Granite Reef Wash Drainage Study
& Preliminary Design Improvements Project

Project No. F0201
Contract No. 2006-227-COS

Drainage Design Report – Addendum

January 16, 2009

Prepared for:

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CERTIFICATE NO.
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EXPIRES 03/31/11

A. Hydrology Update - Existing Conditions/Base Model

1. **HEC-1**
   a. **100-year, 6-hour Model Output – Existing Conditions**
   b. **100-year, 6-hour Model Output – Future Conditions**

2. **Exhibit 1U – HEC-1 Schematic Drawing**

3. **HEC-1 – 100-year, 6-hour Model Output – Pima Road Conduit from Salt River to Chaparral Road**

4. **Exhibit 3U – HEC-1 Schematic Drawing**

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   29AUG08  TIME  10:03:08  *
 *                                      *
 ****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                          HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   Project ID: SCOTTSDALE - Major Basin: 01 - Return Period: 100
  2           ID   ****************************************************************************
  3           ID   **                                                                        **
  4           ID   **                    Updated Granite Reef ADMP                           **
  5           ID   **                                                                        **
  6           ID   ****************************************************************************
  7           ID   ****************************************************************************
  8           ID   PROJECT:                Granite Reef Wash DMP Update
  9           ID   CLIENT:                 City of Scottsdale
 10           ID   PREPARED BY:            Psomas
 11           ID   PROJECT No:             COS              Psomas 06077-01
 12           ID   FILE NAME: BASE6ue.DAT                CREATED DATE: Feb 26, 2007
 13           ID   MODIFIED: Aug 29, 2008 (SEB/JKK PSOMAS)
 14           ID        * ORIGINAL CARDS STARRED-OUT
 15           ID        * COMMENT CARDS ADDED
 16           ID   STORM:                  100-year 6-hour Storm
 17           ID   DEVELOPMENT CONDITIONS: Undeveloped SRPMIC Lands
 18           ID                           No 100-yr, 2-hr Basins in: G06, F07, E09, D09,
 19           ID                                                      C13 or B14
 20           ID
 21           ID
 22           ID   DDM MCUHP1
              *
              *  ADDITIONAL 6FT STORM DRAIN IN INDIAN SCHOOL ROAD WAS ASSUMED
              *  TO BE CONSTRUCTED.
              *
              * ****************************************************************************
              *  ELEMENT LETTER DESIGNATION LOCATED BETWEEN:
              *     A. MCKELLIPS ROAD AND SALT RIVER
              *     B. MCDOWELL ROAD AND MCKELLIPS ROAD
              *     C. THOMAS ROAD AND MCDOWELL ROAD
              *     D. INDIAN SCHOOL ROAD AND THOMAS ROAD
              *     E. CHAPARRAL ROAD AND INDIAN SCHOOL ROAD
              *     F. MCDONALD DRIVE AND CHAPARRAL ROAD
              *     G. AZ CANAL AND MCDONALD DRIVE
              * ****************************************************************************
              *
 23           ID
 24           IT       5                   1000
 25           IO       5
              *
              *DIAGRAM
              *
 26           IN      15
 27           JD    3.20    0.01
 28           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 29           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 30           PC   0.962   0.972   0.983   0.991   1.000
 31           JD   3.179    0.50
 32           JD   3.120    2.80
 33           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
 34           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
 35           PC   0.950   0.963   0.975   0.988   1.000
 36           JD   2.950    16.0
 37           PC   0.000   0.009   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
1                                          HEC-1 INPUT                                                    PAGE  2
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  38          PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
  39          PC   0.946   0.960   0.973   0.987   1.000
  40          JD   2.598    90.0
  41          PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
  42          PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
  43          PC   0.927   0.945   0.964   0.982   1.000
  44          JD   1.824   500.0
  45          PC   0.000   0.024   0.043   0.059   0.078   0.098   0.119   0.141   0.162   0.186
  46          PC   0.212   0.239   0.271   0.321   0.408   0.515   0.627   0.735   0.814   0.864
  47          PC   0.907   0.930   0.954   0.977   1.000
              *
              *

  48          KK     G03   BASIN
  49          BA   0.093
  50          LG    0.23    0.25    5.60    0.26      55
  51          UC   0.367   0.275
  52          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  53          UA     100
              *
              *
              * *** DIVERSION DG03 ***********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

  54          KK    DG03
  55          DT   DG03I
  56          DI       0       7      22      43      70     101     124     180     217     264
  57          DQ       0     3.5      11      22      35      51      63      92     112     137
              *
              *
              * Route is a Minor Arterial Road with a median.
              *

  58          KK   RG03S
  59          RS       1    FLOW       0
  60          RC    .035   0.015    .035    1322  0.0024
  61          RX       0       1      40      41     105     106     146     147
  62          RY       8       2       1      .5      .5       1       2       8
              *

  63          KK     G01   BASIN
  64          BA   0.049
  65          LG    0.21    0.25    4.80    0.38      57
  66          UC   0.588   0.598
  67          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  68          UA     100
              *
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DG03.
              * THE HARD-CODE VALUE IS 50% OF CG03'S CONTRIBUTING AREA.
              * SEE DIVERSION DG03.
              *
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  3

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  69          KK    CG01
  70          KM        MCDONALD DRIVE AND GRANITE REEF ROAD
  71          HC       2   0.096
              *
              *
              * *** DIVERSION DG01 ***********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

  72          KK    DG01
  73          DT   DG01I
  74          DI       0      10      29      57      92     134     144     194     233     278
  75          DQ       0       7      21      41      66      96     103     139     166     198
              *
              *
              * Route is a Minor Arterial Road.
              *

  76          KK   RG01S
  77          RS      16    FLOW       0
  78          RC   0.035   0.015   0.035    2625  0.0014
  79          RX       0       1      40      41     105     106     146     147
  80          RY       8       2       1      .5      .5       1       2       8
              *

  81          KK     F04   BASIN
  82          KM
```

```
 83          KM    This basin's original area was 0.073 sq mi.  The infield area is bermed
 84          KM    so it is self-detained.  The infield area (0.013 sq mi) was subtracted
 85          KM    from the subbasin calculations to account for the storage.
 86          KM
 87          BA   0.060
 88          LG    0.15    0.25    4.80    0.42      68
 89          UC   0.567   0.659
 90          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 91          UA     100
             *
             *

 92          KK     G04   BASIN
 93          KO       3
 94          BA   0.045
 95          LG    0.25    0.25    4.80    0.35      51
 96          UC   0.296   0.261
 97          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 98          UA     100
             *
             *
             * Route is a Subdivision Road.
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 99          KK    RG04
100          RS       4    FLOW       0
101          RC    .035   0.015   0.035    1336  0.0033
102          RX       0       1      28      29      57      58      86      87
103          RY       8       2       1     0.5     0.5       1       2       8
             *

104          KK     G05   BASIN
105          BA   0.045
106          LG    0.24    0.15    7.00    0.14      53
107          UC   0.317   0.283
108          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
109          UA     100
             *
             *
             * Route is a Subdivision Road.
             *

110          KK    RG05
111          RS       7    FLOW       0
112          RC   0.035   0.015   0.035    1994  0.0026
113          RX       0       1      28      29      57      58      86      87
114          RY       8       2       1     0.5     0.5       1       2       8
             *

115          KK     G06   BASIN
116          KM         SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
117          BA   0.127
118          LG    0.10    0.35    2.65    1.70
119          UC   0.254   0.140
120          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
121          UA     100
             *
             *
             *
             * *** STORAGE ROUTING LG06 ********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
             * KK  LG06
             * DT LG06D     8.0
             * DI     0     100    1000   10000
             * DQ     0     100    1000   10000
             *
             * *** CG06 LOCATED AT MCDONALD DRIVE AND PIMA ROAD ****************************
             *
             * *** DIVERSION DG06 ******************************************************
             *
             * THIS DIVESION IS DUE TO THE DETENTION BASIN.
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

122          KK    DG06
123          DT   DG06I
124          DI       0      50     100     200     300     500     700     900    1000
125          DQ       0      25      49      75     132     195     230     259     287
             *
             *
             * *** STORAGE ROUTING LG06A ********************************************
             * See the storage calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
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```
                 *
                 * DDM   ***** Preserved *****

 126             KK   LG06A
 127             DT  LG06AD    4.25
 128             DI       0     100    1000   10000
 129             DQ       0     100    1000   10000
                 *
                 *

 130             KK     G02   BASIN
 131             BA   0.075
 132             LG    0.21    0.25    4.80    0.38      52
 133             UC   0.592   0.517
 134             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 135             UA     100
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DG06.
                 * THE HARD-CODE VALUE IS 50% OF CG06'S CONTRIBUTING AREA.
                 * SEE DIVERSION DG06.
                 *
                 * DDM   ***** Preserved *****

 136             KK    CG02
 137             KM        MCDONALD DRIVE AND 86TH STREET
 138             HC       4   0.229
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 139             KK    RG02
 140             RS       4    FLOW       0
 141             RC   0.035   0.015   0.035    1358  0.0018
 142             RX       0       1      26      27      62      63      88      89
 143             RY       8       2       1     0.5     0.5       1       2       8
                 *

 144             KK     F06   BASIN
 145             BA   0.103
 146             LG    0.23    0.25    4.80    0.36      49
 147             UC   0.604   0.427
 148             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 149             UA     100
                 *
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  6

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 150             KK    CF06
 151             KM        MONTEBELLO AVENUE AND 86TH STREET
 152             HC       2
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 153             KK    RF06
 154             RS       3    FLOW       0
 155             RC   0.035   0.015   0.035    1299   0.002
 156             RX       0       1      26      27      62      63      88      89
 157             RY       8       2       1     0.5     0.5       1       2       8
                 *

 158             KK     F05   BASIN
 159             BA   0.088
 160             LG    0.24    0.25    4.80    0.36      52
 161             UC   0.554   0.401
 162             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 163             UA     100
                 *
                 * DDM   ***** Preserved *****

 164             KK    CF05
 165             KM        JACKRABBIT ROAD AND 86TH STREET
 166             HC       2
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT COLLECT.
                 * ALL EXCESS OVERLAND AMOUNT FLOWS SOUTH.
                 *
                 *
                 * STORM DRAIN ANALYSIS SHOWS A CAPACITY OF 185 CFS, 1/3 IS INTERCEPTED AT
                 * THIS LOCATION.(61 cfs) 20% Clogging Factor means 49 cfs here.
                 * (61 x .8 = 49cfs)
                 *
                 * *** DIVERSION DF05 ***********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
```

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167          KK    DF05
168          DT   DF05I
169          DI       0       1      50     100     200     300     400     500    1000    2000
170          DQ       0      .9      10      51     151     251     351     451     951    1951
             *
             *
             * THE INFORMATION FOR THE STORM DRAIN WAS MEASURED IN THE FIELD.
             * THE PIPE IS A 66" RCP, SLOPE WAS ESTIMATED TO BE 0.004 FT/FT.
             *
1                                          HEC-1 INPUT                                                PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


171          KK   RF05W
172          RK    1302   0.004   0.013            CIRC     5.5
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF05 & DG01.
             * THE HARD-CODE VALUE IS 80% OF CG01 AND 10% OF CF05'S CONTRIBUTING AREA.
             * SEE DIVERSION DG01 AND DF05.
             *
             * DDM   ***** Preserved *****

173          KK    CF04
174          KM        JACKRABBIT ROAD AND GRANITE REEF ROAD
175          HC       3    0.17
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT COLLECT.
             *
             *
             * *** DIVERSION DF04 ***********************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

176          KK    DF04
177          DT   DF04I
178          DI       0       9      30      57      93     136     150     198     336     400
179          DQ       0       5      16      30      50      73      82     105     170     200
             *
             *
             * DIVERSION RECOVER D05
             *

180          KK    F05R
181          DR   DF05I
             *
             * Route is a Minor Arterial Road.
             *

182          KK   RF05S
183          RS       4    FLOW       0
184          RC   0.035   0.015   0.035    2167  0.0032
185          RX       0       1      26      27      62      63      88      89
186          RY       8       2       1     0.5     0.5       1       2       8
             *
             *
             *

187          KK     F03   BASIN
188          BA   0.170
189          LG    0.21    0.25    4.80    0.37      58
190          UC   0.683   0.445
191          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
192          UA     100
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF05.
             * THE HARD-CODE VALUE IS 90% OF CF05'S CONTRIBUTING AREA.
             * SEE DIVERSION DF05.
             *
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


193          KK    CF03
194          KM        ORANGE BLOSSOM LANE AND 86TH STREET
195          HC       2   0.556
             *
             *
             * Route is a Minor Arterial Road.
             * Normal Depth Routing did not work for this Route.
             *

196          KK    RF03
197          RD
198          RC   0.035   0.015   0.035     482  0.0035
199          RX       0       1      26      27      62      63      88      89
200          RY       8       3       2       0       0       2       3       8
             *
```

```
                 *
                 *
                 * DIVERSION RECOVER G06
                 *

 201             KK    G06R
 202             DR   DG06I
                 *
                 *
                 * Route is a Minor Arterial Road along Pima Road.
                 *
                 *

 203             KK   RG06S
 204             RS      18    FLOW       0
 205             RC   0.035   0.015   0.035    5286  0.0028
 206             RX       0       1      26      27      62      63      88      89
 207             RY       8       3       2       0       0       2       3       8
                 *

 208             KK     F07   BASIN
 209             KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
 210             BA   0.250
 211             LG    0.10    0.29    2.65    1.70      45
 212             UC   0.538   0.415
 213             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 214             UA     100
                 *
                 *
                 * *** STORAGE ROUTING LF07 ***********************************************
                 *
                 * See the detention calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 * DDM   ***** Preserved *****
                 * KK  LF07
                 * DT LF07D    15.2
                 * DI     0     100    1000   10000
                 * DQ     0     100    1000   10000
                 *
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DG06.
                 * THE HARD-CODE VALUE IS 50% OF CG06'S CONTRIBUTING AREA.
                 * SEE DIVERSION DG06.
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  9

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 215             KK    CF07
 216             KM        CHAPARRAL ROAD AND PIMA ROAD
 217             HC       2   0.314
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 * THE STORM DRAIN ANAYLSIS SHOWS THE MAXIMUM FLOW IN THE STORM DRAIN AT THIS
                 * LOCATION IS 16 CFS.  20% clogging factor = 13 cfs (16cfs * .8 = 13 cfs).
                 * ALL OVERLAND FLOW CONTINUES SOUTH.
                 *
                 *
                 * *** DIVERSION DF07 *****************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 218             KK    DF07
 219             DT   DF07I
 220             DI       0       1      16     100     200     400     600     800    1000    2000
 221             DQ       0       0       0      87     187     387     587     787     987    1987
                 *
                 *
                 * Route is a Storm Drain 36" RCP with a Slope of 0.001 ft/ft
                 *
                 *

 222             KK   RF07W
 223             RD    1315   0.001   0.013            CIRC       3
                 *
                 *

 224             KK     F02   BASIN
 225             BA   0.046
 226             LG    0.23    0.25    4.80    0.36      55
 227             UC   0.521   0.538
 228             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 229             UA     100
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF07.
                 * THE HARD-CODE VALUE IS 10% OF CF07'S CONTRIBUTING AREA.
                 * SEE DIVERSION DF07.
                 *
                 * DDM   ***** Preserved *****
```

```
 230          KK    CF02
 231          KM        CHAPARRAL ROAD AND 86TH STREET
 232          HC       3    .627
              *
              * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
              * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THIS STORM DRAIN
              * AT THIS LOCATION IS 63 CFS AND 16 CFS IS IN THE STORMDRAIN FROM THE EAST.
              * 20% clogging factor means 50 cfs (63cfs * 0.8 = 50cfs).
              *
              * ALL OVERLAND FLOW CONTINUES SOUTH.
              *
              * *** DIVERSION DF02 ********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 10

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 233          KK    DF02
 234          DT   DF02I
 235          DI       0       1      50     100     200     300     400     500    1000    2000
 236          DQ       0       1      10      50     150     250     350     450     950    1950
              *
              *
              *
              * ROUTE IS A 5FT RCP STORM DRAIN WITH A SLOPE OF 0.001 FT/FT
              *

 237          KK   RF02W
 238          RK    1310   0.001    0.02            CIRC       5
              *
              *
              * DIVERSION RECOVER F04
              *

 239          KK    F04R
 240          DR   DF04I
              *
              *
              * Route is a Minor Arterial Road.
              *
              *

 241          KK   RF04S
 242          RS      11    FLOW       0
 243          RC   0.035   0.013   0.035    2652  0.0023
 244          RX       0       1      26      27      62      63      88      89
 245          RY       8       3       2       0       0       2       3       8
              *
              *
              * THE WEST SIDE OF THE ROAD IS DIVERTED WEST AND THE EAST SIDE OF THE ROAD
              * FLOWS SOUTH INTO CF01.  THE TOTAL FLOW DOES NOT EXCEED THE CROWN OF THE ROAD
              * SO THE SPLIT IS 50-50.
              *
              * *** DIVERSION DRF04 *******************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

 246          KK   DRF04
 247          DT  DRF04I
 248          DI       0       1      20      50     100     200     300
 249          DQ       0      .5      10      25      50     100     150
              *
1                                          HEC-1 INPUT                                          PAGE 11

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 250          KK     F01   BASIN
 251          BA   0.030
 252          LG    0.22    0.25    4.80    0.39      53
 253          UC   0.467   0.490
 254          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 255          UA     100
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF04 & DF02.
              * THE HARD-CODE VALUE IS 25% OF CF04 AND 10% OF CF02'S CONTRIBUTING AREA.
              * SEE DIVERSION DF04 AND DF02.
              *
              * DDM   ***** Preserved *****

 256          KK    CF01
 257          KM        CHAPARRAL ROAD AND GRANITE REEF ROAD
 258          HC       3    .101
              *
              *
```

```
                 * THE DIVERSION AT THIS LOCATION IS SOUTH (SEE SPLITFLOW ANALYSIS)
                 *
                 *
                 * *** DIVERSION DF01 ********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 259             KK    DF01
 260             DT   DF01I
 261             DI       0       7      21      42      75     111     139     188     254     335
 262             DQ       0       0       0       0       0       0       6      18      35      57
                 *
                 *
                 * DIVERSION RECOVER DF02
                 *

 263             KK   DRF02
 264             DR   DF02I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 265             KK   RF02S
 266             RS       3    FLOW       0
 267             RC   0.035   0.015   0.035    1338  0.0022
 268             RX       0       1      26      27      62      63      88      89
 269             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
1                                          HEC-1 INPUT                                          PAGE 12

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 270             KK     E07   BASIN
 271             BA   0.084
 272             LG    0.25    0.25    4.80    0.36      49
 273             UC   0.442   0.305
 274             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 275             UA     100
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF02.
                 * THE HARD-CODE VALUE IS 90% OF CF02'S CONTRIBUTING AREA.
                 * SEE DIVERSION DF02.
                 *
                 * DDM   ***** Preserved *****

 276             KK    CE07
 277             KM        HIGHLAND AVENUE AND 86TH STREET
 278             HC       2    .661
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 279             KK    RE07
 280             RS       1    FLOW       0
 281             RC   0.035   0.015   0.035    1335  0.0025
 282             RX       0       1      26      27      62      63      88      89
 283             RY       8       2       1     0.5     0.5       1       2       8
                 *

 284             KK     E05   BASIN
 285             KM
 286             KM    This basin's original area was 0.060 sq mi.  The infield area is bermed
 287             KM    so it is self-detained.  The infield area (0.013 sq mi) was subtracted
 288             KM    from the subbasin calculations to account for the storage.
 289             KM
 290             BA   0.047
 291             LG    0.21    0.25    4.80    0.37      57
 292             UC   0.375   0.292
 293             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 294             UA     100
                 *
                 * DDM   ***** Preserved *****

 295             KK    CE05
 296             KM        CAMELBACK ROAD AND 86TH STREET
 297             HC       2
                 *
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 92 CFS.
                 * THE TOTAL FLOW WAS DIVIDED BY E05, E04, AND THE BASIN WEST OF THE PROJECT
                 * AREA, SO 31 CFS AT THIS LOCATION.
                 * 20% clogging factor means 25cfs at this location (31cfs * 0.8 = 25cfs).
                 * ALL OVERLAND FLOW CONTINUES SOUTH.
                 *
                 * *** DIVERSION DE05 ********************************************************
                 *
```

```
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 13

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 298             KK    DE05
 299             DT   DE05I
 300             DI       0       1      50     100     200     300     400     500    1000    2000
 301             DQ       0       1      25      75     175     275     375     475     975    1975
                 *
                 *
                 *
                 * ROUTE IS A 5FT RCP WITH A SLOPE OF 0.0021 FT/FT.
                 *

 302             KK   RE05W
 303             RK    1490  0.0021    0.02            CIRC       5
                 *

 304             KK     E04   BASIN
 305             BA   0.038
 306             LG    0.22    0.25    4.80    0.39      47
 307             UC   0.621   0.655
 308             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 309             UA     100
                 *
                 *
                 *
                 * *** STORAGE ROUTING LE04 ***********************************************
                 *
                 * DDM   ***** Preserved *****

 310             KK    LE04
 311             DT   LE04D     1.5
 312             DI       0     100    1000   10000
 313             DQ       0     100    1000   10000
                 *
                 * DIVERSION RECOVER DF01
                 *

 314             KK  DRF01I
 315             DR   DF01I
                 *
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 316             KK   RF01S
 317             RS      24    FLOW       0
 318             RC   0.035   0.015   0.035    2619  0.0031
 319             RX       0       1      26      27      62      63      88      89
 320             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF01 & DE05.
                 * THE HARD-CODE VALUE IS 5% OF CF01 AND 5% OF CE05'S CONTRIBUTING AREA.
                 * SEE DIVERSION DF01 AND DE05.
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 14

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 321             KK    CE04
 322             KM        CAMELBACK ROAD AND GRANITE REEF ROAD
 323             HC       3   0.071
                 *
                 *
                 * THERE IS A DIVERSION SOUTH (SEE SPLITFLOW CALCULATIONS)
                 *
                 * *** DIVERSION DE04 *****************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 324             KK    DE04
 325             DT   DE04I
 326             DI       0       3      31      59      91     126     151     184     222     267
 327             DQ       0       0       0       0       0       0       3       9      18      30
                 *
                 *
                 * DDM   ***** Preserved *****

 328             KK   DUMMY
 329             HC       3
                 *
```

```
330          KK     E08   BASIN
331          BA   0.031
332          LG    0.24    0.25    4.80    0.35      51
333          UC   0.488   0.531
334          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
335          UA     100
             *
             *
             *
             * Route is a Minor Arterial Road with a wall on the west side.
             *

336          KK    RE08
337          RS       5    FLOW       0
338          RC   0.035   0.015   0.035    1326  0.0029
339          RX       0       1      19      25      30      49      79      80
340          RY      10     1.5       0       0       0       0     1.5       8
             *
             *

341          KK     E06   BASIN
342          BA   0.036
343          LG    0.24    0.25    4.80    0.36      53
344          UC   0.500   0.548
345          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
346          UA     100
             *
             *
             * DIVERSION RECALL DE05
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

347          KK  DRDE05
348          DR   DE05I
             *
             *
             * Route is a Minor Arterial Road.
             *
             *

349          KK   RDE05
350          RS       2    FLOW       0
351          RC   0.035   0.015   0.035     100  0.0020
352          RX       0       1      26      27      62      63      88      89
353          RY       8       3       2       0       0       2       3       8
             *
             * *** DIVERSION DE052   ****************************************************
             *
             *  THIS DIVERSION IS AT CAMELBACK ROAD AND 86TH ST.
             *  THE MAIN PATH IS SOUTH ON 86TH ST.
             *  DIVERSION RECALL DE052 MODIFIED (7/2/08 SB)

354          KK   DE052
355          KM   MODIFIED (7/2/08 SB) BASED ON FLOW SPLIT ANALYSIS
356          DT  DE052I
357          DI       0       1      50     100     200     300     400     500    1000    2000
358          DQ       0       1      18      35      70     105     140     175     350     700
             *
             *
             * Route is a Major Arterial Road (E CAMELBACK RD).
             *

359          KK  RE052E
360          RS       6    FLOW       0
361          RC   0.035   0.015   0.035    1506  0.0021
362          RX       0       1      26      27      62      63      88      89
363          RY       8       2       1     0.5     0.5       1       2       8
             *
             *
             * DDM   ***** Preserved *****

364          KK    CE06
365          KM        CAMELBACK ROAD AND PIMA FRONTAGE ROAD
366          HC       3
             *
             *
             *
             * Route is a Minor Arterial Road with a wall on the west side.
             *

367          KK    RE06
368          RS      13    FLOW       0
369          RC   0.035   0.015   0.035    3333  0.0014
370          RX       0       1      19      25      30      49      79      80
371          RY      10     1.5       0       0       0       0     1.5       8
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

372          KK     E03   BASIN
```

```
373          BA   0.070
374          LG    0.23    0.25    4.80    0.36      53
375          UC   0.917   1.373
376          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
377          UA     100
             *
             *
             * DIVERSION RECALL DF07
             *

378          KK   DRF07
379          DR   DF07I
             *
             * Route is a minor arterial along Pima Rd.
             *

380          KK   RF07S
381          RS       7    FLOW       0
382          RC   0.035   0.015   0.035    5280  0.0023
383          RX       0       1      40      41     104     105     145     146
384          RY       8       3     1.5     .75    0.75     1.5       3       8
             *
             *
             *

385          KK     E09   BASIN
386          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
387          BA   0.223
388          LG    0.10    0.29    2.65    1.70      20
389          UC   0.546   0.446
390          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
391          UA     100
             *
             *
             * *** STORAGE ROUTING LE09 ***********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
             * KK  LE09
             * DT LE09D    13.6
             * DI     0     100    1000   10000
             * DQ     0     100    1000   10000
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF07.
             * THE HARD-CODE VALUE IS 90% OF CF07'S CONTRIBUTING AREA.
             * SEE DIVERSION DF07.
             *
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

392          KK    CE09
393          KM        INDIAN SCHOOL ROAD AND PIMA ROAD
394          HC       2    .511
             *
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
             * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
             * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
             * PROJECT AREA, WHICH IS 19 CFS AT THIS LOCATION.(MODIFIED TO 28 CFS BY PSOMAS)
             *
             * 20% clogging factor means 15cfs, (19cfs * 0.8 = 15cfs).(MODIFIED TO 22 CFS
             * BY PSOMAS)
             * THE PROPOSED ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
             * THE FLOW WILL THEN BE DOUBLED TO 30cfs.(MODIFIED TO 45 CFS BY PSOMAS)
             *
             * ALL OVERLAND FLOW CONTINUES SOUTH AT THIS DIVERSION LOCATION.
             *
             * *** DIVERSION DE09 *****************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

395          KK    DE09
396          KM        MODIFIED (2/14/07 RAK)
397          DT   DE09I
398          DI       0       1      50     100     200     300     400     500    1000    2000
             * ***DQ     0       1      20      70     170     270     370     470     970
399          DQ       0       1       5      55     155     255     355     455     955    1955
             *
             *
             *
             * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
             * PSOMAS BASED ON DIBBLE PLANS)
             * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
             *

400          KK   RE09W
```

```
401          KM        MODIFIED (2/14/07 RAK)
             * ***RK   779  0.0009   0.013            CIRC     8.5
402          RK     779  0.0011   0.013            CIRC     8.5
             *
             *
             *
             * ***DIVERSION RECOVER DE05 (MODIFIED 7/2/08 SB)
             *
             * ***KKDRE05I
             * ***DR DE05I
             *
             *
             * Route is a Minor Arterial Road.
             *
             * ***KK RE05S
             * ***RS     6    FLOW       0
             * ***RC 0.035   0.015   0.035    3053  0.0021
             * ***RX     0       1      26      27      62      63      88      89
             * ***RY     8       2       1     0.5     0.5       1       2       8
             *
             *
             * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSIONS DE05 & DE09.
             * THE HARD-CODE VALUE IS 95% OF CE05 AND 10% OF CE09'S CONTRIBUTING AREA.
             * SEE DIVERSION DE05 AND DE09.
             *
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


403          KK    CE03
404          KM        INDIAN SCHOOL ROAD AND PIMA FRONTAGE ROAD
             * ***HC     4    .858 (MODIFIED 7/2/08 SB)
405          HC       3    .491
             *
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
             *
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
             * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
             * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
             * PROJECT AREA, WHICH IS 38cfs AT THIS LOCATION.(MODIFIED TO 56 CFS BY PSOMAS)
             *
             * 20% clogging factor means that 31cfs (38.4 cfs * 0.8 = 31cfs) (MODIFIED TO
             * 45 CFS BY PSOMAS)
             * THE ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
             * THE FLOW WILL THEN BE DOUBLED TO 62cfs.(MODIFIED TO 90 CFS BY PSOMAS)
             *
             * ALL OVERLAND FLOWS CONTINUE SOUTH.
             *
             * *** DIVERSION DE03 ***********************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

406          KK    DE03
407          KM        MODIFIED (2/14/07 RAK)
408          DT   DE03I
409          DI       0       1      50     100     200     300     400     500    1000    2000
             * ***DQ     0       1       5      38     138     238     338     438     938
410          DQ       0      .1       2      10     110     210     310     410     910    1910
             *
             *
             * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
             * PSOMAS BASED ON DIBBLE PLANS)
             * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
             *
             *

411          KK   RE03W
412          KM        MODIFIED (2/14/07 RAK)
             * ***RK  1504  0.0009    0.02            CIRC     8.5
413          RK    1504  0.0011    0.02            CIRC     8.5                      5
             *

414          KK     E02   BASIN
415          BA   0.149
416          LG    0.24    0.25    4.80    0.37      50
417          UC   0.683   0.539
418          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
419          UA     100
             *
             * DIVERSION RECOVER DE052
             *
1                                    HEC-1 INPUT                                          PAGE 19

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

420          KM        MODIFIED (7/2/08 SB) BASED ON FLOW SPLIT ANALYSIS

421          KK  RDE052
422          DR  DE052I
```

```
                 *
                 * Route is a Minor Arterial Road (N 86TH ST).
                 *

 423             KK  RE052S
 424             RS       6    FLOW       0
 425             RC   0.035   0.015   0.035    3053  0.0021
 426             RX       0       1      26      27      62      63      88      89
 427             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 * THE CONTRIBUTING AREA IS HARD-CODED DUE TO DIVERSION DE03.
                 * THE HARD-CODE VALUE IS 5% OF CE03'S CONTRIBUTING AREA.
                 * SEE DIVERSION DE03.
                 *
                 * DDM   ***** Preserved *****

 428             KK    CE02
 429             KM        INDIAN SCHOOL ROAD AND 86TH STREET
 430             HC       3    .503
                 *
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 *
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                 * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                 * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                 * PROJECT AREA, 58cfs AT THIS LOCATION.(MODIFIED TO 84 CFS BY PSOMAS)
                 *
                 * 20% clogging factor means 46cfs (58cfs * 0.8 = 46cfs).(MODIFIED TO 67 CFS
                 * BY PSOMAS)
                 * THE 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE
                 * THIS DOUBLES THE FLOW TO 92cfs.(MODIFIED TO 134 CFS BY PSOMAS)
                 *
                 * ALL OVERLAND FLOW CONTINUES SOUTH.
                 *
                 * *** DIVERSION DE02 ***********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 431             KK    DE02
 432             KM        MODIFIED (2/14/07 RAK)
 433             DT   DE02I
 434             DI       0       1      50     100     200     300     400     500    1000    2000
                 * ***DQ     0      .1       2       8     108     208     308     408     908
 435             DQ       0      .1       2       4      66     166     266     366     866    1866
                 *
                 *
                 * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
                 * PSOMAS BASED ON DIBBLE PLANS)
                 * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
                 *
1                                          HEC-1 INPUT                                          PAGE 20

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 436             KK   RE02W
 437             KM        MODIFIED (2/14/07 RAK)
                 * ***RD   355  0.0009    0.02            CIRC     8.5
 438             RD     355  0.0011    0.02            CIRC     8.5
                 *

 439             KK     E01   BASIN
 440             BA   0.058
 441             LG    0.20    0.25    4.80    0.38      60
 442             UC   0.492   0.494
 443             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 444             UA     100
                 *
                 *
                 * DIVERSION RECOVER DE04
                 *

 445             KK  DRE04I
 446             DR   DE04I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 447             KK   RE04S
 448             RS       1    FLOW       0
 449             RC   0.035   0.015   0.035    2636  0.0026
 450             RX       0       1      26      27      62      63      88      89
 451             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSIONS DE04 & DE02.
                 * THE HARD-CODE VALUE IS 100% OF CE04 AND 25% OF CE02'S CONTRIBUTING AREA.
                 * SEE DIVERSION DE04 AND DE02.
                 *
                 * DDM   ***** Preserved *****
```

```
452          KK    CE01
453          KM        INDIAN SCHOOL ROAD AND GRANITE REEF ROAD
454          HC       3   .1656
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
             *
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
             * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
             * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
             * PROJECT AREA, 76.8 cfs AT THIS LOCATION.(MODIFIED TO 112 CFS BY PSOMAS)
             *
             * 20% clogging factor means 61cfs (76.8cfs * 0.8 = 61.4 cfs) (MODIFIED TO
             * 90 CFS BY PSOMAS)
             * THE ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
             * THE FLOW WILL THEN BE DOUBLED TO 123cfs.(MODIFIED TO 179 CFS BY PSOMAS)
             *
             * THIS DIVERSION IS STORMDRAIN ONLY, ALL OVERLAND FLOW IS SOUTH.
             *
             * *** DIVERSION DE01 ********************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


455          KK    DE01
456          KM        MODIFIED (2/14/07 RAK)
457          DT   DE01I
458          DI       0       1      50     100     200     300     400     500    1000    2000
             * ***DQ     0      .1       2       4      77     177     277     377     877
459          DQ       0      .1       2       4      21     121     221     321     821    1821
             *
             * DIVERSION RECALL E01
             *

460          KK   DRE01
461          DR   DE01I
             *
             *
             * Route is a Subdivision Road.
             *

462          KK   RE01S
463          RS       9    FLOW       0
464          RC   0.035   0.015   0.035    2567  0.0032
465          RX       0       1      28      29      57      58      86      87
466          RY       8       2       1     0.5     0.5       1       2       8
             *

467          KK     D05   BASIN
468          KM
469          KM    This basin's original area was 0.168 sq mi.  The infield area is bermed
470          KM    so it is self-detained.  The infield area (0.01 sq mi) was subtracted
471          KM    from the subbasin calculations to account for the storage.
472          KM
473          BA   0.158
474          LG    0.23    0.25    4.80    0.38      51
475          UC   0.692   0.540
476          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
477          UA     100
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE01.
             * THE HARD-CODE VALUE IS 70% OF CE01'S CONTRIBUTING AREA.
             * SEE DIVERSION DE01.
             *
             * DDM   ***** Preserved *****

478          KK    CD05
479          KM        OSBORN ROAD AND GRANITE REEF ROAD
480          HC       2   0.284
             *
             * *** DIVERSION DD05 ********************************************************
             *
             *  THIS DIVERSION IS AT GRANITE REEF ROAD AND OSBORN ROAD.
             *  THE MAIN PATH IS SOUTH ON GRANITE REEF ROAD.
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


481          KK    DD05
482          KM        MODIFIED (5/1/07 RAK) BASED ON FLOW SPLIT ANALYSIS
483          DT   DD05I
             * ***DI     0       5      16      50      93     112     174     217     270
484          DI       0       6      21      34      52      73      99     130     166     231
```

```
                * ***DQ     0       2       8      25      47      58      95     121     154
485             DQ       0       0       1       3       7      13      19      28      38      57
                *
                *
                * Route is a Minor Arterial Road.
                *

486             KK   RD05S
487             KM        MODIFIED (5/7/07 RAK) TO REPRESENT FLOW FROM OSBORN RD TO EARLL DR
488             KM        ALONG GRANITE REEF RD
                * ***RS     8    FLOW       0
                * ***RC 0.035   0.015   0.035    2669  0.0026
489             RS       4    FLOW       0
490             RC   0.035   0.015   0.035    1320  0.0026
491             RX       0       1      26      27      62      63      88      89
492             RY       8       2       1     0.5     0.5       1       2       8
                *

493             KK     D13   BASIN
494             KM        CREATED (5/7/07 RAK) TO REPRESENT SUBBASIN FLOW TO CD13
495             BA   0.044
496             LG    0.24    0.25    4.80    0.35      46
497             UC   0.557   0.605
498             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
499             UA     100
                *

500             KK    CD13
501             KM        CREATED (5/7/07 RAK) TO REPRESENT THE CONCENTRATION POINT LOCATED AT
502             KM        EARLL DRIVE AND GRANITE REEF ROAD
503             HC       2   0.259
                *

504             KK    DD13
505             KM        CREATED (5/7/07 RAK) BASED ON FLOW SPLIT ANALYSIS
506             DT   DD13I
507             DI       0       2      13      37      83     150     240
508             DQ       0       0       7      23      48      85     134
                *

509             KK   RD13S
510             KM        CREATED (5/7/07 RAK) TO REPRESENT FLOW FROM EARLL DR TO THOMAS RD
511             KM        ALONG GRANITE REEF RD
512             RS       4    FLOW       0
513             RC   0.035   0.015   0.035    1349  0.0026
514             RX       0       1      26      27      62      63      88      89
515             RY       8       2       1     0.5     0.5       1       2       8
                *
```



```
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

516             KK     D04   BASIN
517             KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED 1' CONTOUR MAPPING
                * ***BA 0.060
                * ***LG  0.23    0.25    4.80    0.36      53
                * ***UC 0.638   0.762
518             BA   0.013
519             LG    0.24    0.25    4.80    0.35      46
520             UC   0.443   0.624
521             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
522             UA     100
                *
                * *** CD04 IS LOCATED AT THOMAS ROAD AND 82ND STREET **************************
                *
                * Route is a Major Arterial Road.
                *

523             KK    RD04
524             RS       2    FLOW       0
525             RC   0.035   0.015   0.035    1084  0.0018
526             RX       0       1      40      41     104     105     145     146
527             RY       8       3     1.5     .75    0.75     1.5       3       8
                *

528             KK     D01   BASIN
529             KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED 1' CONTOUR MAPPING AND ADDITIONAL
530             KM        CONCENTRATION POINT
                * ***BA 0.082
                * ***LG  0.24    0.25    4.80    0.36      53
                * ***UC 0.667   0.622
531             BA   0.081
532             LG    0.24    0.25    4.80    0.35      47
533             UC   0.728   0.911
534             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
535             UA     100
                *
                * DDM   ***** Preserved *****

536             KK    CD01
537             KM        THOMAS ROAD AND GRANITE REEF ROAD
538             HC       3   0.208
                *
                *
```

```
                 *
                 * *** DIVERSION DD01 ******************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 24

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 539             KK    DD01
 540             KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED ON FLOW SPLIT ANALYSIS
 541             DT   DD01I
                 * ***DI     0       9      28      89     168     259     392     475     568
                 * ***DQ     0       4      13      41      73     104     152     182     217
 542             DI       0      21      22      27      44      96     173     267
 543             DQ       0       0       2       6      20      39      65      98
                 *
                 *
                 *
                 * Route is a Major Arterial Road.
                 *

 544             KK   RD01E
 545             RS       1    FLOW       0
 546             RC   0.035   0.015   0.035    1315  0.0024
 547             RX       0       1      40      41     104     105     145     146
 548             RY       8       3     1.5     .75    0.75     1.5       3       8
                 *
                 *
                 * DIVERSION RECALL D05
                 *

 549             KK   DRD05
 550             DR   DD05I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
                 *

 551             KK   RD05E
 552             RS       2    FLOW       0
 553             RC   0.035   0.015   0.035     560  0.0018
 554             RX       0       1      26      27      62      63      88      89
 555             RY       8       3       2       0       0       2       3       8
                 *
                 * *** DIVERSION DD052   ****************************************************
                 *
                 *  THIS DIVERSION IS AT GRANITE REEF ROAD AND MULBERRY.
                 *  THE MAIN PATH IS SOUTH ON MULBERRY.
                 *  SEE APPENDIX D FOR DIVERSION CALCULATIONS.
                 *
                 * DDM   ***** Preserved *****

 556             KK   DD052
 557             KM        MODIFIED (5/1/07 RAK) BASED ON FLOW SPLIT ANALYSIS
 558             DT  DD052I
                 * ***DI     0      37      44      59      80     110     147     178     222
 559             DI       0       5       8      13      26      44      68      97     132     173
                 * ***DQ     0      37      40      47      58      74      95     122     155
 560             DQ       0       5       8      10      20      33      50      69      93     120
                 *
                 *
                 * Route is a Subdivision Road. (MULBERRY)
                 *
                 * ***KKRD05S2
                 * ***RS     1    FLOW       0
                 * ***RC 0.035   0.015   0.035    3035  0.0030
                 * ***RX     0       1      28      29      57      58      86      87
                 * ***RY     8       2       1     0.5     0.5       1       2       8
                 *
1                                          HEC-1 INPUT                                          PAGE 25

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 561             KK  RD05S2
 562             KM        MODIFIED (2/14/07 RAK) TO ROUTE TO EARLL DR & 86TH ST
 563             RS       2    FLOW       0
 564             RC   0.035   0.015   0.035    1705  0.0032
 565             RX       0       1      28      29      57      58      86      87
 566             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * ***KK   D02   BASIN
                 * ***BA 0.139
                 * ***LG  0.23    0.25    4.80    0.36      51
                 * ***UC 0.592   0.457
                 * ***UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0
                 * ***UA   100
                 *
                 *
```

```
                * ***THE CONTRIBUTING AREA WAS HARD-CODED BECAUSE OF DIVERSION DD01 & DD052.
                * ***THE HARD-CODE VALUE IS 60% OF CD01 AND 40% OF DD052'S CONTRIBUTING AREA.
                * ***SEE DIVERSION DD01 AND DD052.
                *
                * ***DDM   ***** Preserved *****
                * ***KK  CD02
                * ***HC     3   0.361
                *
                *
                * ***Route is a Major Arterial Road.
                *
                * ***KK  RD02
                * ***RS     2    FLOW       0
                * ***RC 0.035   0.015   0.035    1063  0.0045
                * ***RX     0       1      40      41     104     105     145     146
                * ***RY     8       3     1.5     .75    0.75     1.5       3       8
                *
                *
                * DIVERSION RECALL E02
                *

 567            KK   DRE02
 568            DR   DE02I
                *
                *
                * Route is a Subdivision Road.
                *

 569            KK   RE02S
 570            RS       6    FLOW       0
 571            RC   0.035   0.015   0.035    2617  0.0028
 572            RX       0       1      28      29      57      58      86      87
 573            RY       8       2       1     0.5     0.5       1       2       8
                *
                *
                * DIVERSION RECALL D052
                *
1                                          HEC-1 INPUT                                          PAGE 26

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 574            KK  DRD052
 575            DR  DD052I
                *
                *
                * Route is a Minor Arterial Road.
                *
                *

 576            KK  RD05E2
 577            RS       1    FLOW       0
 578            RC   0.035   0.015   0.035     767  0.0013
 579            RX       0       1      26      27      62      63      88      89
 580            RY       8       3       2       0       0       2       3       8
                *
                *

 581            KK     D06   BASIN
 582            BA   0.109
 583            LG    0.24    0.25    4.80    0.35      52
 584            UC   0.671   0.602
 585            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 586            UA     100
                *
                * THE CUMMALATIVE AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE02 & DD052.
                * THE HARD-CODE VALUE IS 80% OF CE02 AND 60% OF DD052'S CONTRIBUTING AREA.
                * SEE DIVERSION DE02 AND DD052.
                *
                * DDM   ***** Preserved *****

 587            KK    CD06
 588            KM        OSBORN ROAD AND 86TH STREET
 589            HC       3   0.254
                *

 590            KK    DD06
 591            KM        CREATED (4/17/07 RAK) TO REPRESENT THE FLOW SPLIT AT OSBORN RD & THE
 592            KM        86TH ST ALLEY
 593            DT   DD06I
 594            DI       0     1.4    12.3    44.8    98.6   169.5   255.6   356.7   432.3
 595            DI   517.1   566.1   616.9
 596            DQ       0    0.75     2.3     9.8    26.6    50.4    81.7   121.1   152.2
 597            DQ   190.1   214.8   240.7
                *
                * ***Route is a Minor Arterial Road.
                *
                *
                * ***KK  RD06
                * ***RS     1    FLOW       0
                * ***RC 0.035   0.015   0.035     609  0.0033
                * ***RX     0       1      26      27      62      63      88      89
                * ***RY     8       3       2       0       0       2       3       8
                *
1                                          HEC-1 INPUT                                          PAGE 27
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 598          KK   RD06S
 599          KM        * MODIFIED (2/14/07 RAK) TO REROUTE TO EARLL DR & 86TH ST PER FIELD
 600          KM        * VISIT, MAPPING & CONVERSATION WITH LOCAL RESIDENTS
 601          KM        MODIFIED (4/17/07 RAK) TO BE THE SOUTHERN ROUTE OF THE FLOW SPLIT
 602          RS       1    FLOW       0
 603          RC   0.035   0.015   0.035    1310  0.0030
 604          RX       0       1      26      27      45      46      71      72
 605          RY       8       3       2     0.5     0.5       2       3       8
              *

 606          KK   DRD13
 607          DR   DD13I
              *

 608          KK   RD13E
 609          KM        CREATED (5/7/07 RAK) TO REPRESENT FLOW FROM GRANITE REEF RD TO 86TH ST
 610          KM        ALONG EARLL DR
 611          RS       4    FLOW       0
 612          RC   0.035   0.015   0.035    1310  0.0024
 613          RX       0       1      26      27      62      63      88      89
 614          RY       8       2       1     0.5     0.5       1       2       8
              *

 615          KK    D02A   BASIN
 616          KM        CREATED (2/14/07 RAK) USING DDMS-W TO REPRESENT PORTION OF SUBBASIN DO2
 617          KM        NORTH OF EARLL DR
 618          BA    0.07
 619          LG    0.23    0.25    4.80    0.36      51
 620          UC   0.471   0.379
 621          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 622          UA     100
              *

 623          KK    CD10
 624          KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DRIVE AND 86TH STREET
 625          HC       4   0.258
              *

 626          KK    DD10
 627          KM        CREATED (2/14/07 RAK) TO REPRESENT THE FLOW SPLIT AT EARLL DR & 86TH ST
 628          KM        1/3 TO THE SOUTH AND 2/3 TO THE EAST
 629          KM        MODIFIED (4/17/07 RAK) BASED ON FLOW SPLIT ANALYSIS
 630          DT   DD10I
              * ***DI     0      15      30      60     120     240     480     960
 631          DI       0     1.6     9.2    34.4   115.1   208.7   349.6   542.5
              * ***DQ     0      10      20      40      80     160     320     640
 632          DQ       0     1.6     5.9    12.5    52.0    84.3   142.6   229.1
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 633          KK   RD10S
 634          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW SOUTH ALONG 86TH ST
 635          RS       2    FLOW       0
 636          RC   0.035   0.015   0.035    1320  0.0030
 637          RX       0       1      28      29      57      58      86      87
 638          RY       8       2       1     0.5     0.5       1       2       8
              *

 639          KK    DO2B   BASIN
 640          KM        CREATED (2/14/07 RAK) USING DDMS-W TO REPRESENT PORTION OF SUBBASIN D02
 641          KM        SOUTH OF EARLL DR
 642          BA    0.07
 643          LG    0.23    0.25    4.80    0.36      51
 644          UC   0.504   0.452
 645          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 646          UA     100
              *

 647          KK    CD02
 648          KM        THOMAS ROAD AND 86TH STREET
 649          HC       3   0.351
              *

 650          KK    DD02
 651          KM        CREATED (5/8/07 RAK) BASED ON UPDATED ON FLOW SPLIT ANALYSIS
 652          DT   DD02I
 653          DI       0      46      55      70     101     153     260     391     492
 654          DQ       0       0       1       3      11      25      46      73      96
              *

 655          KK   RD02E
 656          RS       2    FLOW       0
 657          RC   0.035   0.015   0.035    1063  0.0045
 658          RX       0       1      40      41     104     105     145     146
 659          RY       8       3     1.5     .75    0.75     1.5       3       8
              *

 660          KK     D07   BASIN
```

```
661          KO       3
662          BA   0.049
663          LG    0.25    0.25    4.80    0.35      51
664          UC   0.508   0.576
665          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
666          UA     100
             *

667          KK   DRD06
668          KM        CREATED (4/17/07 RAK)
669          DR   DD06I
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

670          KK   RD06E
671          KM        CREATED (4/17/07 RAK) TO REPRESENT FLOW EAST ALONG OSBORN RD
672          RS       1    FLOW       0
673          RC   0.035   0.015   0.035     609  0.0033
674          RX       0       1      26      27      62      63      88      89
675          RY       8       3       2       0       0       2       3       8
             *
             * DDM   ***** Preserved *****

676          KK    CD07
677          KM        OSBORN ROAD AND 87TH STREET
678          HC       2   0.133
             *
             *
             * Route is a Minor Arterial Road.
             *

679          KK    RD07
680          RS       2    FLOW       0
681          RC   0.035   0.015   0.035    1330  0.0025
682          RX       0       1      26      27      62      63      88      89
683          RY       8       2       1     0.5     0.5       1       2       8
             *

684          KK   DRD10
685          KM        CREATED (2/14/07 RAK)
686          DR   DD10I
             *

687          KK   RD10E
688          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW EAST IN RESIDENTIAL CHANNEL
689          KM        ALONG EARLL DR
690          RS       1    FLOW       0
691          RC   0.035   0.015   0.035     420  0.0048
692          RX       0       1      26      46      52      60      85      86
693          RY       8       3       2       2       0       3       4       8
             *

694          KK    CD11
695          KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DR AND 87TH ST
696          HC       2   0.240
             *

697          KK    RD11
698          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW EAST IN THE ALLEY (EARLL DR)
699          RS       1    FLOW       0
700          RC   0.035   0.015   0.035     835  0.0048
701          RX       0       1      26      46      52      60      85      86
702          RY       8       3       2       2       0       3       4       8
             *
             * ***DIVERSION RECALL DE03 MODIFIED (7/17/08 SB)
             *
             * ***KK DRE03
             * ***DR DE03I
             *
             *
             * DIVERSION RECOVER DE03 MODIFIED (7/17/08 SB)
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

703          KK  DRE03S
704          DR   DE03I
             *
             *
             * DIVERSION RECOVER DE09 MODIFIED (7/17/08 SB)
             *

705          KK  DRE09S
706          DR   DE09I
             *
             *
             *
             * ADDED TO ACCOUNT FOR COMBINING OF FLOW FROM PIMA FRONTAGE ROAD
             * AND PIMA ROAD AT NORTH SIDE OF INDIAN SCHOOL ROAD (7/17/08 SB).
```

```
 707          KK    CE10
 708          HC       2   1.002
              *
              * *** DIVERSION DE10 ******************************************************
              * ADDED TO ACCOUNT FOR SPLIT OF COMBINED FLOWS FROM BEHIND PIMA FRONTAGE ROAD AN
              * ALONG PIMA ROAD AT SOUTH SIDE OF INDIAN SCHOOL ROAD.

 709          KK    DE10
 710          KM        MODIFIED (7/17/08 SB)
 711          DT   DE10I
 712          DI       0       1      50     100     200     300     400     500    1000    2000
 713          DQ       0       1      32      65     130     195     260     325     650    1300
              *
              * Route is a Subdivision Road.
              *

 714          KK  RE10SW
 715          RS       6    FLOW       0
 716          RC   0.035   0.015   0.035    3444  0.0032
 717          RX       0       1      28      29      57      58      86      87
 718          RY       8       2       1     0.5     0.5       1       2       8
              *
              *

 719          KK     D08   BASIN
 720          BA   0.054
 721          LG    0.24    0.25    4.80    0.36      53
 722          UC   0.658   0.955
 723          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 724          UA     100
              *
              *
              * THE CUMMALATIVE AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE03.
              * THE HARD-CODE VALUE IS 95% OF CE03'S CONTRIBUTING AREA.
              * SEE DIVERSION DE03.
              *
              * DDM   ***** Preserved *****
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 725          KK    CD08
 726          KM        OSBORN ROAD AND PIMA FRONTAGE ROAD
 727          HC       2   0.455
              *
              *
              * Route is a Minor Arterial Road with a wall on the west side.
              *

 728          KK    RD08
 729          RS       1    FLOW       0
 730          RC   0.035   0.015   0.035    1290  0.0039
 731          RX       0       1      19      25      30      49      79      80
 732          RY      10     1.5       0       0       0       0     1.5       8
              *

 733          KK    D03A
 734          KM        CREATED (2/14/07 RAK) TO REPRESENT SUB BASIN D03 NORTH OF EARLL DR
 735          BA   0.052
 736          LG    0.20    0.25    4.50    0.45      52
 737          UC   0.471   0.497
 738          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 739          UA     100
              *

 740          KK    CD12
 741          KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DR AND PIMA FRONTAGE RD
 742          HC       3
              *

 743          KK    RD12
 744          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW SOUTH ALONG TRAIL (PIMA RD)
 745          RS       2    FLOW       0
 746          RC   0.035   0.015   0.035    1500  0.0027
 747          RX       0       1      19      25      30      49      79      80
 748          RY      10     1.5       0       0       0       0     1.5       8
              *
              *
              * ***KK   D03   BASIN
              * ***BA 0.103
              * ***LG  0.20    0.25    4.50    0.45      52
              * ***UC 0.613   0.608
              * ***UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0
              * ***UA   100
              *
              *
              * DIVERSION RECOVER DE10
              *

 749          KK  RDE10I
 750          DR   DE10I
              *
              * ***
              * ***DIVERSION RECOVER DE09 MODIFIED (7/17/08 SB)
```

```
                    *
                    * ***KKDRE09I
                    * ***DR DE09I
                    *
                    *
                    * Route is a Minor Arterial Road along Pima Rd.
                    *
1                                          HEC-1 INPUT                                                    PAGE 32

LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 751                KK  RE10SE
 752                RS       7    FLOW       0
 753                RC   0.035   0.015   0.035    5501  0.0037
 754                RX       0       1      26      27      62      63      88      89
 755                RY       8       2       1     0.5     0.5       1       2       8
                    *
                    *

 756                KK     D09   BASIN
 757                KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
 758                BA   0.216
 759                LG    0.10    0.29    2.65    1.70
 760                UC   0.463   0.379
 761                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 762                UA     100
                    *
                    *
                    * *** STORAGE ROUTING LD09 ***********************************************
                    *
                    * See the detention calculations in Appendix D of the Data Collection Notebook
                    * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                    * DDM   ***** Preserved *****
                    * KK  LD09
                    * DT LD09D    13.6
                    * DI     0     100    1000   10000
                    * DQ     0     100    1000   10000
                    *
                    *
                    * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSION DE09.
                    * THE HARD-CODE VALUE IS 90% OF CE09'S CONTRIBUTING AREA.
                    * SEE DIVERSION DE09.
                    *
                    * DDM   ***** Preserved *****

 763                KK    CD09
 764                KM        THOMAS ROAD AND PIMA ROAD
 765                HC       2   0.817
                    *
                    *

 766                KK    D03B
 767                KM        CREATED (2/14/07 RAK) TO REPRESENT SUB BASIN D03 SOUTH OF EARLL DR
 768                BA   0.052
 769                LG    0.20    0.25    4.50    0.45      52
 770                UC   0.500   0.514
 771                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 772                UA     100
                    *
                    *
                    * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 33

LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 773                KK    CD03
 774                KM        THOMAS ROAD AND 87TH STREET
 775                HC       4   2.191
                    *
                    *
                    *
                    * Route is a Minor Arterial Road.
                    *

 776                KK    RD03
 777                RS       1    FLOW       0
 778                RC   0.035   0.015   0.035    1307   0.004
 779                RX       0       1      26      27      62      63      88      89
 780                RY       8       2       1     0.5     0.5       1       2       8
                    *

 781                KK     C11   BASIN
 782                BA   0.050
 783                LG    0.25    0.25    4.40    0.45      49
 784                UC   0.358   0.322
 785                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 786                UA     100
                    *

 787                KK     C10   BASIN
 788                BA   0.054
 789                LG    0.25    0.25    4.65    0.38      50
 790                UC   0.433   0.409
```

```
 791          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 792          UA     100
              *

 793          KK   DRD02
 794          DR   DD02I
              *

 795          KK   RD02S
 796          KM        CREATED (5/8/07 RAK) TO REPRESENT FLOW FROM GRANITE REEF RD TO 86TH ST
 797          KM        ALONG EARLL DR
 798          RS       4    FLOW       0
 799          RC   0.035   0.015   0.035    1329  0.0036
 800          RX       0       1      26      27      62      63      88      89
 801          RY       8       2       1     0.5     0.5       1       2       8
              *

 802          KK    CC10
 803          KM        CREATED (5/8/07 RAK) TO REPRESENT VIRGINIA AVE AND 86TH ST
 804          HC       2   0.121
              *
              * Route is a Minor Arterial Road.
              *
1                                          HEC-1 INPUT                                          PAGE 34

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 805          KK    RC10
 806          RS       1    FLOW       0
 807          RC   0.035   0.015   0.035     688   0.009
 808          RX       0       1      26      27      62      63      88      89
 809          RY       8       2       1     0.5     0.5       1       2       8
              *
              *
              * DDM   ***** Preserved *****

 810          KK    CC11
 811          KM        VIRGINIA AVENUE AND 87TH STREET
 812          HC       3
              *
              *
              * Route is a Minor Arterial Road.
              *
              *

 813          KK    RC11
 814          RS       1    FLOW       0
 815          RC   0.035   0.015   0.035    1334  0.0015
 816          RX       0       1      26      27      62      63      88      89
 817          RY       8       2       1     0.5     0.5       1       2       8
              *

 818          KK     C08   BASIN
 819          BA   0.118
 820          LG    0.25    0.25    4.40    0.45      51
 821          UC   0.588   0.434
 822          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 823          UA     100
              *
              * DDM   ***** Preserved *****

 824          KK    CC08
 825          KM        OAK STREET AND 87TH STREET
 826          HC       2
              *
              *
              *
              * Route is a Minor Arterial Road.
              *

 827          KK    RC08
 828          RS       4    FLOW       0
 829          RC   0.035   0.015   0.035    2205  0.0026
 830          RX       0       1      26      27      62      63      88      89
 831          RY       8       2       1     0.5     0.5       1       2       8
              *
1                                          HEC-1 INPUT                                          PAGE 35

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 832          KK     C06   BASIN
 833          KM
 834          KM    This basin's original area was 0.162 sq mi.  The infield area is bermed
 835          KM    so it is self-detained.  The infield area (0.0095 sq mi) was subtracted
 836          KM    from the subbasin calculations to account for the storage.
 837          KM
 838          BA   0.153
 839          LG    0.23    0.25    4.30    0.49      52
 840          UC   0.554   0.435
 841          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 842          UA     100
              *
              * DDM   ***** Preserved *****
```

```
843          KK    CC06
844          KM        CORONADO ROAD AND 87TH STREET
845          HC       2
             *
             *
             *
             * This is a channel.
             *

846          KK    RC06
847          RS       1    FLOW       0
848          RC    0.04   0.035    0.04    1271  0.0056
849          RX       0       1      30      40      70      80     110     111
850          RY      20      10       8       0       0       8      10      20
             *
             *
             * DIVERSION RECALL D01
             *

851          KK   DRDO1
852          DR   DD01I
             *
             *
             * Route is a Minor Arterial Road.
             *

853          KK   RD01S
854          RS       8    FLOW       0
855          RC   0.035   0.015   0.035    2611  0.0023
856          RX       0       1      26      27      62      63      88      89
857          RY       8       2       1     0.5     0.5       1       2       8
             *
             *
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

858          KK     C07   BASIN
859          KO       3
860          BA   0.072
861          LG    0.25    0.25    4.80    0.35      50
862          UC   0.667   0.699
863          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
864          UA     100
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DD01.
             * THE HARD-CODE VALUE IS 40% OF CD01'S CONTRIBUTING AREA.
             * SEE DIVERSION DD01.
             *
             * DDM   ***** Preserved *****

865          KK    CC07
866          KM        OAK STREET AND GRANITE REEF ROAD
867          HC       2    0.15
             *
             *
             *
             * Route is a Minor Arterial Road.
             *

868          KK    RC07
869          RS       6    FLOW       0
870          RC   0.035   0.015   0.035    2638   0.003
871          RX       0       1      26      27      62      63      88      89
872          RY       8       2       1     0.5     0.5       1       2       8
             *
             *

873          KK     C09   BASIN
874          BA   0.057
875          LG    0.25    0.25    4.80    0.36      50
876          UC   0.596   0.646
877          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
878          UA     100
             *
             * *** CC09 IS LOCATED AT OAK STREET AND 82ND STREET ***************************
             *
             * Route is a Minor Arterial Road.
             *

879          KK    RC09
880          RS       1    FLOW       0
881          RC   0.035   0.015   0.035    3368   0.003
882          RX       0       1      26      27      62      63      88      89
883          RY       8       2       1       0       0       1       2       8
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
884          KK     C05   BASIN
885          BA   0.137
886          LG    0.23    0.25    4.70    0.37      54
887          UC   0.754   0.675
888          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
889          UA     100
             *

890          KK     C01   BASIN
891          BA   0.032
892          LG    0.22    0.25    4.80    0.37      57
893          UC   0.546   0.711
894          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
895          UA     100
             *
             * *** CC01 LOCATED AT MCDOWELL ROAD AND 82ND PLACE ****************************
             *
             * Route is a Major Arterial Road.
             *

896          KK    RC01
897          RS       8    FLOW       0
898          RC   0.035   0.015   0.035    1217  0.0013
899          RX       0       1      40      41     104     105     145     146
900          RY       8       3     1.5     .75    0.75     1.5       3       8
             *

901          KK     C02   BASIN
902          BA   0.036
903          LG    0.15    0.25    4.80    0.40      70
904          UC   0.554   0.780
905          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
906          UA     100
             *
             * DDM   ***** Preserved *****

907          KK    CC02
908          KM        MCDOWELL ROAD AND GRANITE REEF ROAD
909          HC       5    .436
             *

910          KK    DC02
911          KM        CREATED (2/26/07) TO REPRESENT THE FLOW SPLIT AT MCDOWELL ROAD AND
912          KM        GRANITE REEF ROAD
913          DT   DC02I
914          DI       0     160     186     221     268     323     384     446
915          DQ       0     0.3     4.5    11.9    24.7    40.7    59.3    78.1
             *
             *
             * Route is a Major Arterial Road.
             *
             *
             * ***KK  RC02
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

916          KK   RC02E
917          KM        MODIFIED (2/26/07)
918          RS       1    FLOW       0
919          RC   0.035   0.015   0.035     632  0.0063
920          RX       0       1      40      45     100     105     145     146
921          RY       8       3       2       0       0       2       3       8
             *

922          KK     C03   BASIN
923          BA   0.040
924          LG    0.18    0.25    4.10    0.61      62
925          UC   0.333   0.388
926          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
927          UA     100
             *
             *

928          KK     C12   BASIN
929          BA   0.010
930          LG    0.19    0.25    4.10    0.58      64
931          UC   1.500   4.505
932          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
933          UA     100
             *
             * *** CC12 LOCATED AT OAK STREET AND PIMA ROAD (WEST SIDE OF WALL) *************
             *
             * Route is a Minor Arterial Road with a wall on the west side.
             *

934          KK    RC12
935          RS      22    FLOW       0
936          RC   0.035   0.015   0.035    2693  0.0007
937          RX       0       1      19      25      30      49      79      80
938          RY      10     1.5       0       0       0       0     1.5       8
             *
             *
```

```
939          KK     C13   BASIN
940          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
941          BA   0.176
942          LG    0.10    0.35    2.65    1.70
943          UC   0.546   0.508
944          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
945          UA     100
             *
             * *** STORAGE ROUTING LC13 ***********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
             * KK  LC13
             * DT LC13D    11.2
             * DI     0     100    1000   10000
             * DQ     0     100    1000   10000
             *
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 39

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


946          KK    CC13
947          KM        MCDOWELL ROAD AND PIMA ROAD
948          HC       2
             *
             *
             * *** DIVERSION DC13 ******************************************************
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 51 CFS.
             * ALL OVERLAND FLOW CONTINUES SOUTH.
             * 20% clogging factor means 41cfs, (51cfs * 0.8 = 41cfs).
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

949          KK    DC13
950          DT   DC13I
951          DI       0      10      50     100     200     300     400     500
952          DQ       0       4      30      59     159     259     359     459
             *
             * ROUTE IS A 42" RCP WITH A SLOPE OF 0.0044 FT/FT.
             *

953          KK   RC13W
954          RS       5    FLOW      -1
955          RD    2052   0.005   0.012            CIRC     3.5
             *

956          KK     C04   BASIN
957          BA   0.044
958          LG    0.18    0.28    4.20    0.51      44
959          UC   0.650   0.830
960          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
961          UA     100
             *
             *
             *
             * Route is a Major Arterial Road.
             *

962          KK    RC04
963          RS       5    FLOW       0
964          RC   0.035   0.015   0.035    1563  0.0106
965          RX       0       1      40      41     104     105     145     146
966          RY       8       3     1.5       0       0     1.5       3       8
             *
             *
             * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSION D13.
             * THE HARD-CODE VALUE IS 20% OF CC13'S CONTRIBUTING AREA.
             * SEE DIVERSION D13.
             *
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 40

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


967          KK    CC03
968          KM        MCDOWELL ROAD AND GRANITE REEF WASH
969          HC       5    3.37
             *
             *
             *
             * This route is a channel.
             *

970          KK    RC03
971          RS       2    FLOW       0
972          RC    0.04    0.03    0.04    1097  0.0009
973          RX       0       1      30      40      70      80     110     111
```

```
 974          RY      20      10       8       0       0       8      10      20
              *

 975          KK     B07   BASIN
 976          BA   0.016
 977          LG    0.13    0.28    4.35    0.51      49
 978          UC   0.192   0.234
 979          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 980          UA     100
              *
              * DDM   ***** Preserved *****

 981          KK    CB07
 982          KM        84TH PLACE AND GRANITE REEF WASH
 983          HC       2
              *
              *
              *
              * Route is a Minor Arterial Road.
              *

 984          KK    RB07
 985          RS       2    FLOW       0
 986          RC   0.035   0.015   0.035    1525  0.0026
 987          RX       0       1      40      41     104     105     145     146
 988          RY       8       3     1.5     .75    0.75     1.5       3       8
              *

 989          KK     B05   BASIN
 990          BA   0.088
 991          LG    0.22    0.26    4.15    0.58      44
 992          UC   0.583   0.685
 993          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 994          UA     100
              *
              * *** STORAGE ROUTING LB05 ***********************************************
              *
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 995          KK    LB05
 996          DT   LB05D    0.16
 997          DI       0     100    1000   10000
 998          DQ       0     100    1000   10000
              *

 999          KK   DRC02
1000          KM        CREATED (2/26/07)
1001          DR   DC02I
              *

1002          KK   RC02S
1003          KM        CREATED (2/26/07) TO REPRESENT FLOW SOUTH ALONG GRANITE REEF ROAD
1004          RS       2    FLOW       0
1005          RC   0.035   0.015   0.035    2385  0.0063
1006          RX       0       1      26      27      62      63      88      89
1007          RY       8       2       1     0.5     0.5       1       2       8
              *

1008          KK     B06   BASIN
1009          BA   0.015
1010          LG    0.13    0.26    4.00    0.64      60
1011          UC   0.304   0.589
1012          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1013          UA     100
              *
              *
              * DDM   ***** Preserved *****

1014          KK    CB05
1015          KM        84TH PLACE AND GRANITE REEF ROAD
1016          HC       4
              *
              *
              *
              * Route is a Minor Arterial Road.
              * Normal Depth Routing did not work for this Route.

1017          KK    RB05
1018          RD
1019          RC   0.035    0.02   0.035     500  0.0052
1020          RX       0       1      40      51      94     105     145     146
1021          RY       8       3       2       0       0       2       3       8
              *

1022          KK     B04   BASIN
1023          BA   0.077
1024          LG    0.15    0.25    4.45    0.50      71
1025          UC   0.271   0.232
1026          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1027          UA     100
              *
```

```
                    *
                    * *** STORAGE ROUTING LB04 ***********************************************
                    *
                    * MOTOROLA DETENTION BASINS (SEE CALCULATIONS)
                    *
                    * DDM   ***** Preserved *****
1                                                HEC-1 INPUT                                                    PAGE 42

LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1028                KK    LB04
1029                DT   LB04D   12.95
1030                DI       0     100    1000   10000
1031                DQ       0     100    1000   10000
                    *

1032                KK     B02   BASIN
1033                BA   0.101
1034                LG    0.15    0.25    4.70    0.41      68
1035                UC   0.363   0.335
1036                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1037                UA     100
                    *
                    * *** CB02 IS LOCATED AT ROOSEVELT STREET WEST OF GRANITE REEF ROAD ************
                    *
                    * *** STORAGE ROUTING LB02 ***********************************************
                    *
                    * DDM   ***** Preserved *****

1038                KK    LB02
1039                DT   LB02D    2.64
1040                DI       0     100    1000   10000
1041                DQ       0     100    1000   10000
                    *
                    *
                    *
                    * Route is a Minor Arterial Road.
                    * Normal Depth Routing did not work for this Route.

1042                KK    RB02
1043                RD
1044                RC   0.035   0.015   0.035     548  0.0186
1045                RX       0       1      40      41     104     105     145     146
1046                RY       8       3     1.5     .75    0.75     1.5       3       8
                    *

1047                KK     B03   BASIN
1048                BA   0.007
1049                LG    0.25    0.35    4.65    0.41      47
1050                UC   0.271   0.474
1051                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1052                UA     100
                    *
                    *
                    * DDM   ***** Preserved *****

1053                KK    CB03
1054                KM        ROOSEVELT STREET AND GRANITE REEF ROAD
1055                HC       4    3.66
                    *
                    *
                    *
                    * Route is a Minor Arterial Road.
                    *
1                                                HEC-1 INPUT                                                    PAGE 43

LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1056                KK    RB03
1057                RS       2    FLOW       0
1058                RC   0.035   0.015   0.035    1348   0.003
1059                RX       0       1      40      41     104     105     145     146
1060                RY       8       3     1.5     .75    0.75     1.5       3       8
                    *

1061                KK     B01   BASIN
1062                BA   0.071
1063                LG    0.25    0.25    4.30    0.54      44
1064                UC   0.267   0.188
1065                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1066                UA     100
                    *
                    *
                    * *** STORAGE ROUTING LB01 ***********************************************
                    *
                    * DDM   ***** Preserved *****

1067                KK    LB01
1068                DT   LB01D    1.15
1069                DI       0     100    1000   10000
1070                DQ       0     100    1000   10000
                    *
                    *
```

```
                 *
                 * DDM   ***** Preserved *****

1071             KK    CB01
1072             KM        GRANITE REEF ROAD AND GRANITE REEF WASH
1073             HC       2
                 *
                 *
                 * Route is a channel.
                 *

1074             KK    RB01
1075             RS       1    FLOW       0
1076             RC   0.035   0.015   0.035    1320  0.0019
1077             RX       0       1      34      40      50      56      80      81
1078             RY      12       6       4       0       0       4       6      12
                 *

1079             KK     B12   BASIN
1080             KM        SRPMIC LANDS WEST OF THE PIMA RD ALIGNMENT AND NORTH OF MCKELLIPS RD
1081             BA   0.119
1082             LG    0.25    0.25    4.80    0.38      39
1083             UC   0.442   0.233
1084             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1085             UA     100
                 *
1                                          HEC-1 INPUT                                          PAGE 44

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1086             KK     B11   BASIN
1087             BA   0.060
1088             LG    0.24    0.34    4.80    0.39      37
1089             UC   0.400   0.277
1090             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1091             UA     100
                 *
                 * *** STORAGE ROUTING LB11 ***********************************************
                 * Pond was assumed to have 1 foot of freeboard.
                 * DDM   ***** Preserved *****

1092             KK    LB11
1093             DT   LB11D    2.87
1094             DI       0     100    1000   10000
1095             DQ       0     100    1000   10000
                 *
                 *
                 * DIVERSION RECALL DC13I
                 *

1096             KK  DRDC13
1097             DR   DC13I
                 *
                 *
                 * Route is overland flow. (SLOPE ESTIMATED.)
                 *

1098             KK   RC13S
1099             RS      33    FLOW       0
1100             RC   0.035   0.035   0.035    5197   .0058
1101             RX       0     200     300     400     500     600     700     900
1102             RY       5       4       3       0       0       3       4       5
                 *

1103             KK     B13   BASIN
1104             BA   0.222
1105             LG    0.22    0.26    4.55    0.42      44
1106             UC   0.375   0.232
1107             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1108             UA     100
                 *
                 * *** STORAGE ROUTING LB13 ***********************************************
                 *
                 * DDM   ***** Preserved *****

1109             KK    LB13
1110             DT   LB13D    18.4
1111             DI       0     100    1000   10000
1112             DQ       0     100    1000   10000
                 *
                 *
                 * Route is shallow flow. (SLOPE WAS ESTIMATED.)
                 *
1                                          HEC-1 INPUT                                          PAGE 45

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1113             KK    RB13
1114             RS       7    FLOW       0
1115             RC   0.035   0.035   0.035    1269   0.004
1116             RX       0     200     300     400     500     600     700     900
1117             RY       5       4       3       0       0       3       4       5
                 *
```

```
1118          KK     B14   BASIN
1119          KM        SRPMIC LANDS BETWEEN THE ALIGNMENT OF PIMA ROAD & PIMA FRWY (SR 101L)
1120          BA   0.149
1121          LG    0.10    0.25    4.60    0.48
1122          UC   0.608   0.628
1123          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1124          UA     100
              *
              * *** STORAGE ROUTING LB14 ***********************************************
              *
              * See the detention calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              * DDM   ***** Preserved *****
              * KK  LB14
              * DT LB14D    10.4
              * DI     0     100    1000   10000
              * DQ     0     100    1000   10000
              *
              * DDM   ***** Preserved *****

1125          KK    CB14
1126          KM        MCKELLIPS ROAD AND PIMA ROAD
1127          HC       3   0.524
              *
              *
              * Route is a MAJOR ARTERIAL. (SLOPE WAS ESTIMATED.)
              *

1128          KK    RB14
1129          RS       4    FLOW       0
1130          RC   0.035   0.015   0.035    2746   0.004
1131          RX       0       1      30      40     100     110     145     300
1132          RY       8       4       3       0       0       3       4       5
              *
              *
              * DDM   ***** Preserved *****

1133          KK    CB12
1134          KM        MCKELLIPS ROAD AND GRANITE REEF WASH
1135          HC       4
              *
              *
              * Route is a channel. (SLOPE ESTIMATED FROM UPSTREAM CHANNEL'S SLOPE.)
              *
1                                   HEC-1 INPUT                                          PAGE 46

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1136          KK    RB12
1137          RS       6    FLOW       0
1138          RC   0.035    .035   0.035    4395  0.0019
1139          RX       0     200     330     340     370     380     410     600
1140          RY       9       8       6       0       0       6       8       9
              *

1141          KK     A01   BASIN
1142          KM        SRPMIC LANDS SOUTH OF MCKELLIPS ROAD
1143          BA   0.507
1144          LG    0.10    0.25    5.40    0.32      80
1145          UC   0.542   0.238
1146          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1147          UA     100
              *
              * *** STORAGE ROUTING LA01 ***********************************************
              *
              * See the detention calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              * DDM   ***** Preserved *****

1148          KK    LA01
1149          DT   LA01D    35.2
1150          DI       0     100    1000   10000
1151          DQ       0     100    1000   10000
              *
              * DDM   ***** Preserved *****

1152          KK    CA01
1153          KM        OUTFALL TO SALT RIVER
1154          HC       2
              *

1155          KK     B10   BASIN
1156          BA   0.110
1157          LG    0.21    0.25    4.60    0.49      28
1158          UC   0.742   0.765
1159          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1160          UA     100
              *
              * *** STORAGE ROUTING LB10 ***********************************************
              *
              * DDM   ***** Preserved *****

1161          KK    LB10
```

```
1162          DT   LB10D    10.5
1163          DI       0     100    1000   10000
1164          DQ       0     100    1000   10000
              *
1165          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   48        G03
              .
              .
   55         .-------->  DG03I
   54       DG03
              V
              V
   58      RG03S
              .
              .
   63         .         G01
              .           .
              .           .
   69       CG01............
              .
              .
   73         .-------->  DG01I
   72       DG01
              V
              V
   76      RG01S
              .
              .
   81         .         F04
              .           .
              .           .
   92         .           .        G04
              .           .          V
              .           .          V
   99         .           .       RG04
              .           .          .
              .           .          .
  104         .           .          .        G05
              .           .          .          V
              .           .          .          V
  110         .           .          .       RG05
              .           .          .          .
              .           .          .          .
  115         .           .          .          .        G06
              .           .          .          .          .
              .           .          .          .          .
  123         .           .          .          .          .-------->  DG06I
  122         .           .          .          .       DG06
              .           .          .          .          .
              .           .          .          .          .
  127         .           .          .          .          .-------->  LG06AD
  126         .           .          .          .      LG06A
              .           .          .          .          .
              .           .          .          .          .
  130         .           .          .          .          .         G02
              .           .          .          .          .           .
              .           .          .          .          .           .
  136         .           .       CG02...................................
              .           .          V
              .           .          V
  139         .           .       RG02
              .           .          .
              .           .          .
  144         .           .          .        F06
              .           .          .          .
              .           .          .          .
  150         .           .       CF06............
              .           .          V
              .           .          V
  153         .           .       RF06
              .           .          .
              .           .          .
  158         .           .          .        F05
              .           .          .          .
              .           .          .          .
  164         .           .       CF05............
              .           .          .
              .           .          .
  168         .           .          .-------->  DF05I
  167         .           .       DF05
              .           .          V
              .           .          V
  171         .           .      RF05W
              .           .          .
              .           .          .
  173       CF04........................
              .
              .
```

```
177          .-------> DF04I
176       DF04
             .
             .
181          .          .<-------  DF05I
180          .       F05R
             .          V
             .          V
182          .      RF05S
             .          .
             .          .
187          .          .        F03
             .          .          .
             .          .          .
193          .       CF03...........
             .          V
             .          V
196          .       RF03
             .          .
             .          .
202          .          .          .<-------  DG06I
201          .          .       G06R
             .          .          V
             .          .          V
203          .          .      RG06S
             .          .          .
             .          .          .
208          .          .          .        F07
             .          .          .          .
             .          .          .          .
215          .          .       CF07...........
             .          .          .
             .          .          .
219          .          .          .-------> DF07I
218          .          .       DF07
             .          .          V
             .          .          V
222          .          .      RF07W
             .          .          .
             .          .          .
224          .          .          .        F02
             .          .          .          .
             .          .          .          .
230          .       CF02......................
             .          .
             .          .
234          .          .-------> DF02I
233          .       DF02
             .          V
             .          V
237          .      RF02W
             .          .
             .          .
240          .          .          .<-------  DF04I
239          .          .       F04R
             .          .          V
             .          .          V
241          .          .      RF04S
             .          .          .
             .          .          .
247          .          .          .-------> DRF04I
246          .          .      DRF04
             .          .          .
             .          .          .
250          .          .          .        F01
             .          .          .          .
             .          .          .          .
256          .       CF01......................
             .          .
             .          .
260          .          .-------> DF01I
259          .       DF01
             .          .
             .          .
264          .          .          .<-------  DF02I
263          .          .      DRF02
             .          .          V
             .          .          V
265          .          .      RF02S
             .          .          .
             .          .          .
270          .          .          .        E07
             .          .          .          .
             .          .          .          .
276          .          .       CE07...........
             .          .          V
             .          .          V
279          .          .       RE07
             .          .          .
             .          .          .
284          .          .          .        E05
             .          .          .          .
             .          .          .          .
295          .          .       CE05...........
             .          .          .
```

```
                .          .          .
299             .          .          .-------->   DE05I
298             .          .       DE05
                .          .          V
                .          .          V
302             .          .      RE05W
                .          .          .
                .          .          .
304             .          .          .        E04
                .          .          .          .
                .          .          .          .
311             .          .          .          .-------->   LE04D
310             .          .          .       LE04
                .          .          .          .
                .          .          .          .
315             .          .          .          .          .<-------   DF01I
314             .          .          .          .     DRF01I
                .          .          .          .          V
                .          .          .          .          V
316             .          .          .          .      RF01S
                .          .          .          .          .
                .          .          .          .          .
321             .          .       CE04.......................
                .          .          .
                .          .          .
325             .          .          .-------->   DE04I
324             .          .       DE04
                .          .          .
                .          .          .
328       DUMMY.......................
                .
                .
330             .        E08
                .          V
                .          V
336             .       RE08
                .          .
                .          .
341             .          .        E06
                .          .          .
                .          .          .
348             .          .          .          .<-------   DE05I
347             .          .          .      DRDE05
                .          .          .          V
                .          .          .          V
349             .          .          .       RDE05
                .          .          .          .
                .          .          .          .
356             .          .          .          .-------->  DE052I
354             .          .          .       DE052
                .          .          .          V
                .          .          .          V
359             .          .          .      RE052E
                .          .          .          .
                .          .          .          .
364             .       CE06.......................
                .          V
                .          V
367             .       RE06
                .          .
                .          .
372             .          .        E03
                .          .          .
                .          .          .
379             .          .          .          .<-------   DF07I
378             .          .          .       DRF07
                .          .          .          V
                .          .          .          V
380             .          .          .       RF07S
                .          .          .          .
                .          .          .          .
385             .          .          .          .        E09
                .          .          .          .          .
                .          .          .          .          .
392             .          .          .        CE09............
                .          .          .          .
                .          .          .          .
397             .          .          .          .-------->   DE09I
395             .          .          .        DE09
                .          .          .          V
                .          .          .          V
400             .          .          .       RE09W
                .          .          .          .
                .          .          .          .
403             .       CE03.......................
                .          .
                .          .
408             .          .-------->   DE03I
406             .       DE03
                .          V
                .          V
411             .      RE03W
                .          .
                .          .
414             .          .        E02
```

```
                .          .          .
                .          .          .
422             .          .          .          .<-------  DE052I
421             .          .          .      RDE052
                .          .          .          V
                .          .          .          V
423             .          .          .      RE052S
                .          .          .          .
                .          .          .          .
428             .      CE02.......................
                .          .
                .          .
433             .          .------->   DE02I
431             .      DE02
                .         V
                .         V
436             .     RE02W
                .          .
                .          .
439             .          .       E01
                .          .          .
                .          .          .
446             .          .          .          .<-------  DE04I
445             .          .          .     DRE04I
                .          .          .          V
                .          .          .          V
447             .          .          .      RE04S
                .          .          .          .
                .          .          .          .
452             .      CE01.......................
                .          .
                .          .
457             .          .------->   DE01I
455             .      DE01
                .          .
                .          .
461             .          .          .<-------   DE01I
460             .          .      DRE01
                .          .          V
                .          .          V
462             .          .      RE01S
                .          .          .
                .          .          .
467             .          .          .       D05
                .          .          .          .
                .          .          .          .
478             .          .      CD05............
                .          .          .
                .          .          .
483             .          .          .------->   DD05I
481             .          .      DD05
                .          .          V
                .          .          V
486             .          .      RD05S
                .          .          .
                .          .          .
493             .          .          .       D13
                .          .          .          .
                .          .          .          .
500             .          .      CD13............
                .          .          .
                .          .          .
506             .          .          .------->   DD13I
504             .          .      DD13
                .          .          V
                .          .          V
509             .          .      RD13S
                .          .          .
                .          .          .
516             .          .          .       D04
                .          .          .          V
                .          .          .          V
523             .          .          .      RD04
                .          .          .          .
                .          .          .          .
528             .          .          .          .         D01
                .          .          .          .           .
                .          .          .          .           .
536             .          .      CD01........................
                .          .          .
                .          .          .
541             .          .          .------->   DD01I
539             .          .      DD01
                .          .          V
                .          .          V
544             .          .      RD01E
                .          .          .
                .          .          .
550             .          .          .          .<-------  DD05I
549             .          .          .     DRD05
                .          .          .          V
                .          .          .          V
551             .          .          .     RD05E
                .          .          .          .
                .          .          .          .
```

```
558          .          .          .          .-------> DD052I
556          .          .          .      DD052
             .          .          .         V
             .          .          .         V
561          .          .          .     RD05S2
             .          .          .         .
             .          .          .         .
568          .          .          .         .          .<-------   DE02I
567          .          .          .         .      DRE02
             .          .          .         .         V
             .          .          .         .         V
569          .          .          .         .      RE02S
             .          .          .         .         .
             .          .          .         .         .
575          .          .          .         .         .          .<-------  DD052I
574          .          .          .         .         .     DRD052
             .          .          .         .         .          V
             .          .          .         .         .          V
576          .          .          .         .         .     RD05E2
             .          .          .         .         .          .
             .          .          .         .         .          .
581          .          .          .         .         .          .         D06
             .          .          .         .         .          .          .
             .          .          .         .         .          .          .
587          .          .          .         .      CD06.......................
             .          .          .         .         .
             .          .          .         .         .
593          .          .          .         .         .------->   DD06I
590          .          .          .         .      DD06
             .          .          .         .         V
             .          .          .         .         V
598          .          .          .         .      RD06S
             .          .          .         .         .
             .          .          .         .         .
607          .          .          .         .         .          .<-------   DD13I
606          .          .          .         .         .      DRD13
             .          .          .         .         .          V
             .          .          .         .         .          V
608          .          .          .         .         .      RD13E
             .          .          .         .         .          .
             .          .          .         .         .          .
615          .          .          .         .         .          .        D02A
             .          .          .         .         .          .          .
             .          .          .         .         .          .          .
623          .          .          .      CD10.................................
             .          .          .         .
             .          .          .         .
630          .          .          .         .------->   DD10I
626          .          .          .      DD10
             .          .          .         V
             .          .          .         V
633          .          .          .     RD10S
             .          .          .         .
             .          .          .         .
639          .          .          .         .      DO2B
             .          .          .         .         .
             .          .          .         .         .
647          .          .      CD02.......................
             .          .          .
             .          .          .
652          .          .          .------->   DD02I
650          .          .      DD02
             .          .         V
             .          .         V
655          .          .     RD02E
             .          .          .
             .          .          .
660          .          .          .      D07
             .          .          .         .
             .          .          .         .
669          .          .          .         .          .<-------   DD06I
667          .          .          .         .      DRD06
             .          .          .         .         V
             .          .          .         .         V
670          .          .          .         .      RD06E
             .          .          .         .         .
             .          .          .         .         .
676          .          .          .      CD07............
             .          .          .         V
             .          .          .         V
679          .          .          .      RD07
             .          .          .         .
             .          .          .         .
686          .          .          .         .          .<-------   DD10I
684          .          .          .         .      DRD10
             .          .          .         .         V
             .          .          .         .         V
687          .          .          .         .      RD10E
             .          .          .         .         .
             .          .          .         .         .
694          .          .          .      CD11............
             .          .          .         V
             .          .          .         V
697          .          .          .      RD11
             .          .          .         .
```

