	51.49	51.03	50.56	50.06
17.95 CFS	49.55	49.05	48.59	48.17	47.73	47.25	46.75	46.27
18.35 CFS	45.83	45.41	44.99	44.55	44.14	43.82	43.57	43.36
18.75 CFS	43.11	42.80	42.50	42.24	41.99	41.73	41.43	41.12
19.15 CFS	40.82	40.57	40.35	40.15	39.96	39.80	39.64	39.50
19.55 CFS	39.36	39.21	39.01	38.78	38.56	38.39	38.25	38.08
19.95 CFS	37.88	37.68	37.56	37.51	37.47	37.39	37.25	37.08
20.35 CFS	36.91	36.75	36.56	36.33	36.13	36.00	35.95	35.92
20.75 CFS	35.84	35.70	35.56	35.46	35.36	35.23	35.06	34.87
21.15 CFS	34.69	34.55	34.42	34.32	34.22	34.13	34.05	33.97
21.55 CFS	33.90	33.80	33.66	33.47	33.29	33.16	33.06	32.94
21.95 CFS	32.84	32.77	32.71	32.60	32.45	32.27		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.05 WATERSHED INCHES; 1740 CFS-HRS; 143.8 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 7.23 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	995.0	(RUNOFF)

1

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.41 SQ.MI.
4.95 CFS	.42	.53	.66	.78	.92	1.05	1.20	1.34
5.35 CFS	1.48	1.63	1.77	1.91	2.05	2.20	2.36	2.52
5.75 CFS	2.67	2.82	2.97	3.10	3.24	3.38	3.54	3.71
6.15 CFS	3.88	4.05	4.22	4.39	4.57	4.75	4.95	5.15
6.55 CFS	5.37	5.59	5.81	6.04	6.26	6.47	6.70	6.93
6.95 CFS	7.17	7.40	7.64	7.89	8.16	8.43	8.72	9.00
7.35 CFS	9.28	9.55	9.83	10.11	10.39	10.67	10.95	11.23
7.75 CFS	11.51	11.81	12.11	12.42	12.74	13.08	13.42	13.76
8.15 CFS	14.10	14.44	14.77	15.09	15.42	15.75	16.09	16.42
8.55 CFS	16.75	17.11	17.48	17.87	18.26	18.65	19.02	19.36

8.95 CFS	19.70	20.04	20.42	20.85	21.32	21.83	22.40	23.04
9.35 CFS	23.75	24.51	25.32	26.15	26.99	27.84	28.71	29.63
9.75 CFS	30.60	31.60	32.62	33.64	34.65	35.66	36.69	37.76
10.15 CFS	38.86	40.01	41.17	42.32	43.46	44.59	45.74	46.93
10.55 CFS	48.20	49.61	51.24	53.14	55.37	57.94	60.83	64.00
10.95 CFS	67.40	71.00	74.79	78.83	83.25	88.13	93.54	99.45
11.35 CFS	106	113	120	127	136	147	160	176
11.75 CFS	196	219	247	281	326	386	469	584
12.15 CFS	719	854	954	994	978	920	837	744
12.55 CFS	656	583	518	461	411	368	330	299
12.95 CFS	272	250	232	215	201	188	176	166
13.35 CFS	156	148	140	133	127	121	115	110
13.75 CFS	105	101	97	94	91	89	87	85
14.15 CFS	83.20	81.60	80.03	78.49	77.00	75.58	74.24	72.95
14.55 CFS	71.67	70.37	69.03	67.66	66.29	64.96	63.68	62.44
14.95 CFS	61.22	60.00	58.76	57.51	56.25	54.96	53.71	52.54
15.35 CFS	51.49	50.59	49.87	49.31	48.87	48.49	48.12	47.71
15.75 CFS	47.28	46.84	46.44	46.09	45.78	45.46	45.10	44.71
16.15 CFS	44.30	43.91	43.54	43.20	42.88	42.54	42.19	41.82
16.55 CFS	41.44	41.03	40.64	40.29	39.96	39.65	39.34	39.02
16.95 CFS	38.70	38.39	38.10	37.82	37.51	37.15	36.75	36.33
17.35 CFS	35.95	35.62	35.31	34.99	34.64	34.25	33.84	33.44
17.75 CFS	33.07	32.73	32.40	32.06	31.73	31.41	31.11	30.82
18.15 CFS	30.53	30.22	29.90	29.60	29.32	29.04	28.77	28.52
18.55 CFS	28.32	28.20	28.14	28.08	28.03	27.96	27.89	27.82
18.95 CFS	27.73	27.62	27.49	27.35	27.22	27.09	26.99	26.91
19.35 CFS	26.86	26.82	26.79	26.76	26.73	26.66	26.56	26.43
19.75 CFS	26.30	26.20	26.09	25.95	25.82	25.72	25.67	25.66
20.15 CFS	25.66	25.63	25.56	25.47	25.35	25.20	25.02	24.84
20.55 CFS	24.70	24.62	24.57	24.54	24.50	24.45	24.38	24.32
20.95 CFS	24.24	24.13	24.00	23.86	23.73	23.60	23.50	23.42
21.35 CFS	23.37	23.33	23.30	23.27	23.24	23.17	23.07	22.93
21.75 CFS	22.80	22.70	22.61	22.53	22.47	22.44	22.40	22.31
22.15 CFS	22.19	22.07	21.95	21.83	21.73	21.66	21.61	21.56
22.55 CFS	21.51	21.43	21.32	21.19	21.06	20.95	20.83	20.69
22.95 CFS	20.56	20.46	20.41	20.40	20.40	20.36	20.30	20.21
23.35 CFS	20.11	20.00	19.89	19.78	19.64	19.49	19.36	19.29
23.75 CFS	19.26	19.23	19.18	19.08	19.00	18.94	18.83	18.43

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24.15 CFS	17.44	15.72	13.47	11.03	8.66

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.25 WATERSHED INCHES; 1374 CFS-HRS; 113.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	172.1	(RUNOFF)
20.12	4.1	(RUNOFF)
23.77	3.0	(RUNOFF)
24.03	3.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.57 WATERSHED INCHES; 199 CFS-HRS; 16.4 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.57	117.9	383.17

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.57 WATERSHED INCHES; 199 CFS-HRS; 16.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.37	365.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.50 WATERSHED INCHES; 542 CFS-HRS; 44.8 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.42	456.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA = .25 SQ.MI.			
7.00 CFS	.44	.52	.61	.70	.80	.90	1.01	1.11

7.40 CFS	1.23	1.34	1.46	1.58	1.70	1.82	1.94	2.07
7.80 CFS	2.20	2.33	2.47	2.60	2.75	2.89	3.04	3.19
8.20 CFS	3.34	3.50	3.65	3.81	3.97	4.13	4.29	4.45
8.60 CFS	4.61	4.78	4.96	5.14	5.32	5.50	5.68	5.86
9.00 CFS	6.04	6.23	6.42	6.62	6.84	7.06	7.31	7.58
9.40 CFS	7.87	8.17	8.50	8.84	9.19	9.56	9.94	10.34
9.80 CFS	10.76	11.19	11.63	12.09	12.55	13.03	13.52	14.02

1

10.20 CFS	14.53	15.06	15.61	16.16	16.72	17.28	17.87	18.47
10.60 CFS	19.11	19.80	20.57	21.43	22.40	23.49	24.70	26.03
11.00 CFS	27.48	29.05	30.75	32.59	34.60	36.81	39.23	41.87
11.40 CFS	44.75	47.84	51.18	54.90	59.19	64.27	70.38	77.70
11.80 CFS	86	97	110	127	149	178	218	265
12.20 CFS	318	369	411	440	454	454	440	416
12.60 CFS	387	357	329	302	276	252	231	211
13.00 CFS	194	178	165	153	142	132	124	116
13.40 CFS	109	102	96	91	86	81	77	73
13.80 CFS	69.73	66.59	63.76	61.24	59.00	57.03	55.27	53.71
14.20 CFS	52.29	50.99	49.79	48.66	47.60	46.59	45.64	44.73
14.60 CFS	43.86	43.00	42.15	41.32	40.50	39.69	38.90	38.12
15.00 CFS	37.36	36.61	35.87	35.13	34.38	33.64	32.92	32.23
15.40 CFS	31.59	31.02	30.51	30.07	29.69	29.35	29.04	28.74
15.80 CFS	28.45	28.17	27.92	27.67	27.44	27.21	26.98	26.75
16.20 CFS	26.53	26.30	26.08	25.86	25.65	25.44	25.23	25.02
16.60 CFS	24.80	24.58	24.36	24.15	23.95	23.75	23.56	23.37
17.00 CFS	23.18	23.00	22.82	22.64	22.44	22.24	22.03	21.82
17.40 CFS	21.62	21.41	21.21	21.01	20.80	20.58	20.37	20.15
17.80 CFS	19.93	19.72	19.51	19.31	19.12	18.93	18.75	18.56
18.20 CFS	18.37	18.19	18.01	17.84	17.66	17.49	17.33	17.19
18.60 CFS	17.07	16.97	16.88	16.81	16.74	16.69	16.64	16.58
19.00 CFS	16.52	16.45	16.38	16.32	16.25	16.18	16.11	16.06
19.40 CFS	16.02	15.98	15.95	15.92	15.88	15.84	15.79	15.74
19.80 CFS	15.68	15.62	15.55	15.48	15.42	15.37	15.34	15.31
20.20 CFS	15.27	15.24	15.20	15.16	15.10	15.02	14.94	14.86
20.60 CFS	14.80	14.74	14.69	14.65	14.61	14.57	14.54	14.50
21.00 CFS	14.45	14.39	14.32	14.26	14.20	14.13	14.07	14.02
21.40 CFS	13.97	13.94	13.91	13.88	13.84	13.80	13.75	13.70
21.80 CFS	13.64	13.58	13.53	13.48	13.44	13.41	13.37	13.32
22.20 CFS	13.26	13.20	13.14	13.08	13.02	12.97	12.93	12.89
22.60 CFS	12.85	12.80	12.75	12.68	12.62	12.56	12.49	12.41
23.00 CFS	12.35	12.30	12.26	12.23	12.19	12.15	12.12	12.08
23.40 CFS	12.03	11.98	11.92	11.85	11.78	11.71	11.66	11.61
23.80 CFS	11.56	11.52	11.47	11.43	11.40	11.34	11.21	10.92
24.20 CFS	10.42	9.69	8.80	7.80	6.73	5.68	4.71	3.89
24.60 CFS	3.22	2.66	2.19	1.80	1.47	1.21	.99	.81
25.00 CFS	.66	.54	.44					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.52 WATERSHED INCHES; 741 CFS-HRS; 61.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	432.9	(RUNOFF)
20.13	12.0	(RUNOFF)

1

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA = .20 SQ.MI.			
7.10 CFS	.45	.53	.61	.70	.79	.88	.97	1.06
7.50 CFS	1.16	1.26	1.35	1.45	1.55	1.65	1.76	1.87
7.90 CFS	1.98	2.09	2.21	2.33	2.45	2.57	2.70	2.82
8.30 CFS	2.94	3.06	3.19	3.32	3.44	3.57	3.71	3.85
8.70 CFS	4.00	4.14	4.29	4.44	4.57	4.71	4.85	5.00
9.10 CFS	5.17	5.35	5.53	5.74	5.97	6.22	6.49	6.77
9.50 CFS	7.06	7.36	7.66	7.98	8.31	8.65	9.02	9.39
9.90 CFS	9.76	10.14	10.51	10.90	11.31	11.74	12.18	12.63
10.30 CFS	13.08	13.53	13.98	14.44	14.92	15.43	16.00	16.64
10.70 CFS	17.39	18.26	19.26	20.37	21.60	22.92	24.31	25.79
11.10 CFS	27.37	29.11	31.04	33.19	35.55	38.11	40.87	43.80
11.50 CFS	46.91	50.48	54.89	60.55	67.64	76.08	85.95	97.89
11.90 CFS	113	132	159	196	250	312	372	416
12.30 CFS	433	424	397	360	319	282	251	224
12.70 CFS	199	178	159	143	130	119	110	102
13.10 CFS	95.33	89.13	83.54	78.52	73.98	69.91	66.22	62.95
13.50 CFS	60.03	57.27	54.65	52.17	49.85	47.74	45.85	44.21
13.90 CFS	42.79	41.58	40.55	39.65	38.86	38.13	37.42	36.73

14.30 CFS	36.04	35.37	34.73	34.13	33.55	32.97	32.38	31.76
14.70 CFS	31.13	30.51	29.90	29.32	28.77	28.21	27.65	27.08
15.10 CFS	26.50	25.92	25.32	24.75	24.22	23.75	23.35	23.04
15.50 CFS	22.80	22.61	22.45	22.29	22.11	21.90	21.70	21.52
15.90 CFS	21.37	21.23	21.09	20.93	20.74	20.55	20.37	20.21
16.30 CFS	20.06	19.91	19.76	19.59	19.42	19.24	19.06	18.88
16.70 CFS	18.71	18.57	18.43	18.29	18.14	17.99	17.85	17.72
17.10 CFS	17.60	17.45	17.28	17.09	16.89	16.72	16.57	16.43
17.50 CFS	16.29	16.12	15.94	15.74	15.56	15.39	15.24	15.09
17.90 CFS	14.93	14.77	14.63	14.49	14.36	14.22	14.08	13.93
18.30 CFS	13.79	13.66	13.53	13.41	13.30	13.21	13.16	13.14
18.70 CFS	13.12	13.10	13.07	13.03	13.00	12.96	12.91	12.85
19.10 CFS	12.78	12.72	12.66	12.61	12.58	12.56	12.54	12.53
19.50 CFS	12.52	12.51	12.47	12.42	12.36	12.30	12.25	12.20
19.90 CFS	12.14	12.08	12.04	12.02	12.02	12.02	12.00	11.97
20.30 CFS	11.93	11.87	11.79	11.71	11.62	11.56	11.52	11.51
20.70 CFS	11.50	11.48	11.46	11.43	11.40	11.36	11.30	11.24
21.10 CFS	11.18	11.11	11.06	11.01	10.98	10.96	10.94	10.93
21.50 CFS	10.92	10.90	10.86	10.81	10.75	10.69	10.64	10.60
21.90 CFS	10.57	10.54	10.53	10.51	10.47	10.41	10.35	10.29
22.30 CFS	10.24	10.19	10.16	10.14	10.12	10.10	10.06	10.01
22.70 CFS	9.94	9.88	9.83	9.78	9.71	9.65	9.61	9.59
23.10 CFS	9.58	9.58	9.57	9.54	9.49	9.44	9.39	9.35
23.50 CFS	9.29	9.22	9.15	9.09	9.06	9.05	9.04	9.02
23.90 CFS	8.97	8.92	8.91	8.88	8.70	8.20	7.29	6.15
24.30 CFS	4.95	3.81	2.84	2.10	1.56	1.17	.87	.65
24.70 CFS	.48							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.45 WATERSHED INCHES; 580 CFS-HRS; 47.9 ACRE-FEET.

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OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	509.4	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .24 SQ.MI.

