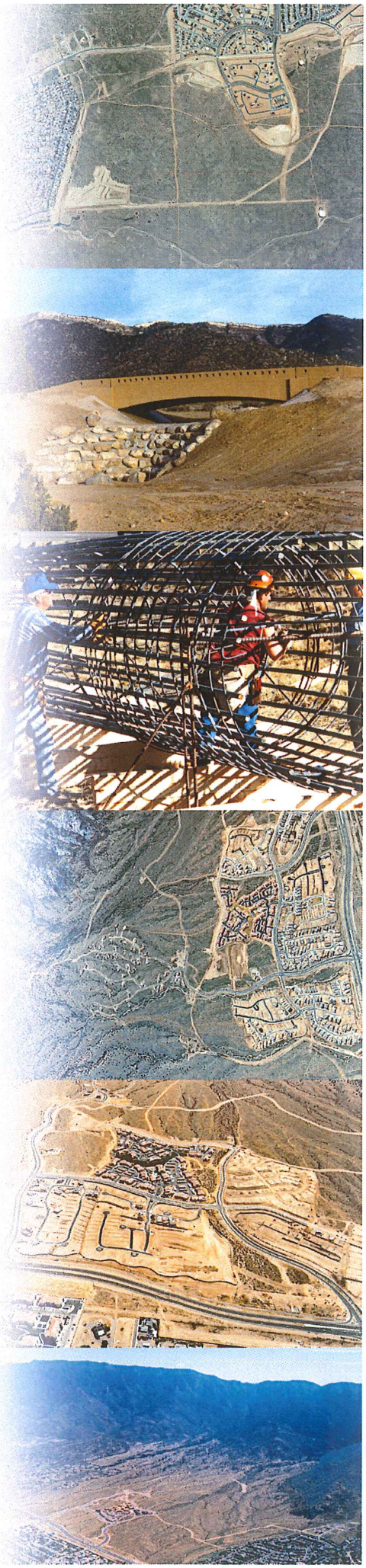
DRAINAGE REPORT FOR VALLE PRADO AT THE TRAILS UNITS 3A SUBDIVISION



JUNE 2014

Prepared for:
Woodmont Paseo, LLC
6300 Riverside Plaza Lane. Suite 160

Bohannan Huston

Engineering
Spatial Data
Advanced Technologies

DRAINAGE REPORT
FOR
VALLE PRADO AT THE TRAIL UNIT 3A
SUBDIVISION

JUNE 23, 2014

Prepared for:

WOODMONT PASEO, LLC

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EXHIBITS

I. PURPOSE

This report establishes a drainage management plan for Valle Prado Units 1 and 2 at the Trails Unit 3A. The proposed development consists of 61 single family detached residential lots on approximately 17 acres. This project is located within the Volcano Trails Sector Plan area, in northwest Albuquerque, east of Rainbow Blvd and north of Woodmont Avenue. Valle Prado Units 1 and 2 is in the Trails Units 1-3 Drainage Master Plan (DMP) area and has discharge of developed flows to an existing storm drain system that is in the Valle Vista Subdivision, just south of this proposed subdivision. The Trails drainage outfall is to the Boca Negra Dam through a storm drain in Universe Boulevard. Discharge to the Boca Negra Dam is limited by the Trails Universe storm drain capacity. Flows in excess of the storm drain capacity surge to detention ponds east of Universe Boulevard. This report is submitted in support of grading approval and preliminary plat approval by the DRB.

II. CONCEPTS AND METHODOLOGIES

Drainage conditions were analyzed utilizing the 100-year, 24-hour storm event (P_{60}=1.84 in, P_{360}=2.20 in, P_{1440}=2.66 in), in accordance with the City of Albuquerque DPM. The use of the 24-hour storm event is consistent with the Trails Units 1-3 DMP. The Arid-lands Hydrologic Model (AHYMO) was utilized to determine peak flow rates for design of the storm drainage improvements within the project. The results are included in Appendix A. The storm drain inlets were sized using the 24-hour storm event (the 24-hour and 6-hour storm event produced the same Q). Street capacity and storm drain inlet calculations supporting this study are located in Appendix B.

III. SITE LOCATION AND CHARACTERISTICS

Valle Prado Units 1 and 2 are currently undeveloped with grades ranging from one percent to three percent. The site generally slopes from west to east. It is bounded by Woodmont Avenue to the south, Rainbow Avenue to the east and undeveloped property to the north and west. Access to Valle Prado Units 1 and 2 will be from Woodmont Avenue and from Tree Line Avenue.

IV. DEVELOPED HYDRAULIC AND HYDROLOGIC CONDITIONS

Valle Prado Units 1 and 2 is a proposed single-family residential development with 61 lots on 17 acres. Unit 1 consists of 32 lots on approximately 10 acres and Unit 2 consists of 29 lots on 7 acres. Proposed street and lot configurations are shown on the *Preliminary*

Plat, **Exhibit 1.** Valle Prado is encompassed by Tract 6 at the Trails Unit 3A, Tract 9 at the Trails Unit 3A and Tract OS-3, which is also represented by Basin E3, Basin E5 and a small portion of Basin C in the Trails Units 1-3 DMP.

The percent impervious land treatment for the proposed conditions is determined from Table A-5 of the DPM, Section 22.2. The cumulative percent impervious land treatment value used in the Trails DMP AHYMO analysis that encompasses Valle Prado area 44%. The Valle Prado percent impervious land treatment calculated in this report had a cumulative impervious land treatment value of 43%. Therefore the developed Q is less than the proposed developed Q from the DMP.

A. OFFSITE FLOWS

All offsite, upstream flows will be captured by Future Ponds A5 and A6 as described in the DMP. Plates (exhibits) from the DMP have been included in this submittal as supplemental information, see **Exhibit 6**. For detailed analysis of the offsite flows and future ponds, please see the DMP.

B. ONSITE FLOWS

Developed flows from Valle Prado Units 1 and 2 will be directed to the proposed Pond E (per DMP) where they will combine with future upstream flows from the storm drain network that is located within Woodmont Ave. These combined flows are described in **Appendix A**. For reference, see **Exhibits 2 and 3** for basin locations, **Exhibits 4 and 5** for the storm drain and inlet locations.

A plug will be installed to the existing 54" backbone storm drain that is located in Woodmont Ave just east of South Sky Street. This will allow the upstream flows in Woodmont Ave to be re-directed north where they will combine with developed flows from Valle Prado Units 1 and 2 and is described in greater detail below.

Basin 1 (8.9 cfs), Basin 2 (7.9 cfs), Basin 3 (11.2 cfs), Basin 4 (6.3 cfs), Basin 5 (1.2 cfs), Offsite Basin 2 (0.6 cfs), Offsite Basin 3 (0.7 cfs), Offsite Basin 4 (0.9 cfs), Offsite Basin 5 (2.0 cfs) and Offsite Basin Well (2.3 cfs) are all basins within Valle Prado Units 1 and 2. Future Basin 1 (19.9 cfs), Future Basin 2 (13.5 cfs), Future Basin 3 (10.8 cfs) and Future Basin 4 (8.1 cfs) are future developed upstream basins that will impact Units 1 and 2, thus they have been included in all calculations related to Units 1 and 2. The total runoff from Valle Prado Units 1 and 2 (including future lots not included in Units 1 and 2) is 96.2 cfs. This is less than the Basin E3 and Basin E5 runoff (103.5 cfs) in the Trails Units 1-3 DMP.

Basins 1, 2, 3 & 5, Offsite Basin 3, Offsite Basin 4, Offsite Basin Well and Future Basins 1, 2 & 3 all drain to the proposed storm drain network located in South Sky Street, Red Bloom Road and Sandmark Road. This storm drain network combines with flows from the existing storm drain network in Woodmont Avenue and discharges into Pond E. Pond E has an available storage volume capacity of 6.4 ac-ft. and a maximum developed volume of 5.9 ac-ft. The first flush retention for the upstream basins that enter Pond E was calculated to need a volume of 1.3 ac-ft. This was done by calculating the cumulative impervious land treatment of the upstream basins (Basins E1.1, E1.2, E.2, E4 and E6 from the DMP as well as the basins listed in the beginning of the paragraph) for a %D of 47%. This is multiplied by 0.44' and then the corresponding area of 75.6 ac, which results in 1.3 ac-ft. Due to the existing infrastructure constraints, Pond E is able to achieve 0.9 ac-ft. of first flush volume, while having a maximum discharge of Q=21.2 cfs which is below that allowable discharge of Q=22.3 cfs as defined in the DMP. The maximum discharge from Pond E is accomplished by using a standpipe in the pond to control the outflow. Due to all of the upstream flows being conveyed through Pond E, the existing 12" orifice plate located at AP-E per the DMP that currently limits the developed flows downstream is not needed and shall be removed.

A portion of Basin 4 and Future Basin 4 are intercepted by inlets located in Two Rock Road. These flows (Q=6.2 cfs) are conveyed north to an existing temporary pond. A temporary berm will be placed on the south side of the temporary pond to increase its capacity. In the future, this storm drain network will tie to an existing storm drain network located in Treeline Avenue. The remaining flows from Basin 4 and Future Basin 4 combine with flows from Offsite Basin 2 and enter a proposed retention pond that is located in Offsite Basin 2, just southeast of Two Rock Road.

In the interim condition, Valle Prado Unit 1, desiltation ponds will be placed just upstream of Red Bloom Road, Sandmark Road and South Sky St. These temporary ponds have been designed as a desiltation pond which will remove sedimentation before they enter the downstream streets.

V. CONCLUSION

This report provides a detailed study of the developed runoff and street capacities for the proposed Valle Prado Units 1 and 2 at the Trails Unit 3A Subdivision. Included is the preliminary plat, basin map, grading plan, and all necessary hydrologic and hydraulic analyses. The proposed drainage plan for Valle Prado Units 1 and 2 can be safely conveyed by the existing and proposed improvements in this drainage plan. This drainage

plan maintains the overall drainage pattern of the area, is consistent with the Trails Units 1-3 DMP and allows for the safe management of storm runoff in the fully developed condition as well as interim conditions.

APPENDICES

APPENDIX A: DEVELOPED CONDITIONS AHYMO SUMMARY, OUTPUT, AND INPUT FILES

APPENDIX B: STREET HYDRAULICS AND STORM DRAIN INLET ANALYSIS

APPENDIX C: INROADS STORM DRAIN NETWORK FILE

APPENDIX D: POND CALCULATIONS

APPENDIX A

DEVELOPED CONDITIONS AHYMO SUMMARY, OUTPUT, AND INPUT FILES

```
*S  TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED
*S  100 YEAR - 24 HOUR STORM
*S
*  CREATED JUNE 20, 2014
*
*
*CONVERT TO NMHYMO
START                TIME=0.0 HR  PUNCH CODE=0
*****************************************************
LOCATION        NM
*
*****************************************************
*
*****************************************************
*100 YEAR - 24 HOUR
RAINFALL              TYPE=2  RAIN QUARTER=0
                      RAIN ONE=1.84 IN  RAIN SIX=2.20 IN
                      RAIN DAY=2.66 IN  DT=0.10 HRS

*S
*S                     **********************
*S                     *COMPUTE ONSITE BASINS*
*S                     **********************
*S
*S
*S
*S COMPUTE BASIN 1 ***************************************************
*
COMPUTE NM HYD        ID=1 HYD=1  AREA=0.005  PER A=0 PER B=24
                      PER C=24 PER D=52  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=1   CODE=1
*
*S COMPUTE BASIN 2 ***************************************************
COMPUTE NM HYD        ID=2 HYD=2  AREA=0.004513  PER A=0 PER B=26
                      PER C=26 PER D=48  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=2   CODE=1
*
*S COMPUTE BASIN 3 ***************************************************
COMPUTE NM HYD        ID=3 HYD=3  AREA=0.006875  PER A=0 PER B=31
                      PER C=31 PER D=38  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=3   CODE=1
*
*S COMPUTE BASIN 4 ***************************************************
COMPUTE NM HYD        ID=4 HYD=4  AREA=0.003594  PER A=0 PER B=26
                      PER C=26 PER D=48  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=4   CODE=1
*
*S COMPUTE BASIN 5 ***************************************************
COMPUTE NM HYD        ID=5 HYD=5  AREA=0.001875  PER A=0 PER B=31.5
                      PER C=31.5 PER D=37  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=5   CODE=1
*
*S COMPUTE FUTURE BASIN 1 ********************************************
COMPUTE NM HYD        ID=6 HYD=FB.1  AREA=0.010781  PER A=0 PER B=21
                      PER C=21 PER D=58  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=6   CODE=1
*
*S COMPUTE FUTURE BASIN 2 ********************************************
COMPUTE NM HYD        ID=7 HYD=FB.2  AREA=0.0075  PER A=0 PER B=23
                      PER C=23 PER D=54  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=7   CODE=1
*
*S COMPUTE FUTURE BASIN 3 ********************************************
COMPUTE NM HYD        ID=8 HYD=FB.3  AREA=0.005938  PER A=0 PER B=22.5
                      PER C=22.5 PER D=55  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=8   CODE=1
*
*S COMPUTE FUTURE BASIN 4 ********************************************
COMPUTE NM HYD        ID=9 HYD=FB.4  AREA=0.004844  PER A=0 PER B=29.5
                      PER C=29.5 PER D=41  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=9   CODE=1
*
*S COMPUTE OFFSITE BASIN 2 *******************************************
COMPUTE NM HYD        ID=10 HYD=OFF.2  AREA=0.000938  PER A=80 PER B=20
                      PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=10   CODE=1
*
*S COMPUTE OFFSITE BASIN 3 *******************************************
COMPUTE NM HYD        ID=11 HYD=OFF.3  AREA=0.001094  PER A=76 PER B=24
                      PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=11   CODE=1
*
*S COMPUTE OFFSITE BASIN 4 *******************************************
COMPUTE NM HYD        ID=12 HYD=OFF.4  AREA=0.001406 PER A=80 PER B=20
                      PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=12   CODE=1
*
*S COMPUTE OFFSITE BASIN 5 *******************************************
COMPUTE NM HYD        ID=13 HYD=OFF.5  AREA=0.003281  PER A=95 PER B=5
                      PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=13   CODE=1
*
*S COMPUTE OFFSITE BASIN WELL ****************************************
COMPUTE NM HYD        ID=14 HYD=OFF.WELL  AREA=0.001563  PER A=0 PER B=40
                      PER C=40 PER D=20  TP=-0.1715  RAINFALL=-1
PRINT HYD                ID=14   CODE=1
*
*S
*
*S ADD BASINS 1 AND 2 TO CREATE TEMP A *********************************
ADD HYD              ID=15 HYD=TEMP.A ID I=1 II=2
PRINT HYD             ID=15 CODE=0
*
*S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B*******************************
ADD HYD             ID=16 HYD=TEMP.B ID I=15 II=3
PRINT HYD            ID=16 CODE=0
*
*S ADD BASINS TEMP B AND 5 TO CREATE TEMP C*****************************
ADD HYD             ID=17 HYD=TEMP.C ID I=16 II=5
PRINT HYD            ID=17 CODE=0
*
*S ADD BASINS TEMP C AND FUTURE BASIN 1 TO CREATE TEMP D*******************************
```

```
    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02c
         RUN DATE (MON/DAY/YR) = 06/23/2014
         START TIME (HR:MIN:SEC) = 14:30:46     USER NO.= AHYMO-S-9702c1BohanHu-AH
         INPUT FILE = DEV_Cond.HYM

*S  TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED
*S  100 YEAR - 24 HOUR STORM
*S
*  CREATED JUNE 20, 2014
*
*
*CONVERT TO NMHYMO
START                TIME=0.0 HR  PUNCH CODE=0
*****************************************************
LOCATION           NM
     Soil infiltration values (LAND FACTORS) for this location are not available.
     The following default values were used.
     Land Treatment     Initial Abstr.(in)    Unif. Infilt.(in/hour)
          A             0.65                  1.67
          B             0.50                  1.25
          C             0.35                  0.83
          D             0.10                  0.04

*
*****************************************************
*
*****************************************************
*100 YEAR - 24 HOUR
RAINFALL             TYPE=2  RAIN QUARTER=0
                             RAIN ONE=1.84 IN  RAIN SIX=2.20 IN
                             RAIN DAY=2.66 IN  DT=0.10 HRS


               COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
               DT =    .100000 HOURS       END TIME =    24.000000 HOURS
                  .0000   .0060   .0124   .0193   .0266   .0347   .0435
                  .0532   .0640   .0764   .0908   .1071   .1906   .4476
                  .9796  1.3314  1.5028  1.6393  1.7527  1.8488  1.9308
                 1.9485  1.9639  1.9776  1.9899  2.0013  2.0117  2.0215
                 2.0306  2.0393  2.0475  2.0553  2.0627  2.0698  2.0766
                 2.0832  2.0895  2.0956  2.1015  2.1072  2.1128  2.1182
                 2.1234  2.1285  2.1335  2.1383  2.1431  2.1477  2.1522
                 2.1566  2.1610  2.1652  2.1694  2.1734  2.1774  2.1814
                 2.1852  2.1890  2.1927  2.1964  2.2000  2.2039  2.2078
                 2.2117  2.2155  2.2193  2.2231  2.2268  2.2305  2.2342
                 2.2379  2.2416  2.2452  2.2488  2.2524  2.2559  2.2595
                 2.2630  2.2665  2.2700  2.2734  2.2768  2.2802  2.2836
                 2.2870  2.2903  2.2937  2.2970  2.3002  2.3035  2.3068
                 2.3100  2.3132  2.3164  2.3196  2.3227  2.3259  2.3290
                 2.3321  2.3352  2.3383  2.3413  2.3444  2.3474  2.3504
                 2.3534  2.3563  2.3593  2.3622  2.3652  2.3681  2.3710
                 2.3739  2.3767  2.3796  2.3824  2.3853  2.3881  2.3909
                 2.3937  2.3965  2.3992  2.4020  2.4047  2.4074  2.4101
                 2.4128  2.4155  2.4182  2.4208  2.4235  2.4261  2.4287
                 2.4314  2.4340  2.4365  2.4391  2.4417  2.4442  2.4468
                 2.4493  2.4518  2.4543  2.4568  2.4593  2.4618  2.4643
                 2.4667  2.4692  2.4716  2.4740  2.4765  2.4789  2.4813
                 2.4837  2.4860  2.4884  2.4908  2.4931  2.4955  2.4978
                 2.5001  2.5024  2.5047  2.5070  2.5093  2.5116  2.5139
                 2.5161  2.5184  2.5206  2.5229  2.5251  2.5273  2.5295
                 2.5317  2.5339  2.5361  2.5383  2.5404  2.5426  2.5448
                 2.5469  2.5490  2.5512  2.5533  2.5554  2.5575  2.5596
                 2.5617  2.5638  2.5659  2.5680  2.5700  2.5721  2.5741
                 2.5762  2.5782  2.5803  2.5823  2.5843  2.5863  2.5883
                 2.5903  2.5923  2.5943  2.5963  2.5982  2.6002  2.6022
                 2.6041  2.6061  2.6080  2.6099  2.6119  2.6138  2.6157
                 2.6176  2.6195  2.6214  2.6233  2.6252  2.6271  2.6290
                 2.6308  2.6327  2.6346  2.6364  2.6383  2.6401  2.6419
                 2.6438  2.6456  2.6474  2.6492  2.6510  2.6528  2.6546
                 2.6564  2.6582  2.6600

*S
*S                    **********************
*S                    *COMPUTE ONSITE BASINS*
*s                    **********************
*S
*S
*S
*S COMPUTE BASIN 1 ****************************************************
*
COMPUTE NM HYD       ID=1 HYD=1  AREA=0.005  PER A=0 PER B=24
                                 PER C=24 PER D=52  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   7.9785    CFS   UNIT VOLUME =    1.005       B =   526.28      P60 = 1.8400
     AREA =      .002600 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   4.9601    CFS   UNIT VOLUME =    1.002       B =   354.44      P60 = 1.8400
     AREA =      .002400 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=1   CODE=1

                                    OUTFLOW HYDROGRAPH REACH     1.00


    RUNOFF VOLUME =     1.64591 INCHES     =        .4389 ACRE-FEET
    PEAK DISCHARGE RATE =       8.92 CFS  AT   1.500 HOURS   BASIN AREA =   .0050 SQ. MI.



*
*S COMPUTE BASIN 2 ****************************************************
COMPUTE NM HYD       ID=2 HYD=2  AREA=0.004513  PER A=0 PER B=26
                                 PER C=26 PER D=48  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   6.6475    CFS   UNIT VOLUME =    1.004       B =   526.28      P60 = 1.8400
```

```
     AREA =      .002166 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   4.8501    CFS   UNIT VOLUME =    1.002       B =   354.44      P60 = 1.8400
     AREA =      .002347 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=2   CODE=1

                                  OUTFLOW HYDROGRAPH REACH     2.00


    RUNOFF VOLUME =     1.58072 INCHES     =        .3805 ACRE-FEET
    PEAK DISCHARGE RATE =       7.86 CFS  AT   1.500 HOURS   BASIN AREA =   .0045 SQ. MI.



*
*S COMPUTE BASIN 3 ****************************************************
COMPUTE NM HYD       ID=3 HYD=3  AREA=0.006875  PER A=0 PER B=31
                                 PER C=31 PER D=38  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.0169    CFS   UNIT VOLUME =    1.005       B =   526.28      P60 = 1.8400
     AREA =      .002613 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   8.8093    CFS   UNIT VOLUME =    1.003       B =   354.44      P60 = 1.8400
     AREA =      .004263 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=3   CODE=1

                                  OUTFLOW HYDROGRAPH REACH     3.00


    RUNOFF VOLUME =     1.41777 INCHES     =        .5198 ACRE-FEET
    PEAK DISCHARGE RATE =      11.22 CFS  AT   1.500 HOURS   BASIN AREA =   .0069 SQ. MI.



*
*S COMPUTE BASIN 4 ****************************************************
COMPUTE NM HYD       ID=4 HYD=4  AREA=0.003594  PER A=0 PER B=26
                                 PER C=26 PER D=48  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   5.2938    CFS   UNIT VOLUME =    1.004       B =   526.28      P60 = 1.8400
     AREA =      .001725 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   3.8624    CFS   UNIT VOLUME =    1.001       B =   354.44      P60 = 1.8400
     AREA =      .001869 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=4   CODE=1

                                  OUTFLOW HYDROGRAPH REACH     4.00


    RUNOFF VOLUME =     1.58072 INCHES     =        .3030 ACRE-FEET
    PEAK DISCHARGE RATE =       6.26 CFS  AT   1.500 HOURS   BASIN AREA =   .0036 SQ. MI.



*
*S COMPUTE BASIN 5 ****************************************************
COMPUTE NM HYD       ID=5 HYD=5  AREA=0.001875  PER A=0 PER B=31.5
                                 PER C=31.5 PER D=37  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   2.1289    CFS   UNIT VOLUME =    1.001       B =   526.28      P60 = 1.8400
     AREA =      .000694 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   2.4413    CFS   UNIT VOLUME =    .9998       B =   354.44      P60 = 1.8400
     AREA =      .001181 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=5   CODE=1

                                  OUTFLOW HYDROGRAPH REACH     5.00


    RUNOFF VOLUME =     1.40148 INCHES     =        .1401 ACRE-FEET
    PEAK DISCHARGE RATE =       3.05 CFS  AT   1.500 HOURS   BASIN AREA =   .0019 SQ. MI.



*
*S COMPUTE FUTURE BASIN 1 *********************************************
COMPUTE NM HYD       ID=6 HYD=FB.1  AREA=0.010781  PER A=0 PER B=21
                                 PER C=21 PER D=58  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   19.188    CFS   UNIT VOLUME =    1.005       B =   526.28      P60 = 1.8400
     AREA =      .006253 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   9.3581    CFS   UNIT VOLUME =    1.003       B =   354.44      P60 = 1.8400
     AREA =      .004528 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000
```

```
PRINT HYD                 ID=6   CODE=1

                                    HYDROGRAPH FROM AREA FB.1


    RUNOFF VOLUME =     1.74368 INCHES     =       1.0026 ACRE-FEET
    PEAK DISCHARGE RATE =      19.93 CFS  AT   1.500 HOURS   BASIN AREA =   .0108 SQ. MI.



*
*S COMPUTE FUTURE BASIN 2 ******************************************************
COMPUTE NM HYD       ID=7 HYD=FB.2  AREA=0.0075  PER A=0 PER B=23
                          PER C=23 PER D=54  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   12.428    CFS   UNIT VOLUME =    1.005       B =   526.28      P60 = 1.8400
     AREA =      .004050 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   7.1301    CFS   UNIT VOLUME =    1.002       B =   354.44      P60 = 1.8400
     AREA =      .003450 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=7   CODE=1

                                    HYDROGRAPH FROM AREA FB.2


    RUNOFF VOLUME =     1.67850 INCHES     =        .6714 ACRE-FEET
    PEAK DISCHARGE RATE =      13.54 CFS  AT   1.500 HOURS   BASIN AREA =   .0075 SQ. MI.



*
*S COMPUTE FUTURE BASIN 3 ******************************************************
COMPUTE NM HYD       ID=8 HYD=FB.3  AREA=0.005938  PER A=0 PER B=22.5
                          PER C=22.5 PER D=55  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   10.022    CFS   UNIT VOLUME =    1.005       B =   526.28      P60 = 1.8400
     AREA =      .003266 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   5.5224    CFS   UNIT VOLUME =    1.002       B =   354.44      P60 = 1.8400
     AREA =      .002672 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=8   CODE=1

                                    HYDROGRAPH FROM AREA FB.3


    RUNOFF VOLUME =     1.69479 INCHES     =        .5367 ACRE-FEET
    PEAK DISCHARGE RATE =      10.79 CFS  AT   1.500 HOURS   BASIN AREA =   .0059 SQ. MI.



*
*S COMPUTE FUTURE BASIN 4 ******************************************************
COMPUTE NM HYD       ID=9 HYD=FB.4  AREA=0.004844  PER A=0 PER B=29.5
                          PER C=29.5 PER D=41  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   6.0945    CFS   UNIT VOLUME =    1.004       B =   526.28      P60 = 1.8400
     AREA =      .001986 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   5.9066    CFS   UNIT VOLUME =    1.002       B =   354.44      P60 = 1.8400
     AREA =      .002858 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=9   CODE=1

                                    HYDROGRAPH FROM AREA FB.4


    RUNOFF VOLUME =     1.46666 INCHES     =        .3789 ACRE-FEET
    PEAK DISCHARGE RATE =       8.07 CFS  AT   1.500 HOURS   BASIN AREA =   .0048 SQ. MI.



*
♀
*S COMPUTE OFFSITE BASIN 2 *****************************************************
COMPUTE NM HYD       ID=10 HYD=OFF.2  AREA=0.000938  PER A=80 PER B=20
                          PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1

     K =   .203093HR    TP =   .171500HR    K/TP RATIO =  1.184216     SHAPE CONSTANT, N =  2.997519
     UNIT PEAK =   1.5403    CFS   UNIT VOLUME =    .9852       B =   281.62      P60 = 1.8400
     AREA =      .000938 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=10   CODE=1

                                    HYDROGRAPH FROM AREA OFF.2


    RUNOFF VOLUME =      .45840 INCHES     =        .0229 ACRE-FEET
    PEAK DISCHARGE RATE =        .62 CFS  AT   1.500 HOURS   BASIN AREA =   .0009 SQ. MI.



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*S COMPUTE OFFSITE BASIN 3 ****************************************************
COMPUTE NM HYD       ID=11 HYD=OFF.3  AREA=0.001094  PER A=76 PER B=24
                           PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1

     K =   .201399HR    TP =   .171500HR    K/TP RATIO =  1.174338     SHAPE CONSTANT, N =  3.020870
     UNIT PEAK =   1.8086    CFS   UNIT VOLUME =    .9871       B =   283.52      P60 = 1.8400
     AREA =      .001094 SQ MI    IA =    .61400 INCHES    INF =   1.56920 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=11   CODE=1

                                    HYDROGRAPH FROM AREA OFF.3


    RUNOFF VOLUME =      .46712 INCHES     =        .0273 ACRE-FEET
    PEAK DISCHARGE RATE =        .74 CFS  AT   1.500 HOURS   BASIN AREA =   .0011 SQ. MI.



*
*S COMPUTE OFFSITE BASIN 4 ****************************************************
COMPUTE NM HYD       ID=12 HYD=OFF.4  AREA=0.001406 PER A=80 PER B=20
                           PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1

     K =   .203093HR    TP =   .171500HR    K/TP RATIO =  1.184216     SHAPE CONSTANT, N =  2.997519
     UNIT PEAK =   2.3088    CFS   UNIT VOLUME =    .9875       B =   281.62      P60 = 1.8400
     AREA =      .001406 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=12   CODE=1

                                    HYDROGRAPH FROM AREA OFF.4


    RUNOFF VOLUME =      .45840 INCHES     =        .0344 ACRE-FEET
    PEAK DISCHARGE RATE =        .93 CFS  AT   1.500 HOURS   BASIN AREA =   .0014 SQ. MI.



*
*S COMPUTE OFFSITE BASIN 5 ****************************************************
COMPUTE NM HYD       ID=13 HYD=OFF.5  AREA=0.003281  PER A=95 PER B=5
                           PER C=0 PER D=0  TP=-0.1715  RAINFALL=-1

     K =   .209446HR    TP =   .171500HR    K/TP RATIO =  1.221261     SHAPE CONSTANT, N =  2.914129
     UNIT PEAK =   5.2562    CFS   UNIT VOLUME =    .9902       B =   274.74      P60 = 1.8400
     AREA =      .003281 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=13   CODE=1

                                    HYDROGRAPH FROM AREA OFF.5


    RUNOFF VOLUME =      .42601 INCHES     =        .0745 ACRE-FEET
    PEAK DISCHARGE RATE =       1.99 CFS  AT   1.500 HOURS   BASIN AREA =   .0033 SQ. MI.



*
*S COMPUTE OFFSITE BASIN WELL *************************************************
COMPUTE NM HYD       ID=14 HYD=OFF.WELL  AREA=0.001563  PER A=0 PER B=40
                           PER C=40 PER D=20  TP=-0.1715  RAINFALL=-1

     K =   .093468HR    TP =   .171500HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .95926    CFS   UNIT VOLUME =    .9965       B =   526.28      P60 = 1.8400
     AREA =      .000313 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .152490HR    TP =   .171500HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989068
     UNIT PEAK =   2.5842    CFS   UNIT VOLUME =    .9998       B =   354.44      P60 = 1.8400
     AREA =      .001250 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD                 ID=14   CODE=1

                                    HYDROGRAPH FROM AREA OFF.WELL


    RUNOFF VOLUME =     1.12446 INCHES     =        .0937 ACRE-FEET
    PEAK DISCHARGE RATE =       2.26 CFS  AT   1.500 HOURS   BASIN AREA =   .0016 SQ. MI.



*
*S
*
*S ADD BASINS 1 AND 2 TO CREATE TEMP A ***********************************
ADD HYD             ID=15 HYD=TEMP.A ID I=1 II=2
PRINT HYD            ID=15 CODE=0

                                    HYDROGRAPH FROM AREA TEMP.A

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         5.000        .1        10.000        .1        15.000        .1        20.000        .1
      .100        .0         5.100        .1        10.100        .1        15.100        .1        20.100        .1
      .200        .0         5.200        .1        10.200        .1        15.200        .1        20.200        .1
      .300        .0         5.300        .1        10.300        .1        15.300        .1        20.300        .1
      .400        .0         5.400        .1        10.400        .1        15.400        .1        20.400        .1
      .500        .0         5.500        .1        10.500        .1        15.500        .1        20.500        .1
      .600        .0         5.600        .1        10.600        .1        15.600        .1        20.600        .1
      .700        .0         5.700        .1        10.700        .1        15.700        .1        20.700        .1
      .800        .0         5.800        .1        10.800        .1        15.800        .1        20.800        .1
      .900        .0         5.900        .1        10.900        .1        15.900        .1        20.900        .1
     1.000        .0         6.000        .1        11.000        .1        16.000        .1        21.000        .1
     1.100        .0         6.100        .1        11.100        .1        16.100        .1        21.100        .1
     1.200        .6         6.200        .1        11.200        .1        16.200        .1        21.200        .1
```

1.300	2.9	6.300	.1	11.300	.1	16.300	.1	21.300	.1
1.400	10.5	6.400	.1	11.400	.1	16.400	.1	21.400	.1
1.500	16.8	6.500	.1	11.500	.1	16.500	.1	21.500	.1
1.600	14.4	6.600	.1	11.600	.1	16.600	.1	21.600	.1
1.700	9.8	6.700	.1	11.700	.1	16.700	.1	21.700	.1
1.800	6.9	6.800	.1	11.800	.1	16.800	.1	21.800	.1
1.900	5.2	6.900	.1	11.900	.1	16.900	.1	21.900	.1
2.000	4.2	7.000	.1	12.000	.1	17.000	.1	22.000	.1
2.100	3.1	7.100	.1	12.100	.1	17.100	.1	22.100	.1
2.200	1.9	7.200	.1	12.200	.1	17.200	.1	22.200	.1
2.300	1.3	7.300	.1	12.300	.1	17.300	.1	22.300	.1
2.400	1.0	7.400	.1	12.400	.1	17.400	.1	22.400	.1
2.500	.8	7.500	.1	12.500	.1	17.500	.1	22.500	.1
2.600	.6	7.600	.1	12.600	.1	17.600	.1	22.600	.1
2.700	.5	7.700	.1	12.700	.1	17.700	.1	22.700	.1
2.800	.4	7.800	.1	12.800	.1	17.800	.1	22.800	.1
2.900	.3	7.900	.1	12.900	.1	17.900	.1	22.900	.1
3.000	.3	8.000	.1	13.000	.1	18.000	.1	23.000	.1
3.100	.2	8.100	.1	13.100	.1	18.100	.1	23.100	.1
3.200	.2	8.200	.1	13.200	.1	18.200	.1	23.200	.1
3.300	.2	8.300	.1	13.300	.1	18.300	.1	23.300	.1
3.400	.2	8.400	.1	13.400	.1	18.400	.1	23.400	.1
3.500	.1	8.500	.1	13.500	.1	18.500	.1	23.500	.1
3.600	.1	8.600	.1	13.600	.1	18.600	.1	23.600	.1
3.700	.1	8.700	.1	13.700	.1	18.700	.1	23.700	.1
3.800	.1	8.800	.1	13.800	.1	18.800	.1	23.800	.1
3.900	.1	8.900	.1	13.900	.1	18.900	.1	23.900	.1
4.000	.1	9.000	.1	14.000	.1	19.000	.1	24.000	.1
4.100	.1	9.100	.1	14.100	.1	19.100	.1	24.100	.0
4.200	.1	9.200	.1	14.200	.1	19.200	.1	24.200	.0
4.300	.1	9.300	.1	14.300	.1	19.300	.1	24.300	.0
4.400	.1	9.400	.1	14.400	.1	19.400	.1	24.400	.0
4.500	.1	9.500	.1	14.500	.1	19.500	.1	24.500	.0
4.600	.1	9.600	.1	14.600	.1	19.600	.1	24.600	.0
4.700	.1	9.700	.1	14.700	.1	19.700	.1	24.700	.0
4.800	.1	9.800	.1	14.800	.1	19.800	.1		
4.900	.1	9.900	.1	14.900	.1	19.900	.1		

RUNOFF VOLUME = 1.61490 INCHES = .8193 ACRE-FEET
PEAK DISCHARGE RATE = 16.78 CFS AT 1.500 HOURS BASIN AREA = .0095 SQ. MI.

```
*
*S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B*******************************
ADD HYD            ID=16 HYD=TEMP.B ID I=15 II=3
PRINT HYD           ID=16 CODE=0
```

HYDROGRAPH FROM AREA TEMP.B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
.100	.0	5.100	.1	10.100	.1	15.100	.1	20.100	.1
.200	.0	5.200	.2	10.200	.1	15.200	.1	20.200	.1
.300	.0	5.300	.2	10.300	.1	15.300	.1	20.300	.1
.400	.0	5.400	.2	10.400	.1	15.400	.1	20.400	.1
.500	.0	5.500	.2	10.500	.1	15.500	.1	20.500	.1
.600	.0	5.600	.2	10.600	.1	15.600	.1	20.600	.1
.700	.0	5.700	.2	10.700	.1	15.700	.1	20.700	.1
.800	.0	5.800	.2	10.800	.1	15.800	.1	20.800	.1
.900	.0	5.900	.2	10.900	.1	15.900	.1	20.900	.1
1.000	.0	6.000	.2	11.000	.1	16.000	.1	21.000	.1
1.100	.1	6.100	.2	11.100	.1	16.100	.1	21.100	.1
1.200	1.0	6.200	.2	11.200	.1	16.200	.1	21.200	.1
1.300	4.6	6.300	.2	11.300	.1	16.300	.1	21.300	.1
1.400	17.3	6.400	.2	11.400	.1	16.400	.1	21.400	.1
1.500	28.0	6.500	.2	11.500	.1	16.500	.1	21.500	.1
1.600	24.1	6.600	.2	11.600	.1	16.600	.1	21.600	.1
1.700	16.3	6.700	.2	11.700	.1	16.700	.1	21.700	.1
1.800	11.5	6.800	.2	11.800	.1	16.800	.1	21.800	.1
1.900	8.5	6.900	.2	11.900	.1	16.900	.1	21.900	.1
2.000	6.7	7.000	.2	12.000	.1	17.000	.1	22.000	.1
2.100	4.9	7.100	.2	12.100	.1	17.100	.1	22.100	.1
2.200	3.0	7.200	.2	12.200	.1	17.200	.1	22.200	.1
2.300	2.1	7.300	.2	12.300	.1	17.300	.1	22.300	.1
2.400	1.6	7.400	.2	12.400	.1	17.400	.1	22.400	.1
2.500	1.3	7.500	.2	12.500	.1	17.500	.1	22.500	.1
2.600	1.0	7.600	.2	12.600	.1	17.600	.1	22.600	.1
2.700	.8	7.700	.2	12.700	.1	17.700	.1	22.700	.1
2.800	.7	7.800	.2	12.800	.1	17.800	.1	22.800	.1
2.900	.5	7.900	.2	12.900	.1	17.900	.1	22.900	.1
3.000	.5	8.000	.2	13.000	.1	18.000	.1	23.000	.1
3.100	.4	8.100	.2	13.100	.1	18.100	.1	23.100	.1
3.200	.3	8.200	.2	13.200	.1	18.200	.1	23.200	.1
3.300	.3	8.300	.2	13.300	.1	18.300	.1	23.300	.1
3.400	.2	8.400	.2	13.400	.1	18.400	.1	23.400	.1
3.500	.2	8.500	.2	13.500	.1	18.500	.1	23.500	.1
3.600	.2	8.600	.2	13.600	.1	18.600	.1	23.600	.1
3.700	.2	8.700	.2	13.700	.1	18.700	.1	23.700	.1
3.800	.2	8.800	.2	13.800	.1	18.800	.1	23.800	.1
3.900	.2	8.900	.2	13.900	.1	18.900	.1	23.900	.1
4.000	.2	9.000	.2	14.000	.1	19.000	.1	24.000	.1
4.100	.1	9.100	.2	14.100	.1	19.100	.1	24.100	.1
4.200	.1	9.200	.2	14.200	.1	19.200	.1	24.200	.0
4.300	.1	9.300	.2	14.300	.1	19.300	.1	24.300	.0
4.400	.1	9.400	.2	14.400	.1	19.400	.1	24.400	.0
4.500	.1	9.500	.2	14.500	.1	19.500	.1	24.500	.0
4.600	.1	9.600	.2	14.600	.1	19.600	.1	24.600	.0
4.700	.1	9.700	.2	14.700	.1	19.700	.1	24.700	.0
4.800	.1	9.800	.1	14.800	.1	19.800	.1		
4.900	.1	9.900	.1	14.900	.1	19.900	.1		