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704                                                  .<-------   DE03I
703                                          DRE03S
                                                     .
                                                     .
706                                                  .           .<-------   DE09I
705                                                  .      DRE09S
                                                     .           .
                                                     .           .
707                                            CE10............
                                                     .
                                                     .
711                                                  .------->   DE10I
709                                            DE10
                                                     V
                                                     V
714                                          RE10SW
                                                     .
                                                     .
719                                                  .         D08
                                                     .           .
                                                     .           .
725                                            CD08............
                                                     V
                                                     V
728                                            RD08
                                                     .
                                                     .
733                                                  .        D03A
                                                     .           .
                                                     .           .
740                                      CD12......................
                                            V
                                            V
743                                      RD12
                                                .
                                                .
750                                                  .<-------   DE10I
749                                          RDE10I
                                                     V
                                                     V
751                                          RE10SE
                                                     .
                                                     .
756                                                  .         D09
                                                     .           .
                                                     .           .
763                                            CD09............
                                                     .
                                                     .
766                                                  .        D03B
                                                     .           .
                                                     .           .
773                                  CD03..................................
                                        V
                                        V
776                                  RD03
                                        .
                                        .
781                                          C11
                                                .
                                                .
787                                                C10
                                                     .
                                                     .
794                                                  .           .<-------   DD02I
793                                                  .      DRD02
                                                     .           V
                                                     .           V
795                                                  .      RD02S
                                                     .           .
                                                     .           .
802                                            CC10............
                                                     V
                                                     V
805                                            RC10
                                                     .
                                                     .
810                                  CC11......................
                                        V
                                        V
813                                  RC11
                                        .
                                        .
818                                          C08
                                                .
                                                .
824                                  CC08............
                                        V
                                        V
827                                  RC08
                                        .
                                        .
832                                          C06
                                                .
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843                 CC06............
                       V
                       V
846                 RC06

852                          .<-------   DD01I
851                      DRDO1
                            V
                            V
853                      RD01S

858                                C07

865                      CC07............
                            V
                            V
868                      RC07

873                                C09
                                     V
                                     V
879                                RC09

884                                          C05

890                                                    C01
                                                         V
                                                         V
896                                                    RC01

901                                                                    C02

907                      CC02.............................................

913                          -------->   DC02I
910                      DC02
                            V
                            V
916                      RC02E

922                                C03

928                                          C12
                                               V
                                               V
934                                          RC12

939                                                    C13

946                                          CC13............

950                                                        -------->   DC13I
949                                          DC13
                                               V
                                               V
953                                         RC13W

956                                                    C04
                                                         V
                                                         V
962                                                    RC04

967                 CC03.............................................
                       V
                       V
970                 RC03

975                          B07

981                 CB07............
                       V
                       V
984                 RB07

989                          B05
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                .         .         .         .
                .         .         .         .
 996            .         .         .         .-------->  LB05D
 995            .         .         .      LB05
                .         .         .         .
                .         .         .         .
1001            .         .         .         .         .<-------   DC02I
 999            .         .         .         .      DRC02
                .         .         .         .          V
                .         .         .         .          V
1002            .         .         .         .      RC02S
                .         .         .         .         .
                .         .         .         .         .
1008            .         .         .         .         .         B06
                .         .         .         .         .           .
                .         .         .         .         .           .
1014            .         .      CB05.......................................
                .         .         V
                .         .         V
1017            .         .      RB05
                .         .         .
                .         .         .
1022            .         .         .      B04
                .         .         .         .
                .         .         .         .
1029            .         .         .         .-------->  LB04D
1028            .         .         .      LB04
                .         .         .         .
                .         .         .         .
1032            .         .         .         .         B02
                .         .         .         .           .
                .         .         .         .           .
1039            .         .         .         .         .-------->  LB02D
1038            .         .         .         .      LB02
                .         .         .         .          V
                .         .         .         .          V
1042            .         .         .         .      RB02
                .         .         .         .         .
                .         .         .         .         .
1047            .         .         .         .         .         B03
                .         .         .         .         .           .
                .         .         .         .         .           .
1053            .         .      CB03.......................................
                .         .         V
                .         .         V
1056            .         .      RB03
                .         .         .
                .         .         .
1061            .         .         .      B01
                .         .         .         .
                .         .         .         .
1068            .         .         .         .-------->  LB01D
1067            .         .         .      LB01
                .         .         .         .
                .         .         .         .
1071            .         .      CB01...........
                .         .         V
                .         .         V
1074            .         .      RB01
                .         .         .
                .         .         .
1079            .         .         .      B12
                .         .         .         .
                .         .         .         .
1086            .         .         .         .         B11
                .         .         .         .           .
                .         .         .         .           .
1093            .         .         .         .         .-------->  LB11D
1092            .         .         .         .      LB11
                .         .         .         .         .
                .         .         .         .         .
1097            .         .         .         .         .         .<-------   DC13I
1096            .         .         .         .         .      DRDC13
                .         .         .         .         .          V
                .         .         .         .         .          V
1098            .         .         .         .         .      RC13S
                .         .         .         .         .         .
                .         .         .         .         .         .
1103            .         .         .         .         .         .         B13
                .         .         .         .         .         .           .
                .         .         .         .         .         .           .
1110            .         .         .         .         .         .         .-------->  LB13D
1109            .         .         .         .         .         .      LB13
                .         .         .         .         .         .          V
                .         .         .         .         .         .          V
1113            .         .         .         .         .         .      RB13
                .         .         .         .         .         .         .
                .         .         .         .         .         .         .
1118            .         .         .         .         .         .         .         B14
                .         .         .         .         .         .         .           .
                .         .         .         .         .         .         .           .
1125            .         .         .         .         .      CB14........................
                .         .         .         .         .         V
                .         .         .         .         .         V
1128            .         .         .         .         .      RB14
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                .         .         .         .         .         .
                .         .         .         .         .         .
 1133           .         .      CB12.................................
                .         .         V
                .         .         V
 1136           .         .      RB12
                .         .         .
                .         .         .
 1141           .         .         .        A01
                .         .         .          .
                .         .         .          .
 1149           .         .         .          .-------->  LA01D
 1148           .         .         .       LA01
                .         .         .          .
                .         .         .          .
 1152           .         .      CA01............
                .         .         .
                .         .         .
 1155           .         .         .        B10
                .         .         .          .
                .         .         .          .
 1162           .         .         .          .-------->  LB10D
 1161           .         .         .       LB10

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                                          ****************************************
 *                                      *                                          *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                          *   U.S. ARMY CORPS OF ENGINEERS       *
 *              JUN   1998              *                                          *   HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.1                *                                          *         609 SECOND STREET            *
 *                                      *                                          *      DAVIS, CALIFORNIA 95616         *
 *  RUN DATE   29AUG08  TIME  10:03:08  *                                          *          (916) 756-1104              *
 *                                      *                                          *                                      *
 ****************************************                                          ****************************************


                        Project ID: SCOTTSDALE - Major Basin: 01 - Return Period: 100
                        ******************************************************************************
                        **                                                                          **
                        **                    Updated Granite Reef ADMP                             **
                        **                                                                          **
                        ******************************************************************************
                        ******************************************************************************
                        PROJECT:                Granite Reef Wash DMP Update
                        CLIENT:                 City of Scottsdale
                        PREPARED BY:            Psomas
                        PROJECT No:             COS              Psomas 06077-01
                        FILE NAME: BASE6ue.DAT              CREATED DATE: Feb 26, 2007
                        MODIFIED: Aug 29, 2008 (SEB/JKK PSOMAS)
                             * ORIGINAL CARDS STARRED-OUT
                             * COMMENT CARDS ADDED
                        STORM:                  100-year 6-hour Storm
                        DEVELOPMENT CONDITIONS: Undeveloped SRPMIC Lands
                                                No 100-yr, 2-hr Basins in: G06, F07, E09, D09,
                                                                           C13 or B14


                        DDM MCUHP1


 25 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          5  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1   0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      4   0  ENDING DATE
                     NDTIME       1115  ENDING TIME
                      ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   83.25 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT

 27 JD          INDEX STORM NO. 1
                      STRM        3.20  PRECIPITATION DEPTH
                      TRDA         .01  TRANSPOSITION DRAINAGE AREA

 28 PI            PRECIPITATION PATTERN
                     .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

31 JD        INDEX STORM NO. 2
                STRM        3.18  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

32 JD        INDEX STORM NO. 3
                STRM        3.12  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

33 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

36 JD        INDEX STORM NO. 4
                STRM        2.95  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

37 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .01
                .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

40 JD        INDEX STORM NO. 5
                STRM        2.60  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

41 PI          PRECIPITATION PATTERN
                .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01

44 JD        INDEX STORM NO. 6
                STRM        1.82  PRECIPITATION DEPTH
                TRDA      500.00  TRANSPOSITION DRAINAGE AREA

45 PI          PRECIPITATION PATTERN
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .04       .04       .04       .04       .04       .04       .04       .04
                .04       .03       .03       .03       .02       .02       .02       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01

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

             **************
             *            *
92 KK        *     G04    *        BASIN
             *            *
             **************

93 KO        OUTPUT CONTROL VARIABLES
                IPRNT           3  PRINT CONTROL
                IPLOT           0  PLOT CONTROL
                QSCAL          0.  HYDROGRAPH PLOT SCALE

           SUBBASIN RUNOFF DATA
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94 BA          SUBBASIN CHARACTERISTICS
                    TAREA          .05  SUBBASIN AREA

95 LG          GREEN AND AMPT LOSS RATE
                    STRTL          .25  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.80  WETTING FRONT SUCTION
                    XKSAT          .35  HYDRAULIC CONDUCTIVITY
                    RTIMP        51.00  PERCENT IMPERVIOUS AREA

96 UC          CLARK UNITGRAPH
                       TC          .30  TIME OF CONCENTRATION
                        R          .26  STORAGE COEFFICIENT

97 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .30 HR,       R=   .26 HR
                                           SNYDER   TP=   .22 HR,      CP=   .53

                                                     UNIT HYDROGRAPH
                                                 19 END-OF-PERIOD ORDINATES
              13.       49.       68.       58.       44.       32.       23.       17.       12.        9.
               6.        5.        3.        2.        2.        1.        1.        1.        0.

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

                     HYDROGRAPH AT STATION      G04
                   TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    3.20, TOTAL LOSS =     .81, TOTAL EXCESS =    2.39

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                       (CFS)
+     94.       4.08                11.          3.          1.          1.
                   (INCHES)      2.371       2.381       2.381       2.381
                    (AC-FT)         6.          6.          6.          6.

                   CUMULATIVE AREA =     .05 SQ MI

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

                     HYDROGRAPH AT STATION      G04
                   TRANSPOSITION AREA       .5 SQ MI

   TOTAL RAINFALL =    3.18, TOTAL LOSS =     .81, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                       (CFS)
+     93.       4.08                11.          3.          1.          1.
                   (INCHES)      2.352       2.363       2.363       2.363
                    (AC-FT)         6.          6.          6.          6.

                   CUMULATIVE AREA =     .05 SQ MI

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

                     HYDROGRAPH AT STATION      G04
                   TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =    3.12, TOTAL LOSS =     .93, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                       (CFS)
+     59.       4.08                10.          3.          1.          1.
                   (INCHES)      2.164       2.177       2.177       2.177
                    (AC-FT)         5.          5.          5.          5.

                   CUMULATIVE AREA =     .05 SQ MI

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

                     HYDROGRAPH AT STATION      G04
                   TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.01, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                       (CFS)
```

```
+      44.      4.08                    9.          2.          1.          1.
                          (INCHES)    1.924       1.937       1.937       1.937
                           (AC-FT)       5.          5.          5.          5.

                          CUMULATIVE AREA =     .05 SQ MI


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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.56

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                            (CFS)
+      30.      4.17                    7.          2.          1.          1.
                          (INCHES)    1.540       1.559       1.559       1.559
                           (AC-FT)       4.          4.          4.          4.

                          CUMULATIVE AREA =     .05 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA    500.0 SQ MI

    TOTAL RAINFALL =    1.82, TOTAL LOSS =     .89, TOTAL EXCESS =     .93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                            (CFS)
+      11.      4.33                    4.          1.          0.          0.
                          (INCHES)     .913        .929        .929        .929
                           (AC-FT)       2.          2.          2.          2.

                          CUMULATIVE AREA =     .05 SQ MI

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


                          INTERPOLATED HYDROGRAPH AT      G04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                            (CFS)
+      94.      4.08                   11.          3.          1.          1.
                          (INCHES)    2.364       2.374       2.374       2.374
                           (AC-FT)       6.          6.          6.          6.

                          CUMULATIVE AREA =     .05 SQ MI


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


            **************
            *            *
  660 KK    *      D07   *        BASIN
            *            *
            **************

  661 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

              SUBBASIN RUNOFF DATA

  662 BA          SUBBASIN CHARACTERISTICS
                        TAREA        .05  SUBBASIN AREA

  663 LG          GREEN AND AMPT LOSS RATE
                        STRTL        .25  STARTING LOSS
                          DTH        .25  MOISTURE DEFICIT
                         PSIF       4.80  WETTING FRONT SUCTION
                        XKSAT        .35  HYDRAULIC CONDUCTIVITY
                        RTIMP      51.00  PERCENT IMPERVIOUS AREA

  664 UC          CLARK UNITGRAPH
                           TC        .51  TIME OF CONCENTRATION
                            R        .58  STORAGE COEFFICIENT

  665 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
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                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .51 HR,       R=   .58 HR
                                  SNYDER   TP=   .33 HR,      CP=   .38

                                          UNIT HYDROGRAPH
                                   40 END-OF-PERIOD ORDINATES
          3.      13.      28.      36.      36.      34.      31.      27.      23.      20.
         17.      15.      13.      11.      10.       8.       7.       6.       5.       5.
          4.       4.       3.       3.       2.       2.       2.       1.       1.       1.
          1.       1.       1.       1.       1.       0.       0.       0.       0.       0.

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

                  HYDROGRAPH AT STATION      D07
                TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    3.20, TOTAL LOSS =     .81, TOTAL EXCESS =    2.39

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                         (CFS)
+     64.       4.25                12.          3.          1.          1.
                        (INCHES)   2.348       2.380       2.380       2.380
                         (AC-FT)     6.          6.          6.          6.

                  CUMULATIVE AREA =     .05 SQ MI


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

                  HYDROGRAPH AT STATION      D07
                TRANSPOSITION AREA       .5 SQ MI

   TOTAL RAINFALL =    3.18, TOTAL LOSS =     .81, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                         (CFS)
+     63.       4.25                12.          3.          1.          1.
                        (INCHES)   2.329       2.361       2.361       2.361
                         (AC-FT)     6.          6.          6.          6.

                  CUMULATIVE AREA =     .05 SQ MI


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

                  HYDROGRAPH AT STATION      D07
                TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =    3.12, TOTAL LOSS =     .93, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                         (CFS)
+     46.       4.33                11.          3.          1.          1.
                        (INCHES)   2.141       2.176       2.176       2.176
                         (AC-FT)     6.          6.          6.          6.

                  CUMULATIVE AREA =     .05 SQ MI


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

                  HYDROGRAPH AT STATION      D07
                TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.01, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                         (CFS)
+     36.       4.33                10.          3.          1.          1.
                        (INCHES)   1.897       1.936       1.936       1.936
                         (AC-FT)     5.          5.          5.          5.

                  CUMULATIVE AREA =     .05 SQ MI


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

                  HYDROGRAPH AT STATION      D07
                TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.56

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
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+   (CFS)       (HR)
                          (CFS)
+      25.      4.33                  8.          2.          1.          1.
                        (INCHES)    1.510       1.558       1.558       1.558
                         (AC-FT)      4.          4.          4.          4.

                        CUMULATIVE AREA =     .05 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                         HYDROGRAPH AT STATION      D07
                       TRANSPOSITION AREA    500.0 SQ MI

    TOTAL RAINFALL =    1.82, TOTAL LOSS =     .89, TOTAL EXCESS =     .93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      11.      4.50                  5.          1.          0.          0.
                        (INCHES)     .889        .928        .928        .928
                         (AC-FT)      2.          2.          2.          2.

                        CUMULATIVE AREA =     .05 SQ MI

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


                        INTERPOLATED HYDROGRAPH AT      D07

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      63.      4.25                 12.          3.          1.          1.
                        (INCHES)    2.340       2.372       2.372       2.372
                         (AC-FT)      6.          6.          6.          6.

                        CUMULATIVE AREA =     .05 SQ MI


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


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            *            *
  858 KK    *     C07    *        BASIN
            *            *
            **************

  859 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

                SUBBASIN RUNOFF DATA

  860 BA          SUBBASIN CHARACTERISTICS
                        TAREA        .07  SUBBASIN AREA

  861 LG          GREEN AND AMPT LOSS RATE
                        STRTL        .25  STARTING LOSS
                          DTH        .25  MOISTURE DEFICIT
                         PSIF       4.80  WETTING FRONT SUCTION
                        XKSAT        .35  HYDRAULIC CONDUCTIVITY
                        RTIMP      50.00  PERCENT IMPERVIOUS AREA

  862 UC          CLARK UNITGRAPH
                           TC        .67  TIME OF CONCENTRATION
                            R        .70  STORAGE COEFFICIENT

  863 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .67 HR,       R=   .70 HR
                                         SNYDER   TP=   .41 HR,      CP=   .38

                                                   UNIT HYDROGRAPH
                                             48 END-OF-PERIOD ORDINATES
                 2.        9.       24.       38.       43.       43.       41.       39.       36.       32.
                28.       25.       22.       20.       18.       16.       14.       12.       11.       10.
                 9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                 3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        0.        0.        0.        0.

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                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =   3.20, TOTAL LOSS =     .83, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                        (CFS)
+     79.       4.33                 18.          5.          2.          1.
                      (INCHES)     2.315       2.362       2.362       2.362
                       (AC-FT)       9.          9.          9.          9.

                      CUMULATIVE AREA =     .07 SQ MI

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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA       .5 SQ MI

   TOTAL RAINFALL =   3.18, TOTAL LOSS =     .82, TOTAL EXCESS =    2.35

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                        (CFS)
+     78.       4.33                 18.          5.          2.          1.
                      (INCHES)     2.297       2.343       2.343       2.343
                       (AC-FT)       9.          9.          9.          9.

                      CUMULATIVE AREA =     .07 SQ MI

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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =   3.12, TOTAL LOSS =     .95, TOTAL EXCESS =    2.17

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                        (CFS)
+     60.       4.42                 16.          4.          1.          1.
                      (INCHES)     2.107       2.156       2.156       2.156
                       (AC-FT)       8.          8.          8.          8.

                      CUMULATIVE AREA =     .07 SQ MI

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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =   2.95, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                        (CFS)
+     47.       4.42                 14.          4.          1.          1.
                      (INCHES)     1.860       1.914       1.914       1.914
                       (AC-FT)       7.          7.          7.          7.

                      CUMULATIVE AREA =     .07 SQ MI

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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =   2.60, TOTAL LOSS =    1.05, TOTAL EXCESS =    1.54

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                        (CFS)
+     33.       4.42                 11.          3.          1.          1.
                      (INCHES)     1.473       1.536       1.536       1.536
                       (AC-FT)       6.          6.          6.          6.

                      CUMULATIVE AREA =     .07 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA    500.0 SQ MI
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TOTAL RAINFALL = 1.82, TOTAL LOSS = .91, TOTAL EXCESS = .91

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
15.	4.58	(CFS)	7.	2.	1.	1.
		(INCHES)	.861	.910	.910	.910
		(AC-FT)	3.	3.	3.	3.

CUMULATIVE AREA = .07 SQ MI

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

INTERPOLATED HYDROGRAPH AT C07

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
78.	4.33	(CFS)	18.	5.	2.	1.
		(INCHES)	2.306	2.353	2.353	2.353
		(AC-FT)	9.	9.	9.	9.

CUMULATIVE AREA = .07 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	G03	188.	4.17	25.	6.	2.	.09		
DIVERSION TO	DG03I	96.	4.17	13.	3.	1.	.09		
HYDROGRAPH AT	DG03	92.	4.17	12.	3.	1.	.09		
ROUTED TO	RG03S	84.	4.25	12.	3.	1.	.09		
HYDROGRAPH AT	G01	62.	4.25	13.	3.	1.	.05		
2 COMBINED AT	CG01	146.	4.25	25.	6.	2.	.10		
DIVERSION TO	DG01I	104.	4.25	18.	5.	2.	.10		
HYDROGRAPH AT	DG01	42.	4.25	7.	2.	1.	.10		
ROUTED TO	RG01S	39.	4.67	7.	2.	1.	.10		
HYDROGRAPH AT	F04	74.	4.25	17.	4.	1.	.06		
HYDROGRAPH AT	G04	94.	4.08	11.	3.	1.	.05		
ROUTED TO	RG04	92.	4.17	11.	3.	1.	.05		
HYDROGRAPH AT	G05	96.	4.08	13.	3.	1.	.05		
ROUTED TO	RG05	95.	4.25	13.	3.	1.	.05		
HYDROGRAPH AT	G06	174.	4.08	10.	3.	1.	.13		
DIVERSION TO	DG06I	68.	4.08	5.	1.	0.	.13		
HYDROGRAPH AT	DG06	106.	4.08	6.	1.	0.	.13		
DIVERSION TO	LG06AD	106.	4.08	6.	1.	0.	.13		
HYDROGRAPH AT	LG06A	0.	.00	0.	0.	0.	.13		
HYDROGRAPH AT									

+	G02	100.	4.25	19.	5.	2.	.08
4 COMBINED AT +	CG02	283.	4.25	43.	11.	4.	.23
ROUTED TO +	RG02	279.	4.33	43.	11.	4.	.23
HYDROGRAPH AT +	F06	151.	4.25	26.	6.	2.	.10
2 COMBINED AT +	CF06	422.	4.33	68.	17.	6.	.33
ROUTED TO +	RF06	423.	4.33	68.	17.	6.	.33
HYDROGRAPH AT +	F05	137.	4.25	22.	6.	2.	.09
2 COMBINED AT +	CF05	551.	4.33	91.	23.	8.	.42
DIVERSION TO +	DF05I	502.	4.33	66.	17.	6.	.42
HYDROGRAPH AT +	DF05	49.	3.92	25.	6.	2.	.42
ROUTED TO +	RF05W	49.	4.00	25.	6.	2.	.42
3 COMBINED AT +	CF04	147.	4.50	48.	12.	4.	.17
DIVERSION TO +	DF04I	80.	4.50	26.	7.	2.	.17
HYDROGRAPH AT +	DF04	67.	4.50	22.	6.	2.	.17
HYDROGRAPH AT +	F05R	502.	4.33	66.	17.	6.	.42
ROUTED TO +	RF05S	489.	4.42	66.	17.	6.	.42
HYDROGRAPH AT +	F03	243.	4.25	45.	11.	4.	.17
2 COMBINED AT +	CF03	702.	4.42	110.	28.	9.	.56
ROUTED TO +	RF03	697.	4.42	110.	28.	9.	.56
HYDROGRAPH AT +	G06R	68.	4.08	5.	1.	0.	.13
ROUTED TO +	RG06S	58.	4.50	5.	1.	0.	.13
HYDROGRAPH AT +	F07	298.	4.25	50.	13.	4.	.25
2 COMBINED AT +	CF07	309.	4.42	54.	14.	5.	.31
DIVERSION TO +	DF07I	296.	4.42	43.	11.	4.	.31
HYDROGRAPH AT +	DF07	16.	5.92	11.	3.	1.	.31
ROUTED TO +	RF07W	16.	5.92	11.	3.	1.	.31
HYDROGRAPH AT +	F02	62.	4.25	12.	3.	1.	.05
3 COMBINED AT +	CF02	750.	4.42	132.	33.	11.	.63
DIVERSION TO +	DF02I	700.	4.42	102.	26.	9.	.63
HYDROGRAPH AT +	DF02	50.	3.92	30.	8.	3.	.63
ROUTED TO +	RF02W	50.	4.00	30.	8.	3.	.63
HYDROGRAPH AT +	F04R	80.	4.50	26.	7.	2.	.17

+	ROUTED TO RF04S	80.	4.67	26.	7.	2.	.17
+	DIVERSION TO DRF04I	40.	4.67	13.	3.	1.	.17
+	HYDROGRAPH AT DRF04	40.	4.67	13.	3.	1.	.17
+	HYDROGRAPH AT F01	42.	4.25	8.	2.	1.	.03
+	3 COMBINED AT CF01	127.	4.25	51.	13.	4.	.10
+	DIVERSION TO DF01I	3.	4.25	0.	0.	0.	.10
+	HYDROGRAPH AT DF01	123.	4.25	50.	13.	4.	.10
+	HYDROGRAPH AT DRF02	700.	4.42	102.	26.	9.	.63
+	ROUTED TO RF02S	695.	4.50	102.	26.	9.	.63
+	HYDROGRAPH AT E07	153.	4.17	21.	5.	2.	.08
+	2 COMBINED AT CE07	775.	4.42	122.	31.	10.	.66
+	ROUTED TO RE07	770.	4.50	122.	31.	10.	.66
+	HYDROGRAPH AT E05	91.	4.17	12.	3.	1.	.05
+	2 COMBINED AT CE05	804.	4.50	133.	34.	11.	.71
+	DIVERSION TO DE05I	779.	4.50	120.	30.	10.	.71
+	HYDROGRAPH AT DE05	25.	3.75	13.	3.	1.	.71
+	ROUTED TO RE05W	25.	3.83	13.	3.	1.	.71
+	HYDROGRAPH AT E04	42.	4.25	9.	2.	1.	.04
+	DIVERSION TO LE04D	40.	4.25	3.	1.	0.	.04
+	HYDROGRAPH AT LE04	42.	4.33	6.	2.	1.	.04
+	HYDROGRAPH AT DRF01I	3.	4.25	0.	0.	0.	.10
+	ROUTED TO RF01S	3.	4.58	0.	0.	0.	.10
+	3 COMBINED AT CE04	68.	4.33	19.	5.	2.	.07
+	DIVERSION TO DE04I	0.	.00	0.	0.	0.	.07
+	HYDROGRAPH AT DE04	68.	4.33	19.	5.	2.	.07
+	3 COMBINED AT DUMMY	255.	4.33	92.	23.	8.	.34
+	HYDROGRAPH AT E08	42.	4.25	8.	2.	1.	.03
+	ROUTED TO RE08	41.	4.33	8.	2.	1.	.03
+	HYDROGRAPH AT E06	48.	4.25	9.	2.	1.	.04
+	HYDROGRAPH AT DRDE05	779.	4.50	120.	30.	10.	.71
+	ROUTED TO RDE05	780.	4.50	120.	30.	10.	.71
+	DIVERSION TO DE052I	273.	4.50	43.	11.	4.	.71

+	HYDROGRAPH AT	DE052	507.	4.50	78.	19.	6.	.71
+	ROUTED TO	RE052E	503.	4.58	78.	19.	6.	.71
+	3 COMBINED AT	CE06	561.	4.58	94.	24.	8.	.78
+	ROUTED TO	RE06	561.	4.67	94.	24.	8.	.78
+	HYDROGRAPH AT	E03	47.	4.58	17.	5.	2.	.07
+	HYDROGRAPH AT	DRF07	296.	4.42	43.	11.	4.	.31
+	ROUTED TO	RF07S	291.	4.50	43.	11.	4.	.31
+	HYDROGRAPH AT	E09	197.	4.25	30.	8.	3.	.22
+	2 COMBINED AT	CE09	436.	4.42	73.	18.	6.	.51
+	DIVERSION TO	DE09I	391.	4.42	54.	14.	5.	.51
+	HYDROGRAPH AT	DE09	45.	4.00	19.	5.	2.	.51
+	ROUTED TO	RE09W	45.	4.00	19.	5.	2.	.51
+	3 COMBINED AT	CE03	697.	4.67	132.	34.	11.	.49
+	DIVERSION TO	DE03I	607.	4.67	88.	22.	7.	.49
+	HYDROGRAPH AT	DE03	90.	4.17	44.	12.	4.	.49
+	ROUTED TO	RE03W	90.	4.25	44.	12.	4.	.49
+	HYDROGRAPH AT	E02	186.	4.33	37.	9.	3.	.15
+	HYDROGRAPH AT	RDE052	273.	4.50	43.	11.	4.	.71
+	ROUTED TO	RE052S	267.	4.67	43.	11.	4.	.71
+	3 COMBINED AT	CE02	513.	4.58	125.	32.	11.	.50
+	DIVERSION TO	DE02I	379.	4.58	59.	15.	5.	.50
+	HYDROGRAPH AT	DE02	134.	4.08	65.	17.	6.	.50
+	ROUTED TO	RE02W	134.	4.83	65.	17.	6.	.50
+	HYDROGRAPH AT	E01	84.	4.25	15.	4.	1.	.06
+	HYDROGRAPH AT	DRE04I	0.	.00	0.	0.	0.	.07
+	ROUTED TO	RE04S	0.	.00	0.	0.	0.	.07
+	3 COMBINED AT	CE01	218.	4.25	81.	21.	7.	.17
+	DIVERSION TO	DE01I	39.	4.25	7.	2.	1.	.17
+	HYDROGRAPH AT	DE01	179.	4.08	74.	19.	6.	.17
+	HYDROGRAPH AT	DRE01	39.	4.25	7.	2.	1.	.17
+	ROUTED TO	RE01S	36.	4.50	7.	2.	1.	.17
	HYDROGRAPH AT							

+	D05	197.	4.33	39.	10.	3.	.16
2 COMBINED AT +	CD05	223.	4.42	46.	12.	4.	.28
DIVERSION TO +	DD05I	55.	4.42	9.	2.	1.	.28
HYDROGRAPH AT +	DD05	168.	4.42	38.	10.	3.	.28
ROUTED TO +	RD05S	168.	4.42	38.	10.	3.	.28
HYDROGRAPH AT +	D13	54.	4.25	11.	3.	1.	.04
2 COMBINED AT +	CD13	217.	4.42	48.	12.	4.	.26
DIVERSION TO +	DD13I	122.	4.42	27.	7.	2.	.26
HYDROGRAPH AT +	DD13	96.	4.42	21.	5.	2.	.26
ROUTED TO +	RD13S	95.	4.50	21.	5.	2.	.26
HYDROGRAPH AT +	D04	16.	4.25	3.	1.	0.	.01
ROUTED TO +	RD04	15.	4.42	3.	1.	0.	.01
HYDROGRAPH AT +	D01	73.	4.42	19.	5.	2.	.08
3 COMBINED AT +	CD01	182.	4.42	43.	11.	4.	.21
DIVERSION TO +	DD01I	68.	4.42	15.	4.	1.	.21
HYDROGRAPH AT +	DD01	114.	4.42	29.	8.	3.	.21
ROUTED TO +	RD01E	112.	4.50	29.	8.	3.	.21
HYDROGRAPH AT +	DRD05	55.	4.42	9.	2.	1.	.28
ROUTED TO +	RD05E	55.	4.42	9.	2.	1.	.28
DIVERSION TO +	DD052I	41.	4.42	7.	2.	1.	.28
HYDROGRAPH AT +	DD052	14.	4.42	2.	0.	0.	.28
ROUTED TO +	RD05S2	13.	4.58	2.	0.	0.	.28
HYDROGRAPH AT +	DRE02	379.	4.58	59.	15.	5.	.50
ROUTED TO +	RE02S	373.	4.75	59.	15.	5.	.50
HYDROGRAPH AT +	DRD052	41.	4.42	7.	2.	1.	.28
ROUTED TO +	RD05E2	40.	4.50	7.	2.	1.	.28
HYDROGRAPH AT +	D06	130.	4.33	28.	7.	2.	.11
3 COMBINED AT +	CD06	496.	4.67	94.	24.	8.	.25
DIVERSION TO +	DD06I	182.	4.67	34.	9.	3.	.25
HYDROGRAPH AT +	DD06	314.	4.67	59.	15.	5.	.25
ROUTED TO +	RD06S	311.	4.75	59.	15.	5.	.25
HYDROGRAPH AT +	DRD13	122.	4.42	27.	7.	2.	.26

+	ROUTED TO RD13E	121.	4.50	27.	7.	2.	.26
+	HYDROGRAPH AT D02A	114.	4.17	18.	4.	1.	.07
+	4 COMBINED AT CD10	489.	4.58	106.	27.	9.	.26
+	DIVERSION TO DD10I	205.	4.58	45.	11.	4.	.26
+	HYDROGRAPH AT DD10	284.	4.58	61.	15.	5.	.26
+	ROUTED TO RD10S	283.	4.67	61.	15.	5.	.26
+	HYDROGRAPH AT DO2B	103.	4.25	18.	4.	1.	.07
+	3 COMBINED AT CD02	455.	4.50	107.	27.	9.	.35
+	DIVERSION TO DD02I	88.	4.50	16.	4.	1.	.35
+	HYDROGRAPH AT DD02	367.	4.50	91.	23.	8.	.35
+	ROUTED TO RD02E	368.	4.58	91.	23.	8.	.35
+	HYDROGRAPH AT D07	63.	4.25	12.	3.	1.	.05
+	HYDROGRAPH AT DRD06	182.	4.67	34.	9.	3.	.25
+	ROUTED TO RD06E	182.	4.67	34.	9.	3.	.25
+	2 COMBINED AT CD07	222.	4.58	46.	12.	4.	.13
+	ROUTED TO RD07	222.	4.67	46.	12.	4.	.13
+	HYDROGRAPH AT DRD10	205.	4.58	45.	11.	4.	.26
+	ROUTED TO RD10E	205.	4.58	45.	11.	4.	.26
+	2 COMBINED AT CD11	425.	4.67	91.	23.	8.	.24
+	ROUTED TO RD11	425.	4.67	91.	23.	8.	.24
+	HYDROGRAPH AT DRE03S	607.	4.67	88.	22.	7.	.49
+	HYDROGRAPH AT DRE09S	391.	4.42	54.	14.	5.	.51
+	2 COMBINED AT CE10	796.	4.67	125.	31.	10.	1.00
+	DIVERSION TO DE10I	518.	4.67	81.	20.	7.	1.00
+	HYDROGRAPH AT DE10	279.	4.67	44.	11.	4.	1.00
+	ROUTED TO RE10SW	272.	4.83	44.	11.	4.	1.00
+	HYDROGRAPH AT D08	49.	4.33	13.	3.	1.	.05
+	2 COMBINED AT CD08	357.	4.83	63.	16.	5.	.46
+	ROUTED TO RD08	354.	4.83	63.	16.	5.	.46
+	HYDROGRAPH AT D03A	72.	4.25	13.	3.	1.	.05
+	3 COMBINED AT CD12	739.	4.75	160.	41.	14.	.75
+	ROUTED TO RD12	740.	4.83	160.	41.	14.	.75

+	HYDROGRAPH AT RDE10I	518.	4.67	81.	20.	7.	1.00
+	ROUTED TO RE10SE	502.	4.83	81.	20.	7.	1.00
+	HYDROGRAPH AT D09	164.	4.17	18.	5.	2.	.22
+	2 COMBINED AT CD09	561.	4.83	99.	25.	8.	.82
+	HYDROGRAPH AT D03B	71.	4.25	13.	3.	1.	.05
+	4 COMBINED AT CD03	1326.	4.83	313.	79.	26.	2.19
+	ROUTED TO RD03	1320.	4.92	313.	79.	26.	2.19
+	HYDROGRAPH AT C11	90.	4.17	12.	3.	1.	.05
+	HYDROGRAPH AT C10	85.	4.17	13.	3.	1.	.05
+	HYDROGRAPH AT DRD02	88.	4.50	16.	4.	1.	.35
+	ROUTED TO RD02S	88.	4.58	16.	4.	1.	.35
+	2 COMBINED AT CC10	143.	4.33	30.	7.	2.	.12
+	ROUTED TO RC10	143.	4.42	30.	7.	2.	.12
+	3 COMBINED AT CC11	1407.	4.83	346.	88.	29.	2.36
+	ROUTED TO RC11	1405.	4.92	346.	88.	29.	2.36
+	HYDROGRAPH AT C08	170.	4.25	29.	7.	2.	.12
+	2 COMBINED AT CC08	1449.	4.92	370.	94.	31.	2.48
+	ROUTED TO RC08	1442.	4.92	370.	94.	31.	2.48
+	HYDROGRAPH AT C06	222.	4.25	38.	9.	3.	.15
+	2 COMBINED AT CC06	1498.	4.92	401.	102.	34.	2.63
+	ROUTED TO RC06	1494.	5.00	401.	102.	34.	2.63
+	HYDROGRAPH AT DRD01	68.	4.42	15.	4.	1.	.21
+	ROUTED TO RD01S	67.	4.67	15.	4.	1.	.21
+	HYDROGRAPH AT C07	78.	4.33	18.	5.	2.	.07
+	2 COMBINED AT CC07	140.	4.50	32.	8.	3.	.15
+	ROUTED TO RC07	139.	4.67	32.	8.	3.	.15
+	HYDROGRAPH AT C09	66.	4.25	14.	4.	1.	.06
+	ROUTED TO RC09	56.	4.50	14.	4.	1.	.06
+	HYDROGRAPH AT C05	151.	4.33	35.	9.	3.	.14
+	HYDROGRAPH AT C01	37.	4.25	8.	2.	1.	.03
+	ROUTED TO RC01	36.	4.50	8.	2.	1.	.03
	HYDROGRAPH AT						

+		C02	41.	4.25	10.	3.	1.	.04
	5 COMBINED AT							
+		CC02	397.	4.58	99.	25.	8.	.44
	DIVERSION TO							
+		DC02I	63.	4.58	8.	2.	1.	.44
	HYDROGRAPH AT							
+		DC02	334.	4.58	92.	23.	8.	.44
	ROUTED TO							
+		RC02E	335.	4.58	92.	23.	8.	.44
	HYDROGRAPH AT							
+		C03	68.	4.17	11.	3.	1.	.04
	HYDROGRAPH AT							
+		C12	3.	5.25	2.	1.	0.	.01
	ROUTED TO							
+		RC12	3.	5.75	2.	1.	0.	.01
	HYDROGRAPH AT							
+		C13	103.	4.25	14.	4.	1.	.18
	2 COMBINED AT							
+		CC13	103.	4.25	16.	4.	1.	.19
	DIVERSION TO							
+		DC13I	62.	4.25	9.	2.	1.	.19
	HYDROGRAPH AT							
+		DC13	41.	4.25	7.	2.	1.	.19
	ROUTED TO							
+		RC13W	41.	4.33	7.	2.	1.	.19
	HYDROGRAPH AT							
+		C04	40.	4.33	10.	3.	1.	.04
	ROUTED TO							
+		RC04	40.	4.42	10.	3.	1.	.04
	5 COMBINED AT							
+		CC03	1709.	4.92	495.	127.	42.	3.37
	ROUTED TO							
+		RC03	1709.	5.00	495.	127.	42.	3.37
	HYDROGRAPH AT							
+		B07	35.	4.08	4.	1.	0.	.02
	2 COMBINED AT							
+		CB07	1710.	5.00	498.	127.	42.	3.39
	ROUTED TO							
+		RB07	1703.	5.08	498.	127.	42.	3.39
	HYDROGRAPH AT							
+		B05	91.	4.25	20.	5.	2.	.09
	DIVERSION TO							
+		LB05D	2.	1.50	0.	0.	0.	.09
	HYDROGRAPH AT							
+		LB05	91.	4.25	20.	5.	2.	.09
	HYDROGRAPH AT							
+		DRC02	63.	4.58	8.	2.	1.	.44
	ROUTED TO							
+		RC02S	60.	4.67	8.	2.	1.	.44
	HYDROGRAPH AT							
+		B06	20.	4.17	4.	1.	0.	.01
	4 COMBINED AT							
+		CB05	1762.	5.00	521.	133.	44.	3.49
	ROUTED TO							
+		RB05	1760.	5.08	521.	133.	44.	3.49
	HYDROGRAPH AT							
+		B04	178.	4.08	22.	6.	2.	.08
	DIVERSION TO							
+		LB04D	178.	4.08	22.	6.	2.	.08
	HYDROGRAPH AT							
+		LB04	0.	.00	0.	0.	0.	.08
	HYDROGRAPH AT							
+		B02	191.	4.17	28.	7.	2.	.10

+	DIVERSION TO	LB02D	50.	3.75	5.	1.	0.	.10
+	HYDROGRAPH AT	LB02	191.	4.17	23.	6.	2.	.10
+	ROUTED TO	RB02	189.	4.17	23.	6.	2.	.10
+	HYDROGRAPH AT	B03	10.	4.17	2.	0.	0.	.01
+	4 COMBINED AT	CB03	1783.	5.00	541.	138.	46.	3.66
+	ROUTED TO	RB03	1785.	5.08	541.	138.	46.	3.66
+	HYDROGRAPH AT	B01	162.	4.08	16.	4.	1.	.07
+	DIVERSION TO	LB01D	25.	3.67	2.	1.	0.	.07
+	HYDROGRAPH AT	LB01	162.	4.08	14.	3.	1.	.07
+	2 COMBINED AT	CB01	1786.	5.08	552.	141.	47.	3.73
+	ROUTED TO	RB01	1777.	5.08	552.	141.	47.	3.73
+	HYDROGRAPH AT	B12	233.	4.17	27.	7.	2.	.12
+	HYDROGRAPH AT	B11	107.	4.17	13.	3.	1.	.06
+	DIVERSION TO	LB11D	103.	4.08	6.	1.	0.	.06
+	HYDROGRAPH AT	LB11	95.	4.25	7.	2.	1.	.06
+	HYDROGRAPH AT	DRDC13	62.	4.25	9.	2.	1.	.19
+	ROUTED TO	RC13S	49.	5.08	9.	2.	1.	.19
+	HYDROGRAPH AT	B13	445.	4.08	52.	13.	4.	.22
+	DIVERSION TO	LB13D	445.	4.08	37.	9.	3.	.22
+	HYDROGRAPH AT	LB13	224.	4.42	15.	4.	1.	.22
+	ROUTED TO	RB13	216.	4.58	15.	4.	1.	.22
+	HYDROGRAPH AT	B14	133.	4.25	23.	6.	2.	.15
+	3 COMBINED AT	CB14	309.	4.58	46.	12.	4.	.52
+	ROUTED TO	RB14	264.	4.75	46.	12.	4.	.52
+	4 COMBINED AT	CB12	1851.	5.08	596.	152.	51.	4.43
+	ROUTED TO	RB12	1828.	5.33	595.	152.	51.	4.43
+	HYDROGRAPH AT	A01	1075.	4.17	154.	39.	13.	.51
+	DIVERSION TO	LA01D	953.	4.08	71.	18.	6.	.51
+	HYDROGRAPH AT	LA01	1041.	4.25	84.	21.	7.	.51
+	2 COMBINED AT	CA01	1879.	5.33	663.	169.	56.	4.94
+	HYDROGRAPH AT	B10	95.	4.33	22.	6.	2.	.11
+	DIVERSION TO	LB10D	95.	4.33	21.	5.	2.	.11

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        HYDROGRAPH AT
+                       LB10          7.    6.75          1.          0.          0.        .11
1
                                   SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                      INTERPOLATED TO
                                                                   COMPUTATION INTERVAL
         ISTAQ    ELEMENT      DT        PEAK    TIME TO     VOLUME      DT        PEAK    TIME TO     VOLUME
                                                   PEAK                                       PEAK

                              (MIN)      (CFS)     (MIN)      (IN)     (MIN)      (CFS)     (MIN)       (IN)

         FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RF05W  MANE          .86     49.00    236.76       .56      5.00     49.00    240.00        .56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1257E+02 EXCESS= .0000E+00 OUTFLOW= .1257E+02 BASIN STORAGE= .1305E-12 PERCENT ERROR=    .0

         FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RF05W  MANE          .82     49.00    237.07       .56      5.00     49.00    240.00        .56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1253E+02 EXCESS= .0000E+00 OUTFLOW= .1253E+02 BASIN STORAGE= .1308E-12 PERCENT ERROR=    .0

         FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RF05W  MANE          .87     49.00    232.10       .59      5.00     49.00    235.00        .59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1316E+02 EXCESS= .0000E+00 OUTFLOW= .1316E+02 BASIN STORAGE= .1351E-12 PERCENT ERROR=    .0

         FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RF05W  MANE          .76     49.00    236.65       .64      5.00     49.00    240.00        .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1428E+02 BASIN STORAGE= .1323E-12 PERCENT ERROR=    .0

         FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RF05W  MANE          .73     49.00    236.91       .66      5.00     49.00    240.00        .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+02 EXCESS= .0000E+00 OUTFLOW= .1473E+02 BASIN STORAGE= .1352E-12 PERCENT ERROR=    .0

         FOR STORM = 6  STORM AREA (SQ MI) =     500.00
            RF05W  MANE          .85     46.98    275.88       .55      5.00     46.98    275.00        .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1242E+02 EXCESS= .0000E+00 OUTFLOW= .1242E+02 BASIN STORAGE= .1305E-12 PERCENT ERROR=    .0

         FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RF03  MANE          .78    719.72    265.73      1.88      5.00    717.34    265.00       1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5562E+02 EXCESS= .0000E+00 OUTFLOW= .5562E+02 BASIN STORAGE= .3448E-04 PERCENT ERROR=    .0

         FOR STORM = 2  STORM AREA (SQ MI) =        .50
             RF03  MANE          .78    711.94    266.03      1.86      5.00    709.93    265.00       1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5513E+02 EXCESS= .0000E+00 OUTFLOW= .5513E+02 BASIN STORAGE= .3445E-04 PERCENT ERROR=    .0

         FOR STORM = 3  STORM AREA (SQ MI) =       2.80
             RF03  MANE          .91    510.61    266.71      1.67      5.00    508.28    270.00       1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4958E+02 EXCESS= .0000E+00 OUTFLOW= .4959E+02 BASIN STORAGE= .3662E-04 PERCENT ERROR=    .0

         FOR STORM = 4  STORM AREA (SQ MI) =      16.00
             RF03  MANE         1.05    384.44    269.83      1.41      5.00    384.36    270.00       1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4184E+02 EXCESS= .0000E+00 OUTFLOW= .4184E+02 BASIN STORAGE= .3605E-04 PERCENT ERROR=    .0

         FOR STORM = 5  STORM AREA (SQ MI) =      90.00
             RF03  MANE         1.35    248.91    271.16      1.04      5.00    248.31    270.00       1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3081E+02 EXCESS= .0000E+00 OUTFLOW= .3081E+02 BASIN STORAGE= .3478E-04 PERCENT ERROR=    .0

         FOR STORM = 6  STORM AREA (SQ MI) =     500.00
             RF03  MANE         2.68     83.31    281.86       .51      5.00     83.27    280.00        .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1526E+02 EXCESS= .0000E+00 OUTFLOW= .1526E+02 BASIN STORAGE= .3969E-04 PERCENT ERROR=    .0
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FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RF07W  MANE         5.00     15.90    355.00       .34      5.00     15.90    355.00         .34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5662E+01 EXCESS= .0000E+00 OUTFLOW= .5657E+01 BASIN STORAGE= .3855E-03 PERCENT ERROR=    .1

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RF07W  MANE         5.00     15.90    355.00       .34      5.00     15.90    355.00         .34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5646E+01 EXCESS= .0000E+00 OUTFLOW= .5641E+01 BASIN STORAGE= .3835E-03 PERCENT ERROR=    .1

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RF07W  MANE         5.00     15.92    360.00       .35      5.00     15.92    360.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5800E+01 EXCESS= .0000E+00 OUTFLOW= .5794E+01 BASIN STORAGE= .4751E-03 PERCENT ERROR=    .1

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RF07W  MANE         5.00     15.94    365.00       .39      5.00     15.94    365.00         .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6609E+01 EXCESS= .0000E+00 OUTFLOW= .6604E+01 BASIN STORAGE= .4840E-03 PERCENT ERROR=    .1

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RF07W  MANE         5.00     15.93    370.00       .43      5.00     15.93    370.00         .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7157E+01 EXCESS= .0000E+00 OUTFLOW= .7151E+01 BASIN STORAGE= .5640E-03 PERCENT ERROR=    .1

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RF07W  MANE         5.00     15.93    350.00       .40      5.00     15.93    350.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6700E+01 EXCESS= .0000E+00 OUTFLOW= .6695E+01 BASIN STORAGE= .5182E-03 PERCENT ERROR=    .1

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RF02W  MANE         1.77     50.00    332.46       .46      5.00     50.00    245.00         .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1532E+02 EXCESS= .0000E+00 OUTFLOW= .1532E+02 BASIN STORAGE= .7467E-11 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RF02W  MANE         1.78     50.00    240.01       .46      5.00     50.00    245.00         .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1527E+02 EXCESS= .0000E+00 OUTFLOW= .1528E+02 BASIN STORAGE= .7077E-11 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RF02W  MANE         1.86     50.00    234.17       .47      5.00     50.00    235.00         .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1585E+02 EXCESS= .0000E+00 OUTFLOW= .1586E+02 BASIN STORAGE= .7414E-11 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RF02W  MANE         1.93     50.00    235.26       .52      5.00     50.00    240.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1743E+02 EXCESS= .0000E+00 OUTFLOW= .1743E+02 BASIN STORAGE= .6822E-11 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RF02W  MANE         1.77     50.00    240.76       .55      5.00     50.00    245.00         .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1823E+02 EXCESS= .0000E+00 OUTFLOW= .1823E+02 BASIN STORAGE= .7311E-11 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RF02W  MANE         1.87     50.00    269.44       .48      5.00     50.00    270.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1604E+02 EXCESS= .0000E+00 OUTFLOW= .1604E+02 BASIN STORAGE= .7418E-11 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RE05W  MANE         1.86     25.00    229.72       .17      5.00     25.00    230.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6490E+01 EXCESS= .0000E+00 OUTFLOW= .6492E+01 BASIN STORAGE= .3533E-11 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RE05W  MANE         1.86     25.00    229.93       .17      5.00     25.00    230.00         .17
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .6472E+01 EXCESS= .0000E+00 OUTFLOW= .6473E+01 BASIN STORAGE= .3846E-11 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
             RE05W  MANE         1.83     25.00    228.82       .18      5.00     25.00    230.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6780E+01 EXCESS= .0000E+00 OUTFLOW= .6781E+01 BASIN STORAGE= .3792E-11 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
             RE05W  MANE         1.77     25.00    228.64       .19      5.00     25.00    230.00         .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7234E+01 EXCESS= .0000E+00 OUTFLOW= .7236E+01 BASIN STORAGE= .3518E-11 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
             RE05W  MANE         1.82     25.00    233.75       .20      5.00     25.00    235.00         .20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7364E+01 EXCESS= .0000E+00 OUTFLOW= .7365E+01 BASIN STORAGE= .3561E-11 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     500.00
             RE05W  MANE         1.74     25.00    253.76       .16      5.00     25.00    255.00         .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6201E+01 EXCESS= .0000E+00 OUTFLOW= .6202E+01 BASIN STORAGE= .3765E-11 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RE09W  MANE          .73     45.00    237.05       .35      5.00     45.00    240.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9529E+01 EXCESS= .0000E+00 OUTFLOW= .9530E+01 BASIN STORAGE= .9007E-13 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
             RE09W  MANE          .73     45.00    236.58       .35      5.00     45.00    240.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9502E+01 EXCESS= .0000E+00 OUTFLOW= .9503E+01 BASIN STORAGE= .9056E-13 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
             RE09W  MANE          .68     45.00    241.39       .35      5.00     45.00    245.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9597E+01 EXCESS= .0000E+00 OUTFLOW= .9597E+01 BASIN STORAGE= .8913E-13 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
             RE09W  MANE          .75     45.00    242.24       .36      5.00     45.00    245.00         .36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9852E+01 EXCESS= .0000E+00 OUTFLOW= .9853E+01 BASIN STORAGE= .9109E-13 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
             RE09W  MANE          .70     45.00    251.60       .35      5.00     45.00    255.00         .36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9673E+01 EXCESS= .0000E+00 OUTFLOW= .9674E+01 BASIN STORAGE= .8975E-13 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     500.00
             RE09W  MANE          .85     45.00    287.00       .27      5.00     45.00    290.00         .27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7271E+01 EXCESS= .0000E+00 OUTFLOW= .7271E+01 BASIN STORAGE= .9153E-13 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RE03W  MANE          .99     90.00    254.18       .88      5.00     90.00    255.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2314E+02 EXCESS= .0000E+00 OUTFLOW= .2315E+02 BASIN STORAGE= .6921E-11 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
             RE03W  MANE          .99     90.00    254.31       .88      5.00     90.00    255.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2307E+02 EXCESS= .0000E+00 OUTFLOW= .2308E+02 BASIN STORAGE= .7102E-11 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
             RE03W  MANE         1.00     90.00    254.00       .90      5.00     90.00    255.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2359E+02 EXCESS= .0000E+00 OUTFLOW= .2360E+02 BASIN STORAGE= .6802E-11 PERCENT ERROR=    .0
```

```
FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RE03W  MANE        1.09     90.00    259.71       .93      5.00     90.00    260.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2425E+02 EXCESS= .0000E+00 OUTFLOW= .2425E+02 BASIN STORAGE= .7115E-11 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RE03W  MANE        1.07     90.00    264.58       .91      5.00     90.00    265.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2370E+02 EXCESS= .0000E+00 OUTFLOW= .2370E+02 BASIN STORAGE= .6862E-11 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RE03W  MANE        1.13     90.00    304.73       .69      5.00     90.00    305.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1803E+02 EXCESS= .0000E+00 OUTFLOW= .1803E+02 BASIN STORAGE= .6977E-11 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RE02W  MANE        1.22    134.00    295.06      1.27      5.00    134.00    295.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3406E+02 EXCESS= .0000E+00 OUTFLOW= .3404E+02 BASIN STORAGE= .1246E-03 PERCENT ERROR=    .1

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RE02W  MANE        1.22    134.00    296.28      1.27      5.00    134.00    300.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3397E+02 EXCESS= .0000E+00 OUTFLOW= .3395E+02 BASIN STORAGE= .1241E-03 PERCENT ERROR=    .1

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RE02W  MANE        1.22    134.00    295.06      1.30      5.00    134.00    295.00        1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3493E+02 EXCESS= .0000E+00 OUTFLOW= .3492E+02 BASIN STORAGE= .1236E-03 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RE02W  MANE        1.22    134.00    298.72      1.34      5.00    134.00    300.00        1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3597E+02 EXCESS= .0000E+00 OUTFLOW= .3596E+02 BASIN STORAGE= .1226E-03 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RE02W  MANE        1.22    134.00    304.81      1.31      5.00    134.00    300.00        1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3509E+02 EXCESS= .0000E+00 OUTFLOW= .3508E+02 BASIN STORAGE= .1245E-03 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RE02W  MANE        1.27    109.30    304.72       .98      5.00    109.29    305.00         .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2630E+02 EXCESS= .0000E+00 OUTFLOW= .2630E+02 BASIN STORAGE= .1247E-03 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RC13W  MANE        3.65     41.21    258.84       .38      5.00     41.00    260.00         .38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3815E+01 EXCESS= .0000E+00 OUTFLOW= .3814E+01 BASIN STORAGE= .2942E-03 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RC13W  MANE        3.65     41.07    258.84       .38      5.00     40.79    260.00         .38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3773E+01 EXCESS= .0000E+00 OUTFLOW= .3772E+01 BASIN STORAGE= .2924E-03 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RC13W  MANE        5.00      7.08    260.00       .12      5.00      7.08    260.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1239E+01 EXCESS= .0000E+00 OUTFLOW= .1239E+01 BASIN STORAGE= .2925E-03 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RC13W  MANE        5.00      1.25    365.00       .07      5.00      1.25    365.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6712E+00 EXCESS= .0000E+00 OUTFLOW= .6712E+00 BASIN STORAGE= .2898E-03 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RC13W  MANE        5.00       .98    370.00       .06      5.00       .98    370.00         .06
```

```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .5566E+00 EXCESS= .0000E+00 OUTFLOW= .5566E+00 BASIN STORAGE= .2896E-03 PERCENT ERROR=   -.1

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
           RC13W  MANE        5.00       .62    375.00       .04      5.00       .62    375.00         .04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3717E+00 EXCESS= .0000E+00 OUTFLOW= .3717E+00 BASIN STORAGE= .2905E-03 PERCENT ERROR=   -.1

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RB05  MANE         .79   2472.49    299.95      1.75      5.00   2472.44    300.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3261E+03 EXCESS= .0000E+00 OUTFLOW= .3261E+03 BASIN STORAGE= .3963E-04 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RB05  MANE         .79   2444.94    300.24      1.74      5.00   2444.64    300.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3231E+03 EXCESS= .0000E+00 OUTFLOW= .3231E+03 BASIN STORAGE= .3954E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RB05  MANE         .76   1825.73    301.75      1.45      5.00   1820.90    305.00        1.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2700E+03 EXCESS= .0000E+00 OUTFLOW= .2700E+03 BASIN STORAGE= .3962E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RB05  MANE         .85   1346.68    310.16      1.21      5.00   1346.68    310.00        1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2257E+03 EXCESS= .0000E+00 OUTFLOW= .2257E+03 BASIN STORAGE= .3937E-04 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RB05  MANE        1.00    841.67    316.11       .91      5.00    840.15    315.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1688E+03 EXCESS= .0000E+00 OUTFLOW= .1688E+03 BASIN STORAGE= .3948E-04 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
            RB05  MANE        1.46    342.71    297.60       .48      5.00    342.37    300.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8951E+02 EXCESS= .0000E+00 OUTFLOW= .8951E+02 BASIN STORAGE= .3951E-04 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RB02  MANE        1.75    190.13    250.69      2.16      5.00    189.98    250.00        2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1162E+02 EXCESS= .0000E+00 OUTFLOW= .1162E+02 BASIN STORAGE= .1872E-04 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RB02  MANE        1.76    189.50    251.52      2.14      5.00    188.67    250.00        2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1151E+02 EXCESS= .0000E+00 OUTFLOW= .1151E+02 BASIN STORAGE= .1908E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RB02  MANE        1.50    128.65    252.00      1.99      5.00    127.78    250.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1071E+02 EXCESS= .0000E+00 OUTFLOW= .1071E+02 BASIN STORAGE= .1908E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RB02  MANE        2.00     99.49    252.00      1.77      5.00     98.75    250.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9544E+01 EXCESS= .0000E+00 OUTFLOW= .9544E+01 BASIN STORAGE= .2246E-04 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RB02  MANE        2.25     69.04    254.25      1.41      5.00     68.84    255.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7572E+01 EXCESS= .0000E+00 OUTFLOW= .7572E+01 BASIN STORAGE= .2417E-04 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
            RB02  MANE        2.00     33.16    262.00       .74      5.00     33.11    260.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4012E+01 EXCESS= .0000E+00 OUTFLOW= .4011E+01 BASIN STORAGE= .2000E-04 PERCENT ERROR=    .0
```

*** NORMAL END OF HEC-1 ***

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   01DEC08  TIME  13:27:51  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM


```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   Project ID: SCOTTSDALE - Major Basin: 01 - Return Period: 100
  2           ID   ****************************************************************************
  3           ID   **                                                                        **
  4           ID   **                    Updated Granite Reef ADMP                           **
  5           ID   **                                                                        **
  6           ID   ****************************************************************************
  7           ID   ****************************************************************************
  8           ID   PROJECT:                Granite Reef Wash DMP Update
  9           ID   CLIENT:                 City of Scottsdale
 10           ID   PREPARED BY:            Psomas
 11           ID   PROJECT No:             COS              Psomas 06077-01
 12           ID   FILE NAME: BASE6u.DAT              CREATED DATE: Feb 26, 2007
 13           ID   MODIFIED: Aug 13, 2008 (SEB/JKK PSOMAS)
 14           ID        * ORIGINAL CARDS STARRED-OUT (by RAK/JKK)
 15           ID        * COMMENT CARDS ADDED (by RAK/JKK
 16           ID        * Updates to routings from CE05 to CE02 and CE03 (by SEB/JKK)
 17           ID        * Updates to flow splits at Indian School Road and Pima Road
 18           ID          based on Flo-2D analysis and field visits (by SEB/JKK);
 19           ID          added CE10 and diversion DE10
 20           ID
 21           ID   STORM:                  100-year 6-hour Storm
 22           ID   DEVELOPMENT CONDITIONS: Future Conditions
 23           ID
 24           ID
 25           ID
 26           ID
 27           ID   DDM MCUHP1
              *
              *  ADDITIONAL 6FT STORM DRAIN IN INDIAN SCHOOL ROAD WAS ASSUMED
              *  TO BE CONSTRUCTED.
              *
              * ***************************************************************************
              *  ELEMENT LETTER DESIGNATION LOCATED BETWEEN:
              *     A. MCKELLIPS ROAD AND SALT RIVER
              *     B. MCDOWELL ROAD AND MCKELLIPS ROAD
              *     C. THOMAS ROAD AND MCDOWELL ROAD
              *     D. INDIAN SCHOOL ROAD AND THOMAS ROAD
              *     E. CHAPARRAL ROAD AND INDIAN SCHOOL ROAD
              *     F. MCDONALD DRIVE AND CHAPARRAL ROAD
              *     G. AZ CANAL AND MCDONALD DRIVE
              * ***************************************************************************
              *
 28           ID
 29           IT       5                    1000
 30           IO       5
              *
              *DIAGRAM
              *
 31           IN      15
 32           JD    3.20    0.01
 33           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
 34           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
 35           PC   0.962   0.972   0.983   0.991   1.000
 36           JD   3.179    0.50
 37           JD   3.120    2.80
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  38          PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
  39          PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
  40          PC   0.950   0.963   0.975   0.988   1.000
  41          JD   2.950    16.0
  42          PC   0.000   0.009   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
  43          PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
  44          PC   0.946   0.960   0.973   0.987   1.000
  45          JD   2.598    90.0
  46          PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
  47          PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
  48          PC   0.927   0.945   0.964   0.982   1.000
  49          JD   1.824   500.0
  50          PC   0.000   0.024   0.043   0.059   0.078   0.098   0.119   0.141   0.162   0.186
  51          PC   0.212   0.239   0.271   0.321   0.408   0.515   0.627   0.735   0.814   0.864
  52          PC   0.907   0.930   0.954   0.977   1.000
              *
              *

  53          KK     G03   BASIN
  54          BA   0.093
  55          LG    0.23    0.25    5.60    0.26      55
  56          UC   0.367   0.275
  57          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  58          UA     100
              *
              *
              * *** DIVERSION DG03 ***********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

  59          KK    DG03
  60          DT   DG03I
  61          DI       0       7      22      43      70     101     124     180     217     264
  62          DQ       0     3.5      11      22      35      51      63      92     112     137
              *
              *
              * Route is a Minor Arterial Road with a median.
              *

  63          KK   RG03S
  64          RS       1    FLOW       0
  65          RC    .035   0.015    .035    1322  0.0024
  66          RX       0       1      40      41     105     106     146     147
  67          RY       8       2       1      .5      .5       1       2       8
              *

  68          KK     G01   BASIN
  69          BA   0.049
  70          LG    0.21    0.25    4.80    0.38      57
  71          UC   0.588   0.598
  72          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  73          UA     100
              *
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DG03.
              * THE HARD-CODE VALUE IS 50% OF CG03'S CONTRIBUTING AREA.
              * SEE DIVERSION DG03.
              *
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  74          KK    CG01
  75          KM        MCDONALD DRIVE AND GRANITE REEF ROAD
  76          HC       2   0.096
              *
              *
              * *** DIVERSION DG01 ***********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

  77          KK    DG01
  78          DT   DG01I
  79          DI       0      10      29      57      92     134     144     194     233     278
  80          DQ       0       7      21      41      66      96     103     139     166     198
              *
              *
              * Route is a Minor Arterial Road.
              *

  81          KK   RG01S
  82          RS      16    FLOW       0
  83          RC   0.035   0.015   0.035    2625  0.0014
  84          RX       0       1      40      41     105     106     146     147
```

```
 85          RY       8       2       1      .5      .5       1       2       8
             *

 86          KK     F04   BASIN
 87          KM
 88          KM    This basin's original area was 0.073 sq mi.  The infield area is bermed
 89          KM    so it is self-detained.  The infield area (0.013 sq mi) was subtracted
 90          KM    from the subbasin calculations to account for the storage.
 91          KM
 92          BA   0.060
 93          LG    0.15    0.25    4.80    0.42      68
 94          UC   0.567   0.659
 95          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 96          UA     100
             *
             *

 97          KK     G04   BASIN
 98          KO       3
 99          BA   0.045
100          LG    0.25    0.25    4.80    0.35      51
101          UC   0.296   0.261
102          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
103          UA     100
             *
             *
             * Route is a Subdivision Road.
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

104          KK    RG04
105          RS       4    FLOW       0
106          RC    .035   0.015   0.035    1336  0.0033
107          RX       0       1      28      29      57      58      86      87
108          RY       8       2       1     0.5     0.5       1       2       8
             *

109          KK     G05   BASIN
110          BA   0.045
111          LG    0.24    0.15    7.00    0.14      53
112          UC   0.317   0.283
113          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
114          UA     100
             *
             *
             * Route is a Subdivision Road.
             *

115          KK    RG05
116          RS       7    FLOW       0
117          RC   0.035   0.015   0.035    1994  0.0026
118          RX       0       1      28      29      57      58      86      87
119          RY       8       2       1     0.5     0.5       1       2       8
             *

120          KK     G06   BASIN
121          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
122          BA   0.127
123          LG    0.10    0.35    2.65    1.70      80
124          UC   0.254   0.140
125          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
126          UA     100
             *
             *
             *
             * *** STORAGE ROUTING LG06 ********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****

127          KK    LG06
128          DT   LG06D     8.0
129          DI       0     100    1000   10000
130          DQ       0     100    1000   10000
             *
             * *** CG06 LOCATED AT MCDONALD DRIVE AND PIMA ROAD ****************************
             *
             * *** DIVERSION DG06 ******************************************************
             *
             * THIS DIVESION IS DUE TO THE DETENTION BASIN.
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

131          KK    DG06
132          DT   DG06I
133          DI       0      50     100     200     300     500     700     900    1000
```

```
134          DQ       0      25      49      75     132     195     230     259     287
             *
             *
             * *** STORAGE ROUTING LG06A ********************************************
             * See the storage calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

135          KK   LG06A
136          DT  LG06AD    4.25
137          DI       0     100    1000   10000
138          DQ       0     100    1000   10000
             *
             *

139          KK     G02   BASIN
140          BA   0.075
141          LG    0.21    0.25    4.80    0.38      52
142          UC   0.592   0.517
143          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
144          UA     100
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DG06.
             * THE HARD-CODE VALUE IS 50% OF CG06'S CONTRIBUTING AREA.
             * SEE DIVERSION DG06.
             *
             * DDM   ***** Preserved *****

145          KK    CG02
146          KM        MCDONALD DRIVE AND 86TH STREET
147          HC       4   0.229
             *
             *
             * Route is a Minor Arterial Road.
             *

148          KK    RG02
149          RS       4    FLOW       0
150          RC   0.035   0.015   0.035    1358  0.0018
151          RX       0       1      26      27      62      63      88      89
152          RY       8       2       1     0.5     0.5       1       2       8
             *

153          KK     F06   BASIN
154          BA   0.103
155          LG    0.23    0.25    4.80    0.36      49
156          UC   0.604   0.427
157          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
158          UA     100
             *
             *
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

159          KK    CF06
160          KM        MONTEBELLO AVENUE AND 86TH STREET
161          HC       2
             *
             *
             * Route is a Minor Arterial Road.
             *

162          KK    RF06
163          RS       3    FLOW       0
164          RC   0.035   0.015   0.035    1299   0.002
165          RX       0       1      26      27      62      63      88      89
166          RY       8       2       1     0.5     0.5       1       2       8
             *

167          KK     F05   BASIN
168          BA   0.088
169          LG    0.24    0.25    4.80    0.36      52
170          UC   0.554   0.401
171          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
172          UA     100
             *
             * DDM   ***** Preserved *****

173          KK    CF05
174          KM        JACKRABBIT ROAD AND 86TH STREET
175          HC       2
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT COLLECT.
             * ALL EXCESS OVERLAND AMOUNT FLOWS SOUTH.
             *
             *
             * STORM DRAIN ANALYSIS SHOWS A CAPACITY OF 185 CFS, 1/3 IS INTERCEPTED AT
             * THIS LOCATION.(61 cfs) 20% Clogging Factor means 49 cfs here.
             * (61 x .8 = 49cfs)
             *
             * *** DIVERSION DF05 ***********************************************************
```

```
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****

 176            KK    DF05
 177            DT   DF05I
 178            DI       0       1      50     100     200     300     400     500    1000    2000
 179            DQ       0      .9      10      51     151     251     351     451     951    1951
                *
                *
                * THE INFORMATION FOR THE STORM DRAIN WAS MEASURED IN THE FIELD.
                * THE PIPE IS A 66" RCP, SLOPE WAS ESTIMATED TO BE 0.004 FT/FT.
                *
1                                          HEC-1 INPUT                                          PAGE  7

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 180            KK   RF05W
 181            RK    1302   0.004   0.013            CIRC     5.5
                *
                *
                * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF05 & DG01.
                * THE HARD-CODE VALUE IS 80% OF CG01 AND 10% OF CF05'S CONTRIBUTING AREA.
                * SEE DIVERSION DG01 AND DF05.
                *
                * DDM   ***** Preserved *****

 182            KK    CF04
 183            KM        JACKRABBIT ROAD AND GRANITE REEF ROAD
 184            HC       3    0.17
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT COLLECT.
                *
                *
                * *** DIVERSION DF04 ***********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****

 185            KK    DF04
 186            DT   DF04I
 187            DI       0       9      30      57      93     136     150     198     336     400
 188            DQ       0       5      16      30      50      73      82     105     170     200
                *
                *
                * DIVERSION RECOVER D05
                *

 189            KK    F05R
 190            DR   DF05I
                *
                * Route is a Minor Arterial Road.
                *

 191            KK   RF05S
 192            RS       4    FLOW       0
 193            RC   0.035   0.015   0.035    2167  0.0032
 194            RX       0       1      26      27      62      63      88      89
 195            RY       8       2       1     0.5     0.5       1       2       8
                *
                *
                *

 196            KK     F03   BASIN
 197            BA   0.170
 198            LG    0.21    0.25    4.80    0.37      58
 199            UC   0.683   0.445
 200            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 201            UA     100
                *
                *
                * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF05.
                * THE HARD-CODE VALUE IS 90% OF CF05'S CONTRIBUTING AREA.
                * SEE DIVERSION DF05.
                *
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE  8

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 202            KK    CF03
 203            KM        ORANGE BLOSSOM LANE AND 86TH STREET
 204            HC       2   0.556
                *
                *
                * Route is a Minor Arterial Road.
                * Normal Depth Routing did not work for this Route.
                *
```

```
205          KK    RF03
206          RD
207          RC   0.035   0.015   0.035     482  0.0035
208          RX       0       1      26      27      62      63      88      89
209          RY       8       3       2       0       0       2       3       8
             *
             *
             *
             * DIVERSION RECOVER G06
             *

210          KK    G06R
211          DR   DG06I
             *
             *
             * Route is a Minor Arterial Road along Pima Road.
             *
             *

212          KK   RG06S
213          RS      18    FLOW       0
214          RC   0.035   0.015   0.035    5286  0.0028
215          RX       0       1      26      27      62      63      88      89
216          RY       8       3       2       0       0       2       3       8
             *

217          KK     F07   BASIN
218          KM         SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
219          BA   0.250
220          LG    0.10    0.29    2.65    1.70      80
221          UC   0.538   0.415
222          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
223          UA     100
             *
             *
             * *** STORAGE ROUTING LF07 ********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

224          KK    LF07
225          DT   LF07D    15.2
226          DI       0     100    1000   10000
227          DQ       0     100    1000   10000
             *
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DG06.
             * THE HARD-CODE VALUE IS 50% OF CG06'S CONTRIBUTING AREA.
             * SEE DIVERSION DG06.
             *
             * DDM   ***** Preserved *****

228          KK    CF07
229          KM        CHAPARRAL ROAD AND PIMA ROAD
230          HC       2   0.314
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
             * THE STORM DRAIN ANAYLSIS SHOWS THE MAXIMUM FLOW IN THE STORM DRAIN AT THIS
             * LOCATION IS 16 CFS.  20% clogging factor = 13 cfs (16cfs * .8 = 13 cfs).
             * ALL OVERLAND FLOW CONTINUES SOUTH.
             *
             *
             * *** DIVERSION DF07 ******************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

231          KK    DF07
232          DT   DF07I
233          DI       0       1      16     100     200     400     600     800    1000    2000
234          DQ       0       0       0      87     187     387     587     787     987    1987
             *
             *
             * Route is a Storm Drain 36" RCP with a Slope of 0.001 ft/ft
             *
             *

235          KK   RF07W
236          RD    1315   0.001   0.013            CIRC       3
             *
             *

237          KK     F02   BASIN
238          BA   0.046
239          LG    0.23    0.25    4.80    0.36      55
240          UC   0.521   0.538
241          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
242          UA     100
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF07.
             * THE HARD-CODE VALUE IS 10% OF CF07'S CONTRIBUTING AREA.
             * SEE DIVERSION DF07.
             *
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

243          KK    CF02
244          KM        CHAPARRAL ROAD AND 86TH STREET
245          HC       3    .627
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THIS STORM DRAIN
             * AT THIS LOCATION IS 63 CFS AND 16 CFS IS IN THE STORMDRAIN FROM THE EAST.
             * 20% clogging factor means 50 cfs (63cfs * 0.8 = 50cfs).
             *
             * ALL OVERLAND FLOW CONTINUES SOUTH.
             *
             * *** DIVERSION DF02 ***********************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

246          KK    DF02
247          DT   DF02I
248          DI       0       1      50     100     200     300     400     500    1000    2000
249          DQ       0       1      10      50     150     250     350     450     950    1950
             *
             *
             *
             * ROUTE IS A 5FT RCP STORM DRAIN WITH A SLOPE OF 0.001 FT/FT
             *

250          KK   RF02W
251          RK    1310   0.001    0.02            CIRC       5
             *
             *
             * DIVERSION RECOVER F04
             *

252          KK    F04R
253          DR   DF04I
             *
             *
             * Route is a Minor Arterial Road.
             *
             *

254          KK   RF04S
255          RS      11    FLOW       0
256          RC   0.035   0.013   0.035    2652  0.0023
257          RX       0       1      26      27      62      63      88      89
258          RY       8       3       2       0       0       2       3       8
             *
             *
             * THE WEST SIDE OF THE ROAD IS DIVERTED WEST AND THE EAST SIDE OF THE ROAD
             * FLOWS SOUTH INTO CF01.  THE TOTAL FLOW DOES NOT EXCEED THE CROWN OF THE ROAD
             * SO THE SPLIT IS 50-50.
             *
             * *** DIVERSION DRF04 **********************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

259          KK   DRF04
260          DT  DRF04I
261          DI       0       1      20      50     100     200     300
262          DQ       0      .5      10      25      50     100     150
             *

263          KK     F01   BASIN
264          BA   0.030
265          LG    0.22    0.25    4.80    0.39      53
266          UC   0.467   0.490
267          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
268          UA     100
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF04 & DF02.
             * THE HARD-CODE VALUE IS 25% OF CF04 AND 10% OF CF02'S CONTRIBUTING AREA.
             * SEE DIVERSION DF04 AND DF02.
             *
```

```
            * DDM   ***** Preserved *****

 269        KK    CF01
 270        KM        CHAPARRAL ROAD AND GRANITE REEF ROAD
 271        HC       3    .101
            *
            *
            * THE DIVERSION AT THIS LOCATION IS SOUTH (SEE SPLITFLOW ANALYSIS)
            *
            *
            * *** DIVERSION DF01 ***********************************************************
            *
            * See the diversion calculations in Appendix D of the Data Collection Notebook
            * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
            *
            * DDM   ***** Preserved *****

 272        KK    DF01
 273        DT   DF01I
 274        DI       0       7      21      42      75     111     139     188     254     335
 275        DQ       0       0       0       0       0       0       6      18      35      57
            *
            *
            * DIVERSION RECOVER DF02
            *

 276        KK   DRF02
 277        DR   DF02I
            *
            *
            * Route is a Minor Arterial Road.
            *
1                                   HEC-1 INPUT                                          PAGE 12

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 278        KK   RF02S
 279        RS       3    FLOW       0
 280        RC   0.035   0.015   0.035    1338  0.0022
 281        RX       0       1      26      27      62      63      88      89
 282        RY       8       2       1     0.5     0.5       1       2       8
            *
            *

 283        KK     E07   BASIN
 284        BA   0.084
 285        LG    0.25    0.25    4.80    0.36      49
 286        UC   0.442   0.305
 287        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 288        UA     100
            *
            *
            * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF02.
            * THE HARD-CODE VALUE IS 90% OF CF02'S CONTRIBUTING AREA.
            * SEE DIVERSION DF02.
            *
            * DDM   ***** Preserved *****

 289        KK    CE07
 290        KM        HIGHLAND AVENUE AND 86TH STREET
 291        HC       2    .661
            *
            *
            * Route is a Minor Arterial Road.
            *

 292        KK    RE07
 293        RS       1    FLOW       0
 294        RC   0.035   0.015   0.035    1335  0.0025
 295        RX       0       1      26      27      62      63      88      89
 296        RY       8       2       1     0.5     0.5       1       2       8
            *

 297        KK     E05   BASIN
 298        KM
 299        KM    This basin's original area was 0.060 sq mi.  The infield area is bermed
 300        KM    so it is self-detained.  The infield area (0.013 sq mi) was subtracted
 301        KM    from the subbasin calculations to account for the storage.
 302        KM
 303        BA   0.047
 304        LG    0.21    0.25    4.80    0.37      57
 305        UC   0.375   0.292
 306        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 307        UA     100
            *
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 13

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 308        KK    CE05
 309        KM        CAMELBACK ROAD AND 86TH STREET
 310        HC       2
```

```
*
*
* THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
* THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 92 CFS.
* THE TOTAL FLOW WAS DIVIDED BY E05, E04, AND THE BASIN WEST OF THE PROJECT
* AREA, SO 31 CFS AT THIS LOCATION.
* 20% clogging factor means 25cfs at this location (31cfs * 0.8 = 25cfs).
* ALL OVERLAND FLOW CONTINUES SOUTH.
*
* *** DIVERSION DE05 ***********************************************************
*
* See the diversion calculations in Appendix D of the Data Collection Notebook
* Granite Reef Wash Drainage Master Plan (Entellus April 2002).
*
* DDM   ***** Preserved *****

311     KK    DE05
312     DT   DE05I
313     DI       0       1      50     100     200     300     400     500    1000    2000
314     DQ       0       1      25      75     175     275     375     475     975    1975
*
*
*
* ROUTE IS A 5FT RCP WITH A SLOPE OF 0.0021 FT/FT.
*

315     KK   RE05W
316     RK    1490  0.0021    0.02            CIRC       5
*

317     KK     E04   BASIN
318     BA   0.038
319     LG    0.22    0.25    4.80    0.39      47
320     UC   0.621   0.655
321     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
322     UA     100
*
*
*
* *** STORAGE ROUTING LE04 *****************************************************
*
* DDM   ***** Preserved *****

323     KK    LE04
324     DT   LE04D     1.5
325     DI       0     100    1000   10000
326     DQ       0     100    1000   10000
*
* DIVERSION RECOVER DF01
*
```



```
LINE    ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

327     KK  DRF01I
328     DR   DF01I
*
*
*
* Route is a Minor Arterial Road.
*

329     KK   RF01S
330     RS      24    FLOW       0
331     RC   0.035   0.015   0.035    2619  0.0031
332     RX       0       1      26      27      62      63      88      89
333     RY       8       2       1     0.5     0.5       1       2       8
*
*
* THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF01 & DE05.
* THE HARD-CODE VALUE IS 5% OF CF01 AND 5% OF CE05'S CONTRIBUTING AREA.
* SEE DIVERSION DF01 AND DE05.
*
* DDM   ***** Preserved *****

334     KK    CE04
335     KM        CAMELBACK ROAD AND GRANITE REEF ROAD
336     HC       3   0.071
*
*
* THERE IS A DIVERSION SOUTH (SEE SPLITFLOW CALCULATIONS)
*
* *** DIVERSION DE04 ***********************************************************
*
* See the diversion calculations in Appendix D of the Data Collection Notebook
* Granite Reef Wash Drainage Master Plan (Entellus April 2002).
*
* DDM   ***** Preserved *****

337     KK    DE04
338     DT   DE04I
339     DI       0       3      31      59      91     126     151     184     222     267
340     DQ       0       0       0       0       0       0       3       9      18      30
*
```

```
                 *
                 * DDM   ***** Preserved *****

 341             KK   DUMMY
 342             HC       3
                 *

 343             KK     E08   BASIN
 344             BA   0.031
 345             LG    0.24    0.25    4.80    0.35      51
 346             UC   0.488   0.531
 347             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 348             UA     100
                 *
                 *
                 *
                 * Route is a Minor Arterial Road with a wall on the west side.
                 *
1                                          HEC-1 INPUT                                          PAGE 15