HRS								
6.85 CFS	.44	.52	.61	.70	.79	.89	.99	1.10
7.25 CFS	1.20	1.32	1.43	1.54	1.65	1.77	1.89	2.01
7.65 CFS	2.13	2.25	2.38	2.50	2.64	2.77	2.91	3.05
8.05 CFS	3.20	3.35	3.50	3.65	3.80	3.94	4.09	4.25
8.45 CFS	4.40	4.55	4.71	4.87	5.04	5.22	5.40	5.58
8.85 CFS	5.75	5.92	6.08	6.25	6.43	6.63	6.84	7.07
9.25 CFS	7.32	7.59	7.90	8.22	8.56	8.92	9.28	9.65
9.65 CFS	10.03	10.43	10.85	11.29	11.74	12.19	12.65	13.11
10.05 CFS	13.58	14.07	14.58	15.11	15.65	16.19	16.73	17.27
10.45 CFS	17.82	18.39	19.00	19.68	20.45	21.34	22.37	23.55
10.85 CFS	24.87	26.33	27.89	29.56	31.32	33.21	35.29	37.59
11.25 CFS	40.15	42.95	46.00	49.28	52.75	56.45	60.66	65.79
11.65 CFS	72	80	90	102	115	132	155	185
12.05 CFS	228	289	359	431	484	508	503	475
12.45 CFS	435	388	344	306	273	244	218	195
12.85 CFS	176	159	146	134	124	116	108	101
13.25 CFS	95.02	89.49	84.47	79.95	75.82	72.12	68.75	65.56
13.65 CFS	62.56	59.75	57.19	54.90	52.88	51.14	49.64	48.37
14.05 CFS	47.26	46.28	45.38	44.52	43.68	42.85	42.05	41.28
14.45 CFS	40.56	39.87	39.18	38.48	37.75	37.01	36.27	35.55
14.85 CFS	34.85	34.18	33.52	32.86	32.18	31.50	30.81	30.11
15.25 CFS	29.43	28.80	28.23	27.74	27.35	27.05	26.81	26.61
15.65 CFS	26.41	26.19	25.95	25.72	25.50	25.32	25.15	24.98
16.05 CFS	24.78	24.57	24.35	24.13	23.93	23.75	23.58	23.40
16.45 CFS	23.20	23.01	22.79	22.57	22.36	22.17	21.99	21.82
16.85 CFS	21.65	21.48	21.30	21.14	20.98	20.83	20.66	20.46
17.25 CFS	20.24	20.01	19.81	19.63	19.46	19.29	19.10	18.88
17.65 CFS	18.65	18.43	18.23	18.05	17.87	17.68	17.50	17.32
18.05 CFS	17.16	17.00	16.84	16.67	16.50	16.33	16.18	16.02
18.45 CFS	15.88	15.75	15.64	15.57	15.54	15.51	15.48	15.44
18.85 CFS	15.40	15.37	15.32	15.26	15.19	15.11	15.04	14.97
19.25 CFS	14.91	14.87	14.84	14.82	14.81	14.79	14.78	14.74
19.65 CFS	14.68	14.61	14.54	14.48	14.42	14.35	14.28	14.23
20.05 CFS	14.21	14.20	14.19	14.18	14.14	14.09	14.03	13.94
20.45 CFS	13.85	13.75	13.67	13.62	13.60	13.59	13.57	13.54
20.85 CFS	13.50	13.47	13.42	13.36	13.29	13.22	13.14	13.07
21.25 CFS	13.02	12.97	12.95	12.92	12.91	12.89	12.87	12.83
21.65 CFS	12.78	12.71	12.64	12.58	12.53	12.49	12.46	12.44
22.05 CFS	12.42	12.37	12.31	12.24	12.17	12.10	12.05	12.01
22.45 CFS	11.98	11.96	11.93	11.89	11.83	11.75	11.68	11.62
22.85 CFS	11.55	11.48	11.41	11.36	11.33	11.32	11.31	11.30
23.25 CFS	11.26	11.21	11.16	11.10	11.04	10.98	10.90	10.82

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23.65 CFS	10.74	10.71	10.69	10.68	10.65	10.60	10.55	10.52
24.05 CFS	10.45	10.23	9.67	8.72	7.47	6.12	4.81	3.65
24.45 CFS	2.73	2.05	1.55	1.16	.88	.66	.49	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.54 WATERSHED INCHES; 694 CFS-HRS; 57.3 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.46	698.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.76 WATERSHED INCHES; 1160 CFS-HRS; 95.9 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.65	615.0	382.28

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.76 WATERSHED INCHES; 1160 CFS-HRS; 95.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	222.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.41 WATERSHED INCHES; 309 CFS-HRS; 25.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.58	740.7	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.84 WATERSHED INCHES; 1455 CFS-HRS; 120.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 17

1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	300.6	(RUNOFF)
15.84	8.2	(RUNOFF)
17.34	6.3	(RUNOFF)
18.61	5.1	(RUNOFF)
18.84	5.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.29 WATERSHED INCHES; 281 CFS-HRS; 23.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.54	803.4	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.85 WATERSHED INCHES; 1675 CFS-HRS; 138.4 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.92	690.9	359.63

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.81 WATERSHED INCHES; 1663 CFS-HRS; 137.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

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PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	1066.0	(RUNOFF)
18.66	23.4	(RUNOFF)
20.11	21.4	(RUNOFF)
20.66	20.5	(RUNOFF)
21.98	18.6	(RUNOFF)
23.11	17.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.72 WATERSHED INCHES; 1213 CFS-HRS; 100.2 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	1338.7	(NULL)

1

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.11 WATERSHED INCHES; 2846 CFS-HRS; 235.2 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.30	1310.3	348.69

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.10 WATERSHED INCHES; 2843 CFS-HRS; 234.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	47.3	(RUNOFF)
20.66	1.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.03 WATERSHED INCHES; 52 CFS-HRS; 4.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.30	1351.1	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =50
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .88 SQ.MI.

2.70 CFS	.49	.53	.57	.62	.66	.71	.75	.80
3.10 CFS	.84	.88	.93	.97	1.01	1.06	1.13	1.22
3.50 CFS	1.33	1.47	1.63	1.79	1.97	2.14	2.32	2.49
3.90 CFS	2.67	2.85	3.03	3.21	3.40	3.59	3.79	3.99
4.30 CFS	4.18	4.35	4.52	4.70	4.89	5.09	5.30	5.49
4.70 CFS	5.66	5.83	6.02	6.21	6.42	6.63	6.83	7.03
5.10 CFS	7.23	7.42	7.62	7.84	8.07	8.30	8.50	8.68
5.50 CFS	8.85	9.04	9.26	9.49	9.74	9.98	10.20	10.39
5.90 CFS	10.54	10.69	10.88	11.11	11.38	11.65	11.90	12.13
6.30 CFS	12.37	12.63	12.90	13.21	13.54	13.89	14.26	14.63
6.70 CFS	15.02	15.39	15.74	16.11	16.53	16.97	17.39	17.80
7.10 CFS	18.24	18.72	19.26	19.82	20.36	20.87	21.37	21.88
7.50 CFS	22.42	22.98	23.53	24.07	24.60	25.14	25.72	26.33
7.90 CFS	26.94	27.58	28.23	28.90	29.57	30.25	30.94	31.59
8.30 CFS	32.20	32.83	33.52	34.22	34.89	35.54	36.21	36.95
8.70 CFS	37.74	38.55	39.33	40.06	40.76	41.41	42.08	42.82
9.10 CFS	43.68	44.61	45.57	46.59	47.71	48.95	50.32	51.74
9.50 CFS	53.17	54.59	56.01	57.48	59.05	60.72	62.48	64.27
9.90 CFS	66.07	67.84	69.60	71.41	73.32	75.32	77.43	79.56
10.30 CFS	81.69	83.78	85.86	87.98	90.19	92.52	95.04	97.87

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10.70 CFS	101	105	109	114	118	124	129	135
11.10 CFS	141	147	155	163	172	181	191	202
11.50 CFS	213	225	238	257	281	309	340	375
11.90 CFS	418	472	543	643	783	967	1165	1307
12.30 CFS	1351	1307	1219	1130	1059	1008	974	952
12.70 CFS	935	921	910	902	894	886	874	860
13.10 CFS	842	821	797	770	742	713	684	654
13.50 CFS	625	595	566	537	510	484	459	436
13.90 CFS	414	393	374	357	340	325	310	296

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14.30 CFS	283	271	260	250	240	231	223	215
14.70 CFS	207	200	193	187	182	176	171	167
15.10 CFS	162	158	153	149	146	142	139	136
15.50 CFS	134	131	129	127	125	123	120	118
15.90 CFS	117	115	114	112	110	109	107	106
16.30 CFS	105	104	102	101	100	99	98	97
16.70 CFS	95.96	95.07	94.24	93.41	92.53	91.65	90.81	90.04
17.10 CFS	89.32	88.57	87.73	86.80	85.84	84.98	84.27	83.63
17.50 CFS	82.95	82.16	81.27	80.37	79.53	78.78	78.08	77.37
17.90 CFS	76.60	75.81	75.06	74.37	73.72	73.03	72.28	71.52
18.30 CFS	70.78	70.10	69.46	68.80	68.11	67.50	67.01	66.64
18.70 CFS	66.30	65.90	65.41	64.95	64.55	64.18	63.76	63.31
19.10 CFS	62.84	62.41	62.04	61.72	61.43	61.17	60.93	60.72
19.50 CFS	60.51	60.32	60.10	59.81	59.46	59.15	58.92	58.72
19.90 CFS	58.47	58.17	57.90	57.73	57.68	57.63	57.50	57.29
20.30 CFS	57.03	56.78	56.54	56.24	55.90	55.60	55.43	55.36
20.70 CFS	55.31	55.18	54.96	54.75	54.59	54.44	54.23	53.96
21.10 CFS	53.67	53.41	53.18	52.99	52.83	52.68	52.54	52.42
21.50 CFS	52.29							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.07 WATERSHED INCHES; 2892 CFS-HRS; 239.0 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 4

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 25
STARTING TIME = .00 RAIN DEPTH = 8.47 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	1200.1	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.41 SQ.MI.
4.35 CFS	.45	.59	.74	.90	1.07	1.24	1.42	1.59
4.75 CFS	1.77	1.94	2.13	2.31	2.50	2.69	2.87	3.06
5.15 CFS	3.24	3.43	3.62	3.82	4.01	4.19	4.37	4.54
5.55 CFS	4.73	4.92	5.13	5.33	5.54	5.73	5.91	6.07
5.95 CFS	6.24	6.42	6.63	6.84	7.07	7.29	7.51	7.73
6.35 CFS	7.96	8.20	8.46	8.73	9.02	9.31	9.61	9.91
6.75 CFS	10.20	10.49	10.78	11.09	11.40	11.70	12.00	12.33
7.15 CFS	12.69	13.05	13.43	13.80	14.17	14.52	14.88	15.24
7.55 CFS	15.60	15.96	16.31	16.67	17.03	17.40	17.78	18.17
7.95 CFS	18.59	19.01	19.44	19.88	20.32	20.74	21.16	21.55
8.35 CFS	21.96	22.38	22.80	23.21	23.62	24.06	24.53	25.02
8.75 CFS	25.51	26.00	26.46	26.89	27.30	27.72	28.19	28.72
9.15 CFS	29.32	29.97	30.69	31.50	32.40	33.38	34.40	35.46
9.55 CFS	36.53	37.61	38.73	39.89	41.11	42.39	43.68	44.97
9.95 CFS	46.24	47.51	48.79	50.12	51.51	52.94	54.39	55.83
10.35 CFS	57.25	58.65	60.08	61.55	63.14	64.90	66.94	69.33
10.75 CFS	72	75	79	83	87	92	96	101
11.15 CFS	107	113	120	127	135	143	152	161
11.55 CFS	172	184	201	221	246	274	308	350
11.95 CFS	405	479	582	720	880	1036	1150	1198
12.35 CFS	1180	1112	1012	900	795	705	626	557
12.75 CFS	495	442	397	359	327	300	278	258
13.15 CFS	240	225	211	198	187	176	167	159
13.55 CFS	151	144	137	131	126	120	116	112
13.95 CFS	109	106	103	101	99	97	95	94
14.35 CFS	91.79	90.10	88.49	86.95	85.42	83.87	82.27	80.62
14.75 CFS	78.98	77.39	75.86	74.39	72.92	71.46	69.98	68.48
15.15 CFS	66.96	65.44	63.95	62.56	61.31	60.25	59.39	58.71
15.55 CFS	58.18	57.72	57.28	56.79	56.27	55.75	55.27	54.86
15.95 CFS	54.49	54.11	53.68	53.21	52.72	52.24	51.81	51.41
16.35 CFS	51.02	50.62	50.20	49.76	49.30	48.81	48.34	47.92
16.75 CFS	47.53	47.16	46.79	46.41	46.03	45.66	45.31	44.97
17.15 CFS	44.60	44.17	43.69	43.20	42.75	42.35	41.99	41.61
17.55 CFS	41.19	40.72	40.23	39.75	39.31	38.91	38.52	38.12
17.95 CFS	37.71	37.34	36.98	36.64	36.28	35.92	35.54	35.18
18.35 CFS	34.84	34.51	34.19	33.90	33.67	33.52	33.44	33.37
18.75 CFS	33.31	33.23	33.14	33.06	32.96	32.82	32.66	32.50
19.15 CFS	32.34	32.19	32.06	31.97	31.91	31.86	31.83	31.80
19.55 CFS	31.75	31.67	31.55	31.40	31.25	31.12	30.98	30.83
19.95 CFS	30.67	30.57	30.50	30.48	30.47	30.43	30.36	30.25
20.35 CFS	30.11	29.92	29.71	29.50	29.33	29.23	29.19	29.15
20.75 CFS	29.10	29.03	28.96	28.88	28.79	28.66	28.50	28.34

21.15 CFS	28.18	28.02	27.90	27.81	27.75	27.70	27.66	27.63
21.55 CFS	27.58	27.50	27.38	27.23	27.08	26.95	26.84	26.75
21.95 CFS	26.68	26.64	26.59	26.48	26.35	26.20	26.05	25.91
22.35 CFS	25.79	25.71	25.64	25.60	25.54	25.45	25.32	25.15
22.75 CFS	24.99	24.86	24.72	24.56	24.41	24.29	24.23	24.21
23.15 CFS	24.20	24.16	24.08	23.98	23.86	23.73	23.61	23.47

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23.55 CFS	23.31	23.13	22.98	22.90	22.86	22.83	22.76

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.39 WATERSHED INCHES; 1672 CFS-HRS; 138.2 ACRE-FEET.

OPERATION RUNOFF XSECTION 3

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	212.8	(RUNOFF)
18.67	5.3	(RUNOFF)
21.98	4.2	(RUNOFF)
24.03	3.6	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.70 WATERSHED INCHES; 248 CFS-HRS; 20.5 ACRE-FEET.

OPERATION REACH XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.51	154.0	383.33

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.70 WATERSHED INCHES; 248 CFS-HRS; 20.5 ACRE-FEET.

OPERATION RUNOFF XSECTION 5

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.37	457.4	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.63 WATERSHED INCHES; 679 CFS-HRS; 56.1 ACRE-FEET.

OPERATION ADDHYD XSECTION 6

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.41	594.0	(NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.25 SQ.MI.
6.25 CFS	.49	.57	.67	.76	.86	.96	1.07	1.18
6.65 CFS	1.30	1.41	1.54	1.66	1.78	1.91	2.04	2.17
7.05 CFS	2.31	2.45	2.59	2.74	2.89	3.05	3.21	3.37
7.45 CFS	3.54	3.70	3.87	4.04	4.20	4.38	4.55	4.72
7.85 CFS	4.90	5.09	5.27	5.47	5.67	5.87	6.07	6.28
8.25 CFS	6.49	6.70	6.90	7.11	7.32	7.53	7.75	7.96
8.65 CFS	8.19	8.42	8.66	8.89	9.13	9.37	9.60	9.84
9.05 CFS	10.07	10.32	10.59	10.87	11.18	11.51	11.88	12.27

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9.45 CFS	12.69	13.14	13.61	14.10	14.60	15.12	15.67	16.23
9.85 CFS	16.82	17.43	18.04	18.67	19.30	19.95	20.61	21.30
10.25 CFS	22.00	22.72	23.44	24.18	24.92	25.67	26.46	27.29
10.65 CFS	28.20	29.21	30.35	31.65	33.11	34.75	36.55	38.51
11.05 CFS	40.62	42.89	45.34	48.01	50.93	54.14	57.64	61.45
11.45 CFS	66	70	75	80	87	95	104	116
11.85 CFS	130	147	168	196	234	285	347	416
12.25 CFS	485	543	580	594	586	560	522	479
12.65 CFS	438	399	363	330	299	272	248	226
13.05 CFS	208	192	177	164	153	143	134	126
13.45 CFS	118	111	105	100	94	90	85	81
13.85 CFS	77.65	74.45	71.61	69.11	66.92	64.98	63.27	61.72
14.25 CFS	60.29	58.95	57.69	56.49	55.35	54.27	53.24	52.24
14.65 CFS	51.25	50.27	49.28	48.31	47.35	46.41	45.50	44.60
15.05 CFS	43.71	42.82	41.93	41.03	40.14	39.27	38.45	37.69
15.45 CFS	37.00	36.41	35.90	35.47	35.09	34.74	34.40	34.07
15.85 CFS	33.75	33.45	33.16	32.89	32.63	32.36	32.10	31.82
16.25 CFS	31.55	31.28	31.03	30.78	30.53	30.28	30.02	29.76
16.65 CFS	29.49	29.22	28.97	28.73	28.49	28.26	28.03	27.81