RUNOFF VOLUME = 1.53218 INCHES = 1.3392 ACRE-FEET
PEAK DISCHARGE RATE = 28.00 CFS AT 1.500 HOURS BASIN AREA = .0164 SQ. MI.

```
*
*S ADD BASINS TEMP B AND 5 TO CREATE TEMP C*******************************
ADD HYD            ID=17 HYD=TEMP.C ID I=16 II=5
PRINT HYD           ID=17 CODE=0
```

HYDROGRAPH FROM AREA TEMP.C

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.1	20.000	.1
.100	.0	5.100	.2	10.100	.2	15.100	.1	20.100	.1
.200	.0	5.200	.2	10.200	.2	15.200	.1	20.200	.1
.300	.0	5.300	.2	10.300	.2	15.300	.1	20.300	.1
.400	.0	5.400	.2	10.400	.2	15.400	.1	20.400	.1
.500	.0	5.500	.2	10.500	.2	15.500	.1	20.500	.1
.600	.0	5.600	.2	10.600	.2	15.600	.1	20.600	.1
.700	.0	5.700	.2	10.700	.2	15.700	.1	20.700	.1
.800	.0	5.800	.2	10.800	.2	15.800	.1	20.800	.1
.900	.0	5.900	.2	10.900	.2	15.900	.1	20.900	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.1	21.000	.1
1.100	.1	6.100	.2	11.100	.2	16.100	.1	21.100	.1
1.200	1.1	6.200	.2	11.200	.2	16.200	.1	21.200	.1
1.300	5.0	6.300	.2	11.300	.2	16.300	.1	21.300	.1
1.400	19.2	6.400	.2	11.400	.1	16.400	.1	21.400	.1
1.500	31.1	6.500	.2	11.500	.1	16.500	.1	21.500	.1
1.600	26.7	6.600	.2	11.600	.1	16.600	.1	21.600	.1
1.700	18.1	6.700	.2	11.700	.1	16.700	.1	21.700	.1
1.800	12.7	6.800	.2	11.800	.1	16.800	.1	21.800	.1
1.900	9.4	6.900	.2	11.900	.1	16.900	.1	21.900	.1
2.000	7.4	7.000	.2	12.000	.1	17.000	.1	22.000	.1
2.100	5.5	7.100	.2	12.100	.1	17.100	.1	22.100	.1
2.200	3.3	7.200	.2	12.200	.1	17.200	.1	22.200	.1
2.300	2.3	7.300	.2	12.300	.1	17.300	.1	22.300	.1
2.400	1.8	7.400	.2	12.400	.1	17.400	.1	22.400	.1
2.500	1.4	7.500	.2	12.500	.1	17.500	.1	22.500	.1
2.600	1.1	7.600	.2	12.600	.1	17.600	.1	22.600	.1
2.700	.9	7.700	.2	12.700	.1	17.700	.1	22.700	.1
2.800	.7	7.800	.2	12.800	.1	17.800	.1	22.800	.1
2.900	.6	7.900	.2	12.900	.1	17.900	.1	22.900	.1
3.000	.5	8.000	.2	13.000	.1	18.000	.1	23.000	.1
3.100	.4	8.100	.2	13.100	.1	18.100	.1	23.100	.1
3.200	.4	8.200	.2	13.200	.1	18.200	.1	23.200	.1
3.300	.3	8.300	.2	13.300	.1	18.300	.1	23.300	.1
3.400	.3	8.400	.2	13.400	.1	18.400	.1	23.400	.1
3.500	.2	8.500	.2	13.500	.1	18.500	.1	23.500	.1
3.600	.2	8.600	.2	13.600	.1	18.600	.1	23.600	.1
3.700	.2	8.700	.2	13.700	.1	18.700	.1	23.700	.1
3.800	.2	8.800	.2	13.800	.1	18.800	.1	23.800	.1
3.900	.2	8.900	.2	13.900	.1	18.900	.1	23.900	.1
4.000	.2	9.000	.2	14.000	.1	19.000	.1	24.000	.1
4.100	.2	9.100	.2	14.100	.1	19.100	.1	24.100	.1
4.200	.2	9.200	.2	14.200	.1	19.200	.1	24.200	.0
4.300	.2	9.300	.2	14.300	.1	19.300	.1	24.300	.0
4.400	.2	9.400	.2	14.400	.1	19.400	.1	24.400	.0
4.500	.2	9.500	.2	14.500	.1	19.500	.1	24.500	.0
4.600	.2	9.600	.2	14.600	.1	19.600	.1	24.600	.0
4.700	.2	9.700	.2	14.700	.1	19.700	.1	24.700	.0
4.800	.2	9.800	.2	14.800	.1	19.800	.1		
4.900	.2	9.900	.2	14.900	.1	19.900	.1		

RUNOFF VOLUME = 1.51874 INCHES = 1.4793 ACRE-FEET
PEAK DISCHARGE RATE = 31.05 CFS AT 1.500 HOURS BASIN AREA = .0183 SQ. MI.

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*S ADD BASINS TEMP C AND FUTURE BASIN 1 TO CREATE TEMP D************************
ADD HYD             ID=18 HYD=TEMP.D ID I=17 II=6
PRINT HYD            ID=18 CODE=0
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HYDROGRAPH FROM AREA TEMP.D

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.3	10.000	.3	15.000	.2	20.000	.2
.100	.0	5.100	.3	10.100	.3	15.100	.2	20.100	.2
.200	.0	5.200	.3	10.200	.3	15.200	.2	20.200	.2
.300	.0	5.300	.3	10.300	.3	15.300	.2	20.300	.2
.400	.0	5.400	.3	10.400	.3	15.400	.2	20.400	.2
.500	.0	5.500	.3	10.500	.3	15.500	.2	20.500	.2
.600	.0	5.600	.3	10.600	.3	15.600	.2	20.600	.2
.700	.0	5.700	.3	10.700	.3	15.700	.2	20.700	.2
.800	.0	5.800	.3	10.800	.3	15.800	.2	20.800	.2
.900	.0	5.900	.3	10.900	.3	15.900	.2	20.900	.2
1.000	.0	6.000	.3	11.000	.3	16.000	.2	21.000	.2
1.100	.1	6.100	.3	11.100	.3	16.100	.2	21.100	.2
1.200	1.9	6.200	.4	11.200	.3	16.200	.2	21.200	.2
1.300	8.8	6.300	.4	11.300	.3	16.300	.2	21.300	.2
1.400	31.9	6.400	.4	11.400	.3	16.400	.2	21.400	.2
1.500	51.0	6.500	.4	11.500	.3	16.500	.2	21.500	.2
1.600	43.7	6.600	.4	11.600	.3	16.600	.2	21.600	.2
1.700	29.7	6.700	.3	11.700	.3	16.700	.2	21.700	.2
1.800	21.0	6.800	.3	11.800	.3	16.800	.2	21.800	.2
1.900	15.8	6.900	.3	11.900	.3	16.900	.2	21.900	.2
2.000	12.6	7.000	.3	12.000	.3	17.000	.2	22.000	.2
2.100	9.3	7.100	.3	12.100	.3	17.100	.2	22.100	.2
2.200	5.6	7.200	.3	12.200	.3	17.200	.2	22.200	.2
2.300	3.9	7.300	.3	12.300	.3	17.300	.2	22.300	.2
2.400	3.0	7.400	.3	12.400	.3	17.400	.2	22.400	.2
2.500	2.3	7.500	.3	12.500	.3	17.500	.2	22.500	.2
2.600	1.9	7.600	.3	12.600	.3	17.600	.2	22.600	.2
2.700	1.5	7.700	.3	12.700	.3	17.700	.2	22.700	.2
2.800	1.2	7.800	.3	12.800	.2	17.800	.2	22.800	.2
2.900	1.0	7.900	.3	12.900	.2	17.900	.2	22.900	.2
3.000	.8	8.000	.3	13.000	.2	18.000	.2	23.000	.2
3.100	.7	8.100	.3	13.100	.2	18.100	.2	23.100	.2
3.200	.6	8.200	.3	13.200	.2	18.200	.2	23.200	.2
3.300	.5	8.300	.3	13.300	.2	18.300	.2	23.300	.2
3.400	.5	8.400	.3	13.400	.2	18.400	.2	23.400	.2
3.500	.4	8.500	.3	13.500	.2	18.500	.2	23.500	.2
3.600	.4	8.600	.3	13.600	.2	18.600	.2	23.600	.2
3.700	.4	8.700	.3	13.700	.2	18.700	.2	23.700	.2
3.800	.3	8.800	.3	13.800	.2	18.800	.2	23.800	.2
3.900	.3	8.900	.3	13.900	.2	18.900	.2	23.900	.2
4.000	.3	9.000	.3	14.000	.2	19.000	.2	24.000	.2

4.100	.3	9.100	.3	14.100	.2	19.100	.2	24.100	.1
4.200	.3	9.200	.3	14.200	.2	19.200	.2	24.200	.1
4.300	.3	9.300	.3	14.300	.2	19.300	.2	24.300	.0
4.400	.3	9.400	.3	14.400	.2	19.400	.2	24.400	.0
4.500	.3	9.500	.3	14.500	.2	19.500	.2	24.500	.0
4.600	.3	9.600	.3	14.600	.2	19.600	.2	24.600	.0
4.700	.3	9.700	.3	14.700	.2	19.700	.2	24.700	.0
4.800	.3	9.800	.3	14.800	.2	19.800	.2	24.800	.0
4.900	.3	9.900	.3	14.900	.2	19.900	.2	24.900	.0

RUNOFF VOLUME = 1.60222 INCHES = 2.4818 ACRE-FEET
PEAK DISCHARGE RATE = 50.98 CFS AT 1.500 HOURS BASIN AREA = .0290 SQ. MI.

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*S ADD BASINS TEMP D AND FUTURE BASIN 2 TO CREATE TEMP E**********
ADD HYD ID=19 HYD=TEMP.E ID I=18 II=7
PRINT HYD ID=19 CODE=0

HYDROGRAPH FROM AREA TEMP.E

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.4	15.000	.3	20.000	.2
.100	.0	5.100	.4	10.100	.4	15.100	.3	20.100	.2
.200	.0	5.200	.4	10.200	.4	15.200	.3	20.200	.2
.300	.0	5.300	.4	10.300	.4	15.300	.3	20.300	.2
.400	.0	5.400	.4	10.400	.4	15.400	.3	20.400	.2
.500	.0	5.500	.4	10.500	.4	15.500	.3	20.500	.2
.600	.0	5.600	.4	10.600	.4	15.600	.3	20.600	.2
.700	.0	5.700	.4	10.700	.4	15.700	.3	20.700	.2
.800	.0	5.800	.4	10.800	.4	15.800	.3	20.800	.2
.900	.0	5.900	.4	10.900	.4	15.900	.3	20.900	.2
1.000	.0	6.000	.4	11.000	.4	16.000	.3	21.000	.2
1.100	.1	6.100	.4	11.100	.3	16.100	.3	21.100	.2
1.200	2.4	6.200	.4	11.200	.3	16.200	.3	21.200	.2
1.300	11.3	6.300	.5	11.300	.3	16.300	.3	21.300	.2
1.400	40.4	6.400	.5	11.400	.3	16.400	.3	21.400	.2
1.500	64.5	6.500	.5	11.500	.3	16.500	.3	21.500	.2
1.600	55.2	6.600	.5	11.600	.3	16.600	.3	21.600	.2
1.700	37.5	6.700	.4	11.700	.3	16.700	.3	21.700	.2
1.800	26.6	6.800	.4	11.800	.3	16.800	.3	21.800	.2
1.900	20.1	6.900	.4	11.900	.3	16.900	.3	21.900	.2
2.000	16.0	7.000	.4	12.000	.3	17.000	.3	22.000	.2
2.100	11.8	7.100	.4	12.100	.3	17.100	.3	22.100	.2
2.200	7.2	7.200	.4	12.200	.3	17.200	.3	22.200	.2
2.300	4.9	7.300	.4	12.300	.3	17.300	.3	22.300	.2
2.400	3.8	7.400	.4	12.400	.3	17.400	.3	22.400	.2
2.500	3.0	7.500	.4	12.500	.3	17.500	.3	22.500	.2
2.600	2.4	7.600	.4	12.600	.3	17.600	.3	22.600	.2
2.700	1.9	7.700	.4	12.700	.3	17.700	.3	22.700	.2
2.800	1.6	7.800	.4	12.800	.3	17.800	.3	22.800	.2
2.900	1.3	7.900	.4	12.900	.3	17.900	.3	22.900	.2
3.000	1.1	8.000	.4	13.000	.3	18.000	.3	23.000	.2
3.100	.9	8.100	.4	13.100	.3	18.100	.3	23.100	.2
3.200	.8	8.200	.4	13.200	.3	18.200	.3	23.200	.2
3.300	.7	8.300	.4	13.300	.3	18.300	.3	23.300	.2
3.400	.6	8.400	.4	13.400	.3	18.400	.3	23.400	.2
3.500	.5	8.500	.4	13.500	.3	18.500	.3	23.500	.2
3.600	.5	8.600	.4	13.600	.3	18.600	.3	23.600	.2
3.700	.5	8.700	.4	13.700	.3	18.700	.3	23.700	.2
3.800	.4	8.800	.4	13.800	.3	18.800	.2	23.800	.2
3.900	.4	8.900	.4	13.900	.3	18.900	.2	23.900	.2
4.000	.4	9.000	.4	14.000	.3	19.000	.2	24.000	.2
4.100	.4	9.100	.4	14.100	.3	19.100	.2	24.100	.2
4.200	.4	9.200	.4	14.200	.3	19.200	.2	24.200	.1
4.300	.4	9.300	.4	14.300	.3	19.300	.2	24.300	.0
4.400	.4	9.400	.4	14.400	.3	19.400	.2	24.400	.0
4.500	.4	9.500	.4	14.500	.3	19.500	.2	24.500	.0
4.600	.4	9.600	.4	14.600	.3	19.600	.2	24.600	.0
4.700	.4	9.700	.4	14.700	.3	19.700	.2	24.700	.0
4.800	.4	9.800	.4	14.800	.3	19.800	.2	24.800	.0
4.900	.4	9.900	.4	14.900	.3	19.900	.2	24.900	.0

RUNOFF VOLUME = 1.61787 INCHES = 3.1532 ACRE-FEET
PEAK DISCHARGE RATE = 64.52 CFS AT 1.500 HOURS BASIN AREA = .0365 SQ. MI.

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*S ADD BASINS TEMP E AND FUTURE BASIN 3 TO CREATE TEMP F**********
ADD HYD ID=20 HYD=TEMP.F ID I=19 II=8
PRINT HYD ID=20 CODE=0

HYDROGRAPH FROM AREA TEMP.F

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.4	15.000	.3	20.000	.3
.100	.0	5.100	.4	10.100	.4	15.100	.3	20.100	.3
.200	.0	5.200	.4	10.200	.4	15.200	.3	20.200	.3
.300	.0	5.300	.4	10.300	.4	15.300	.3	20.300	.3
.400	.0	5.400	.5	10.400	.4	15.400	.3	20.400	.3
.500	.0	5.500	.5	10.500	.4	15.500	.3	20.500	.3
.600	.0	5.600	.5	10.600	.4	15.600	.3	20.600	.3
.700	.0	5.700	.5	10.700	.4	15.700	.3	20.700	.3
.800	.0	5.800	.5	10.800	.4	15.800	.3	20.800	.3
.900	.0	5.900	.5	10.900	.4	15.900	.3	20.900	.3
1.000	.0	6.000	.5	11.000	.4	16.000	.3	21.000	.3
1.100	.2	6.100	.5	11.100	.4	16.100	.3	21.100	.3
1.200	2.8	6.200	.5	11.200	.4	16.200	.3	21.200	.3
1.300	13.3	6.300	.5	11.300	.4	16.300	.3	21.300	.3
1.400	47.2	6.400	.5	11.400	.4	16.400	.3	21.400	.3
1.500	75.3	6.500	.5	11.500	.4	16.500	.3	21.500	.3
1.600	64.4	6.600	.5	11.600	.4	16.600	.3	21.600	.3
1.700	43.8	6.700	.5	11.700	.4	16.700	.3	21.700	.3
1.800	31.1	6.800	.5	11.800	.4	16.800	.3	21.800	.3
1.900	23.5	6.900	.5	11.900	.4	16.900	.3	21.900	.3
2.000	18.7	7.000	.5	12.000	.4	17.000	.3	22.000	.3

2.100	13.9	7.100	.5	12.100	.4	17.100	.3	22.100	.3
2.200	8.4	7.200	.5	12.200	.4	17.200	.3	22.200	.3
2.300	5.8	7.300	.5	12.300	.4	17.300	.3	22.300	.3
2.400	4.4	7.400	.5	12.400	.4	17.400	.3	22.400	.3
2.500	3.5	7.500	.5	12.500	.4	17.500	.3	22.500	.3
2.600	2.8	7.600	.5	12.600	.4	17.600	.3	22.600	.3
2.700	2.2	7.700	.5	12.700	.4	17.700	.3	22.700	.3
2.800	1.8	7.800	.5	12.800	.4	17.800	.3	22.800	.3
2.900	1.5	7.900	.5	12.900	.4	17.900	.3	22.900	.3
3.000	1.2	8.000	.5	13.000	.4	18.000	.3	23.000	.3
3.100	1.1	8.100	.5	13.100	.4	18.100	.3	23.100	.3
3.200	.9	8.200	.5	13.200	.4	18.200	.3	23.200	.3
3.300	.8	8.300	.5	13.300	.4	18.300	.3	23.300	.3
3.400	.7	8.400	.5	13.400	.4	18.400	.3	23.400	.3
3.500	.6	8.500	.5	13.500	.4	18.500	.3	23.500	.3
3.600	.6	8.600	.5	13.600	.4	18.600	.3	23.600	.3
3.700	.5	8.700	.5	13.700	.4	18.700	.3	23.700	.3
3.800	.5	8.800	.5	13.800	.4	18.800	.3	23.800	.3
3.900	.5	8.900	.5	13.900	.4	18.900	.3	23.900	.3
4.000	.5	9.000	.5	14.000	.4	19.000	.3	24.000	.3
4.100	.4	9.100	.5	14.100	.4	19.100	.3	24.100	.2
4.200	.4	9.200	.5	14.200	.4	19.200	.3	24.200	.1
4.300	.4	9.300	.4	14.300	.4	19.300	.3	24.300	.0
4.400	.4	9.400	.4	14.400	.3	19.400	.3	24.400	.0
4.500	.4	9.500	.4	14.500	.3	19.500	.3	24.500	.0
4.600	.4	9.600	.4	14.600	.3	19.600	.3	24.600	.0
4.700	.4	9.700	.4	14.700	.3	19.700	.3	24.700	.0
4.800	.4	9.800	.4	14.800	.3	19.800	.3	24.800	.0
4.900	.4	9.900	.4	14.900	.3	19.900	.3	24.900	.0

RUNOFF VOLUME = 1.62861 INCHES = 3.6899 ACRE-FEET
PEAK DISCHARGE RATE = 75.31 CFS AT 1.500 HOURS BASIN AREA = .0425 SQ. MI.

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*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G**********
ADD HYD ID=21 HYD=TEMP.G ID I=20 II=11
PRINT HYD ID=21 CODE=0

HYDROGRAPH FROM AREA TEMP.G

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.4	15.000	.3	20.000	.3
.100	.0	5.100	.4	10.100	.4	15.100	.3	20.100	.3
.200	.0	5.200	.4	10.200	.4	15.200	.3	20.200	.3
.300	.0	5.300	.4	10.300	.4	15.300	.3	20.300	.3
.400	.0	5.400	.5	10.400	.4	15.400	.3	20.400	.3
.500	.0	5.500	.5	10.500	.4	15.500	.3	20.500	.3
.600	.0	5.600	.5	10.600	.4	15.600	.3	20.600	.3
.700	.0	5.700	.5	10.700	.4	15.700	.3	20.700	.3
.800	.0	5.800	.5	10.800	.4	15.800	.3	20.800	.3
.900	.0	5.900	.5	10.900	.4	15.900	.3	20.900	.3
1.000	.0	6.000	.5	11.000	.4	16.000	.3	21.000	.3
1.100	.2	6.100	.5	11.100	.4	16.100	.3	21.100	.3
1.200	2.8	6.200	.5	11.200	.4	16.200	.3	21.200	.3
1.300	13.3	6.300	.5	11.300	.4	16.300	.3	21.300	.3
1.400	47.6	6.400	.5	11.400	.4	16.400	.3	21.400	.3
1.500	76.1	6.500	.5	11.500	.4	16.500	.3	21.500	.3
1.600	65.1	6.600	.5	11.600	.4	16.600	.3	21.600	.3
1.700	44.2	6.700	.5	11.700	.4	16.700	.3	21.700	.3
1.800	31.4	6.800	.5	11.800	.4	16.800	.3	21.800	.3
1.900	23.7	6.900	.5	11.900	.4	16.900	.3	21.900	.3
2.000	18.9	7.000	.5	12.000	.4	17.000	.3	22.000	.3
2.100	13.9	7.100	.5	12.100	.4	17.100	.3	22.100	.3
2.200	8.4	7.200	.5	12.200	.4	17.200	.3	22.200	.3
2.300	5.8	7.300	.5	12.300	.4	17.300	.3	22.300	.3
2.400	4.5	7.400	.5	12.400	.4	17.400	.3	22.400	.3
2.500	3.5	7.500	.5	12.500	.4	17.500	.3	22.500	.3
2.600	2.8	7.600	.5	12.600	.4	17.600	.3	22.600	.3
2.700	2.3	7.700	.5	12.700	.4	17.700	.3	22.700	.3
2.800	1.8	7.800	.5	12.800	.4	17.800	.3	22.800	.3
2.900	1.5	7.900	.5	12.900	.4	17.900	.3	22.900	.3
3.000	1.3	8.000	.5	13.000	.4	18.000	.3	23.000	.3
3.100	1.1	8.100	.5	13.100	.4	18.100	.3	23.100	.3
3.200	.9	8.200	.5	13.200	.4	18.200	.3	23.200	.3
3.300	.8	8.300	.5	13.300	.4	18.300	.3	23.300	.3
3.400	.7	8.400	.5	13.400	.4	18.400	.3	23.400	.3
3.500	.6	8.500	.5	13.500	.4	18.500	.3	23.500	.3
3.600	.6	8.600	.5	13.600	.4	18.600	.3	23.600	.3
3.700	.5	8.700	.5	13.700	.4	18.700	.3	23.700	.3
3.800	.5	8.800	.5	13.800	.4	18.800	.3	23.800	.3
3.900	.5	8.900	.5	13.900	.4	18.900	.3	23.900	.3
4.000	.5	9.000	.5	14.000	.4	19.000	.3	24.000	.3
4.100	.4	9.100	.5	14.100	.4	19.100	.3	24.100	.2
4.200	.4	9.200	.5	14.200	.4	19.200	.3	24.200	.1
4.300	.4	9.300	.4	14.300	.4	19.300	.3	24.300	.0
4.400	.4	9.400	.4	14.400	.3	19.400	.3	24.400	.0
4.500	.4	9.500	.4	14.500	.3	19.500	.3	24.500	.0
4.600	.4	9.600	.4	14.600	.3	19.600	.3	24.600	.0
4.700	.4	9.700	.4	14.700	.3	19.700	.3	24.700	.0
4.800	.4	9.800	.4	14.800	.3	19.800	.3	24.800	.0
4.900	.4	9.900	.4	14.900	.3	19.900	.3	24.900	.0

RUNOFF VOLUME = 1.59945 INCHES = 3.7172 ACRE-FEET
PEAK DISCHARGE RATE = 76.05 CFS AT 1.500 HOURS BASIN AREA = .0436 SQ. MI.

*

*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H**********
ADD HYD ID=22 HYD=TEMP.H ID I=21 II=12
PRINT HYD ID=22 CODE=0

HYDROGRAPH FROM AREA TEMP.H

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.4	15.000	.3	20.000	.3

.100	.0	5.100	.4	10.100	.4	15.100	.3	20.100	.3
.200	.0	5.200	.4	10.200	.4	15.200	.3	20.200	.3
.300	.0	5.300	.4	10.300	.4	15.300	.3	20.300	.3
.400	.0	5.400	.5	10.400	.4	15.400	.3	20.400	.3
.500	.0	5.500	.5	10.500	.4	15.500	.3	20.500	.3
.600	.0	5.600	.5	10.600	.4	15.600	.3	20.600	.3
.700	.0	5.700	.5	10.700	.4	15.700	.3	20.700	.3
.800	.0	5.800	.5	10.800	.4	15.800	.3	20.800	.3
.900	.0	5.900	.5	10.900	.4	15.900	.3	20.900	.3
1.000	.0	6.000	.5	11.000	.4	16.000	.3	21.000	.3
1.100	.2	6.100	.5	11.100	.4	16.100	.3	21.100	.3
1.200	2.8	6.200	.5	11.200	.4	16.200	.3	21.200	.3
1.300	13.3	6.300	.5	11.300	.4	16.300	.3	21.300	.3
1.400	48.1	6.400	.5	11.400	.4	16.400	.3	21.400	.3
1.500	77.0	6.500	.5	11.500	.4	16.500	.3	21.500	.3
1.600	66.0	6.600	.5	11.600	.4	16.600	.3	21.600	.3
1.700	44.8	6.700	.5	11.700	.4	16.700	.3	21.700	.3
1.800	31.8	6.800	.5	11.800	.4	16.800	.3	21.800	.3
1.900	23.9	6.900	.5	11.900	.4	16.900	.3	21.900	.3
2.000	19.0	7.000	.5	12.000	.4	17.000	.3	22.000	.3
2.100	14.0	7.100	.5	12.100	.4	17.100	.3	22.100	.3
2.200	8.5	7.200	.5	12.200	.4	17.200	.3	22.200	.3
2.300	5.9	7.300	.5	12.300	.4	17.300	.3	22.300	.3
2.400	4.5	7.400	.5	12.400	.4	17.400	.3	22.400	.3
2.500	3.6	7.500	.5	12.500	.4	17.500	.3	22.500	.3
2.600	2.9	7.600	.5	12.600	.4	17.600	.3	22.600	.3
2.700	2.3	7.700	.5	12.700	.4	17.700	.3	22.700	.3
2.800	1.9	7.800	.5	12.800	.4	17.800	.3	22.800	.3
2.900	1.5	7.900	.5	12.900	.4	17.900	.3	22.900	.3
3.000	1.3	8.000	.5	13.000	.4	18.000	.3	23.000	.3
3.100	1.1	8.100	.5	13.100	.4	18.100	.3	23.100	.3
3.200	.9	8.200	.5	13.200	.4	18.200	.3	23.200	.3
3.300	.8	8.300	.5	13.300	.4	18.300	.3	23.300	.3
3.400	.7	8.400	.5	13.400	.4	18.400	.3	23.400	.3
3.500	.7	8.500	.5	13.500	.4	18.500	.3	23.500	.3
3.600	.6	8.600	.5	13.600	.4	18.600	.3	23.600	.3
3.700	.6	8.700	.5	13.700	.4	18.700	.3	23.700	.3
3.800	.5	8.800	.5	13.800	.4	18.800	.3	23.800	.3
3.900	.5	8.900	.5	13.900	.4	18.900	.3	23.900	.3
4.000	.5	9.000	.5	14.000	.4	19.000	.3	24.000	.3
4.100	.4	9.100	.5	14.100	.4	19.100	.3	24.100	.2
4.200	.4	9.200	.5	14.200	.4	19.200	.3	24.200	.1
4.300	.4	9.300	.4	14.300	.4	19.300	.3	24.300	.0
4.400	.4	9.400	.4	14.400	.3	19.400	.3	24.400	.0
4.500	.4	9.500	.4	14.500	.3	19.500	.3	24.500	.0
4.600	.4	9.600	.4	14.600	.3	19.600	.3	24.600	.0
4.700	.4	9.700	.4	14.700	.3	19.700	.3	24.700	.0
4.800	.4	9.800	.4	14.800	.3	19.800	.3	24.800	.0
4.900	.4	9.900	.4	14.900	.3	19.900	.3	24.900	.0

RUNOFF VOLUME = 1.56378 INCHES = 3.7516 ACRE-FEET
PEAK DISCHARGE RATE = 76.98 CFS AT 1.500 HOURS BASIN AREA = .0450 SQ. MI.

*

*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I********************
ADD HYD ID=23 HYD=TEMP.1 ID I=22 II=14
PRINT HYD ID=23 CODE=0

HYDROGRAPH FROM AREA TEMP.1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.4	15.000	.3	20.000	.3
.100	.0	5.100	.4	10.100	.4	15.100	.3	20.100	.3
.200	.0	5.200	.4	10.200	.4	15.200	.3	20.200	.3
.300	.0	5.300	.5	10.300	.4	15.300	.3	20.300	.3
.400	.0	5.400	.5	10.400	.4	15.400	.3	20.400	.3
.500	.0	5.500	.5	10.500	.4	15.500	.3	20.500	.3
.600	.0	5.600	.5	10.600	.4	15.600	.3	20.600	.3
.700	.0	5.700	.5	10.700	.4	15.700	.3	20.700	.3
.800	.0	5.800	.5	10.800	.4	15.800	.3	20.800	.3
.900	.0	5.900	.5	10.900	.4	15.900	.3	20.900	.3
1.000	.0	6.000	.5	11.000	.4	16.000	.3	21.000	.3
1.100	.2	6.100	.5	11.100	.4	16.100	.3	21.100	.3
1.200	2.9	6.200	.5	11.200	.4	16.200	.3	21.200	.3
1.300	13.5	6.300	.5	11.300	.4	16.300	.3	21.300	.3
1.400	49.4	6.400	.5	11.400	.4	16.400	.3	21.400	.3
1.500	79.2	6.500	.5	11.500	.4	16.500	.3	21.500	.3
1.600	68.0	6.600	.5	11.600	.4	16.600	.3	21.600	.3
1.700	46.2	6.700	.5	11.700	.4	16.700	.3	21.700	.3
1.800	32.7	6.800	.5	11.800	.4	16.800	.3	21.800	.3
1.900	24.5	6.900	.5	11.900	.4	16.900	.3	21.900	.3
2.000	19.4	7.000	.5	12.000	.4	17.000	.3	22.000	.3
2.100	14.3	7.100	.5	12.100	.4	17.100	.3	22.100	.3
2.200	8.7	7.200	.5	12.200	.4	17.200	.3	22.200	.3
2.300	6.1	7.300	.5	12.300	.4	17.300	.3	22.300	.3
2.400	4.6	7.400	.5	12.400	.4	17.400	.3	22.400	.3
2.500	3.7	7.500	.5	12.500	.4	17.500	.3	22.500	.3
2.600	2.9	7.600	.5	12.600	.4	17.600	.3	22.600	.3
2.700	2.4	7.700	.5	12.700	.4	17.700	.3	22.700	.3
2.800	1.9	7.800	.5	12.800	.4	17.800	.3	22.800	.3
2.900	1.6	7.900	.5	12.900	.4	17.900	.3	22.900	.3
3.000	1.3	8.000	.5	13.000	.4	18.000	.3	23.000	.3
3.100	1.1	8.100	.5	13.100	.4	18.100	.3	23.100	.3
3.200	.9	8.200	.5	13.200	.4	18.200	.3	23.200	.3
3.300	.8	8.300	.5	13.300	.4	18.300	.3	23.300	.3
3.400	.7	8.400	.5	13.400	.4	18.400	.3	23.400	.3
3.500	.7	8.500	.5	13.500	.4	18.500	.3	23.500	.3
3.600	.6	8.600	.5	13.600	.4	18.600	.3	23.600	.3
3.700	.6	8.700	.5	13.700	.4	18.700	.3	23.700	.3
3.800	.5	8.800	.5	13.800	.4	18.800	.3	23.800	.3
3.900	.5	8.900	.5	13.900	.4	18.900	.3	23.900	.3
4.000	.5	9.000	.5	14.000	.4	19.000	.3	24.000	.3
4.100	.4	9.100	.5	14.100	.4	19.100	.3	24.100	.2
4.200	.4	9.200	.5	14.200	.4	19.200	.3	24.200	.1
4.300	.4	9.300	.5	14.300	.4	19.300	.3	24.300	.0
4.400	.4	9.400	.5	14.400	.4	19.400	.3	24.400	.0
4.500	.4	9.500	.5	14.500	.4	19.500	.3	24.500	.0
4.600	.4	9.600	.4	14.600	.4	19.600	.3	24.600	.0

4.700	.4	9.700	.4	14.700	.4	19.700	.3	24.700	.0
4.800	.4	9.800	.4	14.800	.3	19.800	.3	24.800	.0
4.900	.4	9.900	.4	14.900	.3	19.900	.3	24.900	.0

RUNOFF VOLUME = 1.54902 INCHES = 3.8453 ACRE-FEET
PEAK DISCHARGE RATE = 79.24 CFS AT 1.500 HOURS BASIN AREA = .0465 SQ. MI.

*

*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J**********

```
ADD HYD            ID=24 HYD=TEMP.J ID I=23 II=13
PRINT HYD           ID=24 CODE=0
```

HYDROGRAPH FROM AREA TEMP.J

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.4	15.000	.3	20.000	.3
.100	.0	5.100	.4	10.100	.4	15.100	.3	20.100	.3
.200	.0	5.200	.4	10.200	.4	15.200	.3	20.200	.3
.300	.0	5.300	.5	10.300	.4	15.300	.3	20.300	.3
.400	.0	5.400	.5	10.400	.4	15.400	.3	20.400	.3
.500	.0	5.500	.5	10.500	.4	15.500	.3	20.500	.3
.600	.0	5.600	.5	10.600	.4	15.600	.3	20.600	.3
.700	.0	5.700	.5	10.700	.4	15.700	.3	20.700	.3
.800	.0	5.800	.5	10.800	.4	15.800	.3	20.800	.3
.900	.0	5.900	.5	10.900	.4	15.900	.3	20.900	.3
1.000	.0	6.000	.5	11.000	.4	16.000	.3	21.000	.3
1.100	.2	6.100	.5	11.100	.4	16.100	.3	21.100	.3
1.200	2.9	6.200	.5	11.200	.4	16.200	.3	21.200	.3
1.300	13.5	6.300	.5	11.300	.4	16.300	.3	21.300	.3
1.400	50.4	6.400	.5	11.400	.4	16.400	.3	21.400	.3
1.500	81.2	6.500	.5	11.500	.4	16.500	.3	21.500	.3
1.600	69.8	6.600	.5	11.600	.4	16.600	.3	21.600	.3
1.700	47.4	6.700	.5	11.700	.4	16.700	.3	21.700	.3
1.800	33.4	6.800	.5	11.800	.4	16.800	.3	21.800	.3
1.900	25.0	6.900	.5	11.900	.4	16.900	.3	21.900	.3
2.000	19.7	7.000	.5	12.000	.4	17.000	.3	22.000	.3
2.100	14.6	7.100	.5	12.100	.4	17.100	.3	22.100	.3
2.200	8.9	7.200	.5	12.200	.4	17.200	.3	22.200	.3
2.300	6.2	7.300	.5	12.300	.4	17.300	.3	22.300	.3
2.400	4.8	7.400	.5	12.400	.4	17.400	.3	22.400	.3
2.500	3.8	7.500	.5	12.500	.4	17.500	.3	22.500	.3
2.600	3.0	7.600	.5	12.600	.4	17.600	.3	22.600	.3
2.700	2.4	7.700	.5	12.700	.4	17.700	.3	22.700	.3
2.800	2.0	7.800	.5	12.800	.4	17.800	.3	22.800	.3
2.900	1.6	7.900	.5	12.900	.4	17.900	.3	22.900	.3
3.000	1.4	8.000	.5	13.000	.4	18.000	.3	23.000	.3
3.100	1.1	8.100	.5	13.100	.4	18.100	.3	23.100	.3
3.200	1.0	8.200	.5	13.200	.4	18.200	.3	23.200	.3
3.300	.9	8.300	.5	13.300	.4	18.300	.3	23.300	.3
3.400	.8	8.400	.5	13.400	.4	18.400	.3	23.400	.3
3.500	.7	8.500	.5	13.500	.4	18.500	.3	23.500	.3
3.600	.6	8.600	.5	13.600	.4	18.600	.3	23.600	.3
3.700	.6	8.700	.5	13.700	.4	18.700	.3	23.700	.3
3.800	.5	8.800	.5	13.800	.4	18.800	.3	23.800	.3
3.900	.5	8.900	.5	13.900	.4	18.900	.3	23.900	.3
4.000	.5	9.000	.5	14.000	.4	19.000	.3	24.000	.3
4.100	.5	9.100	.5	14.100	.4	19.100	.3	24.100	.2
4.200	.4	9.200	.5	14.200	.4	19.200	.3	24.200	.1
4.300	.4	9.300	.5	14.300	.4	19.300	.3	24.300	.0
4.400	.4	9.400	.5	14.400	.4	19.400	.3	24.400	.0
4.500	.4	9.500	.5	14.500	.4	19.500	.3	24.500	.0
4.600	.4	9.600	.4	14.600	.4	19.600	.3	24.600	.0
4.700	.4	9.700	.4	14.700	.4	19.700	.3	24.700	.0
4.800	.4	9.800	.4	14.800	.3	19.800	.3	24.800	.0
4.900	.4	9.900	.4	14.900	.3	19.900	.3	24.900	.0

RUNOFF VOLUME = 1.47507 INCHES = 3.9198 ACRE-FEET
PEAK DISCHARGE RATE = 81.23 CFS AT 1.500 HOURS BASIN AREA = .0498 SQ. MI.