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 349             KK    RE08
 350             RS       5    FLOW       0
 351             RC   0.035   0.015   0.035    1326  0.0029
 352             RX       0       1      19      25      30      49      79      80
 353             RY      10     1.5       0       0       0       0     1.5       8
                 *
                 *

 354             KK     E06   BASIN
 355             BA   0.036
 356             LG    0.24    0.25    4.80    0.36      53
 357             UC   0.500   0.548
 358             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 359             UA     100
                 *

 360             KK    CE06
 361             KM        CAMELBACK ROAD AND PIMA FRONTAGE ROAD
 362             HC       2
                 *
                 *

 363             KK    RE06
 364             RS      13    FLOW       0
 365             RC   0.035   0.015   0.035     618  0.0014
 366             RX       0       1      19      25      30      49      79      80
 367             RY      10     1.5       0       0       0       0     1.5       8
                 *
                 *
                 * DIVERSION RECALL DE05
                 *

 368             KK  DRDE05
 369             DR   DE05I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
                 *

 370             KK   RDE05
 371             RS       2    FLOW       0
 372             RC   0.035   0.015   0.035     100  0.0020
 373             RX       0       1      26      27      62      63      88      89
 374             RY       8       3       2       0       0       2       3       8
                 *
                 * *** DIVERSION DE052   ****************************************************
                 *
                 *  THIS DIVERSION IS AT CAMELBACK ROAD AND 86TH ST.
                 *  THE MAIN PATH IS SOUTH ON 86TH ST.
                 *  DIVERSION RECALL DE052 MODIFIED (7/2/08 SB)
1                                          HEC-1 INPUT                                          PAGE 16

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 375             KK   DE052
 376             KM   MODIFIED (7/2/08 SB) BASED ON FLOW SPLIT ANALYSIS
 377             DT  DE052I
 378             DI       0       1      50     100     200     300     400     500    1000    2000
 379             DQ       0       1      18      35      70     105     140     175     350     700
                 *
                 *
                 * Route is a Major Arterial Road (E CAMELBACK RD).
                 *

 380             KK  RE052E
 381             RS       6    FLOW       0
 382             RC   0.035   0.015   0.035    1506  0.0021
 383             RX       0       1      26      27      62      63      88      89
 384             RY       8       2       1     0.5     0.5       1       2       8
                 *
```

```
                 *
                 * DDM   ***** Preserved *****

385              KK   CE06B
386              KM        CAMELBACK ROAD AND PIMA FRONTAGE ROAD
387              HC       2
                 *
                 *
                 *
                 * Route is a Minor Arterial Road with a wall on the west side.
                 *

388              KK   RE06B
389              RS      13    FLOW       0
390              RC   0.035   0.015   0.035    2025  0.0014
391              RX       0       1      19      25      30      49      79      80
392              RY      10     1.5       0       0       0       0     1.5       8
                 *

393              KK     E03   BASIN
394              BA   0.070
395              LG    0.23    0.25    4.80    0.36      53
396              UC   0.917   1.373
397              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
398              UA     100
                 *
                 *
                 * DIVERSION RECALL DF07
                 *

399              KK   DRF07
400              DR   DF07I
                 *
                 * Route is a minor arterial along Pima Rd.
                 *
```



```
LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

401              KK   RF07S
402              RS       7    FLOW       0
403              RC   0.035   0.015   0.035    5280  0.0023
404              RX       0       1      40      41     104     105     145     146
405              RY       8       3     1.5     .75    0.75     1.5       3       8
                 *
                 *
                 *

406              KK     E09   BASIN
407              KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
408              BA   0.223
409              LG    0.10    0.29    2.65    1.70      80
410              UC   0.546   0.446
411              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
412              UA     100
                 *
                 *
                 * *** STORAGE ROUTING LE09 ***********************************************
                 *
                 * See the detention calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 * DDM   ***** Preserved *****

413              KK    LE09
414              DT   LE09D    13.6
415              DI       0     100    1000   10000
416              DQ       0     100    1000   10000
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF07.
                 * THE HARD-CODE VALUE IS 90% OF CF07'S CONTRIBUTING AREA.
                 * SEE DIVERSION DF07.
                 *
                 * DDM   ***** Preserved *****

417              KK    CE09
418              KM        INDIAN SCHOOL ROAD AND PIMA ROAD
419              HC       2    .511
                 *
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                 * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                 * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                 * PROJECT AREA, WHICH IS 19 CFS AT THIS LOCATION.(MODIFIED TO 28 CFS BY PSOMAS)
                 *
                 * 20% clogging factor means 15cfs, (19cfs * 0.8 = 15cfs).(MODIFIED TO 22 CFS
                 * BY PSOMAS)
                 * THE PROPOSED ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
                 * THE FLOW WILL THEN BE DOUBLED TO 30cfs.(MODIFIED TO 45 CFS BY PSOMAS)
                 *
                 * ALL OVERLAND FLOW CONTINUES SOUTH AT THIS DIVERSION LOCATION.
                 *
                 * *** DIVERSION DE09 *****************************************************
```

```
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 18

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 420            KK    DE09
 421            KM        MODIFIED (2/14/07 RAK)
 422            DT   DE09I
 423            DI       0       1      50     100     200     300     400     500    1000    2000
                * ***DQ     0       1      20      70     170     270     370     470     970
 424            DQ       0       1       5      55     155     255     355     455     955    1955
                *
                *
                *
                * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
                * PSOMAS BASED ON DIBBLE PLANS)
                * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
                *

 425            KK   RE09W
 426            KM        MODIFIED (2/14/07 RAK)
                * ***RK   779  0.0009   0.013            CIRC     8.5
 427            RK     779  0.0011   0.013            CIRC     8.5
                *
                *
                *
                * ***DIVERSION RECOVER DE05 (MODIFIED 7/2/08 SB)
                *
                * ***KKDRE05I
                * ***DR DE05I
                *
                *
                * Route is a Minor Arterial Road.
                *
                * ***KK RE05S
                * ***RS     6    FLOW       0
                * ***RC 0.035   0.015   0.035    3053  0.0021
                * ***RX     0       1      26      27      62      63      88      89
                * ***RY     8       2       1     0.5     0.5       1       2       8
                *
                *
                * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSIONS DE05 & DE09.
                * THE HARD-CODE VALUE IS 95% OF CE05 AND 10% OF CE09'S CONTRIBUTING AREA.
                * SEE DIVERSION DE05 AND DE09.
                *
                * DDM   ***** Preserved *****

 428            KK    CE03
 429            KM        INDIAN SCHOOL ROAD AND PIMA FRONTAGE ROAD
                * ***HC     4    .858 (MODIFIED 7/2/08 SB)
 430            HC       3    .491
                *
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                *
                * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                * PROJECT AREA, WHICH IS 38cfs AT THIS LOCATION.(MODIFIED TO 56 CFS BY PSOMAS)
                *
                * 20% clogging factor means that 31cfs (38.4 cfs * 0.8 = 31cfs) (MODIFIED TO
                * 45 CFS BY PSOMAS)
                * THE ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
                * THE FLOW WILL THEN BE DOUBLED TO 62cfs.(MODIFIED TO 90 CFS BY PSOMAS)
                *
                * ALL OVERLAND FLOWS CONTINUE SOUTH.
                *
                * *** DIVERSION DE03 ********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 19

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 431            KK    DE03
 432            KM        MODIFIED (2/14/07 RAK)
 433            DT   DE03I
 434            DI       0       1      50     100     200     300     400     500    1000    2000
                * ***DQ     0       1       5      38     138     238     338     438     938
 435            DQ       0      .1       2      10     110     210     310     410     910    1910
                *
                *
                * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
                * PSOMAS BASED ON DIBBLE PLANS)
                * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
                *
```

```
                *
436             KK   RE03W
437             KM        MODIFIED (2/14/07 RAK)
                * ***RK  1504  0.0009    0.02            CIRC     8.5
438             RK    1504  0.0011    0.02            CIRC     8.5                        5
                *

439             KK     E02   BASIN
440             BA   0.149
441             LG    0.24    0.25    4.80    0.37      50
442             UC   0.683   0.539
443             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
444             UA     100
                *
                * DIVERSION RECOVER DE052
                *
445             KM        MODIFIED (7/2/08 SB) BASED ON FLOW SPLIT ANALYSIS

446             KK  RDE052
447             DR  DE052I
                *
                * Route is a Minor Arterial Road (N 86TH ST).
                *

448             KK  RE052S
449             RS       6    FLOW       0
450             RC   0.035   0.015   0.035    3053  0.0021
451             RX       0       1      26      27      62      63      88      89
452             RY       8       2       1     0.5     0.5       1       2       8
                *
                * THE CONTRIBUTING AREA IS HARD-CODED DUE TO DIVERSION DE03.
                * THE HARD-CODE VALUE IS 5% OF CE03'S CONTRIBUTING AREA.
                * SEE DIVERSION DE03.
                *
                * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                                PAGE 20

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


453             KK    CE02
454             KM        INDIAN SCHOOL ROAD AND 86TH STREET
                * ***HC      2    .183 (MODIFIED 7/2/08 SB)
455             HC       3    .503
                *
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                *
                * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                * PROJECT AREA, 58cfs AT THIS LOCATION.(MODIFIED TO 84 CFS BY PSOMAS)
                *
                * 20% clogging factor means 46cfs (58cfs * 0.8 = 46cfs).(MODIFIED TO 67 CFS
                * BY PSOMAS)
                * THE 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE
                * THIS DOUBLES THE FLOW TO 92cfs.(MODIFIED TO 134 CFS BY PSOMAS)
                *
                * ALL OVERLAND FLOW CONTINUES SOUTH.
                *
                * *** DIVERSION DE02 ********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****

456             KK    DE02
457             KM        MODIFIED (2/14/07 RAK)
458             DT   DE02I
459             DI       0       1      50     100     200     300     400     500    1000    2000
                * ***DQ     0      .1       2       8     108     208     308     408     908
460             DQ       0      .1       2       4      66     166     266     366     866    1866
                *
                *
                * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
                * PSOMAS BASED ON DIBBLE PLANS)
                * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
                *

461             KK   RE02W
462             KM        MODIFIED (2/14/07 RAK)
                * ***RD   355  0.0009    0.02            CIRC     8.5
463             RD     355  0.0011    0.02            CIRC     8.5
                *

464             KK     E01   BASIN
465             BA   0.058
466             LG    0.20    0.25    4.80    0.38      60
467             UC   0.492   0.494
468             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
469             UA     100
                *
                *
```

```
                 * DIVERSION RECOVER DE04
                 *
1                                    HEC-1 INPUT                                                    PAGE 21

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 470             KK  DRE04I
 471             DR   DE04I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 472             KK   RE04S
 473             RS       1    FLOW       0
 474             RC   0.035   0.015   0.035    2636  0.0026
 475             RX       0       1      26      27      62      63      88      89
 476             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSIONS DE04 & DE02.
                 * THE HARD-CODE VALUE IS 100% OF CE04 AND 25% OF CE02'S CONTRIBUTING AREA.
                 * SEE DIVERSION DE04 AND DE02.
                 *
                 * DDM   ***** Preserved *****

 477             KK    CE01
 478             KM        INDIAN SCHOOL ROAD AND GRANITE REEF ROAD
 479             HC       3   .1656
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 *
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                 * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                 * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                 * PROJECT AREA, 76.8 cfs AT THIS LOCATION.(MODIFIED TO 112 CFS BY PSOMAS)
                 *
                 * 20% clogging factor means 61cfs (76.8cfs * 0.8 = 61.4 cfs) (MODIFIED TO
                 * 90 CFS BY PSOMAS)
                 * THE ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
                 * THE FLOW WILL THEN BE DOUBLED TO 123cfs.(MODIFIED TO 179 CFS BY PSOMAS)
                 *
                 * THIS DIVERSION IS STORMDRAIN ONLY, ALL OVERLAND FLOW IS SOUTH.
                 *
                 * *** DIVERSION DE01 ********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 480             KK    DE01
 481             KM        MODIFIED (2/14/07 RAK)
 482             DT   DE01I
 483             DI       0       1      50     100     200     300     400     500    1000    2000
                 * ***DQ     0      .1       2       4      77     177     277     377     877
 484             DQ       0      .1       2       4      21     121     221     321     821    1821
                 *
                 * DIVERSION RECALL E01
                 *
1                                    HEC-1 INPUT                                                    PAGE 22

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 485             KK   DRE01
 486             DR   DE01I
                 *
                 *
                 * Route is a Subdivision Road.
                 *

 487             KK   RE01S
 488             RS       9    FLOW       0
 489             RC   0.035   0.015   0.035    2567  0.0032
 490             RX       0       1      28      29      57      58      86      87
 491             RY       8       2       1     0.5     0.5       1       2       8
                 *

 492             KK     D05   BASIN
 493             KM
 494             KM    This basin's original area was 0.168 sq mi.  The infield area is bermed
 495             KM    so it is self-detained.  The infield area (0.01 sq mi) was subtracted
 496             KM    from the subbasin calculations to account for the storage.
 497             KM
 498             BA   0.158
 499             LG    0.23    0.25    4.80    0.38      51
 500             UC   0.692   0.540
 501             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 502             UA     100
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE01.
                 * THE HARD-CODE VALUE IS 70% OF CE01'S CONTRIBUTING AREA.
```

```
                 * SEE DIVERSION DE01.
                 *
                 * DDM   ***** Preserved *****

 503             KK    CD05
 504             KM        OSBORN ROAD AND GRANITE REEF ROAD
 505             HC       2   0.284
                 *
                 * *** DIVERSION DD05 ***********************************************************
                 *
                 *  THIS DIVERSION IS AT GRANITE REEF ROAD AND OSBORN ROAD.
                 *  THE MAIN PATH IS SOUTH ON GRANITE REEF ROAD.
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 506             KK    DD05
 507             KM        MODIFIED (5/1/07 RAK) BASED ON FLOW SPLIT ANALYSIS
 508             DT   DD05I
                 * ***DI     0       5      16      50      93     112     174     217     270
 509             DI       0       6      21      34      52      73      99     130     166     231
                 * ***DQ     0       2       8      25      47      58      95     121     154
 510             DQ       0       0       1       3       7      13      19      28      38      57
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
1                                          HEC-1 INPUT                                          PAGE 23

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 511             KK   RD05S
 512             KM        MODIFIED (5/7/07 RAK) TO REPRESENT FLOW FROM OSBORN RD TO EARLL DR
 513             KM        ALONG GRANITE REEF RD
                 * ***RS     8    FLOW       0
                 * ***RC 0.035   0.015   0.035    2669  0.0026
 514             RS       4    FLOW       0
 515             RC   0.035   0.015   0.035    1320  0.0026
 516             RX       0       1      26      27      62      63      88      89
 517             RY       8       2       1     0.5     0.5       1       2       8
                 *

 518             KK     D13   BASIN
 519             KM        CREATED (5/7/07 RAK) TO REPRESENT SUBBASIN FLOW TO CD13
 520             BA   0.044
 521             LG    0.24    0.25    4.80    0.35      46
 522             UC   0.557   0.605
 523             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 524             UA     100
                 *

 525             KK    CD13
 526             KM        CREATED (5/7/07 RAK) TO REPRESENT THE CONCENTRATION POINT LOCATED AT
 527             KM        EARLL DRIVE AND GRANITE REEF ROAD
 528             HC       2   0.259
                 *

 529             KK    DD13
 530             KM        CREATED (5/7/07 RAK) BASED ON FLOW SPLIT ANALYSIS
 531             DT   DD13I
 532             DI       0       2      13      37      83     150     240
 533             DQ       0       0       7      23      48      85     134
                 *

 534             KK   RD13S
 535             KM        CREATED (5/7/07 RAK) TO REPRESENT FLOW FROM EARLL DR TO THOMAS RD
 536             KM        ALONG GRANITE REEF RD
 537             RS       4    FLOW       0
 538             RC   0.035   0.015   0.035    1349  0.0026
 539             RX       0       1      26      27      62      63      88      89
 540             RY       8       2       1     0.5     0.5       1       2       8
                 *

 541             KK     D04   BASIN
 542             KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED 1' CONTOUR MAPPING
                 * ***BA 0.060
                 * ***LG  0.23    0.25    4.80    0.36      53
                 * ***UC 0.638   0.762
 543             BA   0.013
 544             LG    0.24    0.25    4.80    0.35      46
 545             UC   0.443   0.624
 546             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 547             UA     100
                 *
                 * *** CD04 IS LOCATED AT THOMAS ROAD AND 82ND STREET ***************************
                 *
                 * Route is a Major Arterial Road.
                 *
1                                          HEC-1 INPUT                                          PAGE 24

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
548          KK    RD04
549          RS       2    FLOW       0
550          RC   0.035   0.015   0.035    1084  0.0018
551          RX       0       1      40      41     104     105     145     146
552          RY       8       3     1.5     .75    0.75     1.5       3       8
             *

553          KK     D01   BASIN
554          KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED 1' CONTOUR MAPPING AND ADDITIONAL
555          KM        CONCENTRATION POINT
             * ***BA 0.082
             * ***LG  0.24    0.25    4.80    0.36      53
             * ***UC 0.667   0.622
556          BA   0.081
557          LG    0.24    0.25    4.80    0.35      47
558          UC   0.728   0.911
559          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
560          UA     100
             *
             * DDM   ***** Preserved *****

561          KK    CD01
562          KM        THOMAS ROAD AND GRANITE REEF ROAD
563          HC       3   0.208
             *
             *
             *
             * *** DIVERSION DD01 ********************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

564          KK    DD01
565          KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED ON FLOW SPLIT ANALYSIS
566          DT   DD01I
             * ***DI     0       9      28      89     168     259     392     475     568
             * ***DQ     0       4      13      41      73     104     152     182     217
567          DI       0      21      22      27      44      96     173     267
568          DQ       0       0       2       6      20      39      65      98
             *
             *
             *
             * Route is a Major Arterial Road.
             *

569          KK   RD01E
570          RS       1    FLOW       0
571          RC   0.035   0.015   0.035    1315  0.0024
572          RX       0       1      40      41     104     105     145     146
573          RY       8       3     1.5     .75    0.75     1.5       3       8
             *
             *
             * DIVERSION RECALL D05
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          KK   DRD05
575          DR   DD05I
             *
             *
             * Route is a Minor Arterial Road.
             *
             *

576          KK   RD05E
577          RS       2    FLOW       0
578          RC   0.035   0.015   0.035     560  0.0018
579          RX       0       1      26      27      62      63      88      89
580          RY       8       3       2       0       0       2       3       8
             *
             * *** DIVERSION DD052   ******************************************************
             *
             *  THIS DIVERSION IS AT GRANITE REEF ROAD AND MULBERRY.
             *  THE MAIN PATH IS SOUTH ON MULBERRY.
             *  SEE APPENDIX D FOR DIVERSION CALCULATIONS.
             *
             * DDM   ***** Preserved *****

581          KK   DD052
582          KM        MODIFIED (5/1/07 RAK) BASED ON FLOW SPLIT ANALYSIS
583          DT  DD052I
             * ***DI     0      37      44      59      80     110     147     178     222
584          DI       0       5       8      13      26      44      68      97     132     173
             * ***DQ     0      37      40      47      58      74      95     122     155
585          DQ       0       5       8      10      20      33      50      69      93     120
             *
             *
             * Route is a Subdivision Road. (MULBERRY)
             *
             * ***KKRD05S2
```

```
                * ***RS      1    FLOW        0
                * ***RC 0.035   0.015   0.035    3035  0.0030
                * ***RX     0       1      28      29      57      58      86      87
                * ***RY     8       2       1     0.5     0.5       1       2       8
                *

586             KK  RD05S2
587             KM        MODIFIED (2/14/07 RAK) TO ROUTE TO EARLL DR & 86TH ST
588             RS       2    FLOW        0
589             RC   0.035   0.015   0.035    1705  0.0032
590             RX       0       1      28      29      57      58      86      87
591             RY       8       2       1     0.5     0.5       1       2       8
                *
                *
                * ***KK   D02   BASIN
                * ***BA 0.139
                * ***LG  0.23    0.25    4.80    0.36      51
                * ***UC 0.592   0.457
                * ***UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0
                * ***UA   100
                *
                *
                * ***THE CONTRIBUTING AREA WAS HARD-CODED BECAUSE OF DIVERSION DD01 & DD052.
                * ***THE HARD-CODE VALUE IS 60% OF CD01 AND 40% OF DD052'S CONTRIBUTING AREA.
                * ***SEE DIVERSION DD01 AND DD052.
                *
                * ***DDM   ***** Preserved *****
                * ***KK  CD02
                * ***HC     3   0.361
                *
                *
                * ***Route is a Major Arterial Road.
                *
                * ***KK  RD02
                * ***RS     2    FLOW        0
                * ***RC 0.035   0.015   0.035    1063  0.0045
                * ***RX     0       1      40      41     104     105     145     146
                * ***RY     8       3     1.5     .75    0.75     1.5       3       8
                *
                *
                * DIVERSION RECALL E02
                *
```



```
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

592             KK   DRE02
593             DR   DE02I
                *
                *
                * Route is a Subdivision Road.
                *

594             KK   RE02S
595             RS       6    FLOW        0
596             RC   0.035   0.015   0.035    2617  0.0028
597             RX       0       1      28      29      57      58      86      87
598             RY       8       2       1     0.5     0.5       1       2       8
                *
                *
                * DIVERSION RECALL D052
                *

599             KK  DRD052
600             DR  DD052I
                *
                *
                * Route is a Minor Arterial Road.
                *
                *

601             KK  RD05E2
602             RS       1    FLOW        0
603             RC   0.035   0.015   0.035     767  0.0013
604             RX       0       1      26      27      62      63      88      89
605             RY       8       3       2       0       0       2       3       8
                *
                *

606             KK     D06   BASIN
607             BA   0.109
608             LG    0.24    0.25    4.80    0.35      52
609             UC   0.671   0.602
610             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
611             UA     100
                *
                * THE CUMMALATIVE AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE02 & DD052.
                * THE HARD-CODE VALUE IS 80% OF CE02 AND 60% OF DD052'S CONTRIBUTING AREA.
                * SEE DIVERSION DE02 AND DD052.
                *
                * DDM   ***** Preserved *****

612             KK    CD06
613             KM        OSBORN ROAD AND 86TH STREET
```

```
614          HC       3   0.254
             *
1                                        HEC-1 INPUT                                                    PAGE 27

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


615          KK    DD06
616          KM        CREATED (4/17/07 RAK) TO REPRESENT THE FLOW SPLIT AT OSBORN RD & THE
617          KM        86TH ST ALLEY
618          DT   DD06I
619          DI       0     1.4    12.3    44.8    98.6   169.5   255.6   356.7   432.3
620          DI   517.1   566.1   616.9
621          DQ       0    0.75     2.3     9.8    26.6    50.4    81.7   121.1   152.2
622          DQ   190.1   214.8   240.7
             *
             * ***Route is a Minor Arterial Road.
             *
             *
             * ***KK  RD06
             * ***RS     1    FLOW       0
             * ***RC 0.035   0.015   0.035     609  0.0033
             * ***RX     0       1      26      27      62      63      88      89
             * ***RY     8       3       2       0       0       2       3       8
             *

623          KK   RD06S
624          KM        * MODIFIED (2/14/07 RAK) TO REROUTE TO EARLL DR & 86TH ST PER FIELD
625          KM        * VISIT, MAPPING & CONVERSATION WITH LOCAL RESIDENTS
626          KM        MODIFIED (4/17/07 RAK) TO BE THE SOUTHERN ROUTE OF THE FLOW SPLIT
627          RS       1    FLOW       0
628          RC   0.035   0.015   0.035    1310  0.0030
629          RX       0       1      26      27      45      46      71      72
630          RY       8       3       2     0.5     0.5       2       3       8
             *

631          KK   DRD13
632          DR   DD13I
             *

633          KK   RD13E
634          KM        CREATED (5/7/07 RAK) TO REPRESENT FLOW FROM GRANITE REEF RD TO 86TH ST
635          KM        ALONG EARLL DR
636          RS       4    FLOW       0
637          RC   0.035   0.015   0.035    1310  0.0024
638          RX       0       1      26      27      62      63      88      89
639          RY       8       2       1     0.5     0.5       1       2       8
             *

640          KK    D02A   BASIN
641          KM        CREATED (2/14/07 RAK) USING DDMS-W TO REPRESENT PORTION OF SUBBASIN D02
642          KM        NORTH OF EARLL DR
643          BA    0.07
644          LG    0.23    0.25    4.80    0.36      51
645          UC   0.471   0.379
646          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
647          UA     100
             *
1                                        HEC-1 INPUT                                                    PAGE 28

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


648          KK    CD10
649          KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DRIVE AND 86TH STREET
650          HC       4   0.258
             *

651          KK    DD10
652          KM        CREATED (2/14/07 RAK) TO REPRESENT THE FLOW SPLIT AT EARLL DR & 86TH ST
653          KM        1/3 TO THE SOUTH AND 2/3 TO THE EAST
654          KM        MODIFIED (4/17/07 RAK) BASED ON FLOW SPLIT ANALYSIS
655          DT   DD10I
             * ***DI     0      15      30      60     120     240     480     960
656          DI       0     1.6     9.2    34.4   115.1   208.7   349.6   542.5
             * ***DQ     0      10      20      40      80     160     320     640
657          DQ       0     1.6     5.9    12.5    52.0    84.3   142.6   229.1
             *

658          KK   RD10S
659          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW SOUTH ALONG 86TH ST
660          RS       2    FLOW       0
661          RC   0.035   0.015   0.035    1320  0.0030
662          RX       0       1      28      29      57      58      86      87
663          RY       8       2       1     0.5     0.5       1       2       8
             *

664          KK    D02B   BASIN
665          KM        CREATED (2/14/07 RAK) USING DDMS-W TO REPRESENT PORTION OF SUBBASIN D02
666          KM        SOUTH OF EARLL DR
667          BA    0.07
668          LG    0.23    0.25    4.80    0.36      51
669          UC   0.504   0.452
670          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
671          UA     100
```

```
                *
 672            KK    CD02
 673            KM        THOMAS ROAD AND 86TH STREET
 674            HC       3   0.351
                *

 675            KK    DD02
 676            KM        CREATED (5/8/07 RAK) BASED ON UPDATED ON FLOW SPLIT ANALYSIS
 677            DT   DD02I
 678            DI       0      46      55      70     101     153     260     391     492
 679            DQ       0       0       1       3      11      25      46      73      96
                *

 680            KK   RD02E
 681            RS       2    FLOW       0
 682            RC   0.035   0.015   0.035    1063  0.0045
 683            RX       0       1      40      41     104     105     145     146
 684            RY       8       3     1.5     .75    0.75     1.5       3       8
                *
1                                          HEC-1 INPUT                                                    PAGE 29

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 685            KK     D07   BASIN
 686            KO       3
 687            BA   0.049
 688            LG    0.25    0.25    4.80    0.35      51
 689            UC   0.508   0.576
 690            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 691            UA     100
                *

 692            KK   DRD06
 693            KM        CREATED (4/17/07 RAK)
 694            DR   DD06I
                *

 695            KK   RD06E
 696            KM        CREATED (4/17/07 RAK) TO REPRESENT FLOW EAST ALONG OSBORN RD
 697            RS       1    FLOW       0
 698            RC   0.035   0.015   0.035     609  0.0033
 699            RX       0       1      26      27      62      63      88      89
 700            RY       8       3       2       0       0       2       3       8
                *
                * DDM   ***** Preserved *****

 701            KK    CD07
 702            KM        OSBORN ROAD AND 87TH STREET
 703            HC       2   0.133
                *
                *
                * Route is a Minor Arterial Road.
                *

 704            KK    RD07
 705            RS       2    FLOW       0
 706            RC   0.035   0.015   0.035    1330  0.0025
 707            RX       0       1      26      27      62      63      88      89
 708            RY       8       2       1     0.5     0.5       1       2       8
                *

 709            KK   DRD10
 710            KM        CREATED (2/14/07 RAK)
 711            DR   DD10I
                *

 712            KK   RD10E
 713            KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW EAST IN RESIDENTIAL CHANNEL
 714            KM        ALONG EARLL DR
 715            RS       1    FLOW       0
 716            RC   0.035   0.015   0.035     420  0.0048
 717            RX       0       1      26      46      52      60      85      86
 718            RY       8       3       2       2       0       3       4       8
                *
1                                          HEC-1 INPUT                                                    PAGE 30

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 719            KK    CD11
 720            KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DR AND 87TH ST
 721            HC       2   0.240
                *

 722            KK    RD11
 723            KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW EAST IN THE ALLEY (EARLL DR)
 724            RS       1    FLOW       0
 725            RC   0.035   0.015   0.035     835  0.0048
 726            RX       0       1      26      46      52      60      85      86
 727            RY       8       3       2       2       0       3       4       8
                *
                * ***DIVERSION RECALL DE03 MODIFIED (7/17/08 SB)
                *
```

```
                * ***KK DRE03
                * ***DR DE03I
                *
                *
                * DIVERSION RECOVER DE03 MODIFIED (7/17/08 SB)
                *

 728            KK  DRE03S
 729            DR   DE03I
                *
                *
                * DIVERSION RECOVER DE09 MODIFIED (7/17/08 SB)
                *

 730            KK  DRE09S
 731            DR   DE09I
                *
                *
                *
                * ADDED TO ACCOUNT FOR COMBINING OF FLOW FROM PIMA FRONTAGE ROAD
                * AND PIMA ROAD AT NORTH SIDE OF INDIAN SCHOOL ROAD (7/17/08 SB).

 732            KK    CE10
 733            HC       2   1.002
                *
                * *** DIVERSION DE10 ********************************************************
                * ADDED TO ACCOUNT FOR SPLIT OF COMBINED FLOWS FROM BEHIND PIMA FRONTAGE ROAD AN
                * ALONG PIMA ROAD AT SOUTH SIDE OF INDIAN SCHOOL ROAD.

 734            KK    DE10
 735            KM        MODIFIED (7/17/08 SB)
 736            DT   DE10I
 737            DI       0       1      50     100     200     300     400     500    1000    2000
 738            DQ       0       1      32      65     130     195     260     325     650    1300
                *
                * Route is a Subdivision Road.
                *
```



```
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 739            KK  RE10SW
 740            RS       6    FLOW       0
 741            RC   0.035   0.015   0.035    3444  0.0032
 742            RX       0       1      28      29      57      58      86      87
 743            RY       8       2       1     0.5     0.5       1       2       8
                *
                *

 744            KK     D08   BASIN
 745            BA   0.054
 746            LG    0.24    0.25    4.80    0.36      53
 747            UC   0.658   0.955
 748            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 749            UA     100
                *
                *
                * THE CUMMALATIVE AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE03.
                * THE HARD-CODE VALUE IS 95% OF CE03'S CONTRIBUTING AREA.
                * SEE DIVERSION DE03.
                *
                * DDM   ***** Preserved *****

 750            KK    CD08
 751            KM        OSBORN ROAD AND PIMA FRONTAGE ROAD
                * ***HC     2   0.877 (MODIFIED 7/2/08 SB)
 752            HC       2   0.455
                *
                *
                * Route is a Minor Arterial Road with a wall on the west side.
                *

 753            KK    RD08
 754            RS       1    FLOW       0
 755            RC   0.035   0.015   0.035    1290  0.0039
 756            RX       0       1      19      25      30      49      79      80
 757            RY      10     1.5       0       0       0       0     1.5       8
                *

 758            KK    D03A
 759            KM        CREATED (2/14/07 RAK) TO REPRESENT SUB BASIN D03 NORTH OF EARLL DR
 760            BA   0.052
 761            LG    0.20    0.25    4.50    0.45      52
 762            UC   0.471   0.497
 763            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 764            UA     100
                *

 765            KK    CD12
 766            KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DR AND PIMA FRONTAGE RD
 767            HC       3
                *
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 768          KK    RD12
 769          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW SOUTH ALONG TRAIL (PIMA RD)
 770          RS       2    FLOW       0
 771          RC   0.035   0.015   0.035    1500  0.0027
 772          RX       0       1      19      25      30      49      79      80
 773          RY      10     1.5       0       0       0       0     1.5       8
              *
              *
              * ***KK   D03   BASIN
              * ***BA 0.103
              * ***LG  0.20    0.25    4.50    0.45      52
              * ***UC 0.613   0.608
              * ***UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0
              * ***UA   100
              *
              *
              * DIVERSION RECOVER DE10
              *

 774          KK  RDE10I
 775          DR   DE10I
              *
              * ***
              * ***DIVERSION RECOVER DE09 MODIFIED (7/17/08 SB)
              *
              * ***KKDRE09I
              * ***DR DE09I
              *
              *
              * Route is a Minor Arterial Road along Pima Rd.
              *

 776          KK  RE10SE
 777          RS       7    FLOW       0
 778          RC   0.035   0.015   0.035    5501  0.0037
 779          RX       0       1      26      27      62      63      88      89
 780          RY       8       2       1     0.5     0.5       1       2       8
              *
              *

 781          KK     D09   BASIN
 782          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
 783          BA   0.216
 784          LG    0.10    0.29    2.65    1.70      80
 785          UC   0.463   0.379
 786          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 787          UA     100
              *
              *
              * *** STORAGE ROUTING LD09 ***********************************************
              *
              * See the detention calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 788          KK    LD09
 789          DT   LD09D    13.6
 790          DI       0     100    1000   10000
 791          DQ       0     100    1000   10000
              *
              *
              * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSION DE09.
              * THE HARD-CODE VALUE IS 90% OF CE09'S CONTRIBUTING AREA.
              * SEE DIVERSION DE09.
              *
              * DDM   ***** Preserved *****

 792          KK    CD09
 793          KM        THOMAS ROAD AND PIMA ROAD
 794          HC       2   0.817
              *
              *

 795          KK    D03B
 796          KM        CREATED (2/14/07 RAK) TO REPRESENT SUB BASIN D03 SOUTH OF EARLL DR
 797          BA   0.052
 798          LG    0.20    0.25    4.50    0.45      52
 799          UC   0.500   0.514
 800          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 801          UA     100
              *
              *
              * DDM   ***** Preserved *****

 802          KK    CD03
 803          KM        THOMAS ROAD AND 87TH STREET
 804          HC       4   2.191
              *
```

```
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 805             KK    RD03
 806             RS       1    FLOW       0
 807             RC   0.035   0.015   0.035    1307   0.004
 808             RX       0       1      26      27      62      63      88      89
 809             RY       8       2       1     0.5     0.5       1       2       8
                 *

 810             KK     C11   BASIN
 811             BA   0.050
 812             LG    0.25    0.25    4.40    0.45      49
 813             UC   0.358   0.322
 814             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 815             UA     100
                 *
1                                          HEC-1 INPUT                                                PAGE 34

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 816             KK     C10   BASIN
 817             BA   0.054
 818             LG    0.25    0.25    4.65    0.38      50
 819             UC   0.433   0.409
 820             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 821             UA     100
                 *

 822             KK   DRD02
 823             DR   DD02I
                 *

 824             KK   RD02S
 825             KM        CREATED (5/8/07 RAK) TO REPRESENT FLOW FROM GRANITE REEF RD TO 86TH ST
 826             KM        ALONG EARLL DR
 827             RS       4    FLOW       0
 828             RC   0.035   0.015   0.035    1329  0.0036
 829             RX       0       1      26      27      62      63      88      89
 830             RY       8       2       1     0.5     0.5       1       2       8
                 *

 831             KK    CC10
 832             KM        CREATED (5/8/07 RAK) TO REPRESENT VIRGINIA AVE AND 86TH ST
 833             HC       2   0.121
                 *
                 * Route is a Minor Arterial Road.
                 *

 834             KK    RC10
 835             RS       1    FLOW       0
 836             RC   0.035   0.015   0.035     688   0.009
 837             RX       0       1      26      27      62      63      88      89
 838             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * DDM   ***** Preserved *****

 839             KK    CC11
 840             KM        VIRGINIA AVENUE AND 87TH STREET
 841             HC       3
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
                 *

 842             KK    RC11
 843             RS       1    FLOW       0
 844             RC   0.035   0.015   0.035    1334  0.0015
 845             RX       0       1      26      27      62      63      88      89
 846             RY       8       2       1     0.5     0.5       1       2       8
                 *
1                                          HEC-1 INPUT                                                PAGE 35

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 847             KK     C08   BASIN
 848             BA   0.118
 849             LG    0.25    0.25    4.40    0.45      51
 850             UC   0.588   0.434
 851             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 852             UA     100
                 *
                 * DDM   ***** Preserved *****

 853             KK    CC08
 854             KM        OAK STREET AND 87TH STREET
 855             HC       2
                 *
                 *
```

```
                *
                * Route is a Minor Arterial Road.
                *

 856            KK    RC08
 857            RS       4    FLOW       0
 858            RC   0.035   0.015   0.035    2205  0.0026
 859            RX       0       1      26      27      62      63      88      89
 860            RY       8       2       1     0.5     0.5       1       2       8
                *

 861            KK     C06   BASIN
 862            KM
 863            KM    This basin's original area was 0.162 sq mi.  The infield area is bermed
 864            KM    so it is self-detained.  The infield area (0.0095 sq mi) was subtracted
 865            KM    from the subbasin calculations to account for the storage.
 866            KM
 867            BA   0.153
 868            LG    0.23    0.25    4.30    0.49      52
 869            UC   0.554   0.435
 870            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 871            UA     100
                *
                * DDM   ***** Preserved *****

 872            KK    CC06
 873            KM        CORONADO ROAD AND 87TH STREET
 874            HC       2
                *
                *
                *
                * This is a channel.
                *

 875            KK    RC06
 876            RS       1    FLOW       0
 877            RC    0.04   0.035    0.04    1271  0.0056
 878            RX       0       1      30      40      70      80     110     111
 879            RY      20      10       8       0       0       8      10      20
                *
                *
                * DIVERSION RECALL D01
                *
```



```
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 880            KK   DRDO1
 881            DR   DD01I
                *
                *
                * Route is a Minor Arterial Road.
                *

 882            KK   RD01S
 883            RS       8    FLOW       0
 884            RC   0.035   0.015   0.035    2611  0.0023
 885            RX       0       1      26      27      62      63      88      89
 886            RY       8       2       1     0.5     0.5       1       2       8
                *
                *
                *

 887            KK     C07   BASIN
 888            KO       3
 889            BA   0.072
 890            LG    0.25    0.25    4.80    0.35      50
 891            UC   0.667   0.699
 892            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 893            UA     100
                *
                *
                * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DD01.
                * THE HARD-CODE VALUE IS 40% OF CD01'S CONTRIBUTING AREA.
                * SEE DIVERSION DD01.
                *
                * DDM   ***** Preserved *****

 894            KK    CC07
 895            KM        OAK STREET AND GRANITE REEF ROAD
 896            HC       2    0.15
                *
                *
                *
                * Route is a Minor Arterial Road.
                *

 897            KK    RC07
 898            RS       6    FLOW       0
 899            RC   0.035   0.015   0.035    2638   0.003
 900            RX       0       1      26      27      62      63      88      89
 901            RY       8       2       1     0.5     0.5       1       2       8
                *
                *
```

```
902          KK     C09   BASIN
903          BA   0.057
904          LG    0.25    0.25    4.80    0.36      50
905          UC   0.596   0.646
906          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
907          UA     100
             *
             * *** CC09 IS LOCATED AT OAK STREET AND 82ND STREET ***************************
             *
             * Route is a Minor Arterial Road.
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

908          KK    RC09
909          RS       1    FLOW       0
910          RC   0.035   0.015   0.035    3368   0.003
911          RX       0       1      26      27      62      63      88      89
912          RY       8       2       1       0       0       1       2       8
             *

913          KK     C05   BASIN
914          BA   0.137
915          LG    0.23    0.25    4.70    0.37      54
916          UC   0.754   0.675
917          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
918          UA     100
             *

919          KK     C01   BASIN
920          BA   0.032
921          LG    0.22    0.25    4.80    0.37      57
922          UC   0.546   0.711
923          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
924          UA     100
             *
             * *** CC01 LOCATED AT MCDOWELL ROAD AND 82ND PLACE ****************************
             *
             * Route is a Major Arterial Road.
             *

925          KK    RC01
926          RS       8    FLOW       0
927          RC   0.035   0.015   0.035    1217  0.0013
928          RX       0       1      40      41     104     105     145     146
929          RY       8       3     1.5     .75    0.75     1.5       3       8
             *

930          KK     C02   BASIN
931          BA   0.036
932          LG    0.15    0.25    4.80    0.40      70
933          UC   0.554   0.780
934          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
935          UA     100
             *
             * DDM   ***** Preserved *****

936          KK    CC02
937          KM        MCDOWELL ROAD AND GRANITE REEF ROAD
938          HC       5    .436
             *

939          KK    DC02
940          KM        CREATED (2/26/07) TO REPRESENT THE FLOW SPLIT AT MCDOWELL ROAD AND
941          KM        GRANITE REEF ROAD
942          DT   DC02I
943          DI       0     160     186     221     268     323     384     446
944          DQ       0     0.3     4.5    11.9    24.7    40.7    59.3    78.1
             *
             *
             * Route is a Major Arterial Road.
             *
             *
             * ***KK  RC02
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

945          KK   RC02E
946          KM        MODIFIED (2/26/07)
947          RS       1    FLOW       0
948          RC   0.035   0.015   0.035     632  0.0063
949          RX       0       1      40      45     100     105     145     146
950          RY       8       3       2       0       0       2       3       8
             *

951          KK     C03   BASIN
952          BA   0.040
953          LG    0.18    0.25    4.10    0.61      62
954          UC   0.333   0.388
955          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
956          UA     100
             *
             *

957          KK     C12   BASIN
958          BA   0.010
959          LG    0.19    0.25    4.10    0.58      64
960          UC   1.500   4.505
961          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
962          UA     100
             *
             * *** CC12 LOCATED AT OAK STREET AND PIMA ROAD (WEST SIDE OF WALL) *************
             *
             * Route is a Minor Arterial Road with a wall on the west side.
             *

963          KK    RC12
964          RS      22    FLOW       0
965          RC   0.035   0.015   0.035    2693  0.0007
966          RX       0       1      19      25      30      49      79      80
967          RY      10     1.5       0       0       0       0     1.5       8
             *
             *

968          KK     C13   BASIN
969          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
970          BA   0.176
971          LG    0.10    0.35    2.65    1.70      80
972          UC   0.546   0.508
973          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
974          UA     100
             *
             * *** STORAGE ROUTING LC13 ***********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 39

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

975          KK    LC13
976          DT   LC13D    11.2
977          DI       0     100    1000   10000
978          DQ       0     100    1000   10000
             *
             *
             * DDM   ***** Preserved *****

979          KK    CC13
980          KM        MCDOWELL ROAD AND PIMA ROAD
981          HC       2
             *
             *
             * *** DIVERSION DC13 *****************************************************
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 51 CFS.
             * ALL OVERLAND FLOW CONTINUES SOUTH.
             * 20% clogging factor means 41cfs, (51cfs * 0.8 = 41cfs).
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

982          KK    DC13
983          DT   DC13I
984          DI       0      10      50     100     200     300     400     500
985          DQ       0       4      30      59     159     259     359     459
             *
             * ROUTE IS A 42" RCP WITH A SLOPE OF 0.0044 FT/FT.
             *

986          KK   RC13W
987          RS       5    FLOW      -1
988          RD    2052   0.005   0.012            CIRC     3.5
             *

989          KK     C04   BASIN
990          BA   0.044
991          LG    0.18    0.28    4.20    0.51      44
992          UC   0.650   0.830
993          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
994          UA     100
             *
             *
             *
             * Route is a Major Arterial Road.
             *

995          KK    RC04
996          RS       5    FLOW       0
997          RC   0.035   0.015   0.035    1563  0.0106
998          RX       0       1      40      41     104     105     145     146
999          RY       8       3     1.5       0       0     1.5       3       8
```

```
                    *
                    *
                    * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSION D13.
                    * THE HARD-CODE VALUE IS 20% OF CC13'S CONTRIBUTING AREA.
                    * SEE DIVERSION D13.
                    *
                    * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 40

LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1000                KK    CC03
1001                KM        MCDOWELL ROAD AND GRANITE REEF WASH
1002                HC       5    3.37
                    *
                    *
                    *
                    * This route is a channel.
                    *
1003                KK    RC03
1004                RS       2    FLOW       0
1005                RC    0.04    0.03    0.04    1097  0.0009
1006                RX       0       1      30      40      70      80     110     111
1007                RY      20      10       8       0       0       8      10      20
                    *
1008                KK     B07   BASIN
1009                BA   0.016
1010                LG    0.13    0.28    4.35    0.51      49
1011                UC   0.192   0.234
1012                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1013                UA     100
                    *
                    * DDM   ***** Preserved *****
1014                KK    CB07
1015                KM        84TH PLACE AND GRANITE REEF WASH
1016                HC       2
                    *
                    *
                    *
                    * Route is a Minor Arterial Road.
                    *
1017                KK    RB07
1018                RS       2    FLOW       0
1019                RC   0.035   0.015   0.035    1525  0.0026
1020                RX       0       1      40      41     104     105     145     146
1021                RY       8       3     1.5     .75    0.75     1.5       3       8
                    *
1022                KK     B05   BASIN
1023                BA   0.088
1024                LG    0.22    0.26    4.15    0.58      44
1025                UC   0.583   0.685
1026                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1027                UA     100
                    *
                    * *** STORAGE ROUTING LB05 ***********************************************
                    *
                    * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 41

LINE                ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1028                KK    LB05
1029                DT   LB05D    0.16
1030                DI       0     100    1000   10000
1031                DQ       0     100    1000   10000
                    *
1032                KK   DRC02
1033                KM        CREATED (2/26/07)
1034                DR   DC02I
                    *
1035                KK   RC02S
1036                KM        CREATED (2/26/07) TO REPRESENT FLOW SOUTH ALONG GRANITE REEF ROAD
1037                RS       2    FLOW       0
1038                RC   0.035   0.015   0.035    2385  0.0063
1039                RX       0       1      26      27      62      63      88      89
1040                RY       8       2       1     0.5     0.5       1       2       8
                    *
1041                KK     B06   BASIN
1042                BA   0.015
1043                LG    0.13    0.26    4.00    0.64      60
1044                UC   0.304   0.589
1045                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1046                UA     100
                    *
                    *
```

```
                * DDM   ***** Preserved *****

1047            KK    CB05
1048            KM        84TH PLACE AND GRANITE REEF ROAD
1049            HC       4
                *
                *
                *
                * Route is a Minor Arterial Road.
                * Normal Depth Routing did not work for this Route.

1050            KK    RB05
1051            RD
1052            RC   0.035    0.02   0.035     500  0.0052
1053            RX       0       1      40      51      94     105     145     146
1054            RY       8       3       2       0       0       2       3       8
                *

1055            KK     B04   BASIN
1056            BA   0.077
1057            LG    0.15    0.25    4.45    0.50      71
1058            UC   0.271   0.232
1059            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1060            UA     100
                *
                *
                * *** STORAGE ROUTING LB04 ***********************************************
                *
                * MOTOROLA DETENTION BASINS (SEE CALCULATIONS)
                *
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 42

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1061            KK    LB04
1062            DT   LB04D   12.95
1063            DI       0     100    1000   10000
1064            DQ       0     100    1000   10000
                *

1065            KK     B02   BASIN
1066            BA   0.101
1067            LG    0.15    0.25    4.70    0.41      68
1068            UC   0.363   0.335
1069            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1070            UA     100
                *
                * *** CB02 IS LOCATED AT ROOSEVELT STREET WEST OF GRANITE REEF ROAD ************
                *
                * *** STORAGE ROUTING LB02 ***********************************************
                *
                * DDM   ***** Preserved *****

1071            KK    LB02
1072            DT   LB02D    2.64
1073            DI       0     100    1000   10000
1074            DQ       0     100    1000   10000
                *
                *
                *
                * Route is a Minor Arterial Road.
                * Normal Depth Routing did not work for this Route.

1075            KK    RB02
1076            RD
1077            RC   0.035   0.015   0.035     548  0.0186
1078            RX       0       1      40      41     104     105     145     146
1079            RY       8       3     1.5     .75    0.75     1.5       3       8
                *

1080            KK     B03   BASIN
1081            BA   0.007
1082            LG    0.25    0.35    4.65    0.41      47
1083            UC   0.271   0.474
1084            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1085            UA     100
                *
                *
                * DDM   ***** Preserved *****

1086            KK    CB03
1087            KM        ROOSEVELT STREET AND GRANITE REEF ROAD
1088            HC       4    3.66
                *
                *
                *
                * Route is a Minor Arterial Road.
                *
1                                          HEC-1 INPUT                                                    PAGE 43

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
1089          KK    RB03
1090          RS       2    FLOW       0
1091          RC   0.035   0.015   0.035    1348   0.003
1092          RX       0       1      40      41     104     105     145     146
1093          RY       8       3     1.5     .75    0.75     1.5       3       8
              *

1094          KK     B01   BASIN
1095          BA   0.071
1096          LG    0.25    0.25    4.30    0.54      44
1097          UC   0.267   0.188
1098          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1099          UA     100
              *
              *
              * *** STORAGE ROUTING LB01 ***********************************************
              *
              * DDM   ***** Preserved *****

1100          KK    LB01
1101          DT   LB01D    1.15
1102          DI       0     100    1000   10000
1103          DQ       0     100    1000   10000
              *
              *
              *
              * DDM   ***** Preserved *****

1104          KK    CB01
1105          KM        GRANITE REEF ROAD AND GRANITE REEF WASH
1106          HC       2
              *
              *
              * Route is a channel.
              *

1107          KK    RB01
1108          RS       1    FLOW       0
1109          RC   0.035   0.015   0.035    1320  0.0019
1110          RX       0       1      34      40      50      56      80      81
1111          RY      12       6       4       0       0       4       6      12
              *

1112          KK     B12   BASIN
1113          KM        SRPMIC LANDS WEST OF THE PIMA RD ALIGNMENT AND NORTH OF MCKELLIPS RD
1114          BA   0.119
1115          LG    0.25    0.25    4.80    0.38      39
1116          UC   0.442   0.233
1117          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1118          UA     100
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1119          KK     B11   BASIN
1120          BA   0.060
1121          LG    0.24    0.34    4.80    0.39      37
1122          UC   0.400   0.277
1123          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1124          UA     100
              *
              * *** STORAGE ROUTING LB11 ***********************************************
              * Pond was assumed to have 1 foot of freeboard.
              * DDM   ***** Preserved *****

1125          KK    LB11
1126          DT   LB11D    2.87
1127          DI       0     100    1000   10000
1128          DQ       0     100    1000   10000
              *
              *
              * DIVERSION RECALL DC13I
              *

1129          KK  DRDC13
1130          DR   DC13I
              *
              *
              * Route is overland flow. (SLOPE ESTIMATED.)
              *

1131          KK   RC13S
1132          RS      33    FLOW       0
1133          RC   0.035   0.035   0.035    5197   .0058
1134          RX       0     200     300     400     500     600     700     900
1135          RY       5       4       3       0       0       3       4       5
              *

1136          KK     B13   BASIN
1137          BA   0.222
1138          LG    0.22    0.26    4.55    0.42      44
1139          UC   0.375   0.232
1140          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
1141        UA     100
            *
            * *** STORAGE ROUTING LB13 ***********************************************
            *
            * DDM   ***** Preserved *****

1142        KK    LB13
1143        DT   LB13D    18.4
1144        DI       0     100    1000   10000
1145        DQ       0     100    1000   10000
            *
            *
            * Route is shallow flow. (SLOPE WAS ESTIMATED.)
            *
1                                   HEC-1 INPUT                                          PAGE 45

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1146        KK    RB13
1147        RS       7    FLOW       0
1148        RC   0.035   0.035   0.035    1269   0.004
1149        RX       0     200     300     400     500     600     700     900
1150        RY       5       4       3       0       0       3       4       5
            *

1151        KK     B14   BASIN
1152        KM        SRPMIC LANDS BETWEEN THE ALIGNMENT OF PIMA ROAD & PIMA FRWY (SR 101L)
1153        BA   0.149
1154        LG    0.10    0.25    4.60    0.48      80
1155        UC   0.608   0.628
1156        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1157        UA     100
            *
            * *** STORAGE ROUTING LB14 ***********************************************
            *
            * See the detention calculations in Appendix D of the Data Collection Notebook
            * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
            * DDM   ***** Preserved *****

1158        KK    LB14
1159        DT   LB14D    10.4
1160        DI       0     100    1000   10000
1161        DQ       0     100    1000   10000
            *
            * DDM   ***** Preserved *****

1162        KK    CB14
1163        KM        MCKELLIPS ROAD AND PIMA ROAD
1164        HC       3   0.524
            *
            *
            * Route is a MAJOR ARTERIAL. (SLOPE WAS ESTIMATED.)
            *

1165        KK    RB14
1166        RS       4    FLOW       0
1167        RC   0.035   0.015   0.035    2746   0.004
1168        RX       0       1      30      40     100     110     145     300
1169        RY       8       4       3       0       0       3       4       5
            *
            *
            * DDM   ***** Preserved *****

1170        KK    CB12
1171        KM        MCKELLIPS ROAD AND GRANITE REEF WASH
1172        HC       4
            *
            *
            * Route is a channel. (SLOPE ESTIMATED FROM UPSTREAM CHANNEL'S SLOPE.)
            *
1                                   HEC-1 INPUT                                          PAGE 46

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1173        KK    RB12
1174        RS       6    FLOW       0
1175        RC   0.035    .035   0.035    4395  0.0019
1176        RX       0     200     330     340     370     380     410     600
1177        RY       9       8       6       0       0       6       8       9
            *

1178        KK     A01   BASIN
1179        KM        SRPMIC LANDS SOUTH OF MCKELLIPS ROAD
1180        BA   0.507
1181        LG    0.10    0.25    5.40    0.32      80
1182        UC   0.542   0.238
1183        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1184        UA     100
            *
            * *** STORAGE ROUTING LA01 ***********************************************
            *
            * See the detention calculations in Appendix D of the Data Collection Notebook
            * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
```

```
                    * DDM   ***** Preserved *****

1185                KK    LA01
1186                DT   LA01D    35.2
1187                DI       0     100    1000   10000
1188                DQ       0     100    1000   10000
                    *
                    * DDM   ***** Preserved *****

1189                KK    CA01
1190                KM        OUTFALL TO SALT RIVER
1191                HC       2
                    *

1192                KK     B10   BASIN
1193                BA   0.110
1194                LG    0.21    0.25    4.60    0.49      28
1195                UC   0.742   0.765
1196                UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1197                UA     100
                    *
                    * *** STORAGE ROUTING LB10 ***********************************************
                    *
                    * DDM   ***** Preserved *****

1198                KK    LB10
1199                DT   LB10D    10.5
1200                DI       0     100    1000   10000
1201                DQ       0     100    1000   10000
                    *
1202                ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    53         G03
                .
                .
    60          .-------->   DG03I
    59        DG03
                V
                V
    63       RG03S
                .
                .
    68          .         G01
                .           .
                .           .
    74        CG01............
                .
                .
    78          .-------->   DG01I
    77        DG01
                V
                V
    81       RG01S
                .
                .
    86          .         F04
                .           .
                .           .
    97          .           .        G04
                .           .         V
                .           .         V
   104          .           .       RG04
                .           .         .
                .           .         .
   109          .           .         .        G05
                .           .         .         V
                .           .         .         V
   115          .           .         .       RG05
                .           .         .         .
                .           .         .         .
   120          .           .         .         .         G06
                .           .         .         .           .
                .           .         .         .           .
   128          .           .         .         .           .-------->   LG06D
   127          .           .         .         .       LG06
                .           .         .         .           .
                .           .         .         .           .
   132          .           .         .         .           .-------->   DG06I
   131          .           .         .         .       DG06
                .           .         .         .           .
                .           .         .         .           .
   136          .           .         .         .           .-------->  LG06AD
   135          .           .         .         .      LG06A
                .           .         .         .           .
                .           .         .         .           .
   139          .           .         .         .           .         G02
                .           .         .         .           .           .
                .           .         .         .           .           .
   145          .           .       CG02.................................
```

```
                .           .           V
                .           .           V
148             .           .        RG02
                .           .           .
                .           .           .
153             .           .           .        F06
                .           .           .          .
                .           .           .          .
159             .           .        CF06............
                .           .           V
                .           .           V
162             .           .        RF06
                .           .           .
                .           .           .
167             .           .           .        F05
                .           .           .          .
                .           .           .          .
173             .           .        CF05............
                .           .           .
                .           .           .
177             .           .           .-------->   DF05I
176             .           .        DF05
                .           .           V
                .           .           V
180             .           .       RF05W
                .           .           .
                .           .           .
182          CF04........................
                .
                .
186             .-------->   DF04I
185          DF04
                .
                .
190             .           .<-------   DF05I
189             .        F05R
                .           V
                .           V
191             .       RF05S
                .           .
                .           .
196             .           .        F03
                .           .           .
                .           .           .
202             .        CF03............
                .           V
                .           V
205             .        RF03
                .           .
                .           .
211             .           .           .<-------   DG06I
210             .           .        G06R
                .           .           V
                .           .           V
212             .           .       RG06S
                .           .           .
                .           .           .
217             .           .           .        F07
                .           .           .          .
                .           .           .          .
225             .           .           .          .-------->   LF07D
224             .           .           .       LF07
                .           .           .          .
                .           .           .          .
228             .           .        CF07............
                .           .           .
                .           .           .
232             .           .           .-------->   DF07I
231             .           .        DF07
                .           .           V
                .           .           V
235             .           .       RF07W
                .           .           .
                .           .           .
237             .           .           .        F02
                .           .           .          .
                .           .           .          .
243             .        CF02........................
                .           .
                .           .
247             .           .-------->   DF02I
246             .        DF02
                .           V
                .           V
250             .       RF02W
                .           .
                .           .
253             .           .           .<-------   DF04I
252             .           .        F04R
                .           .           V
                .           .           V
254             .           .       RF04S
                .           .           .
                .           .           .
260             .           .           .-------->  DRF04I
```

```
259          .           .       DRF04
             .           .          .
             .           .          .
263          .           .          .         F01
             .           .          .          .
             .           .          .          .
269          .       CF01.......................
             .           .
             .           .
273          .           .------->   DF01I
272          .       DF01
             .           .
             .           .
277          .           .          .<-------   DF02I
276          .           .       DRF02
             .           .          V
             .           .          V
278          .           .       RF02S
             .           .          .
             .           .          .
283          .           .          .         E07
             .           .          .          .
             .           .          .          .
289          .           .       CE07............
             .           .          V
             .           .          V
292          .           .       RE07
             .           .          .
             .           .          .
297          .           .          .         E05
             .           .          .          .
             .           .          .          .
308          .           .       CE05............
             .           .          .
             .           .          .
312          .           .          .------->   DE05I
311          .           .       DE05
             .           .          V
             .           .          V
315          .           .       RE05W
             .           .          .
             .           .          .
317          .           .          .         E04
             .           .          .          .
             .           .          .          .
324          .           .          .          .------->   LE04D
323          .           .          .        LE04
             .           .          .          .
             .           .          .          .
328          .           .          .          .          .<-------   DF01I
327          .           .          .          .      DRF01I
             .           .          .          .          V
             .           .          .          .          V
329          .           .          .          .       RF01S
             .           .          .          .          .
             .           .          .          .          .
334          .           .       CE04........................
             .           .          .
             .           .          .
338          .           .          .------->   DE04I
337          .           .       DE04
             .           .          .
             .           .          .
341      DUMMY........................
             .
             .
343          .       E08
             .         V
             .         V
349          .       RE08
             .           .
             .           .
354          .           .       E06
             .           .          .
             .           .          .
360          .       CE06............
             .         V
             .         V
363          .       RE06
             .           .
             .           .
369          .           .          .<-------   DE05I
368          .           .      DRDE05
             .           .          V
             .           .          V
370          .           .      RDE05
             .           .          .
             .           .          .
377          .           .          .------->  DE052I
375          .           .      DE052
             .           .          V
             .           .          V
380          .           .     RE052E
             .           .          .
             .           .          .
```

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385          .      CE06B............
             .         V
             .         V
388          .      RE06B
             .         .
             .         .
393          .         .        E03
             .         .          .
             .         .          .
400          .         .          .          .<-------   DF07I
399          .         .          .      DRF07
             .         .          .          V
             .         .          .          V
401          .         .          .      RF07S
             .         .          .          .
             .         .          .          .
406          .         .          .          .         E09
             .         .          .          .           .
             .         .          .          .           .
414          .         .          .          .           .-------->   LE09D
413          .         .          .          .        LE09
             .         .          .          .           .
             .         .          .          .           .
417          .         .          .       CE09............
             .         .          .          .
             .         .          .          .
422          .         .          .          .-------->   DE09I
420          .         .          .       DE09
             .         .          .          V
             .         .          .          V
425          .         .          .      RE09W
             .         .          .          .
             .         .          .          .
428          .      CE03........................
             .         .
             .         .
433          .         .-------->   DE03I
431          .      DE03
             .         V
             .         V
436          .      RE03W
             .         .
             .         .
439          .         .        E02
             .         .          .
             .         .          .
447          .         .          .          .<-------  DE052I
446          .         .          .     RDE052
             .         .          .          V
             .         .          .          V
448          .         .          .     RE052S
             .         .          .          .
             .         .          .          .
453          .      CE02........................
             .         .
             .         .
458          .         .-------->   DE02I
456          .      DE02
             .         V
             .         V
461          .      RE02W
             .         .
             .         .
464          .         .        E01
             .         .          .
             .         .          .
471          .         .          .          .<-------   DE04I
470          .         .          .     DRE04I
             .         .          .          V
             .         .          .          V
472          .         .          .      RE04S
             .         .          .          .
             .         .          .          .
477          .      CE01........................
             .         .
             .         .
482          .         .-------->   DE01I
480          .      DE01
             .         .
             .         .
486          .         .          .<-------   DE01I
485          .         .      DRE01
             .         .          V
             .         .          V
487          .         .      RE01S
             .         .          .
             .         .          .
492          .         .          .        D05
             .         .          .          .
             .         .          .          .
503          .         .      CD05............
             .         .          .
             .         .          .
508          .         .          .-------->   DD05I
506          .         .      DD05
```

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                 .         .         V
                 .         .         V
511              .         .      RD05S
                 .         .         .
                 .         .         .
518              .         .         .        D13
                 .         .         .          .
                 .         .         .          .
525              .         .      CD13............
                 .         .         .
                 .         .         .
531              .         .         .-------->   DD13I
529              .         .      DD13
                 .         .         V
                 .         .         V
534              .         .      RD13S
                 .         .         .
                 .         .         .
541              .         .         .        D04
                 .         .         .          V
                 .         .         .          V
548              .         .         .       RD04
                 .         .         .          .
                 .         .         .          .
553              .         .         .          .        D01
                 .         .         .          .          .
                 .         .         .          .          .
561              .         .      CD01........................
                 .         .         .
                 .         .         .
566              .         .         .-------->   DD01I
564              .         .      DD01
                 .         .         V
                 .         .         V
569              .         .      RD01E
                 .         .         .
                 .         .         .
575              .         .         .          .<-------   DD05I
574              .         .         .      DRD05
                 .         .         .          V
                 .         .         .          V
576              .         .         .      RD05E
                 .         .         .          .
                 .         .         .          .
583              .         .         .          .-------->  DD052I
581              .         .         .      DD052
                 .         .         .          V
                 .         .         .          V
586              .         .         .     RD05S2
                 .         .         .          .
                 .         .         .          .
593              .         .         .          .          .<-------   DE02I
592              .         .         .          .      DRE02
                 .         .         .          .          V
                 .         .         .          .          V
594              .         .         .          .      RE02S
                 .         .         .          .          .
                 .         .         .          .          .
600              .         .         .          .          .          .<-------  DD052I
599              .         .         .          .          .     DRD052
                 .         .         .          .          .          V
                 .         .         .          .          .          V
601              .         .         .          .          .     RD05E2
                 .         .         .          .          .          .
                 .         .         .          .          .          .
606              .         .         .          .          .          .        D06
                 .         .         .          .          .          .          .
                 .         .         .          .          .          .          .
612              .         .         .          .       CD06........................
                 .         .         .          .          .
                 .         .         .          .          .
618              .         .         .          .          .-------->   DD06I
615              .         .         .          .       DD06
                 .         .         .          .          V
                 .         .         .          .          V
623              .         .         .          .      RD06S
                 .         .         .          .          .
                 .         .         .          .          .
632              .         .         .          .          .          .<-------   DD13I
631              .         .         .          .          .      DRD13
                 .         .         .          .          .          V
                 .         .         .          .          .          V
633              .         .         .          .          .      RD13E
                 .         .         .          .          .          .
                 .         .         .          .          .          .
640              .         .         .          .          .          .        D02A
                 .         .         .          .          .          .          .
                 .         .         .          .          .          .          .
648              .         .         .       CD10....................................
                 .         .         .          .
                 .         .         .          .
655              .         .         .          .-------->   DD10I
651              .         .         .       DD10
                 .         .         .          V
                 .         .         .          V
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658                 .           .           .       RD10S
                    .           .           .         .
                    .           .           .         .
664                 .           .           .         .        DO2B
                    .           .           .         .          .
                    .           .           .         .          .
672                 .           .       CD02.......................
                    .           .           .
                    .           .           .
677                 .           .           .-------> DD02I
675                 .           .       DD02
                    .           .          V
                    .           .          V
680                 .           .       RD02E
                    .           .           .
                    .           .           .
685                 .           .           .       D07
                    .           .           .         .
                    .           .           .         .
694                 .           .           .         .           .<-------   DD06I
692                 .           .           .         .       DRD06
                    .           .           .         .          V
                    .           .           .         .          V
695                 .           .           .         .       RD06E
                    .           .           .         .          .
                    .           .           .         .          .
701                 .           .           .       CD07............
                    .           .           .         V
                    .           .           .         V
704                 .           .           .       RD07
                    .           .           .         .
                    .           .           .         .
711                 .           .           .         .           .<-------   DD10I
709                 .           .           .         .       DRD10
                    .           .           .         .          V
                    .           .           .         .          V
712                 .           .           .         .       RD10E
                    .           .           .         .          .
                    .           .           .         .          .
719                 .           .           .       CD11............
                    .           .           .         V
                    .           .           .         V
722                 .           .           .       RD11
                    .           .           .         .
                    .           .           .         .
729                 .           .           .         .           .<-------   DE03I
728                 .           .           .         .      DRE03S
                    .           .           .         .          .
                    .           .           .         .          .
731                 .           .           .         .          .           .<-------   DE09I
730                 .           .           .         .          .      DRE09S
                    .           .           .         .          .          .
                    .           .           .         .          .          .
732                 .           .           .         .        CE10............
                    .           .           .         .          .
                    .           .           .         .          .
736                 .           .           .         .          .------->   DE10I
734                 .           .           .         .        DE10
                    .           .           .         .          V
                    .           .           .         .          V
739                 .           .           .         .      RE10SW
                    .           .           .         .          .
                    .           .           .         .          .
744                 .           .           .         .          .         D08
                    .           .           .         .          .           .
                    .           .           .         .          .           .
750                 .           .           .         .        CD08............
                    .           .           .         .          V
                    .           .           .         .          V
753                 .           .           .         .        RD08
                    .           .           .         .          .
                    .           .           .         .          .
758                 .           .           .         .          .        D03A
                    .           .           .         .          .           .
                    .           .           .         .          .           .
765                 .           .           .       CD12........................
                    .           .           .         V
                    .           .           .         V
768                 .           .           .       RD12
                    .           .           .         .
                    .           .           .         .
775                 .           .           .         .           .<-------   DE10I
774                 .           .           .         .      RDE10I
                    .           .           .         .          V
                    .           .           .         .          V
776                 .           .           .         .      RE10SE
                    .           .           .         .          .
                    .           .           .         .          .
781                 .           .           .         .          .         D09
                    .           .           .         .          .           .
                    .           .           .         .          .           .
789                 .           .           .         .          .           .------->   LD09D
788                 .           .           .         .          .        LD09
                    .           .           .         .          .           .
                    .           .           .         .          .           .
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792                                   CD09............
                                        .
795                                     .        D03B
                                        .          .
802                                     .          .
                CD03.................................
                  V
                  V
805             RD03
                  .
                  .
810                     C11
                          .
                          .
816                       .        C10
                          .          .
                          .          .
823                       .          .        .<-------   DD02I
822                       .          .     DRD02
                          .          .        V
                          .          .        V
824                       .          .     RD02S
                          .          .        .
                          .          .        .
831                       .       CC10............
                          .          V
                          .          V
834                       .       RC10
                          .          .
                          .          .
839             CC11........................
                  V
                  V
842             RC11
                  .
                  .
847                     C08
                          .
                          .
853             CC08............
                  V
                  V
856             RC08
                  .
                  .
861                     C06
                          .
                          .
872             CC06............
                  V
                  V
875             RC06
                  .
                  .
881                       .<-------   DD01I
880                   DRDO1
                          V
                          V
882                   RD01S
                          .
                          .
887                       .        C07
                          .          .
                          .          .
894                   CC07............
                          V
                          V
897                   RC07
                          .
                          .
902                       .        C09
                          .          V
                          .          V
908                       .       RC09
                          .          .
                          .          .
913                       .          .        C05
                          .          .          .
                          .          .          .
919                       .          .          .        C01
                          .          .          .          V
                          .          .          .          V
925                       .          .          .       RC01
                          .          .          .          .
                          .          .          .          .
930                       .          .          .          .        C02
                          .          .          .          .          .
                          .          .          .          .          .
936                   CC02.............................................
                          .
                          .
942                       .-------->   DC02I
939                   DC02
                          V
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                                  V
945                            RC02E
                                   .
                                   .
951                                .        C03
                                   .         .
                                   .         .
957                                .         .        C12
                                   .         .         V
                                   .         .         V
963                                .         .       RC12
                                   .         .         .
                                   .         .         .
968                                .         .         .        C13
                                   .         .         .         .
                                   .         .         .         .
976                                .         .         .         .-------> LC13D
975                                .         .         .       LC13
                                   .         .         .         .
                                   .         .         .         .
979                                .         .       CC13............
                                   .         .         .
                                   .         .         .
983                                .         .         .-------> DC13I
982                                .         .       DC13
                                   .         .         V
                                   .         .         V
986                                .         .      RC13W
                                   .         .         .
                                   .         .         .
989                                .         .         .        C04
                                   .         .         .         V
                                   .         .         .         V
995                                .         .         .       RC04
                                   .         .         .         .
                                   .         .         .         .
1000                          CC03..............................................
                                 V
                                 V
1003                          RC03
                                 .
                                 .
1008                             .        B07
                                 .         .
                                 .         .
1014                          CB07............
                                 V
                                 V
1017                          RB07
                                 .
                                 .
1022                             .        B05
                                 .         .
                                 .         .
1029                             .         .-------> LB05D
1028                             .       LB05
                                 .         .
                                 .         .
1034                             .         .<-------  DC02I
1032                             .       DRC02
                                 .         V
                                 .         V
1035                             .       RC02S
                                 .         .
                                 .         .
1041                             .         .        B06
                                 .         .         .
                                 .         .         .
1047                          CB05...................................
                                 V
                                 V
1050                          RB05
                                 .
                                 .
1055                             .        B04
                                 .         .
                                 .         .
1062                             .         .-------> LB04D
1061                             .       LB04
                                 .         .
                                 .         .
1065                             .         .        B02
                                 .         .         .
                                 .         .         .
1072                             .         .         .-------> LB02D
1071                             .       LB02
                                 .         V
                                 .         V
1075                             .       RB02
                                 .         .
                                 .         .
1080                             .         .         .        B03
                                 .         .         .         .
                                 .         .         .         .
1086                          CB03...................................
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                 .         .         V
                 .         .         V
1089             .         .       RB03
                 .         .         .
                 .         .         .
1094             .         .         .        B01
                 .         .         .         .
                 .         .         .         .
1101             .         .         .         .-------->   LB01D
1100             .         .         .       LB01
                 .         .         .         .
                 .         .         .         .
1104             .         .       CB01............
                 .         .         V
                 .         .         V
1107             .         .       RB01
                 .         .         .
                 .         .         .
1112             .         .         .        B12
                 .         .         .         .
                 .         .         .         .
1119             .         .         .         .        B11
                 .         .         .         .         .
                 .         .         .         .         .
1126             .         .         .         .         .-------->   LB11D
1125             .         .         .         .       LB11
                 .         .         .         .         .
                 .         .         .         .         .
1130             .         .         .         .         .          .<-------   DC13I
1129             .         .         .         .         .      DRDC13
                 .         .         .         .         .          V
                 .         .         .         .         .          V
1131             .         .         .         .         .       RC13S
                 .         .         .         .         .          .
                 .         .         .         .         .          .
1136             .         .         .         .         .          .        B13
                 .         .         .         .         .          .         .
                 .         .         .         .         .          .         .
1143             .         .         .         .         .          .         .-------->   LB13D
1142             .         .         .         .         .          .       LB13
                 .         .         .         .         .          .          V
                 .         .         .         .         .          .          V
1146             .         .         .         .         .          .       RB13
                 .         .         .         .         .          .         .
                 .         .         .         .         .          .         .
1151             .         .         .         .         .          .         .        B14
                 .         .         .         .         .          .         .         .
                 .         .         .         .         .          .         .         .
1159             .         .         .         .         .          .         .         .-------->   LB14D
1158             .         .         .         .         .          .         .       LB14
                 .         .         .         .         .          .         .         .
                 .         .         .         .         .          .         .         .
1162             .         .         .         .         .      CB14........................
                 .         .         .         .         .          V
                 .         .         .         .         .          V
1165             .         .         .         .         .      RB14
                 .         .         .         .         .          .
                 .         .         .         .         .          .
1170             .         .       CB12.....................................
                 .         .         V
                 .         .         V
1173             .         .       RB12
                 .         .         .
                 .         .         .
1178             .         .         .        A01
                 .         .         .         .
                 .         .         .         .
1186             .         .         .         .-------->   LA01D
1185             .         .         .       LA01
                 .         .         .         .
                 .         .         .         .
1189             .         .       CA01............
                 .         .         .
                 .         .         .
1192             .         .         .        B10
                 .         .         .         .
                 .         .         .         .
1199             .         .         .         .-------->   LB10D
1198             .         .         .       LB10
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998           *
 *           VERSION 4.1             *
 *                                   *
 *  RUN DATE   01DEC08  TIME  13:27:51   *
 *                                   *
 *************************************
```

```
*************************************
*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
*   HYDROLOGIC ENGINEERING CENTER   *
*         609 SECOND STREET         *
*      DAVIS, CALIFORNIA 95616      *
*          (916) 756-1104           *
*                                   *
*************************************
```

```
Project ID: SCOTTSDALE - Major Basin: 01 - Return Period: 100
*****************************************************************************
**                                                                         **
**                    Updated Granite Reef ADMP                            **
**                                                                         **
*****************************************************************************
*****************************************************************************
PROJECT:                Granite Reef Wash DMP Update
CLIENT:                 City of Scottsdale
PREPARED BY:            Psomas
PROJECT No:             COS              Psomas 06077-01
FILE NAME: BASE6u.DAT              CREATED DATE: Feb 26, 2007
MODIFIED: Aug 13, 2008 (SEB/JKK PSOMAS)
     * ORIGINAL CARDS STARRED-OUT (by RAK/JKK)
     * COMMENT CARDS ADDED (by RAK/JKK
     * Updates to routings from CE05 to CE02 and CE03 (by SEB/JKK)
     * Updates to flow splits at Indian School Road and Pima Road
       based on Flo-2D analysis and field visits (by SEB/JKK);
       added CE10 and diversion DE10

STORM:                  100-year 6-hour Storm
DEVELOPMENT CONDITIONS: Future Conditions



DDM MCUHP1


30 IO        OUTPUT CONTROL VARIABLES
                IPRNT          5  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                 NMIN          5  MINUTES IN COMPUTATION INTERVAL
                IDATE      1   0  STARTING DATE
                ITIME       0000  STARTING TIME
                   NQ       1000  NUMBER OF HYDROGRAPH ORDINATES
              NDDATE      4   0  ENDING DATE
              NDTIME       1115  ENDING TIME
               ICENT         19  CENTURY MARK

          COMPUTATION INTERVAL     .08 HOURS
               TOTAL TIME BASE   83.25 HOURS

      ENGLISH UNITS
           DRAINAGE AREA          SQUARE MILES
           PRECIPITATION DEPTH    INCHES
           LENGTH, ELEVATION      FEET
           FLOW                   CUBIC FEET PER SECOND
           STORAGE VOLUME         ACRE-FEET
           SURFACE AREA           ACRES
           TEMPERATURE            DEGREES FAHRENHEIT

32 JD        INDEX STORM NO. 1
                STRM        3.20  PRECIPITATION DEPTH
                TRDA         .01  TRANSPOSITION DRAINAGE AREA

33 PI         PRECIPITATION PATTERN
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
              .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
              .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00

36 JD        INDEX STORM NO. 2
                STRM        3.18  PRECIPITATION DEPTH
                TRDA         .50  TRANSPOSITION DRAINAGE AREA

 0 PI         PRECIPITATION PATTERN
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
              .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
              .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00

37 JD        INDEX STORM NO. 3
                STRM        3.12  PRECIPITATION DEPTH
                TRDA        2.80  TRANSPOSITION DRAINAGE AREA

38 PI         PRECIPITATION PATTERN
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
              .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
              .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
              .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
              .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00

41 JD        INDEX STORM NO. 4
                STRM        2.95  PRECIPITATION DEPTH
                TRDA       16.00  TRANSPOSITION DRAINAGE AREA

42 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .01
                .01       .01       .00       .01       .00       .00       .00       .00       .00       .00
                .00       .00       .01       .00       .00       .00       .00       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .06       .06       .06       .07       .07       .07       .04       .04
                .04       .02       .02       .02       .01       .01       .01       .01       .01       .01
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00

45 JD        INDEX STORM NO. 5
                STRM        2.60  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

46 PI          PRECIPITATION PATTERN
                .01       .01       .01       .00       .00       .00       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .05       .05       .05       .05       .05       .05       .04       .04
                .04       .02       .02       .02       .02       .02       .02       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01

49 JD        INDEX STORM NO. 6
                STRM        1.82  PRECIPITATION DEPTH
                TRDA      500.00  TRANSPOSITION DRAINAGE AREA

50 PI          PRECIPITATION PATTERN
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .02       .02       .02       .03
                .03       .03       .04       .04       .04       .04       .04       .04       .04       .04
                .04       .03       .03       .03       .02       .02       .02       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .01       .01
                .01       .01

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            *            *
97 KK       *     G04    *        BASIN
            *            *
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98 KO        OUTPUT CONTROL VARIABLES
                IPRNT          3  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL         0.  HYDROGRAPH PLOT SCALE

           SUBBASIN RUNOFF DATA

99 BA        SUBBASIN CHARACTERISTICS
                TAREA        .05  SUBBASIN AREA

100 LG       GREEN AND AMPT LOSS RATE
                STRTL        .25  STARTING LOSS
                  DTH        .25  MOISTURE DEFICIT
                 PSIF       4.80  WETTING FRONT SUCTION
                XKSAT        .35  HYDRAULIC CONDUCTIVITY
                RTIMP      51.00  PERCENT IMPERVIOUS AREA

101 UC       CLARK UNITGRAPH
                  TC        .30  TIME OF CONCENTRATION
                   R        .26  STORAGE COEFFICIENT

102 UA       ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                  .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
               100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                     CLARK   TC=   .30 HR,       R=   .26 HR
                                    SNYDER   TP=   .22 HR,      CP=   .53

                                          UNIT HYDROGRAPH
                                     19 END-OF-PERIOD ORDINATES
            13.       49.       68.       58.       44.       32.       23.       17.       12.        9.
             6.        5.        3.        2.        2.        1.        1.        1.        0.

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

                 HYDROGRAPH AT STATION      G04
               TRANSPOSITION AREA       .0 SQ MI
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    TOTAL RAINFALL =    3.20, TOTAL LOSS =     .81, TOTAL EXCESS =    2.39

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     94.       4.08                11.          3.          1.          1.
                         (INCHES)   2.371       2.381       2.381       2.381
                          (AC-FT)     6.          6.          6.          6.

                         CUMULATIVE AREA =     .05 SQ MI


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

                         HYDROGRAPH AT STATION      G04
                       TRANSPOSITION AREA       .5 SQ MI

    TOTAL RAINFALL =    3.18, TOTAL LOSS =     .81, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     93.       4.08                11.          3.          1.          1.
                         (INCHES)   2.352       2.363       2.363       2.363
                          (AC-FT)     6.          6.          6.          6.

                         CUMULATIVE AREA =     .05 SQ MI


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

                         HYDROGRAPH AT STATION      G04
                       TRANSPOSITION AREA      2.8 SQ MI

    TOTAL RAINFALL =    3.12, TOTAL LOSS =     .93, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     59.       4.08                10.          3.          1.          1.
                         (INCHES)   2.164       2.177       2.177       2.177
                          (AC-FT)     5.          5.          5.          5.

                         CUMULATIVE AREA =     .05 SQ MI


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

                         HYDROGRAPH AT STATION      G04
                       TRANSPOSITION AREA     16.0 SQ MI

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.01, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     44.       4.08                 9.          2.          1.          1.
                         (INCHES)   1.924       1.937       1.937       1.937
                          (AC-FT)     5.          5.          5.          5.

                         CUMULATIVE AREA =     .05 SQ MI


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

                         HYDROGRAPH AT STATION      G04
                       TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.56

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     30.       4.17                 7.          2.          1.          1.
                         (INCHES)   1.540       1.559       1.559       1.559
                          (AC-FT)     4.          4.          4.          4.

                         CUMULATIVE AREA =     .05 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                         HYDROGRAPH AT STATION      G04
                       TRANSPOSITION AREA    500.0 SQ MI

    TOTAL RAINFALL =    1.82, TOTAL LOSS =     .89, TOTAL EXCESS =     .93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                    6-HR        24-HR        72-HR      83.25-HR
+   (CFS)        (HR)
                          (CFS)
+      11.       4.33                4.           1.           0.           0.
                        (INCHES)    .913         .929         .929         .929
                         (AC-FT)     2.           2.           2.           2.

                        CUMULATIVE AREA =      .05 SQ MI

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


                        INTERPOLATED HYDROGRAPH AT      G04

 PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      83.25-HR
+   (CFS)        (HR)
                          (CFS)
+      94.       4.08               11.           3.           1.           1.
                        (INCHES)   2.364        2.374        2.374        2.374
                         (AC-FT)     6.           6.           6.           6.

                        CUMULATIVE AREA =      .05 SQ MI


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            *            *
 685 KK     *     D07    *        BASIN
            *            *
            **************

 686 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

                SUBBASIN RUNOFF DATA

 687 BA          SUBBASIN CHARACTERISTICS
                       TAREA        .05  SUBBASIN AREA

 688 LG          GREEN AND AMPT LOSS RATE
                       STRTL        .25  STARTING LOSS
                         DTH        .25  MOISTURE DEFICIT
                        PSIF       4.80  WETTING FRONT SUCTION
                       XKSAT        .35  HYDRAULIC CONDUCTIVITY
                       RTIMP      51.00  PERCENT IMPERVIOUS AREA

 689 UC          CLARK UNITGRAPH
                          TC        .51  TIME OF CONCENTRATION
                           R        .58  STORAGE COEFFICIENT

 690 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .51 HR,       R=   .58 HR
                                         SNYDER   TP=   .33 HR,      CP=   .38

                                                  UNIT HYDROGRAPH
                                             40 END-OF-PERIOD ORDINATES
                 3.       13.       28.       36.       36.       34.       31.       27.       23.       20.
                17.       15.       13.       11.       10.        8.        7.        6.        5.        5.
                 4.        4.        3.        3.        2.        2.        2.        1.        1.        1.
                 1.        1.        1.        1.        1.        0.        0.        0.        0.        0.