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17.05 CFS	27.59	27.37	27.15	26.92	26.68	26.42	26.16	25.90
17.45 CFS	25.66	25.42	25.17	24.92	24.67	24.40	24.13	23.87
17.85 CFS	23.61	23.36	23.12	22.89	22.66	22.44	22.22	22.00
18.25 CFS	21.78	21.57	21.35	21.14	20.94	20.75	20.58	20.43
18.65 CFS	20.31	20.22	20.14	20.08	20.02	19.96	19.90	19.83
19.05 CFS	19.75	19.66	19.58	19.49	19.41	19.33	19.27	19.22
19.45 CFS	19.18	19.14	19.11	19.07	19.02	18.96	18.89	18.82
19.85 CFS	18.74	18.66	18.58	18.50	18.44	18.39	18.36	18.32
20.25 CFS	18.29	18.25	18.19	18.12	18.03	17.92	17.83	17.74
20.65 CFS	17.67	17.61	17.57	17.53	17.48	17.44	17.39	17.33
21.05 CFS	17.26	17.18	17.10	17.02	16.94	16.86	16.80	16.75
21.45 CFS	16.71	16.68	16.64	16.60	16.56	16.50	16.42	16.35
21.85 CFS	16.28	16.21	16.15	16.11	16.07	16.02	15.96	15.89
22.25 CFS	15.82	15.75	15.67	15.60	15.54	15.49	15.45	15.40
22.65 CFS	15.34	15.28	15.20	15.12	15.04	14.95	14.87	14.79
23.05 CFS	14.73	14.68	14.64	14.60	14.57	14.52	14.47	14.42
23.45 CFS	14.35	14.27	14.19	14.11	14.02	13.95	13.89	13.84
23.85 CFS	13.79	13.74	13.69	13.66	13.58	13.42	13.09	12.48
24.25 CFS	11.57	10.41	9.09	7.71	6.39	5.20	4.21	3.41
24.65 CFS	2.76	2.23	1.80	1.44	1.16	.93	.74	.59
25.05 CFS	.47							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.65 WATERSHED INCHES; 926 CFS-HRS; 76.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 8

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	539.7	(RUNOFF)

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
14:04:54 PASS 5 JOB NO. 1 PAGE 38

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.20 SQ.MI.
6.35 CFS	.47	.55	.63	.71	.80	.90	.99	1.09
6.75 CFS	1.18	1.28	1.38	1.49	1.59	1.70	1.81	1.92
7.15 CFS	2.04	2.16	2.29	2.42	2.55	2.67	2.80	2.94
7.55 CFS	3.07	3.20	3.34	3.47	3.61	3.75	3.89	4.04
7.95 CFS	4.20	4.36	4.52	4.68	4.85	5.02	5.18	5.34
8.35 CFS	5.50	5.67	5.83	6.00	6.17	6.34	6.53	6.72
8.75 CFS	6.92	7.11	7.30	7.48	7.65	7.83	8.03	8.25
9.15 CFS	8.48	8.73	9.01	9.32	9.66	10.03	10.41	10.81
9.55 CFS	11.21	11.62	12.05	12.49	12.96	13.45	13.95	14.44
9.95 CFS	14.94	15.44	15.95	16.49	17.05	17.63	18.21	18.80
10.35 CFS	19.38	19.96	20.55	21.17	21.83	22.56	23.40	24.38
10.75 CFS	25.52	26.83	28.30	29.91	31.64	33.47	35.39	37.46
11.15 CFS	39.72	42.23	45.01	48.06	51.37	54.92	58.67	62.64
11.55 CFS	67	73	80	89	100	112	127	146
11.95 CFS	171	204	251	317	393	468	521	540
12.35 CFS	527	493	445	394	348	309	275	245
12.75 CFS	218	195	176	159	146	134	125	116
13.15 CFS	109	102	96	90	85	80	76	73
13.55 CFS	69.51	66.31	63.29	60.47	57.89	55.59	53.59	51.86
13.95 CFS	50.39	49.13	48.04	47.07	46.18	45.32	44.47	43.62
14.35 CFS	42.81	42.03	41.30	40.59	39.89	39.17	38.42	37.66
14.75 CFS	36.90	36.16	35.46	34.78	34.10	33.42	32.73	32.03
15.15 CFS	31.32	30.60	29.91	29.26	28.69	28.21	27.83	27.54
15.55 CFS	27.31	27.12	26.92	26.69	26.45	26.20	25.98	25.80
15.95 CFS	25.63	25.46	25.26	25.04	24.80	24.58	24.38	24.20
16.35 CFS	24.02	23.84	23.64	23.43	23.21	22.99	22.77	22.57
16.75 CFS	22.39	22.22	22.05	21.88	21.70	21.53	21.37	21.21
17.15 CFS	21.04	20.84	20.60	20.37	20.15	19.97	19.81	19.63
17.55 CFS	19.43	19.21	18.97	18.75	18.54	18.36	18.18	17.99
17.95 CFS	17.80	17.62	17.46	17.29	17.13	16.96	16.78	16.61
18.35 CFS	16.45	16.30	16.15	16.01	15.91	15.85	15.82	15.80
18.75 CFS	15.77	15.73	15.69	15.65	15.60	15.54	15.46	15.39
19.15 CFS	15.31	15.24	15.18	15.15	15.12	15.10	15.08	15.07
19.55 CFS	15.05	15.01	14.95	14.88	14.80	14.75	14.68	14.61
19.95 CFS	14.54	14.48	14.46	14.46	14.46	14.44	14.40	14.35
20.35 CFS	14.28	14.19	14.08	13.98	13.90	13.86	13.85	13.83
20.75 CFS	13.81	13.78	13.74	13.71	13.66	13.59	13.52	13.44
21.15 CFS	13.37	13.29	13.24	13.20	13.17	13.15	13.14	13.12
21.55 CFS	13.10	13.06	13.00	12.93	12.85	12.79	12.74	12.70
21.95 CFS	12.67	12.66	12.64	12.58	12.52	12.44	12.37	12.30
22.35 CFS	12.25	12.21	12.19	12.17	12.14	12.09	12.03	11.95
22.75 CFS	11.87	11.81	11.75	11.67	11.60	11.55	11.52	11.51
23.15 CFS	11.51	11.49	11.46	11.40	11.34	11.28	11.23	11.16
23.55 CFS	11.08	10.99	10.92	10.88	10.87	10.86	10.83	10.77
23.95 CFS	10.71	10.70	10.66	10.45	9.84	8.76	7.39	5.94
24.35 CFS	4.58	3.41	2.52	1.88	1.40	1.05	.78	.58
24.75 CFS	.43							

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TR20 ---------- SCS -

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.57 WATERSHED INCHES; 727 CFS-HRS; 60.0 ACRE-FEET.

OPERATION RUNOFF XSECTION 11

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.32	630.0	(RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99

HRS	MAIN TIME INCREMENT = .050 hr,				DRAINAGE AREA =			.24 SQ.MI.
6.10 CFS	.46	.55	.63	.72	.82	.91	1.01	1.11
6.50 CFS	1.22	1.33	1.45	1.57	1.68	1.80	1.92	2.05
6.90 CFS	2.17	2.30	2.43	2.57	2.71	2.85	3.00	3.16
7.30 CFS	3.32	3.47	3.63	3.78	3.94	4.11	4.27	4.43
7.70 CFS	4.59	4.76	4.93	5.10	5.29	5.47	5.66	5.86
8.10 CFS	6.06	6.26	6.46	6.65	6.84	7.04	7.24	7.44
8.50 CFS	7.64	7.84	8.06	8.28	8.51	8.75	8.98	9.21
8.90 CFS	9.42	9.63	9.85	10.08	10.34	10.62	10.93	11.26
9.30 CFS	11.63	12.03	12.47	12.93	13.41	13.89	14.38	14.89
9.70 CFS	15.43	15.99	16.57	17.18	17.78	18.38	18.98	19.60
10.10 CFS	20.24	20.91	21.60	22.30	23.01	23.71	24.40	25.11
10.50 CFS	25.85	26.64	27.52	28.51	29.67	31.01	32.54	34.26
10.90 CFS	36.15	38.18	40.34	42.62	45.05	47.72	50.68	53.96
11.30 CFS	57.57	61.49	65.70	70.14	74.83	80.18	86.69	94.99
11.70 CFS	105	118	132	150	172	201	240	295
12.10 CFS	368	453	537	600	628	621	587	536
12.50 CFS	478	423	376	335	299	266	238	215
12.90 CFS	194	177	163	151	141	131	123	115
13.30 CFS	109	102	97	92	87	83	79	76
13.70 CFS	72.34	69.23	66.45	64.00	61.87	60.05	58.50	57.15
14.10 CFS	55.96	54.86	53.82	52.79	51.78	50.80	49.87	48.99
14.50 CFS	48.15	47.31	46.46	45.57	44.67	43.77	42.90	42.06
14.90 CFS	41.24	40.44	39.63	38.82	38.00	37.16	36.32	35.50
15.30 CFS	34.73	34.05	33.46	32.98	32.62	32.33	32.08	31.84
15.70 CFS	31.58	31.29	30.99	30.73	30.51	30.30	30.09	29.86
16.10 CFS	29.60	29.33	29.07	28.83	28.61	28.39	28.17	27.94
16.50 CFS	27.70	27.45	27.18	26.92	26.69	26.48	26.27	26.07
16.90 CFS	25.86	25.65	25.45	25.26	25.07	24.87	24.63	24.36
17.30 CFS	24.08	23.83	23.61	23.41	23.21	22.97	22.71	22.44
17.70 CFS	22.17	21.93	21.71	21.49	21.27	21.05	20.84	20.64
18.10 CFS	20.45	20.25	20.05	19.84	19.64	19.45	19.27	19.09
18.50 CFS	18.93	18.80	18.72	18.68	18.65	18.61	18.57	18.52
18.90 CFS	18.47	18.41	18.34	18.25	18.16	18.07	17.99	17.92
19.30 CFS	17.87	17.84	17.81	17.79	17.78	17.75	17.71	17.64
19.70 CFS	17.56	17.47	17.40	17.33	17.24	17.15	17.09	17.06
20.10 CFS	17.05	17.05	17.03	16.99	16.93	16.85	16.74	16.63
20.50 CFS	16.51	16.42	16.36	16.33	16.31	16.29	16.25	16.21
20.90 CFS	16.17	16.11	16.04	15.96	15.87	15.78	15.69	15.62
21.30 CFS	15.58	15.54	15.51	15.49	15.48	15.45	15.41	15.34

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TR20 ---------- SCS -

21.70 CFS	15.25	15.17	15.10	15.04	14.98	14.95	14.93	14.90
22.10 CFS	14.84	14.76	14.68	14.60	14.52	14.46	14.41	14.38
22.50 CFS	14.35	14.31	14.26	14.19	14.10	14.01	13.94	13.87
22.90 CFS	13.77	13.68	13.62	13.59	13.58	13.57	13.55	13.51
23.30 CFS	13.45	13.38	13.31	13.24	13.17	13.07	12.97	12.89
23.70 CFS	12.85	12.82	12.81	12.77	12.71	12.64	12.62	12.55
24.10 CFS	12.30	11.66	10.50	8.98	7.33	5.74	4.35	3.24
24.50 CFS	2.44	1.84	1.39	1.05	.79	.59	.44	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.67 WATERSHED INCHES; 866 CFS-HRS; 71.6 ACRE-FEET.

OPERATION RUNOFF XSECTION 13

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.45	862.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.91 WATERSHED INCHES; 1440 CFS-HRS; 119.0 ACRE-FEET.

OPERATION REACH XSECTION 14

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.63	771.1	382.65

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.91 WATERSHED INCHES; 1439 CFS-HRS; 118.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 15

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.31	270.7	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.56 WATERSHED INCHES; 375 CFS-HRS; 31.0 ACRE-FEET.

OPERATION ADDHYD XSECTION 16

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.57	926.6	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.94 WATERSHED INCHES; 1787 CFS-HRS; 147.7 ACRE-FEET.

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OPERATION RUNOFF XSECTION 17

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.14	353.6	(RUNOFF)
15.84	9.7	(RUNOFF)
17.34	7.4	(RUNOFF)
20.84	5.2	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.47 WATERSHED INCHES; 334 CFS-HRS; 27.6 ACRE-FEET.

OPERATION ADDHYD XSECTION 18

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.54	1002.2	(NULL)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.95 WATERSHED INCHES; 2057 CFS-HRS; 170.0 ACRE-FEET.

OPERATION REACH XSECTION 19

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.85	872.5	359.96

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.92 WATERSHED INCHES; 2044 CFS-HRS; 168.9 ACRE-FEET.

OPERATION RUNOFF XSECTION 20

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.21	1270.7	(RUNOFF)
18.66	27.6	(RUNOFF)
20.11	25.3	(RUNOFF)
20.66	24.2	(RUNOFF)
21.98	22.0	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.87 WATERSHED INCHES; 1456 CFS-HRS; 120.3 ACRE-FEET.

OPERATION ADDHYD XSECTION 21

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.23	1683.8	(NULL)

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RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.23 WATERSHED INCHES; 3470 CFS-HRS; 286.8 ACRE-FEET.

OPERATION REACH XSECTION 23

PEAK TIME(HRS) | PEAK DISCHARGE(CFS) | PEAK ELEVATION(FEET)
12.30 | 1655.9 | 349.26

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.22 WATERSHED INCHES; 3466 CFS-HRS; 286.4 ACRE-FEET.

OPERATION RUNOFF XSECTION 24

PEAK TIME(HRS) | PEAK DISCHARGE(CFS) | PEAK ELEVATION(FEET)
12.21 | 59.9 | (RUNOFF)
24.03 | 1.0 | (RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.11 WATERSHED INCHES; 66 CFS-HRS; 5.4 ACRE-FEET.

OPERATION ADDHYD XSECTION 25

PEAK TIME(HRS) | PEAK DISCHARGE(CFS) | PEAK ELEVATION(FEET)
12.30 | 1707.2 | (NULL)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .88 SQ.MI.

2.25 CFS	.46	.52	.57	.63	.69	.74	.80	.86
2.65 CFS	.91	.96	1.02	1.08	1.13	1.20	1.28	1.38
3.05 CFS	1.52	1.68	1.86	2.06	2.27	2.48	2.71	2.94
3.45 CFS	3.18	3.42	3.65	3.88	4.13	4.38	4.61	4.82
3.85 CFS	5.02	5.23	5.46	5.71	5.95	6.20	6.46	6.74
4.25 CFS	7.02	7.28	7.50	7.72	7.95	8.22	8.51	8.81
4.65 CFS	9.07	9.30	9.51	9.75	10.01	10.29	10.56	10.83
5.05 CFS	11.09	11.33	11.57	11.82	12.09	12.40	12.69	12.94
5.45 CFS	13.15	13.34	13.56	13.84	14.16	14.50	14.83	15.12
5.85 CFS	15.36	15.56	15.77	16.03	16.39	16.83	17.26	17.64
6.25 CFS	18.00	18.39	18.81	19.27	19.76	20.29	20.84	21.41
6.65 CFS	21.98	22.58	23.14	23.66	24.20	24.81	25.45	26.07
7.05 CFS	26.65	27.26	27.94	28.70	29.48	30.23	30.93	31.60
7.45 CFS	32.28	33.01	33.77	34.51	35.22	35.90	36.61	37.37
7.85 CFS	38.16	38.96	39.77	40.62	41.49	42.36	43.23	44.10
8.25 CFS	44.93	45.70	46.48	47.35	48.25	49.11	49.92	50.76
8.65 CFS	51.69	52.70	53.73	54.72	55.64	56.48	57.28	58.10
9.05 CFS	59.03	60.11	61.29	62.52	63.80	65.22	66.82	68.58
9.45 CFS	70.41	72.25	74.06	75.86	77.73	79.74	81.89	84.16
9.85 CFS	86	89	91	93	96	98	101	103