*

*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE**********

```
COMPUTE NM HYD      ID=25  HYD NO=OFFSITE2  DA=.0805 SQ MI
                                %A=100  %B=0.0  %C=0.0 %D=0.0
                                TP=-.66 HR  RAIN=-1
```

K = .803590HR TP = .660000HR K/TP RATIO = 1.217560 SHAPE CONSTANT, N = 2.922175
UNIT PEAK = 33.592 CFS UNIT VOLUME = .9995 B = 275.41 P60 = 1.8400
AREA = .080500 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

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PRINT HYD           ID=25 CODE=10
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HYDROGRAPH FROM AREA OFFSITE2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	1.5	8.000	.3	12.000	.1	16.000	.0
1.000	.0	5.000	.9	9.000	.2	13.000	.0	17.000	.0
2.000	13.9	6.000	.6	10.000	.1	14.000	.0	18.000	.0
3.000	5.2	7.000	.4	11.000	.1	15.000	.0		

RUNOFF VOLUME = .41534 INCHES = 1.7832 ACRE-FEET
PEAK DISCHARGE RATE = 13.87 CFS AT 2.000 HOURS BASIN AREA = .0805 SQ. MI.

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ROUTE RESERVOIR       ID=26 HYD=OFFPOND2  INFLOW ID=25 CODE=5
                                OUTFLOW       STORAGE DEPTH
                                0     0             0
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2.16	0.047	1
3.06	0.222	2
3.75	0.466	3
4.33	0.751	4
4.84	1.081	5

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	.00	.000	.00
.50	.00	.00	.000	.00
1.00	.00	.00	.000	.00
1.50	3.77	.41	.019	.88
2.00	13.87	2.49	.342	3.40
2.50	9.71	3.78	.689	4.20
3.00	5.22	4.18	.809	4.42
3.50	2.80	4.11	.787	4.39
4.00	1.50	3.80	.695	4.22
4.50	1.13	3.39	.579	3.98
5.00	.92	2.98	.461	3.74
5.50	.75	2.52	.348	3.42
6.00	.61	2.08	.241	3.11
6.50	.49	1.55	.144	2.66
7.00	.40	1.08	.061	2.23
7.50	.33	.34	.016	.73
8.00	.26	.16	.008	.35
8.50	.22	.12	.005	.25
9.00	.17	.09	.004	.20
9.50	.14	.07	.003	.16
10.00	.12	.06	.003	.13
10.50	.09	.05	.002	.11
11.00	.08	.04	.002	.09
11.50	.06	.03	.002	.07
12.00	.05	.03	.001	.06
12.50	.04	.02	.001	.05
13.00	.03	.02	.001	.04
13.50	.03	.01	.001	.03
14.00	.02	.01	.001	.02
14.50	.02	.01	.000	.02
15.00	.01	.01	.000	.02
15.50	.01	.01	.000	.01
16.00	.01	.00	.000	.01
16.50	.01	.00	.000	.01
17.00	.01	.00	.000	.01
17.50	.01	.00	.000	.01
18.00	.00	.00	.000	.00

PEAK DISCHARGE = 4.426 CFS - PEAK OCCURS AT HOUR 3.10
MAXIMUM WATER SURFACE ELEVATION = 4.188
MAXIMUM STORAGE = .8131 AC-FT INCREMENTAL TIME= .100000HRS

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PRINT HYD ID=26 CODE=10
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*
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.011
DIA=2.0 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.12	.89
.21	.17	.54	1.22
.31	.31	1.26	1.45
.42	.47	2.26	1.62
.52	.65	3.53	1.76
.63	.84	5.03	1.85
.73	1.04	6.74	1.93
.83	1.24	8.62	1.97
.94	1.45	10.63	2.00
1.04	1.66	12.72	2.00
1.15	1.86	14.85	2.00
1.25	2.07	16.96	2.00
1.35	2.27	19.01	2.00
1.46	2.46	20.93	2.00
1.56	2.63	22.65	2.00
1.67	2.80	24.08	2.00
1.77	2.94	25.10	2.00
1.88	3.06	25.52	2.00
2.00	3.14	25.52	2.00

ROUTE MCUNGE ID=27 HYD=RTE.OFFPOND2 INFLOW ID=26
DT=0.0 L=900 NS=0 SLOPE=0.011
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 185 TABLE PTS= 19
DT= .100000 QMED= 2.21 CKMED= 6.2379
WIDTH MED= 1.62 NREACH= 1 DX= 900.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.170	.0	2.50	.94	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.10	.1	.1	.125	.9	3.28	1.99	1.312	.004	.996	.136	-.133	.0	.999	.021	-.021
.21	.2	.5	.080	1.2	4.53	3.11	1.810	.010	.993	.291	-.284	.3	.994	.203	-.197
.31	.3	1.3	.062	1.5	5.73	4.00	2.292	.015	.991	.395	-.386	.9	.992	.347	-.339
.42	.5	2.3	.053	1.6	6.75	4.76	2.698	.021	.989	.462	-.451	1.7	.990	.431	-.421
.52	.7	3.5	.046	1.8	7.61	5.42	3.044	.027	.987	.509	-.496	2.9	.988	.488	-.475
.63	.8	5.0	.042	1.9	8.34	6.00	3.338	.033	.985	.542	-.527	4.3	.986	.527	-.513
.73	1.0	6.7	.038	1.9	8.96	6.50	3.585	.039	.983	.567	-.550	5.9	.984	.556	-.540
.83	1.2	8.6	.036	2.0	9.47	6.95	3.788	.047	.981	.586	-.567	7.7	.982	.578	-.560
.94	1.4	10.6	.034	2.0	9.87	7.34	3.947	.055	.978	.600	-.578	9.6	.980	.594	-.574
1.04	1.7	12.7	.033	2.0	10.14	7.68	4.057	.063	.975	.609	-.585	11.7	.977	.606	-.583
1.15	1.9	14.8	.031	2.0	10.21	7.97	4.083	.073	.972	.612	-.584	13.8	.974	.612	-.586
1.25	2.1	17.0	.030	2.0	10.02	8.21	4.007	.086	.966	.607	-.574	15.9	.969	.611	-.580
1.35	2.3	19.0	.030	2.0	9.54	8.39	3.817	.101	.959	.593	-.552	18.0	.963	.602	-.565
1.46	2.5	20.9	.029	2.0	8.75	8.52	3.499	.121	.948	.567	-.515	20.0	.954	.583	-.537
1.56	2.6	22.7	.029	2.0	7.57	8.60	3.027	.151	.928	.521	-.449	21.8	.940	.549	-.488
1.67	2.8	24.1	.029	2.0	5.89	8.60	2.357	.206	.884	.439	-.323	23.4	.912	.489	-.401
1.77	2.9	25.1	.029	2.0	3.45	8.53	1.381	.367	.733	.272	-.005	24.6	.842	.378	-.220

1.88 3.1 25.5 .030 2.0 1.97 8.34 .787 .655 .463 .181 .356 25.3 .480 .181 .339

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.1024
Equations solved using the Ponce correction to C2
*
PRINT HYD ID=27 CODE=0

HYDROGRAPH FROM AREA RTE.OFFPOND2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.800	4.3	7.600	.7	11.400	.1	15.200	.0
.100	.0	3.900	4.3	7.700	.6	11.500	.1	15.300	.0
.200	.0	4.000	4.2	7.800	.5	11.600	.1	15.400	.0
.300	.0	4.100	4.2	7.900	.4	11.700	.1	15.500	.0
.400	.0	4.200	4.1	8.000	.4	11.800	.1	15.600	.0
.500	.0	4.300	4.1	8.100	.3	11.900	.1	15.700	.0
.600	.0	4.400	4.0	8.200	.3	12.000	.1	15.800	.0
.700	.0	4.500	4.0	8.300	.3	12.100	.1	15.900	.0
.800	.0	4.600	3.9	8.400	.3	12.200	.1	16.000	.0
.900	.0	4.700	3.9	8.500	.3	12.300	.1	16.100	.0
1.000	.0	4.800	3.9	8.600	.2	12.400	.0	16.200	.0
1.100	.0	4.900	3.8	8.700	.2	12.500	.0	16.300	.0
1.200	.0	5.000	3.8	8.800	.2	12.600	.0	16.400	.0
1.300	.0	5.100	3.7	8.900	.2	12.700	.0	16.500	.0
1.400	.0	5.200	3.6	9.000	.2	12.800	.0	16.600	.0
1.500	.4	5.300	3.6	9.100	.2	12.900	.0	16.700	.0
1.600	1.6	5.400	3.5	9.200	.2	13.000	.0	16.800	.0
1.700	2.6	5.500	3.4	9.300	.2	13.100	.0	16.900	.0
1.800	2.6	5.600	3.4	9.400	.2	13.200	.0	17.000	.0
1.900	3.1	5.700	3.3	9.500	.2	13.300	.0	17.100	.0
2.000	3.3	5.800	3.3	9.600	.2	13.400	.0	17.200	.0
2.100	3.6	5.900	3.2	9.700	.2	13.500	.0	17.300	.0
2.200	3.8	6.000	3.1	9.800	.1	13.600	.0	17.400	.0
2.300	3.9	6.100	3.1	9.900	.1	13.700	.0	17.500	.0
2.400	4.1	6.200	3.0	10.000	.1	13.800	.0	17.600	.0
2.500	4.2	6.300	2.9	10.100	.1	13.900	.0	17.700	.0
2.600	4.3	6.400	2.8	10.200	.1	14.000	.0	17.800	.0
2.700	4.3	6.500	2.7	10.300	.1	14.100	.0	17.900	.0
2.800	4.4	6.600	2.6	10.400	.1	14.200	.0	18.000	.0
2.900	4.4	6.700	2.5	10.500	.1	14.300	.0	18.100	.0
3.000	4.4	6.800	2.4	10.600	.1	14.400	.0	18.200	.0
3.100	4.4	6.900	2.3	10.700	.1	14.500	.0	18.300	.0
3.200	4.4	7.000	2.3	10.800	.1	14.600	.0	18.400	.0
3.300	4.4	7.100	2.2	10.900	.1	14.700	.0	18.500	.0
3.400	4.4	7.200	1.9	11.000	.1	14.800	.0	18.600	.0
3.500	4.4	7.300	1.3	11.100	.1	14.900	.0	18.700	.0
3.600	4.4	7.400	1.0	11.200	.1	15.000	.0	18.800	.0
3.700	4.3	7.500	.8	11.300	.1	15.100	.0		

RUNOFF VOLUME = .41538 INCHES = 1.7834 ACRE-FEET
PEAK DISCHARGE RATE = 4.43 CFS AT 3.200 HOURS BASIN AREA = .0805 SQ. MI.

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COMPUTE NM HYD ID=28 HYD NO=BASIN.B DA=.01998 SQ MI
%A=0 %B=34.0 %C=34.0 %D=32.0
TP=-.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 25.299 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .006394 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 36.207 CFS UNIT VOLUME = 1.007 B = 354.44 P60 = 1.8400
AREA = .013586 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=28 CODE=10

HYDROGRAPH FROM AREA BASIN.B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
1.000	.0	6.000	.1	11.000	.1	16.000	.1	21.000	.1
2.000	5.8	7.000	.2	12.000	.1	17.000	.1	22.000	.1
3.000	.3	8.000	.1	13.000	.1	18.000	.1	23.000	.1
4.000	.1	9.000	.1	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.32000 INCHES = 1.4066 ACRE-FEET
PEAK DISCHARGE RATE = 34.80 CFS AT 1.500 HOURS BASIN AREA = .0200 SQ. MI.

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ROUTE RESERVOIR ID=29 HYD=POND.B INFLOW ID=28 CODE=5
OUTFLOW STORAGE DEPTH
0 0 5515
1.71 0.06 5516
2.42 0.24 5517
2.96 0.55 5518
3.42 0.99 5519
3.82 1.67 5520

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5515.00	.000	.00
.50	.00	5515.00	.000	.00
1.00	.00	5515.00	.000	.00
1.50	34.80	5517.54	.407	2.71
2.00	5.83	5518.84	.918	3.34
2.50	.93	5518.75	.880	3.31
3.00	.31	5518.50	.769	3.19
3.50	.17	5518.23	.649	3.06

4.00	.13	5517.94	.531	2.93
4.50	.12	5517.58	.419	2.73
5.00	.13	5517.24	.315	2.55
5.50	.14	5516.88	.219	2.34
6.00	.15	5516.42	.136	2.01
6.50	.16	5516.03	.065	1.73
7.00	.15	5515.40	.024	.68
7.50	.15	5515.18	.011	.31
8.00	.14	5515.11	.007	.20
8.50	.14	5515.09	.006	.16
9.00	.14	5515.08	.005	.14
9.50	.13	5515.08	.005	.14
10.00	.13	5515.08	.005	.13
10.50	.12	5515.07	.004	.13
11.00	.12	5515.07	.004	.12
11.50	.12	5515.07	.004	.12
12.00	.12	5515.07	.004	.12
12.50	.11	5515.07	.004	.11
13.00	.11	5515.07	.004	.11
13.50	.11	5515.06	.004	.11
14.00	.10	5515.06	.004	.11
14.50	.10	5515.06	.004	.10
15.00	.10	5515.06	.004	.10
15.50	.10	5515.06	.004	.10
16.00	.10	5515.06	.003	.10
16.50	.09	5515.06	.003	.10
17.00	.09	5515.06	.003	.09
17.50	.09	5515.05	.003	.09
18.00	.09	5515.05	.003	.09
18.50	.09	5515.05	.003	.09
19.00	.09	5515.05	.003	.09
19.50	.08	5515.05	.003	.09
20.00	.08	5515.05	.003	.08
20.50	.08	5515.05	.003	.08
21.00	.08	5515.05	.003	.08
21.50	.08	5515.05	.003	.08
22.00	.08	5515.05	.003	.08
22.50	.08	5515.05	.003	.08
23.00	.07	5515.04	.003	.08
23.50	.07	5515.04	.003	.08
24.00	.07	5515.04	.003	.07
24.50	.00	5515.02	.001	.03
25.00	.00	5515.01	.000	.01
25.50	.00	5515.00	.000	.00

PEAK DISCHARGE = 3.357 CFS - PEAK OCCURS AT HOUR 2.10
MAXIMUM WATER SURFACE ELEVATION = 5518.863
MAXIMUM STORAGE = .9296 AC-FT INCREMENTAL TIME= .100000HRS

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PRINT HYD ID=29 CODE=10

HYDROGRAPH FROM AREA POND.B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	2.0	12.000	.1	18.000	.1	24.000	.1
1.000	.0	7.000	.7	13.000	.1	19.000	.1	25.000	.0
2.000	3.3	8.000	.2	14.000	.1	20.000	.1	26.000	.0
3.000	3.2	9.000	.1	15.000	.1	21.000	.1		
4.000	2.9	10.000	.1	16.000	.1	22.000	.1		
5.000	2.6	11.000	.1	17.000	.1	23.000	.1		

RUNOFF VOLUME = 1.31999 INCHES = 1.4066 ACRE-FEET
PEAK DISCHARGE RATE = 3.36 CFS AT 2.100 HOURS BASIN AREA = .0200 SQ. MI.

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COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.03
DIA=2.0 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.21	.89
.21	.17	.89	1.22
.31	.31	2.07	1.45
.42	.47	3.73	1.62
.52	.65	5.82	1.76
.63	.84	8.31	1.85
.73	1.04	11.13	1.93
.83	1.24	14.24	1.97
.94	1.45	17.55	2.00
1.04	1.66	21.00	2.00
1.15	1.86	24.52	2.00
1.25	2.07	28.02	2.00
1.35	2.27	31.40	2.00
1.46	2.46	34.57	2.00
1.56	2.63	37.41	2.00
1.67	2.80	39.77	2.00
1.77	2.94	41.46	2.00
1.88	3.06	42.15	2.00
2.00	3.14	42.15	2.00

ROUTE MCUNGE ID=30 HYD=RTE.PONDB INFLOW ID=29
DT=0.0 L=1180 NS=0 SLOPE=0.03
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 261 TABLE PTS= 19
DT= .100000 QMED= 1.68 CKMED= 8.4416
WIDTH MED= 1.38 NREACH= 1 DX= 1180.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.135	.0	3.28	1.55	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.10	.1	.2	.100	.9	5.42	3.29	1.652	.001	.999	.246	-.245	.0	.999	.065	-.065
.21	.2	.9	.064	1.2	7.47	5.14	2.280	.003	.998	.391	-.389	.5	.999	.309	-.307
.31	.3	2.1	.050	1.5	9.46	6.61	2.887	.004	.998	.486	-.484	1.4	.998	.442	-.440
.42	.5	3.7	.042	1.6	11.14	7.86	3.398	.006	.997	.546	-.543	2.9	.998	.519	-.516

.52	.7	5.8	.037	1.8	12.57	8.95	3.834	.007	.997	.587	-.584	4.7	.997	.568	-.565
.63	.8	8.3	.033	1.9	13.78	9.90	4.204	.009	.996	.616	-.613	7.0	.997	.603	-.600
.73	1.0	11.1	.031	1.9	14.80	10.74	4.515	.011	.996	.638	-.634	9.7	.996	.629	-.625
.83	1.2	14.2	.029	2.0	15.64	11.48	4.771	.013	.995	.654	-.650	12.7	.996	.647	-.643
.94	1.4	17.5	.027	2.0	16.29	12.13	4.971	.015	.995	.666	-.661	15.9	.995	.661	-.656
1.04	1.7	21.0	.026	2.0	16.75	12.69	5.110	.018	.994	.674	-.668	19.3	.995	.671	-.665
1.15	1.9	24.5	.025	2.0	16.86	13.16	5.143	.021	.993	.676	-.669	22.7	.994	.676	-.670
1.25	2.1	28.0	.024	2.0	16.54	13.56	5.047	.024	.992	.671	-.663	26.3	.993	.674	-.667
1.35	2.3	31.4	.024	2.0	15.76	13.86	4.808	.028	.990	.657	-.648	29.7	.991	.666	-.657
1.46	2.5	34.6	.023	2.0	14.44	14.08	4.407	.034	.988	.632	-.620	33.0	.989	.647	-.636
1.56	2.6	37.4	.023	2.0	12.50	14.20	3.813	.042	.983	.588	-.571	36.0	.986	.615	-.600
1.67	2.8	39.8	.023	2.0	9.73	14.21	2.969	.058	.971	.503	-.475	38.6	.979	.556	-.534
1.77	2.9	41.5	.023	2.0	5.70	14.09	1.739	.103	.928	.296	-.224	40.6	.960	.435	-.395
1.88	3.1	42.1	.024	2.0	3.25	13.77	.991	.183	.831	.080	.088	41.8	.838	.088	.074

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.1036
Equations solved using the Ponce correction to C2
*
PRINT HYD ID=30 CODE=0

HYDROGRAPH FROM AREA RTE.PONDB

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.300	2.5	10.600	.1	15.900	.1	21.200	.1
.100	.0	5.400	2.4	10.700	.1	16.000	.1	21.300	.1
.200	.0	5.500	2.4	10.800	.1	16.100	.1	21.400	.1
.300	.0	5.600	2.3	10.900	.1	16.200	.1	21.500	.1
.400	.0	5.700	2.2	11.000	.1	16.300	.1	21.600	.1
.500	.0	5.800	2.2	11.100	.1	16.400	.1	21.700	.1
.600	.0	5.900	2.1	11.200	.1	16.500	.1	21.800	.1
.700	.0	6.000	2.0	11.300	.1	16.600	.1	21.900	.1
.800	.0	6.100	2.0	11.400	.1	16.700	.1	22.000	.1
.900	.0	6.200	1.9	11.500	.1	16.800	.1	22.100	.1
1.000	.0	6.300	1.9	11.600	.1	16.900	.1	22.200	.1
1.100	.0	6.400	1.8	11.700	.1	17.000	.1	22.300	.1
1.200	.0	6.500	1.7	11.800	.1	17.100	.1	22.400	.1
1.300	.5	6.600	1.6	11.900	.1	17.200	.1	22.500	.1
1.400	1.7	6.700	1.3	12.000	.1	17.300	.1	22.600	.1
1.500	2.6	6.800	1.1	12.100	.1	17.400	.1	22.700	.1
1.600	2.9	6.900	.9	12.200	.1	17.500	.1	22.800	.1
1.700	3.2	7.000	.7	12.300	.1	17.600	.1	22.900	.1
1.800	3.2	7.100	.6	12.400	.1	17.700	.1	23.000	.1
1.900	3.3	7.200	.5	12.500	.1	17.800	.1	23.100	.1
2.000	3.3	7.300	.4	12.600	.1	17.900	.1	23.200	.1
2.100	3.4	7.400	.4	12.700	.1	18.000	.1	23.300	.1
2.200	3.4	7.500	.3	12.800	.1	18.100	.1	23.400	.1
2.300	3.3	7.600	.3	12.900	.1	18.200	.1	23.500	.1
2.400	3.3	7.700	.3	13.000	.1	18.300	.1	23.600	.1
2.500	3.3	7.800	.2	13.100	.1	18.400	.1	23.700	.1
2.600	3.3	7.900	.2	13.200	.1	18.500	.1	23.800	.1
2.700	3.3	8.000	.2	13.300	.1	18.600	.1	23.900	.1
2.800	3.2	8.100	.2	13.400	.1	18.700	.1	24.000	.1
2.900	3.2	8.200	.2	13.500	.1	18.800	.1	24.100	.1
3.000	3.2	8.300	.2	13.600	.1	18.900	.1	24.200	.1
3.100	3.2	8.400	.2	13.700	.1	19.000	.1	24.300	.1
3.200	3.1	8.500	.2	13.800	.1	19.100	.1	24.400	.0
3.300	3.1	8.600	.2	13.900	.1	19.200	.1	24.500	.0
3.400	3.1	8.700	.2	14.000	.1	19.300	.1	24.600	.0
3.500	3.1	8.800	.1	14.100	.1	19.400	.1	24.700	.0
3.600	3.0	8.900	.1	14.200	.1	19.500	.1	24.800	.0
3.700	3.0	9.000	.1	14.300	.1	19.600	.1	24.900	.0
3.800	3.0	9.100	.1	14.400	.1	19.700	.1	25.000	.0
3.900	3.0	9.200	.1	14.500	.1	19.800	.1	25.100	.0
4.000	2.9	9.300	.1	14.600	.1	19.900	.1	25.200	.0
4.100	2.9	9.400	.1	14.700	.1	20.000	.1	25.300	.0
4.200	2.9	9.500	.1	14.800	.1	20.100	.1	25.400	.0
4.300	2.8	9.600	.1	14.900	.1	20.200	.1	25.500	.0
4.400	2.8	9.700	.1	15.000	.1	20.300	.1	25.600	.0
4.500	2.7	9.800	.1	15.100	.1	20.400	.1	25.700	.0
4.600	2.7	9.900	.1	15.200	.1	20.500	.1	25.800	.0
4.700	2.7	10.000	.1	15.300	.1	20.600	.1	25.900	.0
4.800	2.6	10.100	.1	15.400	.1	20.700	.1	26.000	.0
4.900	2.6	10.200	.1	15.500	.1	20.800	.1	26.100	.0
5.000	2.6	10.300	.1	15.600	.1	20.900	.1		
5.100	2.5	10.400	.1	15.700	.1	21.000	.1		
5.200	2.5	10.500	.1	15.800	.1	21.100	.1		

RUNOFF VOLUME = 1.32010 INCHES = 1.4067 ACRE-FEET
PEAK DISCHARGE RATE = 3.36 CFS AT 2.100 HOURS BASIN AREA = .0200 SQ. MI.

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*
ADD HYD ID=31 HYD=OFF.B ID I=30 II=27
PRINT HYD ID=31 CODE=10

HYDROGRAPH FROM AREA OFF.B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	5.2	12.000	.2	18.000	.1	24.000	.1
1.000	.0	7.000	3.0	13.000	.2	19.000	.1	25.000	.0
2.000	6.6	8.000	.6	14.000	.1	20.000	.1	26.000	.0
3.000	7.6	9.000	.3	15.000	.1	21.000	.1		
4.000	7.2	10.000	.3	16.000	.1	22.000	.1		
5.000	6.3	11.000	.2	17.000	.1	23.000	.1		

RUNOFF VOLUME = .59525 INCHES = 3.1899 ACRE-FEET
PEAK DISCHARGE RATE = 7.62 CFS AT 2.900 HOURS BASIN AREA = .1005 SQ. MI.

*
*
COMPUTE NM HYD ID=32 HYD NO=BASINE1.1 DA=.02753 SQ MI
%A=0.0 %B=33.0 %C=33.0 %D=34.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 37.038 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .009360 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 48.422 CFS UNIT VOLUME = 1.007 B = 354.44 P60 = 1.8400
AREA = .018170 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=32 CODE=10

HYDROGRAPH FROM AREA BASINE1.1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.1	20.000	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.1	21.000	.1
2.000	8.3	7.000	.2	12.000	.2	17.000	.1	22.000	.1
3.000	.4	8.000	.2	13.000	.2	18.000	.1	23.000	.1
4.000	.2	9.000	.2	14.000	.2	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.35259 INCHES = 1.9860 ACRE-FEET
PEAK DISCHARGE RATE = 48.45 CFS AT 1.500 HOURS BASIN AREA = .0275 SQ. MI.

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*
ADD HYD ID=33 HYD=OFF.E11 ID I=32 II=31
PRINT HYD ID=33 CODE=10

HYDROGRAPH FROM AREA OFF.E11

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	5.4	12.000	.3	18.000	.2	24.000	.2
1.000	.0	7.000	3.2	13.000	.3	19.000	.2	25.000	.0
2.000	14.9	8.000	.8	14.000	.3	20.000	.2	26.000	.0
3.000	8.1	9.000	.5	15.000	.3	21.000	.2		
4.000	7.4	10.000	.5	16.000	.3	22.000	.2		
5.000	6.5	11.000	.4	17.000	.2	23.000	.2		

RUNOFF VOLUME = .75812 INCHES = 5.1758 ACRE-FEET
PEAK DISCHARGE RATE = 51.42 CFS AT 1.500 HOURS BASIN AREA = .1280 SQ. MI.

*
*
COMPUTE NM HYD ID=34 HYD NO=BASINE1.2 DA=.00588 SQ MI
%A=0.0 %B=33.0 %C=33.0 %D=34.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.9108 CFS UNIT VOLUME = 1.029 B = 526.28 P60 = 1.8400
AREA = .001999 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 10.342 CFS UNIT VOLUME = 1.006 B = 354.44 P60 = 1.8400
AREA = .003881 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=34 CODE=10

HYDROGRAPH FROM AREA BASINE1.2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.0	10.000	.0	15.000	.0	20.000	.0
1.000	.0	6.000	.0	11.000	.0	16.000	.0	21.000	.0
2.000	1.8	7.000	.0	12.000	.0	17.000	.0	22.000	.0
3.000	.1	8.000	.0	13.000	.0	18.000	.0	23.000	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0

RUNOFF VOLUME = 1.35259 INCHES = .4242 ACRE-FEET
PEAK DISCHARGE RATE = 10.36 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*
*
COMPUTE NM HYD ID=35 HYD NO=BASIN.E2 DA=.01348 SQ MI
%A=0.0 %B=18.0 %C=18.0 %D=64.0
TP=-.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 34.137 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .008627 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 12.933 CFS UNIT VOLUME = 1.006 B = 354.44 P60 = 1.8400
AREA = .004853 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=35 CODE=10

HYDROGRAPH FROM AREA BASIN.E2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.1	20.000	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.1	21.000	.1
2.000	6.1	7.000	.2	12.000	.2	17.000	.1	22.000	.1
3.000	.3	8.000	.2	13.000	.1	18.000	.1	23.000	.1
4.000	.2	9.000	.2	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.84145 INCHES = 1.3239 ACRE-FEET
PEAK DISCHARGE RATE = 27.42 CFS AT 1.500 HOURS BASIN AREA = .0135 SQ. MI.

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*
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ADD HYD                        ID=36 HYD=E2.E12 ID I=34 II=35
PRINT HYD                    ID=36 CODE=10
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HYDROGRAPH FROM AREA E2.E12

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.2	20.000	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.2	21.000	.1
2.000	7.9	7.000	.3	12.000	.2	17.000	.2	22.000	.1
3.000	.4	8.000	.2	13.000	.2	18.000	.1	23.000	.1
4.000	.2	9.000	.2	14.000	.2	19.000	.1	24.000	.1

RUNOFF VOLUME = 1.69294 INCHES = 1.7480 ACRE-FEET
PEAK DISCHARGE RATE = 37.77 CFS AT 1.500 HOURS BASIN AREA = .0194 SQ. MI.

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*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.002
                                     DIA=3.0  N=0.013
```

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.16	.14	.16	1.33
.31	.39	.68	1.83
.47	.71	1.58	2.18
.63	1.07	2.84	2.44
.78	1.46	4.43	2.63
.94	1.89	6.33	2.78
1.09	2.33	8.48	2.89
1.25	2.79	10.84	2.96
1.41	3.26	13.36	2.99
1.56	3.72	15.99	3.00
1.72	4.19	18.67	3.00
1.88	4.65	21.33	3.00
2.03	5.10	23.90	3.00
2.19	5.53	26.32	3.00
2.35	5.93	28.48	3.00
2.50	6.30	30.27	3.00
2.66	6.62	31.56	3.00
2.81	6.89	32.09	3.00
3.00	7.07	32.09	3.00

```
ROUTE MCUNGE         ID=37 HYD=RTE.E12 INFLOW ID=36
                     DT=0.0  L=800 NS=0  SLOPE=0.01
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
```

INFLOW END= 249 TABLE PTS= 19
DT= .100000 QMED= 18.89 CKMED= 5.7936
WIDTH MED= 3.00 NREACH= 1 DX= 800.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.271	.0	2.22	.53	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.16	.1	.2	.200	1.3	2.21	1.11	.993	.007	.993	.000	.007	.0	.999	.000	.001
.31	.4	.7	.128	1.8	2.53	1.74	1.138	.018	.983	.072	-.055	.4	.989	.030	-.019
.47	.7	1.6	.099	2.2	3.20	2.24	1.441	.028	.977	.190	-.167	1.1	.979	.135	-.115
.63	1.1	2.8	.084	2.4	3.77	2.66	1.696	.039	.972	.269	-.240	2.2	.974	.232	-.206
.78	1.5	4.4	.073	2.6	4.25	3.03	1.913	.049	.967	.325	-.292	3.6	.969	.299	-.268
.94	1.9	6.3	.066	2.8	4.66	3.35	2.098	.061	.961	.367	-.328	5.4	.964	.348	-.312
1.09	2.3	8.5	.061	2.9	5.01	3.63	2.253	.073	.956	.399	-.355	7.4	.959	.385	-.343
1.25	2.8	10.8	.057	3.0	5.29	3.88	2.381	.087	.950	.423	-.373	9.6	.953	.413	-.366
1.41	3.3	13.4	.054	3.0	5.51	4.10	2.481	.101	.944	.442	-.385	12.1	.947	.434	-.381
1.56	3.7	16.0	.052	3.0	5.67	4.29	2.550	.118	.936	.455	-.391	14.7	.940	.450	-.390
1.72	4.2	18.7	.050	3.0	5.70	4.45	2.567	.136	.926	.460	-.386	17.3	.932	.459	-.390
1.88	4.7	21.3	.048	3.0	5.60	4.59	2.519	.159	.914	.456	-.370	20.0	.921	.460	-.380
2.03	5.1	23.9	.047	3.0	5.33	4.69	2.399	.187	.896	.442	-.338	22.6	.906	.451	-.357
2.19	5.5	26.3	.047	3.0	4.89	4.76	2.199	.224	.869	.416	-.285	25.1	.884	.432	-.316
2.35	5.9	28.5	.046	3.0	4.23	4.80	1.903	.281	.824	.372	-.195	27.4	.851	.398	-.248
2.50	6.3	30.3	.046	3.0	3.29	4.81	1.482	.383	.733	.302	-.034	29.4	.790	.343	-.133
2.66	6.6	31.6	.047	3.0	1.93	4.77	.868	.682	.465	.216	.319	30.9	.652	.260	.088
2.81	6.9	32.1	.048	3.0	1.10	4.66	.495	1.216	.103	.262	.635	31.8	.123	.255	.623

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 11 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.0628
Equations solved using the Ponce correction to C2

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PRINT HYD            ID=37 CODE=0
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HYDROGRAPH FROM AREA RTE.E12

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.2	15.000	.2	20.000	.1
.100	.0	5.100	.2	10.100	.2	15.100	.2	20.100	.1
.200	.0	5.200	.2	10.200	.2	15.200	.2	20.200	.1
.300	.0	5.300	.2	10.300	.2	15.300	.2	20.300	.1
.400	.0	5.400	.2	10.400	.2	15.400	.2	20.400	.1
.500	.0	5.500	.2	10.500	.2	15.500	.2	20.500	.1
.600	.0	5.600	.2	10.600	.2	15.600	.2	20.600	.1
.700	.0	5.700	.2	10.700	.2	15.700	.2	20.700	.1
.800	.0	5.800	.2	10.800	.2	15.800	.2	20.800	.1
.900	.0	5.900	.2	10.900	.2	15.900	.2	20.900	.1
1.000	.0	6.000	.2	11.000	.2	16.000	.2	21.000	.1
1.100	.0	6.100	.2	11.100	.2	16.100	.2	21.100	.1
1.200	.4	6.200	.3	11.200	.2	16.200	.2	21.200	.1
1.300	6.0	6.300	.3	11.300	.2	16.300	.2	21.300	.1
1.400	22.3	6.400	.3	11.400	.2	16.400	.2	21.400	.1
1.500	31.2	6.500	.3	11.500	.2	16.500	.2	21.500	.1
1.600	31.3	6.600	.3	11.600	.2	16.600	.2	21.600	.1
1.700	20.5	6.700	.3	11.700	.2	16.700	.2	21.700	.1
1.800	13.8	6.800	.3	11.800	.2	16.800	.2	21.800	.1
1.900	10.9	6.900	.3	11.900	.2	16.900	.2	21.900	.1
2.000	8.6	7.000	.3	12.000	.2	17.000	.2	22.000	.1
2.100	6.5	7.100	.3	12.100	.2	17.100	.2	22.100	.1
2.200	3.7	7.200	.3	12.200	.2	17.200	.2	22.200	.1

2.300	2.4	7.300	.3	12.300	.2	17.300	.2	22.300	.1
2.400	1.8	7.400	.2	12.400	.2	17.400	.2	22.400	.1
2.500	1.4	7.500	.2	12.500	.2	17.500	.2	22.500	.1
2.600	1.1	7.600	.2	12.600	.2	17.600	.2	22.600	.1
2.700	.9	7.700	.2	12.700	.2	17.700	.2	22.700	.1
2.800	.7	7.800	.2	12.800	.2	17.800	.2	22.800	.1
2.900	.6	7.900	.2	12.900	.2	17.900	.2	22.900	.1
3.000	.5	8.000	.2	13.000	.2	18.000	.1	23.000	.1
3.100	.4	8.100	.2	13.100	.2	18.100	.1	23.100	.1
3.200	.4	8.200	.2	13.200	.2	18.200	.2	23.200	.1
3.300	.3	8.300	.2	13.300	.2	18.300	.1	23.300	.1
3.400	.3	8.400	.2	13.400	.2	18.400	.1	23.400	.1
3.500	.3	8.500	.2	13.500	.2	18.500	.1	23.500	.1
3.600	.3	8.600	.2	13.600	.2	18.600	.1	23.600	.1
3.700	.2	8.700	.2	13.700	.2	18.700	.1	23.700	.1
3.800	.2	8.800	.2	13.800	.2	18.800	.1	23.800	.1
3.900	.2	8.900	.2	13.900	.2	18.900	.1	23.900	.1
4.000	.2	9.000	.2	14.000	.2	19.000	.1	24.000	.1
4.100	.2	9.100	.2	14.100	.2	19.100	.1	24.100	.1
4.200	.2	9.200	.2	14.200	.2	19.200	.1	24.200	.1
4.300	.2	9.300	.2	14.300	.2	19.300	.1	24.300	.0
4.400	.2	9.400	.2	14.400	.2	19.400	.1	24.400	.0
4.500	.2	9.500	.2	14.500	.2	19.500	.1	24.500	.0
4.600	.2	9.600	.2	14.600	.2	19.600	.1	24.600	.0
4.700	.2	9.700	.2	14.700	.2	19.700	.1	24.700	.0
4.800	.2	9.800	.2	14.800	.2	19.800	.1	24.800	.0
4.900	.2	9.900	.2	14.900	.2	19.900	.1	24.900	.0

RUNOFF VOLUME = 1.63074 INCHES = 1.6838 ACRE-FEET
PEAK DISCHARGE RATE = 31.30 CFS AT 1.600 HOURS BASIN AREA = .0194 SQ. MI.

*
*
COMPUTE NM HYD ID=38 HYD NO=BASIN.E4 DA=.00577 SQ MI
%A=0.0 %B=5.0 %C=5.0 %D=90.0
TP=-0.133 HR RAIN=-1

K = .072485HR TP = .133000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 20.548 CFS UNIT VOLUME = 1.030 B = 526.28 P60 = 1.8400
AREA = .005193 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

K = .118257HR TP = .133000HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 1.5377 CFS UNIT VOLUME = .9989 B = 354.44 P60 = 1.8400
AREA = .000577 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

PRINT HYD ID=38 CODE=10

HYDROGRAPH FROM AREA BASIN.E4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
1.000	.0	6.000	.1	11.000	.1	16.000	.1	21.000	.1
2.000	3.4	7.000	.1	12.000	.1	17.000	.1	22.000	.1
3.000	.2	8.000	.1	13.000	.1	18.000	.1	23.000	.1
4.000	.1	9.000	.1	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 2.26513 INCHES = .6971 ACRE-FEET
PEAK DISCHARGE RATE = 13.11 CFS AT 1.500 HOURS BASIN AREA = .0058 SQ. MI.

*
*
ADD HYD ID=39 HYD=AP1 ID I=38 II=33
PRINT HYD ID=39 CODE=10

HYDROGRAPH FROM AREA AP1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	5.5	12.000	.4	18.000	.3	24.000	.2
1.000	.0	7.000	3.4	13.000	.4	19.000	.3	25.000	.0
2.000	18.3	8.000	.9	14.000	.4	20.000	.3	26.000	.0
3.000	8.2	9.000	.7	15.000	.3	21.000	.3		
4.000	7.5	10.000	.6	16.000	.3	22.000	.3		
5.000	6.6	11.000	.5	17.000	.3	23.000	.2		

RUNOFF VOLUME = .82312 INCHES = 5.8729 ACRE-FEET
PEAK DISCHARGE RATE = 64.53 CFS AT 1.500 HOURS BASIN AREA = .1338 SQ. MI.

*
*
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.026
DIA=4.0 N=0.013

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.21	.25	1.21	1.78
.42	.69	5.27	2.44
.63	1.25	12.26	2.91
.83	1.90	22.05	3.25
1.04	2.60	34.43	3.51
1.25	3.36	49.13	3.71
1.46	4.15	65.82	3.85
1.67	4.96	84.15	3.94
1.88	5.79	103.74	3.99
2.08	6.62	124.15	4.00
2.29	7.45	144.94	4.00
2.50	8.27	165.61	4.00
2.71	9.06	185.62	4.00
2.92	9.82	204.35	4.00

3.13	10.54	221.12	4.00
3.34	11.20	235.07	4.00
3.54	11.77	245.05	4.00
3.75	12.24	249.15	4.00
4.00	12.57	249.15	4.00