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

                         HYDROGRAPH AT STATION      D07
                       TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    3.20, TOTAL LOSS =     .81, TOTAL EXCESS =    2.39

 PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR      83.25-HR
+   (CFS)        (HR)
                          (CFS)
+      64.       4.25               12.           3.           1.           1.
                        (INCHES)   2.348        2.380        2.380        2.380
                         (AC-FT)     6.           6.           6.           6.

                        CUMULATIVE AREA =      .05 SQ MI

     ***              ***            ***            ***            ***
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                    HYDROGRAPH AT STATION      D07
                  TRANSPOSITION AREA       .5 SQ MI

   TOTAL RAINFALL =    3.18, TOTAL LOSS =     .81, TOTAL EXCESS =    2.37

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     63.      4.25                12.          3.          1.           1.
                       (INCHES)   2.329       2.361       2.361        2.361
                        (AC-FT)     6.          6.          6.           6.

                     CUMULATIVE AREA =     .05 SQ MI


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

                    HYDROGRAPH AT STATION      D07
                  TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =    3.12, TOTAL LOSS =     .93, TOTAL EXCESS =    2.19

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     46.      4.33                11.          3.          1.           1.
                       (INCHES)   2.141       2.176       2.176        2.176
                        (AC-FT)     6.          6.          6.           6.

                     CUMULATIVE AREA =     .05 SQ MI


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

                    HYDROGRAPH AT STATION      D07
                  TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.01, TOTAL EXCESS =    1.94

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     36.      4.33                10.          3.          1.           1.
                       (INCHES)   1.897       1.936       1.936        1.936
                        (AC-FT)     5.          5.          5.           5.

                     CUMULATIVE AREA =     .05 SQ MI


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

                    HYDROGRAPH AT STATION      D07
                  TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.56

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     25.      4.33                 8.          2.          1.           1.
                       (INCHES)   1.510       1.558       1.558        1.558
                        (AC-FT)     4.          4.          4.           4.

                     CUMULATIVE AREA =     .05 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                    HYDROGRAPH AT STATION      D07
                  TRANSPOSITION AREA    500.0 SQ MI

   TOTAL RAINFALL =    1.82, TOTAL LOSS =     .89, TOTAL EXCESS =     .93

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     11.      4.50                 5.          1.          0.           0.
                       (INCHES)    .889        .928        .928         .928
                        (AC-FT)     2.          2.          2.           2.

                     CUMULATIVE AREA =     .05 SQ MI

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


                    INTERPOLATED HYDROGRAPH AT      D07

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
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                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     63.       4.25                12.          3.          1.          1.
                        (INCHES)   2.340       2.372       2.372       2.372
                         (AC-FT)      6.          6.          6.          6.

                        CUMULATIVE AREA =     .05 SQ MI


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


            **************
            *            *
887 KK      *      C07   *        BASIN
            *            *
            **************

888 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

              SUBBASIN RUNOFF DATA

889 BA          SUBBASIN CHARACTERISTICS
                      TAREA        .07  SUBBASIN AREA

890 LG          GREEN AND AMPT LOSS RATE
                      STRTL        .25  STARTING LOSS
                        DTH        .25  MOISTURE DEFICIT
                       PSIF       4.80  WETTING FRONT SUCTION
                      XKSAT        .35  HYDRAULIC CONDUCTIVITY
                      RTIMP      50.00  PERCENT IMPERVIOUS AREA

891 UC          CLARK UNITGRAPH
                         TC        .67  TIME OF CONCENTRATION
                          R        .70  STORAGE COEFFICIENT

892 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0
                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .67 HR,       R=   .70 HR
                                         SNYDER   TP=   .41 HR,      CP=   .38

                                                   UNIT HYDROGRAPH
                                            48 END-OF-PERIOD ORDINATES
                 2.        9.       24.       38.       43.       43.       41.       39.       36.       32.
                28.       25.       22.       20.       18.       16.       14.       12.       11.       10.
                 9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                 3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        0.        0.        0.        0.

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

                       HYDROGRAPH AT STATION      C07
                     TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    3.20, TOTAL LOSS =     .83, TOTAL EXCESS =    2.37

 PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     79.       4.33                18.          5.          2.          1.
                        (INCHES)   2.315       2.362       2.362       2.362
                         (AC-FT)      9.          9.          9.          9.

                        CUMULATIVE AREA =     .07 SQ MI


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

                       HYDROGRAPH AT STATION      C07
                     TRANSPOSITION AREA       .5 SQ MI

   TOTAL RAINFALL =    3.18, TOTAL LOSS =     .82, TOTAL EXCESS =    2.35

 PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     78.       4.33                18.          5.          2.          1.
                        (INCHES)   2.297       2.343       2.343       2.343
                         (AC-FT)      9.          9.          9.          9.

                        CUMULATIVE AREA =     .07 SQ MI
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     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      C07
                   TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =    3.12, TOTAL LOSS =     .95, TOTAL EXCESS =    2.17

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      60.      4.42                16.          4.          1.          1.
                      (INCHES)    2.107       2.156       2.156       2.156
                      (AC-FT)        8.          8.          8.          8.

                     CUMULATIVE AREA =     .07 SQ MI


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

                     HYDROGRAPH AT STATION      C07
                   TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      47.      4.42                14.          4.          1.          1.
                      (INCHES)    1.860       1.914       1.914       1.914
                      (AC-FT)        7.          7.          7.          7.

                     CUMULATIVE AREA =     .07 SQ MI


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

                     HYDROGRAPH AT STATION      C07
                   TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.05, TOTAL EXCESS =    1.54

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      33.      4.42                11.          3.          1.          1.
                      (INCHES)    1.473       1.536       1.536       1.536
                      (AC-FT)        6.          6.          6.          6.

                     CUMULATIVE AREA =     .07 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                     HYDROGRAPH AT STATION      C07
                   TRANSPOSITION AREA    500.0 SQ MI

   TOTAL RAINFALL =    1.82, TOTAL LOSS =     .91, TOTAL EXCESS =     .91

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      15.      4.58                 7.          2.          1.          1.
                      (INCHES)     .861        .910        .910        .910
                      (AC-FT)        3.          3.          3.          3.

                     CUMULATIVE AREA =     .07 SQ MI

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


                     INTERPOLATED HYDROGRAPH AT      C07

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      78.      4.33                18.          5.          2.          1.
                      (INCHES)    2.306       2.353       2.353       2.353
                      (AC-FT)        9.          9.          9.          9.

                     CUMULATIVE AREA =     .07 SQ MI

1
                                        RUNOFF SUMMARY
                                   FLOW IN CUBIC FEET PER SECOND
                                  TIME IN HOURS,  AREA IN SQUARE MILES

                                PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
```

	OPERATION	STATION	FLOW	PEAK	6-HOUR	24-HOUR	72-HOUR	AREA	STAGE	MAX STAGE
+	HYDROGRAPH AT	G03	188.	4.17	25.	6.	2.	.09		
+	DIVERSION TO	DG03I	96.	4.17	13.	3.	1.	.09		
+	HYDROGRAPH AT	DG03	92.	4.17	12.	3.	1.	.09		
+	ROUTED TO	RG03S	84.	4.25	12.	3.	1.	.09		
+	HYDROGRAPH AT	G01	62.	4.25	13.	3.	1.	.05		
+	2 COMBINED AT	CG01	146.	4.25	25.	6.	2.	.10		
+	DIVERSION TO	DG01I	104.	4.25	18.	5.	2.	.10		
+	HYDROGRAPH AT	DG01	42.	4.25	7.	2.	1.	.10		
+	ROUTED TO	RG01S	39.	4.67	7.	2.	1.	.10		
+	HYDROGRAPH AT	F04	74.	4.25	17.	4.	1.	.06		
+	HYDROGRAPH AT	G04	94.	4.08	11.	3.	1.	.05		
+	ROUTED TO	RG04	92.	4.17	11.	3.	1.	.05		
+	HYDROGRAPH AT	G05	96.	4.08	13.	3.	1.	.05		
+	ROUTED TO	RG05	95.	4.25	13.	3.	1.	.05		
+	HYDROGRAPH AT	G06	333.	4.08	37.	9.	3.	.13		
+	DIVERSION TO	LG06D	226.	3.92	16.	4.	1.	.13		
+	HYDROGRAPH AT	LG06	333.	4.08	21.	5.	2.	.13		
+	DIVERSION TO	DG06I	142.	4.08	9.	2.	1.	.13		
+	HYDROGRAPH AT	DG06	191.	4.08	12.	3.	1.	.13		
+	DIVERSION TO	LG06AD	191.	4.08	9.	2.	1.	.13		
+	HYDROGRAPH AT	LG06A	43.	4.42	3.	1.	0.	.13		
+	HYDROGRAPH AT	G02	100.	4.25	19.	5.	2.	.08		
+	4 COMBINED AT	CG02	283.	4.25	46.	12.	4.	.23		
+	ROUTED TO	RG02	283.	4.33	46.	12.	4.	.23		
+	HYDROGRAPH AT	F06	151.	4.25	26.	6.	2.	.10		
+	2 COMBINED AT	CF06	427.	4.33	71.	18.	6.	.33		
+	ROUTED TO	RF06	425.	4.33	71.	18.	6.	.33		
+	HYDROGRAPH AT	F05	137.	4.25	22.	6.	2.	.09		
+	2 COMBINED AT	CF05	552.	4.33	94.	24.	8.	.42		
+	DIVERSION TO	DF05I	503.	4.33	68.	17.	6.	.42		
+	HYDROGRAPH AT	DF05	49.	3.92	25.	6.	2.	.42		

	ROUTED TO						
+		RF05W	49.	4.00	25.	6.	2.	.42
	3 COMBINED AT						
+		CF04	147.	4.50	49.	12.	4.	.17
	DIVERSION TO						
+		DF04I	80.	4.50	26.	7.	2.	.17
	HYDROGRAPH AT						
+		DF04	67.	4.50	23.	6.	2.	.17
	HYDROGRAPH AT						
+		F05R	503.	4.33	68.	17.	6.	.42
	ROUTED TO						
+		RF05S	492.	4.42	68.	17.	6.	.42
	HYDROGRAPH AT						
+		F03	243.	4.25	45.	11.	4.	.17
	2 COMBINED AT						
+		CF03	705.	4.42	112.	28.	9.	.56
	ROUTED TO						
+		RF03	700.	4.42	112.	28.	9.	.56
	HYDROGRAPH AT						
+		G06R	142.	4.08	9.	2.	1.	.13
	ROUTED TO						
+		RG06S	127.	4.42	9.	2.	1.	.13
	HYDROGRAPH AT						
+		F07	392.	4.25	72.	18.	6.	.25
	DIVERSION TO						
+		LF07D	381.	4.17	31.	8.	3.	.25
	HYDROGRAPH AT						
+		LF07	370.	4.33	42.	10.	3.	.25
	2 COMBINED AT						
+		CF07	462.	4.42	51.	13.	4.	.31
	DIVERSION TO						
+		DF07I	449.	4.42	45.	11.	4.	.31
	HYDROGRAPH AT						
+		DF07	16.	6.33	6.	2.	1.	.31
	ROUTED TO						
+		RF07W	16.	6.33	6.	2.	1.	.31
	HYDROGRAPH AT						
+		F02	62.	4.25	12.	3.	1.	.05
	3 COMBINED AT						
+		CF02	751.	4.42	129.	33.	11.	.63
	DIVERSION TO						
+		DF02I	701.	4.42	102.	26.	9.	.63
	HYDROGRAPH AT						
+		DF02	50.	3.92	27.	7.	2.	.63
	ROUTED TO						
+		RF02W	50.	4.00	27.	7.	2.	.63
	HYDROGRAPH AT						
+		F04R	80.	4.50	26.	7.	2.	.17
	ROUTED TO						
+		RF04S	80.	4.67	26.	7.	2.	.17
	DIVERSION TO						
+		DRF04I	40.	4.67	13.	3.	1.	.17
	HYDROGRAPH AT						
+		DRF04	40.	4.67	13.	3.	1.	.17
	HYDROGRAPH AT						
+		F01	42.	4.25	8.	2.	1.	.03
	3 COMBINED AT						
+		CF01	127.	4.25	48.	12.	4.	.10
	DIVERSION TO						
+		DF01I	3.	4.25	0.	0.	0.	.10
	HYDROGRAPH AT						
+		DF01	123.	4.25	48.	12.	4.	.10
	HYDROGRAPH AT						

+		DRF02	701.	4.42	102.	26.	9.	.63
+	ROUTED TO	RF02S	699.	4.50	102.	26.	9.	.63
+	HYDROGRAPH AT	E07	153.	4.17	21.	5.	2.	.08
+	2 COMBINED AT	CE07	773.	4.42	122.	31.	10.	.66
+	ROUTED TO	RE07	771.	4.50	122.	31.	10.	.66
+	HYDROGRAPH AT	E05	91.	4.17	12.	3.	1.	.05
+	2 COMBINED AT	CE05	804.	4.50	133.	33.	11.	.71
+	DIVERSION TO	DE05I	779.	4.50	120.	30.	10.	.71
+	HYDROGRAPH AT	DE05	25.	3.83	13.	3.	1.	.71
+	ROUTED TO	RE05W	25.	3.92	13.	3.	1.	.71
+	HYDROGRAPH AT	E04	42.	4.25	9.	2.	1.	.04
+	DIVERSION TO	LE04D	40.	4.25	3.	1.	0.	.04
+	HYDROGRAPH AT	LE04	42.	4.33	6.	2.	1.	.04
+	HYDROGRAPH AT	DRF01I	3.	4.25	0.	0.	0.	.10
+	ROUTED TO	RF01S	3.	4.58	0.	0.	0.	.10
+	3 COMBINED AT	CE04	68.	4.33	19.	5.	2.	.07
+	DIVERSION TO	DE04I	0.	.00	0.	0.	0.	.07
+	HYDROGRAPH AT	DE04	68.	4.33	19.	5.	2.	.07
+	3 COMBINED AT	DUMMY	255.	4.33	89.	23.	8.	.34
+	HYDROGRAPH AT	E08	42.	4.25	8.	2.	1.	.03
+	ROUTED TO	RE08	41.	4.33	8.	2.	1.	.03
+	HYDROGRAPH AT	E06	48.	4.25	9.	2.	1.	.04
+	2 COMBINED AT	CE06	87.	4.33	17.	4.	1.	.07
+	ROUTED TO	RE06	87.	4.33	17.	4.	1.	.07
+	HYDROGRAPH AT	DRDE05	779.	4.50	120.	30.	10.	.71
+	ROUTED TO	RDE05	780.	4.50	120.	30.	10.	.71
+	DIVERSION TO	DE052I	273.	4.50	43.	11.	4.	.71
+	HYDROGRAPH AT	DE052	507.	4.50	78.	19.	6.	.71
+	ROUTED TO	RE052E	504.	4.58	78.	19.	6.	.71
+	2 COMBINED AT	CE06B	566.	4.58	94.	24.	8.	.77
+	ROUTED TO	RE06B	567.	4.67	94.	24.	8.	.77
+	HYDROGRAPH AT	E03	47.	4.58	17.	5.	2.	.07

+	HYDROGRAPH AT DRF07	449.	4.42	45.	11.	4.	.31
+	ROUTED TO RF07S	404.	4.67	45.	11.	4.	.31
+	HYDROGRAPH AT E09	338.	4.25	64.	16.	5.	.22
+	DIVERSION TO LE09D	325.	4.17	27.	7.	2.	.22
+	HYDROGRAPH AT LE09	321.	4.33	37.	9.	3.	.22
+	2 COMBINED AT CE09	596.	4.67	82.	20.	7.	.51
+	DIVERSION TO DE09I	551.	4.67	64.	16.	5.	.51
+	HYDROGRAPH AT DE09	45.	4.33	18.	4.	1.	.51
+	ROUTED TO RE09W	45.	4.42	18.	4.	1.	.51
+	3 COMBINED AT CE03	701.	4.67	131.	33.	11.	.49
+	DIVERSION TO DE03I	611.	4.67	88.	22.	7.	.49
+	HYDROGRAPH AT DE03	90.	4.17	43.	11.	4.	.49
+	ROUTED TO RE03W	90.	4.33	43.	11.	4.	.49
+	HYDROGRAPH AT E02	186.	4.33	37.	9.	3.	.15
+	HYDROGRAPH AT RDE052	273.	4.50	43.	11.	4.	.71
+	ROUTED TO RE052S	267.	4.67	43.	11.	4.	.71
+	3 COMBINED AT CE02	510.	4.58	123.	32.	11.	.50
+	DIVERSION TO DE02I	376.	4.58	59.	15.	5.	.50
+	HYDROGRAPH AT DE02	134.	4.17	65.	17.	6.	.50
+	ROUTED TO RE02W	134.	4.75	65.	17.	6.	.50
+	HYDROGRAPH AT E01	84.	4.25	15.	4.	1.	.06
+	HYDROGRAPH AT DRE04I	0.	.00	0.	0.	0.	.07
+	ROUTED TO RE04S	0.	.00	0.	0.	0.	.07
+	3 COMBINED AT CE01	217.	4.25	80.	21.	7.	.17
+	DIVERSION TO DE01I	38.	4.25	7.	2.	1.	.17
+	HYDROGRAPH AT DE01	179.	4.17	73.	19.	6.	.17
+	HYDROGRAPH AT DRE01	38.	4.25	7.	2.	1.	.17
+	ROUTED TO RE01S	36.	4.50	7.	2.	1.	.17
+	HYDROGRAPH AT D05	197.	4.33	39.	10.	3.	.16
+	2 COMBINED AT CD05	221.	4.42	46.	12.	4.	.28
+	DIVERSION TO DD05I	54.	4.42	8.	2.	1.	.28
+	HYDROGRAPH AT DD05	167.	4.42	37.	10.	3.	.28

+	ROUTED TO	RD05S	166.	4.42	37.	10.	3.	.28
+	HYDROGRAPH AT	D13	54.	4.25	11.	3.	1.	.04
+	2 COMBINED AT	CD13	216.	4.42	48.	12.	4.	.26
+	DIVERSION TO	DD13I	121.	4.42	27.	7.	2.	.26
+	HYDROGRAPH AT	DD13	95.	4.42	21.	5.	2.	.26
+	ROUTED TO	RD13S	95.	4.50	21.	5.	2.	.26
+	HYDROGRAPH AT	D04	16.	4.25	3.	1.	0.	.01
+	ROUTED TO	RD04	15.	4.42	3.	1.	0.	.01
+	HYDROGRAPH AT	D01	73.	4.42	19.	5.	2.	.08
+	3 COMBINED AT	CD01	181.	4.42	43.	11.	4.	.21
+	DIVERSION TO	DD01I	68.	4.42	15.	4.	1.	.21
+	HYDROGRAPH AT	DD01	113.	4.42	29.	8.	3.	.21
+	ROUTED TO	RD01E	112.	4.50	29.	8.	3.	.21
+	HYDROGRAPH AT	DRD05	54.	4.42	8.	2.	1.	.28
+	ROUTED TO	RD05E	54.	4.42	8.	2.	1.	.28
+	DIVERSION TO	DD052I	40.	4.42	7.	2.	1.	.28
+	HYDROGRAPH AT	DD052	14.	4.42	2.	0.	0.	.28
+	ROUTED TO	RD05S2	13.	4.58	2.	0.	0.	.28
+	HYDROGRAPH AT	DRE02	376.	4.58	59.	15.	5.	.50
+	ROUTED TO	RE02S	372.	4.75	59.	15.	5.	.50
+	HYDROGRAPH AT	DRD052	40.	4.42	7.	2.	1.	.28
+	ROUTED TO	RD05E2	40.	4.50	7.	2.	1.	.28
+	HYDROGRAPH AT	D06	130.	4.33	28.	7.	2.	.11
+	3 COMBINED AT	CD06	492.	4.67	93.	23.	8.	.25
+	DIVERSION TO	DD06I	181.	4.67	34.	9.	3.	.25
+	HYDROGRAPH AT	DD06	311.	4.67	59.	15.	5.	.25
+	ROUTED TO	RD06S	310.	4.75	59.	15.	5.	.25
+	HYDROGRAPH AT	DRD13	121.	4.42	27.	7.	2.	.26
+	ROUTED TO	RD13E	120.	4.50	27.	7.	2.	.26
+	HYDROGRAPH AT	D02A	114.	4.17	18.	4.	1.	.07
+	4 COMBINED AT	CD10	485.	4.58	105.	27.	9.	.26
	DIVERSION TO							

+		DD10I	203.	4.58	45.	11.	4.	.26
	HYDROGRAPH AT							
+		DD10	282.	4.58	61.	15.	5.	.26
	ROUTED TO							
+		RD10S	280.	4.67	61.	15.	5.	.26
	HYDROGRAPH AT							
+		DO2B	103.	4.25	18.	4.	1.	.07
	3 COMBINED AT							
+		CD02	451.	4.58	107.	27.	9.	.35
	DIVERSION TO							
+		DD02I	87.	4.58	16.	4.	1.	.35
	HYDROGRAPH AT							
+		DD02	364.	4.58	91.	23.	8.	.35
	ROUTED TO							
+		RD02E	365.	4.58	91.	23.	8.	.35
	HYDROGRAPH AT							
+		D07	63.	4.25	12.	3.	1.	.05
	HYDROGRAPH AT							
+		DRD06	181.	4.67	34.	9.	3.	.25
	ROUTED TO							
+		RD06E	180.	4.67	34.	9.	3.	.25
	2 COMBINED AT							
+		CD07	221.	4.58	46.	12.	4.	.13
	ROUTED TO							
+		RD07	220.	4.67	46.	12.	4.	.13
	HYDROGRAPH AT							
+		DRD10	203.	4.58	45.	11.	4.	.26
	ROUTED TO							
+		RD10E	203.	4.58	45.	11.	4.	.26
	2 COMBINED AT							
+		CD11	422.	4.67	91.	23.	8.	.24
	ROUTED TO							
+		RD11	421.	4.67	91.	23.	8.	.24
	HYDROGRAPH AT							
+		DRE03S	611.	4.67	88.	22.	7.	.49
	HYDROGRAPH AT							
+		DRE09S	551.	4.67	64.	16.	5.	.51
	2 COMBINED AT							
+		CE10	1011.	4.67	141.	35.	12.	1.00
	DIVERSION TO							
+		DE10I	657.	4.67	92.	23.	8.	1.00
	HYDROGRAPH AT							
+		DE10	354.	4.67	49.	12.	4.	1.00
	ROUTED TO							
+		RE10SW	335.	4.83	49.	12.	4.	1.00
	HYDROGRAPH AT							
+		D08	49.	4.33	13.	3.	1.	.05
	2 COMBINED AT							
+		CD08	422.	4.83	66.	17.	6.	.46
	ROUTED TO							
+		RD08	411.	4.92	66.	17.	6.	.46
	HYDROGRAPH AT							
+		D03A	72.	4.25	13.	3.	1.	.05
	3 COMBINED AT							
+		CD12	786.	4.83	165.	42.	14.	.75
	ROUTED TO							
+		RD12	781.	4.92	164.	42.	14.	.75
	HYDROGRAPH AT							
+		RDE10I	657.	4.67	92.	23.	8.	1.00
	ROUTED TO							
+		RE10SE	615.	4.92	92.	23.	8.	1.00
	HYDROGRAPH AT							
+		D09	360.	4.17	62.	16.	5.	.22

+	DIVERSION TO	LD09D	346.	4.17	27.	7.	2.	.22
+	HYDROGRAPH AT	LD09	352.	4.25	35.	9.	3.	.22
+	2 COMBINED AT	CD09	757.	4.83	128.	32.	11.	.82
+	HYDROGRAPH AT	D03B	71.	4.25	13.	3.	1.	.05
+	4 COMBINED AT	CD03	1590.	4.92	361.	92.	31.	2.19
+	ROUTED TO	RD03	1582.	4.92	361.	92.	31.	2.19
+	HYDROGRAPH AT	C11	90.	4.17	12.	3.	1.	.05
+	HYDROGRAPH AT	C10	85.	4.17	13.	3.	1.	.05
+	HYDROGRAPH AT	DRD02	87.	4.58	16.	4.	1.	.35
+	ROUTED TO	RD02S	86.	4.58	16.	4.	1.	.35
+	2 COMBINED AT	CC10	141.	4.33	30.	7.	2.	.12
+	ROUTED TO	RC10	141.	4.42	30.	7.	2.	.12
+	3 COMBINED AT	CC11	1667.	4.92	396.	100.	33.	2.36
+	ROUTED TO	RC11	1657.	5.00	396.	100.	33.	2.36
+	HYDROGRAPH AT	C08	170.	4.25	29.	7.	2.	.12
+	2 COMBINED AT	CC08	1698.	4.92	420.	107.	36.	2.48
+	ROUTED TO	RC08	1701.	5.00	420.	107.	36.	2.48
+	HYDROGRAPH AT	C06	222.	4.25	38.	9.	3.	.15
+	2 COMBINED AT	CC06	1750.	5.00	452.	115.	38.	2.63
+	ROUTED TO	RC06	1745.	5.00	452.	115.	38.	2.63
+	HYDROGRAPH AT	DRD01	68.	4.42	15.	4.	1.	.21
+	ROUTED TO	RD01S	67.	4.67	15.	4.	1.	.21
+	HYDROGRAPH AT	C07	78.	4.33	18.	5.	2.	.07
+	2 COMBINED AT	CC07	139.	4.50	32.	8.	3.	.15
+	ROUTED TO	RC07	138.	4.67	32.	8.	3.	.15
+	HYDROGRAPH AT	C09	66.	4.25	14.	4.	1.	.06
+	ROUTED TO	RC09	56.	4.50	14.	4.	1.	.06
+	HYDROGRAPH AT	C05	151.	4.33	35.	9.	3.	.14
+	HYDROGRAPH AT	C01	37.	4.25	8.	2.	1.	.03
+	ROUTED TO	RC01	36.	4.50	8.	2.	1.	.03
+	HYDROGRAPH AT	C02	41.	4.25	10.	3.	1.	.04
+	5 COMBINED AT	CC02	397.	4.58	99.	25.	8.	.44

+	DIVERSION TO	DC02I	63.	4.58	8.	2.	1.	.44
+	HYDROGRAPH AT	DC02	334.	4.58	92.	23.	8.	.44
+	ROUTED TO	RC02E	334.	4.58	92.	23.	8.	.44
+	HYDROGRAPH AT	C03	68.	4.17	11.	3.	1.	.04
+	HYDROGRAPH AT	C12	3.	5.25	2.	1.	0.	.01
+	ROUTED TO	RC12	3.	5.75	2.	1.	0.	.01
+	HYDROGRAPH AT	C13	248.	4.25	50.	13.	4.	.18
+	DIVERSION TO	LC13D	248.	4.25	23.	6.	2.	.18
+	HYDROGRAPH AT	LC13	224.	4.42	28.	7.	2.	.18
+	2 COMBINED AT	CC13	224.	4.42	30.	8.	3.	.19
+	DIVERSION TO	DC13I	183.	4.42	20.	5.	2.	.19
+	HYDROGRAPH AT	DC13	41.	4.33	10.	3.	1.	.19
+	ROUTED TO	RC13W	41.	4.58	10.	3.	1.	.19
+	HYDROGRAPH AT	C04	40.	4.33	10.	3.	1.	.04
+	ROUTED TO	RC04	40.	4.42	10.	3.	1.	.04
+	5 COMBINED AT	CC03	1990.	5.00	554.	142.	47.	3.37
+	ROUTED TO	RC03	1982.	5.08	554.	142.	47.	3.37
+	HYDROGRAPH AT	B07	35.	4.08	4.	1.	0.	.02
+	2 COMBINED AT	CB07	1983.	5.08	557.	142.	47.	3.39
+	ROUTED TO	RB07	1985.	5.08	557.	142.	47.	3.39
+	HYDROGRAPH AT	B05	91.	4.25	20.	5.	2.	.09
+	DIVERSION TO	LB05D	2.	1.50	0.	0.	0.	.09
+	HYDROGRAPH AT	LB05	91.	4.25	20.	5.	2.	.09
+	HYDROGRAPH AT	DRC02	63.	4.58	8.	2.	1.	.44
+	ROUTED TO	RC02S	60.	4.67	8.	2.	1.	.44
+	HYDROGRAPH AT	B06	20.	4.17	4.	1.	0.	.01
+	4 COMBINED AT	CB05	2041.	5.08	581.	148.	49.	3.49
+	ROUTED TO	RB05	2037.	5.08	581.	148.	49.	3.49
+	HYDROGRAPH AT	B04	178.	4.08	22.	6.	2.	.08
+	DIVERSION TO	LB04D	178.	4.08	22.	6.	2.	.08
+	HYDROGRAPH AT	LB04	0.	.00	0.	0.	0.	.08
	HYDROGRAPH AT							

+	B02	191.	4.17	28.	7.	2.	.10
DIVERSION TO							
+	LB02D	50.	3.75	5.	1.	0.	.10
HYDROGRAPH AT							
+	LB02	191.	4.17	23.	6.	2.	.10
ROUTED TO							
+	RB02	189.	4.17	23.	6.	2.	.10
HYDROGRAPH AT							
+	B03	10.	4.17	2.	0.	0.	.01
4 COMBINED AT							
+	CB03	2058.	5.08	601.	153.	51.	3.66
ROUTED TO							
+	RB03	2050.	5.08	601.	153.	51.	3.66
HYDROGRAPH AT							
+	B01	162.	4.08	16.	4.	1.	.07
DIVERSION TO							
+	LB01D	25.	3.67	2.	1.	0.	.07
HYDROGRAPH AT							
+	LB01	162.	4.08	14.	3.	1.	.07
2 COMBINED AT							
+	CB01	2051.	5.08	612.	156.	52.	3.73
ROUTED TO							
+	RB01	2051.	5.17	612.	156.	52.	3.73
HYDROGRAPH AT							
+	B12	233.	4.17	27.	7.	2.	.12
HYDROGRAPH AT							
+	B11	107.	4.17	13.	3.	1.	.06
DIVERSION TO							
+	LB11D	103.	4.08	6.	1.	0.	.06
HYDROGRAPH AT							
+	LB11	95.	4.25	7.	2.	1.	.06
HYDROGRAPH AT							
+	DRDC13	183.	4.42	20.	5.	2.	.19
ROUTED TO							
+	RC13S	166.	5.08	20.	5.	2.	.19
HYDROGRAPH AT							
+	B13	445.	4.08	52.	13.	4.	.22
DIVERSION TO							
+	LB13D	445.	4.08	37.	9.	3.	.22
HYDROGRAPH AT							
+	LB13	224.	4.42	15.	4.	1.	.22
ROUTED TO							
+	RB13	216.	4.58	15.	4.	1.	.22
HYDROGRAPH AT							
+	B14	195.	4.25	44.	11.	4.	.15
DIVERSION TO							
+	LB14D	195.	4.25	21.	5.	2.	.15
HYDROGRAPH AT							
+	LB14	174.	4.50	24.	6.	2.	.15
3 COMBINED AT							
+	CB14	367.	4.58	59.	15.	5.	.52
ROUTED TO							
+	RB14	336.	4.67	59.	15.	5.	.52
4 COMBINED AT							
+	CB12	2162.	5.17	676.	173.	58.	4.43
ROUTED TO							
+	RB12	2134.	5.42	675.	173.	58.	4.43
HYDROGRAPH AT							
+	A01	1075.	4.17	154.	39.	13.	.51
DIVERSION TO							
+	LA01D	953.	4.08	71.	18.	6.	.51
HYDROGRAPH AT							
+	LA01	1041.	4.25	84.	21.	7.	.51

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        2 COMBINED AT
+                       CA01      2170.    5.42         743.        190.         63.       4.94

        HYDROGRAPH AT
+                        B10        95.    4.33          22.          6.          2.        .11

        DIVERSION TO
+                      LB10D        95.    4.33          21.          5.          2.        .11

        HYDROGRAPH AT
+                       LB10         7.    6.75           1.          0.          0.        .11
1
                                   SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                          INTERPOLATED TO
                                                                       COMPUTATION INTERVAL
         ISTAQ    ELEMENT      DT        PEAK    TIME TO     VOLUME      DT        PEAK    TIME TO     VOLUME
                                                   PEAK                                                  PEAK

                             (MIN)      (CFS)     (MIN)      (IN)     (MIN)      (CFS)     (MIN)       (IN)

         FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RF05W  MANE          .86     49.00    236.76       .57      5.00     49.00    240.00        .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1279E+02 EXCESS= .0000E+00 OUTFLOW= .1279E+02 BASIN STORAGE= .1300E-12 PERCENT ERROR=    .0

         FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RF05W  MANE          .82     49.00    237.07       .57      5.00     49.00    240.00        .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1275E+02 EXCESS= .0000E+00 OUTFLOW= .1275E+02 BASIN STORAGE= .1314E-12 PERCENT ERROR=    .0

         FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RF05W  MANE          .87     49.00    232.10       .60      5.00     49.00    235.00        .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1342E+02 EXCESS= .0000E+00 OUTFLOW= .1342E+02 BASIN STORAGE= .1328E-12 PERCENT ERROR=    .0

         FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RF05W  MANE          .76     49.00    236.65       .64      5.00     49.00    240.00        .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1428E+02 BASIN STORAGE= .1323E-12 PERCENT ERROR=    .0

         FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RF05W  MANE          .73     49.00    236.91       .66      5.00     49.00    240.00        .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+02 EXCESS= .0000E+00 OUTFLOW= .1473E+02 BASIN STORAGE= .1352E-12 PERCENT ERROR=    .0

         FOR STORM = 6  STORM AREA (SQ MI) =     500.00
            RF05W  MANE          .85     46.98    275.88       .55      5.00     46.98    275.00        .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1242E+02 EXCESS= .0000E+00 OUTFLOW= .1242E+02 BASIN STORAGE= .1305E-12 PERCENT ERROR=    .0

         FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RF03  MANE          .78    723.47    265.93      1.92      5.00    720.34    265.00       1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5696E+02 EXCESS= .0000E+00 OUTFLOW= .5697E+02 BASIN STORAGE= .3554E-04 PERCENT ERROR=    .0

         FOR STORM = 2  STORM AREA (SQ MI) =        .50
             RF03  MANE          .78    715.27    265.63      1.90      5.00    712.47    265.00       1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5639E+02 EXCESS= .0000E+00 OUTFLOW= .5639E+02 BASIN STORAGE= .3461E-04 PERCENT ERROR=    .0

         FOR STORM = 3  STORM AREA (SQ MI) =       2.80
             RF03  MANE          .91    510.61    266.71      1.69      5.00    508.28    270.00       1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4999E+02 EXCESS= .0000E+00 OUTFLOW= .4999E+02 BASIN STORAGE= .3662E-04 PERCENT ERROR=    .0

         FOR STORM = 4  STORM AREA (SQ MI) =      16.00
             RF03  MANE         1.05    384.44    269.83      1.41      5.00    384.36    270.00       1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4184E+02 EXCESS= .0000E+00 OUTFLOW= .4184E+02 BASIN STORAGE= .3605E-04 PERCENT ERROR=    .0

         FOR STORM = 5  STORM AREA (SQ MI) =      90.00
             RF03  MANE         1.35    248.91    271.16      1.04      5.00    248.31    270.00       1.04
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .3081E+02 EXCESS= .0000E+00 OUTFLOW= .3081E+02 BASIN STORAGE= .3478E-04 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
           RF03  MANE         2.68     83.31    281.86       .51      5.00     83.27    280.00         .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1526E+02 EXCESS= .0000E+00 OUTFLOW= .1526E+02 BASIN STORAGE= .3969E-04 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RF07W  MANE         5.00     15.82    380.00       .18      5.00     15.82    380.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3032E+01 EXCESS= .0000E+00 OUTFLOW= .3012E+01 BASIN STORAGE= .6039E-03 PERCENT ERROR=    .6

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RF07W  MANE         5.00     15.82    380.00       .18      5.00     15.82    380.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3029E+01 EXCESS= .0000E+00 OUTFLOW= .3010E+01 BASIN STORAGE= .6008E-03 PERCENT ERROR=    .6

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RF07W  MANE         5.00     15.86    390.00       .19      5.00     15.86    390.00         .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3146E+01 EXCESS= .0000E+00 OUTFLOW= .3124E+01 BASIN STORAGE= .7440E-03 PERCENT ERROR=    .7

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RF07W  MANE         5.00     15.82    390.00       .18      5.00     15.82    390.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3073E+01 EXCESS= .0000E+00 OUTFLOW= .3054E+01 BASIN STORAGE= .7580E-03 PERCENT ERROR=    .6

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RF07W  MANE         5.00     15.85    395.00       .18      5.00     15.85    395.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3052E+01 EXCESS= .0000E+00 OUTFLOW= .3032E+01 BASIN STORAGE= .4244E-03 PERCENT ERROR=    .6

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RF07W  MANE         5.00     15.83    390.00       .14      5.00     15.83    390.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2318E+01 EXCESS= .0000E+00 OUTFLOW= .2296E+01 BASIN STORAGE= .3909E-03 PERCENT ERROR=    .9

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RF02W  MANE         1.90     50.00    239.64       .41      5.00     50.00    240.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1382E+02 EXCESS= .0000E+00 OUTFLOW= .1382E+02 BASIN STORAGE= .7249E-11 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RF02W  MANE         1.90     50.00    239.86       .41      5.00     50.00    240.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1378E+02 EXCESS= .0000E+00 OUTFLOW= .1378E+02 BASIN STORAGE= .7126E-11 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RF02W  MANE         1.90     50.00    235.22       .43      5.00     50.00    240.00         .43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1445E+02 EXCESS= .0000E+00 OUTFLOW= .1445E+02 BASIN STORAGE= .6911E-11 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RF02W  MANE         1.84     50.00    238.78       .46      5.00     50.00    240.00         .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1533E+02 EXCESS= .0000E+00 OUTFLOW= .1533E+02 BASIN STORAGE= .7064E-11 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RF02W  MANE         1.84     50.00    243.75       .47      5.00     50.00    245.00         .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1574E+02 EXCESS= .0000E+00 OUTFLOW= .1575E+02 BASIN STORAGE= .7000E-11 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RF02W  MANE         1.92     48.76    283.04       .41      5.00     48.73    285.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1356E+02 EXCESS= .0000E+00 OUTFLOW= .1356E+02 BASIN STORAGE= .7742E-11 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
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RE05W  MANE        1.75     25.00    235.00       .17      5.00     25.00    240.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6361E+01 EXCESS= .0000E+00 OUTFLOW= .6363E+01 BASIN STORAGE= .3600E-11 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RE05W  MANE        1.75     25.00    235.20       .17      5.00     25.00    240.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6344E+01 EXCESS= .0000E+00 OUTFLOW= .6346E+01 BASIN STORAGE= .3609E-11 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
RE05W  MANE        1.87     25.00    228.79       .18      5.00     25.00    230.00         .18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6667E+01 EXCESS= .0000E+00 OUTFLOW= .6668E+01 BASIN STORAGE= .3706E-11 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
RE05W  MANE        1.82     25.00    230.13       .19      5.00     25.00    235.00         .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7006E+01 EXCESS= .0000E+00 OUTFLOW= .7007E+01 BASIN STORAGE= .3672E-11 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
RE05W  MANE        1.83     25.00    234.15       .19      5.00     25.00    235.00         .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7073E+01 EXCESS= .0000E+00 OUTFLOW= .7074E+01 BASIN STORAGE= .3758E-11 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
RE05W  MANE        1.78     25.00    269.91       .15      5.00     25.00    270.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5814E+01 EXCESS= .0000E+00 OUTFLOW= .5815E+01 BASIN STORAGE= .3736E-11 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RE09W  MANE         .70     45.00    256.49       .32      5.00     45.00    260.00         .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8814E+01 EXCESS= .0000E+00 OUTFLOW= .8815E+01 BASIN STORAGE= .9349E-13 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RE09W  MANE         .70     45.00    256.49       .32      5.00     45.00    260.00         .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8798E+01 EXCESS= .0000E+00 OUTFLOW= .8799E+01 BASIN STORAGE= .9238E-13 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
RE09W  MANE         .70     45.00    261.49       .33      5.00     45.00    265.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9004E+01 EXCESS= .0000E+00 OUTFLOW= .9005E+01 BASIN STORAGE= .9231E-13 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
RE09W  MANE         .70     45.00    261.49       .34      5.00     45.00    265.00         .34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9184E+01 EXCESS= .0000E+00 OUTFLOW= .9185E+01 BASIN STORAGE= .9150E-13 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
RE09W  MANE         .81     45.00    272.04       .33      5.00     45.00    275.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8927E+01 EXCESS= .0000E+00 OUTFLOW= .8926E+01 BASIN STORAGE= .9130E-13 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
RE09W  MANE         .81     45.00    341.94       .20      5.00     45.00    345.00         .20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5502E+01 EXCESS= .0000E+00 OUTFLOW= .5501E+01 BASIN STORAGE= .9215E-13 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RE03W  MANE        1.12     90.00    255.07       .85      5.00     90.00    260.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2237E+02 EXCESS= .0000E+00 OUTFLOW= .2237E+02 BASIN STORAGE= .7122E-11 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RE03W  MANE        1.13     90.00    255.27       .85      5.00     90.00    260.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2231E+02 EXCESS= .0000E+00 OUTFLOW= .2231E+02 BASIN STORAGE= .7201E-11 PERCENT ERROR=    .0
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FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RE03W  MANE         1.14     90.00    255.23       .89      5.00     90.00    260.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2318E+02 EXCESS= .0000E+00 OUTFLOW= .2318E+02 BASIN STORAGE= .7039E-11 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RE03W  MANE         1.09     90.00    260.17       .90      5.00     90.00    265.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2350E+02 EXCESS= .0000E+00 OUTFLOW= .2350E+02 BASIN STORAGE= .6936E-11 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RE03W  MANE         1.09     90.00    265.15       .88      5.00     90.00    270.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2298E+02 EXCESS= .0000E+00 OUTFLOW= .2298E+02 BASIN STORAGE= .7006E-11 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RE03W  MANE         1.12     82.01    323.08       .60      5.00     81.48    320.00         .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1571E+02 EXCESS= .0000E+00 OUTFLOW= .1571E+02 BASIN STORAGE= .7154E-11 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RE02W  MANE         1.22    134.00    298.72      1.26      5.00    134.00    300.00        1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3376E+02 EXCESS= .0000E+00 OUTFLOW= .3374E+02 BASIN STORAGE= .1246E-03 PERCENT ERROR=    .1

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RE02W  MANE         1.22    134.00    299.94      1.25      5.00    134.00    300.00        1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3366E+02 EXCESS= .0000E+00 OUTFLOW= .3364E+02 BASIN STORAGE= .1241E-03 PERCENT ERROR=    .1

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RE02W  MANE         1.22    134.00    299.94      1.30      5.00    134.00    300.00        1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3490E+02 EXCESS= .0000E+00 OUTFLOW= .3488E+02 BASIN STORAGE= .1235E-03 PERCENT ERROR=    .1

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RE02W  MANE         1.22    134.00    304.81      1.33      5.00    134.00    305.00        1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3556E+02 EXCESS= .0000E+00 OUTFLOW= .3555E+02 BASIN STORAGE= .1226E-03 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RE02W  MANE         1.22    134.00    304.81      1.29      5.00    134.00    300.00        1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3463E+02 EXCESS= .0000E+00 OUTFLOW= .3462E+02 BASIN STORAGE= .1244E-03 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RE02W  MANE         1.29    100.87    321.99       .92      5.00    100.60    325.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2466E+02 EXCESS= .0000E+00 OUTFLOW= .2466E+02 BASIN STORAGE= .1247E-03 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RC13W  MANE         3.65     46.50    266.13       .53      5.00     41.26    275.00         .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5226E+01 EXCESS= .0000E+00 OUTFLOW= .5228E+01 BASIN STORAGE= .2942E-03 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RC13W  MANE         3.65     46.50    266.13       .53      5.00     41.26    275.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5207E+01 EXCESS= .0000E+00 OUTFLOW= .5208E+01 BASIN STORAGE= .2924E-03 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RC13W  MANE         3.65     42.53    269.78       .51      5.00     42.52    270.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5095E+01 EXCESS= .0000E+00 OUTFLOW= .5096E+01 BASIN STORAGE= .2926E-03 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RC13W  MANE         3.65     42.54    277.07       .50      5.00     41.27    285.00         .50
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .4910E+01 EXCESS= .0000E+00 OUTFLOW= .4911E+01 BASIN STORAGE= .2910E-03 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
           RC13W  MANE         3.69     42.42    280.61       .40      5.00     38.41    280.00         .41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4009E+01 EXCESS= .0000E+00 OUTFLOW= .4011E+01 BASIN STORAGE= .2894E-03 PERCENT ERROR=   -.1

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
           RC13W  MANE         4.55     14.08    332.19       .16      5.00     13.43    335.00         .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1538E+01 EXCESS= .0000E+00 OUTFLOW= .1539E+01 BASIN STORAGE= .2917E-03 PERCENT ERROR=   -.1

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RB05  MANE          .80   2675.29    300.82      1.83      5.00   2666.38    300.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3406E+03 EXCESS= .0000E+00 OUTFLOW= .3406E+03 BASIN STORAGE= .3954E-04 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RB05  MANE          .80   2640.87    301.35      1.81      5.00   2631.44    300.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3373E+03 EXCESS= .0000E+00 OUTFLOW= .3373E+03 BASIN STORAGE= .3946E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RB05  MANE          .77   2103.44    305.85      1.61      5.00   2102.11    305.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2997E+03 EXCESS= .0000E+00 OUTFLOW= .2997E+03 BASIN STORAGE= .3951E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RB05  MANE          .79   1604.29    310.49      1.37      5.00   1603.72    310.00        1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2557E+03 EXCESS= .0000E+00 OUTFLOW= .2557E+03 BASIN STORAGE= .3945E-04 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RB05  MANE          .94   1000.18    320.90      1.02      5.00   1000.16    320.00        1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1904E+03 EXCESS= .0000E+00 OUTFLOW= .1904E+03 BASIN STORAGE= .3952E-04 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
            RB05  MANE         1.47    337.65    296.38       .49      5.00    337.28    295.00         .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9163E+02 EXCESS= .0000E+00 OUTFLOW= .9163E+02 BASIN STORAGE= .3952E-04 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RB02  MANE         1.75    190.13    250.69      2.16      5.00    189.98    250.00        2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1162E+02 EXCESS= .0000E+00 OUTFLOW= .1162E+02 BASIN STORAGE= .1872E-04 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RB02  MANE         1.76    189.50    251.52      2.14      5.00    188.67    250.00        2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1151E+02 EXCESS= .0000E+00 OUTFLOW= .1151E+02 BASIN STORAGE= .1908E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RB02  MANE         1.50    128.65    252.00      1.99      5.00    127.78    250.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1071E+02 EXCESS= .0000E+00 OUTFLOW= .1071E+02 BASIN STORAGE= .1908E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RB02  MANE         2.00     99.49    252.00      1.77      5.00     98.75    250.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9544E+01 EXCESS= .0000E+00 OUTFLOW= .9544E+01 BASIN STORAGE= .2246E-04 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RB02  MANE         2.25     69.04    254.25      1.41      5.00     68.84    255.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7572E+01 EXCESS= .0000E+00 OUTFLOW= .7572E+01 BASIN STORAGE= .2417E-04 PERCENT ERROR=    .0
```
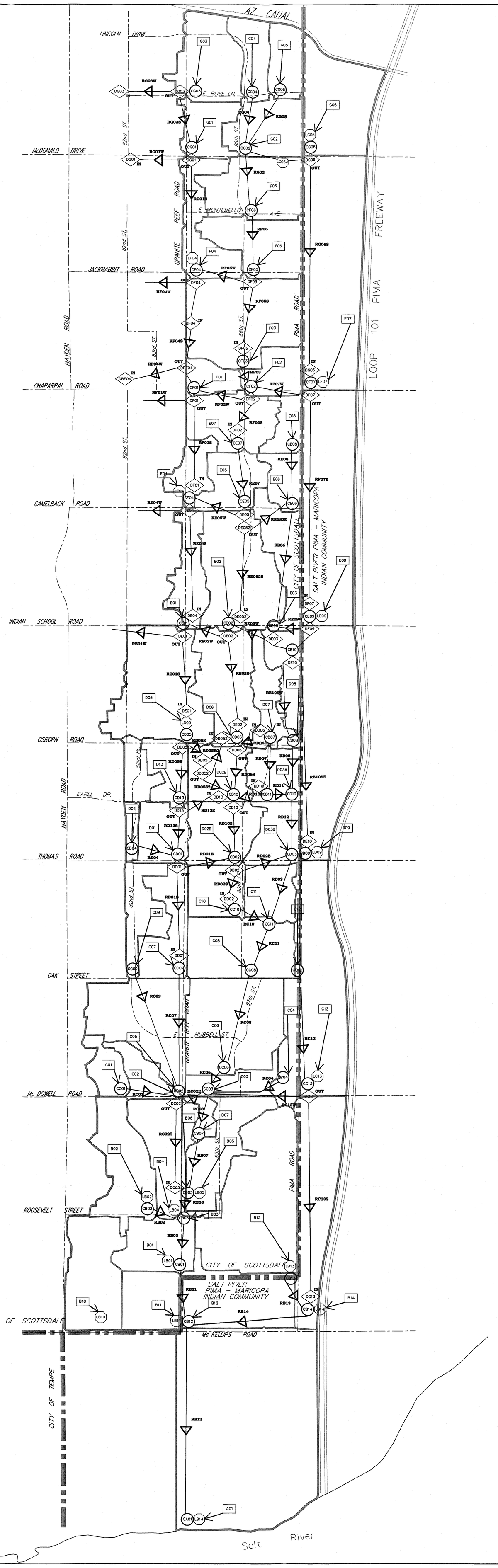

```
FOR STORM = 6  STORM AREA (SQ MI) =      500.00
    RB02  MANE          2.00     33.16    262.00        .74       5.00     33.11    260.00          .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4012E+01 EXCESS= .0000E+00 OUTFLOW= .4011E+01 BASIN STORAGE= .2000E-04 PERCENT ERROR=     .0


*** NORMAL END OF HEC-1 ***
```



LEGEND

- Basin Boundary
- G03 Basin Label
- CG03 Concentration Point
- DG03 OUT Diversion Point
- DG03 IN Diversion Recovery Point
- RG03W Routing Reach
- LE04 Storage Routing
- Roadway Center Line
- Community Boundary
- Watershed Boundary

1,000 0 1,000 2,000

PSOMAS

3800 N. Central Ave., Suite 1200
Phoenix, AZ 85012
Tel (602) 222-8260 Fax (602) 266-0218

Updated: SEB
Date: 1/5/09
Project No. 06077-01

GRANITE REEF WASH DRAINAGE STUDY
AND PRELIMINARY DESIGN PROJECT

CITY OF SCOTTSDALE STORMWATER MANAGEMENT
PROJECT NO. F207

EXHIBIT 1U

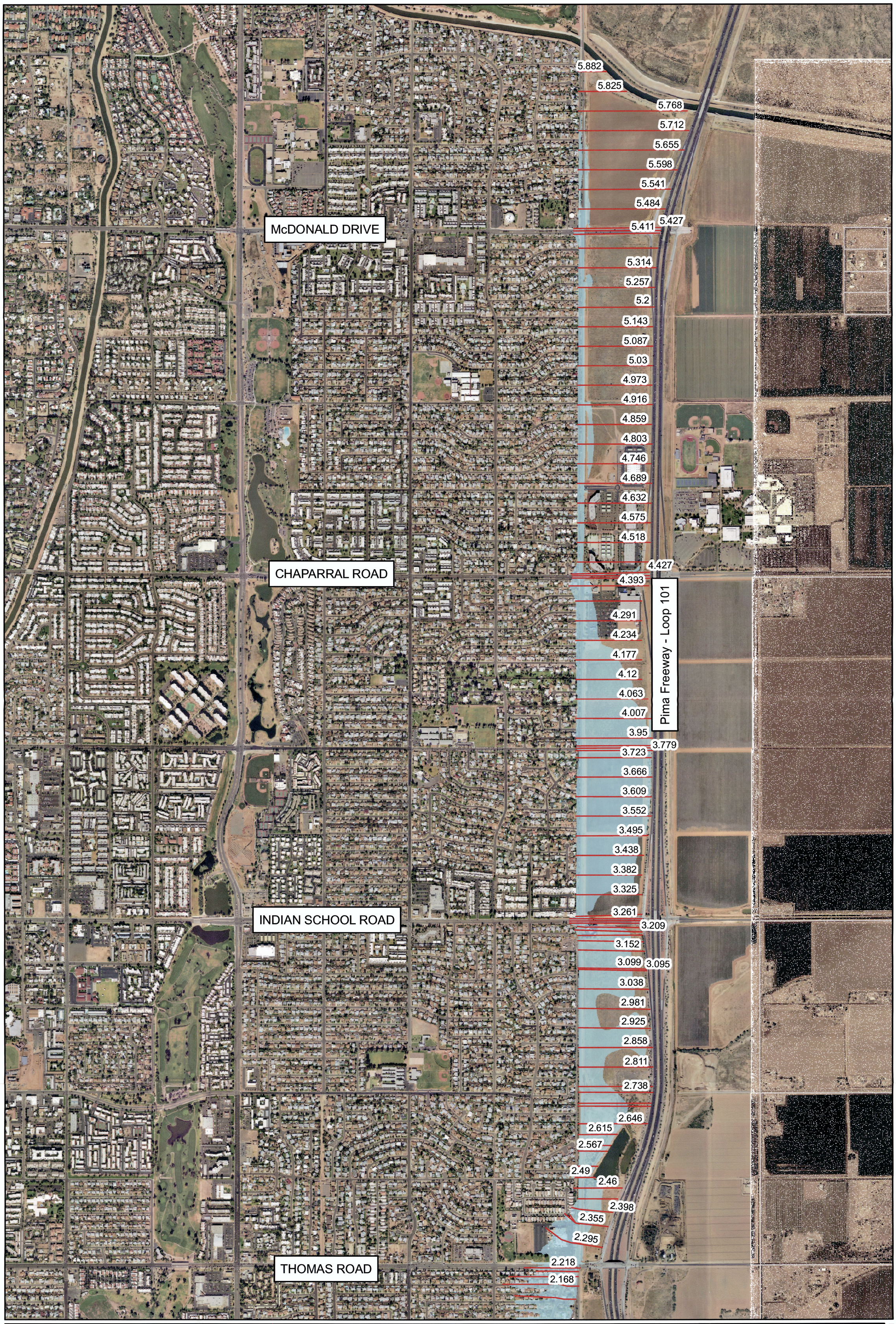
BASE MODEL - BASE6U.DAT
HEC-1 SCHEMATIC DRAWING

ORIGINAL DRAWING CREATED BY:

Entellus™

FOR:

GRANITE REEF DRAINAGE MASTER PLAN
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD PROJECT NO. FCD 2000 C 038



Miles
0 0.25 0.5

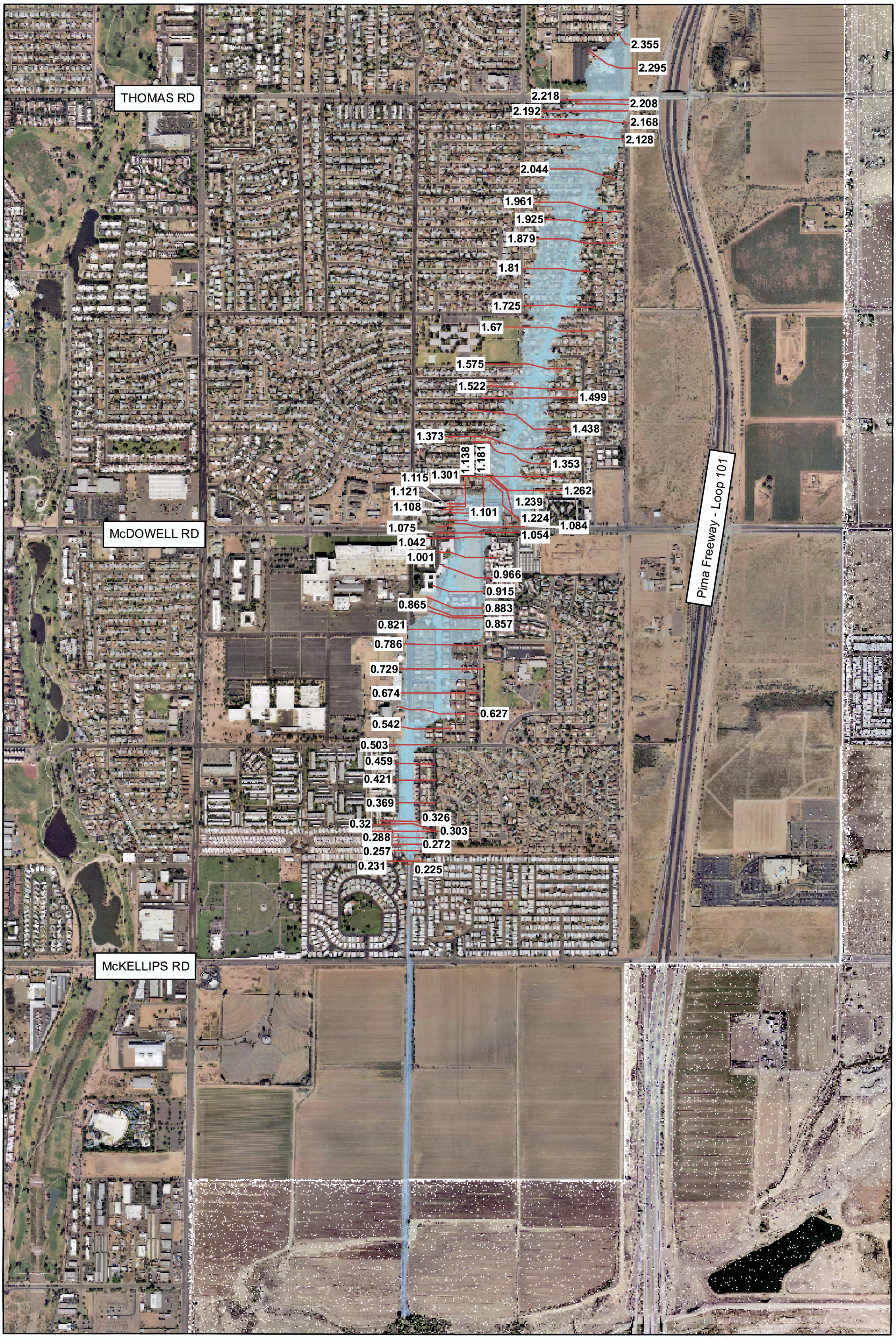
Figure 4

City of Scottsdale
Granite Reef Wash Project
HEC RAS Schematic
Thomas Road to Chaparral Road