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
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10.25 CFS	106	109	111	114	117	119	122	126
10.65 CFS	129	133	138	143	149	155	162	169
11.05 CFS	176	184	192	202	212	223	236	249
11.45 CFS	262	276	291	309	332	363	399	438
11.85 CFS	483	536	603	694	819	995	1225	1475
12.25 CFS	1653	1707	1654	1545	1436	1349	1290	1251
12.65 CFS	1224	1201	1180	1160	1143	1124	1104	1079
13.05 CFS	1051	1020	985	947	907	867	827	787
13.45 CFS	748	710	672	636	601	568	537	508
13.85 CFS	481	456	433	412	392	374	357	341
14.25 CFS	326	312	299	287	276	266	257	248
14.65 CFS	239	232	224	217	211	205	200	194
15.05 CFS	189	184	180	175	171	167	163	160
15.45 CFS	156	154	151	149	146	144	142	139
15.85 CFS	137	135	134	132	130	128	127	125
16.25 CFS	124	122	121	120	119	117	116	115
16.65 CFS	114	113	112	111	110	109	108	107
17.05 CFS	106	105	104	103	102	101	100	99
17.45 CFS	98.40	97.61	96.68	95.61	94.53	93.53	92.65	91.83
17.85 CFS	90.99	90.08	89.14	88.24	87.42	86.65	85.85	84.96
18.25 CFS	84.04	83.16	82.36	81.61	80.84	80.03	79.29	78.72
18.65 CFS	78.31	77.95	77.49	76.93	76.38	75.94	75.53	75.07
19.05 CFS	74.54	74.00	73.51	73.10	72.75	72.43	72.15	71.90
19.45 CFS	71.66	71.44	71.23	70.99	70.66	70.26	69.89	69.63
19.85 CFS	69.41	69.13	68.78	68.45	68.27	68.22	68.18	68.04
20.25 CFS	67.78	67.47	67.17	66.88	66.53	66.12	65.76	65.56
20.65 CFS	65.49	65.46	65.30	65.03	64.77	64.58	64.40	64.16
21.05 CFS	63.83	63.47	63.15	62.89	62.67	62.48		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.19 WATERSHED INCHES; 3529 CFS-HRS; 291.6 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 5

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 2.64 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 5, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 1							
XSECTION 1	RUNOFF	.41	1.17	---	12.33	223	543.9
XSECTION 3	RUNOFF	.07	.83	---	12.25	30	428.6
XSECTION 2	REACH	.07	.83	381.13	12.40	24	342.9
XSECTION 5	RUNOFF	.19	.80	---	12.41	60	315.8
XSECTION 6	ADDHYD	.25	.81	---	12.41	84	336.0
XSECTION 8	RUNOFF	.20	.78	---	12.34	70	350.0
XSECTION 11	RUNOFF	.24	.82	---	12.35	86	358.3
XSECTION 13	RUNOFF	.38	.92	---	12.50	129	339.5
XSECTION 14	REACH	.38	.92	378.90	12.64	121	318.4
XSECTION 15	RUNOFF	.09	1.28	---	12.33	53	588.9
XSECTION 16	ADDHYD	.47	.99	---	12.57	154	327.7
XSECTION 17	RUNOFF	.07	2.00	---	12.14	99	1414.3
XSECTION 18	ADDHYD	.54	1.10	---	12.53	177	327.8
XSECTION 19	REACH	.54	1.09	357.82	13.10	132	244.4
XSECTION 20	RUNOFF	.33	1.50	---	12.22	288	872.7
XSECTION 21	ADDHYD	.86	1.24	---	12.22	317	368.6
XSECTION 23	REACH	.86	1.24	346.06	12.32	293	340.7
XSECTION 24	RUNOFF	.02	.60	---	12.24	6	300.0
XSECTION 25	ADDHYD	.88	1.23	---	12.32	299	339.8
RAINFALL OF 3.19 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 2							
XSECTION 1	RUNOFF	.41	1.61	---	12.33	307	748.8
XSECTION 3	RUNOFF	.07	1.21	---	12.24	44	628.6
XSECTION 2	REACH	.07	1.20	381.36	12.42	38	542.9
XSECTION 5	RUNOFF	.19	1.17	---	12.40	92	484.2
XSECTION 6	ADDHYD	.25	1.18	---	12.41	129	516.0

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TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
ALTERNATE 1 STORM 2							
XSECTION 8	RUNOFF	.20	1.14	---	12.33	107	535.0
XSECTION 11	RUNOFF	.24	1.19	---	12.34	129	537.5
XSECTION 13	RUNOFF	.38	1.31	---	12.48	189	497.4
XSECTION 14	REACH	.38	1.31	380.38	12.74	153	402.6
XSECTION 15	RUNOFF	.09	1.73	---	12.32	73	811.1
XSECTION 16	ADDHYD	.47	1.39	---	12.65	190	404.3
XSECTION 17	RUNOFF	.07	2.51	---	12.14	124	1771.4
XSECTION 18	ADDHYD	.54	1.50	---	12.56	213	394.4
XSECTION 19	REACH	.54	1.48	358.06	13.10	170	314.8
XSECTION 20	RUNOFF	.33	1.98	---	12.21	380	1151.5
XSECTION 21	ADDHYD	.86	1.66	---	12.23	437	508.1
XSECTION 23	REACH	.86	1.66	346.55	12.32	411	477.9

					UNSTDY			
XSECTION	24	RUNOFF	.02	.92	---	12.23	10	500.0
XSECTION	25	ADDHYD	.88	1.64	---	12.32	420	477.3

RAINFALL OF 4.91 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 10

XSECTION	1	RUNOFF	.41	3.10	---	12.32	596	1453.7
XSECTION	3	RUNOFF	.07	2.55	---	12.23	96	1371.4
XSECTION	2	REACH	.07	2.55	382.25	12.42	81	1157.1
XSECTION	5	RUNOFF	.19	2.49	---	12.38	202	1063.2
XSECTION	6	ADDHYD	.25	2.51	---	12.40	282	1128.0
XSECTION	8	RUNOFF	.20	2.45	---	12.32	238	1190.0
XSECTION	11	RUNOFF	.24	2.53	---	12.32	283	1179.2
XSECTION	13	RUNOFF	.38	2.70	---	12.47	397	1044.7
XSECTION	14	REACH	.38	2.70	381.44	12.70	332	873.7
XSECTION	15	RUNOFF	.09	3.26	---	12.32	136	1511.1
XSECTION	16	ADDHYD	.47	2.81	---	12.62	403	857.4
XSECTION	17	RUNOFF	.07	4.12	---	12.14	199	2842.9

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SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)

ALTERNATE 1 STORM 10

XSECTION	18	ADDHYD	.54	2.87	---	12.56	442	818.5
XSECTION	19	REACH	.54	2.84	358.85	12.98	361	668.5
XSECTION	20	RUNOFF	.33	3.57	---	12.21	671	2033.3
XSECTION	21	ADDHYD	.86	3.08	---	12.23	824	958.1
XSECTION	23	REACH	.86	3.07	347.66	12.31	796	925.6
XSECTION	24	RUNOFF	.02	2.13	---	12.22	25	1250.0
XSECTION	25	ADDHYD	.88	3.05	---	12.31	818	929.5

RAINFALL OF 7.23 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 50

XSECTION	1	RUNOFF	.41	5.25	---	12.31	995	2426.8
XSECTION	3	RUNOFF	.07	4.57	---	12.23	172	2457.1
XSECTION	2	REACH	.07	4.57	383.17	12.57	118	1685.7
XSECTION	5	RUNOFF	.19	4.50	---	12.37	365	1921.1
XSECTION	6	ADDHYD	.25	4.52	---	12.42	456	1824.0
XSECTION	8	RUNOFF	.20	4.45	---	12.31	433	2165.0
XSECTION	11	RUNOFF	.24	4.54	---	12.32	509	2120.8
XSECTION	13	RUNOFF	.38	4.76	---	12.46	698	1836.8
XSECTION	14	REACH	.38	4.76	382.28	12.65	615	1618.4
XSECTION	15	RUNOFF	.09	5.41	---	12.31	223	2477.8
XSECTION	16	ADDHYD	.47	4.84	---	12.58	741	1576.6
XSECTION	17	RUNOFF	.07	6.29	---	12.14	301	4300.0
XSECTION	18	ADDHYD	.54	4.85	---	12.54	803	1487.0
XSECTION	19	REACH	.54	4.81	359.63	12.92	691	1279.6
XSECTION	20	RUNOFF	.33	5.72	---	12.21	1066	3230.3
XSECTION	21	ADDHYD	.86	5.11	---	12.23	1339	1557.0
XSECTION	23	REACH	.86	5.10	348.69	12.30	1310	1523.3
XSECTION	24	RUNOFF	.02	4.03	---	12.21	47	2350.0
XSECTION	25	ADDHYD	.88	5.07	---	12.30	1351	1535.2

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SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.

A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 8.47 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	.41	6.39	---	12.31	1200	2926.8
XSECTION 3	RUNOFF	.07	5.70	---	12.23	213	3042.9
XSECTION 2	REACH	.07	5.70	383.33	12.51	154	2200.0
XSECTION 5	RUNOFF	.19	5.63	---	12.37	457	2405.3
XSECTION 6	ADDHYD	.25	5.65	---	12.41	594	2376.0
XSECTION 8	RUNOFF	.20	5.57	---	12.31	540	2700.0
XSECTION 11	RUNOFF	.24	5.67	---	12.32	630	2625.0
XSECTION 13	RUNOFF	.38	5.91	---	12.45	862	2268.4
XSECTION 14	REACH	.38	5.91	382.65	12.63	771	2028.9
XSECTION 15	RUNOFF	.09	6.56	---	12.31	271	3011.1
XSECTION 16	ADDHYD	.47	5.94	---	12.57	927	1972.3
XSECTION 17	RUNOFF	.07	7.47	---	12.14	354	5057.1
XSECTION 18	ADDHYD	.54	5.95	---	12.54	1002	1855.6
XSECTION 19	REACH	.54	5.92	359.96	12.85	872	1614.8
XSECTION 20	RUNOFF	.33	6.87	---	12.21	1271	3851.5
XSECTION 21	ADDHYD	.86	6.23	---	12.23	1684	1958.1
XSECTION 23	REACH	.86	6.22	349.26	12.30	1656	1925.6
XSECTION 24	RUNOFF	.02	5.11	---	12.21	60	3000.0
XSECTION 25	ADDHYD	.88	6.19	---	12.30	1707	1939.8

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SUMMARY TABLE 2

MODIFIED ATT-KIN REACH ROUTING IN ORDER PERFORMED.
QUESTION MARK (?) AFTER: OUTFLOW PEAK - MAX. NUMBER ROUTING ITERATIONS USED;
LENGTH FACTOR - VALUE K* GREATER THAN 1.0;
ATT-KIN COEFF - VALUE C GREATER THAN 0.667.

XSEC ID	REACH LENGTH (FT)	FLOOD PLAIN LENGTH (FT)	HYDROGRAPH INFLOW PEAK (CFS)	HYDROGRAPH INFLOW TIME (HR)	HYDROGRAPH OUTFLOW PEAK (CFS)	HYDROGRAPH OUTFLOW TIME (HR)	ROUTING PARAMETERS Q-A EQ. COEFF (X)	Q-A EQ. POWER (M)	LENGTH FACTOR (k*)	PEAK RATIO Q/I (Q*)	ATT-KIN COEFF (C)
BASEFLOW IS .0 CFS											
ALTERNATE 1 STORM 1											
2	1954		30	12.3	24	12.4	.64	1.53	.073	.816	.30
14	2484		129	12.5	121	12.6	.81	1.47	.033	.940	.35
19	4092		176	12.6	132	13.1	1.06	1.12	.247	.746	.09
23	586		314	12.2	291	12.3	1.11	1.10	.028	.929	.48
ALTERNATE 1 STORM 2											
2	1954		44	12.3	37	12.4	.64	1.53	.062	.844	.33
14	2484		189	12.5	153	12.8	.75	1.23	.133	.812	.17
19	4092		213	12.6	170	13.1	1.08	1.11	.215	.797	.09
23	586		433	12.3	409	12.3	.94	1.14	.024	.943	.52
ALTERNATE 1 STORM 10											
2	1954		96	12.3	80	12.4	.87	1.35	.084	.838	.31
14	2484		397	12.4	332	12.7	.57	1.27	.118	.836	.19
19	4092		442	12.6	361	13.0	.88	1.16	.192	.817	.10
23	586		819	12.3	795	12.3	.60	1.23	.015	.971	.62
ALTERNATE 1 STORM 50											
2	1954		171	12.3	117	12.6	.75	1.17	.223	.688	.17
14	2484		698	12.4	615	12.6	.37	1.36	.078	.881	.24
19	4092		803	12.6	690	12.9	.47	1.30	.135	.859	.14
23	586		1332	12.3	1310	12.3	.45	1.29	.010	.984	.69?
ALTERNATE 1 STORM 99											

2	1954	211	12.3	154	12.5	.60	1.24	.181	.730	.19
14	2484	862	12.4	770	12.6	.33	1.38	.067	.893	.25
19	4092	1002	12.6	872	12.9	.40	1.32	.121	.871	.15
23	586	1678	12.3	1656	12.3	.41	1.31	.009	.987	.73?

1

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1	2	10	50	99
XSECTION 1		.41					
ALTERNATE	1		223	307	596	995	1200
XSECTION 2		.07					
ALTERNATE	1		24	38	81	118	154
XSECTION 3		.07					
ALTERNATE	1		30	44	96	172	213
XSECTION 5		.19					
ALTERNATE	1		60	92	202	365	457
XSECTION 6		.25					
ALTERNATE	1		84	129	282	456	594
XSECTION 8		.20					
ALTERNATE	1		70	107	238	433	540
XSECTION 11		.24					
ALTERNATE	1		86	129	283	509	630
XSECTION 13		.38					
ALTERNATE	1		129	189	397	698	862
XSECTION 14		.38					
ALTERNATE	1		121	153	332	615	771
XSECTION 15		.09					
ALTERNATE	1		53	73	136	223	271
XSECTION 16		.47					
ALTERNATE	1		154	190	403	741	927
XSECTION 17		.07					
ALTERNATE	1		99	124	199	301	354
XSECTION 18		.54					
ALTERNATE	1		177	213	442	803	1002
XSECTION 19		.54					

1

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID		DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 1	2	10	50	99
XSECTION	19	.54					
ALTERNATE	1		132	170	361	691	872
XSECTION	20	.33					
ALTERNATE	1		288	380	671	1066	1271
XSECTION	21	.86					
ALTERNATE	1		317	437	824	1339	1684
XSECTION	23	.86					
ALTERNATE	1		293	411	796	1310	1656
XSECTION	24	.02					
ALTERNATE	1		6	10	25	47	60
XSECTION	25	.88					
ALTERNATE	1		299	420	818	1351	1707

1

TR20 ---------- SCS -
Valley Mede Ultimate LU, Fair Cond, Subdivided VERSION
10/06/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = unstdy.dat , GIVEN DATA FILE
OUTPUT = unstdy.OUT , DATED 10/06/**,14:04:54

FILES GENERATED - DATED 10/06/**,14:04:54

NONE!