```
ROUTE MCUNGE         ID=40 HYD=RTE.E1E4 INFLOW ID=39
                     DT=0.0  L=400 NS=0  SLOPE=0.026
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
     ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED
*
PRINT HYD            ID=40 CODE=0
```

HYDROGRAPH FROM AREA RTE.E1E4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.300	6.3	10.600	.5	15.900	.3	21.200	.3
.100	.0	5.400	6.2	10.700	.5	16.000	.3	21.300	.3
.200	.0	5.500	6.1	10.800	.5	16.100	.3	21.400	.3
.300	.0	5.600	6.0	10.900	.5	16.200	.3	21.500	.3
.400	.0	5.700	5.9	11.000	.5	16.300	.3	21.600	.3
.500	.0	5.800	5.7	11.100	.5	16.400	.3	21.700	.3
.600	.0	5.900	5.6	11.200	.5	16.500	.3	21.800	.3
.700	.0	6.000	5.5	11.300	.5	16.600	.3	21.900	.3
.800	.0	6.100	5.4	11.400	.5	16.700	.3	22.000	.3
.900	.0	6.200	5.3	11.500	.5	16.800	.3	22.100	.3
1.000	.0	6.300	5.1	11.600	.5	16.900	.3	22.200	.3
1.100	.2	6.400	4.9	11.700	.5	17.000	.3	22.300	.3
1.200	3.7	6.500	4.8	11.800	.4	17.100	.3	22.400	.3
1.300	14.9	6.600	4.6	11.900	.4	17.200	.3	22.500	.3
1.400	53.4	6.700	4.2	12.000	.4	17.300	.3	22.600	.3
1.500	64.5	6.800	3.9	12.100	.4	17.400	.3	22.700	.3
1.600	47.4	6.900	3.6	12.200	.4	17.500	.3	22.800	.3
1.700	33.3	7.000	3.4	12.300	.4	17.600	.3	22.900	.3
1.800	25.3	7.100	3.1	12.400	.4	17.700	.3	23.000	.2
1.900	21.2	7.200	2.7	12.500	.4	17.800	.3	23.100	.3
2.000	18.3	7.300	2.1	12.600	.4	17.900	.3	23.200	.2
2.100	14.1	7.400	1.8	12.700	.4	18.000	.3	23.300	.2
2.200	11.4	7.500	1.5	12.800	.4	18.100	.3	23.400	.2
2.300	10.3	7.600	1.3	12.900	.4	18.200	.3	23.500	.2
2.400	9.7	7.700	1.2	13.000	.4	18.300	.3	23.600	.2
2.500	9.3	7.800	1.0	13.100	.4	18.400	.3	23.700	.2
2.600	8.9	7.900	1.0	13.200	.4	18.500	.3	23.800	.2
2.700	8.7	8.000	.9	13.300	.4	18.600	.3	23.900	.2
2.800	8.5	8.100	.9	13.400	.4	18.700	.3	24.000	.2
2.900	8.4	8.200	.8	13.500	.4	18.800	.3	24.100	.2
3.000	8.2	8.300	.8	13.600	.4	18.900	.3	24.200	.1
3.100	8.1	8.400	.8	13.700	.4	19.000	.3	24.300	.1
3.200	8.0	8.500	.7	13.800	.4	19.100	.3	24.400	.1
3.300	8.0	8.600	.7	13.900	.4	19.200	.3	24.500	.0
3.400	7.9	8.700	.7	14.000	.4	19.300	.3	24.600	.0
3.500	7.8	8.800	.7	14.100	.4	19.400	.3	24.700	.0
3.600	7.8	8.900	.7	14.200	.4	19.500	.3	24.800	.0
3.700	7.7	9.000	.7	14.300	.4	19.600	.3	24.900	.0
3.800	7.6	9.100	.6	14.400	.4	19.700	.3	25.000	.0
3.900	7.5	9.200	.6	14.500	.4	19.800	.3	25.100	.0
4.000	7.5	9.300	.6	14.600	.4	19.900	.3	25.200	.0
4.100	7.4	9.400	.6	14.700	.4	20.000	.3	25.300	.0
4.200	7.3	9.500	.6	14.800	.4	20.100	.3	25.400	.0
4.300	7.2	9.600	.6	14.900	.4	20.200	.3	25.500	.0
4.400	7.1	9.700	.6	15.000	.3	20.300	.3	25.600	.0
4.500	7.0	9.800	.6	15.100	.3	20.400	.3	25.700	.0
4.600	6.9	9.900	.6	15.200	.3	20.500	.3	25.800	.0
4.700	6.9	10.000	.6	15.300	.3	20.600	.3	25.900	.0
4.800	6.8	10.100	.5	15.400	.3	20.700	.3	26.000	.0
4.900	6.7	10.200	.5	15.500	.3	20.800	.3	26.100	.0
5.000	6.6	10.300	.5	15.600	.3	20.900	.3		
5.100	6.5	10.400	.5	15.700	.3	21.000	.3		
5.200	6.4	10.500	.5	15.800	.3	21.100	.3		

```
    RUNOFF VOLUME =      .82312 INCHES     =       5.8729 ACRE-FEET
    PEAK DISCHARGE RATE =      64.53 CFS  AT   1.500 HOURS   BASIN AREA =   .1338 SQ. MI.


*
*
ADD HYD                  ID=41 HYD=AP2 ID I=37 II=40
PRINT HYD                ID=41 CODE=10
```

HYDROGRAPH FROM AREA AP2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	5.7	12.000	.6	18.000	.4	24.000	.4
1.000	.0	7.000	3.6	13.000	.6	19.000	.4	25.000	.0
2.000	27.0	8.000	1.1	14.000	.5	20.000	.4	26.000	.0
3.000	8.7	9.000	.9	15.000	.5	21.000	.4		
4.000	7.7	10.000	.8	16.000	.5	22.000	.4		
5.000	6.8	11.000	.7	17.000	.5	23.000	.4		

```
    RUNOFF VOLUME =      .92521 INCHES     =       7.5566 ACRE-FEET
    PEAK DISCHARGE RATE =      95.72 CFS  AT   1.500 HOURS   BASIN AREA =   .1531 SQ. MI.


*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.026
                                     DIA=4.0  N=0.013
```

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.21	.25	1.21	1.78
.42	.69	5.27	2.44
.63	1.25	12.26	2.91
.83	1.90	22.05	3.25
1.04	2.60	34.43	3.51
1.25	3.36	49.13	3.71

1.46	4.15	65.82	3.85
1.67	4.96	84.15	3.94
1.88	5.79	103.74	3.99
2.08	6.62	124.15	4.00
2.29	7.45	144.94	4.00
2.50	8.27	165.61	4.00
2.71	9.06	185.62	4.00
2.92	9.82	204.35	4.00
3.13	10.54	221.12	4.00
3.34	11.20	235.07	4.00
3.54	11.77	245.05	4.00
3.75	12.24	249.15	4.00
4.00	12.57	249.15	4.00

```
ROUTE MCUNGE          ID=42 HYD=RTE.E1E4 INFLOW ID=41
                      DT=0.0  L=600 NS=0  SLOPE=0.026
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
     ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED
*
PRINT HYD             ID=42 CODE=0
```

HYDROGRAPH FROM AREA RTE.E1E4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.300	6.5	10.600	.7	15.900	.5	21.200	.4
.100	.0	5.400	6.4	10.700	.7	16.000	.5	21.300	.4
.200	.0	5.500	6.3	10.800	.7	16.100	.5	21.400	.4
.300	.0	5.600	6.2	10.900	.7	16.200	.5	21.500	.4
.400	.0	5.700	6.1	11.000	.7	16.300	.5	21.600	.4
.500	.0	5.800	6.0	11.100	.7	16.400	.5	21.700	.4
.600	.0	5.900	5.9	11.200	.7	16.500	.5	21.800	.4
.700	.0	6.000	5.7	11.300	.7	16.600	.5	21.900	.4
.800	.0	6.100	5.6	11.400	.7	16.700	.5	22.000	.4
.900	.0	6.200	5.5	11.500	.7	16.800	.5	22.100	.4
1.000	.0	6.300	5.4	11.600	.7	16.900	.5	22.200	.4
1.100	.2	6.400	5.2	11.700	.6	17.000	.5	22.300	.4
1.200	4.2	6.500	5.1	11.800	.6	17.100	.5	22.400	.4
1.300	20.9	6.600	4.8	11.900	.6	17.200	.5	22.500	.4
1.400	75.7	6.700	4.5	12.000	.6	17.300	.5	22.600	.4
1.500	95.7	6.800	4.1	12.100	.6	17.400	.5	22.700	.4
1.600	78.7	6.900	3.8	12.200	.6	17.500	.5	22.800	.4
1.700	53.8	7.000	3.6	12.300	.6	17.600	.5	22.900	.4
1.800	39.2	7.100	3.4	12.400	.6	17.700	.5	23.000	.4
1.900	32.1	7.200	3.0	12.500	.6	17.800	.5	23.100	.4
2.000	27.0	7.300	2.3	12.600	.6	17.900	.4	23.200	.4
2.100	20.7	7.400	2.0	12.700	.6	18.000	.4	23.300	.4
2.200	15.1	7.500	1.7	12.800	.6	18.100	.4	23.400	.4
2.300	12.7	7.600	1.5	12.900	.6	18.200	.4	23.500	.4
2.400	11.5	7.700	1.4	13.000	.6	18.300	.4	23.600	.4
2.500	10.6	7.800	1.3	13.100	.6	18.400	.4	23.700	.4
2.600	10.0	7.900	1.2	13.200	.6	18.500	.4	23.800	.4
2.700	9.6	8.000	1.1	13.300	.6	18.600	.4	23.900	.4
2.800	9.2	8.100	1.1	13.400	.6	18.700	.4	24.000	.4
2.900	8.9	8.200	1.0	13.500	.6	18.800	.4	24.100	.3
3.000	8.7	8.300	1.0	13.600	.6	18.900	.4	24.200	.2
3.100	8.5	8.400	1.0	13.700	.6	19.000	.4	24.300	.1
3.200	8.4	8.500	1.0	13.800	.6	19.100	.4	24.400	.1
3.300	8.3	8.600	.9	13.900	.6	19.200	.4	24.500	.1
3.400	8.2	8.700	.9	14.000	.5	19.300	.4	24.600	.0
3.500	8.1	8.800	.9	14.100	.5	19.400	.4	24.700	.0
3.600	8.0	8.900	.9	14.200	.5	19.500	.4	24.800	.0
3.700	7.9	9.000	.9	14.300	.5	19.600	.4	24.900	.0
3.800	7.9	9.100	.9	14.400	.5	19.700	.4	25.000	.0
3.900	7.8	9.200	.9	14.500	.5	19.800	.4	25.100	.0
4.000	7.7	9.300	.8	14.600	.5	19.900	.4	25.200	.0
4.100	7.6	9.400	.8	14.700	.5	20.000	.4	25.300	.0
4.200	7.5	9.500	.8	14.800	.5	20.100	.4	25.400	.0
4.300	7.4	9.600	.8	14.900	.5	20.200	.4	25.500	.0
4.400	7.3	9.700	.8	15.000	.5	20.300	.4	25.600	.0
4.500	7.2	9.800	.8	15.100	.5	20.400	.4	25.700	.0
4.600	7.1	9.900	.8	15.200	.5	20.500	.4	25.800	.0
4.700	7.1	10.000	.8	15.300	.5	20.600	.4	25.900	.0
4.800	7.0	10.100	.8	15.400	.5	20.700	.4	26.000	.0
4.900	6.9	10.200	.8	15.500	.5	20.800	.4	26.100	.0
5.000	6.8	10.300	.7	15.600	.5	20.900	.4		
5.100	6.7	10.400	.7	15.700	.5	21.000	.4		
5.200	6.6	10.500	.7	15.800	.5	21.100	.4		

```
    RUNOFF VOLUME =      .92521 INCHES     =       7.5566 ACRE-FEET
    PEAK DISCHARGE RATE =      95.72 CFS  AT   1.500 HOURS   BASIN AREA =   .1531 SQ. MI.


*
ADD HYD                       ID=43 HYD=AP3 ID I=42 II=24
PRINT HYD                  ID=43 CODE=10
```

HYDROGRAPH FROM AREA AP3

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	6.3	12.000	1.0	18.000	.8	24.000	.6
1.000	.0	7.000	4.1	13.000	1.0	19.000	.7	25.000	.0
2.000	46.7	8.000	1.6	14.000	.9	20.000	.7	26.000	.0
3.000	10.1	9.000	1.3	15.000	.9	21.000	.7		
4.000	8.2	10.000	1.2	16.000	.8	22.000	.7		
5.000	7.3	11.000	1.1	17.000	.8	23.000	.6		

```
    RUNOFF VOLUME =     1.06019 INCHES     =      11.4764 ACRE-FEET
    PEAK DISCHARGE RATE =     176.95 CFS  AT   1.500 HOURS   BASIN AREA =   .2030 SQ. MI.


 PLOT HYD                 ID=43
FLOW RATE (CFS)

177..-------*-----------------------------------------------------------------------------------------------------------------------.
        .
.       .
.       .
.       .
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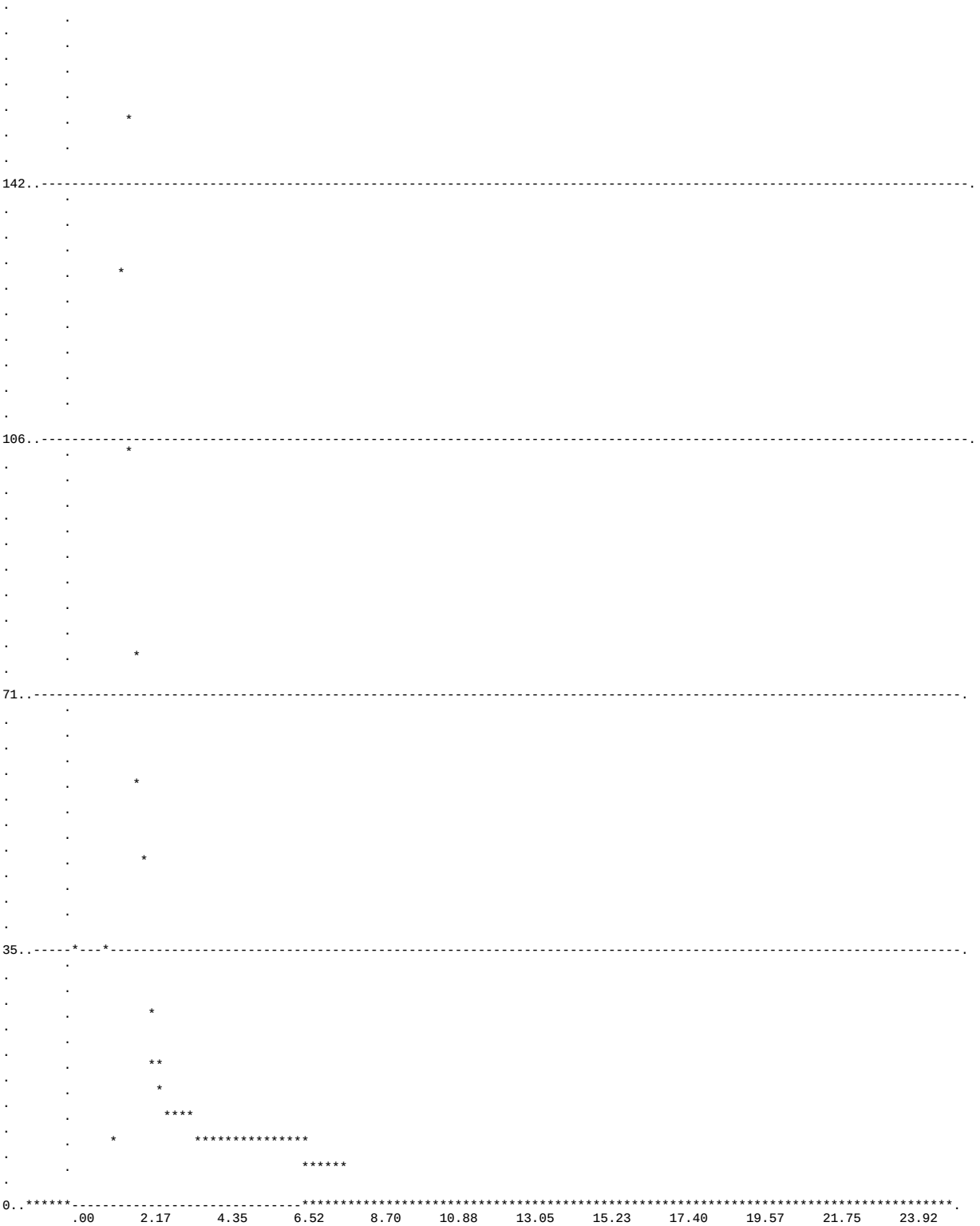


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*
COMPUTE NM HYD      ID=44  HYD NO=BASIN.OFF6  DA=.0014 SQ MI
                                %A=0.0  %B=0  %C=100.0 %D=0
                                TP=-0.133 HR  RAIN=-1

     K =   .105291HR    TP =   .133000HR    K/TP RATIO =   .791661     SHAPE CONSTANT, N =  4.531123
     UNIT PEAK =   4.0963    CFS   UNIT VOLUME =    1.011       B =   389.14      P60 = 1.8400
     AREA =      .001400 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000

PRINT HYD           ID=44 CODE=10
```

HYDROGRAPH FROM AREA BASIN.OFF6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.000	.0	2.000	.3	3.000	.0		

RUNOFF VOLUME = .96928 INCHES = .0724 ACRE-FEET
PEAK DISCHARGE RATE = 2.33 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

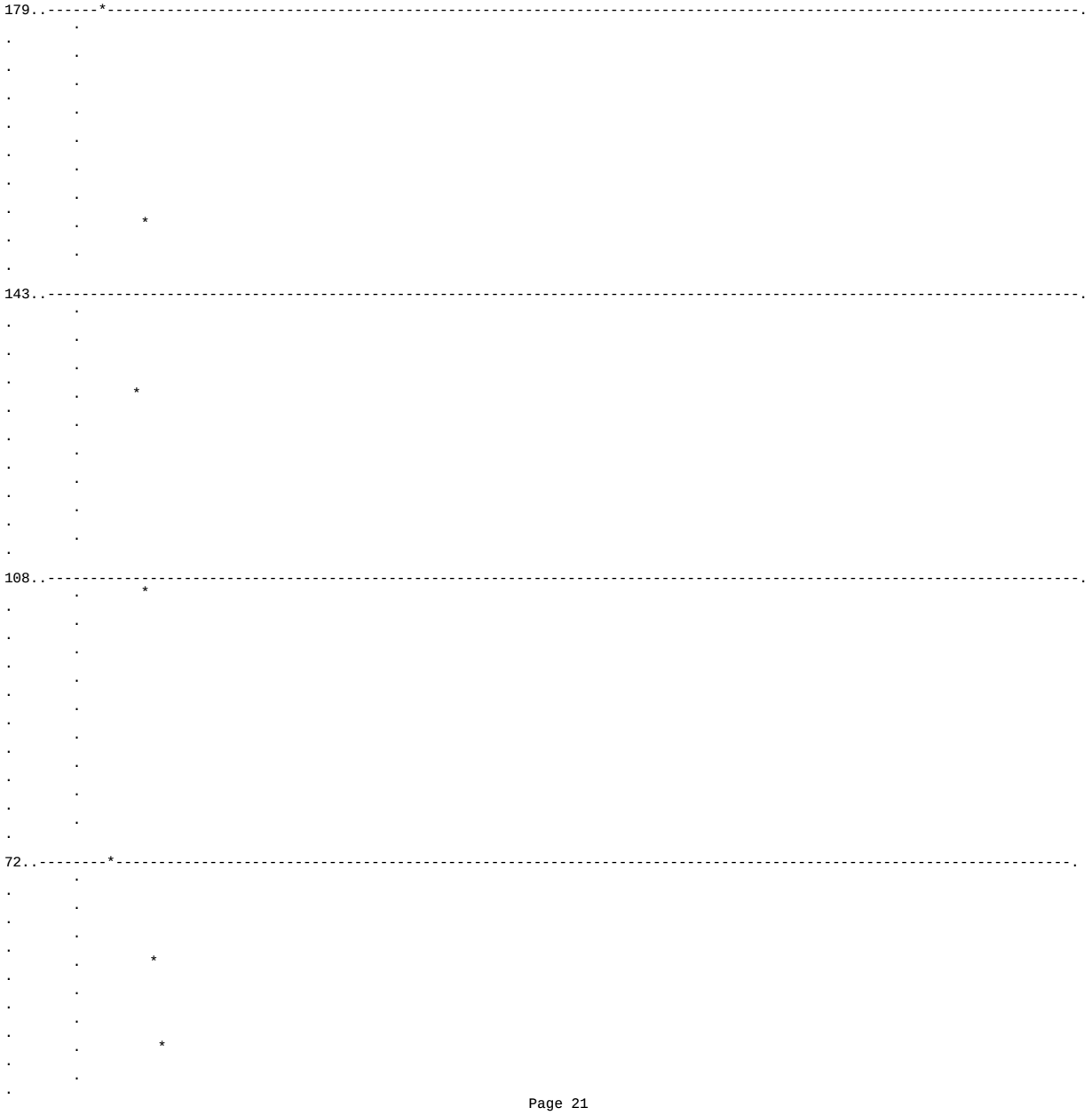
```
*
ADD HYD                      ID=45 HYD=POND ID I=43 II=44
PRINT HYD                  ID=45 CODE=10
```

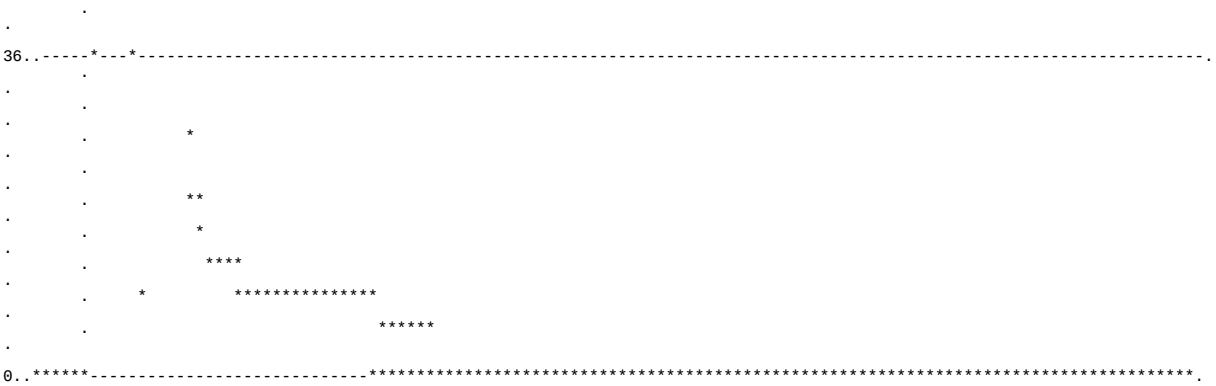
HYDROGRAPH FROM AREA POND

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	6.3	12.000	1.0	18.000	.8	24.000	.6
1.000	.0	7.000	4.1	13.000	1.0	19.000	.7	25.000	.0
2.000	46.9	8.000	1.6	14.000	.9	20.000	.7	26.000	.0
3.000	10.1	9.000	1.3	15.000	.9	21.000	.7		
4.000	8.2	10.000	1.2	16.000	.8	22.000	.7		
5.000	7.3	11.000	1.1	17.000	.8	23.000	.6		

RUNOFF VOLUME = 1.05957 INCHES = 11.5488 ACRE-FEET
PEAK DISCHARGE RATE = 179.27 CFS AT 1.500 HOURS BASIN AREA = .2044 SQ. MI.

```
 PLOT HYD                 ID=45
FLOW RATE (CFS)
```






```
     *
     *
     ROUTE RESERVOIR         ID=46 HYD=POND.E  INFLOW ID=45 CODE=5
                                        OUTFLOW       STORAGE DEPTH
                                        0     0.04            5444
                                        0.01  0.23            5444.5
                                        0.02  0.43            5445
                                        0.03  0.66            5445.5
                                        0.04  0.91            5446
                                        0.5   1.20            5446.5
                                        1.3   1.52            5447
                                        2.2   1.88            5447.5
                                        3.3   2.26            5448
                                        6.7   2.68            5448.5
                                        8.7   3.12            5449
                                        10.8  3.60            5449.5
                                        13.1  4.10            5450
                                        15.5  4.65            5450.5
                                        18.0  5.22            5451
                                        20.7  5.82            5451.5
                                        23.5  6.44            5452

       *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

          TIME      INFLOW    ELEV      VOLUME    OUTFLOW
          (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

            .00        .00   5444.00       .040       .00
            .50        .00   5444.00       .040       .00
           1.00        .00   5444.00       .040       .00
           1.50     179.27   5447.88      2.172      3.04
           2.00      46.93   5451.38      5.675     20.05
           2.50      14.45   5451.52      5.848     20.83
           3.00      10.09   5451.24      5.506     19.29
           3.50       8.79   5450.92      5.130     17.60
           4.00       8.15   5450.62      4.784     16.09
           4.50       7.65   5450.34      4.473     14.73
           5.00       7.26   5450.09      4.198     13.53
           5.50       6.81   5449.85      3.953     12.42
           6.00       6.26   5449.63      3.730     11.40
           6.50       5.60   5449.42      3.525     10.47
           7.00       4.13   5449.20      3.312      9.54
           7.50       2.24   5448.94      3.071      8.48
           8.00       1.64   5448.66      2.822      7.35
           8.50       1.45   5448.41      2.605      6.09
           9.00       1.35   5448.21      2.440      4.75
           9.50       1.27   5448.07      2.318      3.77
          10.00       1.21   5447.96      2.228      3.21
          10.50       1.15   5447.85      2.149      2.98
          11.00       1.11   5447.76      2.077      2.77
          11.50       1.06   5447.67      2.011      2.58
          12.00       1.03   5447.59      1.951      2.41
          12.50        .99   5447.52      1.897      2.25
          13.00        .96   5447.45      1.847      2.12
          13.50        .93   5447.39      1.801      2.00
          14.00        .91   5447.33      1.759      1.90
          14.50        .89   5447.28      1.719      1.80
          15.00        .86   5447.23      1.683      1.71
          15.50        .84   5447.18      1.650      1.62
          16.00        .83   5447.14      1.618      1.55
          16.50        .81   5447.10      1.590      1.47
          17.00        .79   5447.06      1.563      1.41
          17.50        .77   5447.03      1.538      1.35
          18.00        .75   5446.99      1.516      1.29
          18.50        .74   5446.96      1.494      1.24
          19.00        .73   5446.93      1.475      1.19
          19.50        .71   5446.90      1.456      1.14
          20.00        .70   5446.87      1.439      1.10
          20.50        .69   5446.85      1.423      1.06
          21.00        .68   5446.83      1.409      1.02
          21.50        .67   5446.80      1.395       .99
          22.00        .66   5446.78      1.382       .96
          22.50        .64   5446.77      1.370       .93
          23.00        .63   5446.75      1.359       .90
          23.50        .62   5446.73      1.349       .87
          24.00        .62   5446.72      1.339       .85
          24.50        .07   5446.68      1.316       .79
          25.00        .01   5446.64      1.286       .72
          25.50        .00   5446.59      1.259       .65
          26.00        .00   5446.55      1.233       .58
          26.50        .00   5446.52      1.210       .53
          27.00        .00   5446.48      1.190       .48
```

27.50	.00	5446.45	1.170	.45

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	5446.42	1.152	.42
28.50	.00	5446.39	1.135	.40
29.00	.00	5446.36	1.119	.37
29.50	.00	5446.34	1.105	.35
30.00	.00	5446.31	1.091	.33
30.50	.00	5446.29	1.078	.31
31.00	.00	5446.27	1.065	.29
31.50	.00	5446.25	1.054	.27
32.00	.00	5446.23	1.043	.25
32.50	.00	5446.21	1.033	.24
33.00	.00	5446.20	1.024	.22
33.50	.00	5446.18	1.015	.21
34.00	.00	5446.17	1.007	.19
34.50	.00	5446.15	.999	.18
35.00	.00	5446.14	.992	.17
35.50	.00	5446.13	.985	.16
36.00	.00	5446.12	.979	.15
36.50	.00	5446.11	.973	.14
37.00	.00	5446.10	.967	.13
37.50	.00	5446.09	.962	.12
38.00	.00	5446.08	.957	.11
38.50	.00	5446.07	.952	.11
39.00	.00	5446.07	.948	.10
39.50	.00	5446.06	.944	.09
40.00	.00	5446.05	.940	.09
40.50	.00	5446.05	.937	.08
41.00	.00	5446.04	.933	.08
41.50	.00	5446.04	.930	.07
42.00	.00	5446.03	.927	.07
42.50	.00	5446.03	.925	.06
43.00	.00	5446.02	.922	.06
43.50	.00	5446.02	.920	.06
44.00	.00	5446.01	.918	.05
44.50	.00	5446.01	.916	.05
45.00	.00	5446.01	.914	.05
45.50	.00	5446.00	.912	.04
46.00	.00	5446.00	.910	.04
46.50	.00	5446.00	.908	.04
47.00	.00	5445.99	.907	.04
47.50	.00	5445.99	.905	.04
48.00	.00	5445.99	.903	.04
48.50	.00	5445.98	.902	.04
49.00	.00	5445.98	.900	.04
49.50	.00	5445.98	.899	.04
50.00	.00	5445.97	.897	.04
50.50	.00	5445.97	.895	.04
51.00	.00	5445.97	.894	.04
51.50	.00	5445.96	.892	.04
52.00	.00	5445.96	.890	.04
52.50	.00	5445.96	.889	.04
53.00	.00	5445.95	.887	.04
53.50	.00	5445.95	.886	.04
54.00	.00	5445.95	.884	.04
54.50	.00	5445.94	.882	.04
55.00	.00	5445.94	.881	.04
55.50	.00	5445.94	.879	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
56.00	.00	5445.94	.878	.04
56.50	.00	5445.93	.876	.04
57.00	.00	5445.93	.874	.04
57.50	.00	5445.93	.873	.04
58.00	.00	5445.92	.871	.04
58.50	.00	5445.92	.870	.04
59.00	.00	5445.92	.868	.04
59.50	.00	5445.91	.866	.04

PEAK DISCHARGE = 21.160 CFS - PEAK OCCURS AT HOUR 2.30
MAXIMUM WATER SURFACE ELEVATION = 5451.582
MAXIMUM STORAGE = 5.9219 AC-FT INCREMENTAL TIME= .100000HRS

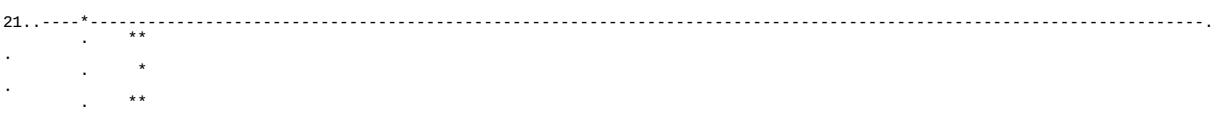
*
PRINT HYD ID=46 CODE=10

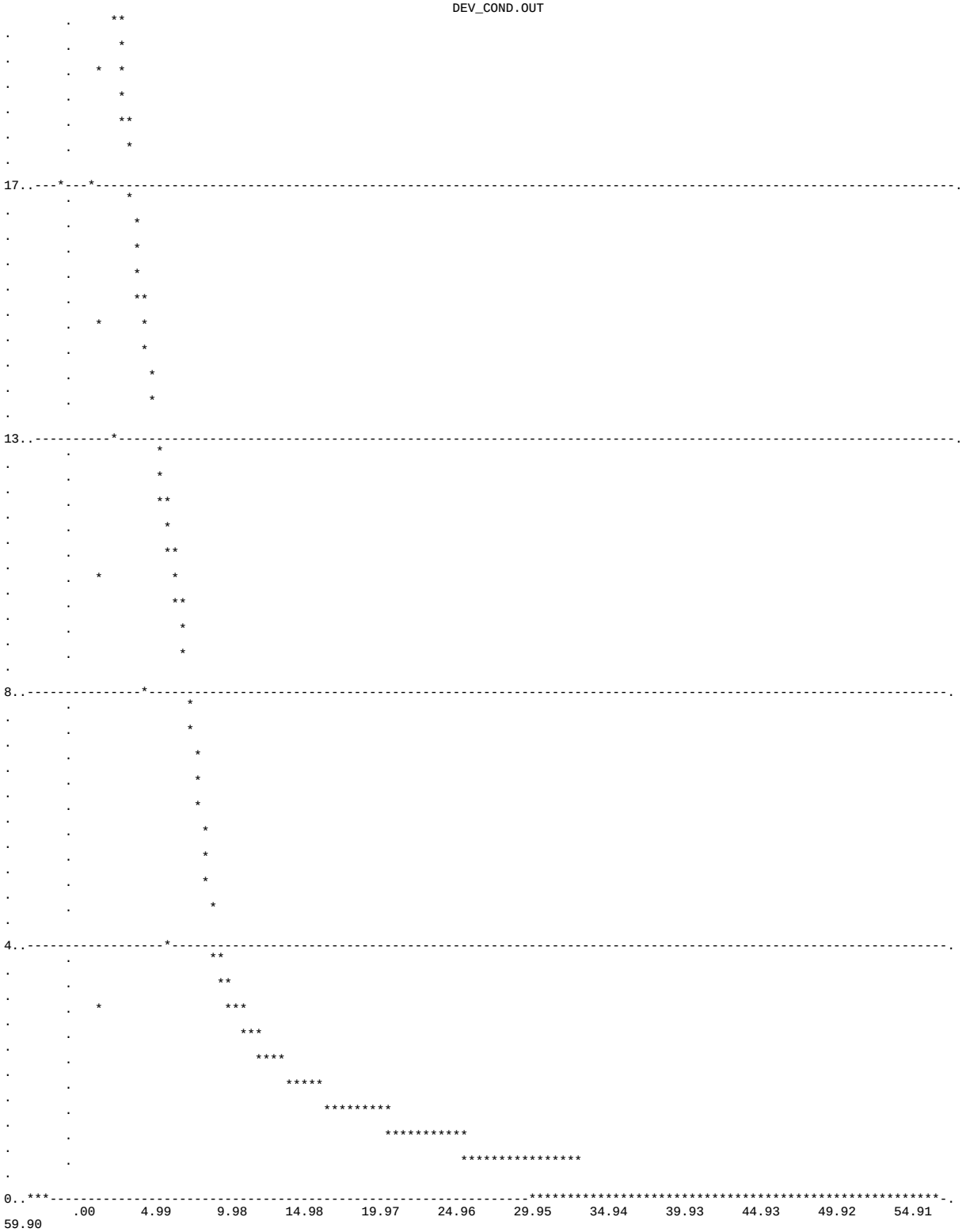
HYDROGRAPH FROM AREA POND.E

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	12.000	2.4	24.000	.8	36.000	.1	48.000	.0
1.000	.0	13.000	2.1	25.000	.7	37.000	.1	49.000	.0
2.000	20.0	14.000	1.9	26.000	.6	38.000	.1	50.000	.0
3.000	19.3	15.000	1.7	27.000	.5	39.000	.1	51.000	.0
4.000	16.1	16.000	1.5	28.000	.4	40.000	.1	52.000	.0
5.000	13.5	17.000	1.4	29.000	.4	41.000	.1	53.000	.0
6.000	11.4	18.000	1.3	30.000	.3	42.000	.1	54.000	.0
7.000	9.5	19.000	1.2	31.000	.3	43.000	.1	55.000	.0
8.000	7.3	20.000	1.1	32.000	.3	44.000	.1	56.000	.0
9.000	4.8	21.000	1.0	33.000	.2	45.000	.0	57.000	.0
10.000	3.2	22.000	1.0	34.000	.2	46.000	.0	58.000	.0
11.000	2.8	23.000	.9	35.000	.2	47.000	.0	59.000	.0

RUNOFF VOLUME = .98388 INCHES = 10.7238 ACRE-FEET
PEAK DISCHARGE RATE = 21.16 CFS AT 2.300 HOURS BASIN AREA = .2044 SQ. MI.

PLOT HYD ID=46
FLOW RATE (CFS)






```
*
COMPUTE NM HYD      ID=47  HYD NO=BASIN.E6  DA=.00488 SQ MI
                                    %A=0.0  %B=5.0  %C=5.0 %D=90.0
                                    TP=-0.133 HR  RAIN=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   17.379    CFS   UNIT VOLUME =    1.030       B =   526.28      P60 = 1.8400
     AREA =      .004392 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .100000


     K =   .118257HR    TP =   .133000HR    K/TP RATIO =   .889153     SHAPE CONSTANT, N =  3.989065
```

UNIT PEAK = 1.3005 CFS UNIT VOLUME = .9989 B = 354.44 P60 = 1.8400
AREA = .000488 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .100000

```
PRINT HYD           ID=47 CODE=10
```

HYDROGRAPH FROM AREA BASIN.E6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000	.1
1.000	.0	6.000	.1	11.000	.1	16.000	.1	21.000	.1
2.000	2.9	7.000	.1	12.000	.1	17.000	.1	22.000	.1
3.000	.1	8.000	.1	13.000	.1	18.000	.1	23.000	.1
4.000	.1	9.000	.1	14.000	.1	19.000	.1	24.000	.1

RUNOFF VOLUME = 2.26512 INCHES = .5895 ACRE-FEET
PEAK DISCHARGE RATE = 11.09 CFS AT 1.500 HOURS BASIN AREA = .0049 SQ. MI.