Map: SCDL-3 U

Printed On: 01/24/2008

Created By: PSOMAS



Feet
0 500 1,000 1,500

Figure 3A

City of Scottsdale
Granite Reef Wash Project

HEC RAS Schematic

Map: SCDL-3

Printed On: 01/24/2008

Created By: PSOMAS

```
1****************************************                                    ****************************************
 *                                      *                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *   U.S. ARMY CORPS OF ENGINEERS       *
 *              JUN   1998              *                                    *   HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.1                *                                    *         609 SECOND STREET            *
 *                                      *                                    *      DAVIS, CALIFORNIA 95616         *
 *  RUN DATE   17DEC08  TIME  13:53:39  *                                    *          (916) 756-1104              *
 *                                      *                                    *                                      *
 ****************************************                                    ****************************************


                                        X     X  XXXXXXX   XXXXX           X
                                        X     X  X        X     X         XX
                                        X     X  X        X                X
                                        XXXXXXX  XXXX     X        XXXXX   X
                                        X     X  X        X                X
                                        X     X  X        X     X          X
                                        X     X  XXXXXXX   XXXXX          XXX


          THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

          THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
          THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
          NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
          DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
          KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                                HEC-1 INPUT                                                    PAGE  1

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

           1          ID   Project ID: SCOTTSDALE - Major Basin: 01 - Return Period: 100
           2          ID   ******************************************************************************
           3          ID   **                                                                          **
           4          ID   **                    Updated Granite Reef ADMP                             **
           5          ID   **                                                                          **
           6          ID   ******************************************************************************
           7          ID   ******************************************************************************
           8          ID   PROJECT:                Granite Reef Wash DMP Update
           9          ID   CLIENT:                 City of Scottsdale
          10          ID   PREPARED BY:            Psomas
          11          ID   PROJECT No:             COS                Psomas 06077-01
          12          ID   FILE NAME: PIMASD6UMC.DAT                    CREATED DATE: Feb 26, 2007
          13          ID
          14          ID   (Pima Road Conduit Alternative Model from McKellips to Salt River)
          15          ID
          16          ID   MODIFIED: Dec 16, 2008 (SEB/JKK PSOMAS)
          17          ID
          18          ID        * Added interceptions at Chaparral/Pima and at Camelback/86th
          19          ID        * Camelback/Pima Frontage Road and Camelback/Pima Road along
          20          ID        * with corresponding Pima Road Conduit routings between
          21          ID        * Chaparral Road and Indian School Road
          22          ID        * Added interception at Granite Reef Wash and McKellips Road
          23          ID        * and corresponding routing to ????
          24          ID        * Updates to routings from CE05 to CE02 and CE03 (by SEB/JKK)
          25          ID        * Updates to flow splits at Indian School Road and Pima Road
          26          ID          based on Flo-2D analysis and field visits (by SEB/JKK);
          27          ID          added CE10 and diversion DE10
          28          ID        * Interception elements added along Pima Road south of
          29          ID          Indian School Road to account for interception along
          30          ID          the Pima Frontage Road and along Pima Road (In1E, In2E, In5E)
          31          ID        * ELEMENTS ADDED TO REPRESENT PIMA ROAD CONDUIT (by RAK/JKK)
          32          ID        * ORIGINAL CARDS STARRED-OUT (by RAK/JKK)
          33          ID        * COMMENT CARDS ADDED (by RAK/JKK)
          34          ID
          35          ID   STORM:                  100-year 6-hour Storm
          36          ID   DEVELOPMENT CONDITIONS: Future Conditions
          37          ID
          38          ID   DDM MCUHP1
                      *
                      *  ADDITIONAL 6FT STORM DRAIN IN INDIAN SCHOOL ROAD WAS ASSUMED
                      *  TO BE CONSTRUCTED.
                      *
                      * ****************************************************************************
                      *  ELEMENT LETTER DESIGNATION LOCATED BETWEEN:
                      *     A. MCKELLIPS ROAD AND SALT RIVER
                      *     B. MCDOWELL ROAD AND MCKELLIPS ROAD
                      *     C. THOMAS ROAD AND MCDOWELL ROAD
                      *     D. INDIAN SCHOOL ROAD AND THOMAS ROAD
                      *     E. CHAPARRAL ROAD AND INDIAN SCHOOL ROAD
                      *     F. MCDONALD DRIVE AND CHAPARRAL ROAD
                      *     G. AZ CANAL AND MCDONALD DRIVE
                      * ****************************************************************************
                      *
          39          ID
          40          IT       5                   1000
1                                                HEC-1 INPUT                                                    PAGE  2
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  41          IO       5
              *
              *DIAGRAM
              *
  42          IN      15
  43          JD    3.20    0.01
  44          PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
  45          PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
  46          PC   0.962   0.972   0.983   0.991   1.000
  47          JD   3.179    0.50
  48          JD   3.120    2.80
  49          PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
  50          PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
  51          PC   0.950   0.963   0.975   0.988   1.000
  52          JD   2.950    16.0
  53          PC   0.000   0.009   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
  54          PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
  55          PC   0.946   0.960   0.973   0.987   1.000
  56          JD   2.598    90.0
  57          PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
  58          PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
  59          PC   0.927   0.945   0.964   0.982   1.000
  60          JD   1.824   500.0
  61          PC   0.000   0.024   0.043   0.059   0.078   0.098   0.119   0.141   0.162   0.186
  62          PC   0.212   0.239   0.271   0.321   0.408   0.515   0.627   0.735   0.814   0.864
  63          PC   0.907   0.930   0.954   0.977   1.000
              *
              *

  64          KK     G03   BASIN
  65          BA   0.093
  66          LG    0.23    0.25    5.60    0.26      55
  67          UC   0.367   0.275
  68          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  69          UA     100
              *
              *
              * *** DIVERSION DG03 ********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

  70          KK    DG03
  71          DT   DG03I
  72          DI       0       7      22      43      70     101     124     180     217     264
  73          DQ       0     3.5      11      22      35      51      63      92     112     137
              *
              *
              * Route is a Minor Arterial Road with a median.
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  74          KK   RG03S
  75          RS       1    FLOW       0
  76          RC    .035   0.015    .035    1322  0.0024
  77          RX       0       1      40      41     105     106     146     147
  78          RY       8       2       1      .5      .5       1       2       8
              *

  79          KK     G01   BASIN
  80          BA   0.049
  81          LG    0.21    0.25    4.80    0.38      57
  82          UC   0.588   0.598
  83          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
  84          UA     100
              *
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DG03.
              * THE HARD-CODE VALUE IS 50% OF CG03'S CONTRIBUTING AREA.
              * SEE DIVERSION DG03.
              *
              * DDM   ***** Preserved *****

  85          KK    CG01
  86          KM        MCDONALD DRIVE AND GRANITE REEF ROAD
  87          HC       2   0.096
              *
              *
              * *** DIVERSION DG01 ********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

  88          KK    DG01
  89          DT   DG01I
```

```
 90          DI       0      10      29      57      92     134     144     194     233     278
 91          DQ       0       7      21      41      66      96     103     139     166     198
             *
             *
             * Route is a Minor Arterial Road.
             *

 92          KK   RG01S
 93          RS      16    FLOW       0
 94          RC   0.035   0.015   0.035    2625  0.0014
 95          RX       0       1      40      41     105     106     146     147
 96          RY       8       2       1      .5      .5       1       2       8
             *
1                                          HEC-1 INPUT                                          PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 97          KK     F04   BASIN
 98          KM
 99          KM    This basin's original area was 0.073 sq mi.  The infield area is bermed
100          KM    so it is self-detained.  The infield area (0.013 sq mi) was subtracted
101          KM    from the subbasin calculations to account for the storage.
102          KM
103          BA   0.060
104          LG    0.15    0.25    4.80    0.42      68
105          UC   0.567   0.659
106          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
107          UA     100
             *
             *

108          KK     G04   BASIN
109          KO       3
110          BA   0.045
111          LG    0.25    0.25    4.80    0.35      51
112          UC   0.296   0.261
113          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
114          UA     100
             *
             *
             * Route is a Subdivision Road.
             *

115          KK    RG04
116          RS       4    FLOW       0
117          RC    .035   0.015   0.035    1336  0.0033
118          RX       0       1      28      29      57      58      86      87
119          RY       8       2       1     0.5     0.5       1       2       8
             *

120          KK     G05   BASIN
121          BA   0.045
122          LG    0.24    0.15    7.00    0.14      53
123          UC   0.317   0.283
124          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
125          UA     100
             *
             *
             * Route is a Subdivision Road.
             *

126          KK    RG05
127          RS       7    FLOW       0
128          RC   0.035   0.015   0.035    1994  0.0026
129          RX       0       1      28      29      57      58      86      87
130          RY       8       2       1     0.5     0.5       1       2       8
             *
1                                          HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

131          KK     G06   BASIN
132          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
133          BA   0.127
134          LG    0.10    0.35    2.65    1.70      80
135          UC   0.254   0.140
136          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
137          UA     100
             *
             *
             *
             * *** STORAGE ROUTING LG06 ********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****

138          KK    LG06
139          DT   LG06D     8.0
140          DI       0     100    1000   10000
141          DQ       0     100    1000   10000
             *
             * *** CG06 LOCATED AT MCDONALD DRIVE AND PIMA ROAD ****************************
```

```
                 *
                 * *** DIVERSION DG06 ********************************************************
                 *
                 * THIS DIVESION IS DUE TO THE DETENTION BASIN.
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 * DDM   ***** Preserved *****

 142             KK    DG06
 143             DT   DG06I
 144             DI       0      50     100     200     300     500     700     900    1000
 145             DQ       0      25      49      75     132     195     230     259     287
                 *
                 *
                 * *** STORAGE ROUTING LG06A ***********************************************
                 * See the storage calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

 146             KK   LG06A
 147             DT  LG06AD    4.25
 148             DI       0     100    1000   10000
 149             DQ       0     100    1000   10000
                 *
                 *
1                                          HEC-1 INPUT                                        PAGE  6

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 150             KK     G02   BASIN
 151             BA   0.075
 152             LG    0.21    0.25    4.80    0.38      52
 153             UC   0.592   0.517
 154             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 155             UA     100
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DG06.
                 * THE HARD-CODE VALUE IS 50% OF CG06'S CONTRIBUTING AREA.
                 * SEE DIVERSION DG06.
                 *
                 * DDM   ***** Preserved *****

 156             KK    CG02
 157             KM        MCDONALD DRIVE AND 86TH STREET
 158             HC       4   0.229
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 159             KK    RG02
 160             RS       4    FLOW       0
 161             RC   0.035   0.015   0.035    1358  0.0018
 162             RX       0       1      26      27      62      63      88      89
 163             RY       8       2       1     0.5     0.5       1       2       8
                 *

 164             KK     F06   BASIN
 165             BA   0.103
 166             LG    0.23    0.25    4.80    0.36      49
 167             UC   0.604   0.427
 168             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 169             UA     100
                 *
                 *
                 * DDM   ***** Preserved *****

 170             KK    CF06
 171             KM        MONTEBELLO AVENUE AND 86TH STREET
 172             HC       2
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 173             KK    RF06
 174             RS       3    FLOW       0
 175             RC   0.035   0.015   0.035    1299   0.002
 176             RX       0       1      26      27      62      63      88      89
 177             RY       8       2       1     0.5     0.5       1       2       8
                 *
1                                          HEC-1 INPUT                                        PAGE  7

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 178             KK     F05   BASIN
 179             BA   0.088
 180             LG    0.24    0.25    4.80    0.36      52
 181             UC   0.554   0.401
 182             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 183             UA     100
                 *
```

```
                * DDM   ***** Preserved *****

 184            KK    CF05
 185            KM        JACKRABBIT ROAD AND 86TH STREET
 186            HC       2
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT COLLECT.
                * ALL EXCESS OVERLAND AMOUNT FLOWS SOUTH.
                *
                *
                * STORM DRAIN ANALYSIS SHOWS A CAPACITY OF 185 CFS, 1/3 IS INTERCEPTED AT
                * THIS LOCATION.(61 cfs) 20% Clogging Factor means 49 cfs here.
                * (61 x .8 = 49cfs)
                *
                * *** DIVERSION DF05 ***********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****

 187            KK    DF05
 188            DT   DF05I
 189            DI       0       1      50     100     200     300     400     500    1000    2000
 190            DQ       0      .9      10      51     151     251     351     451     951    1951
                *
                *
                * THE INFORMATION FOR THE STORM DRAIN WAS MEASURED IN THE FIELD.
                * THE PIPE IS A 66" RCP, SLOPE WAS ESTIMATED TO BE 0.004 FT/FT.
                *

 191            KK   RF05W
 192            RK    1302   0.004   0.013            CIRC     5.5
                *
                *
                * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF05 & DG01.
                * THE HARD-CODE VALUE IS 80% OF CG01 AND 10% OF CF05'S CONTRIBUTING AREA.
                * SEE DIVERSION DG01 AND DF05.
                *
                * DDM   ***** Preserved *****

 193            KK    CF04
 194            KM        JACKRABBIT ROAD AND GRANITE REEF ROAD
 195            HC       3    0.17
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT COLLECT.
                *
                *
                * *** DIVERSION DF04 ***********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****
                *
1                                          HEC-1 INPUT                                          PAGE  8

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 196            KK    DF04
 197            DT   DF04I
 198            DI       0       9      30      57      93     136     150     198     336     400
 199            DQ       0       5      16      30      50      73      82     105     170     200
                *
                *
                * DIVERSION RECOVER D05
                *

 200            KK    F05R
 201            DR   DF05I
                *
                * Route is a Minor Arterial Road.
                *

 202            KK   RF05S
 203            RS       4    FLOW       0
 204            RC   0.035   0.015   0.035    2167  0.0032
 205            RX       0       1      26      27      62      63      88      89
 206            RY       8       2       1     0.5     0.5       1       2       8
                *
                *

 207            KK     F03   BASIN
 208            BA   0.170
 209            LG    0.21    0.25    4.80    0.37      58
 210            UC   0.683   0.445
 211            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 212            UA     100
                *
                *
                * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF05.
                * THE HARD-CODE VALUE IS 90% OF CF05'S CONTRIBUTING AREA.
                * SEE DIVERSION DF05.
                *
```

```
                 * DDM   ***** Preserved *****

 213             KK    CF03
 214             KM        ORANGE BLOSSOM LANE AND 86TH STREET
 215             HC       2   0.556
                 *
                 *
                 * Route is a Minor Arterial Road.
                 * Normal Depth Routing did not work for this Route.
                 *

 216             KK    RF03
 217             RD
 218             RC   0.035   0.015   0.035     482  0.0035
 219             RX       0       1      26      27      62      63      88      89
 220             RY       8       3       2       0       0       2       3       8
                 *
                 *
                 *
                 * DIVERSION RECOVER G06
                 *
1                                          HEC-1 INPUT                                          PAGE  9

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 221             KK    G06R
 222             DR   DG06I
                 *
                 *
                 * Route is a Minor Arterial Road along Pima Road.
                 *
                 *

 223             KK   RG06S
 224             RS      18    FLOW       0
 225             RC   0.035   0.015   0.035    5286  0.0028
 226             RX       0       1      26      27      62      63      88      89
 227             RY       8       3       2       0       0       2       3       8
                 *

 228             KK     F07   BASIN
 229             KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
 230             BA   0.250
 231             LG    0.10    0.29    2.65    1.70      80
 232             UC   0.538   0.415
 233             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 234             UA     100
                 *
                 *
                 * *** STORAGE ROUTING LF07 ***********************************************
                 *
                 * See the detention calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 * DDM   ***** Preserved *****

 235             KK    LF07
 236             DT   LF07D    15.2
 237             DI       0     100    1000   10000
 238             DQ       0     100    1000   10000
                 *
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DG06.
                 * THE HARD-CODE VALUE IS 50% OF CG06'S CONTRIBUTING AREA.
                 * SEE DIVERSION DG06.
                 *
                 * DDM   ***** Preserved *****

 239             KK    CF07
 240             KM        CHAPARRAL ROAD AND PIMA ROAD
 241             HC       2   0.314
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 * THE STORM DRAIN ANAYLSIS SHOWS THE MAXIMUM FLOW IN THE STORM DRAIN AT THIS
                 * LOCATION IS 16 CFS.  20% clogging factor = 13 cfs (16cfs * .8 = 13 cfs).
                 * ALL OVERLAND FLOW CONTINUES SOUTH.
                 *
                 *
1                                          HEC-1 INPUT                                          PAGE 10

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 242             KK    IN14
 243             KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW TO THE PIMA ROAD
 244             KM        CONDUIT
 245             DT   IN14I
 246             DI       0     462     924
 247             DQ       0     250     500
                 *
                 * *** DIVERSION DF07 *****************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
```

```
                 *
                 * DDM   ***** Preserved *****

 248             KK    DF07
 249             DT   DF07I
 250             DI       0       1      16     100     200     400     600     800    1000    2000
 251             DQ       0       0       0      87     187     387     587     787     987    1987
                 *
                 *
                 * Route is a Storm Drain 36" RCP with a Slope of 0.001 ft/ft
                 *
                 *

 252             KK   RF07W
 253             RD    1315   0.001   0.013            CIRC       3
                 *
                 *

 254             KK     F02   BASIN
 255             BA   0.046
 256             LG    0.23    0.25    4.80    0.36      55
 257             UC   0.521   0.538
 258             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 259             UA     100
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF07.
                 * THE HARD-CODE VALUE IS 10% OF CF07'S CONTRIBUTING AREA.
                 * SEE DIVERSION DF07.
                 *
                 * DDM   ***** Preserved *****

 260             KK    CF02
 261             KM        CHAPARRAL ROAD AND 86TH STREET
 262             HC       3    .627
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THIS STORM DRAIN
                 * AT THIS LOCATION IS 63 CFS AND 16 CFS IS IN THE STORMDRAIN FROM THE EAST.
                 * 20% clogging factor means 50 cfs (63cfs * 0.8 = 50cfs).
                 *
                 * ALL OVERLAND FLOW CONTINUES SOUTH.
                 *
                 * *** DIVERSION DF02 ********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
```



```
LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 263             KK    DF02
 264             DT   DF02I
 265             DI       0       1      50     100     200     300     400     500    1000    2000
 266             DQ       0       1      10      50     150     250     350     450     950    1950
                 *
                 *
                 *
                 * ROUTE IS A 5FT RCP STORM DRAIN WITH A SLOPE OF 0.001 FT/FT
                 *

 267             KK   RF02W
 268             RK    1310   0.001    0.02            CIRC       5
                 *
                 *
                 * DIVERSION RECOVER F04
                 *

 269             KK    F04R
 270             DR   DF04I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
                 *

 271             KK   RF04S
 272             RS      11    FLOW       0
 273             RC   0.035   0.013   0.035    2652  0.0023
 274             RX       0       1      26      27      62      63      88      89
 275             RY       8       3       2       0       0       2       3       8
                 *
                 *
                 * THE WEST SIDE OF THE ROAD IS DIVERTED WEST AND THE EAST SIDE OF THE ROAD
                 * FLOWS SOUTH INTO CF01.  THE TOTAL FLOW DOES NOT EXCEED THE CROWN OF THE ROAD
                 * SO THE SPLIT IS 50-50.
                 *
                 * *** DIVERSION DRF04 *******************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
```

```
 276          KK   DRF04
 277          DT  DRF04I
 278          DI       0       1      20      50     100     200     300
 279          DQ       0      .5      10      25      50     100     150
              *
1                                   HEC-1 INPUT                                                    PAGE 12

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 280          KK     F01   BASIN
 281          BA   0.030
 282          LG    0.22    0.25    4.80    0.39      53
 283          UC   0.467   0.490
 284          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 285          UA     100
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF04 & DF02.
              * THE HARD-CODE VALUE IS 25% OF CF04 AND 10% OF CF02'S CONTRIBUTING AREA.
              * SEE DIVERSION DF04 AND DF02.
              *
              * DDM   ***** Preserved *****

 286          KK    CF01
 287          KM        CHAPARRAL ROAD AND GRANITE REEF ROAD
 288          HC       3    .101
              *
              *
              * THE DIVERSION AT THIS LOCATION IS SOUTH (SEE SPLITFLOW ANALYSIS)
              *
              *
              * *** DIVERSION DF01 ***********************************************************
              *
              * See the diversion calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              *
              * DDM   ***** Preserved *****

 289          KK    DF01
 290          DT   DF01I
 291          DI       0       7      21      42      75     111     139     188     254     335
 292          DQ       0       0       0       0       0       0       6      18      35      57
              *
              *
              * DIVERSION RECOVER DF02
              *

 293          KK   DRF02
 294          DR   DF02I
              *
              *
              * Route is a Minor Arterial Road.
              *

 295          KK   RF02S
 296          RS       3    FLOW       0
 297          RC   0.035   0.015   0.035    1338  0.0022
 298          RX       0       1      26      27      62      63      88      89
 299          RY       8       2       1     0.5     0.5       1       2       8
              *
              *
1                                   HEC-1 INPUT                                                    PAGE 13

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 300          KK     E07   BASIN
 301          BA   0.084
 302          LG    0.25    0.25    4.80    0.36      49
 303          UC   0.442   0.305
 304          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 305          UA     100
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DF02.
              * THE HARD-CODE VALUE IS 90% OF CF02'S CONTRIBUTING AREA.
              * SEE DIVERSION DF02.
              *
              * DDM   ***** Preserved *****

 306          KK    CE07
 307          KM        HIGHLAND AVENUE AND 86TH STREET
 308          HC       2    .661
              *
              *
              * Route is a Minor Arterial Road.
              *

 309          KK    RE07
 310          RS       1    FLOW       0
 311          RC   0.035   0.015   0.035    1335  0.0025
 312          RX       0       1      26      27      62      63      88      89
 313          RY       8       2       1     0.5     0.5       1       2       8
```

```
                *
 314            KK     E05   BASIN
 315            KM
 316            KM    This basin's original area was 0.060 sq mi.  The infield area is bermed
 317            KM    so it is self-detained.  The infield area (0.013 sq mi) was subtracted
 318            KM    from the subbasin calculations to account for the storage.
 319            KM
 320            BA   0.047
 321            LG    0.21    0.25    4.80    0.37      57
 322            UC   0.375   0.292
 323            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 324            UA     100
                *
                * DDM   ***** Preserved *****

 325            KK    CE05
 326            KM        CAMELBACK ROAD AND 86TH STREET
 327            HC       2
                *
                *
1                                          HEC-1 INPUT                                          PAGE 14

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 328            KK    IN15
 329            KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT CAMELBACK/86TH ST
 330            KM        CONDUIT
 331            DT   IN15I
 332            DI       0     803    1606
 333            DQ       0     300     600
                *
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 92 CFS.
                * THE TOTAL FLOW WAS DIVIDED BY E05, E04, AND THE BASIN WEST OF THE PROJECT
                * AREA, SO 31 CFS AT THIS LOCATION.
                * 20% clogging factor means 25cfs at this location (31cfs * 0.8 = 25cfs).
                * ALL OVERLAND FLOW CONTINUES SOUTH.
                *
                * *** DIVERSION DE05 ***********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****

 334            KK    DE05
 335            DT   DE05I
 336            DI       0       1      50     100     200     300     400     500    1000    2000
 337            DQ       0       1      25      75     175     275     375     475     975    1975
                *
                *
                *
                * ROUTE IS A 5FT RCP WITH A SLOPE OF 0.0021 FT/FT.
                *

 338            KK   RE05W
                * ***RK  1490  0.0021    0.02            CIRC       5
 339            RD    1490  0.0021    0.02            CIRC       5
                *
                *
                *

 340            KK     E04   BASIN
 341            BA   0.038
 342            LG    0.22    0.25    4.80    0.39      47
 343            UC   0.621   0.655
 344            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 345            UA     100
                *
                *
                *
                * *** STORAGE ROUTING LE04 *****************************************************
                *
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 15

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 346            KK    LE04
 347            DT   LE04D     1.5
 348            DI       0     100    1000   10000
 349            DQ       0     100    1000   10000
                *
                * DIVERSION RECOVER DF01
                *

 350            KK  DRF01I
 351            DR   DF01I
                *
                * Route is a Minor Arterial Road.
                *
```

```
352          KK   RF01S
353          RS      24    FLOW       0
354          RC   0.035   0.015   0.035    2619  0.0031
355          RX       0       1      26      27      62      63      88      89
356          RY       8       2       1     0.5     0.5       1       2       8
             *
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF01 & DE05.
             * THE HARD-CODE VALUE IS 5% OF CF01 AND 5% OF CE05'S CONTRIBUTING AREA.
             * SEE DIVERSION DF01 AND DE05.
             *
             * DDM   ***** Preserved *****

357          KK    CE04
358          KM        CAMELBACK ROAD AND GRANITE REEF ROAD
359          HC       3   0.071
             *
             *
             * THERE IS A DIVERSION SOUTH (SEE SPLITFLOW CALCULATIONS)
             *
             * *** DIVERSION DE04 ******************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

360          KK    DE04
361          DT   DE04I
362          DI       0       3      31      59      91     126     151     184     222     267
363          DQ       0       0       0       0       0       0       3       9      18      30
             *
             *
             * DDM   ***** Preserved *****
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

364          KK   DUMMY
365          HC       3
             *

366          KK     E08   BASIN
367          BA   0.031
368          LG    0.24    0.25    4.80    0.35      51
369          UC   0.488   0.531
370          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
371          UA     100
             *
             * Route is a Minor Arterial Road with a wall on the west side.
             *

372          KK    RE08
373          RS       5    FLOW       0
374          RC   0.035   0.015   0.035    1326  0.0029
375          RX       0       1      19      25      30      49      79      80
376          RY      10     1.5       0       0       0       0     1.5       8
             *

377          KK     E06   BASIN
378          BA   0.036
379          LG    0.24    0.25    4.80    0.36      53
380          UC   0.500   0.548
381          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
382          UA     100
             *
             *

383          KK    CE06
384          KM        CAMELBACK ROAD AND PIMA FRONTAGE ROAD
385          HC       2
             *
             * Route is a Minor Arterial Road.
             *
             *

386          KK    RE06
387          RS       1    FLOW       0
388          RC   0.035   0.015   0.035     618  0.0014
389          RX       0       1      19      25      30      49      79      80
390          RY      10     1.5       0       0       0       0     1.5       8
             *
             * DIVERSION RECALL DE05
             *

391          KK  DRDE05
392          DR   DE05I
             *
             *
             * *** DIVERSION DE052   ***************************************************
             *
             *  THIS DIVERSION IS AT CAMELBACK ROAD AND 86TH ST. TO REPRESENT STREET FLOW SPL
```

```
                 *  THE MAIN PATH IS SOUTH ON 86TH ST.
                 *  DIVERSION RECALL DE052 MODIFIED (7/2/08 SB)
1                                          HEC-1 INPUT                                                    PAGE 17

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 393             KK   DE052
 394             KM   MODIFIED (7/2/08 SB) BASED ON FLOW SPLIT ANALYSIS USING FLO-2D
 395             DT  DE052I
 396             DI       0       1      50     100     200     300     400     500    1000    2000
 397             DQ       0       1      18      35      70     105     140     175     350     700
                 *
                 *
                 * Route is a Major Arterial Road (E CAMELBACK RD).
                 *

 398             KK  RE052E
 399             RS       1    FLOW       0
 400             RC   0.035   0.015   0.035     605  0.0016
 401             RX       0       1      26      27      62      63      88      89
 402             RY       8       2       1     0.5     0.5       1       2       8
                 *

 403             KK    IN17
 404             KM        CREATED (12/02/08 SB) TO REPRESENT INTERCEPTED FLOW AT
 405             KM        CAMELBACK/87th (Sells Drive) TO THE PIMA ROAD STORM DRAIN
 406             DT   IN17I
 407             DI       0     310     620
 408             DQ       0     200     400
                 *

 409             KK  RIN17E
 410             RS       1    FLOW       0
 411             RC   0.035   0.015   0.035     901  0.0023
 412             RX       0       1      26      27      62      63      88      89
 413             RY       8       2       1     0.5     0.5       1       2       8
                 *

 414             KK   CE06B
 415             KM        SELLS DR AND PIMA FRONTAGE ROAD
 416             HC       2
                 *

 417             KK    IN0W
 418             KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT
 419             KM        CAMELBACK/PIMA FRONTAGE ROAD TO THE PIMA ROAD STORM DRAIN
 420             DT   IN0WI
 421             DI       0     370     740
 422             DQ       0     250     500
                 *
                 * Route is a Minor Arterial Road with a wall on the west side.
                 *

 423             KK   RE06B
 424             RS       2    FLOW       0
 425             RC   0.035   0.015   0.035    2025  0.0014
 426             RX       0       1      19      25      30      49      79      80
 427             RY      10     1.5       0       0       0       0     1.5       8
                 *
1                                          HEC-1 INPUT                                                    PAGE 18

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 428             KK     E03   BASIN
 429             BA   0.070
 430             LG    0.23    0.25    4.80    0.36      53
 431             UC   0.917   1.373
 432             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 433             UA     100
                 *
                 *
                 * DIVERSION RECALL DF07
                 *

 434             KK   DRF07
 435             DR   DF07I
                 *
                 * Route is a minor arterial along Pima Rd.
                 *

 436             KK   RF7S1
 437             RS       2    FLOW       0
 438             RC   0.035   0.015   0.035    3275  0.0023
 439             RX       0       1      40      41     104     105     145     146
 440             RY       8       3     1.5     .75    0.75     1.5       3       8
                 *
                 *

 441             KK    IN0E
 442             KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT
 443             KM        CAMELBACK/PIMA ROAD TO THE PIMA ROAD STORM DRAIN
 444             DT   IN0EI
 445             DI       0     202     404
```

```
446          DQ       0     200     400
             *
             *

447          KK   RF7S2
448          RS       2    FLOW       0
449          RC   0.035   0.015   0.035    2005  0.0023
450          RX       0       1      40      41     104     105     145     146
451          RY       8       3     1.5     .75    0.75     1.5       3       8
             *
             *

452          KK     E09   BASIN
453          KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
454          BA   0.223
455          LG    0.10    0.29    2.65    1.70      80
456          UC   0.546   0.446
457          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
458          UA     100
             *
             * *** STORAGE ROUTING LE09 ***********************************************
             *
             * See the detention calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             * DDM   ***** Preserved *****
             * ***KK  LE09
             * ***DT LE09D    13.6
             * ***DI     0     100    1000   10000
             * ***DQ     0     100    1000   10000
             *
             * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSIONS DF07.
             * THE HARD-CODE VALUE IS 90% OF CF07'S CONTRIBUTING AREA.
             * SEE DIVERSION DF07.
             *
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

459          KK    CE09
460          KM        INDIAN SCHOOL ROAD AND PIMA ROAD
461          HC       2    .511
             *
             *
             * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
             * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
             * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
             * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
             * PROJECT AREA, WHICH IS 19 CFS AT THIS LOCATION.(MODIFIED TO 28 CFS BY PSOMAS)
             *
             * 20% clogging factor means 15cfs, (19cfs * 0.8 = 15cfs).(MODIFIED TO 22 CFS
             * BY PSOMAS)
             * THE PROPOSED ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
             * THE FLOW WILL THEN BE DOUBLED TO 30cfs.(MODIFIED TO 45 CFS BY PSOMAS)
             *
             * ALL OVERLAND FLOW CONTINUES SOUTH AT THIS DIVERSION LOCATION.
             *
             * *** DIVERSION DE09 *****************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****

462          KK    DE09
463          KM        MODIFIED (2/14/07 RAK)
464          DT   DE09I
465          DI       0       1      50     100     200     300     400     500    1000    2000
             * ***DQ     0       1      20      70     170     270     370     470     970
466          DQ       0       1       5      55     155     255     355     455     955    1955
             *
             *
             * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
             * PSOMAS BASED ON DIBBLE PLANS)
             * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
             *
             * ***KK RE09W
             * ***KM      MODIFIED (2/14/07 RAK)
             * ***RK   779  0.0009   0.013            CIRC     8.5
             * ***RK   779  0.0011   0.013            CIRC     8.5
             * ***RD   779  0.0011   0.013            CIRC     8.5
             *
             *
             * ***DIVERSION RECOVER DE05
             *
             * ***KKDRE05I
             * ***DR DE05I
             *
             * Route is a Minor Arterial Road.
             *
             * ***KK RE05S
             * ***RS     6    FLOW       0
             * ***RC 0.035   0.015   0.035    3053  0.0021
             * ***RX     0       1      26      27      62      63      88      89
```

```
                * ***RY     8       2       1     0.5     0.5       1       2       8
                *
                *
                * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSIONS DE05 & DE09.
                * THE HARD-CODE VALUE IS 95% OF CE05 AND 10% OF CE09'S CONTRIBUTING AREA.
                * SEE DIVERSION DE05 AND DE09.
                *
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 20

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 467            KK    CE03
 468            KM        INDIAN SCHOOL ROAD AND PIMA FRONTAGE ROAD
                * ***HC     4    .858 (MODIFIED 7/2/08 SB)
 469            HC       3    .491
                *
                *
                * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                *
                * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                * PROJECT AREA, WHICH IS 38cfs AT THIS LOCATION.(MODIFIED TO 56 CFS BY PSOMAS)
                *
                * 20% clogging factor means that 31cfs (38.4 cfs * 0.8 = 31cfs) (MODIFIED TO
                * 45 CFS BY PSOMAS)
                * THE ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
                * THE FLOW WILL THEN BE DOUBLED TO 62cfs.(MODIFIED TO 90 CFS BY PSOMAS)
                *
                * ALL OVERLAND FLOWS CONTINUE SOUTH.
                *
                * *** DIVERSION DE03 ***********************************************************
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****

 470            KK    DE03
 471            KM        MODIFIED (2/14/07 RAK)
 472            DT   DE03I
 473            DI       0       1      50     100     200     300     400     500    1000    2000
                * ***DQ     0       1       5      38     138     238     338     438     938
 474            DQ       0      .1       2      10     110     210     310     410     910    1910
                *
                *
                * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
                * PSOMAS BASED ON DIBBLE PLANS)
                * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
                *
                *

 475            KK   RE03W
 476            KM        MODIFIED (2/14/07 RAK) BASED ON LATEST ROADWAY PLANS
                * ***RK  1504  0.0009    0.02            CIRC     8.5
 477            RK    1504  0.0011    0.02            CIRC     8.5                        5
                *

 478            KK     E02   BASIN
 479            BA   0.149
 480            LG    0.24    0.25    4.80    0.37      50
 481            UC   0.683   0.539
 482            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 483            UA     100
                *
                * DIVERSION RECOVER DE052
                *
1                                          HEC-1 INPUT                                                    PAGE 21

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 484            KM        MODIFIED (7/2/08 SB) BASED ON FLOW SPLIT ANALYSIS

 485            KK  DDE052
 486            DR  DE052I
                *
                * Route is a Minor Arterial Road (N 86TH ST).
                *

 487            KK  RE052S
 488            RS       6    FLOW       0
 489            RC   0.035   0.015   0.035    3053  0.0021
 490            RX       0       1      26      27      62      63      88      89
 491            RY       8       2       1     0.5     0.5       1       2
                *
                * THE CONTRIBUTING AREA IS HARD-CODED DUE TO DIVERSION DE03.
                * THE HARD-CODE VALUE IS 5% OF CE03'S CONTRIBUTING AREA.
                * SEE DIVERSION DE03.
                *
                * DDM   ***** Preserved *****

 492            KK    CE02
 493            KM        INDIAN SCHOOL ROAD AND 86TH STREET
```

```
                 * ***HC      2    .183 (MODIFIED 7/2/08 SB)
494              HC        3    .503
                 *
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 *
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                 * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                 * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                 * PROJECT AREA, 58cfs AT THIS LOCATION.(MODIFIED TO 84 CFS BY PSOMAS)
                 *
                 * 20% clogging factor means 46cfs (58cfs * 0.8 = 46cfs).(MODIFIED TO 67 CFS
                 * BY PSOMAS)
                 * THE 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE
                 * THIS DOUBLES THE FLOW TO 92cfs.(MODIFIED TO 134 CFS BY PSOMAS)
                 *
                 * ALL OVERLAND FLOW CONTINUES SOUTH.
                 *
                 * *** DIVERSION DE02 ********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****

495              KK    DE02
496              KM        MODIFIED (2/14/07 RAK)
497              DT   DE02I
498              DI        0        1       50      100      200      300      400      500     1000     2000
                 * ***DQ      0       .1        2        8      108      208      308      408      908
499              DQ        0       .1        2        4       66      166      266      366      866     1866
                 *
                 *
                 * ROUTE IS 2-6FT RCP WITH A SLOPE OF 0.0009 FT/FT.(MODIFIED TO 0.0011 FT/FT BY
                 * PSOMAS BASED ON DIBBLE PLANS)
                 * THIS ROUTE IS 2-72" STORM DRAINS, WHICH HAVE AN EQUIVALENT AREA OF 8.5 FT.
                 *
1                                          HEC-1 INPUT                                          PAGE 22

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


500              KK   RE02W
501              KM        MODIFIED (2/14/07 RAK)
                 * ***RD   355  0.0009    0.02            CIRC     8.5
502              RD     355  0.0011    0.02            CIRC     8.5
                 *

503              KK     E01   BASIN
504              BA   0.058
505              LG    0.20    0.25    4.80    0.38      60
506              UC   0.492   0.494
507              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
508              UA     100
                 *
                 *
                 * DIVERSION RECOVER DE04
                 *

509              KK  DRE04I
510              DR   DE04I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

511              KK   RE04S
512              RS       1    FLOW       0
513              RC   0.035   0.015   0.035    2636  0.0026
514              RX       0       1      26      27      62      63      88      89
515              RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSIONS DE04 & DE02.
                 * THE HARD-CODE VALUE IS 100% OF CE04 AND 25% OF CE02'S CONTRIBUTING AREA.
                 * SEE DIVERSION DE04 AND DE02.
                 *
                 * DDM   ***** Preserved *****

516              KK    CE01
517              KM        INDIAN SCHOOL ROAD AND GRANITE REEF ROAD
518              HC       3   .1656
                 *
                 * THERE IS A DIVERSION SOUTH FOR WHATEVER THE STORM DRAIN DOES NOT INTERCEPT.
                 *
                 * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 96 CFS.
                 * (MODIFIED TO 140 CFS BY PSOMAS ON 2/07 BASED ON DIBBLE PLANS) THIS AMOUNT IS
                 * DIVIDED BETWEEN DIVERSIONS DE01, DE02, DE03, DE09, AND THE BASIN EAST OF THE
                 * PROJECT AREA, 76.8 cfs AT THIS LOCATION.(MODIFIED TO 112 CFS BY PSOMAS)
                 *
                 * 20% clogging factor means 61cfs (76.8cfs * 0.8 = 61.4 cfs) (MODIFIED TO
                 * 90 CFS BY PSOMAS)
                 * THE ADDITIONAL 6FT STORM DRAIN WAS ASSUMED TO BE IN PLACE.
                 * THE FLOW WILL THEN BE DOUBLED TO 123cfs.(MODIFIED TO 179 CFS BY PSOMAS)
                 *
```

```
                 * THIS DIVERSION IS STORMDRAIN ONLY, ALL OVERLAND FLOW IS SOUTH.
                 *
                 * *** DIVERSION DE01 ********************************************************
                 *
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 23

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 519             KK    DE01
 520             KM        MODIFIED (2/14/07 RAK)
 521             DT   DE01I
 522             DI       0       1      50     100     200     300     400     500    1000    2000
                 * ***DQ     0      .1       2       4      77     177     277     377     877
 523             DQ       0      .1       2       4      21     121     221     321     821    1821
                 *
                 * DIVERSION RECALL E01
                 *

 524             KK   DRE01
 525             DR   DE01I
                 *
                 *
                 * Route is a Subdivision Road.
                 *

 526             KK   RE01S
 527             RS       9    FLOW       0
 528             RC   0.035   0.015   0.035    2567  0.0032
 529             RX       0       1      28      29      57      58      86      87
 530             RY       8       2       1     0.5     0.5       1       2       8
                 *

 531             KK     D05   BASIN
 532             KM
 533             KM    This basin's original area was 0.168 sq mi.  The infield area is bermed
 534             KM    so it is self-detained.  The infield area (0.01 sq mi) was subtracted
 535             KM    from the subbasin calculations to account for the storage.
 536             KM
 537             BA   0.158
 538             LG    0.23    0.25    4.80    0.38      51
 539             UC   0.692   0.540
 540             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 541             UA     100
                 *
                 *
                 * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE01.
                 * THE HARD-CODE VALUE IS 70% OF CE01'S CONTRIBUTING AREA.
                 * SEE DIVERSION DE01.
                 *
                 * DDM   ***** Preserved *****

 542             KK    CD05
 543             KM        OSBORN ROAD AND GRANITE REEF ROAD
 544             HC       2   0.284
                 *
                 * *** DIVERSION DD05 ********************************************************
                 *
                 * THIS DIVERSION IS AT GRANITE REEF ROAD AND OSBORN ROAD.
                 * THE MAIN PATH IS SOUTH ON GRANITE REEF ROAD.
                 * See the diversion calculations in Appendix D of the Data Collection Notebook
                 * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                 *
                 * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 24

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 545             KK    DD05
 546             KM        MODIFIED (5/1/07 RAK) BASED ON FLOW SPLIT ANALYSIS
 547             DT   DD05I
                 * ***DI     0       5      16      50      93     112     174     217     270
 548             DI       0       6      21      34      52      73      99     130     166     231
                 * ***DQ     0       2       8      25      47      58      95     121     154
 549             DQ       0       0       1       3       7      13      19      28      38      57
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *

 550             KK   RD05S
 551             KM        MODIFIED (5/7/07 RAK) TO REPRESENT FLOW FROM OSBORN RD TO EARLL DR
 552             KM        ALONG GRANITE REEF RD
                 * ***RS     8    FLOW       0
                 * ***RC 0.035   0.015   0.035    2669  0.0026
 553             RS       4    FLOW       0
 554             RC   0.035   0.015   0.035    1320  0.0026
 555             RX       0       1      26      27      62      63      88      89
 556             RY       8       2       1     0.5     0.5       1       2       8
                 *
```

```
557          KK     D13   BASIN
558          KM        CREATED (5/7/07 RAK) TO REPRESENT SUBBASIN FLOW TO CD13
559          BA   0.044
560          LG    0.24    0.25    4.80    0.35      46
561          UC   0.557   0.605
562          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
563          UA     100
             *

564          KK    CD13
565          KM        CREATED (5/7/07 RAK) TO REPRESENT THE CONCENTRATION POINT LOCATED AT
566          KM        EARLL DRIVE AND GRANITE REEF ROAD
567          HC       2   0.259
             *

568          KK    DD13
569          KM        CREATED (5/7/07 RAK) BASED ON FLOW SPLIT ANALYSIS
570          DT   DD13I
571          DI       0       2      13      37      83     150     240
572          DQ       0       0       7      23      48      85     134
             *

573          KK   RD13S
574          KM        CREATED (5/7/07 RAK) TO REPRESENT FLOW FROM EARLL DR TO THOMAS RD
575          KM        ALONG GRANITE REEF RD
576          RS       4    FLOW       0
577          RC   0.035   0.015   0.035    1349  0.0026
578          RX       0       1      26      27      62      63      88      89
579          RY       8       2       1     0.5     0.5       1       2       8
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

580          KK     D04   BASIN
581          KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED 1' CONTOUR MAPPING
             * ***BA 0.060
             * ***LG  0.23    0.25    4.80    0.36      53
             * ***UC 0.638   0.762
582          BA   0.013
583          LG    0.24    0.25    4.80    0.35      46
584          UC   0.443   0.624
585          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
586          UA     100
             *
             * *** CD04 IS LOCATED AT THOMAS ROAD AND 82ND STREET **************************
             *
             * Route is a Major Arterial Road.
             *

587          KK    RD04
588          RS       2    FLOW       0
589          RC   0.035   0.015   0.035    1084  0.0018
590          RX       0       1      40      41     104     105     145     146
591          RY       8       3     1.5     .75    0.75     1.5       3       8
             *

592          KK     D01   BASIN
593          KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED 1' CONTOUR MAPPING AND ADDITIONAL
594          KM        CONCENTRATION POINT
             * ***BA 0.082
             * ***LG  0.24    0.25    4.80    0.36      53
             * ***UC 0.667   0.622
595          BA   0.081
596          LG    0.24    0.25    4.80    0.35      47
597          UC   0.728   0.911
598          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
599          UA     100
             *
             * DDM   ***** Preserved *****

600          KK    CD01
601          KM        THOMAS ROAD AND GRANITE REEF ROAD
602          HC       3   0.208
             *
             *
             * *** DIVERSION DD01 ******************************************************
             *
             * See the diversion calculations in Appendix D of the Data Collection Notebook
             * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
             *
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

603          KK    DD01
604          KM        MODIFIED (5/7/07 RAK) BASED ON UPDATED ON FLOW SPLIT ANALYSIS
605          DT   DD01I
             * ***DI      0       9      28      89     168     259     392     475     568
             * ***DQ      0       4      13      41      73     104     152     182     217
606          DI       0      21      22      27      44      96     173     267
```

```
607          DQ       0       0       2       6      20      39      65      98
             *
             *
             *
             * Route is a Major Arterial Road.
             *

608          KK   RD01E
609          RS       1    FLOW       0
610          RC   0.035   0.015   0.035    1315  0.0024
611          RX       0       1      40      41     104     105     145     146
612          RY       8       3     1.5     .75    0.75     1.5       3       8
             *
             *
             * DIVERSION RECALL D05
             *

613          KK   DRD05
614          DR   DD05I
             *
             *
             * Route is a Minor Arterial Road.
             *
             *

615          KK   RD05E
616          RS       2    FLOW       0
617          RC   0.035   0.015   0.035     560  0.0018
618          RX       0       1      26      27      62      63      88      89
619          RY       8       3       2       0       0       2       3       8
             *
             * *** DIVERSION DD052   ****************************************************
             *
             *  THIS DIVERSION IS AT GRANITE REEF ROAD AND MULBERRY.
             *  THE MAIN PATH IS SOUTH ON MULBERRY.
             *  SEE APPENDIX D FOR DIVERSION CALCULATIONS.
             *
             * DDM   ***** Preserved *****

620          KK   DD052
621          KM        MODIFIED (5/1/07 RAK) BASED ON FLOW SPLIT ANALYSIS
622          DT  DD052I
             * ***DI     0      37      44      59      80     110     147     178     222
623          DI       0       5       8      13      26      44      68      97     132     173
             * ***DQ     0      37      40      47      58      74      95     122     155
624          DQ       0       5       8      10      20      33      50      69      93     120
             *
             *
             * Route is a Subdivision Road. (MULBERRY)
             *
             * ***KKRD05S2
             * ***RS     1    FLOW       0
             * ***RC 0.035   0.015   0.035    3035  0.0030
             * ***RX     0       1      28      29      57      58      86      87
             * ***RY     8       2       1     0.5     0.5       1       2       8
             *
1                                   HEC-1 INPUT                                          PAGE 27

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

625          KK  RD05S2
626          KM        MODIFIED (2/14/07 RAK) TO ROUTE TO EARLL DR & 86TH ST
627          RS       2    FLOW       0
628          RC   0.035   0.015   0.035    1705  0.0032
629          RX       0       1      28      29      57      58      86      87
630          RY       8       2       1     0.5     0.5       1       2       8
             *
             *
             * ***KK   D02   BASIN
             * ***BA 0.139
             * ***LG  0.23    0.25    4.80    0.36      51
             * ***UC 0.592   0.457
             * ***UA     0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0
             * ***UA   100
             *
             *
             * ***THE CONTRIBUTING AREA WAS HARD-CODED BECAUSE OF DIVERSION DD01 & DD052.
             * ***THE HARD-CODE VALUE IS 60% OF CD01 AND 40% OF DD052'S CONTRIBUTING AREA.
             * ***SEE DIVERSION DD01 AND DD052.
             *
             * ***DDM   ***** Preserved *****
             * ***KK  CD02
             * ***HC     3   0.361
             *
             *
             * ***Route is a Major Arterial Road.
             *
             * ***KK  RD02
             * ***RS     2    FLOW       0
             * ***RC 0.035   0.015   0.035    1063  0.0045
             * ***RX     0       1      40      41     104     105     145     146
             * ***RY     8       3     1.5     .75    0.75     1.5       3       8
             *
             *
```

```
                 * DIVERSION RECALL E02
                 *

 631             KK   DRE02
 632             DR   DE02I
                 *
                 *
                 * Route is a Subdivision Road.
                 *

 633             KK   RE02S
 634             RS       6    FLOW       0
 635             RC   0.035   0.015   0.035    2617  0.0028
 636             RX       0       1      28      29      57      58      86      87
 637             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *
                 * DIVERSION RECALL D052
                 *
1                                          HEC-1 INPUT                                                    PAGE 28

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 638             KK  DRD052
 639             DR  DD052I
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
                 *

 640             KK  RD05E2
 641             RS       1    FLOW       0
 642             RC   0.035   0.015   0.035     767  0.0013
 643             RX       0       1      26      27      62      63      88      89
 644             RY       8       3       2       0       0       2       3       8
                 *
                 *

 645             KK     D06   BASIN
 646             BA   0.109
 647             LG    0.24    0.25    4.80    0.35      52
 648             UC   0.671   0.602
 649             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 650             UA     100
                 *
                 * THE CUMMALATIVE AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE02 & DD052.
                 * THE HARD-CODE VALUE IS 80% OF CE02 AND 60% OF DD052'S CONTRIBUTING AREA.
                 * SEE DIVERSION DE02 AND DD052.
                 *
                 * DDM   ***** Preserved *****
                 *

 651             KK    CD06
 652             KM        OSBORN ROAD AND 86TH STREET
 653             HC       3   0.254
                 *

 654             KK    INT3
 655             KM        CREATED (9/11/07 RAK) TO REPRESENT INTERCEPTED FLOW AT OSBORN/86TH ST TO
 656             KM        CONDUIT
 657             DT   INT3I
 658             DI       0     398     796
 659             DQ       0     279     558
                 *

 660             KK    DD06
 661             KM        CREATED (4/17/07 RAK) TO REPRESENT THE FLOW SPLIT AT OSBORN RD & THE
 662             KM        86TH ST ALLEY
 663             DT   DD06I
 664             DI       0     1.4    12.3    44.8    98.6   169.5   255.6   356.7   432.3
 665             DQ       0    0.75     2.3     9.8    26.6    50.4    81.7   121.1   152.2
                 *
                 * ***Route is a Minor Arterial Road.
                 *
                 * ***KK  RD06
                 * ***RS     1    FLOW       0
                 * ***RC 0.035   0.015   0.035     609  0.0033
                 * ***RX     0       1      26      27      62      63      88      89
                 * ***RY     8       3       2       0       0       2       3       8
                 *
1                                          HEC-1 INPUT                                                    PAGE 29

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 666             KK   RD06S
 667             KM        MODIFIED (2/14/07 RAK) TO REROUTE TO EARLL DR & 86TH ST PER FIELD
 668             KM        VISIT, MAPPING & CONVERSATION WITH LOCAL RESIDENTS
 669             KM        MODIFIED (4/17/07 RAK) TO BE THE SOUTHERN ROUTE OF THE FLOW SPLIT
 670             RS       1    FLOW       0
 671             RC   0.035   0.015   0.035    1310  0.0030
 672             RX       0       1      26      27      45      46      71      72
 673             RY       8       3       2     0.5     0.5       2       3       8
```

```
                *

674             KK   DRD13
675             DR   DD13I
                *

676             KK   RD13E
677             KM        CREATED (5/7/07 RAK) TO REPRESENT FLOW FROM GRANITE REEF RD TO 86TH ST
678             KM        ALONG EARLL DR
679             RS       4    FLOW       0
680             RC   0.035   0.015   0.035    1310  0.0024
681             RX       0       1      26      27      62      63      88      89
682             RY       8       2       1     0.5     0.5       1       2       8
                *

683             KK    D02A   BASIN
684             KM        CREATED (2/14/07 RAK) USING DDMS-W TO REPRESENT PORTION OF SUBBASIN DO2
685             KM        NORTH OF EARLL DR
686             BA    0.07
687             LG    0.23    0.25    4.80    0.36      51
688             UC   0.471   0.379
689             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
690             UA     100
                *

691             KK    CD10
692             KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DRIVE AND 86TH STREET
693             HC       4   0.258
                *

694             KK    INT6
695             KM        CREATED (5/16/07 RAK) TO REPRESENT INTERCEPTED FLOW AT EARLL/86TH ST TO
696             KM        CONDUIT
697             DT   INT6I
698             DI       0     286     572
699             DQ       0     203     406
                *

700             KK    DD10
701             KM        CREATED (2/14/07 RAK) TO REPRESENT THE FLOW SPLIT AT EARLL DR & 86TH ST
702             KM        1/3 TO THE SOUTH AND 2/3 TO THE EAST
703             KM        MODIFIED (4/17/07 RAK) BASED ON FLOW SPLIT ANALYSIS
704             DT   DD10I
                * ***DI     0      15      30      60     120     240     480     960
705             DI       0     1.6     9.2    34.4   115.1   208.7   349.6   542.5
                * ***DQ     0      10      20      40      80     160     320     640
1                                          HEC-1 INPUT                                                    PAGE 30

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

706             DQ       0     1.6     5.9    12.5    52.0    84.3   142.6   229.1
                *

707             KK   RD10S
708             KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW SOUTH ALONG 86TH ST
709             RS       2    FLOW       0
710             RC   0.035   0.015   0.035    1320  0.0030
711             RX       0       1      28      29      57      58      86      87
712             RY       8       2       1     0.5     0.5       1       2       8
                *

713             KK    DO2B   BASIN
714             KM        CREATED (2/14/07 RAK) USING DDMS-W TO REPRESENT PORTION OF SUBBASIN D02
715             KM        SOUTH OF EARLL DR
716             BA    0.07
717             LG    0.23    0.25    4.80    0.36      51
718             UC   0.504   0.452
719             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
720             UA     100
                *

721             KK    CD02
722             KM        THOMAS ROAD AND 86TH STREET
723             HC       3   0.351
                *

724             KK    DD02
725             KM        CREATED (5/8/07 RAK) BASED ON UPDATED ON FLOW SPLIT ANALYSIS
726             DT   DD02I
727             DI       0      46      55      70     101     153     260     391     492
728             DQ       0       0       1       3      11      25      46      73      96
                *

729             KK   RD02E
730             RS       2    FLOW       0
731             RC   0.035   0.015   0.035    1063  0.0045
732             RX       0       1      40      41     104     105     145     146
733             RY       8       3     1.5     .75    0.75     1.5       3       8
                *

734             KK     D07   BASIN
735             KO       3
736             BA   0.049
737             LG    0.25    0.25    4.80    0.35      51
738             UC   0.508   0.576
```

```
739          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
740          UA     100
             *

741          KK   DRD06
742          KM        CREATED (4/17/07 RAK)
743          DR   DD06I
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

744          KK   RD06E
745          KM        CREATED (4/17/07 RAK) TO REPRESENT FLOW EAST ALONG OSBORN RD
746          RS       1    FLOW       0
747          RC   0.035   0.015   0.035     609  0.0033
748          RX       0       1      26      27      62      63      88      89
749          RY       8       3       2       0       0       2       3       8
             *
             * DDM   ***** Preserved *****

750          KK    CD07
751          KM        OSBORN ROAD AND 87TH STREET
752          HC       2   0.133
             *

753          KK    INT4
754          KM        CREATED (9/11/07 RAK) TO REPRESENT INTERCEPTED FLOW AT OSBORN/87TH ST TO
755          KM        CONDUIT
756          DT   INT4I
757          DI       0      97     200
758          DQ       0      97     200
             *
             * Route is a Minor Arterial Road.
             *

759          KK    RD07
760          RS       2    FLOW       0
761          RC   0.035   0.015   0.035    1330  0.0025
762          RX       0       1      26      27      62      63      88      89
763          RY       8       2       1     0.5     0.5       1       2       8
             *

764          KK   DRD10
765          KM        CREATED (2/14/07 RAK)
766          DR   DD10I
             *

767          KK   RD10E
768          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW EAST IN RESIDENTIAL CHANNEL
769          KM        ALONG EARLL DR
770          RS       1    FLOW       0
771          RC   0.035   0.015   0.035     420  0.0048
772          RX       0       1      26      46      52      60      85      86
773          RY       8       3       2       2       0       3       4       8
             *

774          KK    CD11
775          KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DR AND 87TH ST
776          HC       2   0.240
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

777          KK    INT7
778          KM        CREATED (6/25/07 RAK) TO REPRESENT INTERCEPTED FLOW AT EARLL /87TH ST TO
779          KM        CONDUIT
780          DT   INT7I
781          DI       0     100    1000   10000
782          DQ       0     100    1000   10000
             *
             * ***KK  RD11
             * ***KM      CREATED (2/14/07 RAK) TO REPRESENT FLOW EAST IN THE ALLEY (EARLL DR
             * ***RS     1    FLOW       0
             * ***RC 0.035   0.015   0.035     835  0.0048
             * ***RX     0       1      26      46      52      60      85      86
             * ***RY     8       3       2       2       0       3       4       8
             *
             * ***DIVERSION RECALL DE03 MODIFIED (7/17/08 SB)
             *
             * ***KK DRE03
             * ***DR DE03I
             *
             * DIVERSION RECOVER DE03 MODIFIED (7/17/08 SB)
             *

783          KK  DRE03S
784          DR   DE03I
             *
             * DIVERSION RECOVER DE09 MODIFIED (7/17/08 SB)
             *
```

```
785          KK  DRE09S
786          DR   DE09I
             *
             * ADDED TO ACCOUNT FOR COMBINING OF FLOW FROM PIMA FRONTAGE ROAD
             * AND PIMA ROAD AT NORTH SIDE OF INDIAN SCHOOL ROAD (7/17/08 SB).

787          KK    CE10
788          KM        COMBINED FLOWS FROM PIMA FRONTAGE ROAD  AND PIMA ROAD AT
789          KM        INDIAN SCHOOL ROAD
790          HC       2   1.002
             *
             * *** DIVERSION DE10 ********************************************************
             * ADDED TO ACCOUNT FOR SPLIT OF COMBINED FLOWS FROM BEHIND PIMA FRONTAGE ROAD AN
             * ALONG PIMA ROAD AT SOUTH SIDE OF INDIAN SCHOOL ROAD.
             *

791          KK    DE10
792          KM        MODIFIED (7/17/08 SB)
793          DT   DE10I
794          DI       0       1      50     100     200     300     400     500    1000    2000
795          DQ       0       1      32      65     130     195     260     325     650    1300
             *
             *
1                                          HEC-1 INPUT                                          PAGE 33

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

796          KK  RE10W1
797          KM        ROUTE TO REPRESENT FLOW DOWN FRONTAGE ROAD FROM INDIAN SCHOOL TO
798          KM        FAIRMOUNT ROAD (11/24/08 SB)
799          RS       1    FLOW       0
800          RC   0.035   0.015   0.035     878  0.0032
801          RX       0       1      28      29      57      58      86      87
802          RY       8       2       1     0.5     0.5       1       2       8
             *
             *

803          KK    IN1W
804          KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT
805          KM        FAIRMOUNT/PIMA FRONTAGE TO THE PIMA ROAD CONDUIT
806          DT   IN1WI
807          DI       0      95     200
808          DQ       0      95     200
             *
             * Route is a Subdivision Road.
             *
             * ***KK RE03S
             * ***KM RE03S IS ORIGINAL ROUTE FROM BASE MODEL - NOW BROKEN INTO RE10W1 AND RE1
             * ***KM DO NOT USE (11/26/08 JKK)
             * ***RS     6    FLOW       0
             * ***RC 0.035   0.015   0.035    3444  0.0032
             * ***RX     0       1      28      29      57      58      86      87
             * ***RY     8       2       1     0.5     0.5       1       2       8
             *
             * THESE ROUTES AND INTERCEPTION STARRED-OUT BECAUSE 'IN1W' INTERCEPTS ALL FLOW
             * NO FURTHER ROUTES OR INTERCEPTION NECESSARY (11/26/08 JKK)
             *
             * ***KKRE10W1
             * ***KM      ROUTE MODIFIED FROM RE03S (11/24/08 SB) INDIAN SCHOOL TO OLIVE
             * ***KM      ALONG PIMA FRONTAGE ROAD
             * ***RS     2    FLOW       0
             * ***RC 0.035   0.015   0.035     878  0.0032
             * ***RX     0       1      28      29      57      58      86      87
             * ***RY     8       2       1     0.5     0.5       1       2       8
             *
             *

809          KK  RE10W2
810          KM        ROUTE MODIFIED FROM RE03S (11/24/08 SB) FAIRMOUNT AVENUE TO OSBORN ROAD
811          KM        ALONG PIMA FRONTAGE ROAD
812          RS       2    FLOW       0
813          RC   0.035   0.015   0.035    1860  0.0032
814          RX       0       1      28      29      57      58      86      87
815          RY       8       2       1     0.5     0.5       1       2       8
             *
1                                          HEC-1 INPUT                                          PAGE 34

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

816          KK     D08   BASIN
817          BA   0.054
818          LG    0.24    0.25    4.80    0.36      53
819          UC   0.658   0.955
820          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
821          UA     100
             *
             *
             * THE CUMULATIVE AREA WAS HARD-CODED TO ACCOUNT FOR DIVERSION DE03.
             * THE HARD-CODE VALUE IS 95% OF CE03'S CONTRIBUTING AREA.
             * SEE DIVERSION DE03.
             *
             * DDM   ***** Preserved *****
```

```
822          KK    CD08
823          KM        OSBORN ROAD AND PIMA FRONTAGE ROAD
             * ***HC      2   0.877 (MODIFIED 7/2/08 SB)
824          HC        2   0.455
             *

825          KK    IN5W
826          KM        CREATED (1/11/08 RAK) TO REPRESENT INTERCEPTED FLOW AT OSBORN/PIMA FRONT
827          KM        INTO THE PIMA ROAD CONDUIT
828          DT   IN5WI
829          DI        0       49      100
830          DQ        0       49      100
             *
             * Route is a Minor Arterial Road with a wall on the west side.
             *

831          KK    RD08
832          RS        1     FLOW        0
833          RC    0.035    0.015    0.035     1290  0.0039
834          RX        0        1       19       25       30       49       79       80
835          RY       10      1.5        0        0        0        0      1.5        8
             *

836          KK    D03A
837          KM        CREATED (2/14/07 RAK) TO REPRESENT SUB BASIN D03 NORTH OF EARLL DR
838          BA    0.052
839          LG     0.20     0.25     4.50     0.45       52
840          UC    0.471    0.497
841          UA        0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
842          UA      100
             *

843          KK    CD12
844          KM        CREATED (2/14/07 RAK) TO REPRESENT EARLL DR AND PIMA FRONTAGE RD
845          HC        3
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

846          KK    INT8
847          KM        CREATED (5/16/07 RAK) TO REPRESENT INTERCEPTED FLOW AT EARLL/PFR TO THE
848          KM        CONDUIT
849          DT   INT8I
850          DI        0      100     1000    10000
851          DQ        0      100     1000    10000
             *

852          KK    RD12
853          KM        CREATED (2/14/07 RAK) TO REPRESENT FLOW SOUTH ALONG TRAIL (PIMA RD)
854          RS        2     FLOW        0
855          RC    0.035    0.015    0.035     1500  0.0027
856          RX        0        1       19       25       30       49       79       80
857          RY       10      1.5        0        0        0        0      1.5        8
             *
             *
             * ***KK   D03   BASIN
             * ***BA 0.103
             * ***LG  0.20     0.25     4.50     0.45       52
             * ***UC 0.613    0.608
             * ***UA     0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0
             * ***UA   100
             *
             *
             *
             *
             * ***DIVERSION RECOVER DE09 MODIFIED (7/17/08 SB)
             *
             * ***KKDRE09I
             * ***DR DE09I
             *
             *
             * ***KK RE09S MODIFIED (7/17/08 SB)
             * ***RS      7     FLOW        0
             * ***RC 0.035    0.015    0.035     5501  0.0037
             * ***RX      0        1       26       27       62       63       88       89
             * ***RY      8        2        1      0.5      0.5        1        2        8
             *
             * DIVERSION RECOVER DE10
             *

858          KK  DRE10I
859          DR   DE10I
             *

860          KK    IN1E
861          KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT INDIAN SCHOOL
862          KM        AND PIMA ROAD TO THE PIMA ROAD CONDUIT
863          KM        STORM DRAIN
864          DT   IN1EI
865          DI        0      176      352
866          DQ        0      176      352
             *
             * Route is a Minor Arterial Road along Pima Rd.
```

```
                *
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 867            KK  RE10E1
 868            KM        ROUTE ALONG PIMA ROAD FROM INDIAN SCHOOL TO OSBORN ROAD
 869            RS       2    FLOW       0
 870            RC   0.035   0.015   0.035    2640  0.0037
 871            RX       0       1      26      27      62      63      88      89
 872            RY       8       2       1     0.5     0.5       1       2       8
                *
                * THESE ROUTES AND INTERCEPTION NOT NEEDED BECAUSE IN1E AND IN5E TAKE ALL FLOWS
                * PIMA ROAD
                *
                * ***KK  IN2E (11/24/08 SB)
                * ***KM      CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT OLIVE AND PI
                * ***KM      TO THE PIMA ROAD CONDUIT
                * ***DT IN2EI
                * ***DI     0     817    1000
                * ***DQ     0     200     245
                *
                * ***KKRE10E2 (11/24/08 SB)
                * ***RS     7    FLOW       0
                * ***RC 0.035   0.015   0.035    1722  0.0037
                * ***RX     0       1      26      27      62      63      88      89
                * ***RY     8       2       1     0.5     0.5       1       2       8
                *

 873            KK    IN5E
 874            KM        CREATED (11/24/08 SB) TO REPRESENT INTERCEPTED FLOW AT OSBORN/PIMA ROAD
 875            KM        TO THE PIMA ROAD CONDUIT
 876            DT   IN5EI
 877            DI       0     817    1000
 878            DQ       0     200     245
                *

 879            KK  RE10E3
 880            KM        ROUTE ALONG PIMA ROAD FROM OSBORN ROAD TO THOMAS ROAD
 881            RS       2    FLOW       0
 882            RC   0.035   0.015   0.035    2640  0.0037
 883            RX       0       1      26      27      62      63      88      89
 884            RY       8       2       1     0.5     0.5       1       2       8
                *
                *

 885            KK     D09   BASIN
 886            KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
 887            BA   0.216
 888            LG    0.10    0.29    2.65    1.70      80
 889            UC   0.463   0.379
 890            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 891            UA     100
                *
                *
                * *** STORAGE ROUTING LD09 ***********************************************
                *
                * See the detention calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                * DDM   ***** Preserved *****
                * ***KK  LD09
                * ***DT LD09D    13.6
                * ***DI     0     100    1000   10000
                * ***DQ     0     100    1000   10000
                *
                *
                * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSION DE09.
                * THE HARD-CODE VALUE IS 90% OF CE09'S CONTRIBUTING AREA.
                * SEE DIVERSION DE09.
                *
                * DDM   ***** Preserved *****
```



```
LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 892            KK    CD09
 893            KM        THOMAS ROAD AND PIMA ROAD
 894            HC       2   0.686
                *

 895            KK   INT10
 896            KM        CREATED (5/16/07 RAK) TO REPRESENT INTERCEPTED FLOW AT THOMAS AND
 897            KM        PIMA ROAD TO THE PIMA ROAD CONDUIT
 898            DT   IN10I
 899            DI       0     100    1000   10000
 900            DQ       0     100    1000   10000
                *

 901            KK    D03B
 902            KM        CREATED (2/14/07 RAK) TO REPRESENT SUB BASIN D03 SOUTH OF EARLL DR
 903            BA   0.052
 904            LG    0.20    0.25    4.50    0.45      52
 905            UC   0.500   0.514
```

```
906          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
907          UA     100
             *
             *
             * DDM   ***** Preserved *****

908          KK    CD03
909          KM        THOMAS ROAD AND 87TH STREET
910          HC       4   2.191
             *

911          KK    INT9
912          KM        CREATED (5/16/07 RAK) TO REPRESENT INTERCEPTED FLOW AT THOMAS AND 87TH S
913          KM        TO THE PIMA ROAD CONDUIT
914          DT   INT9I
915          DI       0     100    1000   10000
916          DQ       0     100    1000   10000
             *
             *
             * Route is a Minor Arterial Road.
             *

917          KK    RD03
918          RS       1    FLOW       0
919          RC   0.035   0.015   0.035    1307   0.004
920          RX       0       1      26      27      62      63      88      89
921          RY       8       2       1     0.5     0.5       1       2       8
             *

922          KK     C11   BASIN
923          BA   0.050
924          LG    0.25    0.25    4.40    0.45      49
925          UC   0.358   0.322
926          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
927          UA     100
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

928          KK     C10   BASIN
929          BA   0.054
930          LG    0.25    0.25    4.65    0.38      50
931          UC   0.433   0.409
932          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
933          UA     100
             *

934          KK   DRD02
935          DR   DD02I
             *

936          KK   RD02S
937          KM        CREATED (5/8/07 RAK) TO REPRESENT FLOW FROM GRANITE REEF RD TO 86TH ST
938          KM        ALONG EARLL DR
939          RS       4    FLOW       0
940          RC   0.035   0.015   0.035    1329  0.0036
941          RX       0       1      26      27      62      63      88      89
942          RY       8       2       1     0.5     0.5       1       2       8
             *

943          KK    CC10
944          KM        CREATED (5/8/07 RAK) TO REPRESENT VIRGINIA AVE AND 86TH ST
945          HC       2   0.121
             *
             * Route is a Minor Arterial Road.
             *

946          KK    RC10
947          RS       1    FLOW       0
948          RC   0.035   0.015   0.035     688   0.009
949          RX       0       1      26      27      62      63      88      89
950          RY       8       2       1     0.5     0.5       1       2       8
             *
             *
             * DDM   ***** Preserved *****

951          KK    CC11
952          KM        VIRGINIA AVENUE AND 87TH STREET
953          HC       3
             *
             * Route is a Minor Arterial Road.
             *

954          KK    RC11
955          RS       1    FLOW       0
956          RC   0.035   0.015   0.035    1334  0.0015
957          RX       0       1      26      27      62      63      88      89
958          RY       8       2       1     0.5     0.5       1       2       8
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
 959          KK     C08   BASIN
 960          BA   0.118
 961          LG    0.25    0.25    4.40    0.45      51
 962          UC   0.588   0.434
 963          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 964          UA     100
              *
              * DDM   ***** Preserved *****

 965          KK    CC08
 966          KM        OAK STREET AND 87TH STREET
 967          HC       2
              *
              *
              *
              * Route is a Minor Arterial Road.
              *

 968          KK    RC08
 969          RS       4    FLOW       0
 970          RC   0.035   0.015   0.035    2205  0.0026
 971          RX       0       1      26      27      62      63      88      89
 972          RY       8       2       1     0.5     0.5       1       2       8
              *

 973          KK     C06   BASIN
 974          KM        This basin's original area was 0.162 sq mi.  The infield area is bermed
 975          KM        so it is self-detained.  The infield area (0.0095 sq mi) was subtracted
 976          KM        from the subbasin calculations to account for the storage.
 977          BA   0.153
 978          LG    0.23    0.25    4.30    0.49      52
 979          UC   0.554   0.435
 980          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 981          UA     100
              *
              * DDM   ***** Preserved *****

 982          KK    CC06
 983          KM        CORONADO ROAD AND 87TH STREET
 984          HC       2
              *

 985          KK   INT11
 986          KM        CREATED (7/25/07 RAK) TO REPRESENT INTERCEPTED FLOW FROM THE
 987          KM        INTERTSECTION OF CORONADO RD AND 87TH ST
 988          DT   IN11I
 989          DI       0     100    1000
 990          DQ       0     100    1000
              *
              *
              * This is a channel.
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 991          KK    RC06
 992          RS       1    FLOW       0
 993          RC    0.04   0.035    0.04    1271  0.0056
 994          RX       0       1      30      40      70      80     110     111
 995          RY      20      10       8       0       0       8      10      20
              *
              *
              * DIVERSION RECALL D01
              *

 996          KK   DRD01
 997          DR   DD01I
              *
              *
              * Route is a Minor Arterial Road.
              *

 998          KK   RD01S
 999          RS       8    FLOW       0
1000          RC   0.035   0.015   0.035    2611  0.0023
1001          RX       0       1      26      27      62      63      88      89
1002          RY       8       2       1     0.5     0.5       1       2       8
              *
              *

1003          KK     C07   BASIN
1004          KO       3
1005          BA   0.072
1006          LG    0.25    0.25    4.80    0.35      50
1007          UC   0.667   0.699
1008          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1009          UA     100
              *
              *
              * THE CONTRIBUTING AREA WAS HARD-CODED TO ACCOUNT FOR THE DIVERSION DD01.
              * THE HARD-CODE VALUE IS 40% OF CD01'S CONTRIBUTING AREA.
              * SEE DIVERSION DD01.
```

```
                 *
                 * DDM   ***** Preserved *****

1010             KK    CC07
1011             KM        OAK STREET AND GRANITE REEF ROAD
1012             HC       2    0.15
                 *
                 *
                 *
                 * Route is a Minor Arterial Road.
                 *
1                                        HEC-1 INPUT                                                    PAGE 41

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1013             KK    RC07
1014             RS       6    FLOW       0
1015             RC   0.035   0.015   0.035    2638   0.003
1016             RX       0       1      26      27      62      63      88      89
1017             RY       8       2       1     0.5     0.5       1       2       8
                 *
                 *

1018             KK     C09   BASIN
1019             BA   0.057
1020             LG    0.25    0.25    4.80    0.36      50
1021             UC   0.596   0.646
1022             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1023             UA     100
                 *
                 * *** CC09 IS LOCATED AT OAK STREET AND 82ND STREET ***************************
                 *
                 * Route is a Minor Arterial Road.
                 *

1024             KK    RC09
1025             RS       1    FLOW       0
1026             RC   0.035   0.015   0.035    3368   0.003
1027             RX       0       1      26      27      62      63      88      89
1028             RY       8       2       1       0       0       1       2       8
                 *

1029             KK     C05   BASIN
1030             BA   0.137
1031             LG    0.23    0.25    4.70    0.37      54
1032             UC   0.754   0.675
1033             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1034             UA     100
                 *

1035             KK     C01   BASIN
1036             BA   0.032
1037             LG    0.22    0.25    4.80    0.37      57
1038             UC   0.546   0.711
1039             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1040             UA     100
                 *
                 * *** CC01 LOCATED AT MCDOWELL ROAD AND 82ND PLACE ****************************
                 *
                 * Route is a Major Arterial Road.
                 *

1041             KK    RC01
1042             RS       8    FLOW       0
1043             RC   0.035   0.015   0.035    1217  0.0013
1044             RX       0       1      40      41     104     105     145     146
1045             RY       8       3     1.5     .75    0.75     1.5       3       8
                 *
1                                        HEC-1 INPUT                                                    PAGE 42

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1046             KK     C02   BASIN
1047             BA   0.036
1048             LG    0.15    0.25    4.80    0.40      70
1049             UC   0.554   0.780
1050             UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1051             UA     100
                 *
                 * DDM   ***** Preserved *****

1052             KK    CC02
1053             KM        MCDOWELL ROAD AND GRANITE REEF ROAD
1054             HC       5    .436
                 *

1055             KK    DC02
1056             KM        CREATED (2/26/07) TO REPRESENT THE FLOW SPLIT AT MCDOWELL ROAD AND
1057             KM        GRANITE REEF ROAD
1058             DT   DC02I
1059             DI       0     160     186     221     268     323     384     446
1060             DQ       0     0.3     4.5    11.9    24.7    40.7    59.3    78.1
                 *
```

```
                *
                * Route is a Major Arterial Road.
                *
                *
                * ***KK  RC02

1061            KK   RC02E
1062            KM        MODIFIED (2/26/07)
1063            RS       1    FLOW       0
1064            RC   0.035   0.015   0.035     632  0.0063
1065            RX       0       1      40      45     100     105     145     146
1066            RY       8       3       2       0       0       2       3       8
                *

1067            KK     C03   BASIN
1068            BA   0.040
1069            LG    0.18    0.25    4.10    0.61      62
1070            UC   0.333   0.388
1071            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1072            UA     100
                *
                *

1073            KK     C12   BASIN
1074            BA   0.010
1075            LG    0.19    0.25    4.10    0.58      64
1076            UC   1.500   4.505
1077            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1078            UA     100
                *
                * *** CC12 LOCATED AT OAK STREET AND PIMA ROAD (WEST SIDE OF WALL) *************
                *
                * Route is a Minor Arterial Road with a wall on the west side.
                *
1                                          HEC-1 INPUT                                          PAGE 43

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1079            KK    RC12
1080            RS      22    FLOW       0
1081            RC   0.035   0.015   0.035    2693  0.0007
1082            RX       0       1      19      25      30      49      79      80
1083            RY      10     1.5       0       0       0       0     1.5       8
                *
                *

1084            KK     C13   BASIN
1085            KM        SRPMIC LANDS BETWEEN PIMA ROAD & PIMA FRWY (SR 101L)
1086            BA   0.176
1087            LG    0.10    0.35    2.65    1.70      80
1088            UC   0.546   0.508
1089            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1090            UA     100
                *
                * *** STORAGE ROUTING LC13 ***********************************************
                *
                * See the detention calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                * DDM   ***** Preserved *****
                * ***KK  LC13
                * ***DT LC13D    11.2
                * ***DI     0     100    1000   10000
                * ***DQ     0     100    1000   10000
                *
                *
                * DDM   ***** Preserved *****

1091            KK    CC13
1092            KM        MCDOWELL ROAD AND PIMA ROAD
1093            HC       2   0.186
                *

1094            KK   INT12
1095            KM        CREATED (5/16/07 RAK) TO REPRESENT INTERCEPTED FLOW TO THE PIMA ROAD
1096            KM        STORM DRAIN
1097            DT   IN12I
1098            DI       0     100    1000   10000
1099            DQ       0     100    1000   10000
                *
                * Original diversion for stormdrain at McDowell and Pima Roads has been
                * starred out by Psomas for the Pima Road Conduit alternative - assumption
                * is new leg of interception along McDowell will run flows from east to
                * west and that most flows from SRPMIC lands are intercepted along Pima Road bet
                * Thomas and McDowell (represented by diversion INT12) - JKK 12/04/08
                * *** DIVERSION DC13 ****************************************************
                * THE STORM DRAIN ANALYSIS SHOWS THAT THE MAXIMUM FLOW IN THE DRAIN IS 51 CFS.
                * ALL OVERLAND FLOW CONTINUES SOUTH.
                * 20% clogging factor means 41cfs, (51cfs * 0.8 = 41cfs).
                *
                * See the diversion calculations in Appendix D of the Data Collection Notebook
                * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
                *
                * DDM   ***** Preserved *****
                * ***KK  DC13
```

```
                * ***DT DC13I
                * ***DI     0      10      50     100     200     300     400     500
                * ***DQ     0       4      30      59     159     259     359     459
                *
                * ROUTE IS A 42" RCP WITH A SLOPE OF 0.0044 FT/FT.
                *
                * ***KK RC13W
                * ***RS     5    FLOW      -1
                * ***RD  2052   0.005   0.012            CIRC     3.5
                *
1                                          HEC-1 INPUT                                                    PAGE 44

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1100            KK     C04   BASIN
1101            BA   0.044
1102            LG    0.18    0.28    4.20    0.51      44
1103            UC   0.650   0.830
1104            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1105            UA     100
                *
                * Route is a Major Arterial Road.
                *

1106            KK    RC04
1107            RS       5    FLOW       0
1108            RC   0.035   0.015   0.035    1563  0.0106
1109            RX       0       1      40      41     104     105     145     146
1110            RY       8       3     1.5       0       0     1.5       3       8
                *
                * THE CONTRIBUTING AREA IS HARD-CODED TO ACCOUNT FOR DIVERSION D13.
                * THE HARD-CODE VALUE IS 20% OF CC13'S CONTRIBUTING AREA.
                * SEE DIVERSION D13.
                *
                * DDM   ***** Preserved *****

1111            KK    CC03
1112            KM        MCDOWELL ROAD AND GRANITE REEF WASH
1113            HC       5    3.37
                *
                *
                *
                * This route is a channel.
                *

1114            KK    RC03
1115            RS       2    FLOW       0
1116            RC    0.04    0.03    0.04    1097  0.0009
1117            RX       0       1      30      40      70      80     110     111
1118            RY      20      10       8       0       0       8      10      20
                *

1119            KK     B07   BASIN
1120            BA   0.016
1121            LG    0.13    0.28    4.35    0.51      49
1122            UC   0.192   0.234
1123            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1124            UA     100
                *
                * DDM   ***** Preserved *****

1125            KK    CB07
1126            KM        84TH PLACE AND GRANITE REEF WASH
1127            HC       2
                *
                *
                *
                * Route is a Minor Arterial Road.
                *
1                                          HEC-1 INPUT                                                    PAGE 45

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1128            KK    RB07
1129            RS       2    FLOW       0
1130            RC   0.035   0.015   0.035    1525  0.0026
1131            RX       0       1      40      41     104     105     145     146
1132            RY       8       3     1.5     .75    0.75     1.5       3       8
                *

1133            KK     B05   BASIN
1134            BA   0.088
1135            LG    0.22    0.26    4.15    0.58      44
1136            UC   0.583   0.685
1137            UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1138            UA     100
                *
                * *** STORAGE ROUTING LB05 ***********************************************
                *
                * DDM   ***** Preserved *****

1139            KK    LB05
1140            DT   LB05D    0.16
```

```
1141          DI       0     100    1000   10000
1142          DQ       0     100    1000   10000
              *

1143          KK   DRC02
1144          KM        CREATED (2/26/07)
1145          DR   DC02I
              *

1146          KK   RC02S
1147          KM        CREATED (2/26/07) TO REPRESENT FLOW SOUTH ALONG GRANITE REEF ROAD
1148          RS       2    FLOW       0
1149          RC   0.035   0.015   0.035    2385  0.0063
1150          RX       0       1      26      27      62      63      88      89
1151          RY       8       2       1     0.5     0.5       1       2       8
              *

1152          KK     B06   BASIN
1153          BA   0.015
1154          LG    0.13    0.26    4.00    0.64      60
1155          UC   0.304   0.589
1156          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1157          UA     100
              *
              *
              * DDM   ***** Preserved *****

1158          KK    CB05
1159          KM        84TH PLACE AND GRANITE REEF ROAD
1160          HC       4
              *
              *
              *
              * Route is a Minor Arterial Road.
              * Normal Depth Routing did not work for this Route.
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1161          KK    RB05
1162          RD
1163          RC   0.035    0.02   0.035     500  0.0052
1164          RX       0       1      40      51      94     105     145     146
1165          RY       8       3       2       0       0       2       3       8
              *

1166          KK     B04   BASIN
1167          BA   0.077
1168          LG    0.15    0.25    4.45    0.50      71
1169          UC   0.271   0.232
1170          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1171          UA     100
              *
              *
              * *** STORAGE ROUTING LB04 ***********************************************
              *
              * MOTOROLA DETENTION BASINS (SEE CALCULATIONS)
              *
              * DDM   ***** Preserved *****

1172          KK    LB04
1173          DT   LB04D   12.95
1174          DI       0     100    1000   10000
1175          DQ       0     100    1000   10000
              *

1176          KK     B02   BASIN
1177          BA   0.101
1178          LG    0.15    0.25    4.70    0.41      68
1179          UC   0.363   0.335
1180          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1181          UA     100
              *
              * *** CB02 IS LOCATED AT ROOSEVELT STREET WEST OF GRANITE REEF ROAD ************
              *
              * *** STORAGE ROUTING LB02 ***********************************************
              *
              * DDM   ***** Preserved *****

1182          KK    LB02
1183          DT   LB02D    2.64
1184          DI       0     100    1000   10000
1185          DQ       0     100    1000   10000
              *
              * Route is a Minor Arterial Road.
              * Normal Depth Routing did not work for this Route.

1186          KK    RB02
1187          RD
1188          RC   0.035   0.015   0.035     548  0.0186
1189          RX       0       1      40      41     104     105     145     146
1190          RY       8       3     1.5     .75    0.75     1.5       3       8
              *
```

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1191          KK     B03   BASIN
1192          BA   0.007
1193          LG    0.25    0.35    4.65    0.41      47
1194          UC   0.271   0.474
1195          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1196          UA     100
              *
              * DDM   ***** Preserved *****

1197          KK    CB03
1198          KM        ROOSEVELT STREET AND GRANITE REEF ROAD
1199          HC       4    3.66
              *
              * Route is a Minor Arterial Road.
              *

1200          KK    RB03
1201          RS       2    FLOW       0
1202          RC   0.035   0.015   0.035    1348   0.003
1203          RX       0       1      40      41     104     105     145     146
1204          RY       8       3     1.5     .75    0.75     1.5       3       8
              *

1205          KK     B01   BASIN
1206          BA   0.071
1207          LG    0.25    0.25    4.30    0.54      44
1208          UC   0.267   0.188
1209          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1210          UA     100
              *
              * *** STORAGE ROUTING LB01 ***********************************************
              *
              * DDM   ***** Preserved *****

1211          KK    LB01
1212          DT   LB01D    1.15
1213          DI       0     100    1000   10000
1214          DQ       0     100    1000   10000
              *
              * DDM   ***** Preserved *****

1215          KK    CB01
1216          KM        GRANITE REEF ROAD AND GRANITE REEF WASH
1217          HC       2
              *
              * Route is a channel.
              *

1218          KK    RB01
1219          RS       1    FLOW       0
1220          RC   0.035   0.015   0.035    1320  0.0019
1221          RX       0       1      34      40      50      56      80      81
1222          RY      12       6       4       0       0       4       6      12
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1223          KK     B13   BASIN
1224          BA   0.222
1225          LG    0.22    0.26    4.55    0.42      44
1226          UC   0.375   0.232
1227          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1228          UA     100
              *
              * *** STORAGE ROUTING LB13 ***********************************************
              *
              * DDM   ***** Preserved *****

1229          KK    LB13
1230          DT   LB13D    18.4
1231          DI       0     100    1000   10000
1232          DQ       0     100    1000   10000
              *
              * Route is shallow flow. (SLOPE WAS ESTIMATED.)
              *

1233          KK    RB13
1234          RS       7    FLOW       0
1235          RC   0.035   0.035   0.035    1269   0.004
1236          RX       0     200     300     400     500     600     700     900
1237          RY       5       4       3       0       0       3       4       5
              *

1238          KK     B14   BASIN
1239          KM        SRPMIC LANDS BETWEEN THE ALIGNMENT OF PIMA ROAD & PIMA FRWY (SR 101L)
1240          BA   0.149
1241          LG    0.10    0.25    4.60    0.48      80
1242          UC   0.608   0.628
1243          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
```

```
1244        UA     100
            *
            * *** STORAGE ROUTING LB14 ***********************************************
            *
            * See the detention calculations in Appendix D of the Data Collection Notebook
            * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
            * DDM   ***** Preserved *****
            * ***KK  LB14
            * ***DT LB14D    10.4
            * ***DI     0     100    1000   10000
            * ***DQ     0     100    1000   10000
            *
            * DDM   ***** Preserved *****

1245        KK    CB14
1246        KM        MCKELLIPS ROAD AND PIMA ROAD
1247        HC       2   0.371
            *
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1248        KK   INT13
1249        KM        CREATED (5/16/07 RAK) TO REPRESENT INTERCEPTED FLOW TO THE PIMA ROAD
1250        KM        STORM DRAIN
1251        DT   IN13I
1252        DI       0     100    1000   10000
1253        DQ       0     100    1000   10000
            *
            * Route is a MAJOR ARTERIAL. (SLOPE WAS ESTIMATED.)
            *

1254        KK    RB14
1255        RS       4    FLOW       0
1256        RC   0.035   0.015   0.035    2746   0.004
1257        RX       0       1      30      40     100     110     145     300
1258        RY       8       4       3       0       0       3       4       5
            *

1259        KK     B12   BASIN
1260        KM        SRPMIC LANDS WEST OF THE PIMA RD ALIGNMENT AND NORTH OF MCKELLIPS RD
1261        BA   0.119
1262        LG    0.25    0.25    4.80    0.38      39
1263        UC   0.442   0.233
1264        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1265        UA     100
            *

1266        KK     B11   BASIN
1267        BA   0.060
1268        LG    0.24    0.34    4.80    0.39      37
1269        UC   0.400   0.277
1270        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1271        UA     100
            *
            * *** STORAGE ROUTING LB11 ***********************************************
            * Pond was assumed to have 1 foot of freeboard.
            * DDM   ***** Preserved *****

1272        KK    LB11
1273        DT   LB11D    2.87
1274        DI       0     100    1000   10000
1275        DQ       0     100    1000   10000
            *
            *
            * DIVERSION RECALL DC13I
            *
            * ***KKDRDC13
            * ***DR DC13I
            *
            * ***Route is overland flow from McDowell to McKellips along
            * ***Pima Road. (SLOPE ESTIMATED.)
            *
            * ***KK RC13S
            * ***RS    33    FLOW       0
            * ***RC 0.035   0.035   0.035    5197   .0058
            * ***RX     0     200     300     400     500     600     700     900
            * ***RY     5       4       3       0       0       3       4       5
            *
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1276        KK    CB12
1277        KM        MCKELLIPS ROAD AND GRANITE REEF WASH
1278        HC       4
            *

1279        KK    IN16
1280        KM        CREATED (12/17/08 JK) TO REPRESENT INTERCEPTED FLOW TO THE PIMA ROAD
1281        KM        STORM DRAIN
1282        DT   IN16I
1283        DI       0     680    1360
```

```
1284          DQ       0     200     400
              *
              *
              * Route is a channel. (SLOPE ESTIMATED FROM UPSTREAM CHANNEL'S SLOPE.)
              *

1285          KK    RB12
1286          RS       6    FLOW       0
1287          RC   0.035    .035   0.035    4395  0.0019
1288          RX       0     200     330     340     370     380     410     600
1289          RY       9       8       6       0       0       6       8       9
              *

1290          KK     A01   BASIN
1291          KM        SRPMIC LANDS SOUTH OF MCKELLIPS ROAD
1292          BA   0.507
1293          LG    0.10    0.25    5.40    0.32      80
1294          UC   0.542   0.238
1295          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1296          UA     100
              *
              * *** STORAGE ROUTING LA01 ***********************************************
              *
              * See the detention calculations in Appendix D of the Data Collection Notebook
              * Granite Reef Wash Drainage Master Plan (Entellus April 2002).
              * DDM   ***** Preserved *****

1297          KK    LA01
1298          DT   LA01D    35.2
1299          DI       0     100    1000   10000
1300          DQ       0     100    1000   10000
              *
              * DDM   ***** Preserved *****

1301          KK    CA01
1302          KM        OUTFALL TO SALT RIVER
1303          HC       2
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1304          KK     B10   BASIN
1305          BA   0.110
1306          LG    0.21    0.25    4.60    0.49      28
1307          UC   0.742   0.765
1308          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
1309          UA     100
              *
              * *** STORAGE ROUTING LB10 ***********************************************
              *
              * DDM   ***** Preserved *****

1310          KK    LB10
1311          DT   LB10D    10.5
1312          DI       0     100    1000   10000
1313          DQ       0     100    1000   10000
              *
              *  ******************************************************************
              *  *                                                                *
              *  *  THE FOLLOWING CARDS REFER TO THE PIMA ROAD CONDUIT ALTERNATIVE  *
              *  *  BY PSOMAS                                                     *
              *  ******************************************************************
              *
              *

1314          KK  DRIN15
1315          DR   IN15I
              *

1316          KK  RE05SD
1317          KM        CREATED (11/24/08 SB) TO REPRESENT CONDUIT FLOW ALONG CAMELBACK ROAD
1318          KM        FROM 86th STREET TO 87th STREET
1319          RK     605   .0025    .014            CIRC       7       0
              *

1320          KK  DRIN17
1321          DR   IN17I
              *

1322          KK  CE05SD
1323          KM        CREATED (11/18/08 SB) TO REPRESENT THE CONDUIT JUNCTION AT CAMELBACK ROA
1324          HC       2   1.000
              *

1325          KK  RIN17S
1326          KM        CREATED (12/02/08 SB) TO REPRESENT CONDUIT FLOW ALONG CAMELBACK
1327          KM        FROM 87th STREET TO PIMA ROAD
1328          RK     500   .0019    .014            CIRC       7       0
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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1329          KK  DRIN14
1330          DR   IN14I
              *

1331          KK  RE07SD
1332          KM        CREATED (11/24/08 SB) TO REPRESENT CONDUIT FLOW FROM PIMA FRONTAGE ROAD
1333          KM        CAMELBACK ROAD
1334          RK    2640   .0020    .014            CIRC       7       0
              *

1335          KK  CE06SD
1336          KM        CREATED (11/18/08 SB) TO REPRESENT THE CONDUIT JUNCTION AT CAMELBACK ROA
1337          KM        AND PIMA ROAD
1338          HC       2   1.000
              *

1339          KK  RE06SD
1340          KM        CREATED (11/24/08 SB) TO REPRESENT CONDUIT FLOW ALONG PIMA ROAD FROM
1341          KM        CAMELBACK ROAD (ALIGNMENT) TO SELLS DRIVE (ALIGNMENT)
1342          RK     620   .0020    .014            CIRC    11.5       0
              *

1343          KK  DRIN0E
1344          DR   IN0EI
              *

1345          KK  DRIN0W
1346          KM        UNDER PIMA SOUND WALL IN 30-FT LONG PIPE (ROUTE IGNORED)
1347          DR   IN0WI
              *

1348          KK  CE6BSD
1349          KM        CREATED (12/02/08 SB) TO REPRESENT THE CONDUIT JUNCTION AT
1350          KM        SELLS DR (ALIGNMENT) AND PIMA ROAD
1351          HC       3   1.000
              *

1352          KK  RE6BSD
1353          KM        CREATED (11/24/08 SB) TO REPRESENT CONDUIT FLOW ALONG PIMA ROAD
1354          KM        FROM SELLS DRIVE (ALIGNMENT) TO INDIAN SCHOOL ROAD
1355          RK    1990   .0020    .014            CIRC      13       0
              *

1356          KK  DRIN1E
1357          DR   IN1EI
              *

1358          KK  CE10S1
1359          KM        CREATED (11/18/08 SB) TO REPRESENT THE CONDUIT JUNCTION AT INDIAN SCHOOL
1360          KM        AND THE PIMA FRONTAGE ROAD
1361          HC       2   1.002
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1362          KK  RE10S1
1363          KM        CREATED (1/11/08 RAK) TO REPRESENT CONDUIT FLOW FROM INDIAN SCHOOL RD
1364          KM        TO FAIRMOUNT AVE ALONG PIMA ROAD
1365          RK     878    .002    .014            CIRC      13
              *

1366          KK  DRIN1W
1367          KM        UNDER PIMA SOUND WALL IN 30-FT LONG PIPE (ROUTE IGNORED)
1368          DR   IN1WI
              *

1369          KK  CE10S2
1370          KM        CREATED (1/11/08 RAK) TO REPRESENT THE CONDUIT JUNCTION AT
1371          KM        FAIRMOUNT AVE (ALIGNMENT) AND PIMA ROAD
1372          HC       2   1.029
              *

1373          KK  RE10S2
1374          KM        CREATED (1/11/08 RAK) TO REPRESENT CONDUIT FLOW FROM FAIRMOUNT
1375          KM        TO OSBORN ALONG PIMA ROAD
              * *****RK  1860    .002    .014            CIRC      13
1376          RD    1860    .002    .014            CIRC      13
              *

1377          KK  DRINT3
1378          DR   INT3I
              *

1379          KK  RD06SD
1380          KO       3
1381          KM        CREATED (9/12/07 RAK) TO REPRESENT CONDUIT FLOW FROM 86TH ST TO 87TH ST
1382          KM        ALONG OSBORN RD
1383          RK     540   .0025    .013            TRAP      10       0              5
              *

1384          KK  DRINT4
1385          DR   INT4I
```

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                *

1386            KK  CD07SD
1387            KM        CREATED (9/12/07 RAK) TO REPRESENT THE CONDUIT JUNCTION AT OSBORN RD
1388            KM        AND 87TH ST
1389            HC       2    .387
                *

1390            KK  RD07SD
1391            KO       3
1392            KM        CREATED (9/12/07 RAK) TO REPRESENT CONDUIT FLOW ALONG OSBORN ROAD
1393            KM        FROM 87TH ST TO PIMA FRONTAGE ROAD
1394            RK     560   .0031    .013            TRAP      10       0              5
                *
1                                          HEC-1 INPUT                                                    PAGE 54

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1395            KK  DRIN5W
1396            KM        UNDER PIMA SOUND WALL IN 30-FT LONG PIPE (ROUTE IGNORED)
1397            DR   IN5WI
                *

1398            KK  DRIN5E
1399            DR   IN5EI
                *
                *

1400            KK  CD08SD
1401            KM        CREATED (1/11/08 RAK) TO REPRESENT THE CONDUIT JUNCTION AT OSBORN RD
1402            KM        AND THE PIMA ROAD
1403            HC       4   1.264
                *

1404            KK  RD08SD
1405            KM        CREATED (1/11/08 RAK) TO REPRESENT CONDUIT FLOW ALONG PIMA ROAD
1406            KM        FROM OSBORN (ALIGNMENT) TO EARLL (ALIGNMENT)
1407            KM        *** SIPHON TO MISS 60" COP WATERLINE ***
1408            RK    1230   .0011    .014            CIRC      14
                *

1409            KK  DRINT6
1410            DR   INT6I
                *

1411            KK  RD10SD
1412            KO       3
1413            KM        CREATED (6/25/07 RAK) TO REPRESENT CONDUIT FLOW FROM 86TH ST TO 87TH ST
1414            KM        ALONG EARLL DR
1415            RK     370   .0071    .013            TRAP       7       0              5
                *

1416            KK  DRINT7
1417            DR   INT7I
                *

1418            KK  CD11SD
1419            KM        CREATED (6/25/07 RAK) TO REPRESENT THE CONDUIT JUNCTION AT EARLL DR AND
1420            KM        87TH ST
1421            HC       2    .498
                *

1422            KK  RD11SD
1423            KO       3
1424            KM        CREATED (6/25/07 RAK) TO REPRESENT CONDUIT FLOW ALONG EARLL DRIVE
1425            KM        FROM 87TH ST TO PIMA FRONTAGE RD
1426            RK     815   .0050    .013            TRAP       7       0              5
                *
1                                          HEC-1 INPUT                                                    PAGE 55

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1427            KK  DRINT8
1428            DR   INT8I
                *

1429            KK  CD12SD
1430            KM        CREATED (6/12/07 RAK) TO REPRESENT THE CONDUIT JUNCTION AT EARLL DR AND
1431            KM        PIMA RD
1432            HC       3    1.43
                *

1433            KK  RD12SD
1434            KM        CREATED (6/12/07 RAK) TO REPRESENT CONDUIT FLOW ALONG PIMA ROAD
1435            KM        FROM EARLL DR TO THOMAS RD
1436            RK    1338   .0030    .014            CIRC      14
                *

1437            KK  DRINT9
1438            DR   INT9I
                *

1439            KK  RD03SD
```

```
1440          KM        CREATED (6/26/07 RAK) TO REPRESENT CONDUIT FLOW FROM 87TH ST TO PIMA RD
1441          RK     256   .0055    .013            CIRC     6.5
              *

1442          KK  DRIN10
1443          DR   IN10I
              *

1444          KK  CD09SD
1445          KM        CREATED (6/12/07 RAK) TO REPRESENT THE CONDUIT JUNCTION AT THOMAS RD
1446          KM        AND PIMA RD
1447          HC       3   2.877
              *

1448          KK  RD09SD
1449          KM        CREATED (6/12/07 RAK) TO REPRESENT CONDUIT FLOW FROM THOMAS RD TO
1450          KM        MCDOWELL RD
1451          RK    5265   .0030    .014            TRAP      12
              *

1452          KK  DRIN12
1453          DR   IN12I
              *

1454          KK  DRIN11
1455          DR   IN11I
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1456          KK  RC06SD
1457          KO       3
1458          KM        CREATED (6/13/07 RAK) TO REPRESENT FLOW FROM THE MCDOWELL RD BOX CULVERT
1459          KM        TO THE PIMA ROAD CONDUIT
1460          RK    1744    .004    .014            CIRC     8.5
              *

1461          KK  CC13SD
1462          KM        CREATED (6/13/07 RAK) TO REPRESENT CONDUIT FLOW AT MCDOWELL AND PIMA
1463          HC       3   3.583
              *

1464          KK  RC13SD
1465          KM        CREATED (6/12/07 RAK) TO REPRESENT CONDUIT FLOW FROM MCDOWELL RD TO
1466          KM        MCKELLIPS RD
1467          RK    5368    .003    .014            TRAP      12
              *

1468          KK  DRIN13
1469          DR   IN13I
              *

1470          KK  DRIN16
1471          DR   IN16I
              *

1472          KK  RB16SD
1473          KM        CREATED (12/02/08 JKK) TO REPRESENT CONDUIT FLOW ALONG McKELLIPS
1474          KM        FROM GRANITE REEF WASH TO PIMA ROAD (ALIGNMENT)
1475          RK    2655   .0058    .014            CIRC       8
              *
              *

1476          KK  CB14SD
1477          KM        CREATED (7/25/07 RAK) TO REPRESENT CONDUIT FLOW AT MCKELLIPS AND PIMA
1478          HC       3   3.954
              *

1479          KK  RB14SD
1480          KM        CREATED (6/12/07 RAK) TO REPRESENT CONDUIT FLOW FROM MCKELLIPS RD TO
1481          KM        SALT RIVER
1482          RK    4288   .0020    .013            TRAP      12       0       5
              *
              *
1483          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
 INPUT
  LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   64        G03
               .
               .
   71          .------->   DG03I
   70       DG03
               V
               V
   74       RG03S
               .
               .
   79          .         G01
```

```
                .          .
                .          .
 85        CG01............
                .
                .
 89             .-------->   DG01I
 88        DG01
              V
              V
 92        RG01S
                .
                .
 97             .         F04
                .          .
                .          .
108             .          .         G04
                .          .           V
                .          .           V
115             .          .        RG04
                .          .          .
                .          .          .
120             .          .          .         G05
                .          .          .           V
                .          .          .           V
126             .          .          .       RG05
                .          .          .          .
                .          .          .          .
131             .          .          .          .         G06
                .          .          .          .          .
                .          .          .          .          .
139             .          .          .          .          .-------->   LG06D
138             .          .          .          .       LG06
                .          .          .          .          .
                .          .          .          .          .
143             .          .          .          .          .-------->   DG06I
142             .          .          .          .       DG06
                .          .          .          .          .
                .          .          .          .          .
147             .          .          .          .          .-------->  LG06AD
146             .          .          .          .      LG06A
                .          .          .          .          .
                .          .          .          .          .
150             .          .          .          .          .         G02
                .          .          .          .          .          .
                .          .          .          .          .          .
156             .          .        CG02.................................
                .          .          V
                .          .          V
159             .          .        RG02
                .          .          .
                .          .          .
164             .          .          .         F06
                .          .          .          .
                .          .          .          .
170             .          .        CF06............
                .          .          V
                .          .          V
173             .          .        RF06
                .          .          .
                .          .          .
178             .          .          .         F05
                .          .          .          .
                .          .          .          .
184             .          .        CF05............
                .          .          .
                .          .          .
188             .          .          .-------->   DF05I
187             .          .        DF05
                .          .          V
                .          .          V
191             .          .       RF05W
                .          .          .
                .          .          .
193        CF04........................
                .
                .
197             .-------->   DF04I
196        DF04
                .
                .
201             .          .<--------   DF05I
200             .       F05R
                .          V
                .          V
202             .      RF05S
                .          .
                .          .
207             .          .         F03
                .          .          .
                .          .          .
213             .       CF03............
                .          V
                .          V
216             .       RF03
                .          .
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```
222          .          .          .<-------   DG06I
221          .          .       G06R
             .          .          V
             .          .          V
223          .          .      RG06S
             .          .          .
             .          .          .
228          .          .          .         F07
             .          .          .           .
             .          .          .           .
236          .          .          .           .------->   LF07D
235          .          .          .        LF07
             .          .          .           .
             .          .          .           .
239          .          .       CF07............
             .          .          .
             .          .          .
245          .          .          .------->   IN14I
242          .          .       IN14
             .          .          .
             .          .          .
249          .          .          .------->   DF07I
248          .          .       DF07
             .          .          V
             .          .          V
252          .          .      RF07W
             .          .          .
             .          .          .
254          .          .          .         F02
             .          .          .           .
             .          .          .           .
260          .       CF02........................
             .          .
             .          .
264          .          .------->   DF02I
263          .       DF02
             .          V
             .          V
267          .      RF02W
             .          .
             .          .
270          .          .          .<-------   DF04I
269          .          .       F04R
             .          .          V
             .          .          V
271          .          .      RF04S
             .          .          .
             .          .          .
277          .          .          .------->  DRF04I
276          .          .      DRF04
             .          .          .
             .          .          .
280          .          .          .         F01
             .          .          .           .
             .          .          .           .
286          .       CF01........................
             .          .
             .          .
290          .          .------->   DF01I
289          .       DF01
             .          .
             .          .
294          .          .          .<-------   DF02I
293          .          .      DRF02
             .          .          V
             .          .          V
295          .          .      RF02S
             .          .          .
             .          .          .
300          .          .          .         E07
             .          .          .           .
             .          .          .           .
306          .          .       CE07............
             .          .          V
             .          .          V
309          .          .       RE07
             .          .          .
             .          .          .
314          .          .          .         E05
             .          .          .           .
             .          .          .           .
325          .          .       CE05............
             .          .          .
             .          .          .
331          .          .          .------->   IN15I
328          .          .       IN15
             .          .          .
             .          .          .
335          .          .          .------->   DE05I
334          .          .       DE05
             .          .          V
             .          .          V
338          .          .      RE05W
             .          .          .
```

```
340          .          .          .        E04
             .          .          .         .
             .          .          .         .
347          .          .          .         .-------->  LE04D
346          .          .          .      LE04
             .          .          .         .
             .          .          .         .
351          .          .          .         .          .<-------  DF01I
350          .          .          .         .     DRF01I
             .          .          .         .          V
             .          .          .         .          V
352          .          .          .         .      RF01S
             .          .          .         .          .
             .          .          .         .          .
357          .          .       CE04.......................
             .          .          .
             .          .          .
361          .          .          .-------->  DE04I
360          .          .       DE04
             .          .          .
             .          .          .
364       DUMMY.......................
             .
             .
366          .       E08
             .         V
             .         V
372          .      RE08
             .          .
             .          .
377          .          .       E06
             .          .          .
             .          .          .
383          .      CE06............
             .         V
             .         V
386          .      RE06
             .          .
             .          .
392          .          .          .<-------  DE05I
391          .          .    DRDE05
             .          .          .
             .          .          .
395          .          .          .-------->  DE052I
393          .          .     DE052
             .          .         V
             .          .         V
398          .          .    RE052E
             .          .          .
             .          .          .
406          .          .          .-------->  IN17I
403          .          .      IN17
             .          .         V
             .          .         V
409          .          .    RIN17E
             .          .          .
             .          .          .
414          .     CE06B............
             .          .
             .          .
420          .          .-------->  IN0WI
417          .      IN0W
             .         V
             .         V
423          .     RE06B
             .          .
             .          .
428          .          .       E03
             .          .          .
             .          .          .
435          .          .          .          .<-------  DF07I
434          .          .          .     DRF07
             .          .          .         V
             .          .          .         V
436          .          .          .     RF7S1
             .          .          .         .
             .          .          .         .
444          .          .          .         .-------->  IN0EI
441          .          .          .      IN0E
             .          .          .         V
             .          .          .         V
447          .          .          .     RF7S2
             .          .          .         .
             .          .          .         .
452          .          .          .         .        E09
             .          .          .         .         .
             .          .          .         .         .
459          .          .          .      CE09............
             .          .          .         .
             .          .          .         .
464          .          .          .         .-------->  DE09I
462          .          .          .      DE09
             .          .          .         .
             .          .          .         .
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467          .        CE03.......................
             .           .
             .           .
472          .           .-------->   DE03I
470          .        DE03
             .           V
             .           V
475          .       RE03W
             .           .
             .           .
478          .           .         E02
             .           .           .
             .           .           .
486          .           .           .           .<-------  DE052I
485          .           .           .      DDE052
             .           .           .           V
             .           .           .           V
487          .           .           .      RE052S
             .           .           .           .
             .           .           .           .
492          .        CE02.......................
             .           .
             .           .
497          .           .-------->   DE02I
495          .        DE02
             .           V
             .           V
500          .       RE02W
             .           .
             .           .
503          .           .         E01
             .           .           .
             .           .           .
510          .           .           .           .<-------   DE04I
509          .           .           .      DRE04I
             .           .           .           V
             .           .           .           V
511          .           .           .       RE04S
             .           .           .           .
             .           .           .           .
516          .        CE01.......................
             .           .
             .           .
521          .           .-------->   DE01I
519          .        DE01
             .           .
             .           .
525          .           .           .<-------   DE01I
524          .           .       DRE01
             .           .           V
             .           .           V
526          .           .       RE01S
             .           .           .
             .           .           .
531          .           .           .         D05
             .           .           .           .
             .           .           .           .
542          .           .       CD05............
             .           .           .
             .           .           .
547          .           .           .-------->   DD05I
545          .           .       DD05
             .           .           V
             .           .           V
550          .           .       RD05S
             .           .           .
             .           .           .
557          .           .           .         D13
             .           .           .           .
             .           .           .           .
564          .           .       CD13............
             .           .           .
             .           .           .
570          .           .           .-------->   DD13I
568          .           .       DD13
             .           .           V
             .           .           V
573          .           .       RD13S
             .           .           .
             .           .           .
580          .           .           .         D04
             .           .           .           V
             .           .           .           V
587          .           .           .       RD04
             .           .           .           .
             .           .           .           .
592          .           .           .           .         D01
             .           .           .           .           .
             .           .           .           .           .
600          .           .       CD01........................
             .           .           .
             .           .           .
605          .           .           .-------->   DD01I
603          .           .       DD01
             .           .           V
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                 .         .         V
608              .         .     RD01E
                 .         .         .
                 .         .         .
614              .         .         .<-------   DD05I
613              .         .         .     DRD05
                 .         .         .         V
                 .         .         .         V
615              .         .         .     RD05E
                 .         .         .         .
                 .         .         .         .
622              .         .         .-------> DD052I
620              .         .         .     DD052
                 .         .         .         V
                 .         .         .         V
625              .         .         .    RD05S2
                 .         .         .         .
                 .         .         .         .
632              .         .         .         .          .<-------   DE02I
631              .         .         .         .     DRE02
                 .         .         .         .         V
                 .         .         .         .         V
633              .         .         .         .     RE02S
                 .         .         .         .         .
                 .         .         .         .         .
639              .         .         .         .         .          .<-------  DD052I
638              .         .         .         .         .     DRD052
                 .         .         .         .         .         V
                 .         .         .         .         .         V
640              .         .         .         .         .     RD05E2
                 .         .         .         .         .         .
                 .         .         .         .         .         .
645              .         .         .         .         .         .         D06
                 .         .         .         .         .         .          .
                 .         .         .         .         .         .          .
651              .         .         .         .       CD06.......................
                 .         .         .         .         .
                 .         .         .         .         .
657              .         .         .         .         .------->   INT3I
654              .         .         .         .       INT3
                 .         .         .         .         .
                 .         .         .         .         .
663              .         .         .         .         .------->   DD06I
660              .         .         .         .       DD06
                 .         .         .         .         V
                 .         .         .         .         V
666              .         .         .         .     RD06S
                 .         .         .         .         .
                 .         .         .         .         .
675              .         .         .         .         .          .<-------   DD13I
674              .         .         .         .         .     DRD13
                 .         .         .         .         .         V
                 .         .         .         .         .         V
676              .         .         .         .         .     RD13E
                 .         .         .         .         .         .
                 .         .         .         .         .         .
683              .         .         .         .         .         .        D02A
                 .         .         .         .         .         .          .
                 .         .         .         .         .         .          .
691              .         .         .      CD10.....................................
                 .         .         .         .
                 .         .         .         .
697              .         .         .         .------->   INT6I
694              .         .         .      INT6
                 .         .         .         .
                 .         .         .         .
704              .         .         .         .------->   DD10I
700              .         .         .      DD10
                 .         .         .         V
                 .         .         .         V
707              .         .         .     RD10S
                 .         .         .         .
                 .         .         .         .
713              .         .         .         .       DO2B
                 .         .         .         .         .
                 .         .         .         .         .
721              .         .     CD02........................
                 .         .         .
                 .         .         .
726              .         .         .------->   DD02I
724              .         .     DD02
                 .         .         V
                 .         .         V
729              .         .     RD02E
                 .         .         .
                 .         .         .
734              .         .         .      D07
                 .         .         .         .
                 .         .         .         .
743              .         .         .         .          .<-------   DD06I
741              .         .         .         .     DRD06
                 .         .         .         .         V
                 .         .         .         .         V
744              .         .         .         .     RD06E
                 .         .         .         .         .
```

```
750                 .         .         .         .         .
                    .         .         .      CD07...........
                    .         .         .         .
                    .         .         .         .
756                 .         .         .         .-------> INT4I
753                 .         .         .      INT4
                    .         .         .         V
                    .         .         .         V
759                 .         .         .      RD07
                    .         .         .         .
                    .         .         .         .
766                 .         .         .         .         .<-------  DD10I
764                 .         .         .         .      DRD10
                    .         .         .         .         V
                    .         .         .         .         V
767                 .         .         .         .      RD10E
                    .         .         .         .         .
                    .         .         .         .         .
774                 .         .         .      CD11...........
                    .         .         .         .
                    .         .         .         .
780                 .         .         .         .-------> INT7I
777                 .         .         .      INT7
                    .         .         .         .
                    .         .         .         .
784                 .         .         .         .         .<-------  DE03I
783                 .         .         .         .      DRE03S
                    .         .         .         .         .
                    .         .         .         .         .
786                 .         .         .         .         .         .<-------  DE09I
785                 .         .         .         .         .      DRE09S
                    .         .         .         .         .         .
                    .         .         .         .         .         .
787                 .         .         .         .      CE10...........
                    .         .         .         .         .
                    .         .         .         .         .
793                 .         .         .         .         .-------> DE10I
791                 .         .         .         .      DE10
                    .         .         .         .         V
                    .         .         .         .         V
796                 .         .         .         .      RE10W1
                    .         .         .         .         .
                    .         .         .         .         .
806                 .         .         .         .         .-------> IN1WI
803                 .         .         .         .      IN1W
                    .         .         .         .         V
                    .         .         .         .         V
809                 .         .         .         .      RE10W2
                    .         .         .         .         .
                    .         .         .         .         .
816                 .         .         .         .         .         D08
                    .         .         .         .         .           .
                    .         .         .         .         .           .
822                 .         .         .         .      CD08...........
                    .         .         .         .         .
                    .         .         .         .         .
828                 .         .         .         .         .-------> IN5WI
825                 .         .         .         .      IN5W
                    .         .         .         .         V
                    .         .         .         .         V
831                 .         .         .         .      RD08
                    .         .         .         .         .
                    .         .         .         .         .
836                 .         .         .         .         .         D03A
                    .         .         .         .         .           .
                    .         .         .         .         .           .
843                 .         .         .      CD12........................
                    .         .         .         .
                    .         .         .         .
849                 .         .         .         .-------> INT8I
846                 .         .         .      INT8
                    .         .         .         V
                    .         .         .         V
852                 .         .         .      RD12
                    .         .         .         .
                    .         .         .         .
859                 .         .         .         .         .<-------  DE10I
858                 .         .         .         .      DRE10I
                    .         .         .         .         .
                    .         .         .         .         .
864                 .         .         .         .         .-------> IN1EI
860                 .         .         .         .      IN1E
                    .         .         .         .         V
                    .         .         .         .         V
867                 .         .         .         .      RE10E1
                    .         .         .         .         .
                    .         .         .         .         .
876                 .         .         .         .         .-------> IN5EI
873                 .         .         .         .      IN5E
                    .         .         .         .         V
                    .         .         .         .         V
879                 .         .         .         .      RE10E3
                    .         .         .         .         .
                    .         .         .         .         .
885                 .         .         .         .         .         D09
```