TOTAL NUMBER OF WARNINGS = 0, MESSAGES = 0

*** TR-20 RUN COMPLETED ***

Appendix D-2

TR-20

Existing Ponds D and H

1

```
 *****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

 JOB TR-20                                                          NOPLOTS
 TITLE     Ponds D and H Ultimate LU, Fair Cond
 TITLE     2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions
  3 STRUCT       01
  8                        403.39       0.00         0.00
  8                        406.67       1.00         0.141
  8                        406.95       2.00         0.180
  8                        407.53       5.00         0.285
  8                        409.68       10.00        0.866
  8                        410.23       15.00        1.043
  8                        410.44       20.00        1.111
  8                        410.63       25.00        1.178
  8                        410.87       30.00        1.261
  8                        410.96       31.00        1.292
  8                        411.03       31.50        1.318
  8                        411.07       31.75        1.331
  8                        411.09       34.80        1.338
  8                        411.17       36.27        1.368
  8                        411.62       47.84        1.530
  8                        412.06       85.94        1.700
  8                        412.29       110.22       1.787
  8                        412.41       124.01       1.834
  9 ENDTBL
  3 STRUCT       02
  8                        406.29       0.00         0.00
  8                        408.63       1.00         0.111
  8                        408.86       2.00         0.134
  8                        409.38       5.00         0.193
  8                        410.04       10.00        0.284
  8                        410.80       15.00        0.409
  8                        412.09       20.00        0.656
  8                        413.08       30.00        0.879
  8                        413.32       40.00        0.937
  8                        413.43       45.00        0.963
  8                        413.53       50.00        0.987
  8                        413.71       60.00        1.033
  8                        413.91       70.00        1.084
  8                        414.07       77.00        1.126
  8                        414.08       77.50        1.129
  8                        414.13       84.75        1.143
  8                        414.39       86.00        1.211
  8                        414.75       88.00        1.312
  8                        415.15       90.00        1.424
  8                        415.55       113.04       1.541
  9 ENDTBL
  5 RAINFL 5                 .1
  8           0.0000       0.0013       0.0023       0.0034       0.0044

  8           0.0055       0.0065       0.0076       0.0087       0.0098

  8           0.0109       0.0121       0.0132       0.0143       0.0155

  8           0.0167       0.0178       0.0190       0.0202       0.0214
```

1

```
 **********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

  8           0.0226       0.0238       0.0251       0.0263       0.0276

  8           0.0288       0.0301       0.0314       0.0327       0.0340

  8           0.0353       0.0366       0.0379       0.0393       0.0406

  8           0.0420       0.0434       0.0447       0.0461       0.0475

  8           0.0489       0.0504       0.0518       0.0532       0.0547

  8           0.0562       0.0576       0.0591       0.0606       0.0621

  8           0.0636       0.0651       0.0667       0.0682       0.0697

  8           0.0713       0.0729       0.0745       0.0760       0.0776

  8           0.0793       0.0809       0.0826       0.0843       0.0861

  8           0.0879       0.0898       0.0916       0.0936       0.0955

  8           0.0975       0.0996       0.1017       0.1038       0.1060
```

```
                                                    PONDS
  8          0.1082      0.1104      0.1127      0.1150      0.1174

  8          0.1198      0.1223      0.1247      0.1273      0.1298

  8          0.1324      0.1351      0.1378      0.1405      0.1432

  8          0.1461      0.1490      0.1521      0.1554      0.1588

  8          0.1623      0.1660      0.1699      0.1739      0.1780

  8          0.1823      0.1868      0.1914      0.1961      0.2010

  8          0.2061      0.2117      0.2179      0.2247      0.2321

  8          0.2400      0.2490      0.2591      0.2702      0.2825

  8          0.2955      0.3157      0.3370      0.3662      0.4067

  8          0.4766      0.5933      0.6338      0.6630      0.6843

  8          0.7045      0.7176      0.7298      0.7409      0.7510

  8          0.7600      0.7679      0.7753      0.7821      0.7883

  8          0.7939      0.7990      0.8039      0.8086      0.8132

  8          0.8177      0.8220      0.8261      0.8301      0.8340

  8          0.8377      0.8412      0.8446      0.8479      0.8510

  8          0.8540      0.8568      0.8595      0.8622      0.8649

  8          0.8676      0.8702      0.8727      0.8753      0.8778

  8          0.8802      0.8826      0.8850      0.8873      0.8896

  8          0.8918      0.8940      0.8962      0.8983      0.9004

  8          0.9025      0.9045      0.9064      0.9084      0.9103

  8          0.9121      0.9139      0.9157      0.9174      0.9191

  8          0.9208      0.9224      0.9240      0.9256      0.9271
  8          0.9287      0.9303      0.9318      0.9334      0.9349

  8          0.9364      0.9379      0.9394      0.9409      0.9424

  8          0.9439      0.9453      0.9468      0.9482      0.9496
  8          0.9511      0.9525      0.9539      0.9553      0.9566

  8          0.9580      0.9594      0.9607      0.9621      0.9634

  8          0.9647      0.9660      0.9673      0.9686      0.9699

  8          0.9712      0.9724      0.9737      0.9749      0.9762

  8          0.9774      0.9786      0.9798      0.9810      0.9822

  8          0.9834      0.9845      0.9857      0.9868      0.9879

  8          0.9891      0.9902      0.9913      0.9924      0.9935

  8          0.9945      0.9956      0.9967      0.9977      0.9987

  8          1.0000      1.0000      1.0000      1.0000      1.0000
  9 ENDTBL
  6 RUNOFF 1 001       1 0.0396      75.368       0.294      1       1  D
  6 RESVOR 2    01 1   2                                     1      1  1
  6 RUNOFF 1 002       1 0.0393      76.421       0.254      1       1  H
  6 RESVOR 2    02 1   2                                     1      1  1
1


 ********************80-80 LIST OF INPUT DATA (CONTINUED)**********************

    ENDATA
  7 INCREM 6                      0.05
  7 COMPUT 7 001      02           0.0        3.19         1.05 2  1   2
    ENDCMP 1
  7 COMPUT 7 001      02           0.0        4.91         1.05 2  1   10
    ENDCMP 1
  7 COMPUT 7 001      02           0.0        7.23         1.05 2  1   50
    ENDCMP 1
  7 COMPUT 7 001      02           0.0        8.47         1.05 2  1   99
    ENDCMP 1
    ENDJOB 2
```

```
 ******************************END OF 80-80 LIST*******************************
1
 TR20 ------------------------------------------------------------------- SCS -
                      Ponds D and H Ultimate LU, Fair Cond               VERSION
 04/25/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:48:58                     PASS   1   JOB NO.   1                     PAGE   1



 EXECUTIVE CONTROL INCREM    MAIN TIME INCREMENT =   .050 HOURS


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO STRUCTURE  2
    STARTING TIME =   .00       RAIN DEPTH =  3.19       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. = 2            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.24                          24.0                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.11 WATERSHED INCHES;      28 CFS-HRS;       2.3 ACRE-FEET.


 OPERATION RESVOR   STRUCTURE  1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.70                          8.4                        408.99

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.11 WATERSHED INCHES;      28 CFS-HRS;       2.3 ACRE-FEET.

 --- STRUCTURE  1, ALTERNATE  1, STORM  2, HYDROGRAPH ADDED TO READHD FILE ---


 OPERATION RUNOFF   XSECTION   2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.21                          27.3                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.17 WATERSHED INCHES;      30 CFS-HRS;       2.5 ACRE-FEET.


 OPERATION RESVOR   STRUCTURE  2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.41                          16.2                       411.10

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   1.17 WATERSHED INCHES;      30 CFS-HRS;       2.4 ACRE-FEET.

 --- STRUCTURE  2, ALTERNATE  1, STORM  2, HYDROGRAPH ADDED TO READHD FILE ---
1
 TR20 ------------------------------------------------------------------- SCS -
                      Ponds D and H Ultimate LU, Fair Cond               VERSION
 04/25/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:48:58                     PASS   2   JOB NO.   1                     PAGE   2



 EXECUTIVE CONTROL ENDCMP    COMPUTATIONS COMPLETED FOR PASS   1


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO STRUCTURE  2
    STARTING TIME =   .00       RAIN DEPTH =  4.91       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. =10            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.23                          53.9                       (RUNOFF)
       24.03                           1.1                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   2.41 WATERSHED INCHES;      61 CFS-HRS;       5.1 ACRE-FEET.


 OPERATION RESVOR   STRUCTURE  1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.46                          31.3                       411.01
```

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.40 WATERSHED INCHES; 61 CFS-HRS; 5.1 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.20	59.8	(RUNOFF)
24.03	1.1	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.50 WATERSHED INCHES; 63 CFS-HRS; 5.2 ACRE-FEET.

OPERATION RESVOR STRUCTURE 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.34	44.2	413.41

1

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.49 WATERSHED INCHES; 63 CFS-HRS; 5.2 ACRE-FEET.

--- STRUCTURE 2, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 2
STARTING TIME = .00 RAIN DEPTH = 7.23 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =50 RAIN TABLE NO. = 5

OPERATION RUNOFF XSECTION 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.22	99.0	(RUNOFF)
21.98	2.0	(RUNOFF)
24.03	1.8	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.39 WATERSHED INCHES; 112 CFS-HRS; 9.3 ACRE-FEET.

OPERATION RESVOR STRUCTURE 1

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.30	89.9	412.10

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.37 WATERSHED INCHES; 112 CFS-HRS; 9.2 ACRE-FEET.

--- STRUCTURE 1, ALTERNATE 1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---

OPERATION RUNOFF XSECTION 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.20	107.0	(RUNOFF)
21.98	2.1	(RUNOFF)
24.03	1.8	(RUNOFF)

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.50 WATERSHED INCHES; 114 CFS-HRS; 9.4 ACRE-FEET.

1

OPERATION RESVOR STRUCTURE 2

PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK ELEVATION(FEET)
12.30	87.5	414.65

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.49 WATERSHED INCHES; 114 CFS-HRS; 9.4 ACRE-FEET.

```
 --- STRUCTURE  2, ALTERNATE  1, STORM 50, HYDROGRAPH ADDED TO READHD FILE ---


 EXECUTIVE CONTROL ENDCMP    COMPUTATIONS COMPLETED FOR PASS   3


 EXECUTIVE CONTROL COMPUT    FROM XSECTION   1  TO STRUCTURE  2
    STARTING TIME =   .00       RAIN DEPTH =  8.47       RAIN DURATION =  1.00
    ANT. RUNOFF COND. = 2       MAIN TIME INCREMENT =   .050 HOURS
    ALTERNATE NO. = 1           STORM NO. =99            RAIN TABLE NO. = 5


 OPERATION RUNOFF   XSECTION   1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.22                         123.2                       (RUNOFF)
       18.67                           3.1                       (RUNOFF)
       24.03                           2.1                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.51 WATERSHED INCHES;     141 CFS-HRS;      11.6 ACRE-FEET.


 OPERATION RESVOR   STRUCTURE  1

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.27                         118.0                        412.36

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.47 WATERSHED INCHES;     140 CFS-HRS;      11.6 ACRE-FEET.

 --- STRUCTURE  1, ALTERNATE  1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---


 OPERATION RUNOFF   XSECTION   2
1
 TR20 ------------------------------------------------------------------------ SCS -
                      Ponds D and H Ultimate LU, Fair Cond               VERSION
 04/25/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:48:58                     PASS   4   JOB NO.   1                     PAGE   5


    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.20                         133.6                       (RUNOFF)
       18.86                           3.0                       (RUNOFF)
       24.03                           2.1                       (RUNOFF)

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.63 WATERSHED INCHES;     143 CFS-HRS;      11.8 ACRE-FEET.


 OPERATION RESVOR   STRUCTURE  2

    PEAK TIME(HRS)              PEAK DISCHARGE(CFS)          PEAK ELEVATION(FEET)
       12.29                         113.3                        415.55
       24.03                           2.1                        408.88

    RUNOFF ABOVE BASEFLOW  (BASEFLOW =    .00 CFS)
                   5.60 WATERSHED INCHES;     142 CFS-HRS;      11.7 ACRE-FEET.

 --- STRUCTURE  2, ALTERNATE  1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---


 EXECUTIVE CONTROL ENDCMP    COMPUTATIONS COMPLETED FOR PASS   4
1
 TR20 ------------------------------------------------------------------------ SCS -
                      Ponds D and H Ultimate LU, Fair Cond               VERSION
 04/25/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
 09:48:58                      SUMMARY, JOB NO.   1                     PAGE   6


                             SUMMARY TABLE 1
                             ---------------
    SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
    A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
 F-FLAT TOP HYDROGRAPH   T-TRUNCATED HYDROGRAPH   R-RISING TRUNCATED HYDROGRAPH

 XSECTION/  STANDARD                                      PEAK DISCHARGE
 STRUCTURE   CONTROL    DRAINAGE   RUNOFF   ------------------------------------
    ID      OPERATION     AREA     AMOUNT   ELEVATION   TIME     RATE     RATE
                         (SQ MI)    (IN)      (FT)      (HR)     (CFS)   (CSM)

 RAINFALL OF   3.19 inches AND  24.00 hr DURATION, BEGINS AT    .0 hrs.
 RAINTABLE NUMBER  5,    ARC 2
 MAIN TIME INCREMENT   .050 HOURS

    ALTERNATE    1   STORM    2
```

XSECTION	1	RUNOFF	.04	1.11	---	12.24	24	600.0
STRUCTURE	1	RESVOR	.04	1.11	408.99	12.70	8	200.0
XSECTION	2	RUNOFF	.04	1.17	---	12.21	27	675.0
STRUCTURE	2	RESVOR	.04	1.17	411.10	12.41	16	400.0

RAINFALL OF 4.91 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 10

XSECTION	1	RUNOFF	.04	2.41	---	12.23	54	1350.0
STRUCTURE	1	RESVOR	.04	2.40	411.01	12.46	31	775.0
XSECTION	2	RUNOFF	.04	2.50	---	12.20	60	1500.0
STRUCTURE	2	RESVOR	.04	2.49	413.41	12.34	44	1100.0

RAINFALL OF 7.23 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 50

XSECTION	1	RUNOFF	.04	4.39	---	12.22	99	2475.0
STRUCTURE	1	RESVOR	.04	4.37	412.10	12.30	90	2250.0
XSECTION	2	RUNOFF	.04	4.50	---	12.20	107	2675.0
STRUCTURE	2	RESVOR	.04	4.49	414.65	12.30	87	2175.0

RAINFALL OF 8.47 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.

ALTERNATE 1 STORM 99

XSECTION	1	RUNOFF	.04	5.51	---	12.22	123	3075.0
STRUCTURE	1	RESVOR	.04	5.47	412.36	12.27	118	2950.0
XSECTION	2	RUNOFF	.04	5.63	---	12.20	134	3350.0

1
TR20 ---------- SCS -
Ponds D and H Ultimate LU, Fair Cond VERSION
04/25/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
09:48:58 SUMMARY, JOB NO. 1 PAGE 7

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)

ALTERNATE 1 STORM 99

STRUCTURE	2	RESVOR	.04	5.60	415.55	12.29	113	2825.0

1
TR20 ---------- SCS -
Ponds D and H Ultimate LU, Fair Cond VERSION
04/25/** 2, 10, 50, 100-year 24-hr storms NOAA C Rainfall Distributions2.04TEST
09:48:58 SUMMARY, JOB NO. 1 PAGE 8

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS..... 2	10	50	99
STRUCTURE 2	.04				
ALTERNATE 1		16	44	87	113
STRUCTURE 1	.04				
ALTERNATE 1		8	31	90	118
XSECTION 1	.04				
ALTERNATE 1		24	54	99	123
XSECTION 2	.04				
ALTERNATE 1		27	60	107	134

1
TR20 ---------- SCS -

END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = ponds.dat , GIVEN DATA FILE
OUTPUT = ponds.OUT , DATED 04/25/**,09:48:58

FILES GENERATED - DATED 04/25/**,09:48:58

FILE ponds.TRD CONTAINS READHD INFORMATION

TOTAL NUMBER OF WARNINGS = 0, MESSAGES = 0

*** TR-20 RUN COMPLETED ***

HY-8 Culvert Analysis Report

Project Notes

Project Title: Valley Mede - Existing Ponds

Designer: CEL

Project Date: Monday, April 24, 2017

Notes: Pond data taken from GIS contour and available as-built data.