```
*
ADD HYD                      ID=48 HYD=TOTALE ID I=46 II=47
PRINT HYD                   ID=46 CODE=10
```

HYDROGRAPH FROM AREA POND.E

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	12.000	2.4	24.000	.8	36.000	.1	48.000	.0
1.000	.0	13.000	2.1	25.000	.7	37.000	.1	49.000	.0
2.000	20.0	14.000	1.9	26.000	.6	38.000	.1	50.000	.0
3.000	19.3	15.000	1.7	27.000	.5	39.000	.1	51.000	.0
4.000	16.1	16.000	1.5	28.000	.4	40.000	.1	52.000	.0
5.000	13.5	17.000	1.4	29.000	.4	41.000	.1	53.000	.0
6.000	11.4	18.000	1.3	30.000	.3	42.000	.1	54.000	.0
7.000	9.5	19.000	1.2	31.000	.3	43.000	.1	55.000	.0
8.000	7.3	20.000	1.1	32.000	.3	44.000	.1	56.000	.0
9.000	4.8	21.000	1.0	33.000	.2	45.000	.0	57.000	.0
10.000	3.2	22.000	1.0	34.000	.2	46.000	.0	58.000	.0
11.000	2.8	23.000	.9	35.000	.2	47.000	.0	59.000	.0

RUNOFF VOLUME = .98388 INCHES = 10.7238 ACRE-FEET
PEAK DISCHARGE RATE = 21.16 CFS AT 2.300 HOURS BASIN AREA = .2044 SQ. MI.

```
*
*
FINISH
```

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:30:47

```
ADD HYD             ID=18 HYD=TEMP.D ID I=17 II=6
PRINT HYD            ID=18 CODE=0
*
*S ADD BASINS TEMP D AND FUTURE BASIN 2 TO CREATE TEMP E*******************************
ADD HYD             ID=19 HYD=TEMP.E ID I=18 II=7
PRINT HYD            ID=19 CODE=0
*
*S ADD BASINS TEMP E AND FUTURE BASIN 3 TO CREATE TEMP F*******************************
ADD HYD             ID=20 HYD=TEMP.F ID I=19 II=8
PRINT HYD            ID=20 CODE=0
*
*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G*******************************
ADD HYD             ID=21 HYD=TEMP.G ID I=20 II=11
PRINT HYD            ID=21 CODE=0
*
*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H*******************************
ADD HYD             ID=22 HYD=TEMP.H ID I=21 II=12
PRINT HYD            ID=22 CODE=0
*
*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I*******************************
ADD HYD             ID=23 HYD=TEMP.1 ID I=22 II=14
PRINT HYD            ID=23 CODE=0
*
*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J*******************************
ADD HYD             ID=24 HYD=TEMP.J ID I=23 II=13
PRINT HYD            ID=24 CODE=0
*
*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE**********************



COMPUTE NM HYD      ID=25  HYD NO=OFFSITE2  DA=.0805 SQ MI
                         %A=100  %B=0.0  %C=0.0 %D=0.0
                         TP=-.66 HR  RAIN=-1
PRINT HYD           ID=25 CODE=10
*
*
ROUTE RESERVOIR   ID=26 HYD=OFFPOND2  INFLOW ID=25 CODE=5
                         OUTFLOW       STORAGE DEPTH
                         0     0               0
                         2.16  0.047           1
                         3.06  0.222           2
                         3.75  0.466           3
                         4.33  0.751           4
                         4.84  1.081           5
*
*
 PRINT HYD               ID=26 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.011
                          DIA=2.0  N=0.013
ROUTE MCUNGE         ID=27 HYD=RTE.OFFPOND2 INFLOW ID=26
                     DT=0.0  L=900 NS=0  SLOPE=0.011
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD            ID=27 CODE=0
*
*
COMPUTE NM HYD      ID=28  HYD NO=BASIN.B  DA=.01998 SQ MI
                         %A=0  %B=34.0  %C=34.0 %D=32.0
                         TP=-.133 HR  RAIN=-1
PRINT HYD           ID=28 CODE=10
*
*
ROUTE RESERVOIR   ID=29 HYD=POND.B  INFLOW ID=28 CODE=5
                         OUTFLOW       STORAGE DEPTH
                         0     0               5515
                         1.71  0.06            5516
                         2.42  0.24            5517
                         2.96  0.55            5518
                         3.42  0.99            5519
                         3.82  1.67            5520
*
*
PRINT HYD               ID=29 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.03
                          DIA=2.0  N=0.013
ROUTE MCUNGE         ID=30 HYD=RTE.PONDB INFLOW ID=29
                     DT=0.0  L=1180 NS=0  SLOPE=0.03
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD            ID=30 CODE=0
*
*
ADD HYD           ID=31 HYD=OFF.B ID I=30 II=27
PRINT HYD               ID=31 CODE=10
*
*
COMPUTE NM HYD      ID=32  HYD NO=BASINE1.1  DA=.02753 SQ MI
                         %A=0.0  %B=33.0  %C=33.0 %D=34.0
                         TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=32 CODE=10
*
*
ADD HYD             ID=33 HYD=OFF.E11 ID I=32 II=31
PRINT HYD               ID=33 CODE=10
*
*
COMPUTE NM HYD      ID=34  HYD NO=BASINE1.2  DA=.00588 SQ MI
                         %A=0.0  %B=33.0  %C=33.0 %D=34.0
                         TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=34 CODE=10
*
*
COMPUTE NM HYD      ID=35  HYD NO=BASIN.E2  DA=.01348 SQ MI
                         %A=0.0  %B=18.0  %C=18.0 %D=64.0
                         TP=-.133 HR  RAIN=-1
PRINT HYD           ID=35 CODE=10
```

```
*
*
ADD HYD             ID=36 HYD=E2.E12 ID I=34 II=35
PRINT HYD                 ID=36 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.002
                          DIA=3.0  N=0.013
ROUTE MCUNGE         ID=37 HYD=RTE.E12 INFLOW ID=36
                     DT=0.0  L=800 NS=0  SLOPE=0.01
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD            ID=37 CODE=0
*
*
COMPUTE NM HYD      ID=38  HYD NO=BASIN.E4  DA=.00577 SQ MI
                          %A=0.0  %B=5.0  %C=5.0 %D=90.0
                          TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=38 CODE=10
*
*
ADD HYD             ID=39 HYD=AP1 ID I=38 II=33
PRINT HYD                 ID=39 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.026
                           DIA=4.0  N=0.013
ROUTE MCUNGE         ID=40 HYD=RTE.E1E4 INFLOW ID=39
                     DT=0.0  L=400 NS=0  SLOPE=0.026
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD            ID=40 CODE=0
*
*
ADD HYD           ID=41 HYD=AP2 ID I=37 II=40
PRINT HYD                 ID=41 CODE=10
*
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1   SLP=0.026
                           DIA=4.0  N=0.013
ROUTE MCUNGE         ID=42 HYD=RTE.E1E4 INFLOW ID=41
                     DT=0.0  L=600 NS=0  SLOPE=0.026
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD            ID=42 CODE=0
*
ADD HYD              ID=43 HYD=AP3 ID I=42 II=24
PRINT HYD                 ID=43 CODE=10
PLOT HYD                  ID=43
*
COMPUTE NM HYD      ID=44  HYD NO=BASIN.OFF6  DA=.0014 SQ MI
                          %A=0.0  %B=0  %C=100.0 %D=0
                          TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=44 CODE=10
*
ADD HYD              ID=45 HYD=POND ID I=43 II=44
PRINT HYD                 ID=45 CODE=10
PLOT HYD                  ID=45
*
*
ROUTE RESERVOIR     ID=46 HYD=POND.E  INFLOW ID=45 CODE=5
                          OUTFLOW       STORAGE DEPTH
                          0     0.04            5444
                          0.01  0.23            5444.5
                          0.02  0.43            5445
                          0.03  0.66            5445.5
                          0.04  0.91            5446
                          0.5   1.20            5446.5
                          1.3   1.52            5447
                          2.2   1.88            5447.5
                          3.3   2.26            5448
                          6.7   2.68            5448.5
                          8.7   3.12            5449
                          10.8  3.60            5449.5
                          13.1  4.10            5450
                          15.5  4.65            5450.5
                          18.0  5.22            5451
                          20.7  5.82            5451.5
                          23.5  6.44            5452
*
PRINT HYD                 ID=46 CODE=10
PLOT HYD                  ID=46
*
COMPUTE NM HYD      ID=47  HYD NO=BASIN.E6  DA=.00488 SQ MI
                          %A=0.0  %B=5.0  %C=5.0 %D=90.0
                          TP=-0.133 HR  RAIN=-1
PRINT HYD           ID=47 CODE=10
*
ADD HYD            ID=48 HYD=TOTALE ID I=46 II=47
PRINT HYD                 ID=46 CODE=10
*
*
FINISH
```

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02c RUN DATE (MON/DAY/YR) =06/23/2014
INPUT FILE = DEV_Cond.HYM USER NO.= AHYMO-S-9702c1BohanHu-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
*S TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED										
*S 100 YEAR - 24 HOUR STORM										
*S										
START										TIME= .00
LOCATION		DEFAULT								
RAINFALL TYPE= 2										RAIN24= 2.660
*S										
*S	**********									
*S	*COMPUTE ONSITE BASINS*									
*s	**********									
*S										
*S										
*S										
*S COMPUTE BASIN 1 **********										
COMPUTE NM HYD	1.00	-	1	.00500	8.92	.439	1.64591	1.500	2.788	PER IMP= 52.00
*S COMPUTE BASIN 2 **********										
COMPUTE NM HYD	2.00	-	2	.00451	7.86	.380	1.58072	1.500	2.721	PER IMP= 48.00
*S COMPUTE BASIN 3 **********										
COMPUTE NM HYD	3.00	-	3	.00688	11.22	.520	1.41777	1.500	2.550	PER IMP= 38.00
*S COMPUTE BASIN 4 **********										
COMPUTE NM HYD	4.00	-	4	.00359	6.26	.303	1.58072	1.500	2.722	PER IMP= 48.00
*S COMPUTE BASIN 5 **********										
COMPUTE NM HYD	5.00	-	5	.00188	3.05	.140	1.40148	1.500	2.541	PER IMP= 37.00
*S COMPUTE FUTURE BASIN 1 **********										
COMPUTE NM HYD	FB.1	-	6	.01078	19.93	1.003	1.74368	1.500	2.888	PER IMP= 58.00
*S COMPUTE FUTURE BASIN 2 **********										
COMPUTE NM HYD	FB.2	-	7	.00750	13.54	.671	1.67850	1.500	2.821	PER IMP= 54.00
*S COMPUTE FUTURE BASIN 3 **********										
COMPUTE NM HYD	FB.3	-	8	.00594	10.79	.537	1.69479	1.500	2.839	PER IMP= 55.00
*S COMPUTE FUTURE BASIN 4 **********										
COMPUTE NM HYD	FB.4	-	9	.00484	8.07	.379	1.46666	1.500	2.602	PER IMP= 41.00
*S COMPUTE OFFSITE BASIN 2 **********										
COMPUTE NM HYD	OFF.2	-	10	.00094	.62	.023	.45840	1.500	1.035	PER IMP= .00
*S COMPUTE OFFSITE BASIN 3 **********										
COMPUTE NM HYD	OFF.3	-	11	.00109	.74	.027	.46712	1.500	1.056	PER IMP= .00
*S COMPUTE OFFSITE BASIN 4 **********										
COMPUTE NM HYD	OFF.4	-	12	.00141	.93	.034	.45840	1.500	1.033	PER IMP= .00
*S COMPUTE OFFSITE BASIN 5 **********										
COMPUTE NM HYD	OFF.5	-	13	.00328	1.99	.075	.42601	1.500	.948	PER IMP= .00
*S COMPUTE OFFSITE BASIN WELL **********										
COMPUTE NM HYD	OFF.WELL	-	14	.00156	2.26	.094	1.12446	1.500	2.256	PER IMP= 20.00
*S										
*S ADD BASINS 1 AND 2 TO CREATE TEMP A **********										
ADD HYD	TEMP.A	1& 2	15	.00951	16.78	.819	1.61490	1.500	2.757	
*S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B**********										
ADD HYD	TEMP.B	15& 3	16	.01639	28.00	1.339	1.53218	1.500	2.670	
*S ADD BASINS TEMP B AND 5 TO CREATE TEMP C**********										
ADD HYD	TEMP.C	16& 5	17	.01826	31.05	1.479	1.51874	1.500	2.657	
*S ADD BASINS TEMP C AND FUTURE BASIN 1 TO CREATE TEMP D**********										

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2 NOTATION
ADD HYD	TEMP.D	17& 6	18	.02904	50.98	2.482	1.60222	1.500	2.743	
*S ADD BASINS TEMP D AND FUTURE BASIN 2 TO CREATE TEMP E**********										
ADD HYD	TEMP.E	18& 7	19	.03654	64.52	3.153	1.61787	1.500	2.759	
*S ADD BASINS TEMP E AND FUTURE BASIN 3 TO CREATE TEMP F**********										
ADD HYD	TEMP.F	19& 8	20	.04248	75.31	3.690	1.62861	1.500	2.770	
*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G**********										
ADD HYD	TEMP.G	20&11	21	.04358	76.05	3.717	1.59945	1.500	2.727	
*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H**********										
ADD HYD	TEMP.H	21&12	22	.04498	76.98	3.752	1.56378	1.500	2.674	
*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I**********										
ADD HYD	TEMP.1	22&14	23	.04655	79.24	3.845	1.54902	1.500	2.660	
*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J**********										
ADD HYD	TEMP.J	23&13	24	.04983	81.23	3.920	1.47507	1.500	2.547	
*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE**********										
COMPUTE NM HYD	OFFSITE2	-	25	.08050	13.87	1.783	.41534	2.000	.269	PER IMP= .00
ROUTE RESERVOIR	OFFPOND2	25	26	.08050	4.43	1.783	.41534	3.100	.086	AC-FT= .813
ROUTE MCUNGE	RTE.OFFPOND2	26	27	.08050	4.43	1.783	.41538	3.200	.086	CCODE = .2
COMPUTE NM HYD	BASIN.B	-	28	.01998	34.80	1.407	1.32000	1.500	2.721	PER IMP= 32.00
ROUTE RESERVOIR	POND.B	28	29	.01998	3.36	1.407	1.31999	2.100	.263	AC-FT= .930
ROUTE MCUNGE	RTE.PONDB	29	30	.01998	3.36	1.407	1.32010	2.100	.263	CCODE = .2
ADD HYD	OFF.B	30&27	31	.10048	7.62	3.190	.59525	2.900	.118	
COMPUTE NM HYD	BASINE1.1	-	32	.02753	48.45	1.986	1.35259	1.500	2.750	PER IMP= 34.00
ADD HYD	OFF.E11	32&31	33	.12801	51.42	5.176	.75812	1.500	.628	
COMPUTE NM HYD	BASINE1.2	-	34	.00588	10.36	.424	1.35259	1.500	2.752	PER IMP= 34.00
COMPUTE NM HYD	BASIN.E2	-	35	.01348	27.42	1.324	1.84145	1.500	3.178	PER IMP= 64.00
ADD HYD	E2.E12	34&35	36	.01936	37.77	1.748	1.69294	1.500	3.049	
ROUTE MCUNGE	RTE.E12	36	37	.01936	31.30	1.684	1.63074	1.600	2.526	CCODE = .2
COMPUTE NM HYD	BASIN.E4	-	38	.00577	13.11	.697	2.26513	1.500	3.550	PER IMP= 90.00
ADD HYD	AP1	38&33	39	.13378	64.53	5.873	.82312	1.500	.754	
ROUTE MCUNGE	RTE.E1E4	39	40	.13378	64.53	5.873	.82312	1.500	.754	CCODE = .0
ADD HYD	AP2	37&40	41	.15314	95.72	7.557	.92521	1.500	.977	
ROUTE MCUNGE	RTE.E1E4	41	42	.15314	95.72	7.557	.92521	1.500	.977	CCODE = .0
ADD HYD	AP3	42&24	43	.20297	176.95	11.476	1.06019	1.500	1.362	
COMPUTE NM HYD	BASIN.OFF6	-	44	.00140	2.33	.072	.96928	1.500	2.597	PER IMP= .00
ADD HYD	POND	43&44	45	.20437	179.27	11.549	1.05957	1.500	1.371	
ROUTE RESERVOIR	POND.E	45	46	.20437	21.16	10.724	.98388	2.300	.162	AC-FT= 5.922
COMPUTE NM HYD	BASIN.E6	-	47	.00488	11.09	.590	2.26512	1.500	3.550	PER IMP= 90.00
ADD HYD	TOTALE	46&47	48	.20925	22.92	11.313	1.01376	2.000	.171	
FINISH										

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02c RUN DATE (MON/DAY/YR) =06/23/2014
INPUT FILE = DEV_Cond.HYM USER NO.= AHYMO-S-9702c1BohanHu-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
*S TIERRA VISTA UNIT 3A SUBDIVISION DRAINAGE BASIN (D) PROPOSED										
*S 100 YEAR - 6 HOUR STORM										
*S										
START										TIME= .00
LOCATION		DEFAULT								
RAINFALL TYPE= 1										RAIN6= 2.200
*S										
*S	**********									
*S	*COMPUTE ONSITE BASINS*									
*s	**********									
*S										
*S										
*S										
*S COMPUTE BASIN 1 **********										
COMPUTE NM HYD	1.00	-	1	.00500	8.92	.375	1.40680	1.500	2.788	PER IMP= 52.00
*S COMPUTE BASIN 2 **********										
COMPUTE NM HYD	2.00	-	2	.00451	7.86	.327	1.36001	1.500	2.721	PER IMP= 48.00
*S COMPUTE BASIN 3 **********										
COMPUTE NM HYD	3.00	-	3	.00688	11.22	.456	1.24304	1.500	2.550	PER IMP= 38.00
*S COMPUTE BASIN 4 **********										
COMPUTE NM HYD	4.00	-	4	.00359	6.26	.261	1.36001	1.500	2.722	PER IMP= 48.00
*S COMPUTE BASIN 5 **********										
COMPUTE NM HYD	5.00	-	5	.00188	3.05	.123	1.23134	1.500	2.541	PER IMP= 37.00
*S COMPUTE FUTURE BASIN 1 **********										
COMPUTE NM HYD	FB.1	-	6	.01078	19.93	.849	1.47698	1.500	2.888	PER IMP= 58.00
*S COMPUTE FUTURE BASIN 2 **********										
COMPUTE NM HYD	FB.2	-	7	.00750	13.54	.572	1.43019	1.500	2.821	PER IMP= 54.00
*S COMPUTE FUTURE BASIN 3 **********										
COMPUTE NM HYD	FB.3	-	8	.00594	10.79	.457	1.44189	1.500	2.839	PER IMP= 55.00
*S COMPUTE FUTURE BASIN 4 **********										
COMPUTE NM HYD	FB.4	-	9	.00484	8.07	.330	1.27813	1.500	2.602	PER IMP= 41.00
*S COMPUTE OFFSITE BASIN 2 **********										
COMPUTE NM HYD	OFF.2	-	10	.00094	.62	.023	.45840	1.500	1.035	PER IMP= .00
*S COMPUTE OFFSITE BASIN 3 **********										
COMPUTE NM HYD	OFF.3	-	11	.00109	.74	.027	.46712	1.500	1.056	PER IMP= .00
*S COMPUTE OFFSITE BASIN 4 **********										
COMPUTE NM HYD	OFF.4	-	12	.00141	.93	.034	.45840	1.500	1.033	PER IMP= .00
*S COMPUTE OFFSITE BASIN 5 **********										
COMPUTE NM HYD	OFF.5	-	13	.00328	1.99	.075	.42601	1.500	.948	PER IMP= .00
*S COMPUTE OFFSITE BASIN WELL **********										
COMPUTE NM HYD	OFF.WELL	-	14	.00156	2.26	.086	1.03249	1.500	2.256	PER IMP= 20.00
*S										
*S ADD BASINS 1 AND 2 TO CREATE TEMP A **********										
ADD HYD	TEMP.A	1& 2	15	.00951	16.78	.702	1.38453	1.500	2.757	
*S ADD BASINS TEMP A AND 3 TO CREATE TEMP 1.B**********										
ADD HYD	TEMP.B	15& 3	16	.01639	28.00	1.158	1.32516	1.500	2.670	
*S ADD BASINS TEMP B AND 5 TO CREATE TEMP C**********										
ADD HYD	TEMP.C	16& 5	17	.01826	31.05	1.281	1.31551	1.500	2.657	
*S ADD BASINS TEMP C AND FUTURE BASIN 1 TO CREATE TEMP D**********										

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2 NOTATION
ADD HYD	TEMP.D	17& 6	18	.02904	50.98	2.131	1.37543	1.500	2.743	
*S ADD BASINS TEMP D AND FUTURE BASIN 2 TO CREATE TEMP E**********										
ADD HYD	TEMP.E	18& 7	19	.03654	64.52	2.703	1.38666	1.500	2.759	
*S ADD BASINS TEMP E AND FUTURE BASIN 3 TO CREATE TEMP F**********										
ADD HYD	TEMP.F	19& 8	20	.04248	75.31	3.159	1.39437	1.500	2.770	
*S ADD BASINS TEMP F AND OFFSITE BASIN 3 TO CREATE TEMP G**********										
ADD HYD	TEMP.G	20&11	21	.04358	76.05	3.186	1.37109	1.500	2.727	
*S ADD BASINS TEMP G AND OFFSITE BASIN 4 TO CREATE TEMP H**********										
ADD HYD	TEMP.H	21&12	22	.04498	76.98	3.221	1.34256	1.500	2.674	
*S ADD BASINS TEMP H AND OFFSITE BASIN WELL TO CREATE TEMP I**********										
ADD HYD	TEMP.1	22&14	23	.04655	79.24	3.307	1.33215	1.500	2.660	
*S ADD BASINS TEMP I AND OFFSITE BASIN 5 TO CREATE TEMP J**********										
ADD HYD	TEMP.J	23&13	24	.04983	81.23	3.381	1.27248	1.500	2.547	
*S TEMP BASIN J REPLACES BASIN E3 AND E5 FROM THE DMP AHYMO FILE**********										
COMPUTE NM HYD	OFFSITE2	-	25	.08050	13.87	1.783	.41534	2.000	.269	PER IMP= .00
ROUTE RESERVOIR	OFFPOND2	25	26	.08050	4.43	1.783	.41534	3.100	.086	AC-FT= .813
ROUTE MCUNGE	RTE.OFFPOND2	26	27	.08050	4.43	1.783	.41538	3.200	.086	CCODE = .2
COMPUTE NM HYD	BASIN.B	-	28	.01998	34.80	1.250	1.17286	1.500	2.721	PER IMP= 32.00
ROUTE RESERVOIR	POND.B	28	29	.01998	3.36	1.250	1.17284	2.100	.263	AC-FT= .930
ROUTE MCUNGE	RTE.PONDB	29	30	.01998	3.36	1.250	1.17295	2.100	.263	CCODE = .2
ADD HYD	OFF.B	30&27	31	.10048	7.62	3.033	.56599	2.900	.118	
COMPUTE NM HYD	BASINE1.1	-	32	.02753	48.45	1.756	1.19625	1.500	2.750	PER IMP= 34.00
ADD HYD	OFF.E11	32&31	33	.12801	51.42	4.790	.70153	1.500	.628	
COMPUTE NM HYD	BASINE1.2	-	34	.00588	10.36	.375	1.19625	1.500	2.752	PER IMP= 34.00
COMPUTE NM HYD	BASIN.E2	-	35	.01348	27.42	1.112	1.54716	1.500	3.178	PER IMP= 64.00
ADD HYD	E2.E12	34&35	36	.01936	37.77	1.487	1.44056	1.500	3.049	
ROUTE MCUNGE	RTE.E12	36	37	.01936	31.30	1.423	1.37837	1.600	2.526	CCODE = .2
COMPUTE NM HYD	BASIN.E4	-	38	.00577	13.11	.570	1.85129	1.500	3.550	PER IMP= 90.00
ADD HYD	AP1	38&33	39	.13378	64.53	5.359	.75112	1.500	.754	
ROUTE MCUNGE	RTE.E1E4	39	40	.13378	64.53	5.359	.75112	1.500	.754	CCODE = .0
ADD HYD	AP2	37&40	41	.15314	95.72	6.782	.83041	1.500	.977	
ROUTE MCUNGE	RTE.E1E4	41	42	.15314	95.72	6.782	.83041	1.500	.977	CCODE = .0
ADD HYD	AP3	42&24	43	.20297	176.95	10.164	.93893	1.500	1.362	
COMPUTE NM HYD	BASIN.OFF6	-	44	.00140	2.33	.072	.96928	1.500	2.597	PER IMP= .00
ADD HYD	POND	43&44	45	.20437	179.27	10.236	.93914	1.500	1.371	
ROUTE RESERVOIR	POND.E	45	46	.20437	21.16	9.438	.86588	2.300	.162	AC-FT= 5.922
COMPUTE NM HYD	BASIN.E6	-	47	.00488	11.09	.482	1.85129	1.500	3.550	PER IMP= 90.00
ADD HYD	TOTALE	46&47	48	.20925	22.92	9.919	.88886	2.000	.171	
FINISH										

APPENDIX B

STREET HYDRAULICS AND STORM DRAIN INLET ANALYSIS

Bohannan Huston

Woodmont just west of Nightshine St.txt

MANNING'S N = 0.017 SLOPE = 0.043

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	12.0	0.1	9.0	70.2	0.7
2.0	9.4	0.7	6.0	40.0	0.7	10.0	70.6	0.7
3.0	9.8	0.7	7.0	68.0	0.1	11.0	80.0	0.9
4.0	10.0	0.0	8.0	70.0	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.059	1.645	1.498	2.484	0.085
0.100	0.100	0.156	0.372	3.290	2.379	4.048	0.188
0.150	0.150	0.366	0.992	6.318	2.712	6.996	0.264
0.200	0.200	0.795	2.439	11.423	3.067	12.021	0.346
0.250	0.250	1.476	5.345	16.527	3.621	17.047	0.454
0.300	0.300	2.408	10.099	21.631	4.194	22.072	0.574
0.350	0.350	3.591	17.072	26.735	4.754	27.098	0.702
0.400	0.400	5.026	26.606	31.839	5.294	32.123	0.836
0.450	0.450	6.711	39.021	36.943	5.814	37.148	0.976
0.500	0.500	8.648	54.623	42.048	6.316	42.174	1.120
0.550	0.550	10.837	73.701	47.152	6.801	47.199	1.269
0.600	0.600	13.276	96.534	52.256	7.271	52.224	1.422
0.650	0.650	15.967	123.390	57.360	7.728	57.250	1.579
0.700	0.700	18.976	150.934	65.282	7.954	64.219	1.684
0.750	0.750	22.310	188.306	70.214	8.440	69.151	1.858
0.800	0.800	25.891	230.648	75.147	8.908	74.082	2.034
0.850	0.850	29.719	278.186	80.079	9.361	79.014	2.213

INLETS #1 & #2

LOCATED IN WOODMONT AVE JUST WEST OF NIGHTSHINE ST

BASIN E4 - 13.1 CFS

10% BASIN E-6 - 1.1 CFS

14.2 CFS

STREET CAPACITY

$$\frac{17.1-10.1}{0.7-0.57}=\frac{17.1-14.2}{0.7-x}\Rightarrow\frac{7}{0.13}=\frac{2.9}{0.7-x}\Rightarrow 0.377=4.9-7x\Rightarrow x=0.65'<0.9'\ \checkmark\text{ok}$$

INLET CAPACITY

$$\frac{17.1-10.1}{0.35-0.3}=\frac{17.1-14.2}{0.35-x}\Rightarrow\frac{7}{0.05}=\frac{2.9}{0.35-x}\Rightarrow 0.145=2.45-7x\Rightarrow 0.33'$$

@ S = 4.3%, d = 0.33'

2% - 4.2 CFS

5% - 5.8 CFS

$$\frac{5-2}{5.8-4.2}=\frac{5-4.3}{5.8-x}\Rightarrow\frac{3}{1.6}=\frac{0.7}{5.8-x}=1.12=17.4-3x$$

x ≥ 5.4 CFS

(PER DUBLE 'A')

RESIDUAL

14.2 - 2(5.4 CFS) = 3.4 CFS

MANNING'S N = 0.017 SLOPE = 0.035

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	11.5	0.1	9.0	37.7	0.7
2.0	8.9	0.7	6.0	23.5	0.4	10.0	38.1	0.7
3.0	9.3	0.7	7.0	35.5	0.1	11.0	47.0	0.9
4.0	9.5	0.0	8.0	37.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.053	1.645	1.352	2.484	0.078
0.100	0.100	0.156	0.336	3.290	2.146	4.048	0.172
0.150	0.150	0.366	0.895	6.318	2.447	6.996	0.243
0.200	0.200	0.795	2.200	11.423	2.767	12.021	0.319
0.250	0.250	1.476	4.822	16.527	3.267	17.047	0.416
0.300	0.300	2.408	9.112	21.631	3.784	22.072	0.523
0.350	0.350	3.591	15.403	26.735	4.289	27.098	0.636
0.400	0.400	4.981	25.259	28.839	5.072	29.123	0.800
0.450	0.450	6.391	38.187	28.942	5.975	29.148	1.005
0.500	0.500	7.803	53.133	29.045	6.809	29.174	1.221
0.550	0.550	9.217	69.956	29.148	7.590	29.199	1.446
0.600	0.600	10.631	88.543	29.251	8.328	29.224	1.679
0.650	0.650	12.047	108.801	29.354	9.031	29.250	1.919
0.700	0.700	13.536	121.534	33.273	8.979	32.217	1.954
0.750	0.750	15.270	135.503	38.202	8.874	37.144	1.975
0.800	0.800	17.250	153.138	43.131	8.877	42.072	2.026

INLETS #3 & #4

LOCATED BETWEEN LOTS 6/7 & 13/14

FUTURE BASIN 1 - 19.9 CFS

45% BASIN 1 - 4.0 CFS

1/2 RESIDUAL FROM INLET 1 & 2 - 1.7 CFS

25.6 CFS

STREET CAPACITY

$d = 0.80' < 0.85'$ ✓

INLET CAPACITY

$X = 0.40'$

@ S = 3.5%, $x = 0.40'$

2% - 6 CFS

6% - 8.5 CFS

$$\frac{5-2}{9.5-6} = \frac{5-3.5}{8.5-x} \Rightarrow \frac{3}{2.5} = \frac{1.5}{8.5-x} \Rightarrow 3.75 = 25.5 - 3x$$

$X = 7.3$ CFS (PER DOUBLE 'A')

RESIDUAL

$25.6 - 2(7.3) \Rightarrow$ 11.0 CFS

MANNING'S N = 0.017 SLOPE = 0.025

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	11.5	0.1	9.0	37.7	0.7
2.0	8.9	0.7	6.0	23.5	0.4	10.0	38.1	0.7
3.0	9.3	0.7	7.0	35.5	0.1	11.0	47.0	0.9
4.0	9.5	0.0	8.0	37.5	0.0			

INLETS #5 & #6

LOCATED NEAR THE INTERSECTION OF RED BLOOM & VALLE RIO

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.044	1.645	1.138	2.484	0.070
0.100	0.100	0.156	0.282	3.290	1.806	4.048	0.151
0.150	0.150	0.366	0.753	6.318	2.060	6.996	0.216
0.200	0.200	0.795	1.852	11.423	2.329	12.021	0.284
0.250	0.250	1.476	4.059	16.527	2.750	17.047	0.368
0.300	0.300	2.408	7.670	21.631	3.185	22.072	0.458
0.350	0.350	3.591	12.965	26.735	3.610	27.098	0.553
0.400	0.400	4.981	21.263	28.839	4.269	29.123	0.683
0.450	0.450	6.391	32.144	28.942	5.029	29.148	0.843
0.500	0.500	7.803	44.726	29.045	5.732	29.174	1.011
0.550	0.550	9.217	58.887	29.148	6.389	29.199	1.185
0.600	0.600	10.631	74.533	29.251	7.011	29.224	1.364
0.650	0.650	12.047	91.585	29.354	7.602	29.250	1.549
0.700	0.700	13.536	102.303	33.273	7.558	32.217	1.588
0.750	0.750	15.270	114.062	38.202	7.470	37.144	1.618
0.800	0.800	17.250	128.907	43.131	7.473	42.072	1.669

RESIDUAL INLETS 3 & 4 - 11.0 CFS

55% BASIN 1 - 4.9 CFS

15.9 CFS

STREET CAPACITY

$$\frac{21.3-13}{0.68-0.55} = \frac{21.3-15.9}{0.68-x} \Rightarrow \frac{8.3}{0.13} = \frac{5.4}{0.68-x} \Rightarrow 0.702 = 5.644 - 8.3x$$

$$x = 0.60' < 0.65' \checkmark$$

INLET CAPACITY

$$\frac{21.3-13}{0.40-0.35} = \frac{21.3-15.9}{0.40-x} \Rightarrow \frac{8.3}{0.05} = \frac{5.4}{0.4-x} \Rightarrow 0.27 = 3.32 - 8.3x$$

$$x = 0.37'$$

@ S = 2.5%, d = 0.37'

2% - 4.9 CFS

5% - 7.0 CFS

$$\frac{5.2}{7-4.9} = \frac{52.5}{7-x} \quad \frac{3}{2.1} = \frac{2.5}{7-x} \quad = 21-3x = 5.25 \Rightarrow x = 5.2 \text{ CFS}$$

(PER DOUBLE 'A')

RESIDUAL

$$15.9 - 2(5.3 \text{ CFS}) = 5.3 \text{ CFS}$$

MANNING'S N = 0.017 SLOPE = 0.067

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	11.5	0.1	9.0	37.7	0.7
2.0	8.9	0.7	6.0	23.5	0.4	10.0	38.1	0.7
3.0	9.3	0.7	7.0	35.5	0.1	11.0	52.0	1.0
4.0	9.5	0.0	8.0	37.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.073	1.645	1.865	2.484	0.104
0.100	0.100	0.156	0.463	3.290	2.960	4.048	0.236
0.150	0.150	0.366	1.234	6.318	3.375	6.996	0.327
0.200	0.200	0.795	3.035	11.423	3.817	12.021	0.427
0.250	0.250	1.476	6.652	16.527	4.507	17.047	0.566
0.300	0.300	2.408	12.569	21.631	5.220	22.072	0.724
0.350	0.350	3.591	21.247	26.735	5.917	27.098	0.894
0.400	0.400	4.981	34.844	28.839	6.996	29.123	1.161
0.450	0.450	6.391	52.676	28.942	8.242	29.148	1.507
0.500	0.500	7.803	73.294	29.045	9.393	29.174	1.872
0.550	0.550	9.217	96.501	29.148	10.470	29.199	2.255
0.600	0.600	10.631	122.140	29.251	11.489	29.224	2.653
0.650	0.650	12.047	150.084	29.354	12.458	29.250	3.064
0.700	0.700	13.536	167.625	33.281	12.383	32.224	3.085
0.750	0.750	15.271	186.869	38.222	12.237	37.165	3.079
0.800	0.800	17.253	211.180	43.164	12.240	42.106	3.130

INLETS #7 & #8

LOCATED NEAR THE INTERSECTION OF VALLE PRADO AND SANDMARK

FUTURE BASIN 3 - 10.8 CFS

58% BASIN 3 - 6.5 CFS

OFFSITE BASIN 3 - 0.7 CFS

18 CFS

STREET CAPACITY

$$\frac{21.25-12.6}{0.89-0.72} = \frac{21.3-18}{0.89-x} \Rightarrow \frac{8.7}{0.17} = \frac{3.3}{0.89-x} \Rightarrow 7.743 = 0.561 - 8.7x$$

$x = 0.82' < 0.85'$ ✓ OK

INLET CAPACITY

$$\frac{21.3-12.6}{0.35-0.3} = \frac{21.3-18}{0.35-x} \Rightarrow \frac{8.7}{0.05} = \frac{3.3}{0.35-x} \Rightarrow 3.05 - 8.7x = 0.165$$

$x = 0.33'$

@ $S = 0.67'$, $d = 0.33'$

5% - 5.5 CFS

9% - 7 CFS

$$\frac{7-5.5}{9.5} = \frac{7-x}{9-6.7} \Rightarrow \frac{1.5}{4} = \frac{7-x}{2.3} \Rightarrow 20-4x = 3.45 \Rightarrow x = 6.2 \text{ CFS}$$

(PER DOUBLE 'A')

RESIDUAL

$18.0 - 2(6.2) = 5.6$ CFS

MANNING'S N = 0.017 SLOPE = 0.008

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	11.5	0.1	9.0	37.7	0.7
2.0	8.9	0.7	6.0	23.5	0.4	10.0	38.1	0.7
3.0	9.3	0.7	7.0	35.5	0.1	11.0	47.0	0.9
4.0	9.5	0.0	8.0	37.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.025	1.645	0.646	2.484	0.056
0.100	0.100	0.156	0.160	3.290	1.026	4.048	0.116
0.150	0.150	0.366	0.428	6.318	1.170	6.996	0.171
0.200	0.200	0.795	1.052	11.423	1.323	12.021	0.227
0.250	0.250	1.476	2.305	16.527	1.562	17.047	0.288
0.300	0.300	2.408	4.356	21.631	1.809	22.072	0.351
0.350	0.350	3.591	7.364	26.735	2.051	27.098	0.415
0.400	0.400	4.981	12.076	28.839	2.425	29.123	0.491
0.450	0.450	6.391	18.257	28.942	2.856	29.148	0.577
0.500	0.500	7.803	25.403	29.045	3.255	29.174	0.665
0.550	0.550	9.217	33.446	29.148	3.629	29.199	0.755
0.600	0.600	10.631	42.332	29.251	3.982	29.224	0.847
0.650	0.650	12.047	52.017	29.354	4.318	29.250	0.940
0.700	0.700	13.536	58.104	33.273	4.293	32.217	0.987
0.750	0.750	15.270	64.783	38.202	4.242	37.144	1.030
0.800	0.800	17.250	73.214	43.131	4.244	42.072	1.080

INLETS #9 & #10

LOCATED IN SANDMARK NEAR SOUTH SKY STREET

FUTURE BASIN 2 - 13.5 CFS

BASIN 2 - 7.9 CFS

21.4 CFS

STREET CAPACITY

$$\frac{25.4-18.3}{0.66-0.58} = \frac{25.4-21.4}{0.66-x} = \frac{7.1}{0.08} = \frac{4}{0.66-x} \Rightarrow 0.32 = 4.66-7.1x$$

$$x = 0.62' < 0.85' \checkmark$$

INLET CAPACITY

$$\frac{25.4-18.3}{0.50-0.45} = \frac{25.4-21.4}{0.50-x} \Rightarrow \frac{7.1}{0.05} = \frac{4}{0.5-x} \Rightarrow 3.55-7.1x = 0.2$$

$$x = 0.47'$$

@ S = 0.8%, d = 0.49'

0.2% - 4 CFS

2% - 8.5 CFS

$$\frac{2-0.2}{8.5-4} = \frac{2-0.8}{8.5-x} \Rightarrow \frac{1.8}{4.5} = \frac{1.2}{8.5-x} \Rightarrow 5.4 = 15.3-1.8x$$

$$x = 5.5 \text{ CFS}$$

(PER DUBLE 'A')

RESIDUAL

21.4 CFS - 2(5.5) ⇒ 10.4 CFS

MANNING'S N = 0.017 SLOPE = 0.008

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	11.5	0.1	9.0	37.7	0.7
2.0	8.9	0.7	6.0	23.5	0.4	10.0	38.1	0.7
3.0	9.3	0.7	7.0	35.5	0.1	11.0	47.0	0.9
4.0	9.5	0.0	8.0	37.5	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.025	1.645	0.646	2.484	0.056
0.100	0.100	0.156	0.160	3.290	1.026	4.048	0.116
0.150	0.150	0.366	0.428	6.318	1.170	6.996	0.171
0.200	0.200	0.795	1.052	11.423	1.323	12.021	0.227
0.250	0.250	1.476	2.305	16.527	1.562	17.047	0.288
0.300	0.300	2.408	4.356	21.631	1.809	22.072	0.351
0.350	0.350	3.591	7.364	26.735	2.051	27.098	0.415
0.400	0.400	4.981	12.076	28.839	2.425	29.123	0.491
0.450	0.450	6.391	18.257	28.942	2.856	29.148	0.577
0.500	0.500	7.803	25.403	29.045	3.255	29.174	0.665
0.550	0.550	9.217	33.446	29.148	3.629	29.199	0.755
0.600	0.600	10.631	42.332	29.251	3.982	29.224	0.847
0.650	0.650	12.047	52.017	29.354	4.318	29.250	0.940
0.700	0.700	13.536	58.104	33.273	4.293	32.217	0.987
0.750	0.750	15.270	64.783	38.202	4.242	37.144	1.030
0.800	0.800	17.250	73.214	43.131	4.244	42.072	1.080

INLETS #11 & #12

LOCATED NEAR SANDMARK AND SOUTH SKY ST

RESIDUAL FROM INLETS 11 & 12 = 10.4 CFS

INLET CAPACITY

$$\frac{12.1-7.4}{0.40-0.35} = \frac{12.1-10.4}{0.40-x} \Rightarrow \frac{4.7}{0.05} = \frac{1.7}{0.40-x} \Rightarrow 0.085 = 1.88 - 4.7x$$

$$x = 0.38'$$

@ S = 0.96, d = 0.38'

0.26 - 2.4 CFS

2.040 - 5.4 CFS

$$\frac{2-0.2}{5.4-2.4} = \frac{2-0.8}{5.4-x} \Rightarrow \frac{1.8}{3} = \frac{1.2}{5.4-x} \Rightarrow 3.6 = 9.72 - 1.8x$$

$x = 3.4$ CFS

(PER DOUBLE 'A')

RESIDUAL

$10.4 - 2(3.4) = 3.6$ CFS

MANNING'S N = 0.017 SLOPE = 0.018

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	14.0	0.1	9.0	64.2	0.7
2.0	11.4	0.7	6.0	38.0	0.6	10.0	64.6	0.7
3.0	11.8	0.7	7.0	62.0	0.1	11.0	76.0	0.9
4.0	12.0	0.0	8.0	64.0	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.038	1.645	0.969	2.484	0.065
0.100	0.100	0.156	0.241	3.290	1.539	4.048	0.137
0.150	0.150	0.366	0.642	6.318	1.755	6.996	0.198
0.200	0.200	0.795	1.578	11.423	1.985	12.021	0.261
0.250	0.250	1.476	3.458	16.527	2.343	17.047	0.335
0.300	0.300	2.408	6.534	21.631	2.714	22.072	0.415
0.350	0.350	3.591	11.046	26.735	3.076	27.098	0.497
0.400	0.400	5.026	17.214	31.839	3.425	32.123	0.582
0.450	0.450	6.711	25.247	36.943	3.762	37.148	0.670
0.500	0.500	8.648	35.341	42.048	4.086	42.174	0.760
0.550	0.550	10.837	47.684	47.152	4.400	47.199	0.851
0.600	0.600	13.276	62.457	52.256	4.704	52.224	0.944
0.650	0.650	15.887	83.077	53.359	5.229	53.250	1.075
0.700	0.700	18.576	102.824	57.287	5.535	56.226	1.177
0.750	0.750	21.511	124.252	62.232	5.776	61.170	1.269
0.800	0.800	24.693	148.602	67.176	6.018	66.113	1.363
0.850	0.850	28.122	176.030	72.121	6.259	71.057	1.459

INLETS # 13 & #14

LOCATED IN SOUTH SKY

NEAR WOODMONT

RESIDUAL (INLETS 5 & 6) - 5.3 CFS

RESIDUAL (INLETS 7 & 8) - 5.6 CFS

RESIDUAL (INLETS 11 & 12) - 3.6 CFS

BASIN 5 - 3.1 CFS

OFFSITE BASIN 4 - 0.9 CFS

OFFSITE BASIN WELL - 2.3 CFS

42% BASIN 3 - 4.7 CFS

25.5 CFS

STREET CAPACITY

OK

INLET CAPACITY

$d = 0.45'$

@ $S = 1.8\%$, $d = 0.45'$

0.2% - 3.5 CFS

2.0% - 8.0 CFS

$$\frac{2-0.2}{8-3.5} = \frac{2-1.8}{8-x} \Rightarrow \frac{1.8}{4.5} = \frac{0.2}{8-x} = 0.9 = 14.4 - 1.8x$$

$x = 7.5$ CFS

(PER DOUBLE 'A')

RESIDUAL

$25.5 - 2(7.5) = 10.5$ CFS

MANNING'S N = 0.017 SLOPE = 0.028

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	14.0	0.1	9.0	64.2	0.7
2.0	11.4	0.7	6.0	38.0	0.6	10.0	64.6	0.7
3.0	11.8	0.7	7.0	62.0	0.1	11.0	76.0	0.9
4.0	12.0	0.0	8.0	64.0	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.047	1.645	1.209	2.484	0.073
0.100	0.100	0.156	0.300	3.290	1.919	4.048	0.157
0.150	0.150	0.366	0.800	6.318	2.189	6.996	0.225
0.200	0.200	0.795	1.968	11.423	2.475	12.021	0.295
0.250	0.250	1.476	4.313	16.527	2.922	17.047	0.383
0.300	0.300	2.408	8.150	21.631	3.385	22.072	0.478
0.350	0.350	3.591	13.776	26.735	3.836	27.098	0.579
0.400	0.400	5.026	21.469	31.839	4.272	32.123	0.684
0.450	0.450	6.711	31.488	36.943	4.692	37.148	0.792
0.500	0.500	8.648	44.078	42.048	5.097	42.174	0.904
0.550	0.550	10.837	59.472	47.152	5.488	47.199	1.018
0.600	0.600	13.276	77.897	52.256	5.867	52.224	1.135
0.650	0.650	15.887	103.615	53.359	6.522	53.250	1.312
0.700	0.700	18.576	128.244	57.287	6.904	56.226	1.441
0.750	0.750	21.511	154.969	62.232	7.204	61.170	1.557
0.800	0.800	24.693	185.339	67.176	7.506	66.113	1.676
0.850	0.850	28.122	219.548	72.121	7.807	71.057	1.798

INLETS #15 & #16

LOCATED IN SOUTH SKY NEAR WOODMONT

RESIDUAL (INLETS 13 & 14) - 10.5 CFS

STREET CAPACITY

$$\frac{13.8-8.2}{0.5\%-0.4\%} = \frac{13.8-10.5}{0.5\%-x} \Rightarrow \frac{5.6}{0.1} = \frac{3.3}{0.5\%-x} \Rightarrow 0.33 = 3.2\% - 5.6x$$

$$x = 0.52'$$

INLET CAPACITY

$$\frac{13.8-8.2}{0.35-0.3} = \frac{13.8-10.5}{0.35-x} \Rightarrow \frac{5.6}{0.05} = \frac{3.3}{0.35-x} \Rightarrow 0.165 = 1.96-5.6x$$

$$x = 0.32'$$

@ S = 2.8%, d = 0.32'

2% - 3 CFS

5% - 4.4 CFS

$$\frac{5-2}{4.4-3} = \frac{5-2.8}{4.4-x} \Rightarrow \frac{3}{1.4} = \frac{2.2}{4.4-x} \Rightarrow 3.08 = 13.2-3x \Rightarrow x = 3.4 \text{ CFS}$$

(PER DOUBLE 'A')

RESIDUAL

$$10.5 - 2(3.4) = 3.7 \text{ CFS}$$

MANNING'S N = 0.017 SLOPE = 0.050

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	5.0	11.5	0.1	9.0	37.7	0.7
2.0	8.9	0.7	6.0	23.5	0.4	10.0	38.1	0.7
3.0	9.3	0.7	7.0	35.5	0.1	11.0	47.0	0.9
4.0	9.5	0.0	8.0	37.5	0.0			

INLETS #17 & #18

LOCATED IN TWO Rock NEAR LONGWALKS

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.039	0.063	1.645	1.616	2.484	0.091
0.100	0.100	0.156	0.401	3.290	2.565	4.048	0.202
0.150	0.150	0.366	1.070	6.318	2.925	6.996	0.283
0.200	0.200	0.795	2.630	11.423	3.308	12.021	0.370
0.250	0.250	1.476	5.763	16.527	3.905	17.047	0.487
0.300	0.300	2.408	10.891	21.631	4.523	22.072	0.618
0.350	0.350	3.591	18.410	26.735	5.126	27.098	0.759
0.400	0.400	4.981	30.191	28.839	6.062	29.123	0.972
0.450	0.450	6.391	45.642	28.942	7.141	29.148	1.243
0.500	0.500	7.803	63.506	29.045	8.138	29.174	1.530
0.550	0.550	9.217	83.614	29.148	9.072	29.199	1.830
0.600	0.600	10.631	105.829	29.251	9.954	29.224	2.141
0.650	0.650	12.047	130.042	29.354	10.794	29.250	2.462
0.700	0.700	13.536	145.260	33.273	10.731	32.217	2.491
0.750	0.750	15.270	161.958	38.202	10.606	37.144	2.500
0.800	0.800	17.250	183.035	43.131	10.610	42.072	2.551

97% FUTURE BASIN 4 - 7.0 CFS

INLET CAPACITY

$d = 0.26'$; $S = 5\%$ $\Rightarrow$ $X = 3.1$ CFS

(PER DOUBLE 'A')

RESIDUAL

$7.0 - 2(3.1) = 0.8$ CFS

APPENDIX C

INROADS STORM DRAIN NEWTOWRK FILE

Design Log