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                .         .         .         .         .         .
                .         .         .         .         .         .
892             .         .         .         .      CD09...........
                .         .         .         .         .
                .         .         .         .         .
898             .         .         .         .         .-------> IN10I
895             .         .         .         .     INT10
                .         .         .         .         .
                .         .         .         .         .
901             .         .         .         .         .      D03B
                .         .         .         .         .         .
                .         .         .         .         .         .
908             .         .      CD03.................................
                .         .         .
                .         .         .
914             .         .         .-------> INT9I
911             .         .      INT9
                .         .         V
                .         .         V
917             .         .      RD03
                .         .         .
                .         .         .
922             .         .         .      C11
                .         .         .         .
                .         .         .         .
928             .         .         .         .      C10
                .         .         .         .         .
                .         .         .         .         .
935             .         .         .         .         .         .<------- DD02I
934             .         .         .         .         .      DRD02
                .         .         .         .         .         V
                .         .         .         .         .         V
936             .         .         .         .         .      RD02S
                .         .         .         .         .         .
                .         .         .         .         .         .
943             .         .         .         .      CC10...........
                .         .         .         .         V
                .         .         .         .         V
946             .         .         .         .      RC10
                .         .         .         .         .
                .         .         .         .         .
951             .         .      CC11........................
                .         .         V
                .         .         V
954             .         .      RC11
                .         .         .
                .         .         .
959             .         .         .      C08
                .         .         .         .
                .         .         .         .
965             .         .      CC08...........
                .         .         V
                .         .         V
968             .         .      RC08
                .         .         .
                .         .         .
973             .         .         .      C06
                .         .         .         .
                .         .         .         .
982             .         .      CC06...........
                .         .         .
                .         .         .
988             .         .         .-------> IN11I
985             .         .     INT11
                .         .         V
                .         .         V
991             .         .      RC06
                .         .         .
                .         .         .
997             .         .         .         .<------- DD01I
996             .         .         .     DRD01
                .         .         .         V
                .         .         .         V
998             .         .         .     RD01S
                .         .         .         .
                .         .         .         .
1003            .         .         .         .      C07
                .         .         .         .         .
                .         .         .         .         .
1010            .         .         .      CC07...........
                .         .         .         V
                .         .         .         V
1013            .         .         .      RC07
                .         .         .         .
                .         .         .         .
1018            .         .         .         .      C09
                .         .         .         .         V
                .         .         .         .         V
1024            .         .         .         .     RC09
                .         .         .         .         .
                .         .         .         .         .
1029            .         .         .         .         .      C05
                .         .         .         .         .         .
                .         .         .         .         .         .
1035            .         .         .         .         .         .      C01
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                 .         .         .         .         .         .         .         V
                 .         .         .         .         .         .         .         V
1041             .         .         .         .         .         .         .       RC01
                 .         .         .         .         .         .         .         .
                 .         .         .         .         .         .         .         .
1046             .         .         .         .         .         .         .         .         C02
                 .         .         .         .         .         .         .         .           .
                 .         .         .         .         .         .         .         .           .
1052             .         .         .       CC02.......................................
                 .         .         .         .
                 .         .         .         .
1058             .         .         .         .-------> DC02I
1055             .         .         .       DC02
                 .         .         .         V
                 .         .         .         V
1061             .         .         .      RC02E
                 .         .         .         .
                 .         .         .         .
1067             .         .         .         .       C03
                 .         .         .         .         .
                 .         .         .         .         .
1073             .         .         .         .         .       C12
                 .         .         .         .         .         V
                 .         .         .         .         .         V
1079             .         .         .         .         .      RC12
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1084             .         .         .         .         .         .         C13
                 .         .         .         .         .         .           .
                 .         .         .         .         .         .           .
1091             .         .         .         .         .      CC13............
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1097             .         .         .         .         .         .-------> IN12I
1094             .         .         .         .         .     INT12
                 .         .         .         .         .         .
                 .         .         .         .         .         .
1100             .         .         .         .         .         .         C04
                 .         .         .         .         .         .           V
                 .         .         .         .         .         .           V
1106             .         .         .         .         .         .       RC04
                 .         .         .         .         .         .           .
                 .         .         .         .         .         .           .
1111             .         .      CC03.......................................
                 .         .         V
                 .         .         V
1114             .         .      RC03
                 .         .         .
                 .         .         .
1119             .         .         .         B07
                 .         .         .           .
                 .         .         .           .
1125             .         .      CB07............
                 .         .         V
                 .         .         V
1128             .         .      RB07
                 .         .         .
                 .         .         .
1133             .         .         .         B05
                 .         .         .           .
                 .         .         .           .
1140             .         .         .           .-------> LB05D
1139             .         .         .       LB05
                 .         .         .           .
                 .         .         .           .
1145             .         .         .           .         .<-------   DC02I
1143             .         .         .           .     DRC02
                 .         .         .           .         V
                 .         .         .           .         V
1146             .         .         .           .     RC02S
                 .         .         .           .         .
                 .         .         .           .         .
1152             .         .         .           .         .       B06
                 .         .         .           .         .         .
                 .         .         .           .         .         .
1158             .         .      CB05.................................
                 .         .         V
                 .         .         V
1161             .         .      RB05
                 .         .         .
                 .         .         .
1166             .         .         .         B04
                 .         .         .           .
                 .         .         .           .
1173             .         .         .           .-------> LB04D
1172             .         .         .       LB04
                 .         .         .           .
                 .         .         .           .
1176             .         .         .           .       B02
                 .         .         .           .         .
                 .         .         .           .         .
1183             .         .         .           .         .-------> LB02D
1182             .         .         .           .     LB02
                 .         .         .           .         V
                 .         .         .           .         V
```

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1186          .           .           .           .       RB02
              .           .           .           .         .
              .           .           .           .         .
1191          .           .           .           .         .        B03
              .           .           .           .         .         .
              .           .           .           .         .         .
1197          .           .       CB03.................................
              .           .         V
              .           .         V
1200          .           .       RB03
              .           .         .
              .           .         .
1205          .           .         .       B01
              .           .         .         .
              .           .         .         .
1212          .           .         .         .-------->   LB01D
1211          .           .         .     LB01
              .           .         .         .
              .           .         .         .
1215          .           .       CB01............
              .           .         V
              .           .         V
1218          .           .       RB01
              .           .         .
              .           .         .
1223          .           .         .       B13
              .           .         .         .
              .           .         .         .
1230          .           .         .         .-------->   LB13D
1229          .           .         .     LB13
              .           .         .         V
              .           .         .         V
1233          .           .         .     RB13
              .           .         .         .
              .           .         .         .
1238          .           .         .         .         B14
              .           .         .         .           .
              .           .         .         .           .
1245          .           .         .     CB14............
              .           .         .         .
              .           .         .         .
1251          .           .         .         .-------->   IN13I
1248          .           .         .    INT13
              .           .         .         V
              .           .         .         V
1254          .           .         .     RB14
              .           .         .         .
              .           .         .         .
1259          .           .         .         .         B12
              .           .         .         .           .
              .           .         .         .           .
1266          .           .         .         .           .        B11
              .           .         .         .           .         .
              .           .         .         .           .         .
1273          .           .         .         .           .         .-------->   LB11D
1272          .           .         .         .           .       LB11
              .           .         .         .           .         .
              .           .         .         .           .         .
1276          .           .       CB12.................................
              .           .         .
              .           .         .
1282          .           .         .-------->   IN16I
1279          .           .       IN16
              .           .         V
              .           .         V
1285          .           .       RB12
              .           .         .
              .           .         .
1290          .           .         .       A01
              .           .         .         .
              .           .         .         .
1298          .           .         .         .-------->   LA01D
1297          .           .         .     LA01
              .           .         .         .
              .           .         .         .
1301          .           .       CA01............
              .           .         .
              .           .         .
1304          .           .         .       B10
              .           .         .         .
              .           .         .         .
1311          .           .         .         .-------->   LB10D
1310          .           .         .     LB10
              .           .         .         .
              .           .         .         .
1315          .           .         .         .           .<-------   IN15I
1314          .           .         .         .      DRIN15
              .           .         .         .           V
              .           .         .         .           V
1316          .           .         .         .      RE05SD
              .           .         .         .           .
              .           .         .         .           .
1321          .           .         .         .           .         .<-------   IN17I
1320          .           .         .         .           .     DRIN17
              .           .         .         .           .         .
```

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1322                    CE05SD...........
                            V
                            V
1325                    RIN17S

1330                                        .<-------   IN14I
1329                                DRIN14
                                        V
                                        V
1331                                RE07SD

1335                    CE06SD...........
                            V
                            V
1339                    RE06SD

1344                                        .<-------   IN0EI
1343                                DRIN0E

1347                                                    .<-------   IN0WI
1345                                                .       DRIN0W

1348                    CE6BSD......................
                            V
                            V
1352                    RE6BSD

1357                                        .<-------   IN1EI
1356                                DRIN1E

1358                    CE10S1...........
                            V
                            V
1362                    RE10S1

1368                                        .<-------   IN1WI
1366                                DRIN1W

1369                    CE10S2...........
                            V
                            V
1373                    RE10S2

1378                                        .<-------   INT3I
1377                                DRINT3
                                        V
                                        V
1379                                RD06SD

1385                                                    .<-------   INT4I
1384                                                .       DRINT4

1386                                CD07SD...........
                                        V
                                        V
1390                                RD07SD

1397                                                    .<-------   IN5WI
1395                                                .       DRIN5W

1399                                                                .<-------   IN5EI
1398                                                            .       DRIN5E

1400                    CD08SD..................................
                            V
                            V
1404                    RD08SD

1410                                        .<-------   INT6I
1409                                DRINT6
                                        V
                                        V
1411                                RD10SD

1417                                                    .<-------   INT7I
1416                                                .       DRINT7
```

```
1418                                                CD11SD............
                                                         V
                                                         V
1422                                                RD11SD

1428                                                                 .<-------   INT8I
1427                                                         DRINT8

1429                                        CD12SD........................
                                                 V
                                                 V
1433                                        RD12SD

1438                                                         .<-------   INT9I
1437                                                DRINT9
                                                         V
                                                         V
1439                                                RD03SD

1443                                                                 .<-------   IN10I
1442                                                         DRIN10

1444                                        CD09SD........................
                                                 V
                                                 V
1448                                        RD09SD

1453                                                         .<-------   IN12I
1452                                                DRIN12

1455                                                                 .<-------   IN11I
1454                                                         DRIN11
                                                                 V
                                                                 V
1456                                                         RC06SD

1461                                        CC13SD........................
                                                 V
                                                 V
1464                                        RC13SD

1469                                                         .<-------   IN13I
1468                                                DRIN13

1471                                                                 .<-------   IN16I
1470                                                         DRIN16
                                                                 V
                                                                 V
1472                                                         RB16SD

1476                                        CB14SD........................
                                                 V
                                                 V
1479                                        RB14SD
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************
 *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN  1998            *
 *            VERSION 4.1            *
 *                                   *
 *  RUN DATE   17DEC08  TIME  13:53:39  *
 *                                   *
 *************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

Project ID: SCOTTSDALE - Major Basin: 01 - Return Period: 100

```
*****************************************************************************
**                                                                         **
**                    Updated Granite Reef ADMP                            **
**                                                                         **
*****************************************************************************
*****************************************************************************
```

PROJECT: Granite Reef Wash DMP Update
CLIENT: City of Scottsdale
PREPARED BY: Psomas
PROJECT No: COS Psomas 06077-01
FILE NAME: PIMASD6UMC.DAT CREATED DATE: Feb 26, 2007

```
                    (Pima Road Conduit Alternative Model from McKellips to Salt River)

                    MODIFIED: Dec 16, 2008 (SEB/JKK PSOMAS)

                         * Added interceptions at Chaparral/Pima and at Camelback/86th
                         * Camelback/Pima Frontage Road and Camelback/Pima Road along
                         * with corresponding Pima Road Conduit routings between
                         * Chaparral Road and Indian School Road
                         * Added interception at Granite Reef Wash and McKellips Road
                         * and corresponding routing to ????
                         * Updates to routings from CE05 to CE02 and CE03 (by SEB/JKK)
                         * Updates to flow splits at Indian School Road and Pima Road
                           based on Flo-2D analysis and field visits (by SEB/JKK);
                           added CE10 and diversion DE10
                         * Interception elements added along Pima Road south of
                           Indian School Road to account for interception along
                           the Pima Frontage Road and along Pima Road (In1E, In2E, In5E)
                         * ELEMENTS ADDED TO REPRESENT PIMA ROAD CONDUIT (by RAK/JKK)
                         * ORIGINAL CARDS STARRED-OUT (by RAK/JKK)
                         * COMMENT CARDS ADDED (by RAK/JKK)

                    STORM:                    100-year 6-hour Storm
                    DEVELOPMENT CONDITIONS: Future Conditions

                    DDM MCUHP1


41 IO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

   IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1    0  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ        1000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      4    0  ENDING DATE
                   NDTIME        1115  ENDING TIME
                    ICENT          19  CENTURY MARK

               COMPUTATION INTERVAL     .08 HOURS
                    TOTAL TIME BASE   83.25 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

43 JD          INDEX STORM NO. 1
                      STRM        3.20  PRECIPITATION DEPTH
                      TRDA         .01  TRANSPOSITION DRAINAGE AREA

44 PI            PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                    .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

47 JD          INDEX STORM NO. 2
                      STRM        3.18  PRECIPITATION DEPTH
                      TRDA         .50  TRANSPOSITION DRAINAGE AREA

 0 PI            PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .05       .05       .05       .15       .15       .15       .03       .03
                    .03       .01       .01       .01       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00

48 JD          INDEX STORM NO. 3
                      STRM        3.12  PRECIPITATION DEPTH
                      TRDA        2.80  TRANSPOSITION DRAINAGE AREA

49 PI            PRECIPITATION PATTERN
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00       .00       .01       .01       .01       .01       .01       .01       .03
                    .03       .03       .07       .07       .07       .08       .08       .08       .05       .05
                    .05       .02       .02       .02       .01       .01       .01       .00       .00       .00
                    .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                    .00       .00
```

```
52 JD          INDEX STORM NO. 4
                    STRM        2.95  PRECIPITATION DEPTH
                    TRDA       16.00  TRANSPOSITION DRAINAGE AREA

53 PI            PRECIPITATION PATTERN
                     .00        .00        .00        .00        .00        .00        .00        .00        .00        .01
                     .01        .01        .00        .01        .00        .00        .00        .00        .00        .00
                     .00        .00        .01        .00        .00        .00        .00        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .02        .02        .02        .03
                     .03        .03        .06        .06        .06        .07        .07        .07        .04        .04
                     .04        .02        .02        .02        .01        .01        .01        .01        .01        .01
                     .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
                     .00        .00

56 JD          INDEX STORM NO. 5
                    STRM        2.60  PRECIPITATION DEPTH
                    TRDA       90.00  TRANSPOSITION DRAINAGE AREA

57 PI            PRECIPITATION PATTERN
                     .01        .01        .01        .00        .00        .00        .01        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .02        .02        .02        .03
                     .03        .03        .05        .05        .05        .05        .05        .05        .04        .04
                     .04        .02        .02        .02        .02        .02        .02        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01

60 JD          INDEX STORM NO. 6
                    STRM        1.82  PRECIPITATION DEPTH
                    TRDA      500.00  TRANSPOSITION DRAINAGE AREA

61 PI            PRECIPITATION PATTERN
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .02        .02        .02        .03
                     .03        .03        .04        .04        .04        .04        .04        .04        .04        .04
                     .04        .03        .03        .03        .02        .02        .02        .01        .01        .01
                     .01        .01        .01        .01        .01        .01        .01        .01        .01        .01
                     .01        .01


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


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            *            *
108 KK      *     G04    *        BASIN
            *            *
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109 KO         OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

             SUBBASIN RUNOFF DATA

110 BA         SUBBASIN CHARACTERISTICS
                    TAREA        .05  SUBBASIN AREA

111 LG         GREEN AND AMPT LOSS RATE
                    STRTL        .25  STARTING LOSS
                      DTH        .25  MOISTURE DEFICIT
                     PSIF       4.80  WETTING FRONT SUCTION
                    XKSAT        .35  HYDRAULIC CONDUCTIVITY
                    RTIMP      51.00  PERCENT IMPERVIOUS AREA

112 UC         CLARK UNITGRAPH
                       TC        .30  TIME OF CONCENTRATION
                        R        .26  STORAGE COEFFICIENT

113 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .30 HR,       R=   .26 HR
                                       SNYDER   TP=   .22 HR,      CP=   .53

                                                UNIT HYDROGRAPH
                                           19 END-OF-PERIOD ORDINATES
              13.       49.       68.       58.       44.       32.       23.       17.       12.        9.
               6.        5.        3.        2.        2.        1.        1.        1.        0.

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

                     HYDROGRAPH AT STATION      G04
                   TRANSPOSITION AREA       .0 SQ MI

  TOTAL RAINFALL =    3.20, TOTAL LOSS =     .81, TOTAL EXCESS =    2.39
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                          (CFS)
+     94.       4.08                  11.          3.          1.          1.
                          (INCHES)   2.371       2.381       2.381       2.381
                           (AC-FT)      6.          6.          6.          6.

                          CUMULATIVE AREA =     .05 SQ MI


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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA       .5 SQ MI

   TOTAL RAINFALL =    3.18, TOTAL LOSS =     .81, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                          (CFS)
+     93.       4.08                  11.          3.          1.          1.
                          (INCHES)   2.352       2.363       2.363       2.363
                           (AC-FT)      6.          6.          6.          6.

                          CUMULATIVE AREA =     .05 SQ MI


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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =    3.12, TOTAL LOSS =     .93, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                          (CFS)
+     59.       4.08                  10.          3.          1.          1.
                          (INCHES)   2.164       2.177       2.177       2.177
                           (AC-FT)      5.          5.          5.          5.

                          CUMULATIVE AREA =     .05 SQ MI


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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.01, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                          (CFS)
+     44.       4.08                   9.          2.          1.          1.
                          (INCHES)   1.924       1.937       1.937       1.937
                           (AC-FT)      5.          5.          5.          5.

                          CUMULATIVE AREA =     .05 SQ MI


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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.56

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
                          (CFS)
+     30.       4.17                   7.          2.          1.          1.
                          (INCHES)   1.540       1.559       1.559       1.559
                           (AC-FT)      4.          4.          4.          4.

                          CUMULATIVE AREA =     .05 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                           HYDROGRAPH AT STATION      G04
                         TRANSPOSITION AREA    500.0 SQ MI

   TOTAL RAINFALL =    1.82, TOTAL LOSS =     .89, TOTAL EXCESS =     .93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+  (CFS)        (HR)
```

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                          (CFS)
+      11.      4.33                    4.          1.          0.          0.
                        (INCHES)      .913        .929        .929        .929
                         (AC-FT)        2.          2.          2.          2.

                        CUMULATIVE AREA =     .05 SQ MI

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


                        INTERPOLATED HYDROGRAPH AT      G04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      94.      4.08                   11.          3.          1.          1.
                        (INCHES)     2.364       2.374       2.374       2.374
                         (AC-FT)        6.          6.          6.          6.

                        CUMULATIVE AREA =     .05 SQ MI


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


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            *            *
  734 KK    *     D07    *        BASIN
            *            *
            **************

  735 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

              SUBBASIN RUNOFF DATA

  736 BA          SUBBASIN CHARACTERISTICS
                        TAREA        .05  SUBBASIN AREA

  737 LG          GREEN AND AMPT LOSS RATE
                        STRTL        .25  STARTING LOSS
                          DTH        .25  MOISTURE DEFICIT
                         PSIF       4.80  WETTING FRONT SUCTION
                        XKSAT        .35  HYDRAULIC CONDUCTIVITY
                        RTIMP      51.00  PERCENT IMPERVIOUS AREA

  738 UC          CLARK UNITGRAPH
                           TC        .51  TIME OF CONCENTRATION
                            R        .58  STORAGE COEFFICIENT

  739 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .51 HR,       R=   .58 HR
                                         SNYDER   TP=   .33 HR,      CP=   .38

                                                   UNIT HYDROGRAPH
                                            40 END-OF-PERIOD ORDINATES
                 3.       13.       28.       36.       36.       34.       31.       27.       23.       20.
                17.       15.       13.       11.       10.        8.        7.        6.        5.        5.
                 4.        4.        3.        3.        2.        2.        2.        1.        1.        1.
                 1.        1.        1.        1.        1.        0.        0.        0.        0.        0.

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

                         HYDROGRAPH AT STATION      D07
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    3.20, TOTAL LOSS =     .81, TOTAL EXCESS =    2.39

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      64.      4.25                   12.          3.          1.          1.
                        (INCHES)     2.348       2.380       2.380       2.380
                         (AC-FT)        6.          6.          6.          6.

                        CUMULATIVE AREA =     .05 SQ MI


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

                         HYDROGRAPH AT STATION      D07
                       TRANSPOSITION AREA       .5 SQ MI
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    TOTAL RAINFALL =    3.18, TOTAL LOSS =     .81, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      63.      4.25                12.          3.          1.          1.
                         (INCHES)   2.329       2.361       2.361       2.361
                          (AC-FT)     6.          6.          6.          6.

                         CUMULATIVE AREA =     .05 SQ MI


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

                          HYDROGRAPH AT STATION      D07
                        TRANSPOSITION AREA      2.8 SQ MI

    TOTAL RAINFALL =    3.12, TOTAL LOSS =     .93, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      46.      4.33                11.          3.          1.          1.
                         (INCHES)   2.141       2.176       2.176       2.176
                          (AC-FT)     6.          6.          6.          6.

                         CUMULATIVE AREA =     .05 SQ MI


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

                          HYDROGRAPH AT STATION      D07
                        TRANSPOSITION AREA     16.0 SQ MI

    TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.01, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      36.      4.33                10.          3.          1.          1.
                         (INCHES)   1.897       1.936       1.936       1.936
                          (AC-FT)     5.          5.          5.          5.

                         CUMULATIVE AREA =     .05 SQ MI


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

                          HYDROGRAPH AT STATION      D07
                        TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.56

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      25.      4.33                 8.          2.          1.          1.
                         (INCHES)   1.510       1.558       1.558       1.558
                          (AC-FT)     4.          4.          4.          4.

                         CUMULATIVE AREA =     .05 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                          HYDROGRAPH AT STATION      D07
                        TRANSPOSITION AREA    500.0 SQ MI

    TOTAL RAINFALL =    1.82, TOTAL LOSS =     .89, TOTAL EXCESS =     .93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      11.      4.50                 5.          1.          0.          0.
                         (INCHES)    .889        .928        .928        .928
                          (AC-FT)     2.          2.          2.          2.

                         CUMULATIVE AREA =     .05 SQ MI

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


                         INTERPOLATED HYDROGRAPH AT      D07

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
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                        (CFS)
+      63.      4.25                  12.          3.          1.          1.
                      (INCHES)     2.340       2.372       2.372       2.372
                       (AC-FT)        6.          6.          6.          6.

                      CUMULATIVE AREA =     .05 SQ MI


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            *            *
1003 KK     *     C07    *        BASIN
            *            *
            **************

1004 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

               SUBBASIN RUNOFF DATA

1005 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .07  SUBBASIN AREA

1006 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.80  WETTING FRONT SUCTION
                      XKSAT         .35  HYDRAULIC CONDUCTIVITY
                      RTIMP       50.00  PERCENT IMPERVIOUS AREA

1007 UC          CLARK UNITGRAPH
                         TC         .67  TIME OF CONCENTRATION
                          R         .70  STORAGE COEFFICIENT

1008 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .67 HR,       R=   .70 HR
                                         SNYDER   TP=   .41 HR,      CP=   .38

                                                 UNIT HYDROGRAPH
                                            48 END-OF-PERIOD ORDINATES
                 2.        9.       24.       38.       43.       43.       41.       39.       36.       32.
                28.       25.       22.       20.       18.       16.       14.       12.       11.       10.
                 9.        8.        7.        6.        5.        5.        4.        4.        3.        3.
                 3.        2.        2.        2.        2.        1.        1.        1.        1.        1.
                 1.        1.        1.        1.        0.        0.        0.        0.

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

                       HYDROGRAPH AT STATION      C07
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    3.20, TOTAL LOSS =     .83, TOTAL EXCESS =    2.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      79.      4.33                  18.          5.          2.          1.
                      (INCHES)     2.315       2.362       2.362       2.362
                       (AC-FT)        9.          9.          9.          9.

                      CUMULATIVE AREA =     .07 SQ MI


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

                       HYDROGRAPH AT STATION      C07
                      TRANSPOSITION AREA       .5 SQ MI

    TOTAL RAINFALL =    3.18, TOTAL LOSS =     .82, TOTAL EXCESS =    2.35

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                        (CFS)
+      78.      4.33                  18.          5.          2.          1.
                      (INCHES)     2.297       2.343       2.343       2.343
                       (AC-FT)        9.          9.          9.          9.

                      CUMULATIVE AREA =     .07 SQ MI

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                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA      2.8 SQ MI

   TOTAL RAINFALL =    3.12, TOTAL LOSS =     .95, TOTAL EXCESS =    2.17

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                         (CFS)
+      60.      4.42                 16.          4.          1.          1.
                       (INCHES)    2.107       2.156       2.156       2.156
                        (AC-FT)       8.          8.          8.          8.

                       CUMULATIVE AREA =     .07 SQ MI


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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA     16.0 SQ MI

   TOTAL RAINFALL =    2.95, TOTAL LOSS =    1.03, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                         (CFS)
+      47.      4.42                 14.          4.          1.          1.
                       (INCHES)    1.860       1.914       1.914       1.914
                        (AC-FT)       7.          7.          7.          7.

                       CUMULATIVE AREA =     .07 SQ MI


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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    2.60, TOTAL LOSS =    1.05, TOTAL EXCESS =    1.54

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                         (CFS)
+      33.      4.42                 11.          3.          1.          1.
                       (INCHES)    1.473       1.536       1.536       1.536
                        (AC-FT)       6.          6.          6.          6.

                       CUMULATIVE AREA =     .07 SQ MI

        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

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

                    HYDROGRAPH AT STATION      C07
                  TRANSPOSITION AREA    500.0 SQ MI

   TOTAL RAINFALL =    1.82, TOTAL LOSS =     .91, TOTAL EXCESS =     .91

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                         (CFS)
+      15.      4.58                  7.          2.          1.          1.
                       (INCHES)     .861        .910        .910        .910
                        (AC-FT)       3.          3.          3.          3.

                       CUMULATIVE AREA =     .07 SQ MI

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


                       INTERPOLATED HYDROGRAPH AT      C07

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                         (CFS)
+      78.      4.33                 18.          5.          2.          1.
                       (INCHES)    2.306       2.353       2.353       2.353
                        (AC-FT)       9.          9.          9.          9.

                       CUMULATIVE AREA =     .07 SQ MI


        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1
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            *            *
1379 KK     *    RD06SD  *
            *            *
            **************

1380 KO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE
                              CREATED (9/12/07 RAK) TO REPRESENT CONDUIT FLOW FROM 86TH ST TO 87TH ST
                              ALONG OSBORN RD

                HYDROGRAPH ROUTING DATA

1383 RK          KINEMATIC WAVE STREAM ROUTING
                          L        540.  CHANNEL LENGTH
                          S       .0025  SLOPE
                          N        .013  CHANNEL ROUGHNESS COEFFICIENT
                         CA         .00  CONTRIBUTING AREA
                      SHAPE        TRAP  CHANNEL SHAPE
                         WD       10.00  BOTTOM WIDTH OR DIAMETER
                          Z         .00  SIDE SLOPE
                     NDXMIN           5  MINIMUM NUMBER OF DX INTERVALS

                                                          ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                   ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                  PEAK                CELERITY
                                                   (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                   MAIN         1.23      1.67        .18    108.00    282.87    275.69      1.99     18.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2701E+02  EXCESS= .0000E+00 OUTFLOW= .2701E+02 BASIN STORAGE= .2189E-06 PERCENT ERROR=    .0

                                     INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                   MAIN         1.23      1.67       5.00              282.03    275.00      1.99

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

                     HYDROGRAPH AT STATION   RD06SD
                   TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR     83.25-HR
+   (CFS)      (HR)
                        (CFS)
+     282.     4.58                54.         14.          5.           4.
                       (INCHES)   1.979       1.995       1.995        1.995
                       (AC-FT)     27.         27.         27.          27.

                     CUMULATIVE AREA =     .25 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                   ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                  PEAK                CELERITY
                                                   (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                   MAIN         1.23      1.67        .12    108.00    279.90    275.54      1.97     18.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2671E+02  EXCESS= .0000E+00 OUTFLOW= .2671E+02 BASIN STORAGE= .2375E-06 PERCENT ERROR=    .0

                                     INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                   MAIN         1.23      1.67       5.00              278.95    275.00      1.97

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

                     HYDROGRAPH AT STATION   RD06SD
                   TRANSPOSITION AREA       .5 SQ MI

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR     83.25-HR
+   (CFS)      (HR)
                        (CFS)
+     279.     4.58                53.         13.          4.           4.
                       (INCHES)   1.957       1.973       1.973        1.973
                       (AC-FT)     27.         27.         27.          27.
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CUMULATIVE AREA = .25 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.23	1.67	.25	108.00	215.93	280.49	1.69	16.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2284E+02 EXCESS= .0000E+00 OUTFLOW= .2284E+02 BASIN STORAGE= .2170E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.23	1.67	5.00	215.70	280.00	1.69

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

HYDROGRAPH AT STATION RD06SD
TRANSPOSITION AREA 2.8 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 216.	4.67		46.	12.	4.	3.
		(INCHES)	1.670	1.687	1.687	1.687
		(AC-FT)	23.	23.	23.	23.

CUMULATIVE AREA = .25 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.23	1.67	.26	108.00	155.26	285.12	1.34	14.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1809E+02 EXCESS= .0000E+00 OUTFLOW= .1809E+02 BASIN STORAGE= .2205E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.23	1.67	5.00	155.25	285.00	1.34

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

HYDROGRAPH AT STATION RD06SD
TRANSPOSITION AREA 16.0 SQ MI

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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     155.      4.75                  36.         9.          3.          3.
                        (INCHES)    1.318       1.336       1.336       1.336
                         (AC-FT)      18.         18.         18.         18.

                       CUMULATIVE AREA =     .25 SQ MI

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

                                   COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                 ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                              PEAK                  CELERITY
                                                   (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                 MAIN         1.23      1.67        .25    108.00     81.98   285.99        .87     11.02

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1175E+02  EXCESS= .0000E+00 OUTFLOW= .1175E+02 BASIN STORAGE= .2691E-06 PERCENT ERROR=    .0

                                   INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                 MAIN         1.23      1.67       5.00                81.77   290.00        .87

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

                      HYDROGRAPH AT STATION   RD06SD
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      82.      4.83                  23.         6.          2.          2.
                        (INCHES)     .846        .868        .868        .868
                         (AC-FT)      11.         12.         12.         12.

                       CUMULATIVE AREA =     .25 SQ MI

                                   COMPUTED KINEMATIC PARAMETERS
                                        VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                 ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                              PEAK                  CELERITY
                                                   (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                 MAIN         1.23      1.67        .31    108.00     22.16   276.37        .37      6.53

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4994E+01  EXCESS= .0000E+00 OUTFLOW= .4994E+01 BASIN STORAGE= .2526E-06 PERCENT ERROR=    .0

                                   INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                 MAIN         1.23      1.67       5.00                22.12   275.00        .37

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

                      HYDROGRAPH AT STATION   RD06SD
                    TRANSPOSITION AREA    500.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      22.      4.58                  10.         3.          1.          1.
                        (INCHES)     .351        .369        .369        .369
                         (AC-FT)       5.          5.          5.          5.

                       CUMULATIVE AREA =     .25 SQ MI

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

                    INTERPOLATED HYDROGRAPH AT   RD06SD

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     279.      4.58                  54.        14.          5.          4.
                        (INCHES)    1.961       1.977       1.977       1.977
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                    (AC-FT)        27.          27.          27.          27.

                    CUMULATIVE AREA =     .25 SQ MI


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


          **************
          *            *
1390 KK   *    RD07SD  *
          *            *
          **************

1391 KO        OUTPUT CONTROL VARIABLES
                    IPRNT           3  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE
                            CREATED (9/12/07 RAK) TO REPRESENT CONDUIT FLOW ALONG OSBORN ROAD
                            FROM 87TH ST TO PIMA FRONTAGE ROAD

            HYDROGRAPH ROUTING DATA

1394 RK        KINEMATIC WAVE STREAM ROUTING
                      L        560.  CHANNEL LENGTH
                      S       .0031  SLOPE
                      N        .013  CHANNEL ROUGHNESS COEFFICIENT
                     CA         .00  CONTRIBUTING AREA
                  SHAPE        TRAP  CHANNEL SHAPE
                     WD       10.00  BOTTOM WIDTH OR DIAMETER
                      Z         .00  SIDE SLOPE
                 NDXMIN           5  MINIMUM NUMBER OF DX INTERVALS
                                                        ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                 ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                              PEAK                  CELERITY
                                                  (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                 MAIN         1.37      1.67        .18    112.00    359.84   275.37       1.76     21.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3630E+02  EXCESS= .0000E+00 OUTFLOW= .3630E+02 BASIN STORAGE= .7423E-06 PERCENT ERROR=    .0

                                     INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                 MAIN         1.37      1.67       5.00              359.31   275.00       1.76

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

                     HYDROGRAPH AT STATION   RD07SD
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     359.      4.58                  73.         18.          6.          5.
                        (INCHES)    1.742       1.760       1.760       1.760
                        (AC-FT)       36.         36.         36.         36.

                     CUMULATIVE AREA =     .39 SQ MI

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                 ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                              PEAK                  CELERITY
                                                  (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                 MAIN         1.37      1.67        .19    112.00    355.94   275.36       1.74     21.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3592E+02  EXCESS= .0000E+00 OUTFLOW= .3592E+02 BASIN STORAGE= .6662E-06 PERCENT ERROR=    .0
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INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.37	1.67	5.00	355.40	275.00	1.74

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

HYDROGRAPH AT STATION RD07SD
TRANSPOSITION AREA .5 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 355.	4.58		72.	18.	6.	5.
		(INCHES)	1.724	1.741	1.741	1.741
		(AC-FT)	36.	36.	36.	36.

CUMULATIVE AREA = .39 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.37	1.67	.15	112.00	276.31	280.38	1.50	19.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3102E+02 EXCESS= .0000E+00 OUTFLOW= .3102E+02 BASIN STORAGE= .7311E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.37	1.67	5.00	276.14	280.00	1.50

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

HYDROGRAPH AT STATION RD07SD
TRANSPOSITION AREA 2.8 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 276.	4.67		62.	16.	5.	5.
		(INCHES)	1.485	1.504	1.504	1.504
		(AC-FT)	31.	31.	31.	31.

CUMULATIVE AREA = .39 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.37	1.67	.16	112.00	199.22	285.11	1.21	16.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2503E+02 EXCESS= .0000E+00 OUTFLOW= .2503E+02 BASIN STORAGE= .7176E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.37	1.67	5.00	199.22	285.00	1.21

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

HYDROGRAPH AT STATION RD07SD
TRANSPOSITION AREA 16.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 199.	4.75		50.	13.	4.	4.
		(INCHES)	1.193	1.213	1.213	1.213
		(AC-FT)	25.	25.	25.	25.

CUMULATIVE AREA = .39 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP

(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.37	1.67	.24	112.00	108.79	285.64	.82	13.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1702E+02 EXCESS= .0000E+00 OUTFLOW= .1702E+02 BASIN STORAGE= .6639E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.37	1.67	5.00	108.70	285.00	.82

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

HYDROGRAPH AT STATION RD07SD
TRANSPOSITION AREA 90.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 109.	4.75		33.	9.	3.	2.
		(INCHES)	.801	.825	.825	.825
		(AC-FT)	17.	17.	17.	17.

CUMULATIVE AREA = .39 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	1.37	1.67	.24	112.00	34.70	275.89	.39	8.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8034E+01 EXCESS= .0000E+00 OUTFLOW= .8034E+01 BASIN STORAGE= .6746E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	1.37	1.67	5.00	34.69	275.00	.39

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

HYDROGRAPH AT STATION RD07SD
TRANSPOSITION AREA 500.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 35.	4.58		15.	4.	1.	1.
		(INCHES)	.370	.389	.389	.389
		(AC-FT)	8.	8.	8.	8.

CUMULATIVE AREA = .39 SQ MI

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

INTERPOLATED HYDROGRAPH AT RD07SD

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)					
		(CFS)				
+ 356.	4.58		72.	18.	6.	5.
		(INCHES)	1.725	1.742	1.742	1.742
		(AC-FT)	36.	36.	36.	36.

CUMULATIVE AREA = .39 SQ MI

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            **************
            *            *
1411 KK     *   RD10SD   *
            *            *
            **************
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1412 KO OUTPUT CONTROL VARIABLES

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                IPRNT          3  PRINT CONTROL
                IPLOT          0  PLOT CONTROL
                QSCAL         0.  HYDROGRAPH PLOT SCALE
                        CREATED (6/25/07 RAK) TO REPRESENT CONDUIT FLOW FROM 86TH ST TO 87TH ST
                        ALONG EARLL DR

          HYDROGRAPH ROUTING DATA

1415 RK     KINEMATIC WAVE STREAM ROUTING
                     L       370.  CHANNEL LENGTH
                     S      .0071  SLOPE
                     N       .013  CHANNEL ROUGHNESS COEFFICIENT
                    CA        .00  CONTRIBUTING AREA
                 SHAPE       TRAP  CHANNEL SHAPE
                    WD       7.00  BOTTOM WIDTH OR DIAMETER
                     Z        .00  SIDE SLOPE
               NDXMIN          5  MINIMUM NUMBER OF DX INTERVALS

                                                  ***
                              COMPUTED KINEMATIC PARAMETERS
                                   VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

            ELEMENT    ALPHA       M        DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                          PEAK                CELERITY
                                             (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

            MAIN         2.64      1.67       .15     74.00    205.56   265.38      1.65     25.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2266E+02  EXCESS= .0000E+00 OUTFLOW= .2266E+02 BASIN STORAGE= .3304E-07 PERCENT ERROR=    .0

                                   INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

            MAIN         2.64      1.67      5.00              205.30   265.00      1.65

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

                 HYDROGRAPH AT STATION   RD10SD
                TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                              6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                 (CFS)
+    205.      4.42              45.         11.          4.          3.
              (INCHES)       1.634       1.647       1.647       1.647
               (AC-FT)         22.         23.         23.         23.

              CUMULATIVE AREA =     .26 SQ MI

                              COMPUTED KINEMATIC PARAMETERS
                                   VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

            ELEMENT    ALPHA       M        DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                          PEAK                CELERITY
                                             (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

            MAIN         2.64      1.67       .16     74.00    203.56   265.36      1.63     25.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2247E+02  EXCESS= .0000E+00 OUTFLOW= .2247E+02 BASIN STORAGE= .3074E-07 PERCENT ERROR=    .0

                                   INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

            MAIN         2.64      1.67      5.00              203.30   265.00      1.63

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

                 HYDROGRAPH AT STATION   RD10SD
                TRANSPOSITION AREA       .5 SQ MI

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                              6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                 (CFS)
+    203.      4.42              45.         11.          4.          3.
              (INCHES)       1.620       1.633       1.633       1.633
               (AC-FT)         22.         22.         22.         22.

              CUMULATIVE AREA =     .26 SQ MI

                              COMPUTED KINEMATIC PARAMETERS
                                   VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

            ELEMENT    ALPHA       M        DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                          PEAK                CELERITY
                                             (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)
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                MAIN          2.64      1.67        .13     74.00    158.28    270.36      1.48     22.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2038E+02  EXCESS= .0000E+00 OUTFLOW= .2038E+02 BASIN STORAGE= .2780E-07 PERCENT ERROR=    .0

                                    INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                MAIN          2.64      1.67       5.00              158.19    270.00      1.48

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

                     HYDROGRAPH AT STATION   RD10SD
                   TRANSPOSITION AREA      2.8 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     158.      4.50                41.         10.          3.          3.
                        (INCHES)   1.467       1.482       1.482       1.482
                        (AC-FT)     20.         20.         20.         20.

                     CUMULATIVE AREA =     .26 SQ MI

                                COMPUTED KINEMATIC PARAMETERS
                                     VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

                 ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                              PEAK                  CELERITY
                                                   (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                MAIN          2.64      1.67        .16     74.00    121.23    275.01      1.30     20.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1783E+02  EXCESS= .0000E+00 OUTFLOW= .1783E+02 BASIN STORAGE= .2705E-07 PERCENT ERROR=    .0

                                    INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                MAIN          2.64      1.67       5.00              121.23    275.00      1.30

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

                     HYDROGRAPH AT STATION   RD10SD
                   TRANSPOSITION AREA     16.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     121.      4.58                36.          9.          3.          3.
                        (INCHES)   1.279       1.296       1.296       1.296
                        (AC-FT)     18.         18.         18.         18.

                     CUMULATIVE AREA =     .26 SQ MI

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

                                COMPUTED KINEMATIC PARAMETERS
                                     VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

                 ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                              PEAK                  CELERITY
                                                   (MIN)     (FT)     (CFS)    (MIN)       (IN)      (FPS)

                MAIN          2.64      1.67        .22     74.00     79.96    275.19      1.00     17.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1382E+02  EXCESS= .0000E+00 OUTFLOW= .1382E+02 BASIN STORAGE= .2849E-07 PERCENT ERROR=    .0

                                    INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                MAIN          2.64      1.67       5.00               79.96    275.00      1.00

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

                     HYDROGRAPH AT STATION   RD10SD
                   TRANSPOSITION AREA     90.0 SQ MI
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 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     80.      4.58                27.          7.          2.          2.
                       (INCHES)    .982       1.004       1.004       1.004
                        (AC-FT)     14.         14.         14.         14.

                       CUMULATIVE AREA =     .26 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                    (DT SHOWN IS A MINIMUM)

                   ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                  PEAK                CELERITY
                                                   (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                   MAIN         2.64      1.67        .19     74.00     34.71   275.42       .56      12.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7723E+01  EXCESS= .0000E+00 OUTFLOW= .7723E+01 BASIN STORAGE= .2820E-07 PERCENT ERROR=    .0

                                       INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                   MAIN         2.64      1.67       5.00                34.70   275.00       .56

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

                       HYDROGRAPH AT STATION   RD10SD
                      TRANSPOSITION AREA    500.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+     35.      4.58                15.          4.          1.          1.
                       (INCHES)    .545        .561        .561        .561
                        (AC-FT)      7.          8.          8.          8.

                       CUMULATIVE AREA =     .26 SQ MI

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


                       INTERPOLATED HYDROGRAPH AT   RD10SD

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+  (CFS)       (HR)
                         (CFS)
+    204.      4.42                45.         11.          4.          3.
                       (INCHES)   1.622       1.636       1.636       1.636
                        (AC-FT)     22.         23.         23.         23.

                       CUMULATIVE AREA =     .26 SQ MI


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


            **************
            *            *
1422 KK     *    RD11SD  *
            *            *
            **************

1423 KO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE
                               CREATED (6/25/07 RAK) TO REPRESENT CONDUIT FLOW ALONG EARLL DRIVE
                               FROM 87TH ST TO PIMA FRONTAGE RD

              HYDROGRAPH ROUTING DATA

1426 RK          KINEMATIC WAVE STREAM ROUTING
                           L       815.  CHANNEL LENGTH
                           S      .0050  SLOPE
                           N       .013  CHANNEL ROUGHNESS COEFFICIENT
                          CA        .00  CONTRIBUTING AREA
                       SHAPE       TRAP  CHANNEL SHAPE
                          WD       7.00  BOTTOM WIDTH OR DIAMETER
                           Z        .00  SIDE SLOPE
                      NDXMIN          5  MINIMUM NUMBER OF DX INTERVALS
                                                                  ***
                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
```

(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.21	1.67	.25	163.00	241.92	265.89	1.02	24.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2700E+02 EXCESS= .0000E+00 OUTFLOW= .2699E+02 BASIN STORAGE= .4174E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.21	1.67	5.00	241.62	270.00	1.02

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

HYDROGRAPH AT STATION RD11SD
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)				
		(CFS)			
+ 242.	4.50	54.	14.	5.	4.
		(INCHES) 1.007	1.017	1.017	1.017
		(AC-FT) 27.	27.	27.	27.

CUMULATIVE AREA = .50 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.21	1.67	.25	163.00	239.53	265.79	1.01	24.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2676E+02 EXCESS= .0000E+00 OUTFLOW= .2676E+02 BASIN STORAGE= .3972E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	2.21	1.67	5.00	239.23	270.00	1.01

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

HYDROGRAPH AT STATION RD11SD
TRANSPOSITION AREA .5 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	83.25-HR
+ (CFS)	(HR)				
		(CFS)			
+ 239.	4.50	53.	13.	4.	4.
		(INCHES) .998	1.008	1.008	1.008
		(AC-FT) 27.	27.	27.	27.

CUMULATIVE AREA = .50 SQ MI

*** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

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COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	2.21	1.67	.17	163.00	185.45	270.70	.91	21.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2425E+02 EXCESS= .0000E+00 OUTFLOW= .2425E+02 BASIN STORAGE= .4521E-06 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

```
                    MAIN          2.21       1.67       5.00              185.10    270.00       .91

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

                      HYDROGRAPH AT STATION   RD11SD
                    TRANSPOSITION AREA      2.8 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     185.      4.50                 48.         12.          4.           4.
                        (INCHES)    .902        .913        .913         .913
                         (AC-FT)     24.         24.         24.          24.

                      CUMULATIVE AREA =      .50 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M          DT         DX        PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                       PEAK                  CELERITY
                                                     (MIN)       (FT)      (CFS)    (MIN)       (IN)      (FPS)

                    MAIN          2.21       1.67        .26    163.00    141.13    275.39       .80     19.45

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2126E+02  EXCESS= .0000E+00 OUTFLOW= .2126E+02 BASIN STORAGE= .3915E-06 PERCENT ERROR=    .0

                                   INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN          2.21       1.67       5.00              141.12    275.00       .80

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

                      HYDROGRAPH AT STATION   RD11SD
                    TRANSPOSITION AREA     16.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     141.      4.58                 42.         11.          4.           3.
                        (INCHES)    .788        .801        .801         .801
                         (AC-FT)     21.         21.         21.          21.

                      CUMULATIVE AREA =      .50 SQ MI

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M          DT         DX        PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                       PEAK                  CELERITY
                                                     (MIN)       (FT)      (CFS)    (MIN)       (IN)      (FPS)

                    MAIN          2.21       1.67        .24    163.00     91.99    275.42       .63     16.39

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1667E+02  EXCESS= .0000E+00 OUTFLOW= .1667E+02 BASIN STORAGE= .4382E-06 PERCENT ERROR=    .0

                                   INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN          2.21       1.67       5.00               91.97    275.00       .63

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

                      HYDROGRAPH AT STATION   RD11SD
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      92.      4.58                 33.          8.          3.           2.
                        (INCHES)    .612        .628        .628         .628
                         (AC-FT)     16.         17.         17.          17.

                      CUMULATIVE AREA =      .50 SQ MI

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT

                                  COMPUTED KINEMATIC PARAMETERS
                                       VARIABLE TIME STEP
                                   (DT SHOWN IS A MINIMUM)

                     ELEMENT    ALPHA       M          DT         DX        PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                       PEAK                  CELERITY
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```
                                                  (MIN)      (FT)      (CFS)      (MIN)        (IN)       (FPS)

                  MAIN          2.21      1.67        .37    163.00     41.89    276.07        .37      11.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9772E+01  EXCESS= .0000E+00 OUTFLOW= .9771E+01 BASIN STORAGE= .3772E-06 PERCENT ERROR=    .0

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                  MAIN          2.21      1.67       5.00               41.84    275.00        .37

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

                       HYDROGRAPH AT STATION   RD11SD
                     TRANSPOSITION AREA    500.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+      42.      4.58                19.          5.          2.           1.
                        (INCHES)    .356        .368        .368         .368
                         (AC-FT)      9.         10.         10.          10.

                       CUMULATIVE AREA =     .50 SQ MI

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


                       INTERPOLATED HYDROGRAPH AT   RD11SD

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     239.      4.50                53.         13.          4.           4.
                        (INCHES)    .998       1.008       1.008        1.008
                         (AC-FT)     27.         27.         27.          27.

                       CUMULATIVE AREA =     .50 SQ MI

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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


            **************
            *            *
1456 KK     *    RC06SD  *
            *            *
            **************

1457 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
                               CREATED (6/13/07 RAK) TO REPRESENT FLOW FROM THE MCDOWELL RD BOX CULVERT
                               TO THE PIMA ROAD CONDUIT

              HYDROGRAPH ROUTING DATA

1460 RK          KINEMATIC WAVE STREAM ROUTING
                            L       1744.  CHANNEL LENGTH
                            S       .0040  SLOPE
                            N        .014  CHANNEL ROUGHNESS COEFFICIENT
                           CA         .00  CONTRIBUTING AREA
                        SHAPE        CIRC  CHANNEL SHAPE
                           WD        8.50  BOTTOM WIDTH OR DIAMETER
                            Z         .00  SIDE SLOPE
                       NDXMIN           2  MINIMUM NUMBER OF DX INTERVALS

                                                   ***
                                   COMPUTED KINEMATIC PARAMETERS
                                         VARIABLE TIME STEP
                                       (DT SHOWN IS A MINIMUM)

                  ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                               PEAK                  CELERITY
                                                  (MIN)      (FT)     (CFS)     (MIN)       (IN)      (FPS)

                  MAIN          5.19      1.25        .65    581.33    544.99    261.21        .35     16.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4958E+02  EXCESS= .0000E+00 OUTFLOW= .4958E+02 BASIN STORAGE= .5406E-12 PERCENT ERROR=    .0

                                          INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL
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                    MAIN          5.19      1.25       5.00              538.57    260.00       .35

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

                      HYDROGRAPH AT STATION   RC06SD
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     539.      4.33                 99.         25.          8.           7.
                        (INCHES)    .350        .353        .353         .353
                         (AC-FT)     49.         50.         50.          50.

                      CUMULATIVE AREA =    2.63 SQ MI

                                COMPUTED KINEMATIC PARAMETERS
                                     VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                   PEAK                CELERITY
                                                     (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                    MAIN          5.19      1.25        .65    581.33    540.69   261.37       .35     16.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4916E+02  EXCESS= .0000E+00 OUTFLOW= .4917E+02 BASIN STORAGE= .5248E-12 PERCENT ERROR=    .0

                                INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN          5.19      1.25       5.00              534.01    260.00       .35

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

                      HYDROGRAPH AT STATION   RC06SD
                    TRANSPOSITION AREA       .5 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     534.      4.33                 98.         25.          8.           7.
                        (INCHES)    .347        .350        .350         .350
                         (AC-FT)     49.         49.         49.          49.

                      CUMULATIVE AREA =    2.63 SQ MI

                                COMPUTED KINEMATIC PARAMETERS
                                     VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)

                    ELEMENT    ALPHA       M         DT        DX       PEAK    TIME TO     VOLUME    MAXIMUM
                                                                                   PEAK                CELERITY
                                                     (MIN)      (FT)     (CFS)    (MIN)       (IN)      (FPS)

                    MAIN          5.19      1.25        .76    581.33    392.43   266.61       .32     15.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4467E+02  EXCESS= .0000E+00 OUTFLOW= .4467E+02 BASIN STORAGE= .5366E-12 PERCENT ERROR=    .0

                                INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

                    MAIN          5.19      1.25       5.00              391.27    265.00       .32

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

                      HYDROGRAPH AT STATION   RC06SD
                    TRANSPOSITION AREA      2.8 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+     391.      4.42                 89.         23.          8.           6.
                        (INCHES)    .315        .318        .318         .318
                         (AC-FT)     44.         45.         45.          45.

                      CUMULATIVE AREA =    2.63 SQ MI


        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1

                                COMPUTED KINEMATIC PARAMETERS
                                     VARIABLE TIME STEP
                                (DT SHOWN IS A MINIMUM)
```

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	5.19	1.25	.81	581.33	297.03	266.69	.28	14.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3898E+02 EXCESS= .0000E+00 OUTFLOW= .3898E+02 BASIN STORAGE= .5456E-12 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	5.19	1.25	5.00	295.98	265.00	.28

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

HYDROGRAPH AT STATION RC06SD
TRANSPOSITION AREA 16.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+		(CFS)			
+ 296.	4.42	78.	20.	7.	6.
		(INCHES) .274	.278	.278	.278
		(AC-FT) 38.	39.	39.	39.

CUMULATIVE AREA = 2.63 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	5.19	1.25	.76	581.33	196.48	266.62	.22	13.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3056E+02 EXCESS= .0000E+00 OUTFLOW= .3056E+02 BASIN STORAGE= .5388E-12 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	5.19	1.25	5.00	195.34	270.00	.22

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

HYDROGRAPH AT STATION RC06SD
TRANSPOSITION AREA 90.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+		(CFS)			
+ 195.	4.50	60.	15.	5.	4.
		(INCHES) .213	.218	.218	.218
		(AC-FT) 30.	31.	31.	31.

CUMULATIVE AREA = 2.63 SQ MI

COMPUTED KINEMATIC PARAMETERS
VARIABLE TIME STEP
(DT SHOWN IS A MINIMUM)

ELEMENT	ALPHA	M	DT (MIN)	DX (FT)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	MAXIMUM CELERITY (FPS)
MAIN	5.19	1.25	.95	581.33	86.64	272.11	.13	11.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1852E+02 EXCESS= .0000E+00 OUTFLOW= .1852E+02 BASIN STORAGE= .5446E-12 PERCENT ERROR= .0

INTERPOLATED TO SPECIFIED COMPUTATION INTERVAL

MAIN	5.19	1.25	5.00	86.39	275.00	.13

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

HYDROGRAPH AT STATION RC06SD
TRANSPOSITION AREA 500.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	83.25-HR
+		(CFS)			
+ 86.	4.58	36.	9.	3.	3.
		(INCHES) .128	.132	.132	.132

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                    (AC-FT)        18.          19.          19.          19.

                    CUMULATIVE AREA =    2.63 SQ MI

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


                    INTERPOLATED HYDROGRAPH AT   RC06SD

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR     83.25-HR
+   (CFS)       (HR)
                          (CFS)
+    396.       4.42                89.          23.          8.           7.
                        (INCHES)   .316         .319        .319         .319
                        (AC-FT)     44.          45.         45.          45.

                    CUMULATIVE AREA =    2.63 SQ MI

        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


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        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


        *** FDKRUT - NEWTON RAPHSON FAILEDFIXED POINT ITERATION USED - ITERATION=  1


        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


        *** FDKRUT WARNING TIME STEP CALCULATION FAILED TO CONVERGE. STABILITY PROBLEMS MAY RESULT


1
                                        RUNOFF SUMMARY
                                   FLOW IN CUBIC FEET PER SECOND
                                TIME IN HOURS,  AREA IN SQUARE MILES

                                 PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
        OPERATION      STATION   FLOW    PEAK                                           AREA      STAGE     MAX STAGE
+                                                     6-HOUR     24-HOUR     72-HOUR
        HYDROGRAPH AT
+                        G03     188.    4.17          25.          6.          2.       .09
        DIVERSION TO
+                       DG03I     96.    4.17          13.          3.          1.       .09
        HYDROGRAPH AT
+                       DG03      92.    4.17          12.          3.          1.       .09
        ROUTED TO
+                       RG03S     84.    4.25          12.          3.          1.       .09
        HYDROGRAPH AT
```

+	G01	62.	4.25	13.	3.	1.	.05
2 COMBINED AT +	CG01	146.	4.25	25.	6.	2.	.10
DIVERSION TO +	DG01I	104.	4.25	18.	5.	2.	.10
HYDROGRAPH AT +	DG01	42.	4.25	7.	2.	1.	.10
ROUTED TO +	RG01S	39.	4.67	7.	2.	1.	.10
HYDROGRAPH AT +	F04	74.	4.25	17.	4.	1.	.06
HYDROGRAPH AT +	G04	94.	4.08	11.	3.	1.	.05
ROUTED TO +	RG04	92.	4.17	11.	3.	1.	.05
HYDROGRAPH AT +	G05	96.	4.08	13.	3.	1.	.05
ROUTED TO +	RG05	95.	4.25	13.	3.	1.	.05
HYDROGRAPH AT +	G06	333.	4.08	37.	9.	3.	.13
DIVERSION TO +	LG06D	226.	3.92	16.	4.	1.	.13
HYDROGRAPH AT +	LG06	333.	4.08	21.	5.	2.	.13
DIVERSION TO +	DG06I	142.	4.08	9.	2.	1.	.13
HYDROGRAPH AT +	DG06	191.	4.08	12.	3.	1.	.13
DIVERSION TO +	LG06AD	191.	4.08	9.	2.	1.	.13
HYDROGRAPH AT +	LG06A	43.	4.42	3.	1.	0.	.13
HYDROGRAPH AT +	G02	100.	4.25	19.	5.	2.	.08
4 COMBINED AT +	CG02	283.	4.25	46.	12.	4.	.23
ROUTED TO +	RG02	283.	4.33	46.	12.	4.	.23
HYDROGRAPH AT +	F06	151.	4.25	26.	6.	2.	.10
2 COMBINED AT +	CF06	427.	4.33	71.	18.	6.	.33
ROUTED TO +	RF06	425.	4.33	71.	18.	6.	.33
HYDROGRAPH AT +	F05	137.	4.25	22.	6.	2.	.09
2 COMBINED AT +	CF05	552.	4.33	94.	24.	8.	.42
DIVERSION TO +	DF05I	503.	4.33	68.	17.	6.	.42
HYDROGRAPH AT +	DF05	49.	3.92	25.	6.	2.	.42
ROUTED TO +	RF05W	49.	4.00	25.	6.	2.	.42
3 COMBINED AT +	CF04	147.	4.50	49.	12.	4.	.17
DIVERSION TO +	DF04I	80.	4.50	26.	7.	2.	.17
HYDROGRAPH AT +	DF04	67.	4.50	23.	6.	2.	.17
HYDROGRAPH AT +	F05R	503.	4.33	68.	17.	6.	.42

+	ROUTED TO RF05S	492.	4.42	68.	17.	6.	.42
+	HYDROGRAPH AT F03	243.	4.25	45.	11.	4.	.17
+	2 COMBINED AT CF03	705.	4.42	112.	28.	9.	.56
+	ROUTED TO RF03	700.	4.42	112.	28.	9.	.56
+	HYDROGRAPH AT G06R	142.	4.08	9.	2.	1.	.13
+	ROUTED TO RG06S	127.	4.42	9.	2.	1.	.13
+	HYDROGRAPH AT F07	392.	4.25	72.	18.	6.	.25
+	DIVERSION TO LF07D	381.	4.17	31.	8.	3.	.25
+	HYDROGRAPH AT LF07	370.	4.33	42.	10.	3.	.25
+	2 COMBINED AT CF07	462.	4.42	51.	13.	4.	.31
+	DIVERSION TO IN14I	250.	4.42	27.	7.	2.	.31
+	HYDROGRAPH AT IN14	212.	4.42	23.	6.	2.	.31
+	DIVERSION TO DF07I	199.	4.42	18.	4.	1.	.31
+	HYDROGRAPH AT DF07	16.	5.75	5.	1.	0.	.31
+	ROUTED TO RF07W	16.	5.75	5.	1.	0.	.31
+	HYDROGRAPH AT F02	62.	4.25	12.	3.	1.	.05
+	3 COMBINED AT CF02	751.	4.42	128.	32.	11.	.63
+	DIVERSION TO DF02I	701.	4.42	102.	26.	9.	.63
+	HYDROGRAPH AT DF02	50.	3.92	27.	7.	2.	.63
+	ROUTED TO RF02W	50.	4.00	27.	7.	2.	.63
+	HYDROGRAPH AT F04R	80.	4.50	26.	7.	2.	.17
+	ROUTED TO RF04S	80.	4.67	26.	7.	2.	.17
+	DIVERSION TO DRF04I	40.	4.67	13.	3.	1.	.17
+	HYDROGRAPH AT DRF04	40.	4.67	13.	3.	1.	.17
+	HYDROGRAPH AT F01	42.	4.25	8.	2.	1.	.03
+	3 COMBINED AT CF01	127.	4.25	47.	12.	4.	.10
+	DIVERSION TO DF01I	3.	4.25	0.	0.	0.	.10
+	HYDROGRAPH AT DF01	123.	4.25	47.	12.	4.	.10
+	HYDROGRAPH AT DRF02	701.	4.42	102.	26.	9.	.63
+	ROUTED TO RF02S	698.	4.50	102.	26.	9.	.63
+	HYDROGRAPH AT E07	153.	4.17	21.	5.	2.	.08
+	2 COMBINED AT CE07	772.	4.50	122.	31.	10.	.66

	ROUTED TO						
+	RE07	770.	4.50	122.	31.	10.	.66
	HYDROGRAPH AT						
+	E05	91.	4.17	12.	3.	1.	.05
	2 COMBINED AT						
+	CE05	803.	4.50	133.	33.	11.	.71
	DIVERSION TO						
+	IN15I	300.	4.50	50.	13.	4.	.71
	HYDROGRAPH AT						
+	IN15	503.	4.50	83.	21.	7.	.71
	DIVERSION TO						
+	DE05I	478.	4.50	73.	18.	6.	.71
	HYDROGRAPH AT						
+	DE05	25.	3.92	11.	3.	1.	.71
	ROUTED TO						
+	RE05W	25.	4.08	11.	3.	1.	.71
	HYDROGRAPH AT						
+	E04	42.	4.25	9.	2.	1.	.04
	DIVERSION TO						
+	LE04D	40.	4.25	3.	1.	0.	.04
	HYDROGRAPH AT						
+	LE04	42.	4.33	6.	2.	1.	.04
	HYDROGRAPH AT						
+	DRF01I	3.	4.25	0.	0.	0.	.10
	ROUTED TO						
+	RF01S	3.	4.58	0.	0.	0.	.10
	3 COMBINED AT						
+	CE04	68.	4.33	17.	4.	1.	.07
	DIVERSION TO						
+	DE04I	0.	.00	0.	0.	0.	.07
	HYDROGRAPH AT						
+	DE04	68.	4.33	17.	4.	1.	.07
	3 COMBINED AT						
+	DUMMY	255.	4.33	86.	22.	7.	.34
	HYDROGRAPH AT						
+	E08	42.	4.25	8.	2.	1.	.03
	ROUTED TO						
+	RE08	41.	4.33	8.	2.	1.	.03
	HYDROGRAPH AT						
+	E06	48.	4.25	9.	2.	1.	.04
	2 COMBINED AT						
+	CE06	87.	4.33	17.	4.	1.	.07
	ROUTED TO						
+	RE06	86.	4.33	17.	4.	1.	.07
	HYDROGRAPH AT						
+	DRDE05	478.	4.50	73.	18.	6.	.71
	DIVERSION TO						
+	DE052I	167.	4.50	26.	7.	2.	.71
	HYDROGRAPH AT						
+	DE052	311.	4.50	47.	12.	4.	.71
	ROUTED TO						
+	RE052E	307.	4.50	47.	12.	4.	.71
	DIVERSION TO						
+	IN17I	198.	4.50	30.	8.	3.	.71
	HYDROGRAPH AT						
+	IN17	109.	4.50	17.	4.	1.	.71
	ROUTED TO						
+	RIN17E	108.	4.58	17.	4.	1.	.71
	2 COMBINED AT						
+	CE06B	177.	4.50	33.	8.	3.	.77
	DIVERSION TO						
+	IN0WI	120.	4.50	22.	6.	2.	.77
	HYDROGRAPH AT						

+	IN0W	58.	4.50	11.	3.	1.	.77
ROUTED TO							
+	RE06B	53.	4.75	11.	3.	1.	.77
HYDROGRAPH AT							
+	E03	47.	4.58	17.	5.	2.	.07
HYDROGRAPH AT							
+	DRF07	199.	4.42	18.	4.	1.	.31
ROUTED TO							
+	RF7S1	145.	4.58	18.	4.	1.	.31
DIVERSION TO							
+	IN0EI	144.	4.58	18.	4.	1.	.31
HYDROGRAPH AT							
+	IN0E	1.	4.58	0.	0.	0.	.31
ROUTED TO							
+	RF7S2	1.	4.83	0.	0.	0.	.31
HYDROGRAPH AT							
+	E09	338.	4.25	64.	16.	5.	.22
2 COMBINED AT							
+	CE09	336.	4.25	64.	16.	5.	.51
DIVERSION TO							
+	DE09I	291.	4.25	40.	10.	3.	.51
HYDROGRAPH AT							
+	DE09	45.	3.67	24.	6.	2.	.51
3 COMBINED AT							
+	CE03	148.	4.67	51.	13.	4.	.49
DIVERSION TO							
+	DE03I	58.	4.67	9.	2.	1.	.49
HYDROGRAPH AT							
+	DE03	90.	4.33	42.	11.	4.	.49
ROUTED TO							
+	RE03W	90.	4.42	42.	11.	4.	.49
HYDROGRAPH AT							
+	E02	186.	4.33	37.	9.	3.	.15
HYDROGRAPH AT							
+	DDE052	167.	4.50	26.	7.	2.	.71
ROUTED TO							
+	RE052S	163.	4.67	26.	7.	2.	.71
3 COMBINED AT							
+	CE02	405.	4.58	105.	27.	9.	.50
DIVERSION TO							
+	DE02I	271.	4.58	42.	11.	4.	.50
HYDROGRAPH AT							
+	DE02	134.	4.17	63.	17.	6.	.50
ROUTED TO							
+	RE02W	134.	4.92	63.	17.	6.	.50
HYDROGRAPH AT							
+	E01	84.	4.25	15.	4.	1.	.06
HYDROGRAPH AT							
+	DRE04I	0.	.00	0.	0.	0.	.07
ROUTED TO							
+	RE04S	0.	.00	0.	0.	0.	.07
3 COMBINED AT							
+	CE01	218.	4.25	79.	21.	7.	.17
DIVERSION TO							
+	DE01I	39.	4.25	7.	2.	1.	.17
HYDROGRAPH AT							
+	DE01	179.	4.08	72.	19.	6.	.17
HYDROGRAPH AT							
+	DRE01	39.	4.25	7.	2.	1.	.17
ROUTED TO							
+	RE01S	36.	4.50	7.	2.	1.	.17
HYDROGRAPH AT							
+	D05	197.	4.33	39.	10.	3.	.16

+	2 COMBINED AT	CD05	223.	4.42	46.	12.	4.	.28
+	DIVERSION TO	DD05I	55.	4.42	9.	2.	1.	.28
+	HYDROGRAPH AT	DD05	168.	4.42	37.	10.	3.	.28
+	ROUTED TO	RD05S	168.	4.42	37.	10.	3.	.28
+	HYDROGRAPH AT	D13	54.	4.25	11.	3.	1.	.04
+	2 COMBINED AT	CD13	217.	4.42	48.	12.	4.	.26
+	DIVERSION TO	DD13I	122.	4.42	27.	7.	2.	.26
+	HYDROGRAPH AT	DD13	96.	4.42	21.	5.	2.	.26
+	ROUTED TO	RD13S	95.	4.50	21.	5.	2.	.26
+	HYDROGRAPH AT	D04	16.	4.25	3.	1.	0.	.01
+	ROUTED TO	RD04	15.	4.42	3.	1.	0.	.01
+	HYDROGRAPH AT	D01	73.	4.42	19.	5.	2.	.08
+	3 COMBINED AT	CD01	182.	4.42	43.	11.	4.	.21
+	DIVERSION TO	DD01I	68.	4.42	15.	4.	1.	.21
+	HYDROGRAPH AT	DD01	114.	4.42	29.	8.	3.	.21
+	ROUTED TO	RD01E	112.	4.50	29.	8.	3.	.21
+	HYDROGRAPH AT	DRD05	55.	4.42	9.	2.	1.	.28
+	ROUTED TO	RD05E	55.	4.42	9.	2.	1.	.28
+	DIVERSION TO	DD052I	41.	4.42	7.	2.	1.	.28
+	HYDROGRAPH AT	DD052	14.	4.42	2.	0.	0.	.28
+	ROUTED TO	RD05S2	13.	4.58	2.	0.	0.	.28
+	HYDROGRAPH AT	DRE02	271.	4.58	42.	11.	4.	.50
+	ROUTED TO	RE02S	266.	4.75	42.	11.	4.	.50
+	HYDROGRAPH AT	DRD052	41.	4.42	7.	2.	1.	.28
+	ROUTED TO	RD05E2	40.	4.50	7.	2.	1.	.28
+	HYDROGRAPH AT	D06	130.	4.33	28.	7.	2.	.11
+	3 COMBINED AT	CD06	400.	4.58	76.	19.	6.	.25
+	DIVERSION TO	INT3I	280.	4.58	54.	13.	4.	.25
+	HYDROGRAPH AT	INT3	120.	4.58	23.	6.	2.	.25
+	DIVERSION TO	DD06I	34.	4.58	6.	2.	1.	.25
+	HYDROGRAPH AT	DD06	86.	4.58	17.	4.	1.	.25
+	ROUTED TO	RD06S	86.	4.67	17.	4.	1.	.25

	HYDROGRAPH AT						
+		DRD13	122.	4.42	27.	7.	2.	.26
	ROUTED TO						
+		RD13E	121.	4.50	27.	7.	2.	.26
	HYDROGRAPH AT						
+		D02A	114.	4.17	18.	4.	1.	.07
	4 COMBINED AT						
+		CD10	287.	4.42	63.	16.	5.	.26
	DIVERSION TO						
+		INT6I	204.	4.42	45.	11.	4.	.26
	HYDROGRAPH AT						
+		INT6	83.	4.42	18.	5.	2.	.26
	DIVERSION TO						
+		DD10I	36.	4.42	9.	2.	1.	.26
	HYDROGRAPH AT						
+		DD10	47.	4.42	10.	2.	1.	.26
	ROUTED TO						
+		RD10S	47.	4.50	10.	2.	1.	.26
	HYDROGRAPH AT						
+		DO2B	103.	4.25	18.	4.	1.	.07
	3 COMBINED AT						
+		CD02	239.	4.42	56.	14.	5.	.35
	DIVERSION TO						
+		DD02I	42.	4.42	6.	2.	1.	.35
	HYDROGRAPH AT						
+		DD02	197.	4.42	50.	13.	4.	.35
	ROUTED TO						
+		RD02E	196.	4.50	50.	13.	4.	.35
	HYDROGRAPH AT						
+		D07	63.	4.25	12.	3.	1.	.05
	HYDROGRAPH AT						
+		DRD06	34.	4.58	6.	2.	1.	.25
	ROUTED TO						
+		RD06E	33.	4.67	6.	2.	1.	.25
	2 COMBINED AT						
+		CD07	82.	4.42	18.	5.	2.	.13
	DIVERSION TO						
+		INT4I	82.	4.42	18.	5.	2.	.13
	HYDROGRAPH AT						
+		INT4	0.	.00	0.	0.	0.	.13
	ROUTED TO						
+		RD07	0.	.00	0.	0.	0.	.13
	HYDROGRAPH AT						
+		DRD10	36.	4.42	9.	2.	1.	.26
	ROUTED TO						
+		RD10E	36.	4.50	9.	2.	1.	.26
	2 COMBINED AT						
+		CD11	36.	4.50	9.	2.	1.	.24
	DIVERSION TO						
+		INT7I	36.	4.50	9.	2.	1.	.24
	HYDROGRAPH AT						
+		INT7	0.	.00	0.	0.	0.	.24
	HYDROGRAPH AT						
+		DRE03S	58.	4.67	9.	2.	1.	.49
	HYDROGRAPH AT						
+		DRE09S	291.	4.25	40.	10.	3.	.51
	2 COMBINED AT						
+		CE10	261.	4.25	45.	11.	4.	1.00
	DIVERSION TO						
+		DE10I	169.	4.25	30.	8.	3.	1.00
	HYDROGRAPH AT						
+		DE10	91.	4.25	16.	4.	1.	1.00
	ROUTED TO						

+	RE10W1	91.	4.33	16.	4.	1.	1.00
DIVERSION TO							
+	IN1WI	91.	4.33	16.	4.	1.	1.00
HYDROGRAPH AT							
+	IN1W	0.	.00	0.	0.	0.	1.00
ROUTED TO							
+	RE10W2	0.	.00	0.	0.	0.	1.00
HYDROGRAPH AT							
+	D08	49.	4.33	13.	3.	1.	.05
2 COMBINED AT							
+	CD08	49.	4.33	13.	3.	1.	.46
DIVERSION TO							
+	IN5WI	49.	4.33	13.	3.	1.	.46
HYDROGRAPH AT							
+	IN5W	0.	.00	0.	0.	0.	.46
ROUTED TO							
+	RD08	0.	.00	0.	0.	0.	.46
HYDROGRAPH AT							
+	D03A	72.	4.25	13.	3.	1.	.05
3 COMBINED AT							
+	CD12	67.	4.25	13.	3.	1.	.75
DIVERSION TO							
+	INT8I	67.	4.25	13.	3.	1.	.75
HYDROGRAPH AT							
+	INT8	0.	.00	0.	0.	0.	.75
ROUTED TO							
+	RD12	0.	.00	0.	0.	0.	.75
HYDROGRAPH AT							
+	DRE10I	169.	4.25	30.	8.	3.	1.00
DIVERSION TO							
+	IN1EI	169.	4.25	30.	8.	3.	1.00
HYDROGRAPH AT							
+	IN1E	0.	.00	0.	0.	0.	1.00
ROUTED TO							
+	RE10E1	0.	.00	0.	0.	0.	1.00
DIVERSION TO							
+	IN5EI	0.	.00	0.	0.	0.	1.00
HYDROGRAPH AT							
+	IN5E	0.	.00	0.	0.	0.	1.00
ROUTED TO							
+	RE10E3	0.	.00	0.	0.	0.	1.00
HYDROGRAPH AT							
+	D09	360.	4.17	62.	16.	5.	.22
2 COMBINED AT							
+	CD09	338.	4.17	61.	15.	5.	.69
DIVERSION TO							
+	IN10I	338.	4.17	61.	15.	5.	.69
HYDROGRAPH AT							
+	INT10	0.	.00	0.	0.	0.	.69
HYDROGRAPH AT							
+	D03B	71.	4.25	13.	3.	1.	.05
4 COMBINED AT							
+	CD03	207.	4.50	58.	15.	5.	2.19
DIVERSION TO							
+	INT9I	207.	4.50	58.	15.	5.	2.19
HYDROGRAPH AT							
+	INT9	0.	.00	0.	0.	0.	2.19
ROUTED TO							
+	RD03	0.	.00	0.	0.	0.	2.19
HYDROGRAPH AT							
+	C11	90.	4.17	12.	3.	1.	.05
HYDROGRAPH AT							
+	C10	85.	4.17	13.	3.	1.	.05

+	HYDROGRAPH AT DRD02	42.	4.42	6.	2.	1.	.35
+	ROUTED TO RD02S	41.	4.58	6.	2.	1.	.35
+	2 COMBINED AT CC10	107.	4.25	20.	5.	2.	.12
+	ROUTED TO RC10	107.	4.33	20.	5.	2.	.12
+	3 COMBINED AT CC11	136.	4.33	29.	7.	2.	2.36
+	ROUTED TO RC11	133.	4.42	29.	7.	2.	2.36
+	HYDROGRAPH AT C08	170.	4.25	29.	7.	2.	.12
+	2 COMBINED AT CC08	253.	4.33	55.	14.	5.	2.48
+	ROUTED TO RC08	251.	4.50	55.	14.	5.	2.48
+	HYDROGRAPH AT C06	222.	4.25	38.	9.	3.	.15
+	2 COMBINED AT CC06	398.	4.42	89.	23.	8.	2.63
+	DIVERSION TO IN11I	398.	4.42	89.	23.	8.	2.63
+	HYDROGRAPH AT INT11	0.	.00	0.	0.	0.	2.63
+	ROUTED TO RC06	0.	.00	0.	0.	0.	2.63
+	HYDROGRAPH AT DRDO1	68.	4.42	15.	4.	1.	.21
+	ROUTED TO RD01S	67.	4.67	15.	4.	1.	.21
+	HYDROGRAPH AT C07	78.	4.33	18.	5.	2.	.07
+	2 COMBINED AT CC07	140.	4.50	32.	8.	3.	.15
+	ROUTED TO RC07	139.	4.67	32.	8.	3.	.15
+	HYDROGRAPH AT C09	66.	4.25	14.	4.	1.	.06
+	ROUTED TO RC09	56.	4.50	14.	4.	1.	.06
+	HYDROGRAPH AT C05	151.	4.33	35.	9.	3.	.14
+	HYDROGRAPH AT C01	37.	4.25	8.	2.	1.	.03
+	ROUTED TO RC01	36.	4.50	8.	2.	1.	.03
+	HYDROGRAPH AT C02	41.	4.25	10.	3.	1.	.04
+	5 COMBINED AT CC02	397.	4.58	99.	25.	8.	.44
+	DIVERSION TO DC02I	63.	4.58	8.	2.	1.	.44
+	HYDROGRAPH AT DC02	334.	4.58	92.	23.	8.	.44
+	ROUTED TO RC02E	335.	4.58	92.	23.	8.	.44
+	HYDROGRAPH AT C03	68.	4.17	11.	3.	1.	.04
+	HYDROGRAPH AT C12	3.	5.25	2.	1.	0.	.01
+	ROUTED TO RC12	3.	5.75	2.	1.	0.	.01