Project Units: U.S. Customary Units

Outlet Control Option: Profiles

Exit Loss Option: Standard Method

Crossing Notes: Pond D

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

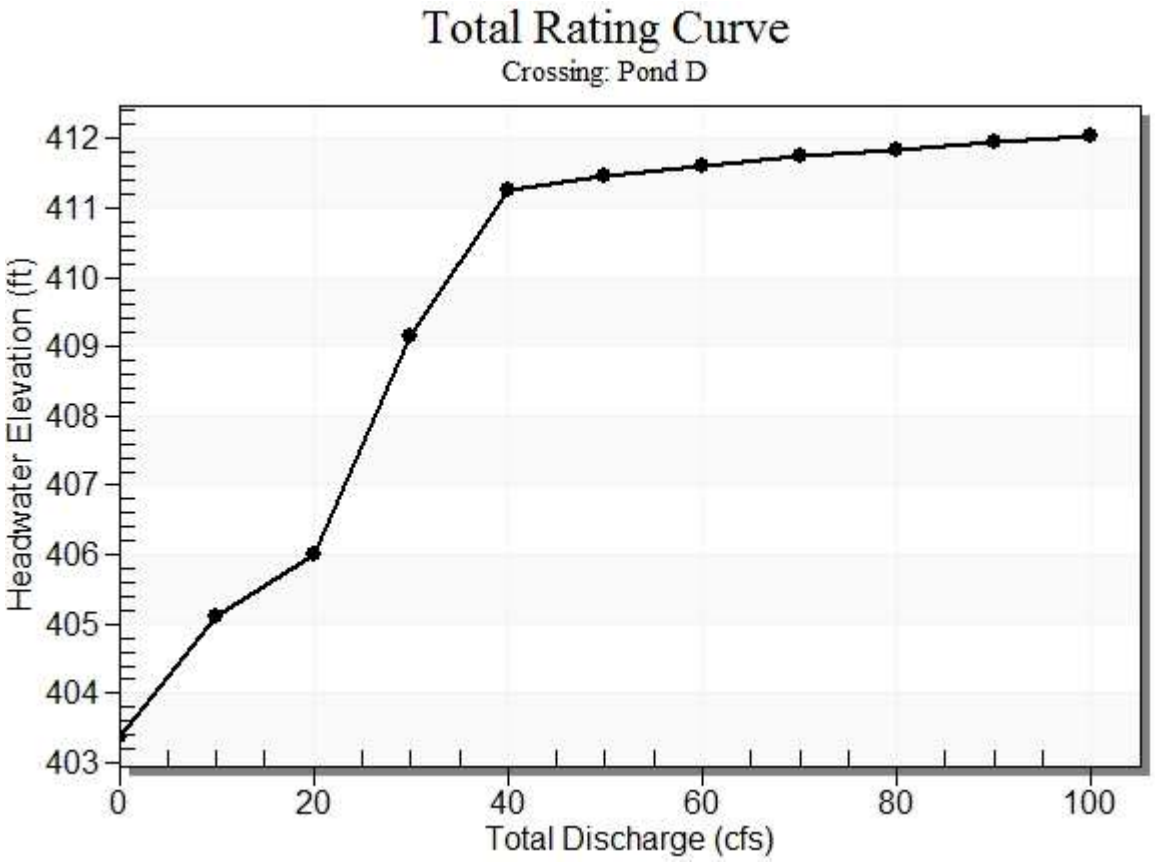
Design Flow: 50 cfs

Maximum Flow: 100 cfs

Table 1 - Summary of Culvert Flows at Crossing: Pond D

Headwater Elevation (ft)	Total Discharge (cfs)	27in BCCMP Spillway Discharge (cfs)	Roadway Discharge (cfs)	Iterations
403.39	0.00	0.00	0.00	1
405.11	10.00	10.00	0.00	1
406.01	20.00	20.00	0.00	1
409.15	30.00	30.00	0.00	1
411.27	40.00	35.22	4.72	9
411.46	50.00	35.66	14.29	6
411.61	60.00	35.99	23.95	5
411.73	70.00	36.28	33.70	5
411.85	80.00	36.54	43.42	4
411.95	90.00	36.77	53.21	4
412.05	100.00	36.99	62.93	3
411.09	34.81	34.81	0.00	Overtopping

Rating Curve Plot for Crossing: Pond D



Culvert Notes: 27in BCCMP Spillway

Table 2 - Culvert Summary Table: 27in BCCMP Spillway

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	403.39	0.000	0.000	0-NF	0.000	0.000	0.000	0.000	0.000	0.000
10.00	10.00	405.11	1.554	1.719	2-M2c	1.112	1.091	1.091	0.865	5.229	2.067
20.00	20.00	406.01	2.492	2.625	7-M2c	2.250	1.560	1.560	1.212	6.797	2.487
30.00	30.00	409.15	3.701	5.764	7-M2c	2.250	1.896	1.896	1.466	8.392	2.765
40.00	35.22	411.27	4.520	7.878	7-M2c	2.250	2.015	2.015	1.674	9.377	2.979
50.00	35.66	411.46	4.595	8.068	7-M2c	2.250	2.024	2.024	1.852	9.465	3.155
60.00	35.99	411.61	4.653	8.216	7-M2c	2.250	2.030	2.030	2.010	9.533	3.305
70.00	36.28	411.73	4.704	8.370	7-M2t	2.250	2.035	2.153	2.153	9.264	3.438
80.00	36.54	411.85	4.749	8.582	4-FFf	2.250	2.040	2.250	2.283	9.189	3.557
90.00	36.77	411.95	4.791	8.806	4-FFf	2.250	2.044	2.250	2.404	9.248	3.665
100.00	36.99	412.05	4.829	9.015	4-FFf	2.250	2.047	2.250	2.517	9.302	3.764

****

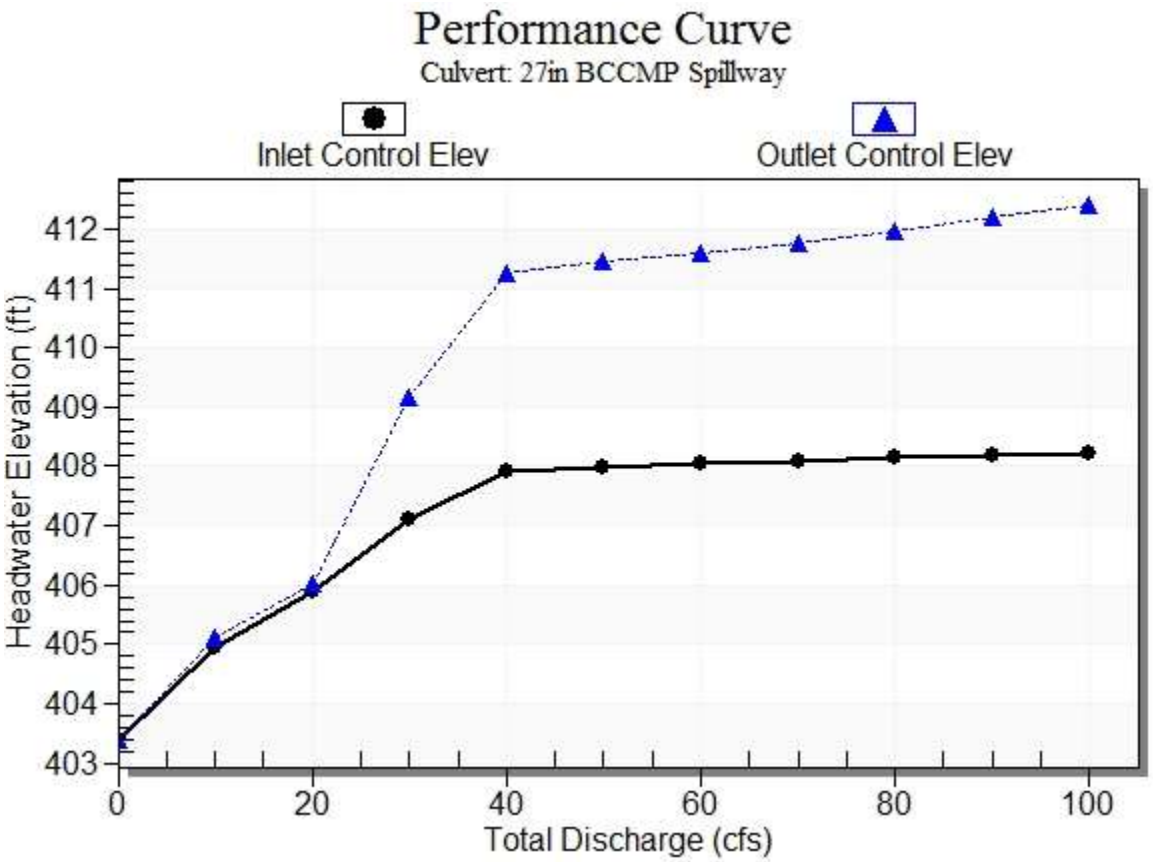
Straight Culvert

Inlet Elevation (invert): 403.39 ft, Outlet Elevation (invert): 401.66 ft

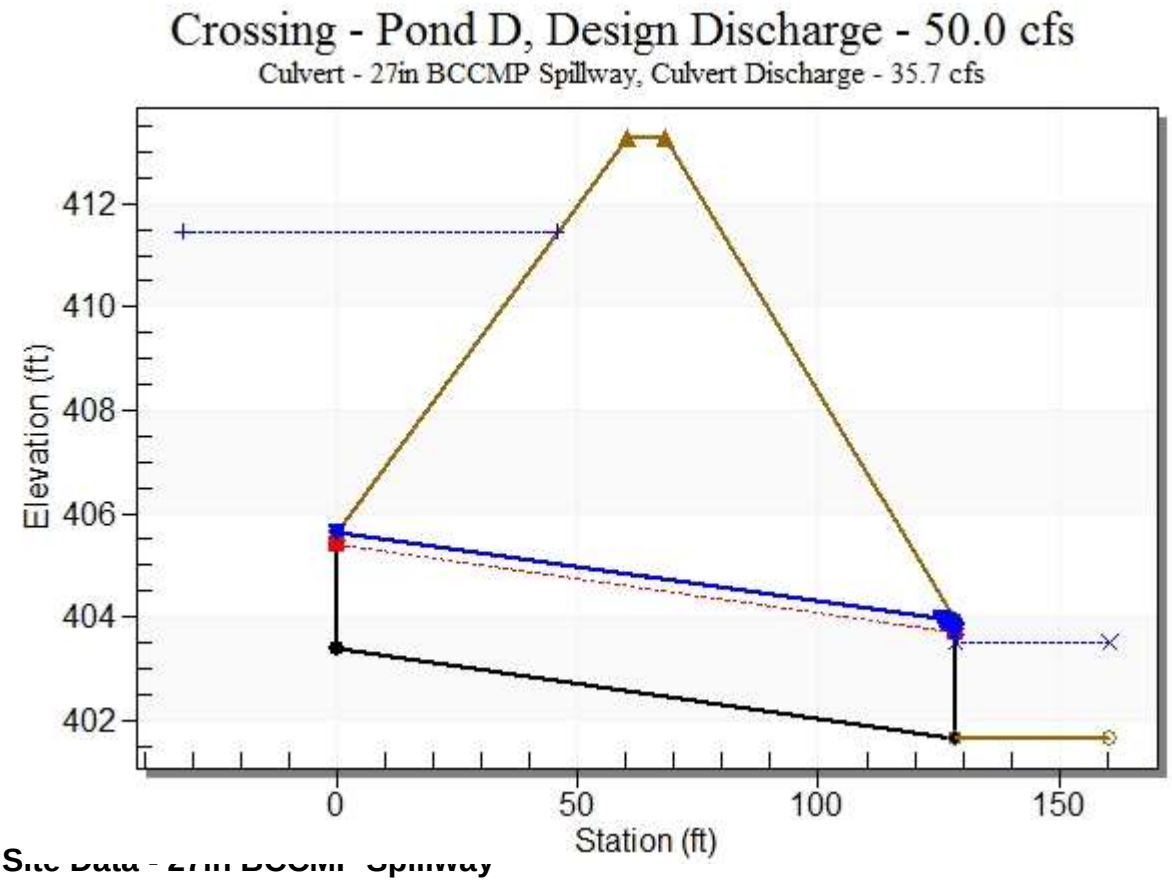
Culvert Length: 128.51 ft, Culvert Slope: 0.0135

****

Culvert Performance Curve Plot: 27in BCCMP Spillway



Water Surface Profile Plot for Culvert: 27in BCCMP Spillway



Site Data - 27in BCCMP Spillway

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 403.39 ft

Outlet Station: 128.50 ft

Outlet Elevation: 401.66 ft

Number of Barrels: 1

Culvert Data Summary - 27in BCCMP Spillway

Barrel Shape: Circular

Barrel Diameter: 2.25 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Table 3 - Downstream Channel Rating Curve (Crossing: Pond D)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)	Velocity (ft/s)	Shear (psf)	Froude Number
0.00	401.66	0.00	0.00	0.00	0.00
10.00	402.52	0.86	2.07	0.27	0.47
20.00	402.87	1.21	2.49	0.38	0.50
30.00	403.13	1.47	2.77	0.46	0.51
40.00	403.33	1.67	2.98	0.52	0.52
50.00	403.51	1.85	3.15	0.58	0.52
60.00	403.67	2.01	3.31	0.63	0.53
70.00	403.81	2.15	3.44	0.67	0.54
80.00	403.94	2.28	3.56	0.71	0.54
90.00	404.06	2.40	3.67	0.75	0.54
100.00	404.18	2.52	3.76	0.79	0.55

Tailwater Channel Data - Pond D

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 3.00 ft

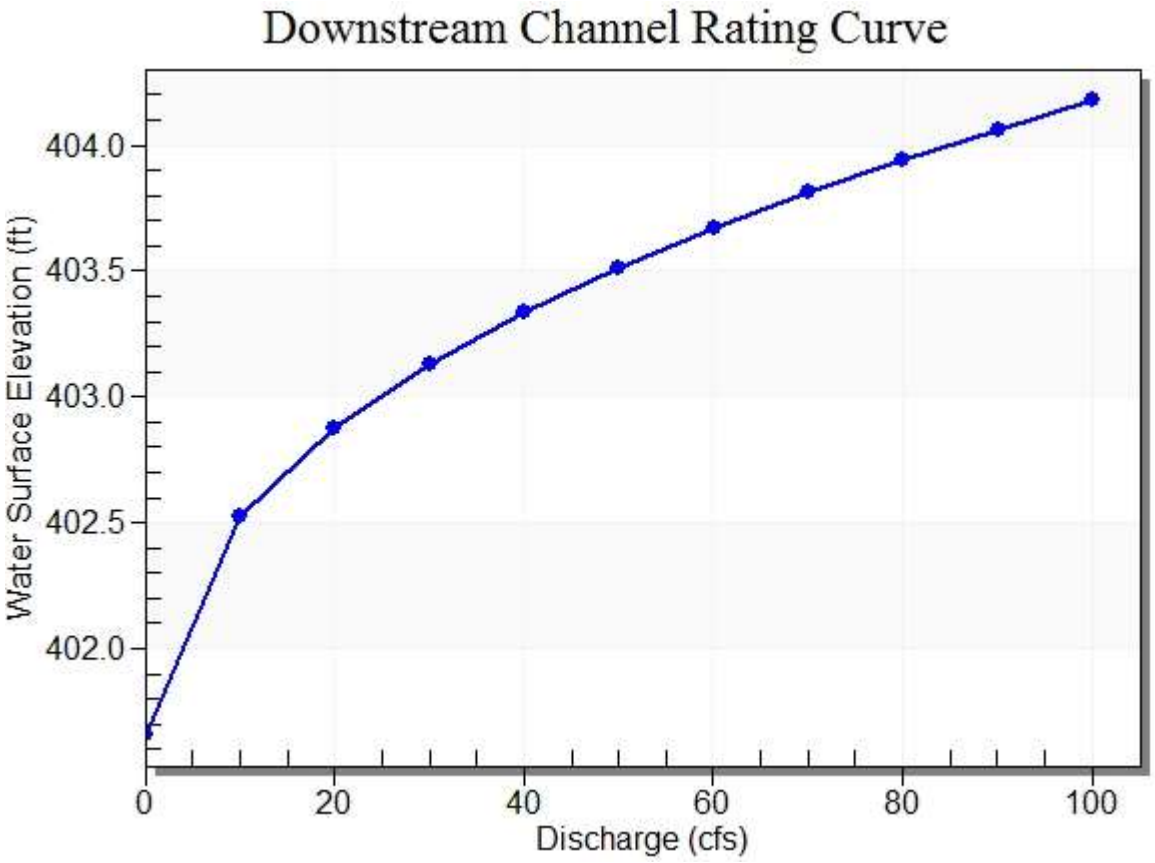
Side Slope (H:V): 3.00 (_:1)

Channel Slope: 0.0050

Channel Manning's n: 0.0350

Channel Invert Elevation: 401.66 ft

Tailwater Rating Curve Plot for Crossing: Pond D



Roadway Data for Crossing: Pond D

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Irregular Roadway Cross-Section:

Coord No.	Station (ft)	Elevation (ft)
0	0.00	413.29
1	86.20	413.29
2	90.60	411.09
3	110.60	411.09
4	115.00	413.29
5	175.00	413.29

Coefficient of Discharge: 3.1000

Roadway Top Width: 8.00 ft

Principal Spillway Computations Pond D Existing Conditions

Pond Elevation	Pond Area	Pond Volume
406.00 ft	2655.15 ft²	0.080 ac-ft
408.00 ft	10950.38 ft²	0.392 ac-ft
410.00 ft	14095.22 ft²	0.967 ac-ft
412.00 ft	16783.12 ft²	1.676 ac-ft

Release Point	Crest Elevation	Crest Width	Orifice Height	Orifice Area	Co	Cw
Low Flow Orifice	406.19 ft	0.98 ft	1.25 ft	1.23 ft²	0.6	3.1
Weir 1	409.93 ft	7.85 ft	0.00 ft	4.91 ft²	0.6	3.1

Barrel Q	Barrel HW
0.00 ft³/s	403.39 ft
5.00 ft³/s	404.57 ft
10.00 ft³/s	405.11 ft
15.00 ft³/s	405.56 ft
20.00 ft³/s	406.01 ft
25.00 ft³/s	407.37 ft
30.00 ft³/s	409.15 ft
34.85 ft³/s	411.11 ft
35.22 ft³/s	411.27 ft
35.46 ft³/s	411.37 ft
35.66 ft³/s	411.46 ft
35.69 ft³/s	411.48 ft
35.78 ft³/s	411.51 ft
35.86 ft³/s	411.55 ft