```
========================================================================
InRoads Storm & Sanitary Design Log

Drainage File:  P:\20150013\CDP\Control\Data\20150013sd.sdb

Design File:  P:\20150013\CDP\DESIGN\20150013_SD.DWG

Display Log:  P:\20150013\CDP\DESIGN\design.log

Date:  Friday, June 20, 2014 2:24:06 PM
========================================================================

Designing inlet IN17
   WARNING:  Spread is greater than maximum spread (2.5000 ft )
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.

  Results:
        Gutter Flow:     3.1000 cfs               Flow From: Injected Storm

             Status:      Fixed
       Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
    Flow Downstream:     3.1000 cfs               Bypass To:     0.0000 cfs
        Percent Cap:   100.0000 %                  Capacity:     0.0000 cfs
             Spread:     6.9136 ft
    Depth in Gutter:     0.2452 ft          Assigned Bypass:         N/A


Designing pipe SDP17
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
        Total Flow:     3.1000 cfs               Flow From:   Upstream

             Status:      Fixed                      Slope:     0.0519 ft/ft
         Pipe Width:    18.0000 in             Pipe Height:    18.0000 in
      Depth of Flow:     0.3640 ft             Flow Status:    Partial
     Critical Depth:     0.6600 ft                Capacity:    23.9383 cfs
           Velocity:     9.3220 ft/s
      Froude Number:     3.2382                 Flow Regime: SuperCritical


Designing inlet IN18
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.

  Results:
        Gutter Flow:     3.1000 cfs               Flow From: Injected Storm

             Status:      Fixed
       Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
    Flow Downstream:     6.2000 cfs               Bypass To:     0.0000 cfs
        Percent Cap:   100.0000 %                  Capacity:     0.0000 cfs
             Spread:     1.6272 ft
    Depth in Gutter:     0.5842 ft          Assigned Bypass:         N/A


Designing pipe SDP18
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
        Total Flow:     6.2000 cfs               Flow From:   Upstream

             Status:      Fixed                      Slope:     0.0328 ft/ft
         Pipe Width:    24.0000 in             Pipe Height:    24.0000 in
      Depth of Flow:     0.5250 ft             Flow Status:    Partial
     Critical Depth:     0.8800 ft                Capacity:    40.9856 cfs
           Velocity:     9.3996 ft/s
      Froude Number:     2.7105                 Flow Regime: SuperCritical


Designing manhole SDMH8

  Results:
        Total Flow:     6.2000 cfs               Flow From:   Upstream

             Status:      Fixed
      Chamber Width:     4.0000 ft           Chamber Length:     4.0000 ft


Designing pipe SDP19

  Results:
        Total Flow:     6.2000 cfs               Flow From:   Upstream

             Status:      Fixed                      Slope:     0.0050 ft/ft
         Pipe Width:    24.0000 in             Pipe Height:    24.0000 in
      Depth of Flow:     0.8640 ft             Flow Status:    Partial
     Critical Depth:     0.8800 ft                Capacity:    15.9965 cfs
           Velocity:     4.7633 ft/s
      Froude Number:     1.0369                 Flow Regime:   Critical


Designing pipe dummy1
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
        Total Flow:    48.2000 cfs               Flow From: Injected Storm

             Status:      Fixed                      Slope:     0.0300 ft/ft
         Pipe Width:    24.0000 in             Pipe Height:    24.0000 in
      Depth of Flow:     2.0000 ft             Flow Status:        Full
     Critical Depth:     2.0000 ft                Capacity:    39.1831 cfs
           Velocity:    15.3425 ft/s
      Froude Number:     0.0000                 Flow Regime: Subcritical


Designing manhole SDMH9

  Results:
        Total Flow:    54.4000 cfs               Flow From:   Upstream
```

Status: Fixed
Chamber Width: 6.0000 ft Chamber Length: 6.0000 ft

Designing pipe SDP20
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:
Total Flow: 54.4000 cfs Flow From: Upstream

Status: Fixed Slope: 0.0520 ft/ft
Pipe Width: 36.0000 in Pipe Height: 36.0000 in
Depth of Flow: 1.2390 ft Flow Status: Partial
Critical Depth: 2.3900 ft Capacity: 152.0957 cfs
Velocity: 19.7229 ft/s
Froude Number: 3.6005 Flow Regime: SuperCritical

HGL/EGL Computations:

Table A:

Struct_ID	D (in)	Q (cfs)	L (ft)	V (ft/s)	d (ft)	dc (ft)	V^2/2g (ft)	Sf (ft/ft)	Dn_Soffit (ft)	EGLdn (ft)	HGLdn (ft)	Tot_Loss (ft)	EGLup (ft)	HGLup (ft)	Rim_Elev. (ft)
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-	5489.84	-
SDP20	36	54.40	54.88	19.72	1.24	2.39	6.05	-	5491.60	5495.88	5489.84	-	5498.58	5492.53	-
SDMH9	-	-	-	-	-	-	-	-	-	5498.58	5492.53	1.11	5497.30	5493.64	5497.50
dummy1	24	48.20	46.65	15.34	-	-	3.66	0.0454	5493.29	5497.30	5493.64	2.12	5499.42	5495.76	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5498.58	5492.53	-
SDMH9	-	-	-	-	-	-	-	-	-	5498.58	5492.53	-	5498.58	5492.53	5497.50
SDP19	24	6.20	150.10	4.76	0.86	0.88	0.35	-	5493.39	5492.89	5492.53	-	5493.34	5492.98	-
SDMH8	-	-	-	-	-	-	-	-	-	5493.34	5492.98	-	5493.34	5492.98	5496.27
SDP18	24	6.20	36.63	9.40	0.53	0.88	1.37	-	5494.22	5494.36	5492.98	-	5495.14	5493.76	-
IN18	-	-	-	-	-	-	-	-	-	5495.14	5493.76	-	5495.14	5493.76	5497.71
SDP17	18	3.10	34.08	9.32	0.36	0.66	1.35	-	5494.71	5495.12	5493.76	-	5496.46	5495.11	-
IN17	-	-	-	-	-	-	-	-	-	5496.46	5495.11	-	5496.46	5495.11	5498.74

Table B:

Str_ID	Hf	Hb	Hstr	Hc	He	Hj	Total	LOSS_COEFFICENTS Dstr	Ko	CD	Cd	Cq	Cp	Cb	K
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP20	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-	-	-
SDMH9	-	-	1.11	-	-	-	1.11	1.24	0.575	1.000	0.294	1.088	1.000	1.000	0.184
dummy1	2.12	-	-	-	-	-	2.12	-	-	-	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDMH9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP19	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-	-	-
SDMH8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP18	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-	-	-
IN18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP17	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-	-	-
IN17	-	-	-	-	-	-	-	0.36	-	-	-	-	-	-	-

Design Log

```
========================================================================
InRoads Storm & Sanitary Design Log

Drainage File:  P:\20150013\CDP\Control\Data\20150013sd.sdb

Design File:  P:\20150013\CDP\DESIGN\20150013_SD.DWG

Display Log:  P:\20150013\CDP\DESIGN\design.log

Date:  Friday, June 20, 2014 2:23:08 PM
========================================================================

Designing inlet IN10
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.

  Results:
        Gutter Flow:     5.5000 cfs               Flow From: Injected Storm

             Status:      Fixed
       Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
    Flow Downstream:     5.5000 cfs               Bypass To:     0.0000 cfs
         Percent Cap:   100.0000 %                  Capacity:     0.0000 cfs
             Spread:     2.0517 ft
    Depth in Gutter:     0.7170 ft          Assigned Bypass:        N/A


Designing pipe SDP30
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
         Total Flow:     5.5000 cfs               Flow From:   Upstream

             Status:      Fixed                       Slope:     0.0504 ft/ft
         Pipe Width:    18.0000 in             Pipe Height:    18.0000 in
      Depth of Flow:     0.4920 ft             Flow Status:    Partial
     Critical Depth:     0.9000 ft                Capacity:    23.5939 cfs
           Velocity:    10.8748 ft/s
      Froude Number:     3.2039                 Flow Regime: SuperCritical


Designing inlet IN12
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.
   WARNING:  Pipe Too large for valid connection to inlet.

  Results:
        Gutter Flow:     3.4000 cfs               Flow From: Injected Storm

             Status:      Fixed
       Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
    Flow Downstream:     8.9000 cfs               Bypass To:     0.0000 cfs
         Percent Cap:   100.0000 %                  Capacity:     0.0000 cfs
             Spread:     1.6820 ft
    Depth in Gutter:     0.6053 ft          Assigned Bypass:        N/A


Designing pipe SDP31
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
         Total Flow:     8.9000 cfs               Flow From:   Upstream

             Status:      Fixed                       Slope:     0.0510 ft/ft
         Pipe Width:    24.0000 in             Pipe Height:    24.0000 in
      Depth of Flow:     0.5650 ft             Flow Status:    Partial
     Critical Depth:     1.0600 ft                Capacity:    51.0724 cfs
           Velocity:    12.1772 ft/s
      Froude Number:     3.3740                 Flow Regime: SuperCritical


   WARNING:  Pipe Too large for valid connection to inlet.
Designing inlet IN9
   WARNING:  Spread is greater than maximum spread (2.5000 ft )
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.

  Results:
        Gutter Flow:     5.5000 cfs               Flow From: Injected Storm

             Status:      Fixed
       Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
    Flow Downstream:     5.5000 cfs               Bypass To:     0.0000 cfs
         Percent Cap:   100.0000 %                  Capacity:     0.0000 cfs
             Spread:    10.2744 ft
    Depth in Gutter:     0.2727 ft          Assigned Bypass:        N/A


Designing pipe SDP33
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
         Total Flow:     5.5000 cfs               Flow From:   Upstream

             Status:      Fixed                       Slope:     0.0643 ft/ft
         Pipe Width:    18.0000 in             Pipe Height:    18.0000 in
      Depth of Flow:     0.4620 ft             Flow Status:    Partial
     Critical Depth:     0.9000 ft                Capacity:    26.6409 cfs
           Velocity:    11.8580 ft/s
      Froude Number:     3.6179                 Flow Regime: SuperCritical


Designing inlet IN11
   WARNING:  Spread is greater than maximum spread (2.5000 ft )
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.
   WARNING:  Pipe Too large for valid connection to inlet.

  Results:
        Gutter Flow:     3.4000 cfs               Flow From: Injected Storm

             Status:      Fixed
       Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
```

Flow Downstream:	17.8000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	8.4005 ft		
Depth in Gutter:	0.2306 ft	Assigned Bypass:	N/A

Designing pipe SDP32

Results:

Total Flow:	17.8000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0119 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.2570 ft	Flow Status:	Partial
Critical Depth:	1.5200 ft	Capacity:	24.6875 cfs
Velocity:	8.5535 ft/s		
Froude Number:	1.4540	Flow Regime:	SuperCritical

WARNING: Pipe Too large for valid connection to inlet.

Designing inlet IN8

WARNING: Spread is greater than maximum spread (2.5000 ft)

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	6.2000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	6.2000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	10.8707 ft		
Depth in Gutter:	0.2833 ft	Assigned Bypass:	N/A

Designing pipe SDP10

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	6.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0477 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.5320 ft	Flow Status:	Partial
Critical Depth:	0.9600 ft	Capacity:	22.9437 cfs
Velocity:	11.0188 ft/s		
Froude Number:	3.1065	Flow Regime:	SuperCritical

Designing inlet IN7

WARNING: Spread is greater than maximum spread (2.5000 ft)

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	6.2000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	12.4000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	10.9004 ft		
Depth in Gutter:	0.2829 ft	Assigned Bypass:	N/A

Designing pipe SDP9

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	12.4000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0856 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	0.5860 ft	Flow Status:	Partial
Critical Depth:	1.2600 ft	Capacity:	66.1898 cfs
Velocity:	16.1265 ft/s		
Froude Number:	4.3799	Flow Regime:	SuperCritical

Designing manhole SDMH5

Results:

Total Flow:	30.2000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	6.0000 ft	Chamber Length:	6.0000 ft

Designing pipe SDP5

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	30.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0428 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.1680 ft	Flow Status:	Partial
Critical Depth:	1.8600 ft	Capacity:	46.8182 cfs
Velocity:	15.8349 ft/s		
Froude Number:	2.8399	Flow Regime:	SuperCritical

Designing manhole SDMH4

Results:

Total Flow:	30.2000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	4.0000 ft	Chamber Length:	4.0000 ft

Designing pipe SDP4

WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	30.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0311 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.3000 ft	Flow Status:	Partial
Critical Depth:	1.8600 ft	Capacity:	39.9070 cfs
Velocity:	13.9584 ft/s		
Froude Number:	2.3119	Flow Regime:	SuperCritical

Designing manhole SDMH3

Results:

Total Flow:	30.2000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	4.0000 ft	Chamber Length:	4.0000 ft

Designing pipe SDP3

Results:

Total Flow:	30.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0142 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	2.0000 ft	Flow Status:	Full
Critical Depth:	2.0000 ft	Capacity:	26.9661 cfs
Velocity:	9.6130 ft/s		
Froude Number:	0.0000	Flow Regime:	Subcritical

Designing inlet IN4
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	7.3000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	7.3000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	2.4727 ft		
Depth in Gutter:	0.7598 ft	Assigned Bypass:	N/A

Designing pipe SDP16
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	7.3000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0444 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.5920 ft	Flow Status:	Partial
Critical Depth:	1.0400 ft	Capacity:	22.1365 cfs
Velocity:	11.2342 ft/s		
Froude Number:	2.9785	Flow Regime:	SuperCritical

Designing inlet IN3
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	7.3000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	14.6000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	8.0398 ft		
Depth in Gutter:	0.3745 ft	Assigned Bypass:	N/A

Designing pipe SDP15
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	14.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0353 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	0.8080 ft	Flow Status:	Partial
Critical Depth:	1.3700 ft	Capacity:	42.4851 cfs
Velocity:	12.2572 ft/s		
Froude Number:	2.7762	Flow Regime:	SuperCritical

Designing inlet IN6
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	5.3000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	5.3000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	10.5787 ft		
Depth in Gutter:	0.2621 ft	Assigned Bypass:	N/A

Designing pipe SDP12
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	5.3000 cfs	Flow From:	Upstream

Status:	Fixed	Slope:	0.0370 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.5240 ft	Flow Status:	Partial
Critical Depth:	0.8800 ft	Capacity:	20.2031 cfs
Velocity:	9.6153 ft/s		
Froude Number:	2.7342	Flow Regime:	SuperCritical

Designing inlet IN5
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	5.3000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	25.2000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	10.5791 ft		
Depth in Gutter:	0.2621 ft	Assigned Bypass:	N/A

Designing pipe SDP11
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	25.2000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0379 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.0830 ft	Flow Status:	Partial
Critical Depth:	1.7600 ft	Capacity:	44.0669 cfs
Velocity:	14.4944 ft/s		
Froude Number:	2.7376	Flow Regime:	SuperCritical

Designing manhole SDMH2

Results:

Total Flow:	55.4000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	6.0000 ft	Chamber Length:	6.0000 ft

Designing pipe SDP29
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	55.4000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0568 ft/ft
Pipe Width:	36.0000 in	Pipe Height:	36.0000 in
Depth of Flow:	1.2220 ft	Flow Status:	Partial
Critical Depth:	2.4100 ft	Capacity:	158.9833 cfs
Velocity:	20.4576 ft/s		
Froude Number:	3.7651	Flow Regime:	SuperCritical

Designing inlet IN2
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	5.4000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	5.4000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	8.5217 ft		
Depth in Gutter:	0.3018 ft	Assigned Bypass:	N/A

Designing pipe SDP22

Results:

Total Flow:	5.4000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0070 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.8480 ft	Flow Status:	Partial
Critical Depth:	0.8900 ft	Capacity:	8.8187 cfs
Velocity:	5.2344 ft/s		
Froude Number:	1.1088	Flow Regime:	SuperCritical

Designing inlet IN1
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	5.4000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	5.4000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	15.3304 ft		
Depth in Gutter:	0.2122 ft	Assigned Bypass:	N/A

Designing pipe SDP21

Results:

Total Flow:	5.4000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0218 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.6100 ft	Flow Status:	Partial
Critical Depth:	0.8900 ft	Capacity:	15.5216 cfs

```
          Velocity:     7.9849 ft/s
      Froude Number:    2.0803                Flow Regime: SuperCritical


Designing pipe SDP8
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
        Total Flow:    53.7000 cfs              Flow From: Injected Storm

            Status:      Fixed                      Slope:     0.0448 ft/ft
        Pipe Width:    30.0000 in             Pipe Height:    30.0000 in
     Depth of Flow:     1.4220 ft             Flow Status:    Partial
    Critical Depth:     2.3400 ft                Capacity:    86.8484 cfs
          Velocity:    18.6104 ft/s
      Froude Number:    3.0407                Flow Regime: SuperCritical


Designing manhole SDMH10

  Results:
        Total Flow:    64.5000 cfs              Flow From:   Upstream

            Status:      Fixed
     Chamber Width:     6.0000 ft          Chamber Length:     6.0000 ft


Designing pipe SDP7
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
        Total Flow:    64.5000 cfs              Flow From:   Upstream

            Status:      Fixed                      Slope:     0.0493 ft/ft
        Pipe Width:    36.0000 in             Pipe Height:    36.0000 in
     Depth of Flow:     1.3840 ft             Flow Status:    Partial
    Critical Depth:     2.5700 ft                Capacity:   148.1250 cfs
          Velocity:    20.2218 ft/s
      Froude Number:    3.4539                Flow Regime: SuperCritical


Designing pipe dummy

  Results:
        Total Flow:    31.2000 cfs              Flow From: Injected Storm

            Status:      Fixed                      Slope:     0.0100 ft/ft
        Pipe Width:    24.0000 in             Pipe Height:    24.0000 in
     Depth of Flow:     2.0000 ft             Flow Status:       Full
    Critical Depth:     2.0000 ft                Capacity:    22.6224 cfs
          Velocity:     9.9313 ft/s
      Froude Number:    0.0000                Flow Regime: Subcritical


Designing manhole SDMH6

  Results:
        Total Flow:    95.7000 cfs              Flow From:   Upstream

            Status:      Fixed
     Chamber Width:     6.0000 ft          Chamber Length:     6.0000 ft


Designing pipe SDP6
   WARNING:  Full flow velocity is greater than maximum (10.0000)

  Results:
        Total Flow:    95.7000 cfs              Flow From:   Upstream

            Status:      Fixed                      Slope:     0.0402 ft/ft
        Pipe Width:    54.0000 in             Pipe Height:    54.0000 in
     Depth of Flow:     1.5090 ft             Flow Status:    Partial
    Critical Depth:     2.8700 ft                Capacity:   394.4065 cfs
          Velocity:    20.4347 ft/s
      Froude Number:    3.4331                Flow Regime: SuperCritical


Designing manhole exSDMH1

  Results:
        Total Flow:    95.7000 cfs              Flow From:   Upstream

            Status:      Fixed
     Chamber Width:     8.0000 ft          Chamber Length:     8.0000 ft


Designing pipe SDP23

  Results:
        Total Flow:    95.7000 cfs              Flow From:   Upstream

            Status:      Fixed                      Slope:     0.0045 ft/ft
        Pipe Width:    54.0000 in             Pipe Height:    54.0000 in
     Depth of Flow:     2.8350 ft             Flow Status:    Partial
    Critical Depth:     2.8700 ft                Capacity:   132.3620 cfs
          Velocity:     9.0633 ft/s
      Froude Number:    1.0252                Flow Regime:   Critical


Designing inlet IN13
   WARNING:  Spread is greater than maximum spread (2.5000 ft )
   WARNING:  Inlet forced to capture all flow, ignoring capacity calculations.

  Results:
       Gutter Flow:     7.5000 cfs              Flow From: Injected Storm