+	HYDROGRAPH AT	C13	248.	4.25	50.	13.	4.	.18
+	2 COMBINED AT	CC13	249.	4.25	51.	13.	4.	.19
+	DIVERSION TO	IN12I	249.	4.25	51.	13.	4.	.19
+	HYDROGRAPH AT	INT12	0.	.00	0.	0.	0.	.19
+	HYDROGRAPH AT	C04	40.	4.33	10.	3.	1.	.04
+	ROUTED TO	RC04	40.	4.42	10.	3.	1.	.04
+	5 COMBINED AT	CC03	335.	4.58	104.	27.	9.	3.37
+	ROUTED TO	RC03	333.	4.67	104.	27.	9.	3.37
+	HYDROGRAPH AT	B07	35.	4.08	4.	1.	0.	.02
+	2 COMBINED AT	CB07	340.	4.58	107.	27.	9.	3.39
+	ROUTED TO	RB07	339.	4.67	107.	27.	9.	3.39
+	HYDROGRAPH AT	B05	91.	4.25	20.	5.	2.	.09
+	DIVERSION TO	LB05D	2.	1.50	0.	0.	0.	.09
+	HYDROGRAPH AT	LB05	91.	4.25	20.	5.	2.	.09
+	HYDROGRAPH AT	DRC02	63.	4.58	8.	2.	1.	.44
+	ROUTED TO	RC02S	60.	4.67	8.	2.	1.	.44
+	HYDROGRAPH AT	B06	20.	4.17	4.	1.	0.	.01
+	4 COMBINED AT	CB05	437.	4.67	132.	34.	11.	3.49
+	ROUTED TO	RB05	437.	4.67	132.	34.	11.	3.49
+	HYDROGRAPH AT	B04	178.	4.08	22.	6.	2.	.08
+	DIVERSION TO	LB04D	178.	4.08	22.	6.	2.	.08
+	HYDROGRAPH AT	LB04	0.	.00	0.	0.	0.	.08
+	HYDROGRAPH AT	B02	191.	4.17	28.	7.	2.	.10
+	DIVERSION TO	LB02D	50.	3.75	5.	1.	0.	.10
+	HYDROGRAPH AT	LB02	191.	4.17	23.	6.	2.	.10
+	ROUTED TO	RB02	189.	4.17	23.	6.	2.	.10
+	HYDROGRAPH AT	B03	10.	4.17	2.	0.	0.	.01
+	4 COMBINED AT	CB03	520.	4.58	154.	39.	13.	3.66
+	ROUTED TO	RB03	519.	4.58	154.	39.	13.	3.66
+	HYDROGRAPH AT	B01	162.	4.08	16.	4.	1.	.07
+	DIVERSION TO	LB01D	25.	3.67	2.	1.	0.	.07
	HYDROGRAPH AT							

+		LB01	162.	4.08	14.	3.	1.	.07
	2 COMBINED AT							
+		CB01	549.	4.58	166.	42.	14.	3.73
	ROUTED TO							
+		RB01	550.	4.58	166.	42.	14.	3.73
	HYDROGRAPH AT							
+		B13	445.	4.08	52.	13.	4.	.22
	DIVERSION TO							
+		LB13D	445.	4.08	37.	9.	3.	.22
	HYDROGRAPH AT							
+		LB13	224.	4.42	15.	4.	1.	.22
	ROUTED TO							
+		RB13	216.	4.58	15.	4.	1.	.22
	HYDROGRAPH AT							
+		B14	195.	4.25	44.	11.	4.	.15
	2 COMBINED AT							
+		CB14	374.	4.58	60.	15.	5.	.37
	DIVERSION TO							
+		IN13I	374.	4.58	60.	15.	5.	.37
	HYDROGRAPH AT							
+		INT13	0.	.00	0.	0.	0.	.37
	ROUTED TO							
+		RB14	0.	.00	0.	0.	0.	.37
	HYDROGRAPH AT							
+		B12	233.	4.17	27.	7.	2.	.12
	HYDROGRAPH AT							
+		B11	107.	4.17	13.	3.	1.	.06
	DIVERSION TO							
+		LB11D	103.	4.08	6.	1.	0.	.06
	HYDROGRAPH AT							
+		LB11	95.	4.25	7.	2.	1.	.06
	4 COMBINED AT							
+		CB12	680.	4.42	192.	49.	16.	4.28
	DIVERSION TO							
+		IN16I	200.	4.42	57.	14.	5.	4.28
	HYDROGRAPH AT							
+		IN16	480.	4.42	136.	35.	12.	4.28
	ROUTED TO							
+		RB12	471.	4.67	135.	35.	12.	4.28
	HYDROGRAPH AT							
+		A01	1075.	4.17	154.	39.	13.	.51
	DIVERSION TO							
+		LA01D	953.	4.08	71.	18.	6.	.51
	HYDROGRAPH AT							
+		LA01	1041.	4.25	84.	21.	7.	.51
	2 COMBINED AT							
+		CA01	981.	4.42	209.	53.	18.	4.79
	HYDROGRAPH AT							
+		B10	95.	4.33	22.	6.	2.	.11
	DIVERSION TO							
+		LB10D	95.	4.33	21.	5.	2.	.11
	HYDROGRAPH AT							
+		LB10	7.	6.75	1.	0.	0.	.11
	HYDROGRAPH AT							
+		DRIN15	300.	4.50	50.	13.	4.	.71
	ROUTED TO							
+		RE05SD	299.	4.50	50.	13.	4.	.71
	HYDROGRAPH AT							
+		DRIN17	198.	4.50	30.	8.	3.	.71
	2 COMBINED AT							
+		CE05SD	468.	4.50	78.	19.	6.	1.00
	ROUTED TO							
+		RIN17S	465.	4.50	78.	19.	6.	1.00

	HYDROGRAPH AT							
+		DRIN14	250.	4.42	27.	7.	2.	.31
	ROUTED TO							
+		RE07SD	236.	4.42	27.	7.	2.	.31
	2 COMBINED AT							
+		CE06SD	670.	4.50	104.	26.	9.	1.00
	ROUTED TO							
+		RE06SD	667.	4.50	104.	26.	9.	1.00
	HYDROGRAPH AT							
+		DRIN0E	144.	4.58	18.	4.	1.	.31
	HYDROGRAPH AT							
+		DRIN0W	120.	4.50	22.	6.	2.	.77
	3 COMBINED AT							
+		CE6BSD	872.	4.58	142.	36.	12.	1.00
	ROUTED TO							
+		RE6BSD	869.	4.58	142.	36.	12.	1.00
	HYDROGRAPH AT							
+		DRIN1E	169.	4.25	30.	8.	3.	1.00
	2 COMBINED AT							
+		CE10S1	1009.	4.58	172.	43.	14.	1.00
	ROUTED TO							
+		RE10S1	1006.	4.58	172.	43.	14.	1.00
	HYDROGRAPH AT							
+		DRIN1W	91.	4.33	16.	4.	1.	1.00
	2 COMBINED AT							
+		CE10S2	1079.	4.58	187.	47.	16.	1.03
	ROUTED TO							
+		RE10S2	1059.	4.58	187.	47.	16.	1.03
	HYDROGRAPH AT							
+		DRINT3	280.	4.58	54.	13.	4.	.25
	ROUTED TO							
+		RD06SD	279.	4.58	54.	14.	5.	.25
	HYDROGRAPH AT							
+		DRINT4	82.	4.42	18.	5.	2.	.13
	2 COMBINED AT							
+		CD07SD	356.	4.58	72.	18.	6.	.39
	ROUTED TO							
+		RD07SD	356.	4.58	72.	18.	6.	.39
	HYDROGRAPH AT							
+		DRIN5W	49.	4.33	13.	3.	1.	.46
	HYDROGRAPH AT							
+		DRIN5E	0.	.00	0.	0.	0.	1.00
	4 COMBINED AT							
+		CD08SD	1368.	4.58	262.	66.	22.	1.26
	ROUTED TO							
+		RD08SD	1363.	4.67	262.	66.	22.	1.26
	HYDROGRAPH AT							
+		DRINT6	204.	4.42	45.	11.	4.	.26
	ROUTED TO							
+		RD10SD	204.	4.42	45.	11.	4.	.26
	HYDROGRAPH AT							
+		DRINT7	36.	4.50	9.	2.	1.	.24
	2 COMBINED AT							
+		CD11SD	240.	4.42	53.	13.	4.	.50
	ROUTED TO							
+		RD11SD	239.	4.50	53.	13.	4.	.50
	HYDROGRAPH AT							
+		DRINT8	67.	4.25	13.	3.	1.	.75
	3 COMBINED AT							
+		CD12SD	1568.	4.67	322.	81.	27.	1.43
	ROUTED TO							
+		RD12SD	1567.	4.67	322.	81.	27.	1.43
	HYDROGRAPH AT							
+		DRINT9	207.	4.50	58.	15.	5.	2.19

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          ROUTED TO
+                        RD03SD      207.   4.50        58.        15.        5.      2.19
          HYDROGRAPH AT
+                        DRIN10      338.   4.17        61.        15.        5.       .69
          3 COMBINED AT
+                        CD09SD     1738.   4.67       418.       106.       35.      2.88
          ROUTED TO
+                        RD09SD     1733.   4.67       418.       106.       35.      2.88
          HYDROGRAPH AT
+                        DRIN12      249.   4.25        51.        13.        4.       .19
          HYDROGRAPH AT
+                        DRIN11      398.   4.42        89.        23.        8.      2.63
          ROUTED TO
+                        RC06SD      396.   4.42        89.        23.        8.      2.63
          3 COMBINED AT
+                        CC13SD     2149.   4.67       544.       139.       46.      3.58
          ROUTED TO
+                        RC13SD     2148.   4.67       544.       139.       46.      3.58
          HYDROGRAPH AT
+                        DRIN13      374.   4.58        60.        15.        5.       .37
          HYDROGRAPH AT
+                        DRIN16      200.   4.42        57.        14.        5.      4.28
          ROUTED TO
+                        RB16SD      199.   4.42        57.        14.        5.      4.28
          3 COMBINED AT
+                        CB14SD     2443.   4.67       647.       165.       55.      3.95
          ROUTED TO
+                        RB14SD     2437.   4.67       647.       165.       55.      3.95
1
                                   SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                          INTERPOLATED TO
                                                                       COMPUTATION INTERVAL
          ISTAQ    ELEMENT      DT       PEAK    TIME TO     VOLUME      DT       PEAK    TIME TO     VOLUME
                                                   PEAK                                      PEAK

                              (MIN)     (CFS)     (MIN)      (IN)     (MIN)     (CFS)     (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RF05W  MANE          .86     49.00    236.76       .57      5.00     49.00    240.00        .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1279E+02 EXCESS= .0000E+00 OUTFLOW= .1279E+02 BASIN STORAGE= .1300E-12 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =        .50
             RF05W  MANE          .82     49.00    237.07       .57      5.00     49.00    240.00        .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1275E+02 EXCESS= .0000E+00 OUTFLOW= .1275E+02 BASIN STORAGE= .1314E-12 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =       2.80
             RF05W  MANE          .87     49.00    232.10       .60      5.00     49.00    235.00        .60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1342E+02 EXCESS= .0000E+00 OUTFLOW= .1342E+02 BASIN STORAGE= .1328E-12 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      16.00
             RF05W  MANE          .76     49.00    236.65       .64      5.00     49.00    240.00        .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1428E+02 EXCESS= .0000E+00 OUTFLOW= .1428E+02 BASIN STORAGE= .1323E-12 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
             RF05W  MANE          .73     49.00    236.91       .66      5.00     49.00    240.00        .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+02 EXCESS= .0000E+00 OUTFLOW= .1473E+02 BASIN STORAGE= .1352E-12 PERCENT ERROR=    .0

          FOR STORM = 6  STORM AREA (SQ MI) =     500.00
             RF05W  MANE          .85     46.98    275.88       .55      5.00     46.98    275.00        .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1242E+02 EXCESS= .0000E+00 OUTFLOW= .1242E+02 BASIN STORAGE= .1305E-12 PERCENT ERROR=    .0

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
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RF03  MANE          .78    723.47    265.93      1.92      5.00    720.34    265.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5696E+02 EXCESS= .0000E+00 OUTFLOW= .5697E+02 BASIN STORAGE= .3554E-04 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RF03  MANE          .78    715.27    265.63      1.90      5.00    712.47    265.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5639E+02 EXCESS= .0000E+00 OUTFLOW= .5639E+02 BASIN STORAGE= .3461E-04 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
RF03  MANE          .91    510.61    266.71      1.69      5.00    508.28    270.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4999E+02 EXCESS= .0000E+00 OUTFLOW= .4999E+02 BASIN STORAGE= .3662E-04 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
RF03  MANE         1.05    384.44    269.83      1.41      5.00    384.36    270.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4184E+02 EXCESS= .0000E+00 OUTFLOW= .4184E+02 BASIN STORAGE= .3605E-04 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
RF03  MANE         1.35    248.91    271.16      1.04      5.00    248.31    270.00        1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3081E+02 EXCESS= .0000E+00 OUTFLOW= .3081E+02 BASIN STORAGE= .3478E-04 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
RF03  MANE         2.68     83.31    281.86       .51      5.00     83.27    280.00         .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1526E+02 EXCESS= .0000E+00 OUTFLOW= .1526E+02 BASIN STORAGE= .3969E-04 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RF07W  MANE        5.00     15.88    345.00       .16      5.00     15.88    345.00         .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2678E+01 EXCESS= .0000E+00 OUTFLOW= .2658E+01 BASIN STORAGE= .5656E-03 PERCENT ERROR=    .7

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RF07W  MANE        4.50     15.85    346.50       .16      5.00     15.84    345.00         .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2674E+01 EXCESS= .0000E+00 OUTFLOW= .2657E+01 BASIN STORAGE= .4006E-03 PERCENT ERROR=    .6

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
RF07W  MANE        5.00     15.91    355.00       .17      5.00     15.91    355.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2797E+01 EXCESS= .0000E+00 OUTFLOW= .2784E+01 BASIN STORAGE= .4054E-03 PERCENT ERROR=    .5

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
RF07W  MANE        5.00     15.90    360.00       .17      5.00     15.90    360.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2805E+01 EXCESS= .0000E+00 OUTFLOW= .2785E+01 BASIN STORAGE= .4130E-03 PERCENT ERROR=    .7

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
RF07W  MANE        4.50     15.94    369.00       .17      5.00     15.92    365.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2848E+01 EXCESS= .0000E+00 OUTFLOW= .2828E+01 BASIN STORAGE= .6016E-03 PERCENT ERROR=    .7

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
RF07W  MANE        5.00     15.92    355.00       .11      5.00     15.92    355.00         .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1914E+01 EXCESS= .0000E+00 OUTFLOW= .1897E+01 BASIN STORAGE= .4421E-03 PERCENT ERROR=    .9

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RF02W  MANE        1.90     50.00    239.64       .40      5.00     50.00    240.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1346E+02 EXCESS= .0000E+00 OUTFLOW= .1347E+02 BASIN STORAGE= .7225E-11 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RF02W  MANE        1.90     50.00    239.86       .40      5.00     50.00    240.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1343E+02 EXCESS= .0000E+00 OUTFLOW= .1344E+02 BASIN STORAGE= .7438E-11 PERCENT ERROR=    .0
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FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RF02W  MANE         1.90     50.00    235.22       .42      5.00     50.00    240.00         .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1413E+02 EXCESS= .0000E+00 OUTFLOW= .1414E+02 BASIN STORAGE= .7186E-11 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RF02W  MANE         1.84     50.00    238.78       .45      5.00     50.00    240.00         .45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1502E+02 EXCESS= .0000E+00 OUTFLOW= .1503E+02 BASIN STORAGE= .7341E-11 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RF02W  MANE         1.84     50.00    243.75       .46      5.00     50.00    245.00         .46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1546E+02 EXCESS= .0000E+00 OUTFLOW= .1546E+02 BASIN STORAGE= .7549E-11 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RF02W  MANE         1.92     48.76    283.04       .40      5.00     48.73    285.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1323E+02 EXCESS= .0000E+00 OUTFLOW= .1324E+02 BASIN STORAGE= .7207E-11 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RE05W  MANE         5.00     25.15    245.00       .14      5.00     25.15    245.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5301E+01 EXCESS= .0000E+00 OUTFLOW= .5296E+01 BASIN STORAGE= .8434E-03 PERCENT ERROR=    .1

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RE05W  MANE         5.00     25.16    245.00       .14      5.00     25.16    245.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5286E+01 EXCESS= .0000E+00 OUTFLOW= .5280E+01 BASIN STORAGE= .8946E-03 PERCENT ERROR=    .1

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RE05W  MANE         5.00     25.26    240.00       .15      5.00     25.26    240.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5597E+01 EXCESS= .0000E+00 OUTFLOW= .5592E+01 BASIN STORAGE= .9705E-03 PERCENT ERROR=    .1

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RE05W  MANE         5.00     25.10    245.00       .15      5.00     25.10    245.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5764E+01 EXCESS= .0000E+00 OUTFLOW= .5760E+01 BASIN STORAGE= .5110E-03 PERCENT ERROR=    .1

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
   RE05W  MANE         5.00     25.18    250.00       .15      5.00     25.18    250.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5642E+01 EXCESS= .0000E+00 OUTFLOW= .5638E+01 BASIN STORAGE= .9335E-03 PERCENT ERROR=    .1

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
   RE05W  MANE         5.00     22.06    290.00       .10      5.00     22.06    290.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3793E+01 EXCESS= .0000E+00 OUTFLOW= .3792E+01 BASIN STORAGE= .6933E-03 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
   RE03W  MANE         1.05     90.00    264.85       .85      5.00     90.00    265.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2233E+02 EXCESS= .0000E+00 OUTFLOW= .2233E+02 BASIN STORAGE= .5234E-11 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
   RE03W  MANE         1.04     90.00    265.08       .85      5.00     90.00    270.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2225E+02 EXCESS= .0000E+00 OUTFLOW= .2225E+02 BASIN STORAGE= .5198E-11 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
   RE03W  MANE          .98     90.00    269.11       .87      5.00     90.00    270.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2276E+02 EXCESS= .0000E+00 OUTFLOW= .2277E+02 BASIN STORAGE= .5376E-11 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
   RE03W  MANE         1.04     90.00    279.52       .90      5.00     90.00    280.00         .90
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .2350E+02 EXCESS= .0000E+00 OUTFLOW= .2350E+02 BASIN STORAGE= .5245E-11 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
           RE03W  MANE         1.12     79.41    296.55       .85      5.00     79.40    295.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2225E+02 EXCESS= .0000E+00 OUTFLOW= .2225E+02 BASIN STORAGE= .5274E-11 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
           RE03W  MANE         1.21     58.73    298.79       .66      5.00     58.73    300.00         .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1719E+02 EXCESS= .0000E+00 OUTFLOW= .1719E+02 BASIN STORAGE= .5175E-11 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
           RE02W  MANE         1.22    134.00    295.06      1.24      5.00    134.00    295.00        1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3331E+02 EXCESS= .0000E+00 OUTFLOW= .3330E+02 BASIN STORAGE= .1247E-03 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
           RE02W  MANE         1.22    134.00    295.06      1.24      5.00    134.00    295.00        1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3321E+02 EXCESS= .0000E+00 OUTFLOW= .3319E+02 BASIN STORAGE= .1242E-03 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
           RE02W  MANE         1.22    134.00    297.50      1.27      5.00    134.00    300.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3419E+02 EXCESS= .0000E+00 OUTFLOW= .3418E+02 BASIN STORAGE= .1251E-03 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
           RE02W  MANE         1.22    134.00    306.03      1.32      5.00    134.00    305.00        1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3535E+02 EXCESS= .0000E+00 OUTFLOW= .3534E+02 BASIN STORAGE= .1238E-03 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
           RE02W  MANE         1.22    130.72    282.84      1.27      5.00    130.67    285.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3399E+02 EXCESS= .0000E+00 OUTFLOW= .3398E+02 BASIN STORAGE= .1251E-03 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
           RE02W  MANE         1.32     91.56    284.16       .94      5.00     91.55    285.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2527E+02 EXCESS= .0000E+00 OUTFLOW= .2527E+02 BASIN STORAGE= .1255E-03 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RB05  MANE         1.19    559.04    275.57       .40      5.00    558.62    275.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7455E+02 EXCESS= .0000E+00 OUTFLOW= .7455E+02 BASIN STORAGE= .4277E-04 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
            RB05  MANE         1.19    553.97    275.47       .40      5.00    553.62    275.00         .40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7396E+02 EXCESS= .0000E+00 OUTFLOW= .7396E+02 BASIN STORAGE= .4206E-04 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
            RB05  MANE         1.30    448.89    280.74       .36      5.00    448.88    280.00         .36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6790E+02 EXCESS= .0000E+00 OUTFLOW= .6790E+02 BASIN STORAGE= .4106E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
            RB05  MANE         1.43    352.01    281.72       .32      5.00    351.51    280.00         .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5996E+02 EXCESS= .0000E+00 OUTFLOW= .5996E+02 BASIN STORAGE= .4052E-04 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RB05  MANE         1.84    244.96    286.56       .26      5.00    244.85    285.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4778E+02 EXCESS= .0000E+00 OUTFLOW= .4778E+02 BASIN STORAGE= .3991E-04 PERCENT ERROR=    .0
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FOR STORM = 6  STORM AREA (SQ MI) =     500.00
    RB05  MANE         2.83    113.60    294.28       .15      5.00    113.55    295.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2818E+02 EXCESS= .0000E+00 OUTFLOW= .2818E+02 BASIN STORAGE= .4210E-04 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
    RB02  MANE         1.75    190.13    250.69      2.16      5.00    189.98    250.00        2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1162E+02 EXCESS= .0000E+00 OUTFLOW= .1162E+02 BASIN STORAGE= .1872E-04 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
    RB02  MANE         1.76    189.50    251.52      2.14      5.00    188.67    250.00        2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1151E+02 EXCESS= .0000E+00 OUTFLOW= .1151E+02 BASIN STORAGE= .1908E-04 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
    RB02  MANE         1.50    128.65    252.00      1.99      5.00    127.78    250.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1071E+02 EXCESS= .0000E+00 OUTFLOW= .1071E+02 BASIN STORAGE= .1908E-04 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
    RB02  MANE         2.00     99.49    252.00      1.77      5.00     98.75    250.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9544E+01 EXCESS= .0000E+00 OUTFLOW= .9544E+01 BASIN STORAGE= .2246E-04 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
    RB02  MANE         2.25     69.04    254.25      1.41      5.00     68.84    255.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7572E+01 EXCESS= .0000E+00 OUTFLOW= .7572E+01 BASIN STORAGE= .2417E-04 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
    RB02  MANE         2.00     33.16    262.00       .74      5.00     33.11    260.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4012E+01 EXCESS= .0000E+00 OUTFLOW= .4011E+01 BASIN STORAGE= .2000E-04 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RE05SD  MANE          .40    320.39    270.38       .68      5.00    319.78    270.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2573E+02 EXCESS= .0000E+00 OUTFLOW= .2573E+02 BASIN STORAGE= .1001E-13 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RE05SD  MANE          .29    317.06    270.65       .67      5.00    316.17    270.00         .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2546E+02 EXCESS= .0000E+00 OUTFLOW= .2546E+02 BASIN STORAGE= .1010E-13 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RE05SD  MANE          .39    231.92    270.77       .59      5.00    230.84    270.00         .59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2220E+02 EXCESS= .0000E+00 OUTFLOW= .2220E+02 BASIN STORAGE= .1012E-13 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RE05SD  MANE          .40    171.10    275.71       .48      5.00    170.82    275.00         .48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1798E+02 EXCESS= .0000E+00 OUTFLOW= .1798E+02 BASIN STORAGE= .1020E-13 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RE05SD  MANE          .38    105.36    280.23       .33      5.00    105.35    280.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1238E+02 EXCESS= .0000E+00 OUTFLOW= .1238E+02 BASIN STORAGE= .1008E-13 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RE05SD  MANE          .47     26.46    281.09       .13      5.00     26.44    285.00         .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4842E+01 EXCESS= .0000E+00 OUTFLOW= .4841E+01 BASIN STORAGE= .1001E-13 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RIN17S  MANE          .40    531.40    270.75       .78      5.00    529.43    270.00         .78
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .4138E+02 EXCESS= .0000E+00 OUTFLOW= .4138E+02 BASIN STORAGE= .5486E-13 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RIN17S  MANE          .40    525.21    270.85       .77      5.00    523.40    270.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4092E+02 EXCESS= .0000E+00 OUTFLOW= .4092E+02 BASIN STORAGE= .5529E-13 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RIN17S  MANE          .39    381.96    275.22       .66      5.00    381.95    275.00         .66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3525E+02 EXCESS= .0000E+00 OUTFLOW= .3525E+02 BASIN STORAGE= .5526E-13 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RIN17S  MANE          .41    279.45    275.56       .52      5.00    278.81    275.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2799E+02 EXCESS= .0000E+00 OUTFLOW= .2799E+02 BASIN STORAGE= .5582E-13 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RIN17S  MANE          .46    168.77    280.49       .35      5.00    168.66    280.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1848E+02 EXCESS= .0000E+00 OUTFLOW= .1848E+02 BASIN STORAGE= .5514E-13 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RIN17S  MANE          .50     35.21    285.94       .12      5.00     35.15    285.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6376E+01 EXCESS= .0000E+00 OUTFLOW= .6376E+01 BASIN STORAGE= .5481E-13 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RE07SD  MANE         1.44    250.99    267.63       .82      5.00    238.06    265.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1376E+02 EXCESS= .0000E+00 OUTFLOW= .1380E+02 BASIN STORAGE= .1285E-10 PERCENT ERROR=   -.3

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RE07SD  MANE         1.47    248.29    267.72       .81      5.00    235.34    265.00         .81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+02 EXCESS= .0000E+00 OUTFLOW= .1364E+02 BASIN STORAGE= .1239E-10 PERCENT ERROR=   -.2

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RE07SD  MANE         1.66    167.01    273.58       .72      5.00    163.12    275.00         .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1209E+02 EXCESS= .0000E+00 OUTFLOW= .1211E+02 BASIN STORAGE= .1205E-10 PERCENT ERROR=   -.1

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RE07SD  MANE         1.65    128.05    277.46       .64      5.00    125.86    275.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1078E+02 EXCESS= .0000E+00 OUTFLOW= .1079E+02 BASIN STORAGE= .1258E-10 PERCENT ERROR=   -.1

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RE07SD  MANE         1.80     87.78    282.56       .50      5.00     87.50    285.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8331E+01 EXCESS= .0000E+00 OUTFLOW= .8332E+01 BASIN STORAGE= .1257E-10 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RE07SD  MANE         1.70     32.46    315.09       .17      5.00     32.05    315.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2761E+01 EXCESS= .0000E+00 OUTFLOW= .2767E+01 BASIN STORAGE= .7854E-11 PERCENT ERROR=   -.2

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RE06SD  MANE          .40    762.87    270.20      1.03      5.00    761.87    270.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5512E+02 EXCESS= .0000E+00 OUTFLOW= .5512E+02 BASIN STORAGE= .7758E-11 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RE06SD  MANE          .32    755.92    270.41      1.02      5.00    754.18    270.00        1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5450E+02 EXCESS= .0000E+00 OUTFLOW= .5450E+02 BASIN STORAGE= .7498E-11 PERCENT ERROR=    .0
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FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RE06SD  MANE          .29    544.81    275.32       .89      5.00    544.52    275.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4728E+02 EXCESS= .0000E+00 OUTFLOW= .4728E+02 BASIN STORAGE= .7274E-11 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RE06SD  MANE          .30    404.63    275.63       .73      5.00    403.12    275.00         .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3875E+02 EXCESS= .0000E+00 OUTFLOW= .3875E+02 BASIN STORAGE= .7607E-11 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RE06SD  MANE          .38    255.97    280.50       .50      5.00    255.71    280.00         .50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2681E+02 EXCESS= .0000E+00 OUTFLOW= .2681E+02 BASIN STORAGE= .7597E-11 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RE06SD  MANE          .43     57.34    316.17       .17      5.00     55.39    320.00         .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9151E+01 EXCESS= .0000E+00 OUTFLOW= .9152E+01 BASIN STORAGE= .5286E-11 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RE6BSD  MANE          .85   1007.22    271.74      1.42      5.00    996.87    275.00        1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7565E+02 EXCESS= .0000E+00 OUTFLOW= .7567E+02 BASIN STORAGE= .5205E-10 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RE6BSD  MANE          .85    993.38    271.97      1.40      5.00    985.05    275.00        1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7479E+02 EXCESS= .0000E+00 OUTFLOW= .7481E+02 BASIN STORAGE= .5051E-10 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RE6BSD  MANE          .93    708.94    277.06      1.22      5.00    708.61    280.00        1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6482E+02 EXCESS= .0000E+00 OUTFLOW= .6484E+02 BASIN STORAGE= .4914E-10 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RE6BSD  MANE          .92    526.40    281.48      1.00      5.00    522.60    280.00        1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5347E+02 EXCESS= .0000E+00 OUTFLOW= .5348E+02 BASIN STORAGE= .5101E-10 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RE6BSD  MANE          .94    328.00    287.01       .70      5.00    326.15    285.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3707E+02 EXCESS= .0000E+00 OUTFLOW= .3708E+02 BASIN STORAGE= .5127E-10 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RE6BSD  MANE         1.35     68.15    322.89       .23      5.00     67.42    325.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1243E+02 EXCESS= .0000E+00 OUTFLOW= .1244E+02 BASIN STORAGE= .3969E-10 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RE10S1  MANE          .41   1151.70    275.31      1.72      5.00   1151.51    275.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9181E+02 EXCESS= .0000E+00 OUTFLOW= .9181E+02 BASIN STORAGE= .3782E-10 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RE10S1  MANE          .42   1137.90    275.15      1.70      5.00   1137.72    275.00        1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9078E+02 EXCESS= .0000E+00 OUTFLOW= .9077E+02 BASIN STORAGE= .3683E-10 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RE10S1  MANE          .49    819.18    279.99      1.46      5.00    819.18    280.00        1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7819E+02 EXCESS= .0000E+00 OUTFLOW= .7819E+02 BASIN STORAGE= .3592E-10 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RE10S1  MANE          .40    602.77    280.78      1.20      5.00    600.62    280.00        1.20
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .6398E+02 EXCESS= .0000E+00 OUTFLOW= .6398E+02 BASIN STORAGE= .3710E-10 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RE10S1  MANE          .46    373.51    285.73       .83      5.00    372.97    285.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4454E+02 EXCESS= .0000E+00 OUTFLOW= .4454E+02 BASIN STORAGE= .3740E-10 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RE10S1  MANE          .60     71.78    325.95       .30      5.00     71.74    325.00         .30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1588E+02 EXCESS= .0000E+00 OUTFLOW= .1588E+02 BASIN STORAGE= .3077E-10 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RE10S2  MANE         2.29   1226.40    274.75      1.82      5.00   1225.56    275.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .3604E-03 PERCENT ERROR=    .2

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RE10S2  MANE         2.30   1210.83    275.41      1.80      5.00   1208.64    275.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9915E+02 EXCESS= .0000E+00 OUTFLOW= .9896E+02 BASIN STORAGE= .3694E-03 PERCENT ERROR=    .2

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RE10S2  MANE         2.45    876.00    279.44      1.55      5.00    875.45    280.00        1.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8517E+02 EXCESS= .0000E+00 OUTFLOW= .8507E+02 BASIN STORAGE= .3760E-03 PERCENT ERROR=    .1

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RE10S2  MANE         2.61    640.82    284.37      1.26      5.00    639.47    285.00        1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6942E+02 EXCESS= .0000E+00 OUTFLOW= .6937E+02 BASIN STORAGE= .3812E-03 PERCENT ERROR=    .1

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RE10S2  MANE         2.87    399.06    286.87       .88      5.00    397.10    290.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4836E+02 EXCESS= .0000E+00 OUTFLOW= .4834E+02 BASIN STORAGE= .3736E-03 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RE10S2  MANE         3.95     81.29    284.13       .32      5.00     81.10    285.00         .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1750E+02 EXCESS= .0000E+00 OUTFLOW= .1750E+02 BASIN STORAGE= .3583E-03 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RD06SD  MANE          .18    282.87    275.69      1.99      5.00    282.03    275.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2701E+02 EXCESS= .0000E+00 OUTFLOW= .2701E+02 BASIN STORAGE= .2189E-06 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RD06SD  MANE          .12    279.90    275.54      1.97      5.00    278.95    275.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2671E+02 EXCESS= .0000E+00 OUTFLOW= .2671E+02 BASIN STORAGE= .2375E-06 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RD06SD  MANE          .25    215.93    280.49      1.69      5.00    215.70    280.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2284E+02 EXCESS= .0000E+00 OUTFLOW= .2284E+02 BASIN STORAGE= .2170E-06 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RD06SD  MANE          .26    155.26    285.12      1.34      5.00    155.25    285.00        1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1809E+02 EXCESS= .0000E+00 OUTFLOW= .1809E+02 BASIN STORAGE= .2205E-06 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RD06SD  MANE          .25     81.98    285.99       .87      5.00     81.77    290.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1175E+02 EXCESS= .0000E+00 OUTFLOW= .1175E+02 BASIN STORAGE= .2691E-06 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
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RD06SD  MANE          .31     22.16    276.37       .37      5.00     22.12    275.00         .37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4994E+01 EXCESS= .0000E+00 OUTFLOW= .4994E+01 BASIN STORAGE= .2526E-06 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RD07SD  MANE          .18    359.84    275.37      1.76      5.00    359.31    275.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3630E+02 EXCESS= .0000E+00 OUTFLOW= .3630E+02 BASIN STORAGE= .7423E-06 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RD07SD  MANE          .19    355.94    275.36      1.74      5.00    355.40    275.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3592E+02 EXCESS= .0000E+00 OUTFLOW= .3592E+02 BASIN STORAGE= .6662E-06 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
RD07SD  MANE          .15    276.31    280.38      1.50      5.00    276.14    280.00        1.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3102E+02 EXCESS= .0000E+00 OUTFLOW= .3102E+02 BASIN STORAGE= .7311E-06 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
RD07SD  MANE          .16    199.22    285.11      1.21      5.00    199.22    285.00        1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2503E+02 EXCESS= .0000E+00 OUTFLOW= .2503E+02 BASIN STORAGE= .7176E-06 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
RD07SD  MANE          .24    108.79    285.64       .82      5.00    108.70    285.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1702E+02 EXCESS= .0000E+00 OUTFLOW= .1702E+02 BASIN STORAGE= .6639E-06 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
RD07SD  MANE          .24     34.70    275.89       .39      5.00     34.69    275.00         .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8034E+01 EXCESS= .0000E+00 OUTFLOW= .8034E+01 BASIN STORAGE= .6746E-06 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RD08SD  MANE          .57   1628.86    276.10      2.13      5.00   1616.18    275.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1434E+03 EXCESS= .0000E+00 OUTFLOW= .1434E+03 BASIN STORAGE= .3806E-07 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
RD08SD  MANE          .57   1606.46    276.33      2.10      5.00   1594.11    275.00        2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1418E+03 EXCESS= .0000E+00 OUTFLOW= .1418E+03 BASIN STORAGE= .3833E-07 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
RD08SD  MANE          .63   1187.43    281.23      1.82      5.00   1182.30    280.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1225E+03 EXCESS= .0000E+00 OUTFLOW= .1225E+03 BASIN STORAGE= .3851E-07 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
RD08SD  MANE          .73    866.85    285.77      1.48      5.00    866.37    285.00        1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1001E+03 EXCESS= .0000E+00 OUTFLOW= .1001E+03 BASIN STORAGE= .3826E-07 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
RD08SD  MANE          .78    526.26    286.71      1.04      5.00    525.12    290.00        1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6994E+02 EXCESS= .0000E+00 OUTFLOW= .6995E+02 BASIN STORAGE= .3805E-07 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
RD08SD  MANE          .98    125.69    282.63       .42      5.00    125.52    285.00         .42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2830E+02 EXCESS= .0000E+00 OUTFLOW= .2830E+02 BASIN STORAGE= .3832E-07 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
RD10SD  MANE          .15    205.56    265.38      1.65      5.00    205.30    265.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2266E+02 EXCESS= .0000E+00 OUTFLOW= .2266E+02 BASIN STORAGE= .3304E-07 PERCENT ERROR=    .0
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FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RD10SD  MANE          .16    203.56    265.36      1.63      5.00    203.30    265.00        1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2247E+02 EXCESS= .0000E+00 OUTFLOW= .2247E+02 BASIN STORAGE= .3074E-07 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RD10SD  MANE          .13    158.28    270.36      1.48      5.00    158.19    270.00        1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2038E+02 EXCESS= .0000E+00 OUTFLOW= .2038E+02 BASIN STORAGE= .2780E-07 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RD10SD  MANE          .16    121.23    275.01      1.30      5.00    121.23    275.00        1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1783E+02 EXCESS= .0000E+00 OUTFLOW= .1783E+02 BASIN STORAGE= .2705E-07 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RD10SD  MANE          .22     79.96    275.19      1.00      5.00     79.96    275.00        1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1382E+02 EXCESS= .0000E+00 OUTFLOW= .1382E+02 BASIN STORAGE= .2849E-07 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RD10SD  MANE          .19     34.71    275.42       .56      5.00     34.70    275.00         .56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7723E+01 EXCESS= .0000E+00 OUTFLOW= .7723E+01 BASIN STORAGE= .2820E-07 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RD11SD  MANE          .25    241.92    265.89      1.02      5.00    241.62    270.00        1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2700E+02 EXCESS= .0000E+00 OUTFLOW= .2699E+02 BASIN STORAGE= .4174E-06 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RD11SD  MANE          .25    239.53    265.79      1.01      5.00    239.23    270.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2676E+02 EXCESS= .0000E+00 OUTFLOW= .2676E+02 BASIN STORAGE= .3972E-06 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RD11SD  MANE          .17    185.45    270.70       .91      5.00    185.10    270.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2425E+02 EXCESS= .0000E+00 OUTFLOW= .2425E+02 BASIN STORAGE= .4521E-06 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RD11SD  MANE          .26    141.13    275.39       .80      5.00    141.12    275.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2126E+02 EXCESS= .0000E+00 OUTFLOW= .2126E+02 BASIN STORAGE= .3915E-06 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RD11SD  MANE          .24     91.99    275.42       .63      5.00     91.97    275.00         .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1667E+02 EXCESS= .0000E+00 OUTFLOW= .1667E+02 BASIN STORAGE= .4382E-06 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RD11SD  MANE          .37     41.89    276.07       .37      5.00     41.84    275.00         .37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9772E+01 EXCESS= .0000E+00 OUTFLOW= .9771E+01 BASIN STORAGE= .3772E-06 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RD12SD  MANE          .38   1895.85    275.75      2.32      5.00   1884.91    275.00        2.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1770E+03 EXCESS= .0000E+00 OUTFLOW= .1770E+03 BASIN STORAGE= .3931E-07 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RD12SD  MANE          .38   1869.62    276.00      2.30      5.00   1859.82    275.00        2.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1751E+03 EXCESS= .0000E+00 OUTFLOW= .1751E+03 BASIN STORAGE= .3914E-07 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RD12SD  MANE          .39   1398.22    280.99      2.00      5.00   1394.16    280.00        2.00
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1527E+03 EXCESS= .0000E+00 OUTFLOW= .1527E+03 BASIN STORAGE= .3896E-07 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RD12SD  MANE          .43   1028.47    285.55      1.66      5.00   1027.84    285.00        1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1266E+03 EXCESS= .0000E+00 OUTFLOW= .1266E+03 BASIN STORAGE= .3913E-07 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RD12SD  MANE          .47    629.98    285.90      1.19      5.00    628.84    290.00        1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9086E+02 EXCESS= .0000E+00 OUTFLOW= .9086E+02 BASIN STORAGE= .3917E-07 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RD12SD  MANE          .70    178.19    281.70       .53      5.00    177.80    285.00         .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4069E+02 EXCESS= .0000E+00 OUTFLOW= .4069E+02 BASIN STORAGE= .3907E-07 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RD03SD  MANE          .12    258.87    265.22       .28      5.00    258.63    265.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3221E+02 EXCESS= .0000E+00 OUTFLOW= .3221E+02 BASIN STORAGE= .1474E-12 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RD03SD  MANE          .12    256.74    265.23       .27      5.00    256.48    265.00         .27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3197E+02 EXCESS= .0000E+00 OUTFLOW= .3197E+02 BASIN STORAGE= .1462E-12 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RD03SD  MANE          .12    199.59    270.21       .25      5.00    199.49    270.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2966E+02 EXCESS= .0000E+00 OUTFLOW= .2966E+02 BASIN STORAGE= .1513E-12 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RD03SD  MANE          .12    153.17    270.22       .23      5.00    153.12    270.00         .23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2709E+02 EXCESS= .0000E+00 OUTFLOW= .2709E+02 BASIN STORAGE= .1475E-12 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RD03SD  MANE          .18    108.65    275.24       .19      5.00    108.64    275.00         .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2274E+02 EXCESS= .0000E+00 OUTFLOW= .2274E+02 BASIN STORAGE= .1489E-12 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RD03SD  MANE          .25     55.73    275.20       .13      5.00     55.72    275.00         .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1494E+02 EXCESS= .0000E+00 OUTFLOW= .1494E+02 BASIN STORAGE= .1455E-12 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RD09SD  MANE          .77   2320.53    276.27      1.57      5.00   2311.08    275.00        1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2405E+03 EXCESS= .0000E+00 OUTFLOW= .2406E+03 BASIN STORAGE= .7655E-04 PERCENT ERROR=   -.1

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RD09SD  MANE          .77   2293.25    276.46      1.55      5.00   2281.97    275.00        1.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2381E+03 EXCESS= .0000E+00 OUTFLOW= .2383E+03 BASIN STORAGE= .8590E-04 PERCENT ERROR=   -.1

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RD09SD  MANE          .94   1742.85    281.84      1.38      5.00   1740.17    280.00        1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2113E+03 EXCESS= .0000E+00 OUTFLOW= .2114E+03 BASIN STORAGE= .7926E-04 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RD09SD  MANE         1.08   1304.29    282.68      1.18      5.00   1301.10    285.00        1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1808E+03 EXCESS= .0000E+00 OUTFLOW= .1809E+03 BASIN STORAGE= .1058E-03 PERCENT ERROR=    .0
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FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RD09SD  MANE         1.20    830.61    286.89       .90      5.00    826.78    290.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+03 EXCESS= .0000E+00 OUTFLOW= .1375E+03 BASIN STORAGE= .9967E-04 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RD09SD  MANE         1.83    307.49    277.95       .47      5.00    307.34    280.00         .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7238E+02 EXCESS= .0000E+00 OUTFLOW= .7241E+02 BASIN STORAGE= .8208E-04 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RC06SD  MANE          .65    544.99    261.21       .35      5.00    538.57    260.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4958E+02 EXCESS= .0000E+00 OUTFLOW= .4958E+02 BASIN STORAGE= .5406E-12 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RC06SD  MANE          .65    540.69    261.37       .35      5.00    534.01    260.00         .35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4916E+02 EXCESS= .0000E+00 OUTFLOW= .4917E+02 BASIN STORAGE= .5248E-12 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RC06SD  MANE          .76    392.43    266.61       .32      5.00    391.27    265.00         .32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4467E+02 EXCESS= .0000E+00 OUTFLOW= .4467E+02 BASIN STORAGE= .5366E-12 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RC06SD  MANE          .81    297.03    266.69       .28      5.00    295.98    265.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3898E+02 EXCESS= .0000E+00 OUTFLOW= .3898E+02 BASIN STORAGE= .5456E-12 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RC06SD  MANE          .76    196.48    266.62       .22      5.00    195.34    270.00         .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3056E+02 EXCESS= .0000E+00 OUTFLOW= .3056E+02 BASIN STORAGE= .5388E-12 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RC06SD  MANE          .95     86.64    272.11       .13      5.00     86.39    275.00         .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1852E+02 EXCESS= .0000E+00 OUTFLOW= .1852E+02 BASIN STORAGE= .5446E-12 PERCENT ERROR=    .0

FOR STORM = 1  STORM AREA (SQ MI) =        .01
  RC13SD  MANE          .76   2945.55    275.30      1.66      5.00   2945.41    275.00        1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3170E+03 EXCESS= .0000E+00 OUTFLOW= .3171E+03 BASIN STORAGE= .2167E-03 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =        .50
  RC13SD  MANE          .76   2911.27    275.49      1.64      5.00   2910.96    275.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3140E+03 EXCESS= .0000E+00 OUTFLOW= .3142E+03 BASIN STORAGE= .2072E-03 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =       2.80
  RC13SD  MANE          .87   2226.52    280.01      1.47      5.00   2226.52    280.00        1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2808E+03 EXCESS= .0000E+00 OUTFLOW= .2809E+03 BASIN STORAGE= .2045E-03 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      16.00
  RC13SD  MANE          .88   1678.81    281.49      1.27      5.00   1670.79    280.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2430E+03 EXCESS= .0000E+00 OUTFLOW= .2431E+03 BASIN STORAGE= .2346E-03 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
  RC13SD  MANE         1.15   1083.12    286.84       .99      5.00   1081.50    285.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1884E+03 EXCESS= .0000E+00 OUTFLOW= .1885E+03 BASIN STORAGE= .2241E-03 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     500.00
  RC13SD  MANE         1.52    454.16    278.92       .55      5.00    453.78    280.00         .55
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1052E+03 EXCESS= .0000E+00 OUTFLOW= .1052E+03 BASIN STORAGE= .2484E-03 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RB16SD  MANE          .90    275.15    256.65       .14      5.00    272.43    260.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3274E+02 EXCESS= .0000E+00 OUTFLOW= .3274E+02 BASIN STORAGE= .2215E-11 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RB16SD  MANE         1.05    272.41    257.78       .14      5.00    270.19    260.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3246E+02 EXCESS= .0000E+00 OUTFLOW= .3246E+02 BASIN STORAGE= .2415E-11 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RB16SD  MANE         1.11    211.70    266.80       .13      5.00    211.22    265.00         .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2953E+02 EXCESS= .0000E+00 OUTFLOW= .2954E+02 BASIN STORAGE= .2118E-11 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RB16SD  MANE         1.15    162.31    268.23       .11      5.00    162.05    270.00         .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2581E+02 EXCESS= .0000E+00 OUTFLOW= .2581E+02 BASIN STORAGE= .2309E-11 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RB16SD  MANE         1.15    103.38    287.53       .09      5.00    102.95    285.00         .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2014E+02 EXCESS= .0000E+00 OUTFLOW= .2014E+02 BASIN STORAGE= .2261E-11 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RB16SD  MANE         1.33     49.99    278.50       .05      5.00     49.97    280.00         .05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1144E+02 EXCESS= .0000E+00 OUTFLOW= .1144E+02 BASIN STORAGE= .2288E-11 PERCENT ERROR=    .0

        FOR STORM = 1  STORM AREA (SQ MI) =        .01
          RB14SD  MANE          .55   3566.50    276.11      1.80      5.00   3544.32    275.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3802E+03 EXCESS= .0000E+00 OUTFLOW= .3803E+03 BASIN STORAGE= .3430E-03 PERCENT ERROR=    .0

        FOR STORM = 2  STORM AREA (SQ MI) =        .50
          RB14SD  MANE          .66   3513.33    276.21      1.79      5.00   3496.23    275.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3766E+03 EXCESS= .0000E+00 OUTFLOW= .3767E+03 BASIN STORAGE= .3475E-03 PERCENT ERROR=    .0

        FOR STORM = 3  STORM AREA (SQ MI) =       2.80
          RB14SD  MANE          .78   2567.36    281.67      1.60      5.00   2563.20    280.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3370E+03 EXCESS= .0000E+00 OUTFLOW= .3370E+03 BASIN STORAGE= .3416E-03 PERCENT ERROR=    .0

        FOR STORM = 4  STORM AREA (SQ MI) =      16.00
          RB14SD  MANE          .76   1935.17    281.75      1.38      5.00   1927.16    280.00        1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2909E+03 EXCESS= .0000E+00 OUTFLOW= .2909E+03 BASIN STORAGE= .3024E-03 PERCENT ERROR=    .0

        FOR STORM = 5  STORM AREA (SQ MI) =      90.00
          RB14SD  MANE          .95   1261.24    286.25      1.07      5.00   1258.82    285.00        1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2256E+03 EXCESS= .0000E+00 OUTFLOW= .2256E+03 BASIN STORAGE= .3296E-03 PERCENT ERROR=    .0

        FOR STORM = 6  STORM AREA (SQ MI) =     500.00
          RB14SD  MANE         1.18    552.69    281.85       .61      5.00    552.35    280.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1282E+03 EXCESS= .0000E+00 OUTFLOW= .1282E+03 BASIN STORAGE= .3038E-03 PERCENT ERROR=    .0


*** NORMAL END OF HEC-1 ***
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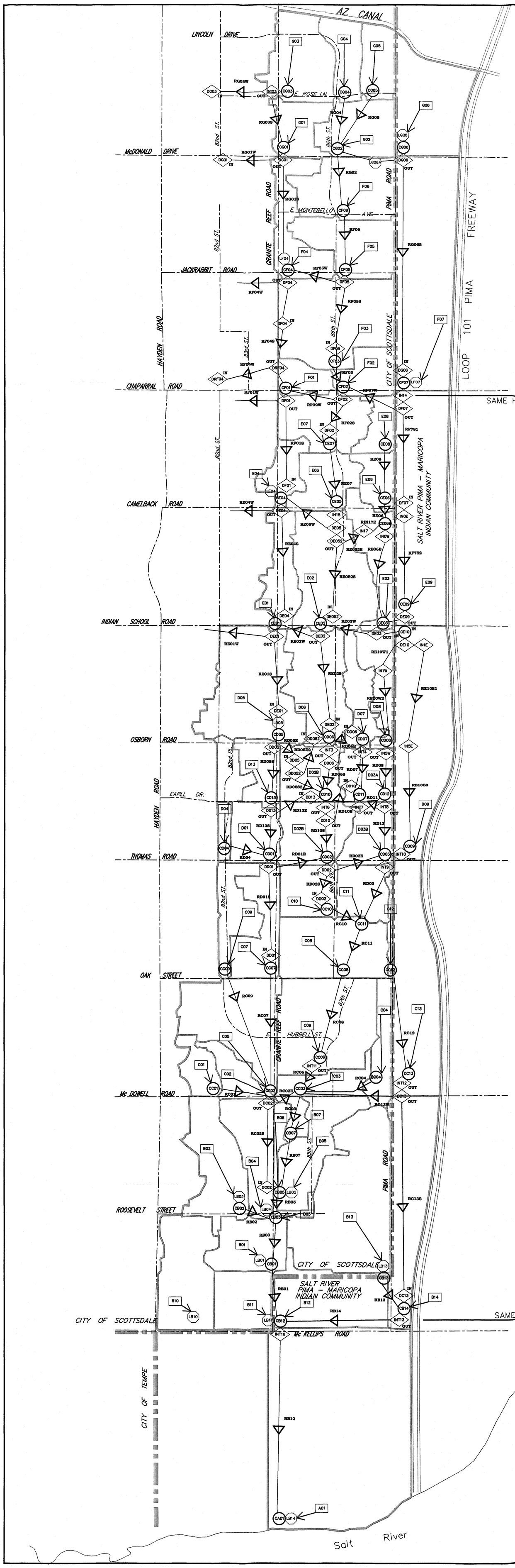
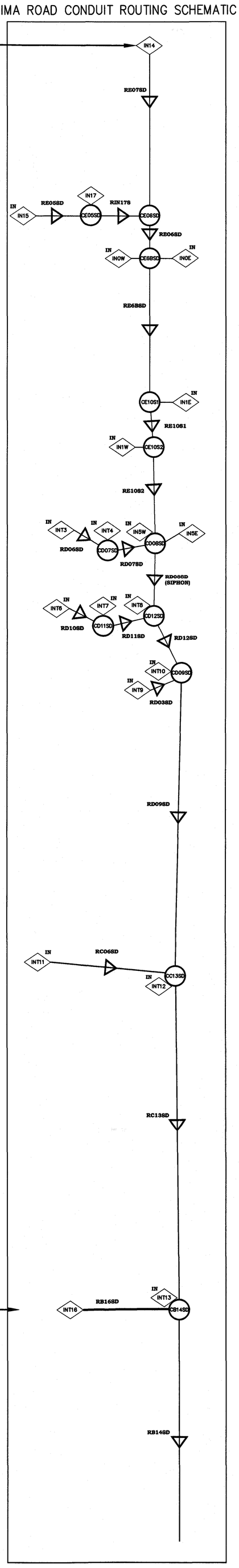


PIMA ROAD CONDUIT ROUTING SCHEMATIC



NOTE: SCHEMATIC SEPARATED OUT FOR CLARITY

LEGEND

- Basin Boundary
- G03 Basin Label
- CG03 Concentration Point
- DG03 OUT Diversion Point
- DG03 IN Diversion Recovery Point
- RG03W Routing Reach
- LE04 Storage Routing
- Roadway Center Line
- Community Boundary
- Watershed Boundary

1,000 0 1,000 2,000

PSOMAS

3800 N. Central Ave., Suite 1200
Phoenix, AZ 85012
Tel (602) 222-8260 Fax (602) 266-0218

Updated: SEB
Date: 1/5/09
Project No. 06077-01

GRANITE REEF WASH DRAINAGE STUDY
AND PRELIMINARY DESIGN PROJECT

CITY OF SCOTTSDALE STORMWATER MANAGEMENT
PROJECT NO. F207

EXHIBIT 3U

HEC-1 SCHEMATIC DRAWING
PIMA ROAD CONDUIT

ORIGINAL DRAWING CREATED BY:

Entellus™

FOR:

GRANITE REEF DRAINAGE MASTER PLAN
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
FCD PROJECT NO. FCD 2000 C 038

B. Hydraulic Analysis

1. **Pima Road Conduit-StormCAD Output**

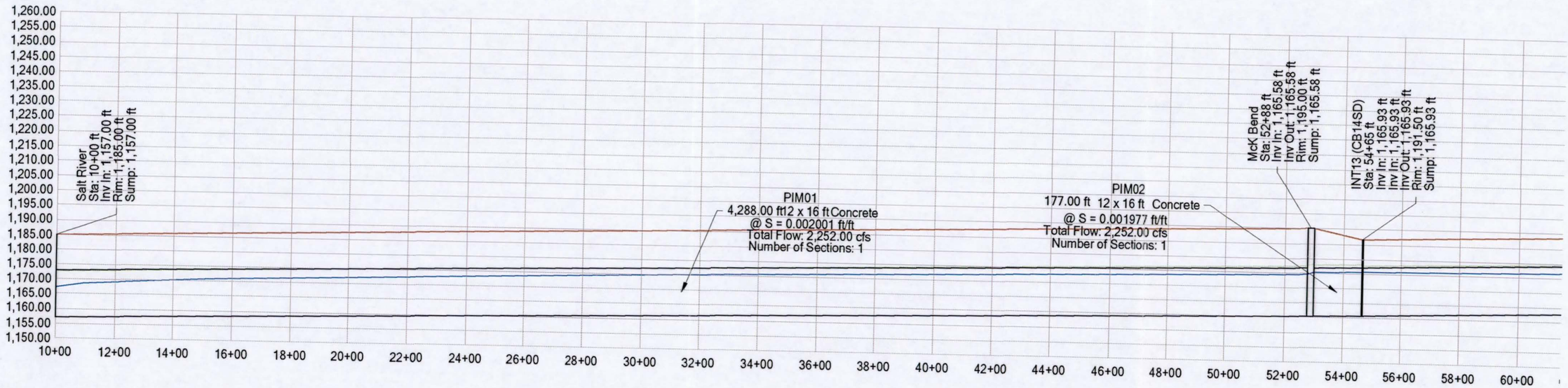
2. **Profiles**
   a. **Pima Road**
   b. **Camelback Road**
   c. **Sells Drive**
   d. **Fairmount Drive**
   e. **Osborn Road**
   f. **Earll Drive**
   g. **Thomas Road**
   h. **McDowell Road**
   i. **McKellips Road**

Scenario: Pima Base
Combined Pipe\ Node Report

Label	Upstream Node	Downstream Node	Length (ft)	Upstream Inlet Area (acres)	Upstream Inlet Rational Coefficient	Upstream Inlet CA (acres)	Upstream Calculated System CA (acres)	Upstream Inlet Rational Flow (cfs)	Section Size	Full Capacity (cfs)	Average Velocity (ft/s)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Constructed Slope (ft/ft)	Description
CAM02	IN15	IN17	605.00	0.00	0.00	0.00	0.00	0.00	84 inch	295.36	7.80	1237.00	1235.50	0.002479	RE05SD 86th Street to 87th Street on Camelback
CAM01	IN17	Camelback/Pima (CE06SD)	500.00	0.00	0.00	0.00	0.00	0.00	84 inch	522.53	12.08	1235.50	1231.62	0.007760	RIN17S 87th Street to Pima Frontage Road on Camelback
PIM14	IN14	Camelback/Pima (CE06SD)	2640.00	0.00	0.00	0.00	0.00	0.00	84 inch	324.89	9.31	1239.54	1231.62	0.003000	RE07SD
OSB04	INT3 Os@86th	INT4 Os@87th	540.00	0.00	0.00	0.00	0.00	0.00	12 x 4 ft	393.77	9.20	1231.30	1229.68	0.003000	RD06SD
SEL01	IN0W	IN0E (CE6BSD)	30.00	0.00	0.00	0.00	0.00	0.00	48 inch	304.14	9.55	1234.06	1232.50	0.052000	No Route in HEC-1 - assume 30-foot length under sound wall.
PIM13	Camelback/Pima (CE06SD)	IN0E (CE6BSD)	620.00	0.00	0.00	0.00	0.00	0.00	96 inch	927.71	6.66	1231.62	1229.76	0.003000	RE06SD Camelback Alignment to Sells Drive Alignment along Pima Road
OSB03	INT4 Os@87th	Os@Alley	560.00	0.00	0.00	0.00	0.00	0.00	12 x 4 ft	501.97	11.72	1229.68	1226.95	0.004875	RD07SD
PIM12	IN0E (CE6BSD)	IN1E (CE10S1)	1990.00	0.00	0.00	0.00	0.00	0.00	96 inch	927.71	8.67	1229.76	1223.79	0.003000	RE6BSD Sells Drive to Indian School Road along Pima Road
OSB02	Os@Alley	IN5W	140.00	N/A	N/A	N/A	0.00	N/A	72 inch	295.40	12.59	1223.75	1222.96	0.005643	P-37
PIM11	IN1E (CE10S1)	Fairmount/Pima (CE10S2)	878.00	0.00	0.00	0.00	0.00	0.00	96 inch	927.01	10.04	1223.79	1221.16	0.002995	RE10S1 Indian School Road to Fairmount Drive along Pima Road
FAR01	IN1W	Fairmount/Pima (CE10S2)	30.00	0.00	0.00	0.00	0.00	0.00	36 inch	82.59	12.87	1230.96	1230.50	0.015333	P-34
EAR04	INT6	INT7	370.00	0.00	0.00	0.00	0.00	0.00	7 x 4 ft	249.47	7.29	1226.70	1225.07	0.004405	RD10SD
OSB01	IN5W	IN5E (CD08SD)	30.00	0.00	0.00	0.00	0.00	0.00	72 inch	366.08	14.75	1222.96	1222.70	0.008667	P-38
PIM10	Fairmount/Pima (CE10S2)	IN5E (CD08SD)	1860.00	0.00	0.00	0.00	0.00	0.00	96 inch	927.71	10.73	1221.16	1215.58	0.003000	RE10S2
EAR03	INT7	J-9	190.00	0.00	0.00	0.00	0.00	0.00	7 x 4 ft	265.78	8.57	1225.07	1224.12	0.005000	RD11SD
PIM09	IN5E (CD08SD)	J-12	440.00	0.00	0.00	0.00	0.00	0.00	96 inch	927.71	13.61	1215.58	1214.26	0.003000	RD08SD
EAR02	J-9	INT8	625.00	N/A	N/A	N/A	0.00	N/A	7 x 4 ft	267.68	11.27	1224.12	1220.95	0.005072	RD11SD
PIM08	J-12	J-8	30.00	N/A	N/A	N/A	0.00	N/A	120 inch	18142.33	67.98	1214.26	1203.79	0.349000	RD08SD (Drop Structure)
McD04	INT11	J-15	65.00	0.00	0.00	0.00	0.00	0.00	84 inch	402.98	10.34	1201.96	1201.66	0.004615	RC06SD
THM02	INT9	Thomas/87th	65.38	0.00	0.00	0.00	0.00	0.00	54 inch	191.61	6.51	1211.72	1211.54	0.002753	RD03SD
EAR01	INT8	Earll@Pima (CD12SD)	30.00	0.00	0.00	0.00	0.00	0.00	7 x 4 ft	265.78	11.19	1220.95	1220.80	0.005000	RD11SD
PIM07	J-8	Earll@Pima (CD12SD)	760.00	N/A	N/A	N/A	0.00	N/A	120 inch	1674.66	8.71	1203.79	1201.53	0.002974	RD08SD
McD03	J-15	J-16	355.00	N/A	N/A	N/A	0.00	N/A	84 inch	396.97	10.34	1201.66	1200.07	0.004479	RC06SD
THM01	Thomas/87th	INT10 (CD09SD)	190.59	N/A	N/A	N/A	0.00	N/A	54 inch	989.40	6.51	1211.54	1197.55	0.073404	RD03SD
PIM06	Earll@Pima (CD12SD)	INT10 (CD09SD)	1338.00	0.00	0.00	0.00	0.00	0.00	120 inch	1674.92	9.98	1201.53	1197.55	0.002975	RD12SD
McD02	J-16	J-17	70.00	N/A	N/A	N/A	0.00	N/A	84 inch	394.74	10.34	1200.07	1199.76	0.004429	RC06SD
PIM05	INT10 (CD09SD)	INT12 (CC13SD)	5265.00	0.00	0.00	0.00	0.00	0.00	120 inch	1674.85	11.06	1197.55	1181.89	0.002974	RD09SD
McD01	J-17	INT12 (CC13SD)	1254.00	N/A	N/A	N/A	0.00	N/A	84 inch	398.16	10.34	1199.76	1194.11	0.004506	RC06SD
PIM04	INT12 (CC13SD)	J-3	2432.63	0.00	0.00	0.00	0.00	0.00	120 inch	1674.22	13.68	1181.89	1174.66	0.002972	RC13SD
McK01	IN16	INT13 (CB14SD)	2655.00	0.00	0.00	0.00	0.00	0.00	7 x 3 ft	376.72	4.76	1181.25	1165.93	0.005770	RB16SD
PIM03	J-3	INT13 (CB14SD)	2935.00	N/A	N/A	N/A	0.00	N/A	12 x 16 ft	2527.05	14.65	1174.66	1165.93	0.002974	RC13SD
PIM02	INT13 (CB14SD)	McK Bend	177.00	0.00	0.00	0.00	0.00	0.00	12 x 16 ft	2218.92	11.73	1165.93	1165.58	0.001977	RB14SD
PIM01	McK Bend	Salt River	4288.00	N/A	N/A	N/A	0.00	N/A	12 x 16 ft	2232.09	11.73	1165.58	1157.00	0.002001	RB14SD

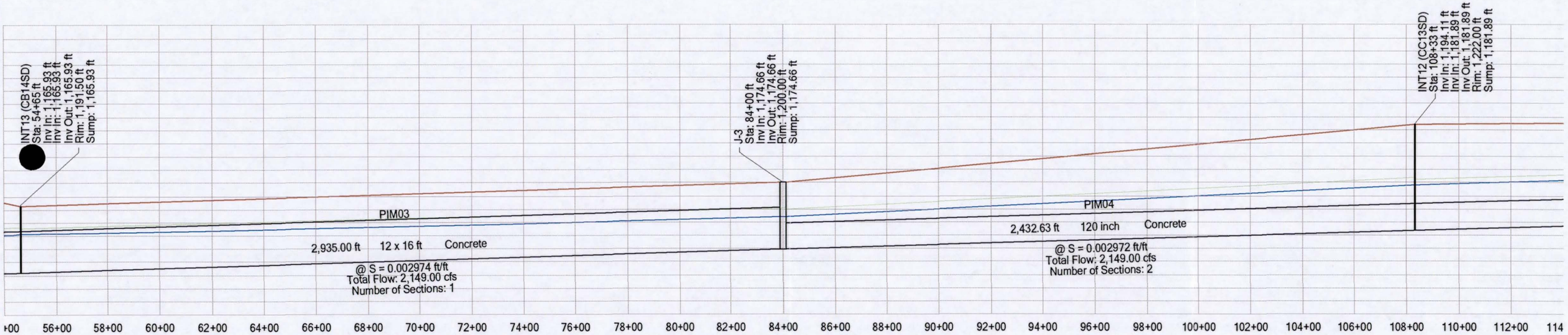
FROM ADDENDUM

Profile
Scenario: Pima Base



pressure flow

Profile
Scenario: Pima Base



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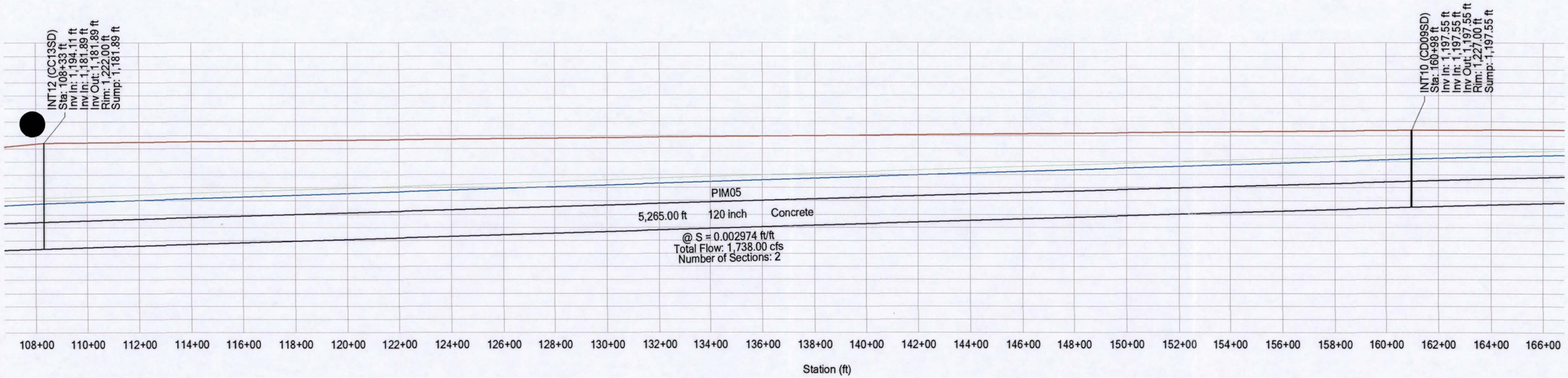
Pima Road Conduit



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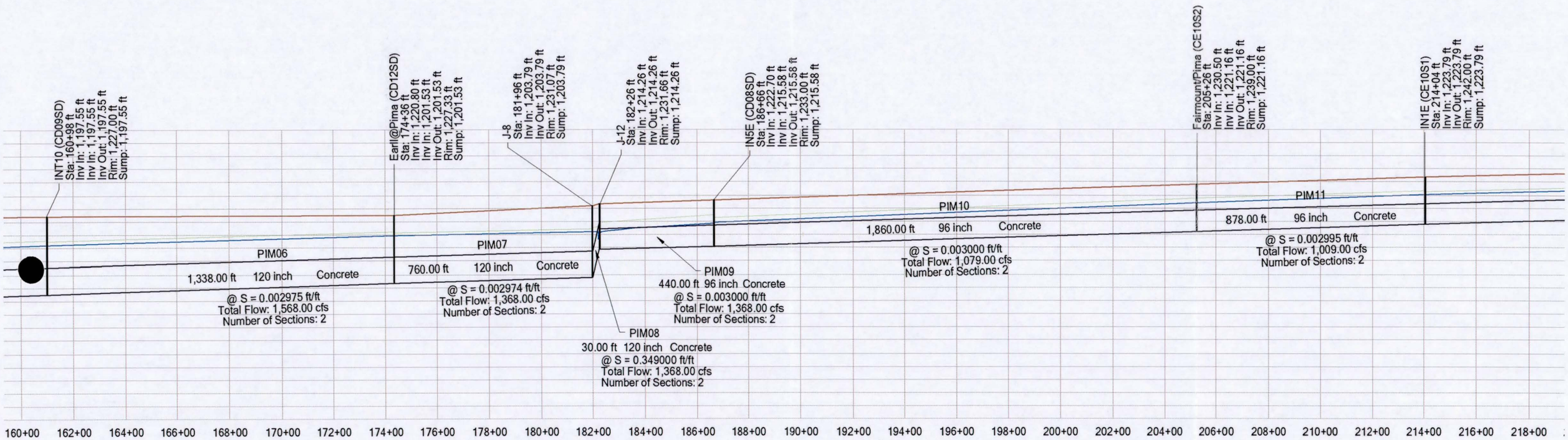
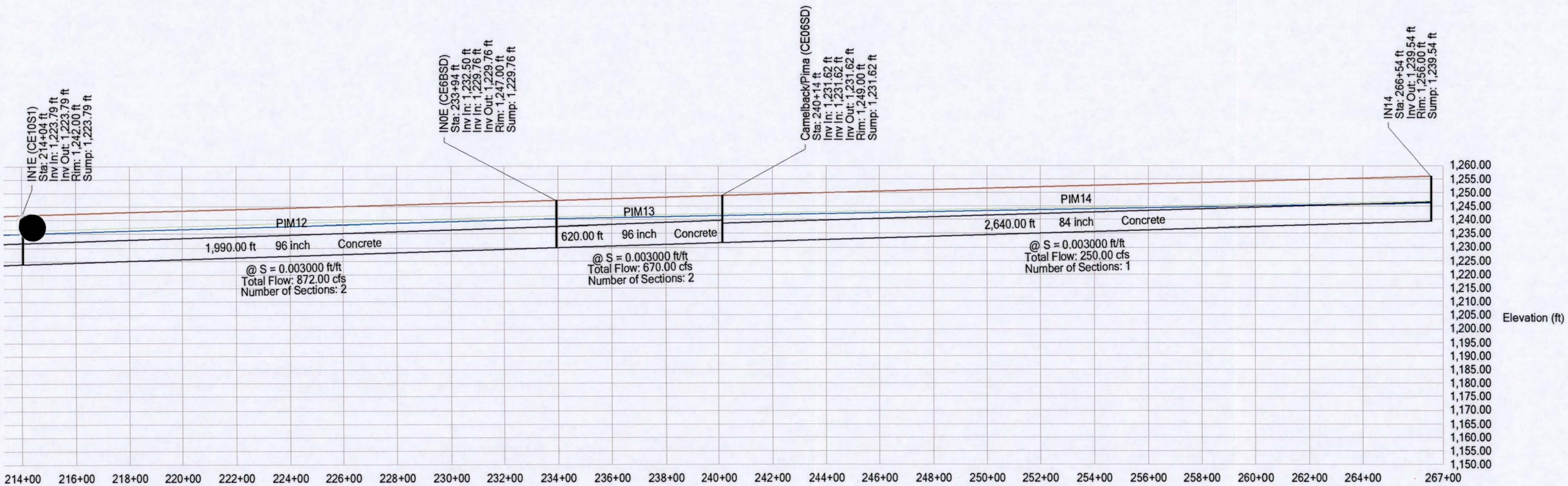
Profile
Scenario: Pima Base



Profile
Scenario: Pima Base



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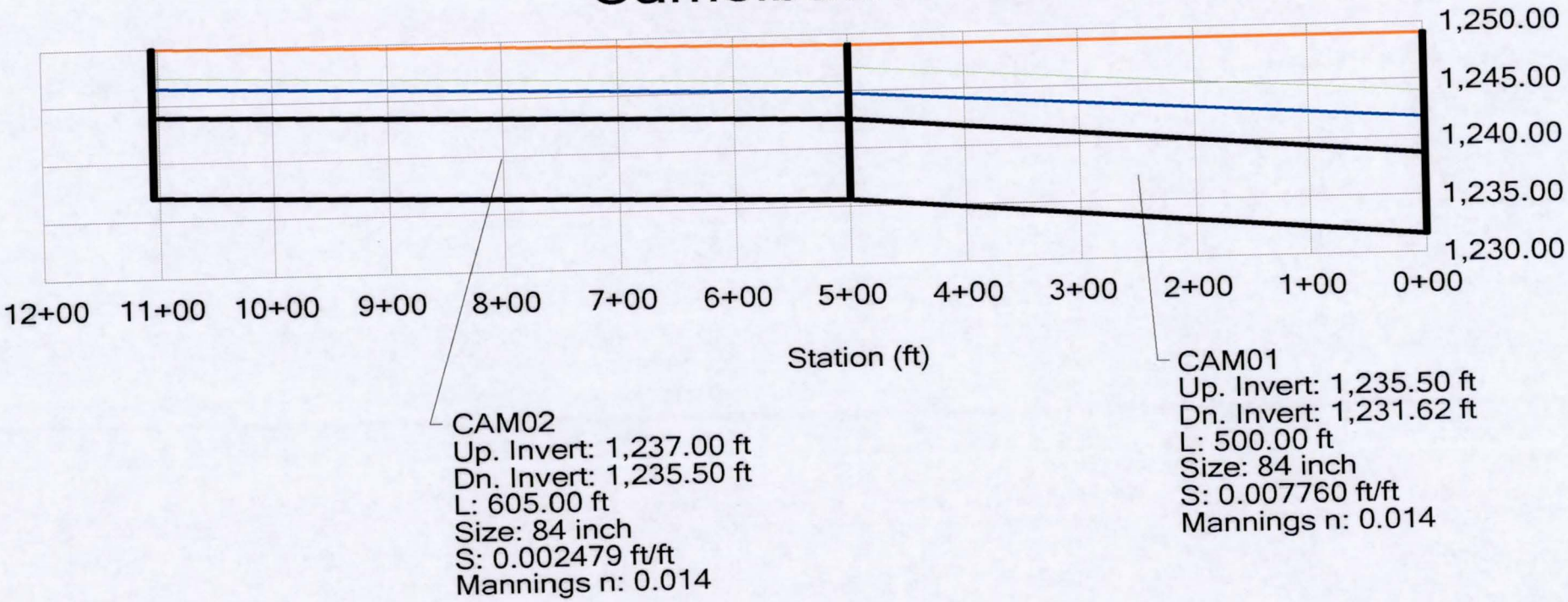
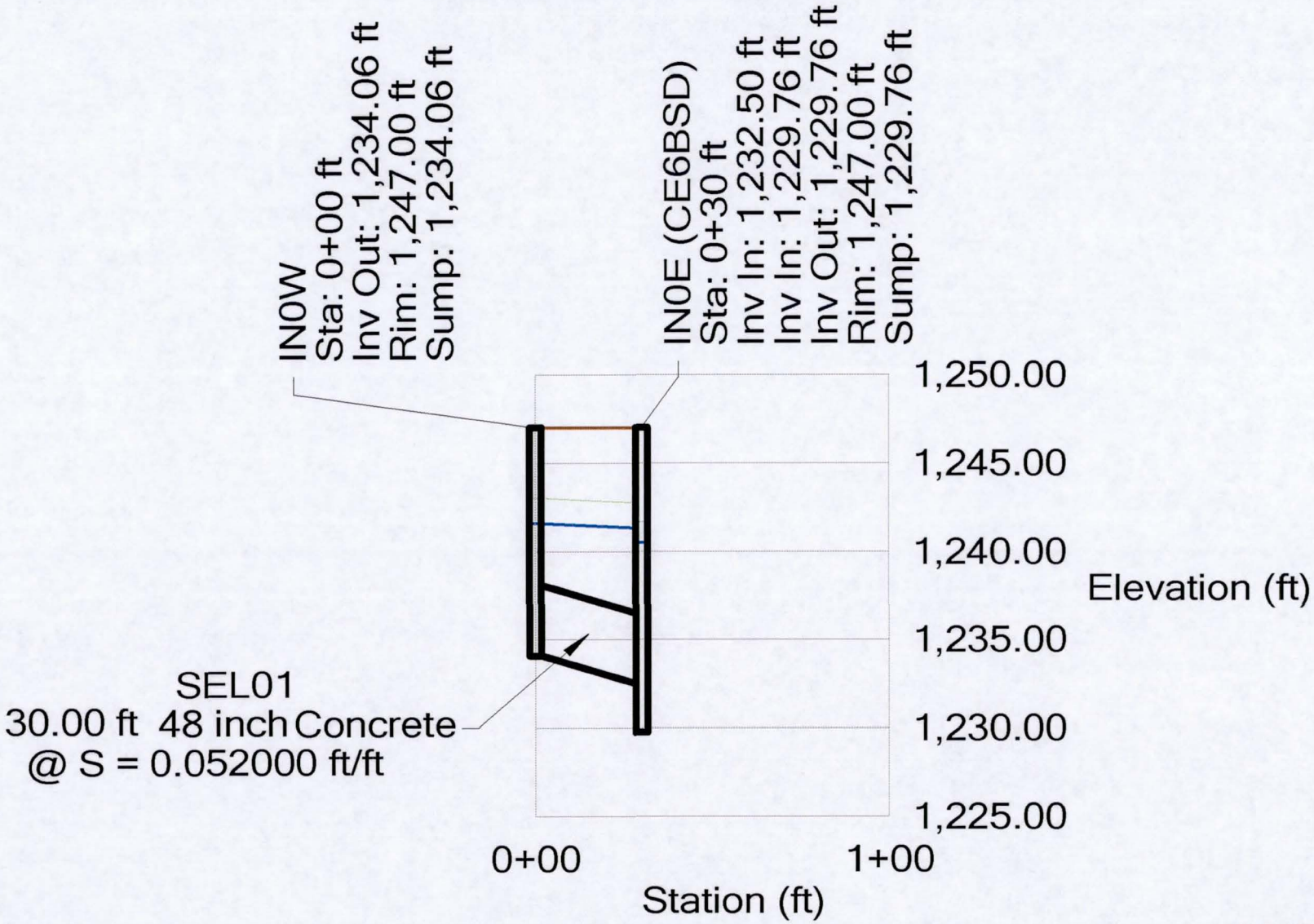
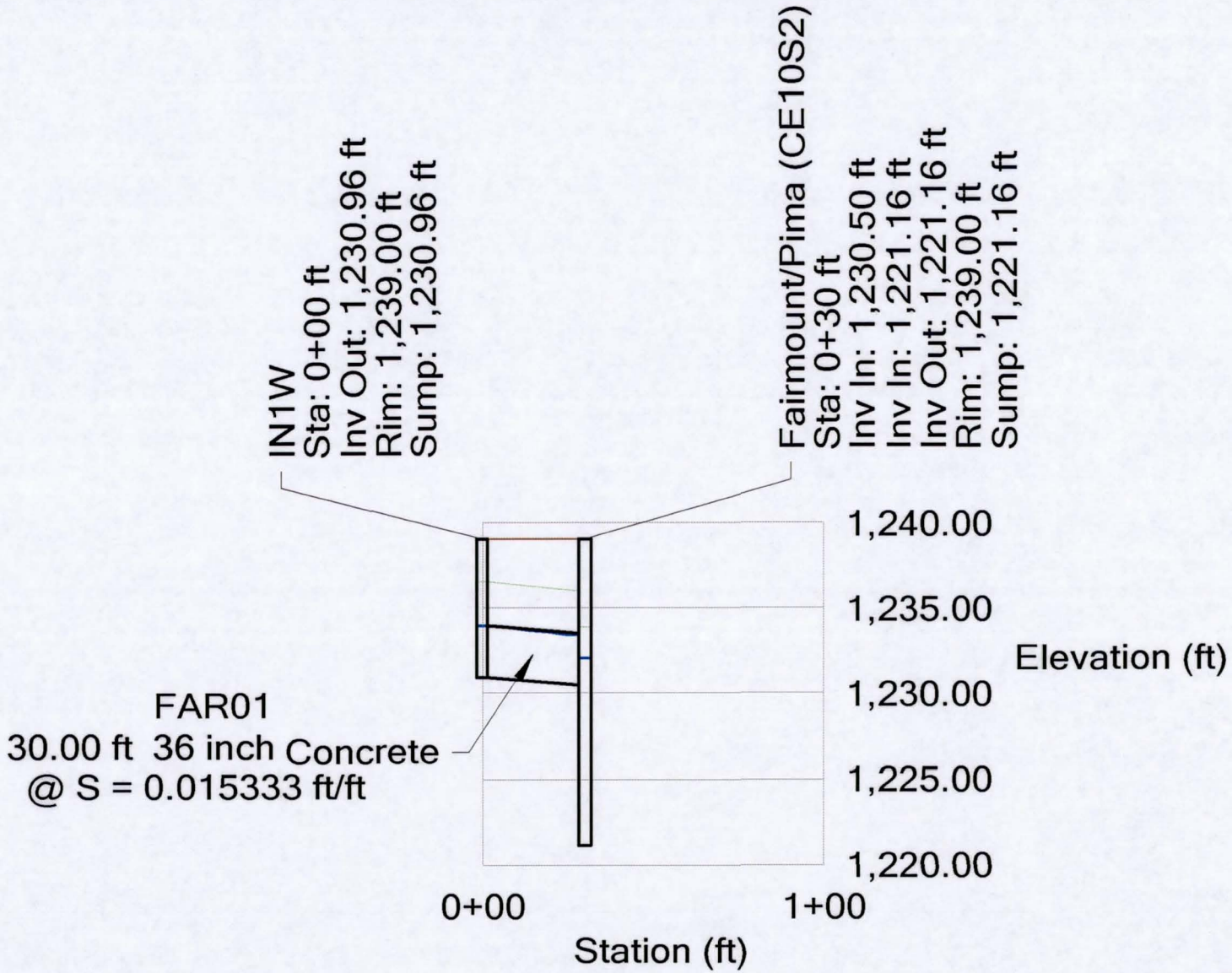
Camelback Road