Barrel Q	Barrel HW
35.93 ft³/s	411.58 ft
35.99 ft³/s	411.61 ft
36.07 ft³/s	411.65 ft
36.15 ft³/s	411.68 ft
36.22 ft³/s	411.71 ft
36.28 ft³/s	411.74 ft
36.35 ft³/s	411.76 ft
36.40 ft³/s	411.79 ft
36.43 ft³/s	411.80 ft
36.53 ft³/s	411.85 ft
36.53 ft³/s	411.85 ft
36.71 ft³/s	411.93 ft
36.79 ft³/s	411.97 ft
36.89 ft³/s	412.01 ft

Total Flow	Riser WSEL	Pond WSEL	Pond Storage	Low Flow Orifice			Weir 1			Spillway	
0.00 ft³/s	403.39 ft										
1.00 ft³/s	403.63 ft	406.67 ft	0.141 ac-ft	weir	h2/h1=0.48	Q=1.00 ft³/s					
2.00 ft³/s	403.86 ft	406.95 ft	0.180 ac-ft	weir	h2/h1=0.76	Q=2.00 ft³/s					
5.00 ft³/s	404.57 ft	407.53 ft	0.285 ac-ft	orifice	h2/h1=0.72	Q=5.00 ft³/s					
10.00 ft³/s	405.11 ft	409.68 ft	0.866 ac-ft	orifice	h2/h1=2.87	Q=10.00 ft³/s					
15.00 ft³/s	405.56 ft	410.23 ft	1.043 ac-ft	orifice	h2/h1=3.42	Q=10.92 ft³/s	weir	h=0.30 ft	Q=4.08 ft³/s		
20.00 ft³/s	406.01 ft	410.44 ft	1.111 ac-ft	orifice	h2/h1=3.62	Q=11.24 ft³/s	weir	h=0.51 ft	Q=8.76 ft³/s		
25.00 ft³/s	407.37 ft	410.63 ft	1.178 ac-ft	orifice	h2/h1=3.26	Q=10.67 ft³/s	weir	h=0.70 ft	Q=14.33 ft³/s		
30.00 ft³/s	409.15 ft	410.87 ft	1.261 ac-ft	orifice	h2/h1=1.72	Q=7.75 ft³/s	weir	h=0.94 ft	Q=22.25 ft³/s		
31.00 ft³/s	409.55 ft	410.96 ft	1.292 ac-ft	orifice	h2/h1=1.41	Q=7.01 ft³/s	orifice	h=1.03 ft	Q=24.00 ft³/s		
31.50 ft³/s	409.76 ft	411.03 ft	1.318 ac-ft	orifice	h2/h1=1.28	Q=6.68 ft³/s	orifice	h=1.10 ft	Q=24.82 ft³/s		
31.75 ft³/s	409.86 ft	411.07 ft	1.331 ac-ft	orifice	h2/h1=1.21	Q=6.51 ft³/s	orifice	h=1.14 ft	Q=25.24 ft³/s		
34.80 ft³/s	411.09 ft	411.09 ft	1.338 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a		
36.27 ft³/s	411.17 ft	411.17 ft	1.368 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	h=0.05 ft	Q=1.27 ft³/s
47.84 ft³/s	411.62 ft	411.62 ft	1.530 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	h=0.22 ft	Q=11.84 ft³/s
85.94 ft³/s	412.06 ft	412.06 ft	1.700 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	h=0.56 ft	Q=48.94 ft³/s
110.22 ft³/s	412.29 ft	412.29 ft	1.787 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	h=0.73 ft	Q=72.72 ft³/s
124.01 ft³/s	412.41 ft	412.41 ft	1.834 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	h=0.81 ft	Q=86.26 ft³/s

orifice: $Q_o = C_d A_o (2gH_o)^{1/2}$

Q_o = the orifice flow rate
C_d = orifice discharge coefficient (0.40 - 0.60)
A_o = area of orifice
H_o = effective head on the orifice measured from the centre of the opening
g = acceleration due to gravity

sharp-crested weir: $Q_w = C_w L H_w^{1.5}$

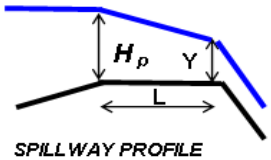
Q_w = weir discharge
L = weir base width
H_w = head above weir crest excluding velocity head

submerged sharp-crested weir: $Q_s = Q_u[1-(H_2/H_1)^{1.5}]^{0.385}$

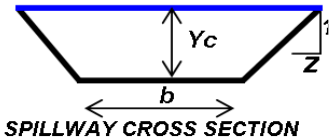
Q_s = submerged weir discharge
Q_u = unsubmerged weir discharge
H_1 = upstream head above weir crest
H_2 = downstream head above weir crest

Low Point of Pond in Cut - Existing Spillway Computations

SELECTED BOTTOM WIDTH (b):	20.00 ft
SIDE SLOPE:	2.0:1
LEVEL SECTION LENGTH (L):	20.00 ft
ROUGHNESS COEFFICIENT (n):	0.040
SPILLWAY INVERT ELEVATION:	411.09



SPILLWAY PROFILE



SPILLWAY CROSS SECTION

Yc	T	Ac	Qc	Vc	Hec	a	Hp	R	Sc	Elev
0.00			0.00							411.09
0.05	20.20 ft	1.01 ft²	1.27 ft³/s	1.27 ft/s	0.07 ft	0.21857	0.40 ft	0.05 ft	6.34%	411.49
0.22	20.88 ft	4.50 ft²	11.84 ft³/s	2.63 ft/s	0.33 ft	0.03055	0.53 ft	0.21 ft	3.91%	411.62
0.56	22.24 ft	11.83 ft²	48.94 ft³/s	4.14 ft/s	0.83 ft	0.00891	0.97 ft	0.53 ft	2.92%	412.06
0.73	22.90 ft	15.55 ft²	72.72 ft³/s	4.68 ft/s	1.06 ft	0.00635	1.20 ft	0.67 ft	2.70%	412.29
0.81	23.24 ft	17.51 ft²	86.26 ft³/s	4.93 ft/s	1.19 ft	0.00550	1.32 ft	0.74 ft	2.62%	412.41

CRITICAL FLOW EQUATIONS from SCS TR-2 dated 1956 and the Handbook of Hydraulics (Brater & King, 6 ed., page 8-16):

$T = b + 2ZYc$ $\quad Vc = SQRT(gA/T)$ $\quad Hp = Hec(1 + aL)$

$Ac = (b + ZYc)Yc$ $\quad Hec = Yc + Vc^2/2g$ $\quad R = (b + ZYc)Yc/(b + 2YcSQRT(1 + Z^2))$

$Qc = SQRT(gA3/T)$ $\quad a = (4.32n^2)/Hec^{1.33}$ $\quad Sc = 14.56n^2A/(R^{1.33})T$

HY-8 Culvert Analysis Report

Project Notes

Project Title: Valley Mede - Existing Ponds

Designer: CEL

Project Date: Monday, April 24, 2017

Notes: Pond data taken from GIS contour and available as-built data.

Project Units: U.S. Customary Units

Outlet Control Option: Profiles

Exit Loss Option: Standard Method

Crossing Notes: Pond H

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0 cfs

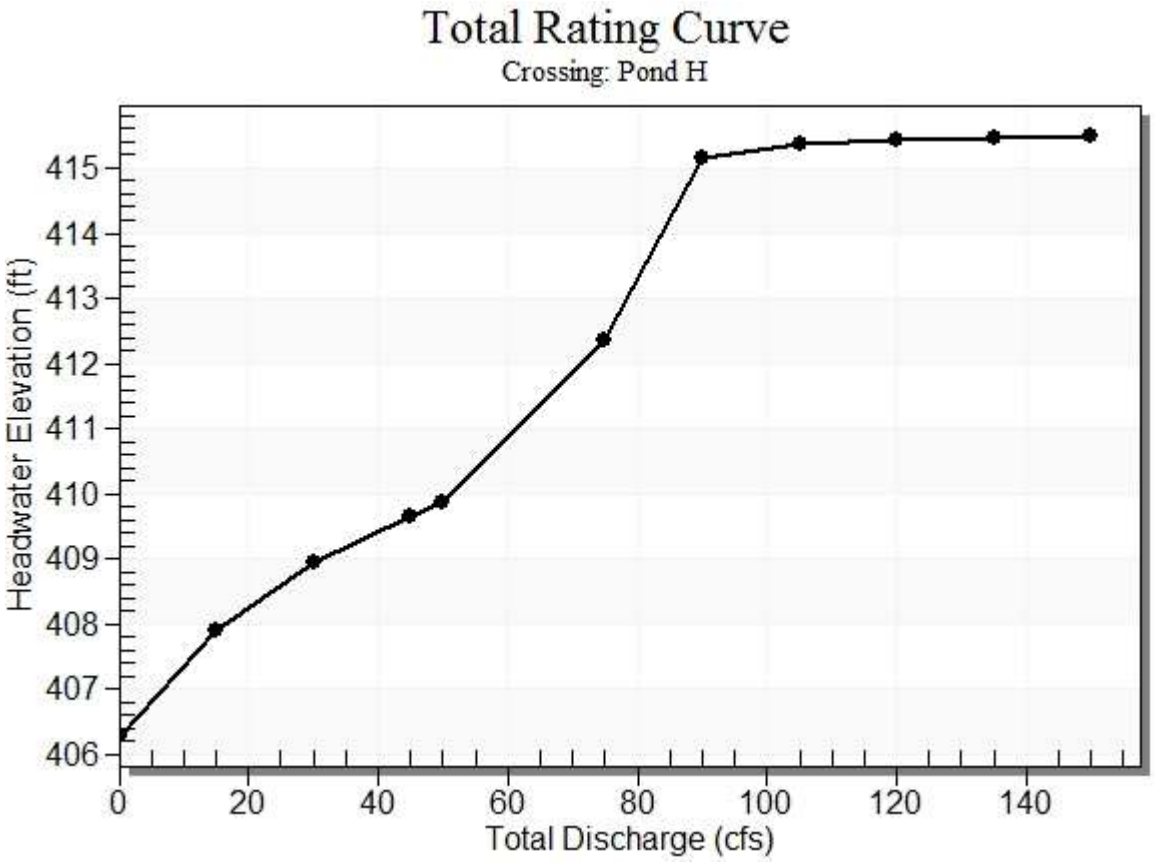
Design Flow: 50 cfs

Maximum Flow: 150 cfs

Table 1 - Summary of Culvert Flows at Crossing: Pond H

Headwater Elevation (ft)	Total Discharge (cfs)	42in BCCMP Spillway Discharge (cfs)	Roadway Discharge (cfs)	Iterations
406.29	0.00	0.00	0.00	1
407.91	15.00	15.00	0.00	1
408.96	30.00	30.00	0.00	1
409.65	45.00	45.00	0.00	1
409.87	50.00	50.00	0.00	1
412.34	75.00	75.00	0.00	1
415.15	90.00	90.00	0.00	1
415.38	105.00	91.17	13.40	9
415.43	120.00	91.42	28.44	5
415.47	135.00	91.63	43.20	4
415.51	150.00	91.81	57.73	3
415.30	90.77	90.77	0.00	Overtopping

Rating Curve Plot for Crossing: Pond H



Culvert Notes: 42in BCCMP Spillway

Table 2 - Culvert Summary Table: 42in BCCMP Spillway

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00	0.00	406.29	0.000	0.000	0-NF	0.000	0.000	0.540	0.000	0.000	0.000
15.00	15.00	407.91	1.616	0.0*	1-S2n	1.165	1.176	1.165	0.520	5.164	4.395
30.00	30.00	408.96	2.410	2.671	2-M2c	1.711	1.692	1.692	0.760	6.509	5.423
45.00	45.00	409.65	3.121	3.361	2-M2c	2.212	2.089	2.089	0.942	7.511	6.100
50.00	50.00	409.87	3.360	3.580	7-M2c	2.389	2.206	2.206	0.996	7.827	6.286
75.00	75.00	412.34	4.709	6.054	7-M2c	3.500	2.707	2.707	1.227	9.391	7.042
90.00	90.00	415.15	5.720	8.862	7-M2c	3.500	2.942	2.942	1.345	10.427	7.403
105.00	91.17	415.38	5.807	9.088	7-M2c	3.500	2.958	2.958	1.453	10.512	7.721
120.00	91.42	415.43	5.826	9.138	7-M2c	3.500	2.961	2.961	1.552	10.531	8.005
135.00	91.63	415.47	5.841	9.179	7-M2c	3.500	2.964	2.964	1.645	10.546	8.262
150.00	91.81	415.51	5.855	9.215	7-M2c	3.500	2.966	2.966	1.732	10.560	8.498

* Full Flow Headwater elevation is below inlet invert.