            Status:      Fixed
      Inlet Length:     6.5000 ft             Inlet Width:     2.0000 ft
    Flow Downstream:    7.5000 cfs               Bypass To:     0.0000 cfs
       Percent Cap:   100.0000 %                  Capacity:     0.0000 cfs
            Spread:    17.1698 ft
  Depth in Gutter:     0.2414 ft          Assigned Bypass:         N/A
```

Designing pipe SDP26
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	7.5000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0526 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.5740 ft	Flow Status:	Partial
Critical Depth:	1.0600 ft	Capacity:	24.0892 cfs
Velocity:	12.0294 ft/s		
Froude Number:	3.2470	Flow Regime:	SuperCritical

Designing inlet IN15
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet.

Results:

Gutter Flow:	3.4000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	10.9000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	9.7794 ft		
Depth in Gutter:	0.2105 ft	Assigned Bypass:	N/A

Designing pipe SDP27
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	10.9000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.1313 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	0.4920 ft	Flow Status:	Partial
Critical Depth:	1.1800 ft	Capacity:	81.9765 cfs
Velocity:	18.1036 ft/s		
Froude Number:	5.4064	Flow Regime:	SuperCritical

WARNING: Pipe Too large for valid connection to inlet.
Designing manhole SDMH11

Results:

Total Flow:	162.0000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	8.0000 ft	Chamber Length:	8.0000 ft

Designing pipe SDP24
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	162.0000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0080 ft/ft
Pipe Width:	54.0000 in	Pipe Height:	54.0000 in
Depth of Flow:	3.4040 ft	Flow Status:	Partial
Critical Depth:	3.7100 ft	Capacity:	175.8883 cfs
Velocity:	12.5471 ft/s		
Froude Number:	1.2101	Flow Regime:	SuperCritical

Designing inlet IN14
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	7.5000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	7.5000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	17.1734 ft		
Depth in Gutter:	0.2414 ft	Assigned Bypass:	N/A

Designing pipe SDP28
WARNING: Full flow velocity is greater than maximum (10.0000)

Results:

Total Flow:	7.5000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0741 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	0.5240 ft	Flow Status:	Partial
Critical Depth:	1.0600 ft	Capacity:	28.5872 cfs
Velocity:	13.6065 ft/s		
Froude Number:	3.8691	Flow Regime:	SuperCritical

Designing inlet IN16
WARNING: Spread is greater than maximum spread (2.5000 ft)
WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet.

Results:

Gutter Flow:	3.4000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	172.9000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	8.8491 ft		

Depth in Gutter: 0.2235 ft Assigned Bypass: N/A

Designing pipe SDP25

Results:

Total Flow:	172.9000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0040 ft/ft
Pipe Width:	54.0000 in	Pipe Height:	54.0000 in
Depth of Flow:	4.5000 ft	Flow Status:	Full
Critical Depth:	4.5000 ft	Capacity:	124.3718 cfs
Velocity:	10.8713 ft/s		
Froude Number:	0.0000	Flow Regime:	Subcritical

WARNING: Pipe Too large for valid connection to inlet.

HGL/EGL Computations:

Table A:

Struct_ID	D (in)	Q (cfs)	L (ft)	V (ft/s)	d (ft)	dc (ft)	V^2/2g (ft)	Sf (ft/ft)	Dn_Soffit (ft)	EGLdn (ft)	HGLdn (ft)	Tot_Loss (ft)	EGLup (ft)	HGLup (ft)	Rim_Elev. (ft)
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-	5448.40	-
(Alternate HGL and EGL Used)													5450.24	5448.40	
SDP25	54	172.90	76.79	10.87	-	-	1.84	0.0077	5448.40	5450.24	5448.40	0.59	5450.83	5448.99	-
IN16	-	-	-	-	-	-	-	-	-	5450.83	5448.99	0.48	5451.31	5449.47	5452.43
SDP24	54	162.00	13.50	10.19	-	-	1.61	0.0068	5448.70	5451.31	5449.47	0.09	5451.40	5449.79	-
SDMH11	-	-	-	-	-	-	-	-	-	5451.40	5449.79	0.68	5452.08	5450.47	5452.81
SDP23	54	95.70	96.09	6.02	-	-	0.56	0.0024	5448.86	5452.08	5450.47	0.23	5452.31	5451.74	-
exSDMH1	-	-	-	-	-	-	-	-	-	5452.31	5451.74	0.56	5452.86	5452.30	5452.15
SDP6	54	95.70	450.36	20.43	-	-	6.49	0.0024	5449.26	5452.86	5452.30	-	5470.58	5464.09	-
SDMH6	-	-	-	-	-	-	-	-	-	5470.58	5464.09	-	5470.58	5464.09	5470.58
SDP7	36	64.50	283.93	20.22	1.38	2.57	6.35	-	5465.68	5470.44	5464.09	-	5484.11	5477.75	-
SDMH10	-	-	-	-	-	-	-	-	-	5484.11	5477.75	-	5484.11	5477.75	5482.42
SDP8	30	53.70	180.18	18.61	1.42	2.34	5.38	-	5479.06	5483.37	5477.99	-	5491.30	5485.92	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5450.83	5448.99	-
IN16	-	-	-	-	-	-	-	-	-	5450.83	5448.99	0.11	5450.94	5449.11	5452.43
(Alternate HGL and EGL Used)													5449.49	5449.21	
SDP28	18	7.50	20.06	13.61	-	-	2.88	0.0051	5449.43	5449.49	5449.21	-	5452.33	5449.45	-
IN14	-	-	-	-	-	-	-	-	-	5452.33	5449.45	-	5452.33	5449.45	5452.93
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5451.40	5449.79	-
SDMH11	-	-	-	-	-	-	-	-	-	5451.40	5449.79	0.38	5451.78	5450.17	5452.81
SDP29	36	55.40	74.87	7.84	-	-	0.95	0.0069	5447.36	5451.78	5450.17	0.52	5452.29	5451.34	-
SDMH2	-	-	-	-	-	-	-	-	-	5452.29	5451.34	0.15	5452.45	5451.49	5454.21
SDP3	24	30.20	88.76	9.61	-	-	1.44	0.0178	5450.31	5452.45	5451.49	1.58	5454.03	5452.59	-
SDMH3	-	-	-	-	-	-	-	-	-	5454.03	5452.59	0.37	5454.40	5452.96	5455.50
SDP4	24	30.20	106.88	9.61	-	-	1.44	0.0178	5451.60	5454.40	5452.96	1.90	5456.30	5454.87	-
SDMH4	-	-	-	-	-	-	-	-	-	5456.30	5454.87	0.65	5456.95	5455.51	5458.80
SDP5	24	30.20	186.35	15.83	-	-	3.90	0.0178	5454.90	5456.95	5455.51	-	5465.72	5461.83	-
SDMH5	-	-	-	-	-	-	-	-	-	5465.72	5461.83	-	5465.72	5461.83	5466.66
SDP32	24	17.80	49.95	8.55	1.26	1.52	1.14	-	5464.74	5465.13	5464.00	-	5465.65	5464.52	-
IN11	-	-	-	-	-	-	-	-	-	5465.65	5464.52	-	5465.65	5464.52	5467.76
SDP31	24	8.90	28.04	12.18	0.57	1.06	2.30	-	5465.26	5466.82	5464.52	-	5467.37	5465.06	-
IN12	-	-	-	-	-	-	-	-	-	5467.37	5465.06	-	5467.37	5465.06	5469.00
SDP30	18	5.50	20.01	10.87	0.49	0.90	1.84	-	5466.00	5466.90	5465.06	-	5467.51	5465.67	-
IN10	-	-	-	-	-	-	-	-	-	5467.51	5465.67	-	5467.51	5465.67	5470.17
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5451.40	5449.79	-
SDMH11	-	-	-	-	-	-	-	-	-	5451.40	5449.79	0.32	5451.71	5450.10	5452.81
SDP27	24	10.90	38.83	3.47	-	-	0.19	0.0023	5446.36	5451.71	5450.10	0.09	5451.80	5451.62	-
IN15	-	-	-	-	-	-	-	-	-	5451.80	5451.62	0.20	5452.00	5451.82	5453.15
SDP26	18	7.50	20.03	4.24	-	-	0.28	0.0051	5450.15	5452.00	5451.82	0.10	5452.10	5451.82	-
IN13	-	-	-	-	-	-	-	-	-	5452.10	5451.82	-	5452.10	5451.82	5453.36

New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5470.58	5464.09
SDMH6	-	-	-	-	-	-	-	-	-	5470.58	5464.09	1.05	5466.68	5465.14
dummy	24	31.20	70.96	9.93	-	-	1.53	0.0190	5464.58	5466.68	5465.14	1.35	5468.02	5466.49
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5484.11	5477.75
SDMH10	-	-	-	-	-	-	-	-	-	5484.11	5477.75	-	5484.11	5477.75
SDP21	18	5.40	29.79	7.98	0.61	0.89	0.99	-	5478.04	5478.75	5477.75	-	5478.69	5477.70
IN1	-	-	-	-	-	-	-	-	-	5478.69	5477.70	-	5478.69	5477.70
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5484.11	5477.75
SDMH10	-	-	-	-	-	-	-	-	-	5484.11	5477.75	-	5484.11	5477.75
SDP22	18	5.40	30.96	5.23	0.85	0.89	0.43	-	5478.03	5478.18	5477.75	-	5477.98	5477.56
IN2	-	-	-	-	-	-	-	-	-	5477.98	5477.56	-	5477.98	5477.56
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5452.29	5451.34
SDMH2	-	-	-	-	-	-	-	-	-	5452.29	5451.34	0.28	5452.58	5451.62
SDP11	24	25.20	62.96	8.02	-	-	1.00	0.0124	5450.31	5452.58	5451.62	0.78	5453.36	5452.36
IN5	-	-	-	-	-	-	-	-	-	5453.36	5452.36	0.27	5453.63	5452.63
SDP15	24	14.60	275.46	12.26	-	-	2.33	0.0042	5452.46	5453.63	5452.63	-	5463.08	5460.75
IN3	-	-	-	-	-	-	-	-	-	5463.08	5460.75	-	5463.08	5460.75
SDP16	18	7.30	51.63	11.23	0.59	1.04	1.96	-	5461.44	5462.71	5460.75	-	5464.48	5462.52
IN4	-	-	-	-	-	-	-	-	-	5464.48	5462.52	-	5464.48	5462.52
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5465.72	5461.83
SDMH5	-	-	-	-	-	-	-	-	-	5465.72	5461.83	-	5465.72	5461.83
SDP9	24	12.40	75.03	16.13	0.59	1.26	4.04	-	5462.76	5465.87	5461.83	-	5471.25	5467.21
IN7	-	-	-	-	-	-	-	-	-	5471.25	5467.21	-	5471.25	5467.21
SDP10	18	6.20	30.43	11.02	0.53	0.96	1.89	-	5468.12	5469.09	5467.21	-	5470.30	5468.41
IN8	-	-	-	-	-	-	-	-	-	5470.30	5468.41	-	5470.30	5468.41
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5465.65	5464.52
IN11	-	-	-	-	-	-	-	-	-	5465.65	5464.52	-	5465.65	5464.52
SDP33	18	5.50	23.04	11.86	0.46	0.90	2.19	-	5464.76	5466.70	5464.52	-	5466.97	5464.78
IN9	-	-	-	-	-	-	-	-	-	5466.97	5464.78	-	5466.97	5464.78
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5453.36	5452.36
IN5	-	-	-	-	-	-	-	-	-	5453.36	5452.36	0.13	5453.49	5452.49
SDP12	18	5.30	28.02	3.00	-	-	0.14	0.0025	5451.96	5453.49	5452.49	0.07	5453.56	5453.42
IN6	-	-	-	-	-	-	-	-	-	5453.56	5453.42	-	5453.56	5453.42

Table B:

LOSSES								LOSS_COEFFICENTS					
Str_ID	Hf	Hb	Hstr	Hc	He	Hj	Total	Dstr	Ko	CD	Cd	Cq	Cp
Cb K													
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-
- -													
SDP25	0.59	-	-	-	-	-	0.59	-	-	-	-	-	-
- -													
IN16	-	-	0.48	-	-	-	0.48	4.79	0.469	1.000	0.519	1.065	1.000
1.000 0.259													
SDP24	0.09	-	-	-	-	-	0.09	-	-	-	-	-	-
- -													
SDMH11	-	-	0.68	-	-	-	0.68	5.52	1.526	1.000	0.565	0.489	1.000
1.000 0.422													
SDP23	0.23	-	-	-	-	-	0.23	-	-	-	-	-	-
- -													
exSDMH1	-	-	0.56	-	-	-	0.56	6.98	1.526	1.000	0.651	1.000	1.000
1.000 0.993													
SDP6	1.07	-	-	-	-	-	1.07	-	-	-	-	-	-
- -													
SDMH6	-	-	-	-	-	-	-	-	-	-	-	-	-
- -													
SDP7	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
- -													
SDMH10	-	-	-	-	-	-	-	-	-	-	-	-	-
- -													
SDP8	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
- -													
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
- -													
IN16	-	-	0.11	-	-	-	0.11	4.79	1.445	1.000	0.519	0.083	1.000
1.000 0.062													
SDP28	0.10	-	-	-	-	-	0.10	-	-	-	-	-	-
- -													

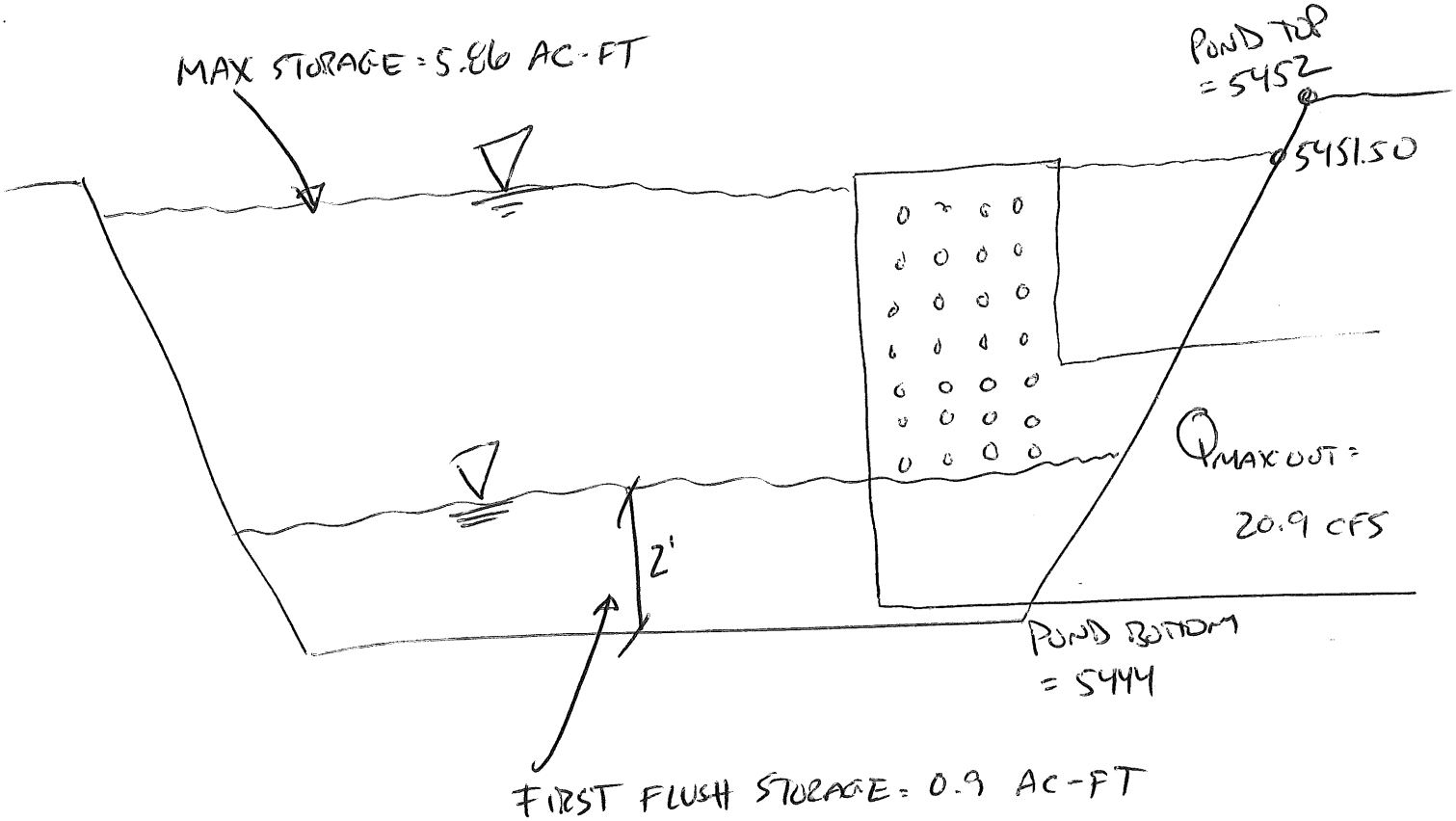
IN14	-	-	-	-	-	-	-	0.52	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH11	-	-	0.38	-	-	-	0.38	5.52	1.522	1.000	0.565	0.274	1.000
1.000	0.236												
SDP29	0.52	-	-	-	-	-	0.52	-	-	-	-	-	-
-	-												
SDMH2	-	-	0.15	-	-	-	0.15	3.13	0.200	1.000	0.513	1.554	1.000
1.000	0.159												
SDP3	1.58	-	-	-	-	-	1.58	-	-	-	-	-	-
-	-												
SDMH3	-	-	0.37	-	-	-	0.37	3.09	0.394	1.000	0.649	1.000	1.000
1.000	0.256												
SDP4	1.90	-	-	-	-	-	1.90	-	-	-	-	-	-
-	-												
SDMH4	-	-	0.65	-	-	-	0.65	2.07	0.887	1.000	0.510	1.000	1.000
1.000	0.452												
SDP5	3.32	-	-	-	-	-	3.32	-	-	-	-	-	-
-	-												
SDMH5	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP32	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN11	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP31	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN12	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP30	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN10	-	-	-	-	-	-	-	0.49	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH11	-	-	0.32	-	-	-	0.32	5.52	0.178	1.000	0.565	1.949	1.000
1.000	0.196												
SDP27	0.09	-	-	-	-	-	0.09	-	-	-	-	-	-
-	-												
IN15	-	-	0.20	-	-	-	0.20	2.97	1.671	1.000	0.634	1.000	1.000
1.000	1.058												
SDP26	0.10	-	-	-	-	-	0.10	-	-	-	-	-	-
-	-												
IN13	-	-	-	-	-	-	-	2.46	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH6	-	-	1.05	-	-	-	1.05	1.51	1.240	1.000	0.260	0.504	1.000
1.000	0.162												
dummy	1.35	-	-	-	-	-	1.35	-	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH10	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP21	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN1	-	-	-	-	-	-	-	0.61	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH10	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP22	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN2	-	-	-	-	-	-	-	0.85	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH2	-	-	0.28	-	-	-	0.28	3.13	1.545	1.000	0.513	0.373	1.000
1.000	0.296												
SDP11	0.78	-	-	-	-	-	0.78	-	-	-	-	-	-
-	-												
IN5	-	-	0.27	-	-	-	0.27	1.90	0.371	1.000	0.485	1.487	1.000
1.000	0.267												
SDP15	1.15	-	-	-	-	-	1.15	-	-	-	-	-	-
-	-												
IN3	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP16	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN4	-	-	-	-	-	-	-	0.59	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDMH5	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP9	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN7	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP10	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN8	-	-	-	-	-	-	-	0.53	-	-	-	-	-
-	-												
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
IN11	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-												
SDP33	-	-	-	-	-	-	SuperCrt	-	-	-	-	-	-
-	-												
IN9	-	-	-	-	-	-	-	0.46	-	-	-	-	-
-	-												

New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IN5	-	-	0.13	-	-	-	0.13	1.90	1.670	1.000	0.485	0.163	1.000	1.000
SDP12	0.07	-	-	-	-	-	0.07	-	-	-	-	-	-	-
IN6	-	-	-	-	-	-	-	2.06	-	-	-	-	-	-

APPENDIX D

POND CALCULATIONS

Elevation	Incremental Volume	Cumulative Volume	Acre-Feet	Surface Area
	cu ft	cu ft		sq ft
5444.0000	1568.2282	1568.2282	0.0360	15828.3262
5444.5000	8285.7378	9853.9660	0.2262	17325.4063
5445.0000	9050.4504	18904.4164	0.4340	18887.1758
5445.5000	9847.5069	28751.9232	0.6601	20513.6338
5446.0000	10676.9071	39428.8303	0.9052	22204.7773
5446.5000	12834.2065	52263.0368	1.1998	26979.2153
5447.0000	14124.2988	66387.3357	1.5240	29514.1531
5447.5000	15399.4843	81786.8199	1.8776	32095.0762
5448.0000	16706.8739	98493.6938	2.2611	34743.6692
5448.5000	18047.7496	116541.4434	2.6754	37454.4863
5449.0000	19405.8291	135947.2725	3.1209	40169.0725
5449.5000	20759.1742	156706.4467	3.5975	42865.4768
5450.0000	22145.0972	178851.5439	4.1059	45773.5906
5450.5000	23541.3372	202392.8811	4.6463	48371.2620
5451.0000	24835.1596	227228.0407	5.2164	50974.3999
5451.5000	26138.8147	253366.8553	5.8165	53558.9067
5452.0000	27370.0400	280736.8954	6.4448	55875.6489



Valle Prado Pond E
Job # 20150013
6/18/2014

Water Depth ft	1st Row Head ft	Perforation Q cfs	Open Top Q cfs		Cumulative Q
0.00	0.00	0.00	0.00	0.00	0.00000
0.50	0.50	0.53	0.00	0.50	0.53481
1.00	1.00	0.76	0.00	1.00	1.29114
1.50	1.50	0.93	0.00	1.50	2.21746
2.00	2.00	1.07	0.00	2.00	3.28708
2.50	2.50	1.20	0.00	2.50	4.48295
3.00	3.00	1.31	0.00	3.00	5.79296
3.50	3.50	1.41	0.00	3.50	7.20793
4.00	4.00	1.51	0.00	4.00	8.72060
4.50	4.50	1.60	0.00	4.50	10.32503
5.00	5.00	1.69	0.00	5.00	12.01625
5.50	5.50	1.77	0.00	5.50	13.79001
6.00	6.00	1.85	0.00	6.00	15.64264
6.50	6.50	1.93	24.07	6.50	41.63735
7.00	7.00	2.00	34.04	7.00	53.60706
7.50	7.50	2.07	41.68	7.50	63.32758
8.00	8.00	2.14	48.13	8.00	71.91540
8.50	8.50	2.21	53.81	8.50	79.80178
9.00	9.00	2.27	58.95	9.00	87.20709
9.50	9.50	2.33	63.67	9.50	94.26158
10.00	10.00	2.39	68.07	10.00	101.04968
10.50	10.50	2.45	72.20	10.50	107.62963
11.00	11.00	2.51	76.10	11.00	111.53507
11.50	11.50	2.56	79.82	11.50	117.75813
12.00	12.00	2.62	83.37	12.00	123.87223
12.50	12.50	2.67	86.77	12.50	129.89644
13.00	13.00	2.73	90.05	13.00	135.84607
13.50	13.50	2.78	93.21	13.50	141.73362
14.00	14.00	2.83	96.27	14.00	147.56941

Orifice Coefficient =	0.6	
Stand Pipe Diameter	36	in
Stand Pipe Height	6	ft
Stand Pipe Area	7.068583	sq ft
Open Top	yes	
Hole Size	3	in
Hole Area	7.069	sq in
# of Holes/Row	4.00	
Clogging Factor	20.0%	
Row Area	28.27	sq in
Net Row Area	22.62	sq in
Row Spacing	6.00	in
Top Row Depth	5.50	ft
# of Rows	11.00	

Valle Prado Pond E
Job # 20150013
6/18/2014

Water Depth ft	1st Row Head ft	Perforation Q cfs	Open Top Q cfs		Cumulative Q
0.00	0.00	0.00	0.00	0.00	0.00000
0.50	0.50	0.80	0.00	0.50	0.80221
1.00	1.00	1.13	0.00	1.00	1.93672
1.50	1.50	1.39	0.00	1.50	3.32619
2.00	2.00	1.60	0.00	2.00	4.93062
2.50	2.50	1.79	0.00	2.50	6.72443
3.00	3.00	1.97	0.00	3.00	8.68944
3.50	3.50	2.12	0.00	3.50	10.81190
4.00	4.00	2.27	0.00	4.00	13.08090
4.50	4.50	2.41	0.00	4.50	15.48755
5.00	5.00	2.54	0.00	5.00	18.02437
5.50	5.50	2.66	0.00	5.50	20.68501
6.00	6.00	2.78	0.00	6.00	23.46397
6.50	6.50	2.89	24.07	6.50	50.42281
7.00	7.00	3.00	34.04	7.00	63.39306
7.50	7.50	3.11	41.68	7.50	74.14923
8.00	8.00	3.21	48.13	8.00	83.80667
8.50	8.50	3.31	53.81	8.50	92.79559
9.00	9.00	3.40	58.95	9.00	101.33540
9.50	9.50	3.50	63.67	9.50	109.55548
10.00	10.00	3.59	68.07	10.00	117.53945
10.50	10.50	3.68	72.20	10.50	125.34480
11.00	11.00	3.76	76.10	11.00	133.01296
11.50	11.50	3.85	79.82	11.50	140.57483
12.00	12.00	3.93	83.37	12.00	144.12407
12.50	12.50	4.01	86.77	12.50	151.45829
13.00	13.00	4.09	90.05	13.00	158.74495
13.50	13.50	4.17	93.21	13.50	165.99600
14.00	14.00	4.24	96.27	14.00	173.22126

Orifice Coefficient =	0.6	
Stand Pipe Diameter	36	in
Stand Pipe Height	6	ft
Stand Pipe Area	7.068583	sq ft
Open Top	yes	
Hole Size	3	in
Hole Area	7.069	sq in
# of Holes/Row	6.00	
Clogging Factor	20.0%	
Row Area	42.41	sq in
Net Row Area	33.93	sq in
Row Spacing	6.00	in
Top Row Depth	5.50	ft
# of Rows	11.00	

Elevation	Incremental Volume	Cumulative Volume	Acre-Feet	Surface Area	
	cu ft	cu ft		sq ft	
5483.0000	1115.3467	1115.3467	0.0256	7050.4670	
5483.1400	1201.9074	2317.2541	0.0532	8711.1526	
5483.2800	1237.0744	3554.3285	0.0816	8960.8313	
5483.4200	1271.8172	4826.1456	0.1108	9207.4788	
5483.5600	1306.1526	6132.2982	0.1408	9451.5640	
5483.7000	1340.2220	7472.5202	0.1715	9694.2437	
5483.8400	1374.1049	8846.6251	0.2031	9935.6050	
5483.9800	1407.8028	10254.4279	0.2354	10175.6379	
5484.1200	1440.8498	11695.2777	0.2685	10407.0244	
5484.2600	1473.2020	13168.4797	0.3023	10639.0813	
5484.4000	1505.8416	14674.3213	0.3369	10873.3003	
5484.5400	1538.7832	16213.1045	0.3722	11109.6760	24 HR
5484.6800	1572.0268	17785.1313	0.4083	11348.2048	
5484.8200	1605.5723	19390.7035	0.4451	11588.8999	
5484.9600	1639.4197	21030.1233	0.4828	11831.7444	
5485.0000	474.6648	21504.7881	0.4937	11901.5244	10 DAY

$V_{24} = 0.38$ AC-FT (PER AHYMO) @ ELEV $\cong$ 5484.50

$V_{10\text{-DAY}} = V_{360} + A_D \left(P_{10DAY} - P_{360} \right) / 12$ IN/FT

$= 0.34 + 1.23 \left(\frac{3.67 - 2.20}{12} \right)$

$= 0.49$ AC-FT @ ELEV $\cong$ 5485

Temp pond.txt

Elevation	Incremental Volume	Cumulative Volume	Acre-Feet	Surface Area
	cu ft	cu ft		sq ft
5491.5000	9776.1411	9776.1411	0.2244	14354.6699
5491.7500	3992.7634	13768.9045	0.3161	17601.3752
5492.0000	4815.8113	18584.7158	0.4266	21023.0403
5492.2500	5553.6682	24138.3840	0.5541	22791.9275
5492.5000	5839.0067	29977.3907	0.6882	23919.3940
5492.7500	6120.3224	36097.7131	0.8287	25042.4551
5493.0000	0.0000	36097.7131	0.0000	0.0000

NORTH TEMPORARY POND

$\forall_{required} = 0.30$ Ac-FT

↳ Water depth at 0.25'

EXHIBITS

EXHIBIT 1: PRELIMINARY PLAT

EXHIBIT 2: UNIT 1 & 2 BASIN MAP

EXHIBIT 3: FULLY DEVELOPED BASIN MAP

EXHIBIT 4: INLET AND STORM DRAIN NETWORK MAP

EXHIBIT 5: GRADING PLAN

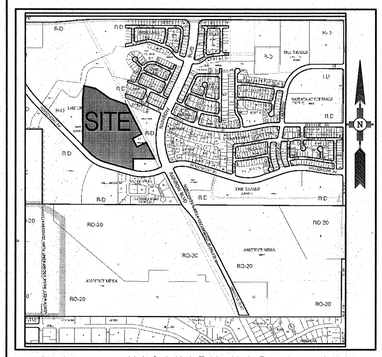
EXHIBIT 6: SUPPLEMENTAL EXHIBITS FROM DMP

EXHIBIT 1

PRELIMINARY PLAT

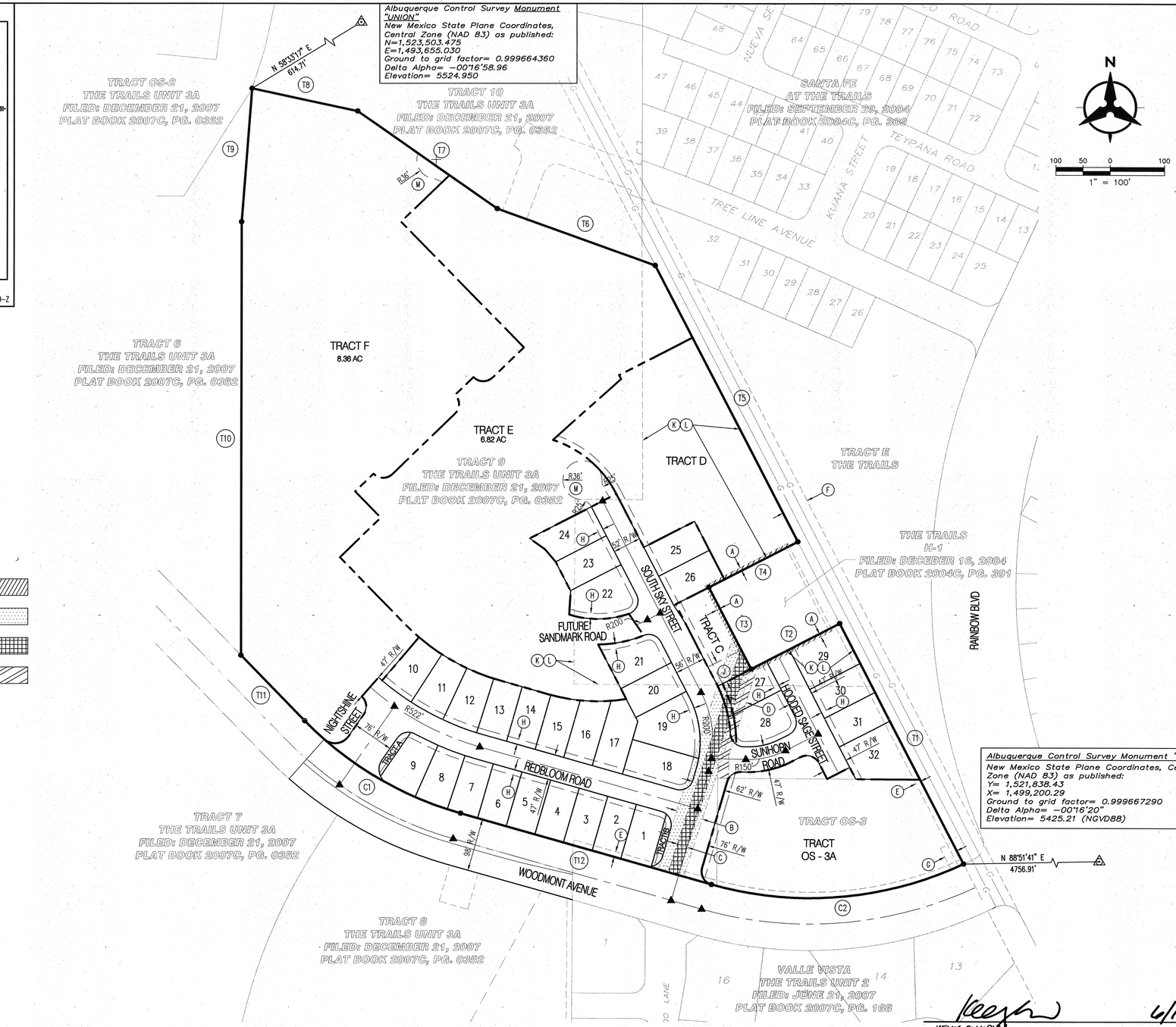
Bohannan Huston

PRELIMINARY PLAT FOR
VALLE PRADO UNIT 1
at the TRAILS UNIT 3A
LOTS 1–32, TRACTS A–F & OS–3A
JUNE 2014



VICINITY MAP

NOT TO SCALE ZONE ATLAS C-09-Z



BOUNDARY Curve Table				
ID	ARC	RADIUS	DELTA	TANGENT
C1	339.57'	651.00'	29°53'10"	173.74'
C2	477.11'	660.03'	41°25'01"	249.52'

BOUNDARY TANGENT TABLE		
ID	BEARING	LENGTH
T1	N27°16'22"W	501.47'
T2	S62°43'26"W	184.00'
T3	N27°16'34"W	170.00'
T4	N62°43'26"E	184.00'
T5	N27°16'34"W	576.65'
T6	N70°03'17"W	309.85'
T7	N54°40'32"W	315.59'
T8	N77°51'46"W	199.32'
T9	S04°25'48"W	249.53'
T10	S00°00'00"E	803.67'
T11	S44°10'54"E	169.01'
T12	S74°04'11"E	482.27'

KEYED NOTES

- (A) EXISTING 6' TEMPORARY LANDSCAPE BUFFER EASEMENT TO BE VACATED WITH THIS PLAT
- (B) EXISTING 50' PRIVATE ACCESS EASEMENT TO BE VACATED WITH THIS PLAT
- (C) EXISTING 20' PRIVATE SANITARY SEWER EASEMENT TO BE VACATED WITH THIS PLAT.
- (D) EXISTING 20' PRIVATE DRAINAGE EASEMENT TO BE VACATED WITH THIS PLAT.
- (E) EXISTING 10' PUBLIC UTILITY EASEMENT.
- (F) EXISTING 50' SOUTHERN UNION GAS COMPANY RIGHT OF WAY EASEMENT.
- (G) EXISTING 25'x44' PUBLIC UTILITY EASEMENT.
- (H) 10' PUBLIC UTILITY EASEMENT. GRANTED BY THIS PLAT.
- (J) 40' ACCESS, SANITARY SEWER AND DRAINAGE EASEMENT GRANTED TO THE ABCWUA.
- (K) PORTION OF EXISTING PUBLIC WATER EASEMENT TO BE VACATED WITH THIS PLAT
- (L) PORTION OF EXISTING BLANKET EASEMENT FOR PUBLIC ACCESS, PUBLIC STORM DRAIN, PUBLIC WATER AND PUBLIC SANITARY SEWER EASEMENTS TO BE VACATED WITH THIS PLAT
- (M) 36' RADIUS PUBLIC ROADWAY EASEMENT.

LEGEND

- SUBDIVISION BOUNDARY LINE
- TRACT BOUNDARY
- NEW LOT LINE
- ADJOINING PROPERTY LINE
- ▲ CENTERLINE MONUMENT TO BE INSTALLED
- △ CITY OF ALBUQUERQUE SURVEY CONTROL MONUMENT

LEGAL DESCRIPTION

Tracts 9 and OS–3, The Trails Unit 3A Subdivision, City of Albuquerque, Bernalillo County, New Mexico, as the same is shown and designated on the plat entitled "BULK LAND PLAT OF THE TRAILS UNIT 3A WITHIN THE TOWN OF ALAMEDA GRANT IN PROJECTED SECTIONS 16 AND 17, TOWNSHIP 11 NORTH, RANGE 2 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico, on December 21, 2007, in Plat Book 2007C, Page 352, as Document No. 2007171107.

GENERAL NOTES

1. EXISTING ZONING: SU–2, VTSL, VOLCANO TRAILS/SUBURBAN RESIDENTIAL SMALL LOT
   PROPOSED ZONING: SU–2, VTSL, VOLCANO TRAILS/SUBURBAN RESIDENTIAL SMALL LOT
2. PROPOSED ACREAGE: 9.95 AC
   NUMBER OF LOTS: 32
   PROPOSED DENSITY: 3.22 DU/AC
3. MIN. LOT DIMENSIONS: 55' X 105'
   MINIMUM LOT AREA: 5,775 SQFT
4. SEWER AND WATER ARE PUBLIC TO BE OWNED AND MAINTAINED BY THE ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY. STREET AND STORM DRAIN IMPROVEMENTS ARE PUBLIC TO BE OWNED AND MAINTAINED BY THE CITY OF ALBUQUERQUE.
5. LOT SETBACKS SHALL CONFORM TO THE VOLCANO TRAILS SECTOR DEVELOPMENT PLAN.
6. NO INDIVIDUAL LOTS SHALL BE ALLOWED DIRECT ACCESS TO WOODMONT AVENUE.
7. TRACTS A–D & OS–3A TO BE OWNED AND MAINTAINED BY THE TRAILS HOMEOWNERS ASSOCIATION. TRACT OS–3A SUBJECT TO A BLANKET DRAINAGE EASEMENT.
8. TRACT E TO BE SUBDIVIDED AS PART OF VALLE PRADO UNIT 2.
9. TRACT F TO BE SUBDIVIDED AS PART OF A FUTURE DEVELOPMENT.
9. LOTS 27 AND 28 SHALL TAKE ACCESS FROM SOUTH SKY STREET.

SITE DATA

ZONE ATLAS NO.	C–09–Z
ZONING	SU–2, VTSL
MILES OF FULL WIDTH STREETS CREATED	0.65 MILES
NO. OF EXISTING TRACTS	2
NO. OF LOTS CREATED	32
NO. OF HOA TRACTS CREATED	5
NO. OF REMAINDER TRACTS CREATED	2

SURVEY NOTES:

1. ALL BOUNDARY CORNERS SHOWN (●) ARE FOUND REBAR W\CAP.
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PTS, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS (▲) AND WILL BE MARKED BY (4") ALUMINUM CAP STAMPED "CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION MARKED, DO NOT DISTURB PLS 9750".
3. THE SUBDIVISION BOUNDARY WILL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.
4. BASIS OF BEARINGS WILL BE NEW MEXICO STATE PLANE BEARINGS.
5. DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, TANGENCY STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.

APPROVED

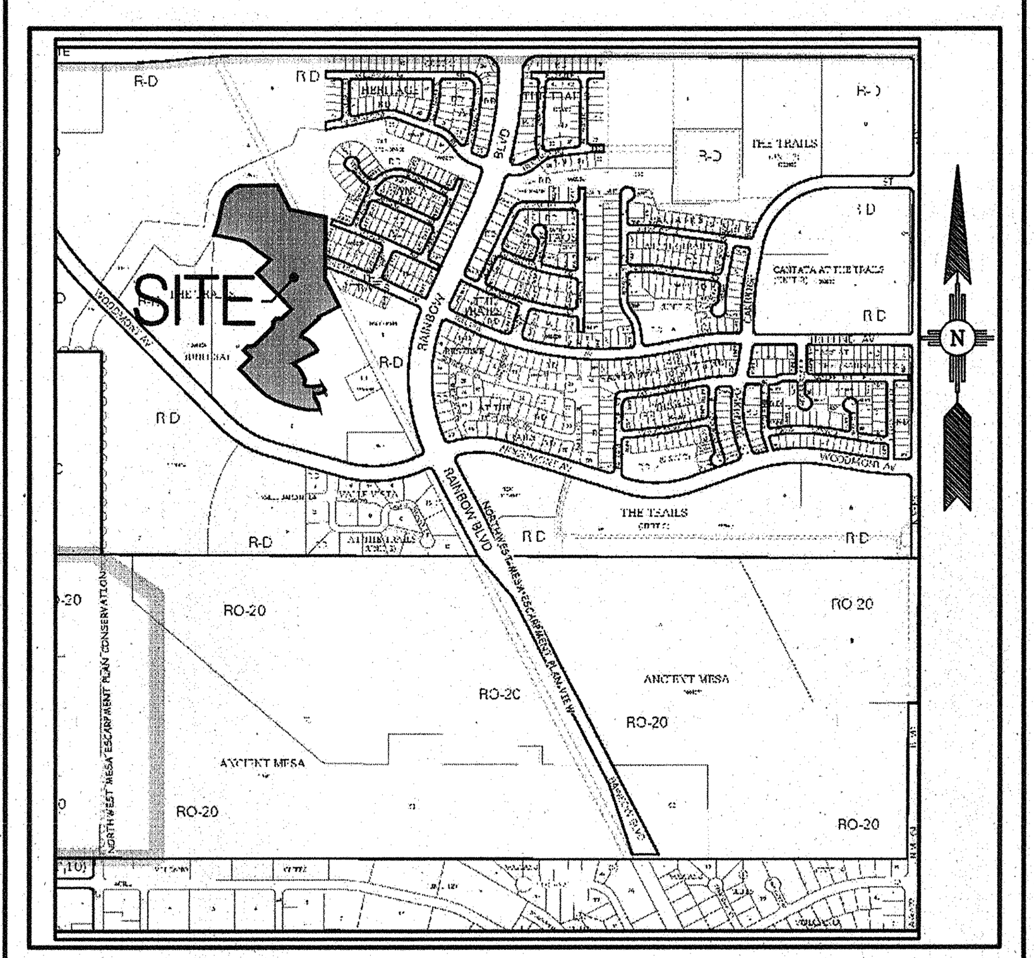
Daid P. Dobson 6-19-14
CITY SURVEYOR DATE

Keegan 6/19/14
KELLY CALHOUN DATE
PRESIDENT, THE TRAILS
COMMUNITY ASSOCIATION, INC.

Keegan 6/19/14
KELLY CALHOUN DATE
MANAGER, WOODMONT–PASEO, LLC

Bohannan Huston

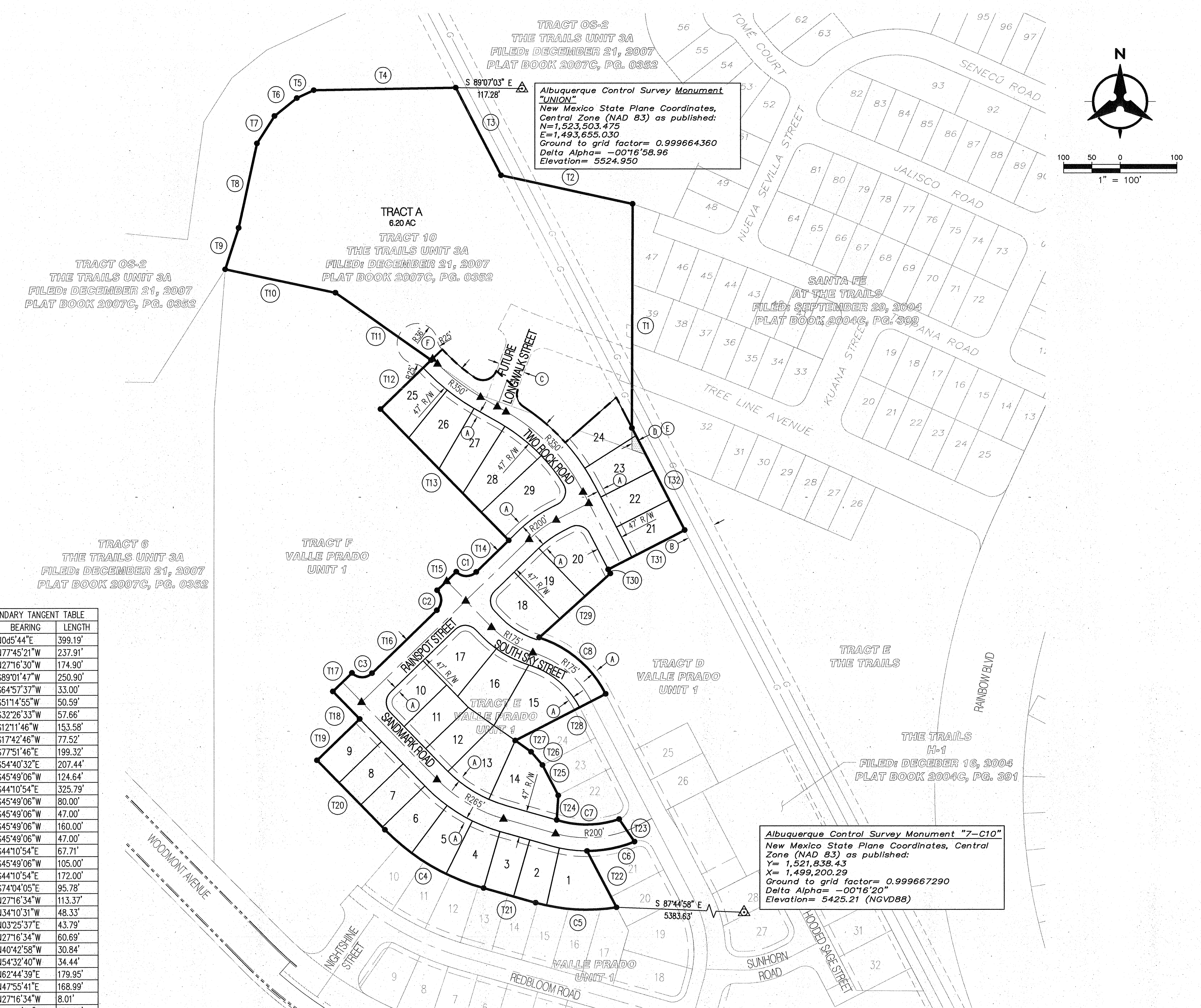
Thu, 19–Jun–2014 – 9:35:am, Plotted by: SSTEFFEN
P:\20150013\CDP\Plans\General\Pre-Plat\Unit 1\20150013_U1_PRE-PLAT.dwg



NOT TO SCALE

ZONE ATLAS C-09-Z

PRELIMINARY PLAT FOR
VALLE PRADO UNIT 2 at the TRAILS UNIT 3A
LOTS 1-29, TRACT A
JUNE 2014



LEGAL DESCRIPTION

Tract 10, The Trails Unit 3A Subdivision, City of Albuquerque, Bernalillo County, New Mexico, as the same is shown and designated on the plat entitled "BULK LAND PLAT OF THE TRAILS UNIT 3A WITHIN THE TOWN OF ALAMEDA GRANT IN PROJECTED SECTIONS 16 AND 17, TOWNSHIP 11 NORTH, RANGE 2 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico, on December 21, 2007, in Plat Book 2007C, Page 352, as Document No. 2007171107 & Tract E, Valle Prado Unit 1 City of Albuquerque, Bernalillo County, New Mexico, as the same is shown and designated on the plat entitled "SUBDIVISION PLAT OF VALLE PRADO UNIT 1 (LOTS 1-32 & TRACTS 1-6 & OS-3A), CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico, on ________, in Plat Book ______, Page ______, as Documnet No. ______..

GENERAL NOTES

1. EXISTING ZONING: SU-2, VTSL, VOLCANO TRAILS/SUBURBAN RESIDENTIAL SMALL LOT
   PROPOSED ZONING: SU-2, VTSL, VOLCANO TRAILS/SUBURBAN RESIDENTIAL SMALL LOT
2. PROPOSED ACREAGE: 7.0 AC
   NUMBER OF LOTS: 29
   PROPOSED DENSITY: 4.14 DU/AC
3. MIN. LOT DIMENSIONS: 55' X 105'
   MINIMUM LOT AREA: 5,775 SQFT
4. SEWER AND WATER ARE PUBLIC TO BE OWNED AND MAINTAINED BY THE ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY. STREET AND STORM DRAIN IMPROVEMENTS ARE PUBLIC TO BE OWNED AND MAINTAINED BY THE CITY OF ALBUQUERQUE.
5. LOT SETBACKS SHALL CONFORM TO THE VOLCANO TRAILS SECTOR DEVELOPMENT PLAN.
6. TRACT A TO BE SUBDIVIDED AS PART OF A FUTURE DEVELOPMENT AND SUBJECT TO A BULK LAND VARIANCE REQUEST TO WAIVE INFRASTRUCTURE IN TREELINE AVENUE.

SITE DATA

ZONE ATLAS NO.	C-09-Z
ZONING	SU-2, VTSL
MILES OF FULL WIDTH STREETS CREATED	0.38 MILES
NO. OF EXISTING TRACTS	2
NO. OF LOTS CREATED	29
NO. OF REMAINDER TRACTS CREATED	1

SURVEY NOTES:

1. ALL BOUNDARY CORNERS SHOWN (●) ARE FOUND REBAR W\CAP.
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PTS, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS (▲) AND WILL BE MARKED BY (4") ALUMINUM CAP STAMPED "CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION MARKED, DO NOT DISTURB PLS 9750".
3. THE SUBDIVISION BOUNDARY WILL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.
4. BASIS OF BEARINGS WILL BE NEW MEXICO STATE PLANE BEARINGS.
5. DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, TANGENCY STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.

KEYED NOTES

- (A) 10' PUBLIC UTILITY EASEMENT. GRANTED BY THIS PLAT.
- (B) EXISTING 50' SOUTHERN UNION GAS COMPANY RIGHT OF WAY EASEMENT.
- (C) EXISTING PUBLIC ROADWAY EASEMENT
- (D) PORTION OF EXISTING PUBLIC WATER EASEMENT TO BE VACATED WITH THIS PLAT
- (E) PORTION OF EXISTING BLANKET EASEMENT FOR PUBLIC ACCESS, PUBLIC STORM DRAIN, PUBLIC WATER AND PUBLIC SANITARY SEWER EASEMENTS TO BE VACATED WITH THIS PLAT
- (F) 36' RADUIS PUBLIC ROADWAY EASEMENT

BOUNDARY CURVE TABLE

ID	ARC	RADIUS	DELTA	TANGENT
C1	39.27'	25.00'	90°00'00"	25.00'
C2	39.27'	25.00'	90°00'00"	25.00'
C3	39.27'	25.00'	90°00'00"	25.00'
C4	205.51'	394.00'	29°53'10"	105.15'
C5	144.17'	328.50'	25°08'42"	73.26'
C6	86.08'	223.50'	22°03'59"	43.58'
C7	112.24'	176.50'	36°26'05"	58.09'
C8	158.11'	203.50'	44°30'54"	83.29'

BOUNDARY TANGENT TABLE

ID	BEARING	LENGTH
T1	N0d5'44"E	399.19'
T2	N77°45'21"W	237.91'
T3	N27°16'30"W	174.90'
T4	S89°01'47"W	250.90'
T5	S64°57'37"W	33.00'
T6	S51°14'55"W	50.59'
T7	S32°26'33"W	57.66'
T8	S12°11'46"W	153.58'
T9	S17°42'46"W	77.52'
T10	S77°51'46"E	199.32'
T11	S54°40'32"E	207.44'
T12	S45°49'06"W	124.64'
T13	S44°10'54"E	325.79'
T14	S45°49'06"W	80.00'
T15	S45°49'06"W	47.00'
T16	S45°49'06"W	160.00'
T17	S45°49'06"W	47.00'
T18	S44°10'54"E	67.71'
T19	S45°49'06"W	105.00'
T20	S44°10'54"E	172.00'
T21	S74°04'05"E	95.78'
T22	N27°16'34"W	113.37'
T23	N34°10'31"W	48.33'
T24	N03°25'37"E	43.79'
T25	N27°16'34"W	60.69'
T26	N40°42'58"W	30.84'
T27	N54°32'40"W	34.44'
T28	N62°44'39"E	179.95'
T29	N47°55'41"E	168.99'
T30	N27°16'34"W	8.01'
T31	N62°43'26"E	152.00'
T32	N27°16'28"W	204.22'
T33	S62°43'32"W	0.01'

LEGEND

- SUBDIVISION BOUNDARY LINE
- TRACT BOUNDARY
- NEW LOT LINE
- ADJOINING PROPERTY LINE
- ▲ CENTERLINE MONUMENT TO BE INSTALLED
- CITY OF ALBUQUERQUE SURVEY CONTROL MONUMENT

APPROVED

Dinl P. Acster 6-19-14

CITY SURVEYOR DATE

Kelly Calhoun 6/19/14

KELLY CALHOUN DATE
MANAGER, WOODMONT-PASEO, LLC

Bohannan ▲ Huston

Thu, 19-Jun-2014 - 9:35:am, Plotted by: SSTEFFEN
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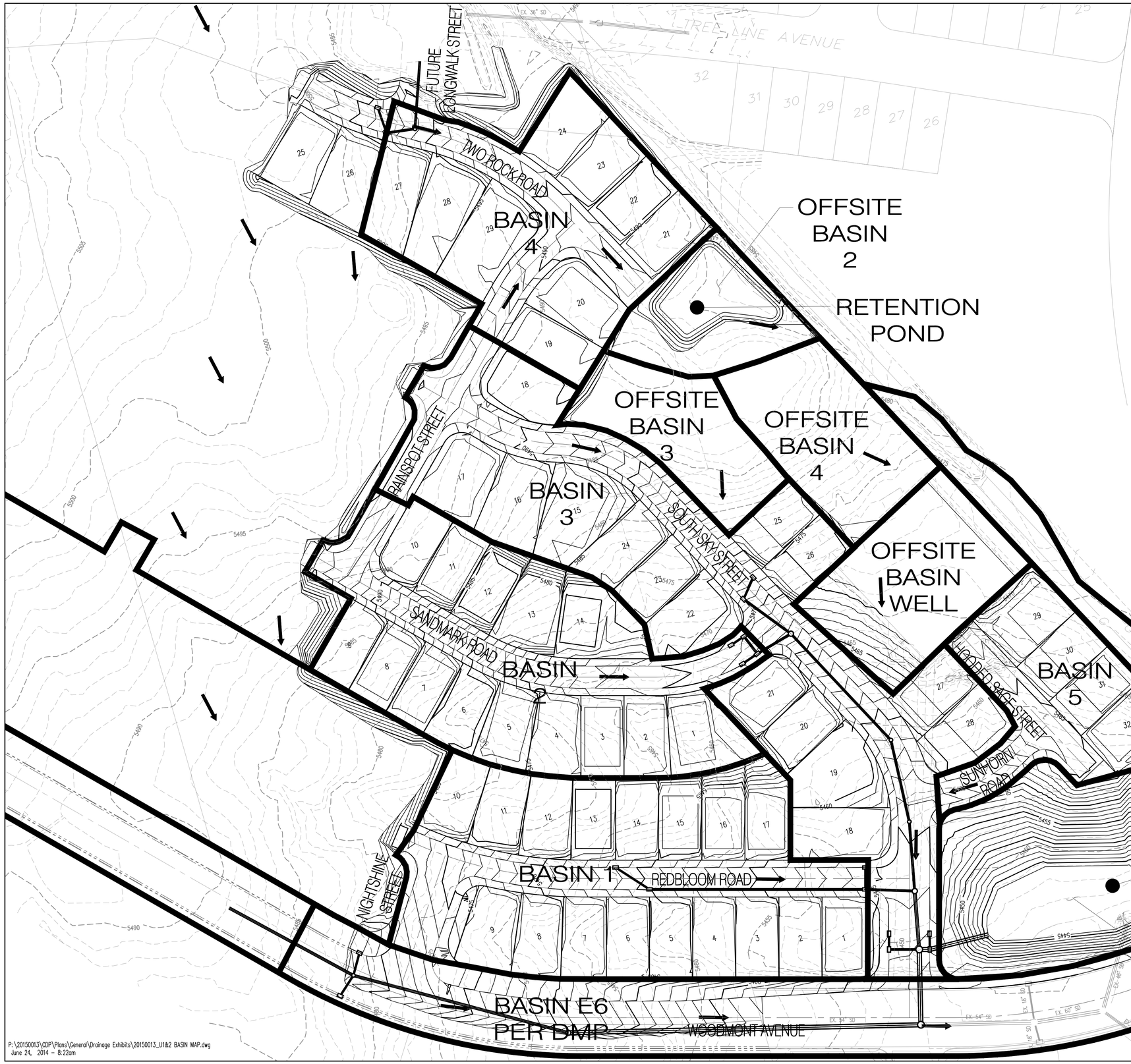
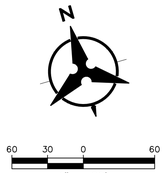
EXHIBIT 2

UNIT 1 & 2 BASIN MAP

Bohannan Huston

VALLE PRADO
UNITS 1 & 2 BASIN MAP





LEGEND

- BASIN BOUNDARY
- FLOW ARROW
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- TEMPORARY BERM >>>>

BASIN	AREA (AC)	Q (100YR-24HR) (CFS)
BASIN 1	3.2	8.9
BASIN 2	2.9	7.9
BASIN 3	4.4	11.2
BASIN 4	2.3	6.3
BASIN 5	1.2	3.1
OFFSITE BASIN 2	0.6	0.6
OFFSITE BASIN 3	0.7	0.7
OFFSITE BASIN 4	0.9	0.9
OFFSITE BASIN 5	2.1	2
OFFSITE BASIN WELL	1.0	2.3
OFFSITE BASIN 6	0.9	2.3
0.00	**20.2**	**46.2**

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June 24, 2014 - 8:22am

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EXHIBIT 3

FULLY DEVELOPED BASIN MAP

Bohannan Huston

VALLE PRADO
FULLY DEVELOPED BASIN MAP

N

100 50 0 100

1" = 100'

LEGEND

- BASIN BOUNDARY
- FLOW ARROW
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- TEMPORARY BERM
- DMP BASIN BOUNDARY

BASIN	AREA (AC)	Q (100YR-24HR) (CFS)
BASIN 1	3.2	8.9
BASIN 2	2.9	7.9
BASIN 3	4.4	11.2
BASIN 4	2.3	6.3
BASIN 5	1.2	3.1
FUTURE BASIN 1	6.9	19.9
FUTURE BASIN 2	4.8	13.5
FUTURE BASIN 3	3.8	10.8
FUTURE BASIN 4	3.1	8.1
OFFSITE BASIN 2	0.6	0.6
OFFSITE BASIN 3	0.7	0.7
OFFSITE BASIN 4	0.9	0.9
OFFSITE BASIN 5	2.1	2
OFFSITE BASIN WELL	1.0	2.3
OFFSITE BASIN 6	0.9	2.3
TOTAL	**38.8**	**98.5**

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June 24, 2014 - 8:41am

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EXHIBIT 4

INLET AND STORM DRAIN NETWORK MAP

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VALLE PRADO
UNITS 1 & 2
INLET AND STORM DRAIN NETWORK MAP

SUMMARY OF PIPE FLOWS				
ID	SIZE	SLOPE (%)	Q (cfs) ALLOWABLE	Q (cfs) ACTUAL
SDP3	24"	1.4%	27.0	30.2
SDP4	24"	3.1%	39.9	30.2
SDP5	24"	4.3%	46.8	30.2
SDP6	54"	4.0%	95.7	39.4
SDP7	36"	4.9%	148.1	64.5
SDP8	30"	4.5%	86.8	53.7
SDP9	24"	8.6%	66.2	12.4
SDP10	18"	4.8%	23.0	6.2
SDP11	24"	3.8%	44.1	25.2
SDP12	18"	3.7%	20.2	5.3
SDP15	24"	3.5%	42.5	14.6
SDP16	18"	4.4%	22.1	7.3
SDP17	18"	5.2%	23.9	3.1
SDP18	24"	3.3%	41.0	6.2
SDP19	24"	0.5%	16.0	6.2
SDP21	18"	2.2%	15.5	5.4
SDP22	18"	0.7%	8.8	5.4
SDP23	54"	0.5%	132.4	95.7
SDP24	54"	80.0%	175.9	162.0
SDP25	60"	40.0%	164.7	172.9
SDP26	18"	5.3%	24.1	7.5
SDP27	24"	13.1%	82.0	10.9
SDP28	18"	7.4%	78.6	7.5
SDP29	36"	5.7%	159.0	55.4
SDP30	18"	5.0%	23.6	5.5
SDP31	24"	5.1%	51.1	8.9
SDP32	24"	1.2%	24.7	17.8
SDP33	18"	6.4%	26.6	5.5

SUMMARY OF INLET FLOWS					
ID	STREET SLOPE	STREET FLOW DEPTH (ft)	STREET FLOW UPSTREAM OF INLET (cfs)	FLOW CAPTURED BY INLET (cfs)	STREET FLOW BYPASSING INLET (cfs)
IN1	4.30%	0.65	7.1	5.4	1.7
IN2	4.30%	0.65	7.1	5.4	1.7
IN3	3.50%	0.80	12.8	7.3	5.50
IN4	3.50%	0.80	12.8	7.3	5.50
IN5	2.50%	0.37	8.0	5.3	2.70
IN6	2.50%	0.37	8.0	5.3	2.70
IN7	6.70%	0.82	9.0	6.2	2.8
IN8	6.70%	0.82	9.0	6.2	2.8
IN9	0.80%	0.62	10.7	5.5	5.2
IN10	0.01%	0.62	10.7	5.5	5.2
IN11	0.80%	0.45	5.2	3.4	1.80
IN12	0.80%	0.45	5.2	3.4	1.8
IN13	1.80%	0.67	12.8	7.5	5.3
IN14	1.80%	0.67	12.8	7.5	5.30
IN15	2.80%	0.52	5.3	3.4	1.90
IN16	2.80%	0.52	5.3	3.4	1.90
IN17	5.00%	0.50	3.5	3.1	0.40
IN18	5.00%	0.50	3.5	3.1	0.4

SUMMARY OF MANHOLES FLOWS	
ID	STORM DRAIN FLOWRATE (cfs)
exSDMH1	95.7
MH2	55.4
MH3	30.2
MH4	30.2
MH5	30.5
MH6	95.7
MH8	62.0
MH10	64.5
MH11	162.0

N

50 25 0 50

1" = 50'

LEGEND

- PROPOSED STORM DRAIN PIPE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET

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EXHIBIT 5

GRADING PLAN

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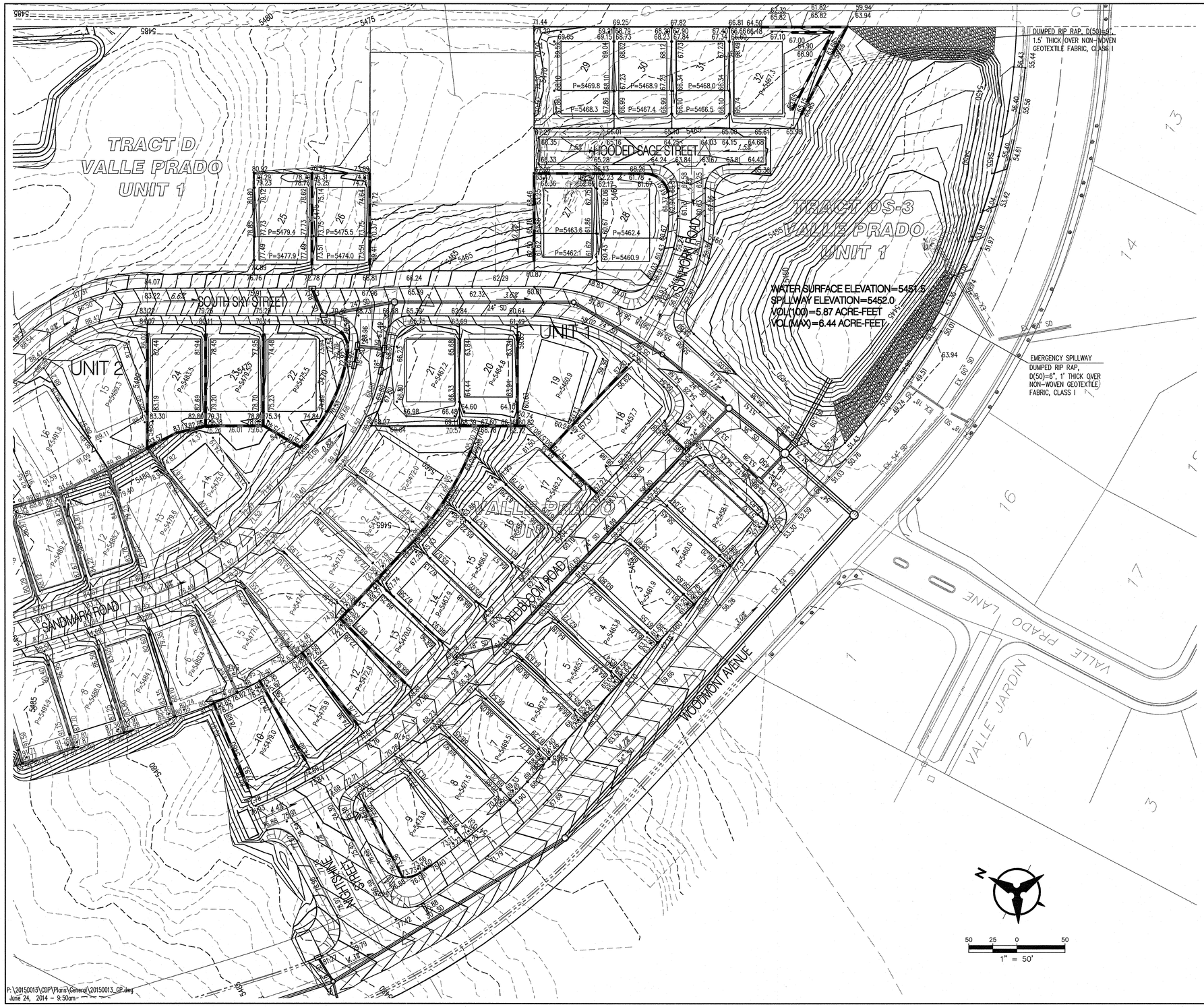

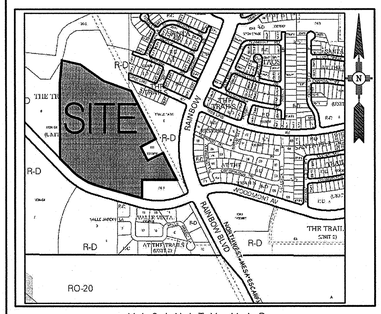

NOT TO SCALE ZONE ATLAS C-09-Z

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATION AS NOTED IN THE SOILS REPORT.
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL, SHEET 3B, AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. ALL SPOT ELEVATIONS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
6. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.
7. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.

LEGEND

- 91.62 — PROPOSED SPOT ELEVATION
- × 92.46 — EXISTING SPOT ELEVATION (GRND & TC)
- EXISTING CURB & GUTTER
- PROPOSED MOUNTABLE CURB & GUTTER
- PROPOSED STANDARD CURB & GUTTER
- 5470 — EXISTING CONTOUR W/ INDEX ELEVATION
- FLOW ARROW
- PROPOSED RETAINING WALL
- PROPOSED SLOPE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- HIGH POINT

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BENCH MARKS
AS-BUILT INFORMATION
CONTRACTOR DATE
WORKS BY DATE
INSPECTOR'S FIELD CHANGE BY DATE
VERIFICATION BY DATE
SURVEYED BY
CORRECTED BY
ACS MONUMENT STAMPED "UNION"
GEOGRAPHIC POSITION (NAD 83)
N.M. STATE PLANE COORDINATES (CENTRAL ZONE)
N = 1,523,503.475 E = 1,493,655.030
GROUND-TO-GRID FACTOR = 0.999664360
Δα = -00°16'56.96"
NAVD 1988 ELEVATION = 5524.950
MICROFILM INFORMATION
RECORDED BY DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
STATE OF NEW MEXICO
M.E. 14660
REGISTERED PROFESSIONAL ENGINEER
6/24/14

No.	Date	REMARKS
		REVISIONS
		DESIGN
	DATE:11/13	Designed By: SJS
	DATE:11/13	Drawn By: DTH
	DATE:11/13	Checked By: SJS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

VALLE PRADO
UNIT 1
GRADING AND DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
XXXXXX	C-09-Z	1	2

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June 24, 2014 - 9:50am -

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1" = 50'

GENERAL NOTES

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- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- HIGH POINT

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SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS

ACS MONUMENT STAMPED "UNION"
GEOGRAPHIC POSITION (NAD 83)
N.M. STATE PLANE COORDINATES (CENTRAL ZONE)
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GROUND-TO-GRID FACTOR = 0.999664360
$\Delta\alpha$ = -00°16'56.96"
NAVD 1988 ELEVATION = 5524.950

AS-BUILT INFORMATION

CONTRACTOR	DATE
STAKED BY	DATE
INSPECTOR'S FIELD ENTRANCE BY	DATE
VERIFICATION BY	DATE
AS-BUILTS CORRECTED BY	DATE

MICROFILM INFORMATION

RECORDED BY	DATE
NO.	

ENGINEER'S SEAL
STATE OF NEW MEXICO 14038 REGISTERED PROFESSIONAL ENGINEER 6/24/14

No.	Date	REMARKS	By
		DESIGN	DATE:11/13
		REVISIONS	DATE:11/13
			DATE:11/13

Designed By: SJS
Drawn By: DTH
Checked By: SJS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

VALLE PRADO
UNIT 2
GRADING AND DRAINAGE PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
XXXXXX	C-09-Z	2	2

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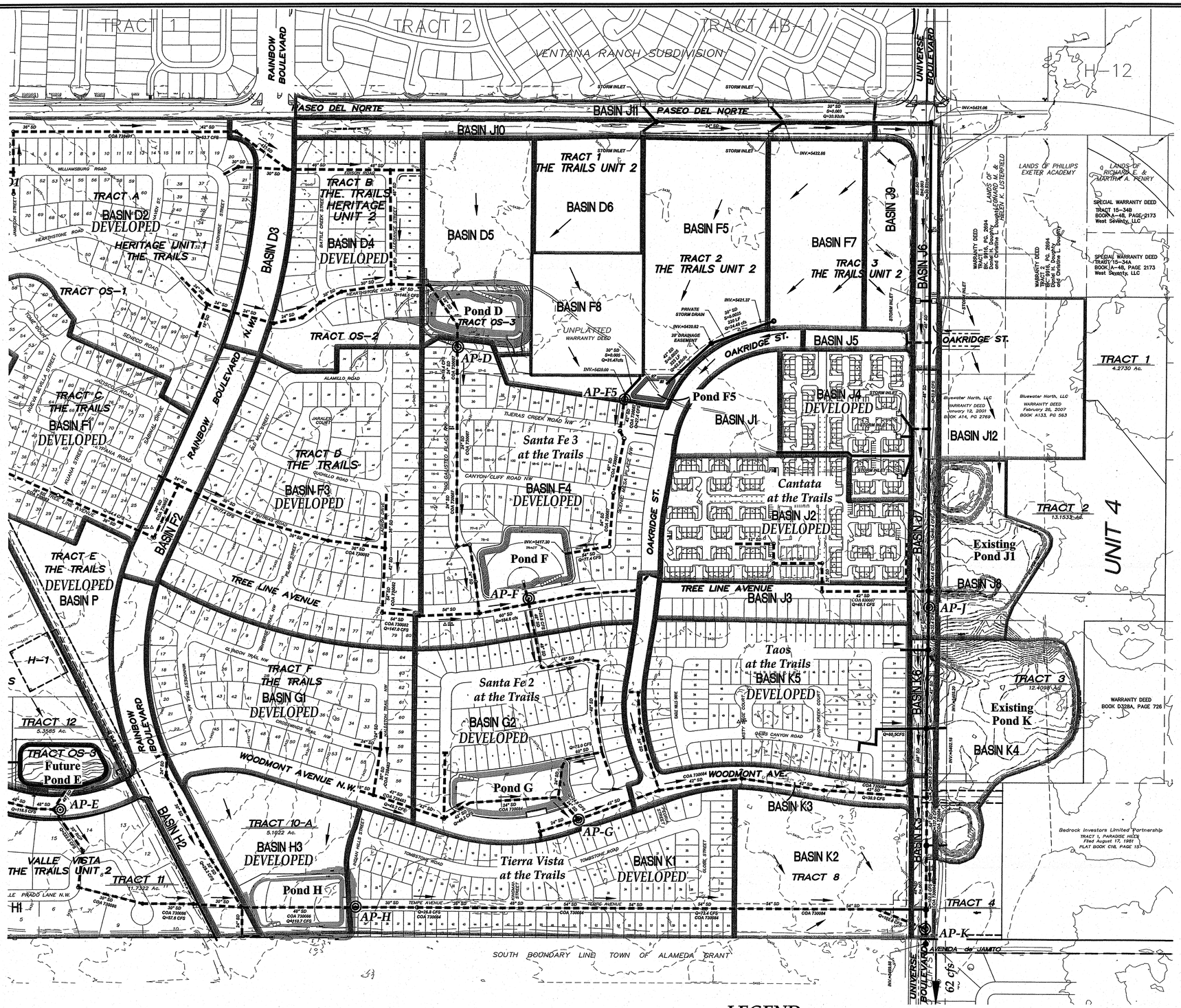
EXHIBIT 6

SUPPLEMENTAL EXHIBITS FROM DMP



DETENTION POND CHARACTERISTICS

POND	DRAIN AREA (AC)	Q100 IN (CFS)	Q100 OUT (CFS)	BYPASS Q (CFS)	MAX VOL (ac-ft)	V100 (ac-ft)	TOP ELEV	BOTTOM ELEV	WSEL
OFF 1	127.9	37.00	9.25		2.44	2.302	6	0	5.80
A5	166.8	110.22	15.56		4.61	4.004	5516	5511	5515.59
A6	191.4	81.87	15.81		4.72	3.114	5506	5500	5504.64
D1	209.8	60.24	13.41		6.06	5.111	5475	5471	5474.29
D	261.9	154.87	5.93	13.77	6.24	4.035	5436.9	5429.5	5435.03
F5	18.9	62.89	19.84		1.40	1.386	5426	5421	5425.97
F	359.4	255.89	17.66	6.20	11.76	10.383	5424.3	5415.08	5423.56
G	391.8	93.49	7.00	17.61	7.21	2.955	5422.5	5415.67	5419.84
OFF 2	51.5	13.87	4.43		1.08	0.813	5	0	4.19
B	12.8	34.80	3.36		0.99	0.950	5519	5515	5518.86
E	137.0	198.83	6.80	15.30	7.52	6.098	5448	5441.6	5447.02
H	167.0	89.12	5.20	21.60	3.02	2.870	5422	5418.65	5421.89
J	57.9	141.18	6.05	26.34	7.94	3.771	5417	5414	5415.66
K	672.6	189.53	15.81	44.91	14.84	8.391	5409	5404.85	5407.79

ANALYSIS POINT PEAK FLOWS

ANALYSIS POINT	PEAK FLOW
AP-A5	15.56 CFS
AP-A6	15.81 CFS
AP-D1	13.41 CFS
AP-D	19.70 CFS
AP-F5	27.40 CFS
AP-F	23.86 CFS
AP-G	24.61 CFS
AP-E	22.30 CFS
AP-H	26.80 CFS
AP-J	32.39 CFS
AP-K	60.72 CFS

DEVELOPED DRAINAGE BASIN CHARACTERISTICS

BASIN	AREA	LAND TREATMENT				Q	VOL
	ACRES	A	B	C	D	CFS	AC-FT
OFFSITE 1	127.87	100	0	0	0	37.00	4.426
A1	13.50	0	12.5	12.5	75	31.68	2.610
A2	8.52	0	33	33	34	23.43	0.960
A3	3.21	0	5	5	90	11.41	0.606
A4	7.59	0	7.5	7.5	85	26.39	1.381
A5	11.71	0	17	17	66	37.55	1.829
A6	16.97	0	19	19	62	53.44	2.558
A7	6.75	0	12.5	12.5	75	22.52	1.137
C	8.18	0	25	25	50	24.36	1.100
D1	11.62	0	19	19	62	36.60	1.752
D2	22.12	0	28.5	28.5	43	63.65	2.763
D3	3.71	0	5	5	90	13.18	0.701
D4	12.55	0	28.5	28.5	43	36.12	1.568
D5	8.75	0	23	23	54	26.55	1.224
D6	5.00	0	18	18	64	15.89	0.764
F1	14.13	0	21.7	21.8	56.5	43.39	2.025
F2	3.67	0	5	5	90	13.02	0.692
F3	22.80	0	21.7	21.8	56.5	70.02	3.267
F4	24.91	0	25	25	50	74.16	3.349
F5	11.85	0	12.5	12.5	75	39.52	1.996
F7	7.02	0	7.5	7.5	85	24.42	1.278
F8	5.00	0	18	18	64	15.89	0.764
G1	16.20	0	25	25	50	48.23	2.178
G2	16.19	0	25	25	50	48.22	2.177
OFFSITE 2	51.52	100	0	0	0	13.87	1.783
B	12.79	0	34	34	32	34.80	1.407
E1.1	17.62	0	33	33	34	48.45	1.986
E1.2	3.76	0	33	33	34	10.36	0.424
E2	8.63	0	18	18	64	27.42	1.324
E3	7.66	0	25	25	50	22.82	1.030
E4	3.69	0	5	5	90	13.11	0.697
E5	28.17	0	29	29	42	80.67	3.482
E6	3.12	0	5	5	90	11.09	0.590
P	3.41	43	25	25	7	10.08	0.327
H1	11.68	0	16	16	68	37.78	1.856
H2	5.35	0	5	5	90	19.16	1.018
H3	7.62	0	50	20	60	23.79	1.128
J1	3.31	0	12.5	12.5	75	11.04	0.557
J2	10.92	0	12.5	12.5	75	36.40	1.839
J3	3.71	0	19	19	62	11.70	0.560
J4	6.44	0	12.5	12.5	75	21.47	1.084
J5	0.86	0	5	5	90	3.05	0.162
J6	2.70	0	5	5	90	9.59	0.510
J7	2.84	0	5	5	90	10.09	0.536
J8	5.78	0	70	30	0	12.31	0.355
J9	3.51	0	7.5	7.5	85	12.20	0.638
J10	4.02	0	5	5	90	14.27	0.759
J11	4.79	0	5	5	90	16.65	0.886
J12	9.08	100	0	0	0	10.65	0.314
K1	17.11	0	19	19	62	50.54	2.579
K2	9.51	0	15	15	70	29.39	1.537
K3	5.83	0	5	5	90	20.76	1.104
K4	8.58	0	70	30	0	18.28	0.527
K5	15.13	0	19	19	62	47.63	2.281
K6	1.41	0	5	5	90	5.01	0.266

NOTES:

1. STORM DRAIN SIZES BASED ON 100-YR, 24-HR STORM FLOWS. FUTURE PROJECTS MAY BE REQUIRED TO INCREASE STORM DRAIN SIZE BASED ON 100-YR, 6-HR STORM FLOWS.
2. THE INTENDED FUTURE CONTRIBUTION FROM THE TRAILS UNIT 4 IS 20 CFS TO THE MAXIMUM DOWNSTREAM DISCHARGE OF 62 CFS IN UNIVERSE BLVD.

LEGEND

- ANALYSIS POINT
- EXISTING STORM DRAIN
- FLOW DIRECTION
- FUTURE DEVELOPED STORM DRAIN

N

200' 100' 0 200' 400'

SCALE: 200'

DATUM NAVD 1929

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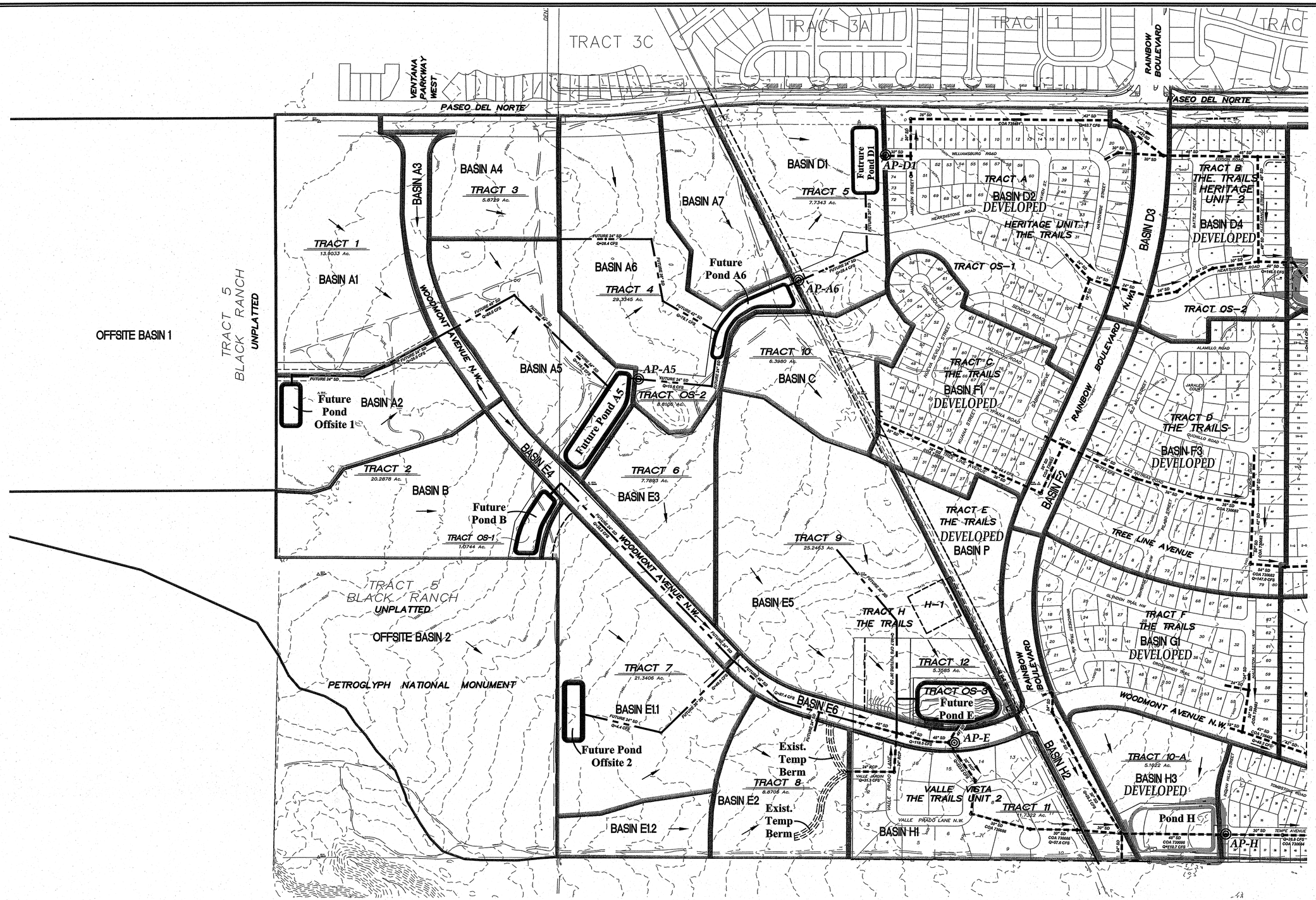
PHONE: (505) 271-2199 FAX: (505) 830-9246

AMENDMENT TO DMP FOR THE TRAILS UNITS 1, 2 AND 3

PLATE 2

NEW MEXICO 9677 REGISTERED PROFESSIONAL ENGINEER 4-14-14



NOTES:

1. *STORM DRAIN SIZES BASED ON 100-YR, 24-HR STORM FLOWS. FUTURE PROJECTS MAY BE REQUIRED TO INCREASE STORM DRAIN SIZE BASED ON 100-YR, 6-HR STORM FLOWS.*
2. *THE INTENDED FUTURE CONTRIBUTION FROM THE TRAILS UNIT 4 IS 20 CFS TO THE MAXIMUM DOWNSTREAM DISCHARGE OF 62 CFS IN UNIVERSE BLVD.*

LEGEND

- *ANALYSIS POINT*
- *EXISTING STORM DRAIN*
- *FLOW DIRECTION*
- *FUTURE DEVELOPED STORM DRAIN*

N

200' 100' 0 200' 400'

SCALE: 200'

DATUM NAVD 1929

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AMENDMENT TO DMP FOR THE TRAILS UNITS 1,2 AND 3

PLATE 1

DAVID A. THOMPSON 9677 LICENSED PROFESSIONAL ENGINEER 4-14-14