****

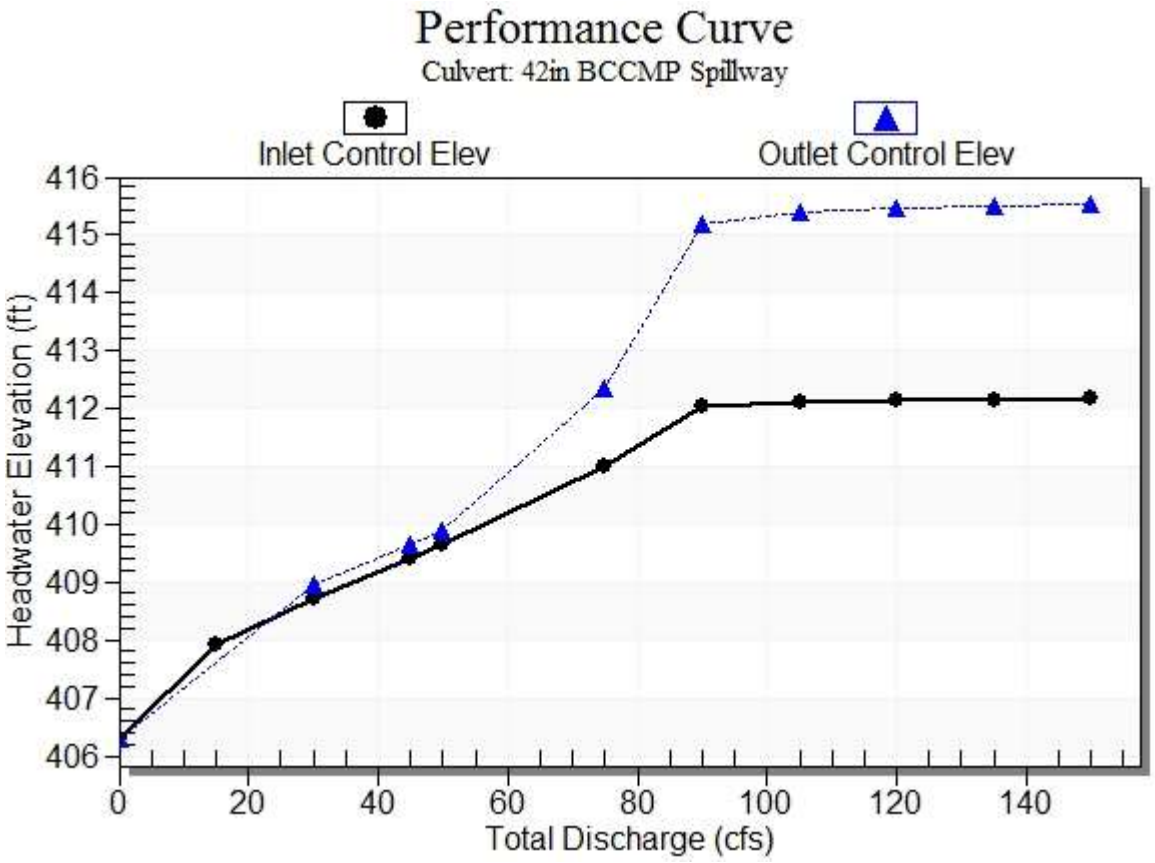
Straight Culvert

Inlet Elevation (invert): 406.29 ft, Outlet Elevation (invert): 403.46 ft

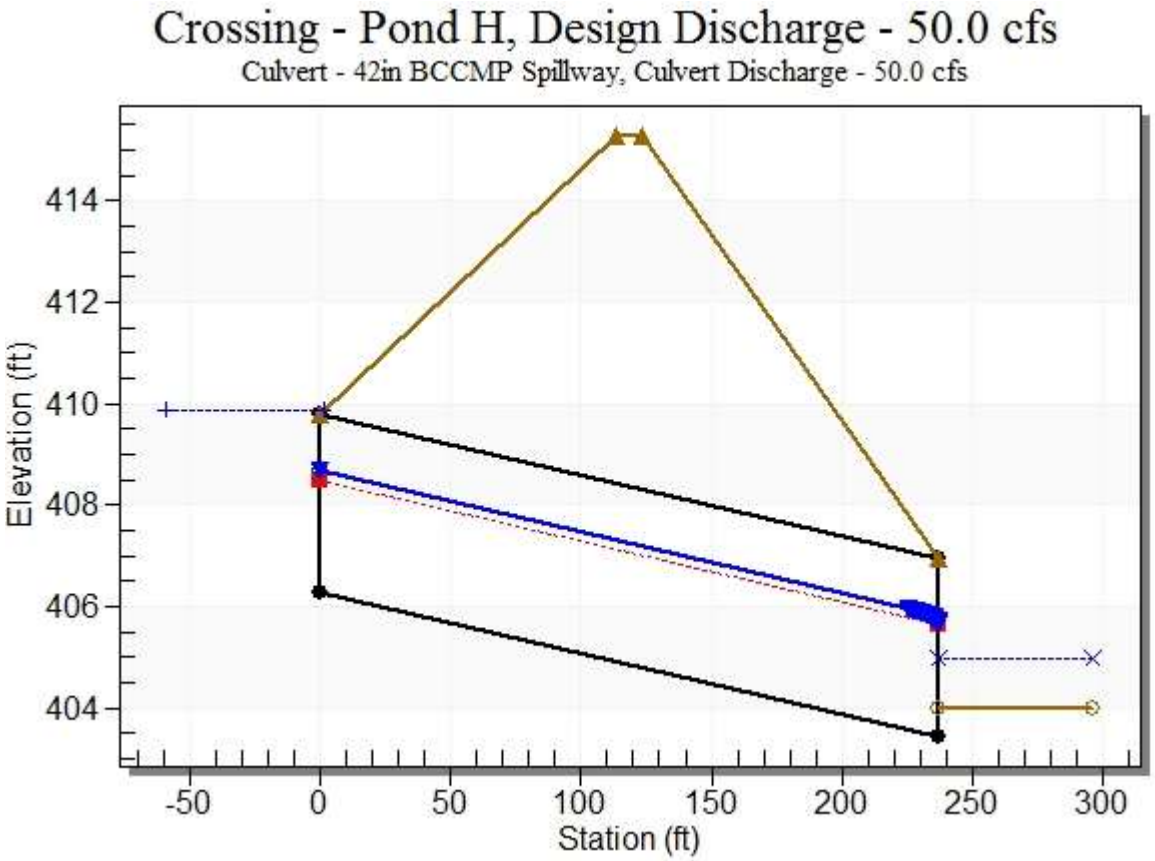
Culvert Length: 237.02 ft, Culvert Slope: 0.0119

****

Culvert Performance Curve Plot: 42in BCCMP Spillway



Water Surface Profile Plot for Culvert: 42in BCCMP Spillway



Site Data - 42in BCCMP Spillway

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 406.29 ft

Outlet Station: 237.00 ft

Outlet Elevation: 403.46 ft

Number of Barrels: 1

Culvert Data Summary - 42in BCCMP Spillway

Barrel Shape: Circular

Barrel Diameter: 3.50 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Table 3 - Downstream Channel Rating Curve (Crossing: Pond H)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)	Velocity (ft/s)	Shear (psf)	Froude Number
0.00	404.00	0.00	0.00	0.00	0.00
15.00	404.52	0.52	4.39	1.14	1.19
30.00	404.76	0.76	5.42	1.66	1.26
45.00	404.94	0.94	6.10	2.06	1.29
50.00	405.00	1.00	6.29	2.17	1.30
75.00	405.23	1.23	7.04	2.68	1.34
90.00	405.35	1.35	7.40	2.94	1.35
105.00	405.45	1.45	7.72	3.17	1.37
120.00	405.55	1.55	8.01	3.39	1.38
135.00	405.64	1.64	8.26	3.59	1.39
150.00	405.73	1.73	8.50	3.78	1.40

Tailwater Channel Data - Pond H

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 5.00 ft

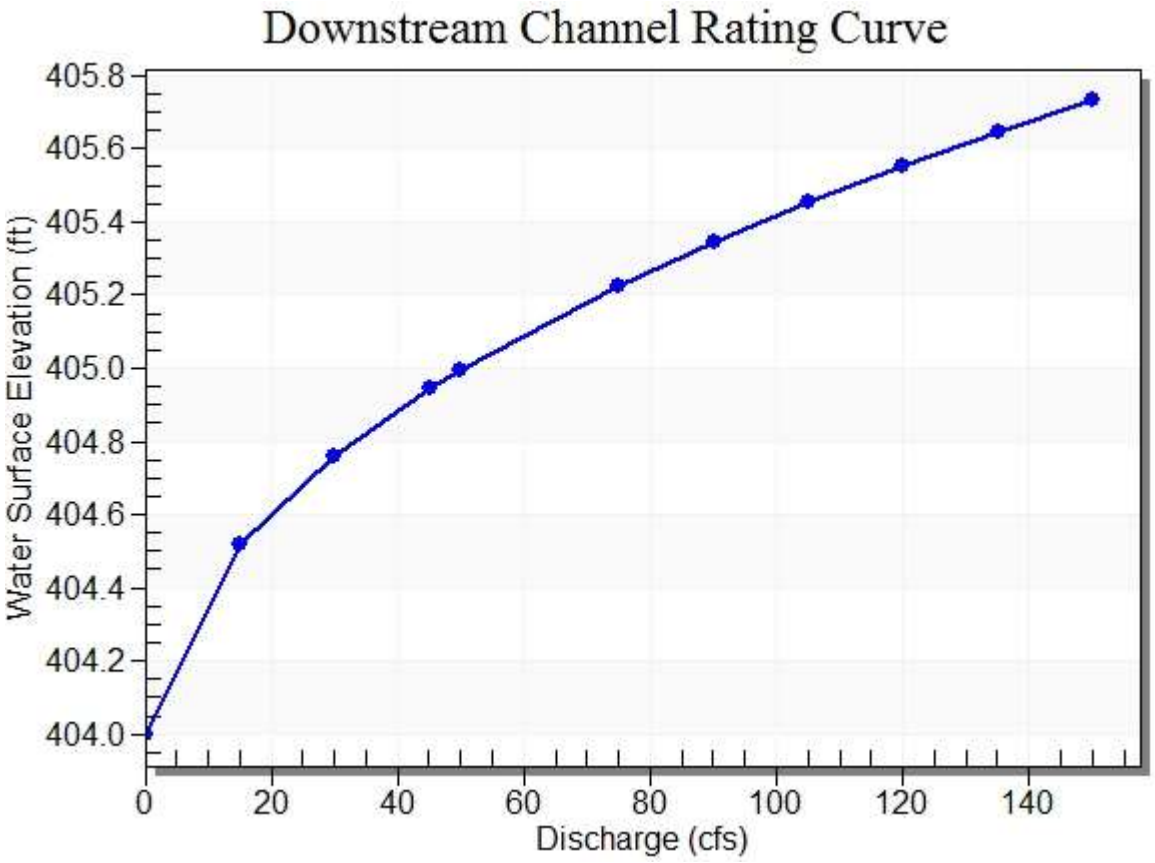
Side Slope (H:V): 3.00 (_:1)

Channel Slope: 0.0350

Channel Manning's n: 0.0350

Channel Invert Elevation: 404.00 ft

Tailwater Rating Curve Plot for Crossing: Pond H



Roadway Data for Crossing: Pond H

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 200.00 ft

Crest Elevation: 415.30 ft

Coefficient of Discharge: 3.1000

Roadway Top Width: 10.00 ft

Principal Spillway Computations Pond H Existing Conditions

Pond Elevation	Pond Area	Pond Volume
410.00 ft	6538.30 ft²	0.278 ac-ft
412.00 ft	9122.50 ft²	0.638 ac-ft
414.00 ft	11359.21 ft²	1.108 ac-ft
415.30 ft	12766.91 ft²	1.468 ac-ft

Barrel Q	Barrel HW
0.00 ft³/s	406.29 ft
5.00 ft³/s	407.20 ft
10.00 ft³/s	407.59 ft
15.00 ft³/s	407.91 ft
20.00 ft³/s	408.19 ft
25.00 ft³/s	408.71 ft
30.00 ft³/s	408.96 ft
35.00 ft³/s	409.20 ft
40.00 ft³/s	409.43 ft
45.00 ft³/s	409.65 ft
50.00 ft³/s	409.87 ft
51.00 ft³/s	409.91 ft
53.40 ft³/s	410.02 ft
55.80 ft³/s	410.13 ft
58.20 ft³/s	410.24 ft

Barrel Q	Barrel HW
60.60 ft³/s	410.37 ft
63.00 ft³/s	410.51 ft
65.00 ft³/s	410.65 ft
67.80 ft³/s	411.01 ft
70.20 ft³/s	411.47 ft
72.60 ft³/s	411.91 ft
75.00 ft³/s	412.34 ft
76.00 ft³/s	412.52 ft
77.40 ft³/s	412.77 ft
78.80 ft³/s	413.03 ft
80.00 ft³/s	413.25 ft
81.60 ft³/s	413.54 ft
83.00 ft³/s	413.81 ft
84.40 ft³/s	414.06 ft
85.80 ft³/s	414.35 ft

Release Point	Crest Elevation	Crest Width	Orifice Height	Orifice Area	Co	Cw
Low Flow Orifice	406.29 ft	0.13 ft	0.17 ft	0.02 ft²	0.6	3.1
Orifice	408.29 ft	1.37 ft	1.75 ft	2.41 ft²	0.6	3.1
Weir 1	412.79 ft	14.14 ft	0.00 ft	15.90 ft²	0.6	3.1

Total Flow	Riser WSEL	Pond WSEL	Pond Storage	Low Flow Orifice			Orifice			Weir 1			Embankment	
0.00 ft³/s	406.29 ft													
1.00 ft³/s	406.47 ft	408.63 ft	0.111 ac-ft	orifice	h2/h1=2.16	Q=0.15 ft³/s	weir	h=0.34 ft	Q=0.85 ft³/s					
2.00 ft³/s	406.65 ft	408.86 ft	0.134 ac-ft	orifice	h2/h1=2.21	Q=0.16 ft³/s	weir	h=0.57 ft	Q=1.85 ft³/s					
5.00 ft³/s	407.20 ft	409.38 ft	0.193 ac-ft	orifice	h2/h1=2.18	Q=0.16 ft³/s	weir	h=1.09 ft	Q=4.85 ft³/s					
10.00 ft³/s	407.59 ft	410.04 ft	0.284 ac-ft	orifice	h2/h1=2.45	Q=0.16 ft³/s	weir	h=1.75 ft	Q=9.83 ft³/s					
15.00 ft³/s	407.91 ft	410.80 ft	0.409 ac-ft	orifice	h2/h1=2.89	Q=0.18 ft³/s	orifice	h=1.64 ft	Q=14.82 ft³/s					
20.00 ft³/s	408.19 ft	412.09 ft	0.656 ac-ft	orifice	h2/h1=3.90	Q=0.21 ft³/s	orifice	h=2.92 ft	Q=19.79 ft³/s					
30.00 ft³/s	408.96 ft	413.08 ft	0.879 ac-ft	orifice	h2/h1=4.12	Q=0.21 ft³/s	orifice	h=3.92 ft	Q=22.91 ft³/s	weir	h=0.29 ft	Q=6.88 ft³/s		
40.00 ft³/s	409.43 ft	413.32 ft	0.937 ac-ft	orifice	h2/h1=3.89	Q=0.21 ft³/s	orifice	h=3.89 ft	Q=22.83 ft³/s	weir	h=0.53 ft	Q=16.96 ft³/s		
45.00 ft³/s	409.65 ft	413.43 ft	0.963 ac-ft	orifice	h2/h1=3.78	Q=0.20 ft³/s	orifice	h=3.78 ft	Q=22.50 ft³/s	weir	h=0.64 ft	Q=22.30 ft³/s		
50.00 ft³/s	409.87 ft	413.53 ft	0.987 ac-ft	orifice	h2/h1=3.66	Q=0.20 ft³/s	orifice	h=3.66 ft	Q=22.13 ft³/s	weir	h=0.74 ft	Q=27.67 ft³/s		
60.00 ft³/s	410.34 ft	413.71 ft	1.033 ac-ft	orifice	h2/h1=3.37	Q=0.19 ft³/s	orifice	h=3.37 ft	Q=21.25 ft³/s	weir	h=0.92 ft	Q=38.55 ft³/s		
70.00 ft³/s	411.43 ft	413.91 ft	1.084 ac-ft	orifice	h2/h1=2.47	Q=0.17 ft³/s	orifice	h=2.47 ft	Q=18.21 ft³/s	weir	h=1.12 ft	Q=51.63 ft³/s		
77.00 ft³/s	412.70 ft	414.07 ft	1.126 ac-ft	orifice	h2/h1=1.37	Q=0.12 ft³/s	orifice	h=1.37 ft	Q=13.55 ft³/s	weir	h=1.28 ft	Q=63.33 ft³/s		
77.50 ft³/s	412.79 ft	414.08 ft	1.129 ac-ft	orifice	h2/h1=1.29	Q=0.12 ft³/s	orifice	h=1.29 ft	Q=13.16 ft³/s	weir	h=1.29 ft	Q=64.22 ft³/s		
84.75 ft³/s	414.13 ft	414.13 ft	1.143 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	barrel	n/a	n/a		
86.00 ft³/s	414.39 ft	414.39 ft	1.211 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	barrel	n/a	n/a		
88.00 ft³/s	414.75 ft	414.75 ft	1.312 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	barrel	n/a	n/a		
90.00 ft³/s	415.15 ft	415.15 ft	1.424 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	barrel	n/a	n/a		
113.04 ft³/s	415.55 ft	415.55 ft	1.541 ac-ft	barrel	n/a	n/a	barrel	n/a	n/a	barrel	n/a	n/a	h=0.07 ft	Q=21.04 ft³/s

orifice: $Q_o = C_d A_o (2gH_o)^{1/2}$

Q_o = the orifice flow rate
C_d = orifice discharge coefficient (0.40 - 0.60)
A_o = area of orifice
H_o = effective head on the orifice measured from the centre of the opening
g = acceleration due to gravity

sharp-crested weir: $Q_w = C_w L H_w^{1.5}$

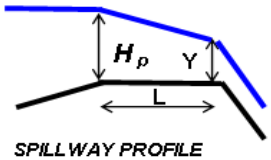
Q_w = weir discharge
L = weir base width
H_w = head above weir crest excluding velocity head

submerged sharp-crested weir: $Q_s = Q_u[1-(H_2/H_1)^{1.5}]^{0.385}$

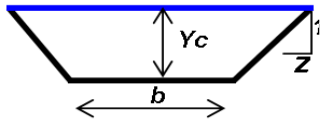
Q_s = submerged weir discharge
Q_u = unsubmerged weir discharge
H_1 = upstream head above weir crest
H_2 = downstream head above weir crest

Low Point of Pond in Cut - Existing Spillway Computations

SELECTED BOTTOM WIDTH (b):	200.00 ft
SIDE SLOPE:	5.0:1
LEVEL SECTION LENGTH (L):	10.00 ft
ROUGHNESS COEFFICIENT (n):	0.040
SPILLWAY INVERT ELEVATION:	415.30



SPILLWAY PROFILE



SPILLWAY CROSS SECTION

Yc	T	Ac	Qc	Vc	Hec	a	Hp	R	Sc	Elev
0.00			0.00							415.30
0.07	200.70 ft	14.02 ft²	21.04 ft³/s	1.50 ft/s	0.10 ft	0.13938	0.25 ft	0.07 ft	5.65%	415.55
0.25	202.45 ft	49.30 ft²	138.05 ft³/s	2.80 ft/s	0.37 ft	0.02629	0.46 ft	0.24 ft	3.73%	415.76

CRITICAL FLOW EQUATIONS from SCS TR-2 dated 1956 and the Handbook of Hydraulics (Brater & King, 6 ed., page 8-16):

T = b + 2ZYc

Vc = SQRT(gA/T)

Hp = Hec(1 + aL)

Ac = (b + ZYc)Yc

Hec = Yc + Vc²/2g

R = (b + ZYc)Yc/(b + 2YcSQRT(1 + Z²))

Qc = SQRT(gA3/T)

a = (4.32n²)/Hec^1.33

Sc = 14.56n²A/(R^1.33)T