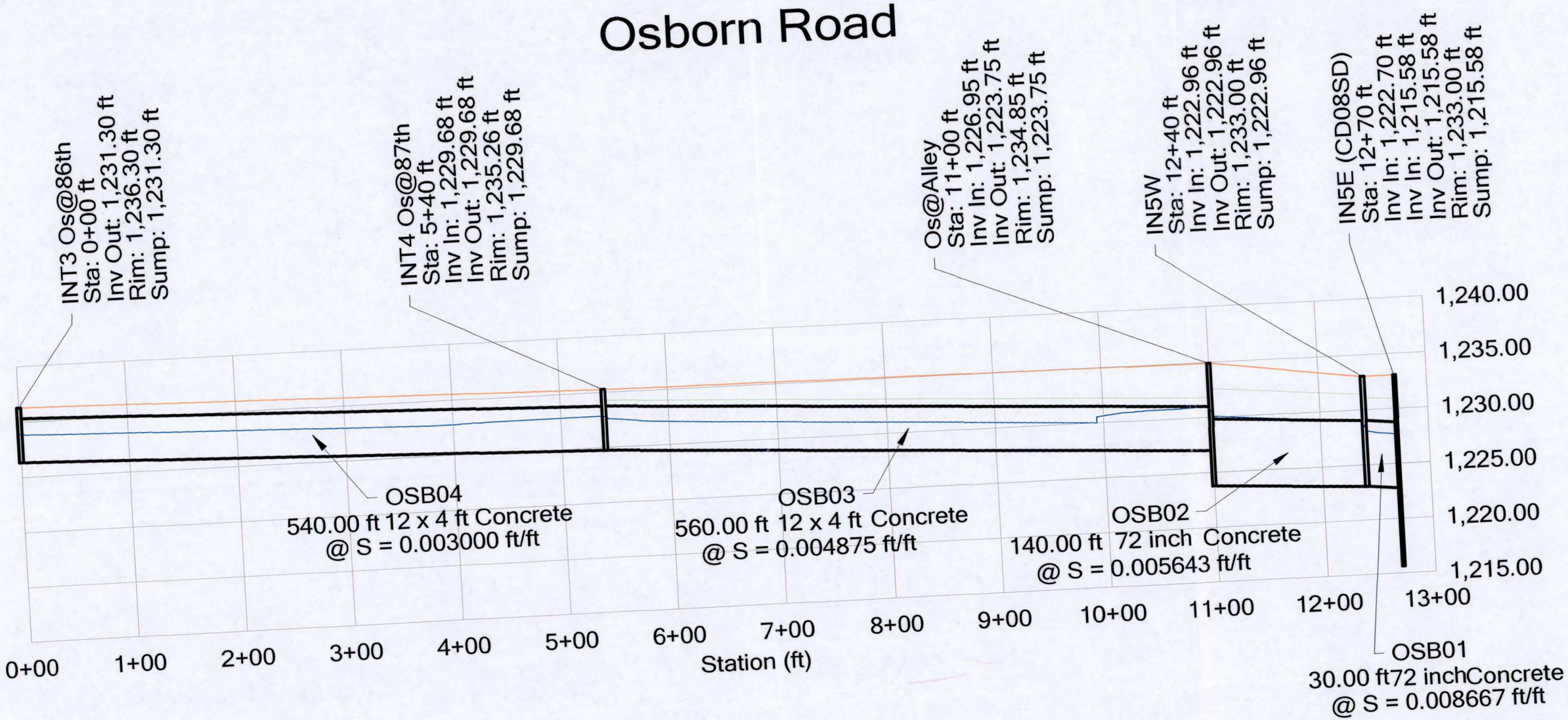
Sells Drive


IN0W
Sta: 0+00 ft
Inv Out: 1,234.06 ft
Rim: 1,247.00 ft
Sump: 1,234.06 ft
IN0E (CE6BSD)
Sta: 0+30 ft
Inv In: 1,232.50 ft
Inv In: 1,229.76 ft
Inv Out: 1,229.76 ft
Rim: 1,247.00 ft
Sump: 1,229.76 ft
SEL01
30.00 ft 48 inch Concrete
@ S = 0.052000 ft/ft
1,250.00
1,245.00
1,240.00
1,235.00
1,230.00
1,225.00
Elevation (ft)
0+00
1+00
Station (ft)

Fairmount Drive



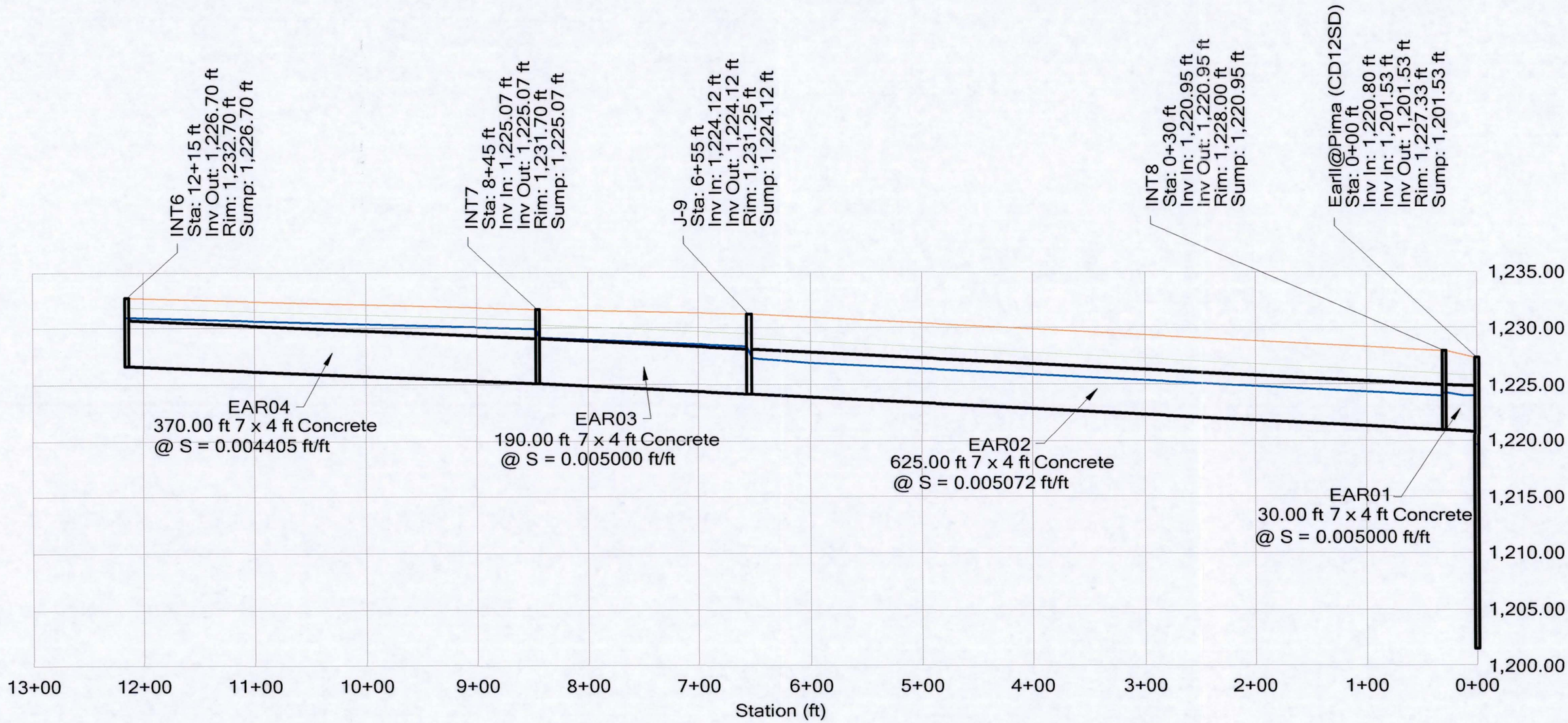
Osborn Road



Project Engineer: jkelley
StormCAD v5.6 [05.06.012.00]
Page 1 of 1

Profile
Scenario: Pima Base

Earll Drive



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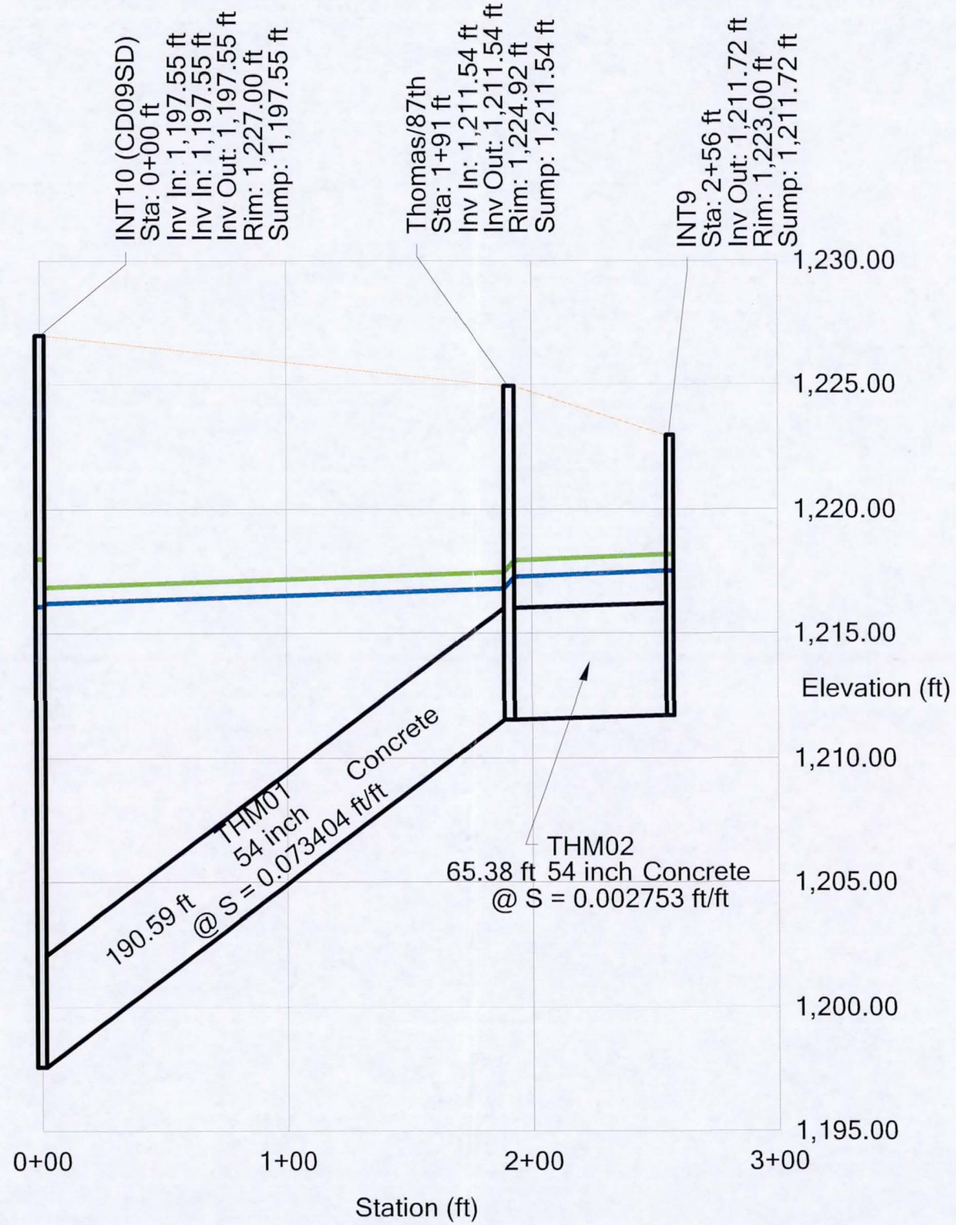
Profile
Scenario: Pima Base

Thomas



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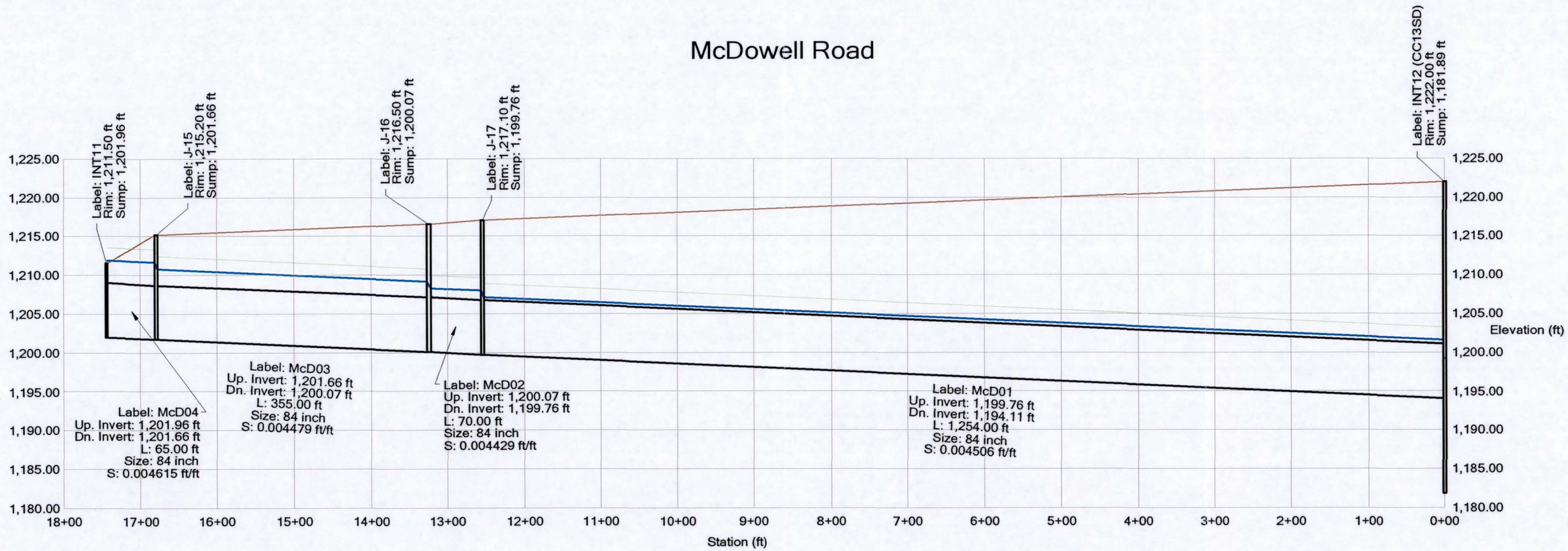
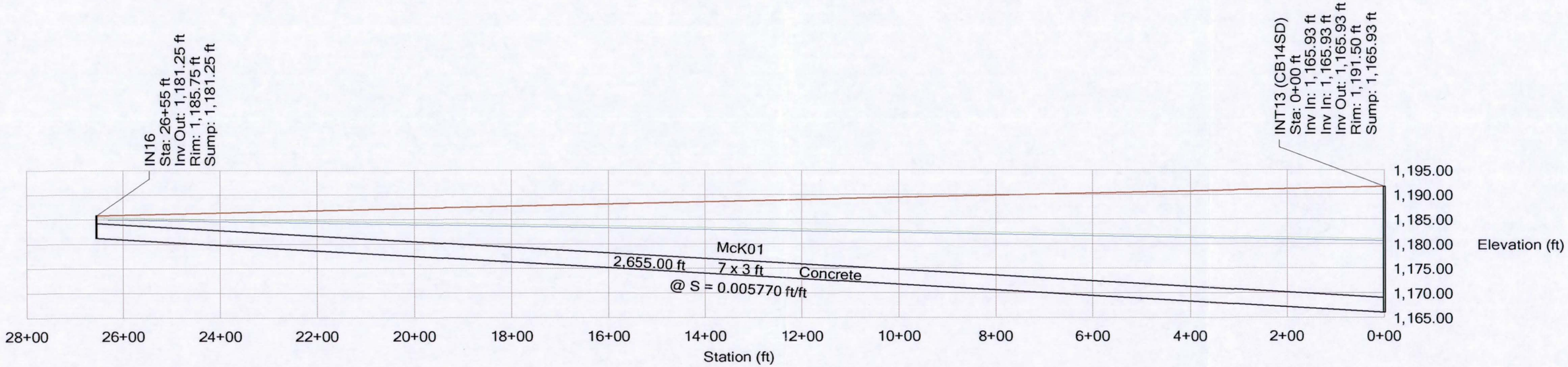
Profile
Scenario: Pima Base



Profile
Scenario: Pima Base

McKellips



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C. Floodplain

1. **HEC-RAS – Existing Conditions**
   a. **Cross Sections**
   b. **Profile (Thomas Road to Chaparral Road)**

2. **HEC-RAS – Future Conditions (no pipe)**
   a. **Cross Sections**
   b. **Profile (Thomas Road to Chaparral Road)**

3. **HEC-RAS – Future Conditions (with pipe)**
   a. **Cross Sections**
   b. **Profile (Thomas Road to Chaparral Road)**

4. **Hydraulic Output Comparison Table (Fut. Conditions Pipe vs. No Pipe)**

HEC-RAS Output

Profile Names:
F1 Base Model - Updated base HEC-1 model (BASE6U.OUT) for this study
PF3 - Pima Road Conduit Model to Chaparral - Pima Road storm drain conduit alternative HEC-1 model (PIMASD6UMC.OUT)

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
5.882	F 1 - Base Model	1	1278.95	1279.64	1279.38	1279.66	0.002479	0.96	1.04	4.44	0.35	
5.882	PF3 - Pima Road	1	1278.95	1279.64	1279.38	1279.66	0.002479	0.96	1.04	4.44	0.35	
5.825	F 1 - Base Model	1	1277.46	1277.89	1277.89	1278	0.020831	2.65	0.38	1.76	1.01	
5.825	PF3 - Pima Road	1	1277.46	1277.89	1277.89	1278	0.020831	2.65	0.38	1.76	1.01	
5.768	F 1 - Base Model	1	1275.04	1276.33	1275.38	1276.33	0.000017	0.16	6.11	9.49	0.04	
5.768	PF3 - Pima Road	1	1275.04	1276.33	1275.38	1276.33	0.000017	0.16	6.11	9.49	0.04	
5.712	F 1 - Base Model	1	1274.22	1276.33		1276.33	0.000001	0.05	21.29	32.39	0.01	
5.712	PF3 - Pima Road	1	1274.22	1276.33		1276.33	0.000001	0.05	21.29	32.39	0.01	
5.655	F 1 - Base Model	96	1272.67	1275.47	1275.31	1275.62	0.007129	3.06	31.22	55.12	0.72	
5.655	PF3 - Pima Road	96	1272.67	1275.47	1275.31	1275.62	0.007129	3.06	31.22	55.12	0.72	
5.598	F 1 - Base Model	96	1272.27	1274.61	1274.25	1274.65	0.001724	1.7	57.47	100.56	0.37	
5.598	PF3 - Pima Road	96	1272.27	1274.61	1274.25	1274.65	0.001724	1.7	57.47	100.56	0.37	
5.541	F 1 - Base Model	96	1271.43	1273.36	1273.18	1273.56	0.011143	3.56	27.03	57.67	0.9	
5.541	PF3 - Pima Road	96	1271.43	1273.36	1273.18	1273.56	0.011143	3.56	27.03	57.67	0.9	
5.484	F 1 - Base Model	96	1270.51	1272.79	1272.28	1272.82	0.00097	1.35	75.02	140.07	0.28	
5.484	PF3 - Pima Road	96	1270.51	1272.79	1272.28	1272.82	0.00097	1.35	75.02	140.07	0.28	
5.427	F 1 - Base Model	191	1270.77	1272.06		1272.21	0.003136	3.18	61.76	122.55	0.74	
5.427	PF3 - Pima Road	191	1270.77	1272.06		1272.21	0.003136	3.18	61.76	122.55	0.74	
5.421	F 1 - Base Model	191	1270.78	1272.1		1272.14	0.000485	1.49	133.4	213.41	0.3	McDonald Drive Centerline
5.421	PF3 - Pima Road	191	1270.78	1272.1		1272.14	0.000485	1.49	133.4	213.41	0.3	
5.411	F 1 - Base Model	127	1270.3	1272.08	1271.54	1272.11	0.000485	1.44	88.09	149.29	0.33	
5.411	PF3 - Pima Road	127	1270.3	1272.08	1271.54	1272.11	0.000485	1.44	88.09	149.29	0.33	
5.371	F 1 - Base Model	127	1269.81	1271.96	1271.26	1272.01	0.000441	1.31	74.7	80.97	0.21	
5.371	PF3 - Pima Road	127	1269.81	1271.96	1271.26	1272.01	0.000441	1.31	74.7	80.97	0.21	
5.314	F 1 - Base Model	127	1269.26	1271.7	1271.43	1271.78	0.001512	1.34	63.9	126.66	0.33	
5.314	PF3 - Pima Road	127	1269.26	1271.7	1271.43	1271.78	0.001512	1.34	63.9	126.66	0.33	
5.257	F 1 - Base Model	127	1269.11	1271.45	1270.98	1271.49	0.000643	1.05	104.02	207.37	0.23	
5.257	PF3 - Pima Road	127	1269.11	1271.45	1270.98	1271.49	0.000643	1.05	104.02	207.37	0.23	

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
5.2	F 1 - Base Model	127	1268.62	1271.15		1271.21	0.001335	1.29	74.04	122.81	0.32	
5.2	PF3 - Pima Road	127	1268.62	1271.15		1271.21	0.001335	1.29	74.04	122.81	0.32	
5.143	F 1 - Base Model	127	1268.64	1270.66		1270.75	0.001762	2.22	52.48	60.05	0.4	
5.143	PF3 - Pima Road	127	1268.64	1270.66		1270.75	0.001762	2.22	52.48	60.05	0.4	
5.087	F 1 - Base Model	127	1268.53	1269.95		1270.09	0.00288	2.22	44.56	58.29	0.48	
5.087	PF3 - Pima Road	127	1268.53	1269.95		1270.09	0.00288	2.22	44.56	58.29	0.48	
5.03	F 1 - Base Model	127	1267.49	1269.31	1268.95	1269.4	0.001786	1.89	53.9	65.18	0.39	
5.03	PF3 - Pima Road	127	1267.49	1269.31	1268.95	1269.4	0.001786	1.89	53.9	65.18	0.39	
4.973	F 1 - Base Model	127	1266.35	1268.04	1268.04	1268.31	0.010406	3.95	30.43	56.29	0.9	
4.973	PF3 - Pima Road	127	1266.35	1268.04	1268.04	1268.31	0.010406	3.95	30.43	56.29	0.9	
4.916	F 1 - Base Model	231	1264.92	1267.28	1266.84	1267.34	0.001563	1.94	120.73	191.43	0.37	
4.916	PF3 - Pima Road	231	1264.92	1267.28	1266.84	1267.34	0.001563	1.94	120.73	191.43	0.37	
4.859	F 1 - Base Model	231	1263.56	1266.52		1266.66	0.00346	2.33	95.08	220.38	0.52	
4.859	PF3 - Pima Road	231	1263.56	1266.52		1266.66	0.00346	2.33	95.08	220.38	0.52	
4.803	F 1 - Base Model	231	1262.61	1265.68		1265.78	0.002504	2.63	110.35	236.41	0.47	
4.803	PF3 - Pima Road	231	1262.61	1265.68		1265.78	0.002504	2.63	110.35	236.41	0.47	
4.746	F 1 - Base Model	231	1262.3	1265.07		1265.16	0.001702	2.29	119.63	240.74	0.4	
4.746	PF3 - Pima Road	231	1262.3	1265.07		1265.16	0.001702	2.29	119.63	240.74	0.4	
4.689	F 1 - Base Model	231	1261.77	1263.9	1263.9	1264.24	0.00653	3.84	52.6	98.57	0.75	
4.689	PF3 - Pima Road	231	1261.77	1263.9	1263.9	1264.24	0.00653	3.84	52.6	98.57	0.75	
4.632	F 1 - Base Model	231	1259.45	1262.47	1262.17	1262.63	0.002994	3.15	77.98	101.1	0.53	
4.632	PF3 - Pima Road	231	1259.45	1262.47	1262.17	1262.63	0.002994	3.15	77.98	101.1	0.53	
4.575	F 1 - Base Model	231	1258.16	1261.09	1261.04	1261.33	0.006671	4.24	60.8	98.16	0.77	
4.575	PF3 - Pima Road	231	1258.16	1261.09	1261.04	1261.33	0.006671	4.24	60.8	98.16	0.77	
4.518	F 1 - Base Model	231	1256.57	1259.86		1260.07	0.00283	3.41	67.01	101.04	0.5	
4.518	PF3 - Pima Road	231	1256.57	1259.86		1260.07	0.00283	3.41	67.01	101.04	0.5	
4.462	F 1 - Base Model	231	1256	1258.43	1258.43	1258.81	0.006585	4.51	46.68	63.2	0.72	
4.462	PF3 - Pima Road	231	1256	1258.43	1258.43	1258.81	0.006585	4.51	46.68	63.2	0.72	
4.427	F 1 - Base Model	462	1256.63	1257.62	1257.65	1257.82	0.00456	2.63	148.58	425.79	0.6	
4.427	PF3 - Pima Road	462	1256.63	1257.62	1257.65	1257.82	0.00456	2.63	148.58	425.79	0.6	
4.422	F 1 - Base Model	462	1256.43	1257.64	1256.99	1257.67	0.00025	1.34	380.12	518.56	0.23	Chaparral Road Centerline
4.422	PF3 - Pima Road	462	1256.43	1256.8	1256.99	1257.47	0.033493	6.31	70.23	244.17	2.14	

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
4.415	F 1 - Base Model	404	1256.2	1257.61		1257.65	0.000785	1.67	241.45	390.23	0.38	
4.415	PF3 - Pima Road	1	1256.2	1255.89	1255.78	1255.89	0.00049		1.78	10.29	0	
4.393	F 1 - Base Model	404	1256.16	1257.26		1257.47	0.003417	3.13	113.88	153.65	0.56	
4.393	PF3 - Pima Road	1	1256.16	1255.68	1255.68	1255.74	0.008252		0.52	3.87	0	
4.348	F 1 - Base Model	404	1255.6	1256.51		1256.69	0.003115	2.15	144.97	288.74	0.49	
4.348	PF3 - Pima Road	1	1255.6	1254.83	1254.67	1254.84	0.001066		1.21	5.06	0	
4.291	F 1 - Base Model	404	1254.87	1255.88		1255.96	0.001785	2.01	192.64	344.81	0.4	
4.291	PF3 - Pima Road	1	1254.87	1254.6		1254.61	0.000634		1.28	3.5	0	
4.234	F 1 - Base Model	404	1254.13	1255.1		1255.21	0.003694	2.98	168.69	328.38	0.57	
4.234	PF3 - Pima Road	1	1254.13	1254.18		1254.18	0.005482	0.34	1.61	28.63	0.38	
4.177	F 1 - Base Model	404	1253.39	1254.44		1254.48	0.001645	2.23	274.82	518.81	0.39	
4.177	PF3 - Pima Road	1	1253.39	1253.49	1253.46	1253.49	0.001252	0.27	2.78	49.82	0.21	
4.12	F 1 - Base Model	404	1252.68	1253.72		1253.82	0.003147	3.01	187.52	354.01	0.54	
4.12	PF3 - Pima Road	1	1252.68	1252.77	1252.76	1252.78	0.006293	0.55	1.46	29.95	0.46	
4.063	F 1 - Base Model	404	1251.72	1252.76	1252.56	1252.86	0.003279	3.08	185.68	348.88	0.55	
4.063	PF3 - Pima Road	1	1251.72	1251.83	1251.79	1251.84	0.001886	0.35	2.4	38.51	0.26	
4.007	F 1 - Base Model	404	1250.97	1252.09	1251.8	1252.16	0.00168	2.33	231.32	386.06	0.4	
4.007	PF3 - Pima Road	1	1250.97	1250.55	1250.55	1250.61	0.014682		0.5	3.74	0	
3.95	F 1 - Base Model	404	1250.43	1251.89	1251.26	1251.91	0.000457	1.46	381.4	491.74	0.22	
3.95	PF3 - Pima Road	1	1250.43	1250.13	1249.87	1250.14	0.000537		1.61	5.87	0	
3.893	F 1 - Base Model	404	1250.21	1251.79	1251.02	1251.81	0.000274	1.19	454.94	534.48	0.17	
3.893	PF3 - Pima Road	1	1250.21	1250.03	1249.75	1250.04	0.000213		2.6	10.38	0	
3.836	F 1 - Base Model	500	1250.15	1251.65	1251.03	1251.69	0.000515	1.58	418.03	512.18	0.23	Camelback Road Centerline
3.836	PF3 - Pima Road	1	1250.15	1249.98	1249.65	1249.99	0.000147		2.94	11.94	0	
3.779	F 1 - Base Model	500	1250.08	1251.44	1250.98	1251.49	0.000855	1.9	341.99	462.89	0.3	
3.779	PF3 - Pima Road	1	1250.08	1249.89	1249.71	1249.9	0.000839		1.5	7.8	0	
3.723	F 1 - Base Model	500	1249.88	1250.97	1250.78	1251.1	0.002103	2.53	233.04	379.96	0.45	
3.723	PF3 - Pima Road	1	1249.88	1249.51	1249.4	1249.52	0.001964		1.11	6.37	0	
3.666	F 1 - Base Model	500	1249.07	1249.99	1249.99	1250.26	0.003797	2.96	168.19	305.76	0.58	
3.666	PF3 - Pima Road	1	1249.07	1248.15	1248.15	1248.23	0.015474		0.43	2.58	0	
3.609	F 1 - Base Model	500	1247.87	1248.9	1248.78	1249.07	0.003305	3.1	199.29	341.59	0.55	
3.609	PF3 - Pima Road	1	1247.87	1247.4	1247.28	1247.41	0.000981		1.45	7.56	0	

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
3.552	F 1 - Base Model	500	1247.04	1248.19	1247.93	1248.29	0.002008	2.6	253.52	396.84	0.44	
3.552	PF3 - Pima Road	1	1247.04	1246.58	1246.58	1246.62	0.018242		0.6	7.61	0	
3.495	F 1 - Base Model	500	1246.43	1247.66	1247.33	1247.74	0.001675	2.45	273.07	408.73	0.41	
3.495	PF3 - Pima Road	1	1246.43	1245.35	1245.18	1245.37	0.001605		0.94	3.6	0	
3.438	F 1 - Base Model	500	1245.81	1246.77		1246.98	0.003995	3.12	182.86	326.52	0.6	
3.438	PF3 - Pima Road	1	1245.81	1244.29	1244.29	1244.35	0.010935		0.51	3.45	0	
3.382	F 1 - Base Model	500	1244.82	1246.11	1245.74	1246.18	0.001734	2.56	274.48	399.24	0.42	
3.382	PF3 - Pima Road	1	1244.82	1244.21	1243.7	1244.21	0.000096		2.43	4.09	0	
3.325	F 1 - Base Model	500	1244.05	1244.99	1244.99	1245.25	0.006607	4.08	157.43	312.79	0.77	
3.325	PF3 - Pima Road	1	1244.05	1244.12	1244.09	1244.13	0.002439	0.3	1.8	35.71	0.28	
3.268	F 1 - Base Model	596	1243.08	1244.66	1243.96	1244.72	0.000492	1.53	416.17	471.29	0.23	
3.268	PF3 - Pima Road	1	1243.08	1242.73	1242.73	1242.77	0.011233		0.65	8.6	0	
3.261	F 1 - Base Model	1000	1242.03	1244.66		1244.7	0.000172	1.72	707.35	600.6	0.21	
3.261	PF3 - Pima Road	1	1242.03	1242.47	1242.18	1242.47	0.000003	0.05	21.78	133.07	0.02	
3.254	F 1 - Base Model	1000	1242.4	1244.65		1244.69	0.000175	1.77	724.33	612.49	0.22	Indian School Road Centerline
3.254	PF3 - Pima Road	1	1242.4	1242.46	1242.46	1242.47	0.007426	0.71	1.4	43.9	0.71	
3.248	F 1 - Base Model	1000	1241.85	1244.65		1244.68	0.000099	1.44	859.29	632.43	0.17	
3.248	PF3 - Pima Road	1	1241.85	1242.38	1241.52	1242.38	0	0.01	60	147.18	0	
3.228	F 1 - Base Model	1000	1242.66	1244.47		1244.65	0.001468	3.08	377.09	396.16	0.41	
3.228	PF3 - Pima Road	1	1242.66	1242.36		1242.38	0.002455		1.19	10.22	0	
3.209	F 1 - Base Model	1000	1242.24	1244.01	1244.01	1244.49	0.003786	4.72	240.82	295.97	0.65	Flow Change (partial interception
3.209	PF3 - Pima Road	1	1242.24	1242.21		1242.23	0.00366		1.07	10.58	0	to Pima frontage
3.194	F 1 - Base Model	615	1241.73	1242.97	1243.22	1243.85	0.019777	10.13	95.59	255.47	1.81	
3.194	PF3 - Pima Road	1	1241.73	1241.97		1241.98	0.002773	0.86	1.16	9.83	0.44	
3.178	F 1 - Base Model	615	1242.05	1242.91	1242.8	1243.12	0.003957	3.07	201.79	323.23	0.59	
3.178	PF3 - Pima Road	1	1242.05	1241.73	1241.68	1241.75	0.003368		0.9	7.92	0	
3.152	F 1 - Base Model	615	1241.17	1242.47		1242.58	0.002449	2.97	266.01	360.68	0.49	
3.152	PF3 - Pima Road	1	1241.17	1241.29		1241.29	0.002304	0.41	2.55	41.38	0.29	
3.099	F 1 - Base Model	615	1240.44	1241.9		1242	0.001726	2.76	290.28	374.14	0.42	
3.099	PF3 - Pima Road	1	1240.44	1240.57		1240.58	0.002909	0.48	2.05	31.58	0.33	
3.095	F 1 - Base Model	636	1240.38	1241.84		1241.96	0.002203	3.14	272.38	362.84	0.48	Fairmount Avenue
3.095	PF3 - Pima Road	1	1240.38	1240.52	1240.47	1240.52	0.00304	0.51	1.89	27.74	0.34	

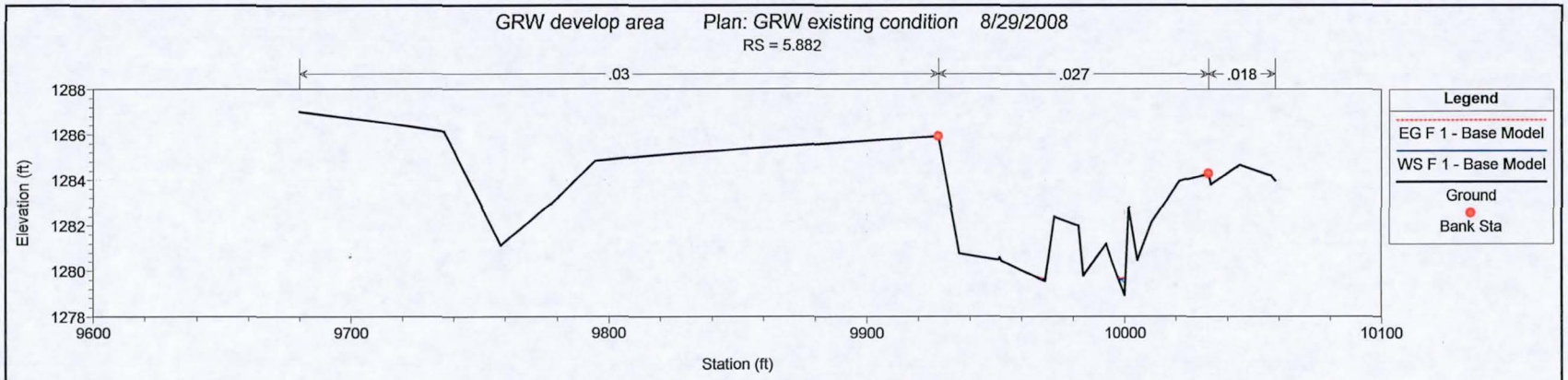
River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
3.038	F 1 - Base Model	636	1239.86	1241.22		1241.32	0.00204	2.97	297.32	401.52	0.46	just south of Fairmount/Pima Frontage
3.038	PF3 - Pima Road	1	1239.86	1239.99		1239.99	0.00117	0.33	3.02	46.35	0.22	
2.981	F 1 - Base Model	647	1239.19	1240.24		1240.42	0.004669	3.82	222.96	363.29	0.67	Olive Ave.
2.981	PF3 - Pima Road	1	1239.19	1239.06	1239.06	1239.08	0.020563		0.8	12.77	0	
2.925	F 1 - Base Model	647	1237.92	1239.43	1239.02	1239.51	0.002019	3.19	314.16	405.55	0.46	
2.925	PF3 - Pima Road	1	1237.92	1238.1	1238.01	1238.1	0.000529	0.34	3.77	44.54	0.16	
2.858	F 1 - Base Model	647	1237.54	1238.73	1238.41	1238.83	0.002461	3.04	290.42	415.38	0.49	
2.858	PF3 - Pima Road	1	1237.54	1237.57	1237.57	1237.59	0.041254	0.72	1.1	45.08	0.99	
2.811	F 1 - Base Model	647	1236.7	1237.76	1237.6	1237.93	0.003758	3.49	234.44	356.31	0.6	
2.811	PF3 - Pima Road	1	1236.7	1235.7	1235.12	1235.71	0.000351		1.7	3.17	0	
2.754	F 1 - Base Model	647	1235.37	1236.74	1236.48	1236.83	0.003434	3.94	272.43	405.71	0.6	
2.754	PF3 - Pima Road	1	1235.37	1235.51	1235.46	1235.52	0.001482	0.53	2.56	35.19	0.26	
2.738	F 1 - Base Model	647	1235.2	1236.22	1236.15	1236.38	0.008669	5.16	211.77	423.99	0.9	
2.738	PF3 - Pima Road	1	1235.2	1235.3	1235.27	1235.3	0.005016	0.77	1.76	34.4	0.46	
2.706	F 1 - Base Model	647	1233.97	1235.34	1235.09	1235.44	0.003969	4.23	266.99	427.65	0.64	
2.706	PF3 - Pima Road	1	1233.97	1234.06	1234.05	1234.08	0.011892	1.07	1.16	24.77	0.69	
2.697	F 1 - Base Model	679	1233.66	1235.19	1234.85	1235.27	0.002953	3.93	304.37	446.76	0.56	Mulberry Street
2.697	PF3 - Pima Road	1	1233.66	1233.79	1233.74	1233.79	0.003689	0.73	1.79	29.62	0.4	
2.646	F 1 - Base Model	679	1232.75	1234.47	1234.06	1234.56	0.002114	3.06	309.14	378.84	0.43	
2.646	PF3 - Pima Road	1	1232.75	1232.9	1232.84	1232.9	0.002824	0.47	2.15	28.82	0.3	
2.615	F 1 - Base Model	679	1232.32	1233.97		1234.08	0.003115	4.24	273.92	362.2	0.59	
2.615	PF3 - Pima Road	1	1232.32	1232.47		1232.48	0.002209	0.65	1.94	25.02	0.32	
2.584	F 1 - Base Model	679	1231.68	1233.34		1233.46	0.003309	4.37	256.23	323.75	0.6	
2.584	PF3 - Pima Road	1	1231.68	1231.8		1231.82	0.008353	1	1.12	18	0.59	
2.567	F 1 - Base Model	679	1231.39	1232.95		1233.1	0.004185	4.73	231.16	303.08	0.67	
2.567	PF3 - Pima Road	1	1231.39	1231.57	1231.49	1231.57	0.001412	0.57	2.25	25.47	0.26	
2.523	F 1 - Base Model	679	1230.64	1232.4		1232.48	0.001502	2.76	312.99	308.27	0.37	
2.523	PF3 - Pima Road	1	1230.64	1230.66	1230.66	1230.69	0.023721	0.4	0.84	15.86	0.65	
2.49	F 1 - Base Model	711	1230.39	1232.36		1232.39	0.000178	1.13	568.91	303.6	0.14	
2.49	PF3 - Pima Road	1	1230.39	1229.32	1228.06	1229.32	0		37.47	34.45	0	
2.46	F 1 - Base Model	1483	1229.99	1232.2		1232.31	0.000592	2.11	689.54	461.53	0.26	South of Earll Drive
2.46	PF3 - Pima Road	1	1229.99	1229.32		1229.32	0.000001		28.82	43.83	0	(Pima Sound Wall Ends - Flows Combine)

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
2.452	F 1 - Base Model	1483	1229.36	1231.38	1231.38	1231.93	0.005747	5.19	304.72	288.6	0.71	
2.452	PF3 - Pima Road	1	1229.36	1229.27	1229.25	1229.31	0.006827		0.64	5.74	0	
2.398	F 1 - Base Model	1483	1228.86	1230.48	1230.19	1230.84	0.002805	3.49	352.69	293.91	0.54	
2.398	PF3 - Pima Road	1	1228.86	1228.24	1228.2	1228.25	0.006421		1.25	18.17	0	
2.355	F 1 - Base Model	1483	1225.62	1229.82		1230.28	0.002709	5.82	303.3	200.92	0.58	
2.355	PF3 - Pima Road	1	1225.62	1226.01	1226.01	1226.11	0.019805	2.51	0.4	2.02	0.99	
2.295	F 1 - Base Model	1483	1223.28	1228.17	1228.17	1228.78	0.00851	6.74	236.73	202.42	0.92	
2.295	PF3 - Pima Road	1	1223.28	1225.94	1223.7	1225.94	0.000001	0.07	15.36	11.46	0.01	
2.218	F 1 - Base Model	1571	1223.7	1226.79	1225.72	1226.95	0.000619	4.13	745.09	423.27	0.42	Thomas Rd & 87th St
2.218	PF3 - Pima Road	207	1223.7	1224.41	1224.41	1224.66	0.005607	4.28	60.72	133.3	0.99	
2.208	F 1 - Base Model	1571	1222.5	1226.53		1226.89	0.000966	6.23	525.84	290.21	0.56	
2.208	PF3 - Pima Road	1	1222.5	1222.55	1222.64	1224.22	2.11129	10.36	0.1	3.8	11.46	
2.192	F 1 - Base Model	1571	1221.4	1226.6		1226.79	0.00041	4.65	875.28	430.01	0.38	
2.192	PF3 - Pima Road	1	1221.4	1221.67	1221.57	1221.68	0.001054	0.7	1.43	10.64	0.34	
2.168	F 1 - Base Model	1571	1221.3	1226.59		1226.73	0.000306	4.16	1028.6	406.69	0.33	
2.168	PF3 - Pima Road	1	1221.3	1221.53	1221.43	1221.53	0.00116	0.72	1.38	10.62	0.35	
2.128	F 1 - Base Model	1571	1220.75	1225.25	1225.25	1226.48	0.002374	10.76	329.72	202	0.91	
2.128	PF3 - Pima Road	1	1220.75	1220.87	1220.87	1220.91	0.018723	1.68	0.59	10.3	1.24	
2.044	F 1 - Base Model	1571	1220.2	1224.23	1224.41	1225.38	0.002479	9.54	331.95	274.85	0.89	
2.044	PF3 - Pima Road	1	1220.2	1220.69	1220.38	1220.69	0.000045	0.22	4.6	18.81	0.08	
1.961	F 1 - Base Model	1640	1218.9	1223.94	1222.19	1224.43	0.000739	6.5	480.33	173.57	0.52	
1.961	PF3 - Pima Road	136	1218.9	1220.47		1220.53	0.000375	2.06	97.35	79	0.3	
1.925	F 1 - Base Model	1640	1218.7	1222.93		1224.13	0.002279	9.56	286.55	137.93	0.87	
1.925	PF3 - Pima Road	136	1218.7	1220.22	1219.85	1220.39	0.001482	3.33	41.62	45.32	0.57	
1.879	F 1 - Base Model	1640	1218.3	1222.54	1222.54	1223.56	0.00192	8.95	362.9	257	0.8	
1.879	PF3 - Pima Road	136	1218.3	1219.38	1219.38	1219.74	0.005276	4.84	29.04	44.36	1	
1.81	F 1 - Base Model	1640	1217.4	1222.19	1221.09	1222.54	0.000772	6.24	700.42	293.85	0.52	
1.81	PF3 - Pima Road	136	1217.4	1218.99	1218.52	1219.09	0.000743	2.67	77.7	80	0.41	
1.725	F 1 - Base Model	1680	1216.5	1221.11		1222.02	0.001483	8.49	360.36	196	0.72	
1.725	PF3 - Pima Road	253	1216.5	1218.35		1218.6	0.001309	4.09	77.39	63.13	0.57	
1.67	F 1 - Base Model	1680	1216	1220.29		1221.47	0.002164	9.33	272.65	113.63	0.84	
1.67	PF3 - Pima Road	253	1216	1217.91		1218.17	0.001625	4.18	70.31	62.02	0.62	

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
1.575	F 1 - Base Model	1680	1215.3	1219.7		1220.44	0.001482	8.07	429.04	196.42	0.71	
1.575	PF3 - Pima Road	253	1215.3	1216.98		1217.26	0.002035	4.51	80.64	77.87	0.69	
1.522	F 1 - Base Model	1680	1214.8	1218.87		1219.93	0.002079	9.43	439.84	237.76	0.83	
1.522	PF3 - Pima Road	253	1214.8	1216.29		1216.65	0.002344	4.97	65.41	62.9	0.74	
1.499	F 1 - Base Model	1680	1214.6	1218.49	1218.49	1219.67	0.002115	9.07	485.52	306.44	0.83	
1.499	PF3 - Pima Road	253	1214.6	1216.12		1216.38	0.001688	4.08	85.38	78.41	0.63	
1.438	F 1 - Base Model	1680	1213.8	1218.06	1217.64	1218.74	0.001381	7.53	481.89	285.86	0.68	
1.438	PF3 - Pima Road	253	1213.8	1215.52		1215.8	0.001897	4.3	64.66	69.77	0.66	
1.373	F 1 - Base Model	1680	1213	1217.35		1218.2	0.001698	8.35	408.48	292.44	0.75	
1.373	PF3 - Pima Road	253	1213	1214.94		1215.2	0.001559	4.16	70.88	66.13	0.61	
1.353	F 1 - Base Model	1680	1212.8	1217.6		1217.93	0.000663	5.88	803.29	359.44	0.48	
1.353	PF3 - Pima Road	253	1212.8	1214.99		1215.07	0.000381	2.55	179.38	137.51	0.32	
1.301	F 1 - Base Model	1716	1212.1	1216.69		1217.6	0.001612	8.53	367.22	194.46	0.74	
1.301	PF3 - Pima Road	398	1212.1	1214.02	1214.02	1214.7	0.003973	6.72	69.9	64	0.98	
1.262	F 1 - Base Model	1716	1212	1216.63		1216.91	0.00061	5.46	734.01	273	0.46	
1.262	PF3 - Pima Road	1	1212	1211.96	1212.05	1213.47	14.23913		0.1	3.37	0	
1.239	F 1 - Base Model	1716	1210.9	1216.47		1216.76	0.003961	5.14	469.93	251.94	0.45	
1.239	PF3 - Pima Road	1	1210.9	1211.11	1211.11	1211.17	0.061308	1.93	0.52	4.51	1	
1.224	F 1 - Base Model	1716	1206.5	1216.42		1216.53	0.000584	3.1	925.42	527.62	0.19	
1.224	PF3 - Pima Road	1	1206.5	1210.97	1206.73	1210.97	0	0.01	120.54	40.71	0	
1.181	F 1 - Base Model	1716	1204.95	1215.99		1216.26	0.001432	4.44	466.92	159.6	0.29	
1.181	PF3 - Pima Road	1	1204.95	1210.97		1210.97	0	0.01	109.39	33.14	0	
1.138	F 1 - Base Model	1716	1207.5	1215.67		1215.93	0.001511	4.13	431.12	90.59	0.3	
1.138	PF3 - Pima Road	1	1207.5	1210.97		1210.97	0	0.01	120.62	47.85	0	
1.121	F 1 - Base Model	1716	1206	1215.41		1215.75	0.001501	5	421.44	134	0.31	
1.121	PF3 - Pima Road	1	1206	1210.97		1210.97	0	0.01	131.7	42.17	0	
1.115	F 1 - Base Model	1716	1205.66	1215.42	1210.82	1215.64	0.001242	3.78	453.58	129.85	0.27	
1.115	PF3 - Pima Road	1	1205.66	1210.97	1205.84	1210.97	0	0.01	171.27	48.88	0	
1.1115		Bridge										
1.108	F 1 - Base Model	1716	1205.6	1215.15	1211.34	1215.37	0.001456	3.77	455.77	152.2	0.29	
1.108	PF3 - Pima Road	1	1205.6	1210.97	1205.82	1210.97	0	0.01	153.64	54.83	0	
1.101	F 1 - Base Model	1716	1205.5	1215.09		1215.32	0.001167	4.63	504.08	116.06	0.28	
1.101	PF3 - Pima Road	1	1205.5	1210.97		1210.97	0	0.01	180.16	61.81	0	

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
1.084	F 1 - Base Model	1716	1205.2	1214.99		1215.21	0.001153	4.56	476.94	93.45	0.27	
1.084	PF3 - Pima Road	1	1205.2	1210.97		1210.97	0	0.01	178.18	61.23	0	
1.075	F 1 - Base Model	1716	1202.6	1214.97	1211.2	1215.16	0.000506	4.7	598.5	152.21	0.24	
1.075	PF3 - Pima Road	1	1202.6	1210.97	1202.67	1210.97	0	0.01	100.24	54.91	0	
1.0645		Culvert										
1.054	F 1 - Base Model	1947	1202.5	1213.52	1213.46	1214.37	0.00227	9.19	438.28	219.7	0.49	
1.054	PF3 - Pima Road	335	1202.5	1210.79	1205.46	1210.97	0.000453	3.39	98.75	19.19	0.21	
1.042	F 1 - Base Model	1947	1203.7	1213.97		1214.06	0.000783	3.25	922.2	446.49	0.24	
1.042	PF3 - Pima Road	335	1203.7	1210.78		1210.91	0.001111	2.96	113.18	29.22	0.27	
1.001	F 1 - Base Model	1947	1203.7	1213.62		1213.84	0.001133	4.17	694.52	394.99	0.3	
1.001	PF3 - Pima Road	335	1203.7	1210.69		1210.74	0.000453	1.84	184.25	60.92	0.17	
0.966	F 1 - Base Model	1947	1203.6	1213.48		1213.64	0.000752	3.76	788.31	350.56	0.25	
0.966	PF3 - Pima Road	335	1203.6	1210.63		1210.67	0.000286	1.61	251.07	124.43	0.14	
0.915	F 1 - Base Model	1947	1203.1	1213.28		1213.44	0.000813	3.99	779.23	280.56	0.26	
0.915	PF3 - Pima Road	335	1203.1	1210.55		1210.59	0.000294	1.75	228.34	112.18	0.15	
0.883	F 1 - Base Model	1947	1203.1	1213.12		1213.3	0.000793	4.02	744.1	302.27	0.25	
0.883	PF3 - Pima Road	335	1203.1	1210.51		1210.55	0.000189	1.55	235.75	79.63	0.12	
0.865	F 1 - Base Model	1949	1202.9	1213.09		1213.22	0.000605	3.51	871.44	305.28	0.23	
0.865	PF3 - Pima Road	340	1202.9	1210.5		1210.53	0.000202	1.52	248.94	98.5	0.12	
0.857	F 1 - Base Model	1949	1208.5	1211.94	1211.94	1213.07	0.003149	10.03	360.75	197.2	0.99	
0.857	PF3 - Pima Road	340	1208.5	1209.97	1209.97	1210.46	0.00397	5.92	76.9	94.33	0.95	
0.821	F 1 - Base Model	1949	1207.1	1212.07	1210.51	1212.35	0.000649	6.04	852.21	362.95	0.48	
0.821	PF3 - Pima Road	340	1207.1	1209.51	1208.41	1209.61	0.000444	3.04	209.9	145.52	0.35	
0.786	F 1 - Base Model	1949	1206.9	1211.29	1211.29	1212.1	0.001867	9.49	548.5	310.73	0.8	
0.786	PF3 - Pima Road	340	1206.9	1209.16	1208.54	1209.46	0.001157	4.77	104.47	62.24	0.56	
0.729	F 1 - Base Model	1949	1206.6	1210.47	1209.94	1210.81	0.001254	6.96	760.57	382.5	0.64	
0.729	PF3 - Pima Road	340	1206.6	1208.28	1208.28	1208.86	0.003681	6.5	74.39	80.94	0.94	
0.674	F 1 - Base Model	1949	1205.8	1209.4	1209.4	1210.25	0.002688	9.86	482.48	270.18	0.93	
0.674	PF3 - Pima Road	340	1205.8	1207.92	1207.37	1208.2	0.001205	4.58	114.48	85.21	0.57	
0.627	F 1 - Base Model	1949	1205.3	1208.21	1208	1208.65	0.002905	8.32	585.24	345.87	0.92	
0.627	PF3 - Pima Road	340	1205.3	1207	1207	1207.63	0.004718	6.91	74.5	89.52	1.05	
0.542	F 1 - Base Model	1990	1203.2	1206.48	1206.48	1207.56	0.00272	8.66	315.81	215.47	0.9	
0.542	PF3 - Pima Road	437	1203.2	1204.55	1204.65	1205.17	0.006598	6.35	71.86	87.23	1.17	

River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Comments
0.503	F 1 - Base Model	2006	1202.3	1204.47	1205.07	1206.31	0.011263	13.77	308.85	243.85	1.73	
0.503	PF3 - Pima Road	520	1202.3	1203.75	1203.75	1204.2	0.004572	6.46	157.65	187.69	1.02	
0.459	F 1 - Base Model	2006	1199.4	1203.16	1202.39	1203.83	0.001954	8.34	470.15	177.04	0.79	
0.459	PF3 - Pima Road	520	1199.4	1201.18	1200.96	1201.51	0.00274	5.61	163.78	137.62	0.81	
0.421	F 1 - Base Model	2006	1198.5	1202.36		1203.35	0.002551	9.7	408.42	172.34	0.91	
0.421	PF3 - Pima Road	520	1198.5	1200.65		1201.03	0.002077	5.65	157.62	127.76	0.73	
0.369	F 1 - Base Model	2006	1197.8	1201.5	1201.5	1202.59	0.002878	10.13	442.43	217.59	0.96	
0.369	PF3 - Pima Road	520	1197.8	1199.74	1199.74	1200.31	0.00321	6.65	139.96	143.78	0.9	
0.326	F 1 - Base Model	2006	1197.4	1200.64	1200.02	1201.26	0.002741	8.86	488.42	205	0.91	
0.326	PF3 - Pima Road	520	1197.4	1199.34	1198.5	1199.49	0.001332	4.19	243.37	167.22	0.58	
0.32	F 1 - Base Model	2006	1197.3	1200.69		1201.14	0.001515	6.74	609.61	284.08	0.68	
0.32	PF3 - Pima Road	520	1197.3	1198.95	1198.95	1199.39	0.003429	5.77	151.96	220.26	0.89	
0.303	F 1 - Base Model	2006	1197.3	1199.68	1199.68	1200.83	0.005582	10.11	320.35	145.25	1.23	
0.303	PF3 - Pima Road	520	1197.3	1198.16	1198.26	1198.78	0.018513	7.79	102.75	137.64	1.81	
0.288	F 1 - Base Model	2010	1190.9	1199.65	1195.96	1199.96	0.000466	5.9	663.4	160.53	0.4	
0.288	PF3 - Pima Road	549	1190.9	1196.02	1193.61	1196.13	0.000344	3.44	258.45	74.35	0.31	
0.272	F 1 - Base Model	2010	1190.8	1199.74	1193.01	1199.88	0.000227	3.96	771.02	97.21	0.27	
0.272	PF3 - Pima Road	549	1190.8	1196.07	1193.01	1196.1	0.000084	1.76	443.48	76.52	0.16	
0.257	F 1 - Base Model	2010	1189.5	1199.45	1198.35	1199.83	0.00043	7.09	699.1	199	0.4	
0.257	PF3 - Pima Road	549	1189.5	1195.08	1193.36	1195.99	0.001092	7.66	71.65	34.46	0.58	
0.244		Culvert										
0.231	F 1 - Base Model	2010	1189.2	1199.44	1196.95	1199.53	0.000132	4	1248.88	289.7	0.22	
0.231	PF3 - Pima Road	549	1189.2	1193.82	1193.11	1195.16	0.002101	9.32	58.89	18.01	0.77	
0.225	F 1 - Base Model	2010	1188.73	1197.66	1197.41	1199.36	0.002501	11.59	234.07	55	0.75	
0.225	PF3 - Pima Road	549	1188.73	1194.01	1192.95	1194.98	0.0025	7.92	69.34	16.81	0.69	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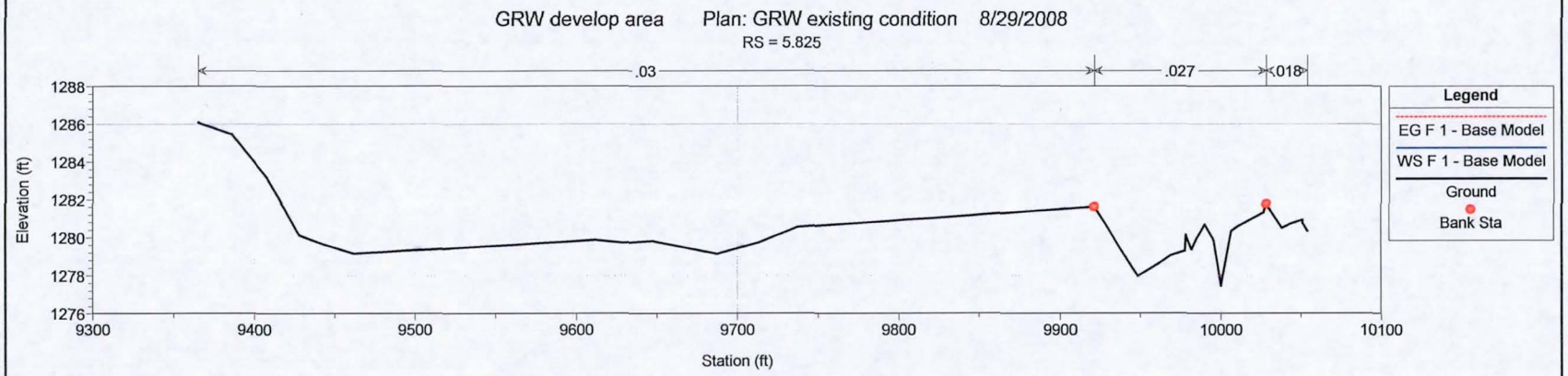
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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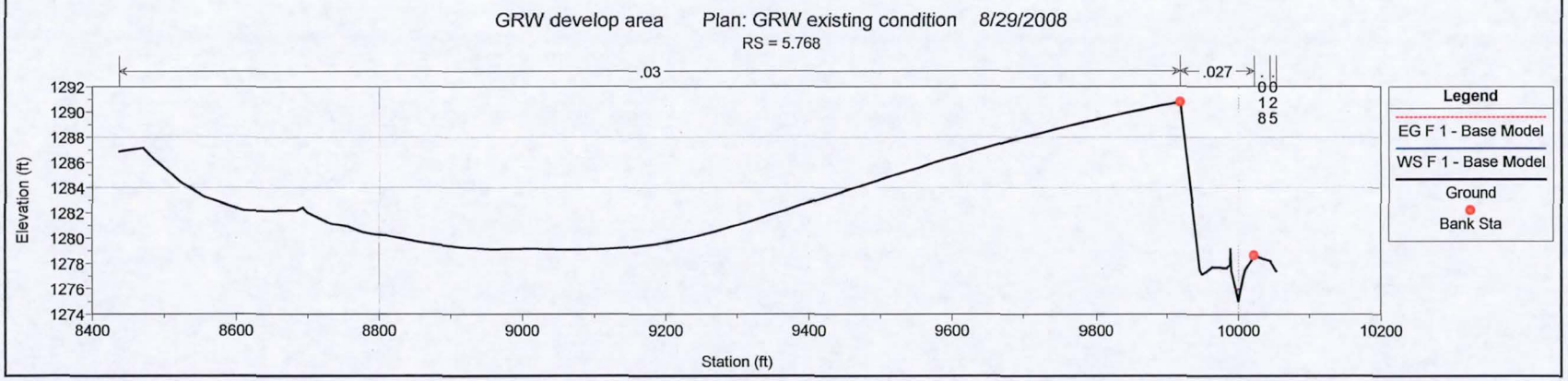
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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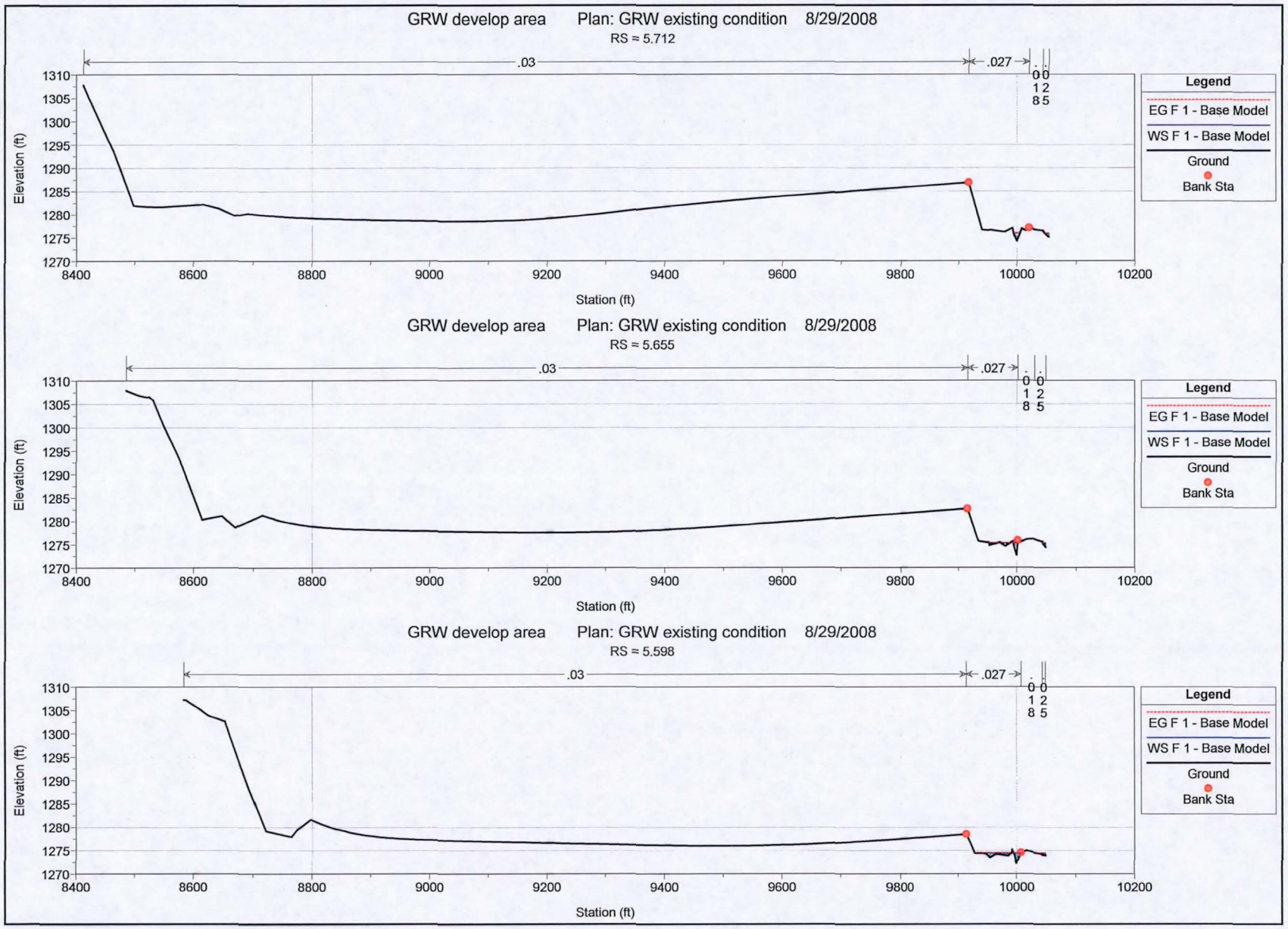
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 5.655
.03
.027
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
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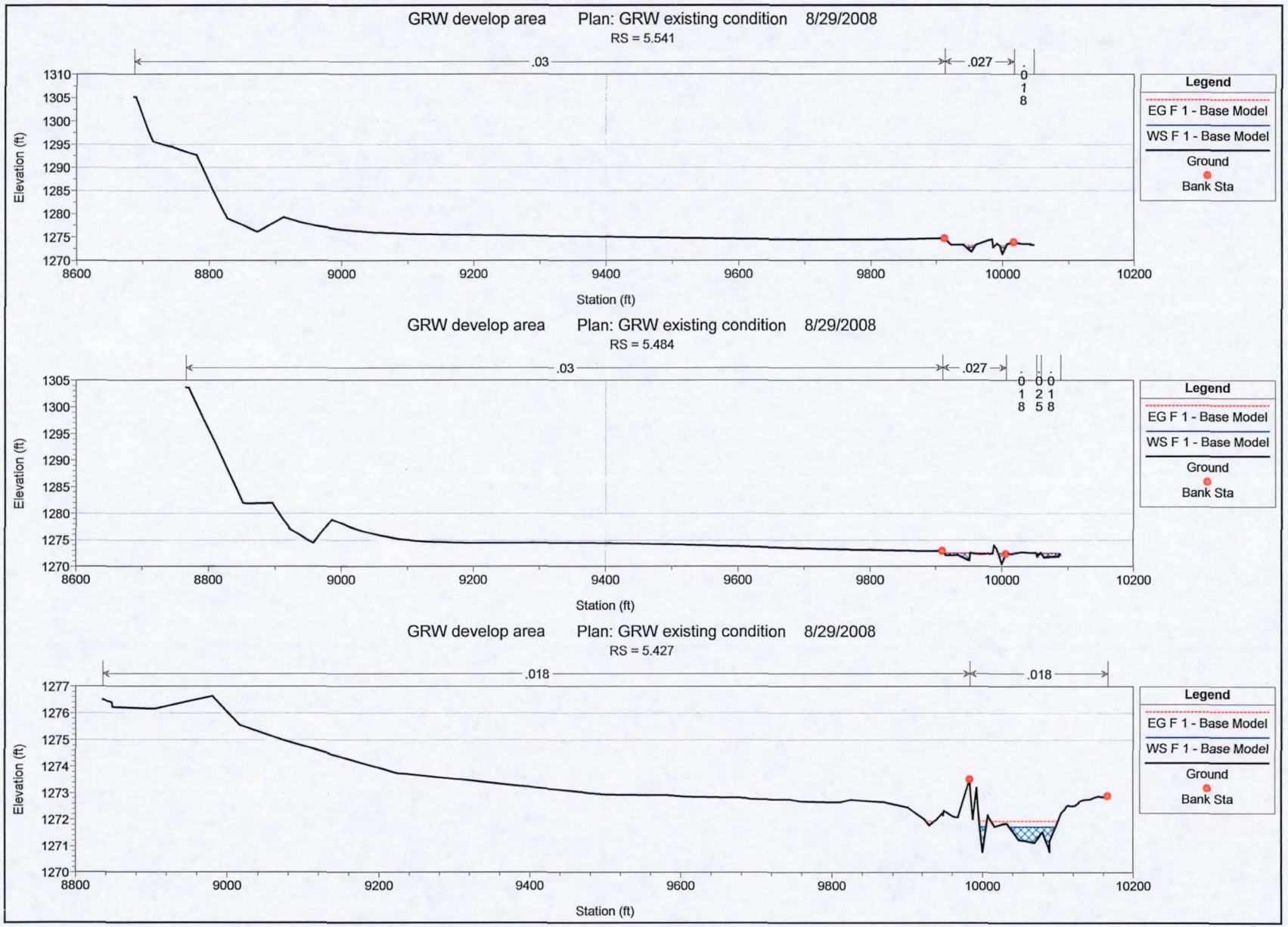
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 5.484
.03
.027
.018
.025
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
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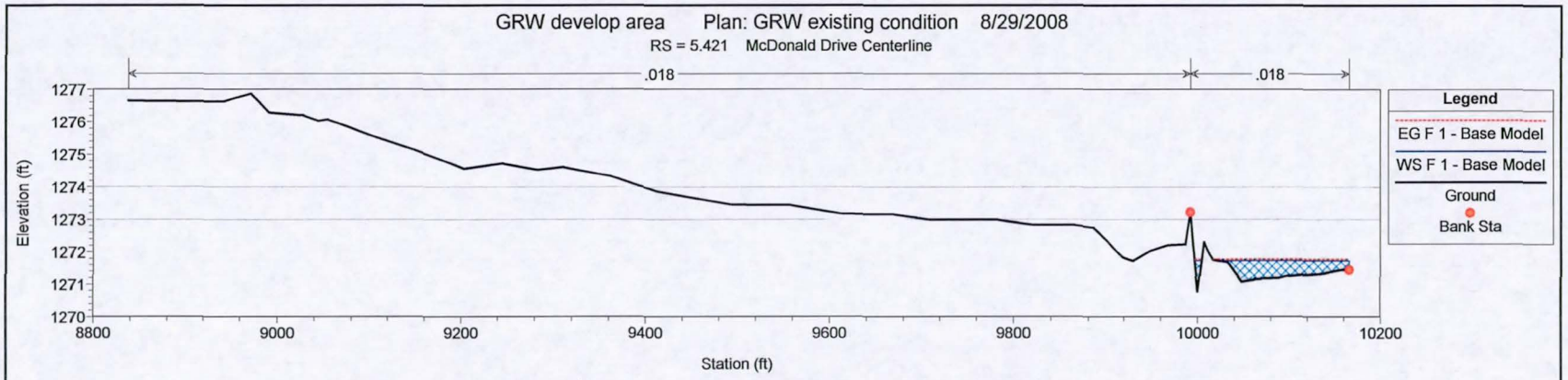
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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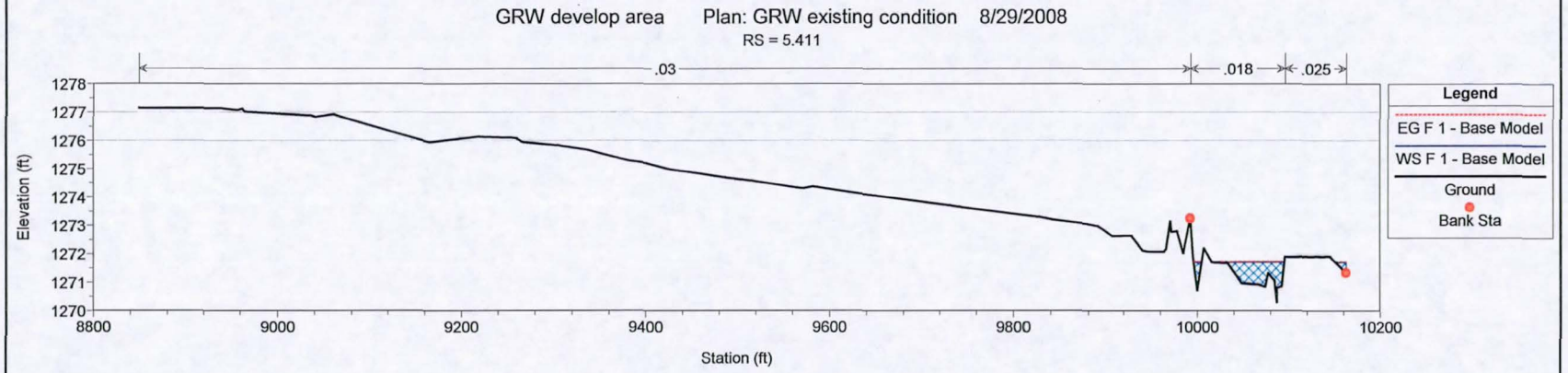
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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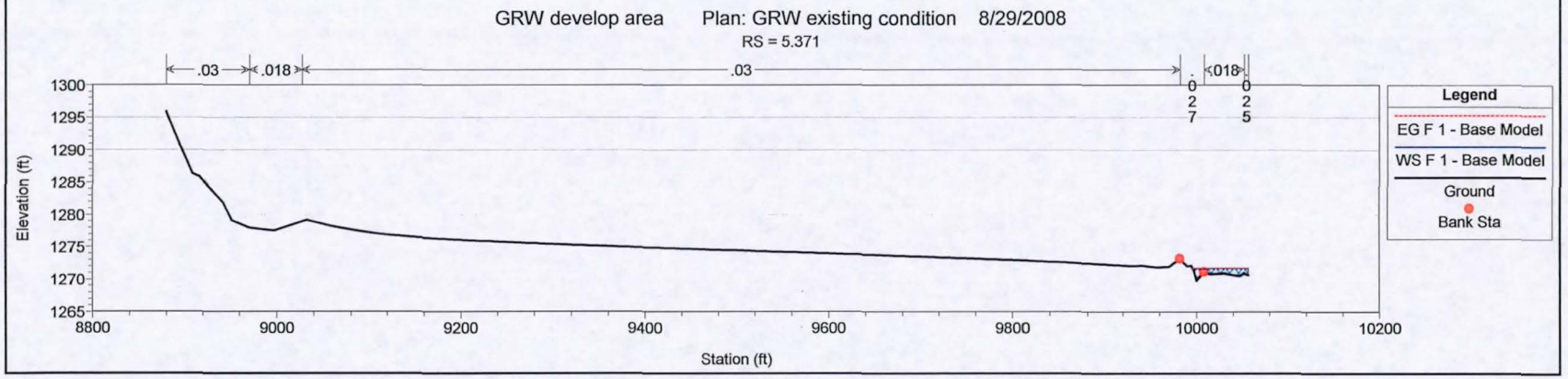
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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.03
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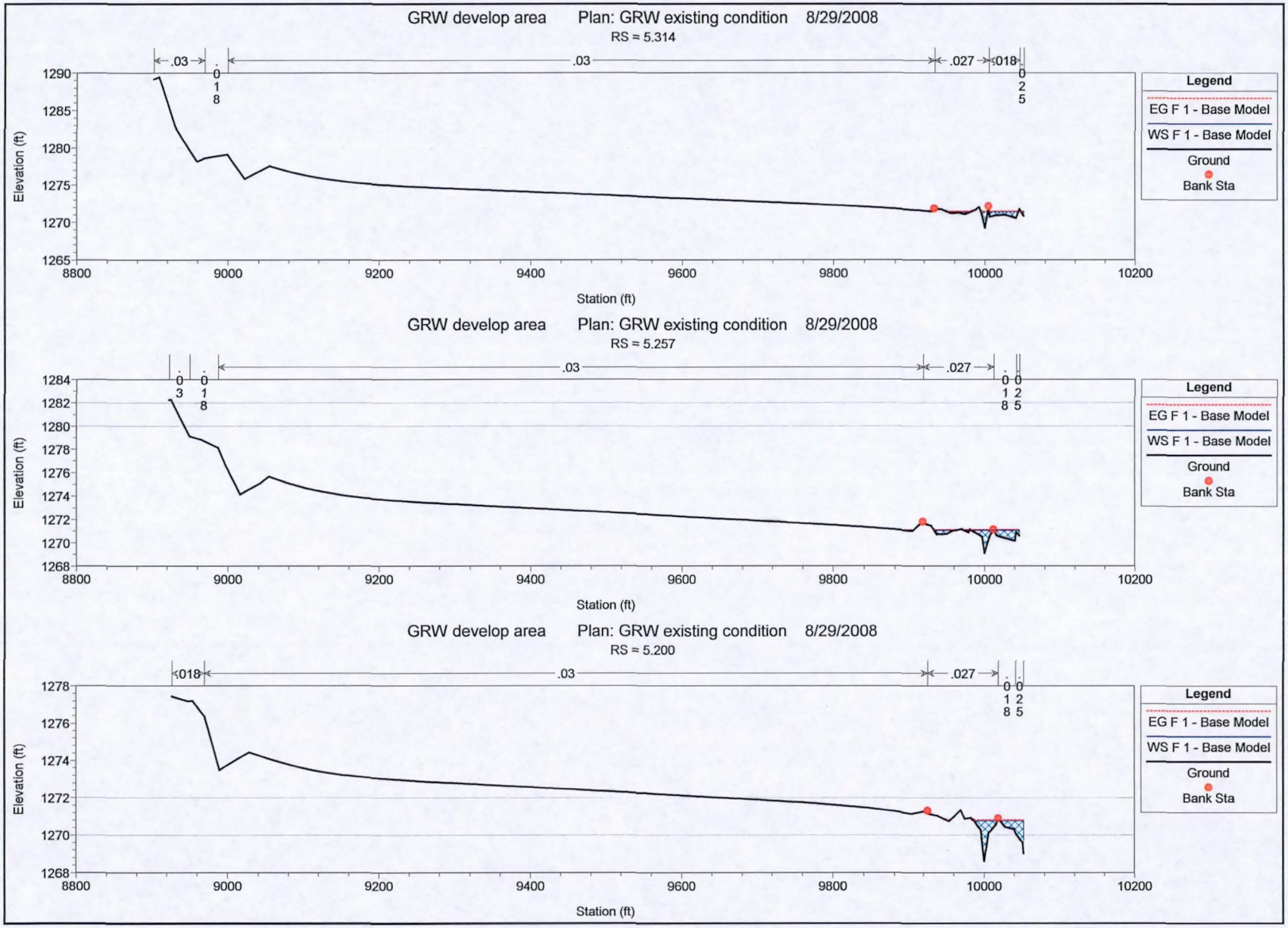
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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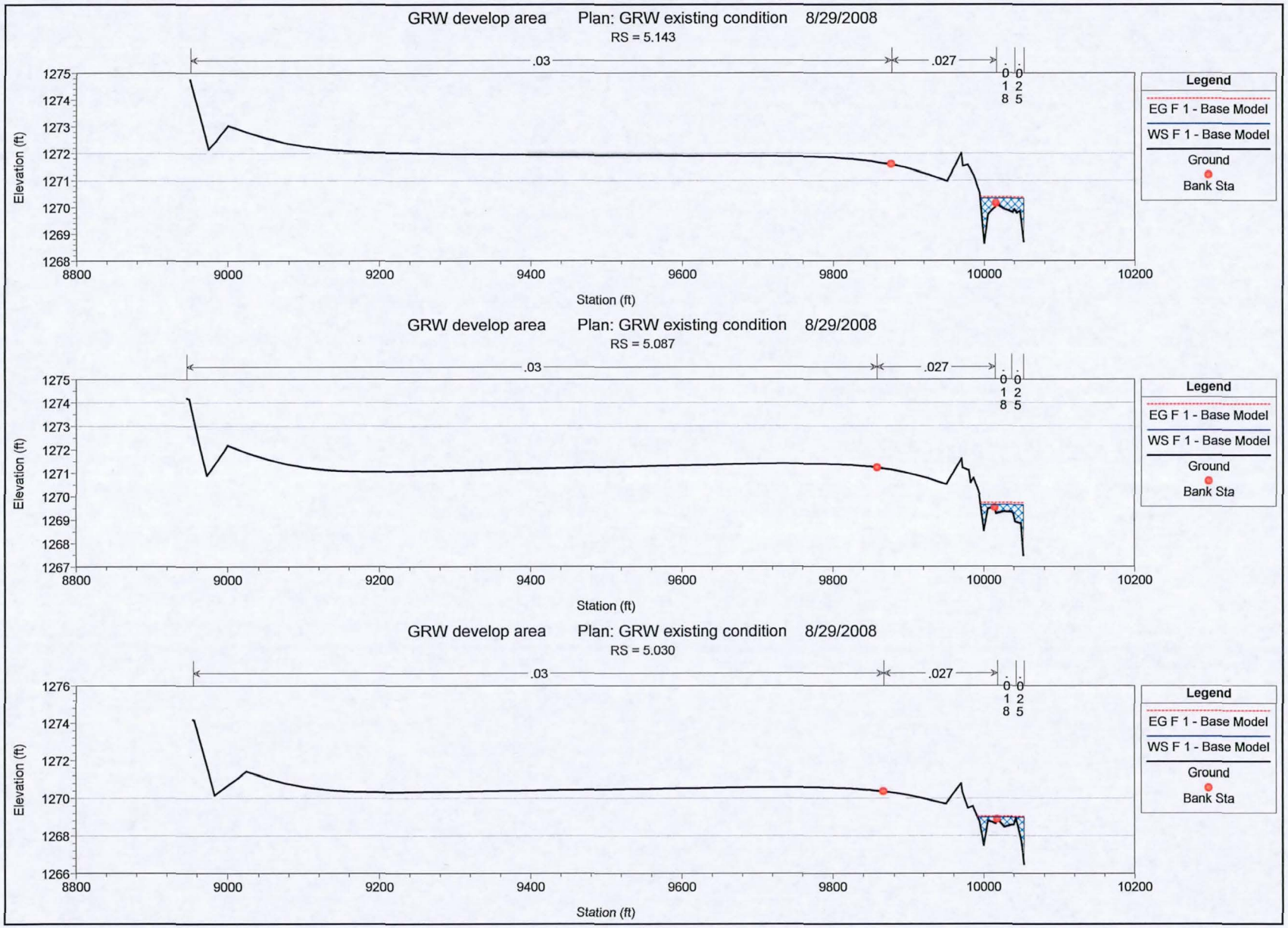
RS = 5.314
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 5.257
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 5.200
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta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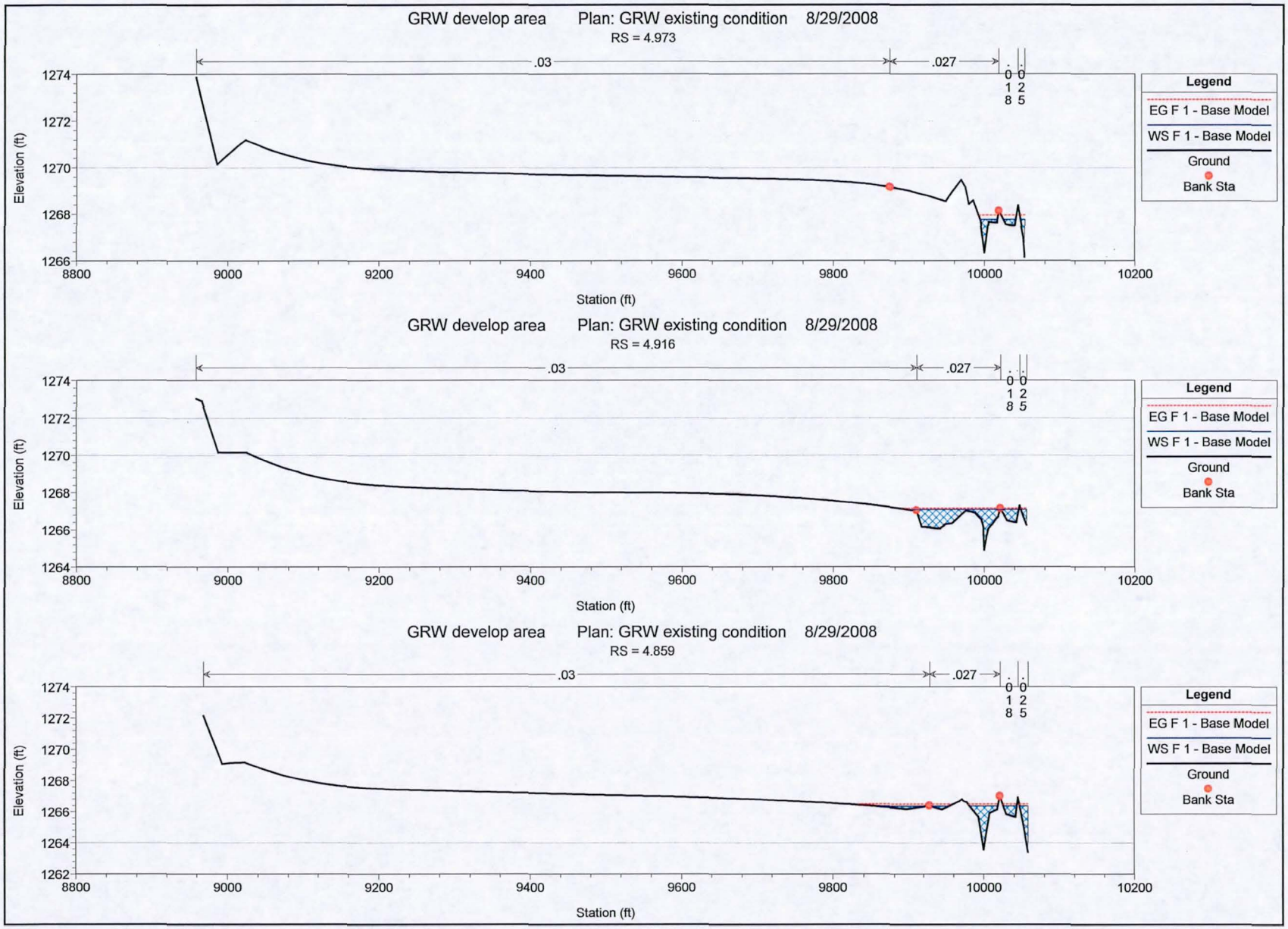
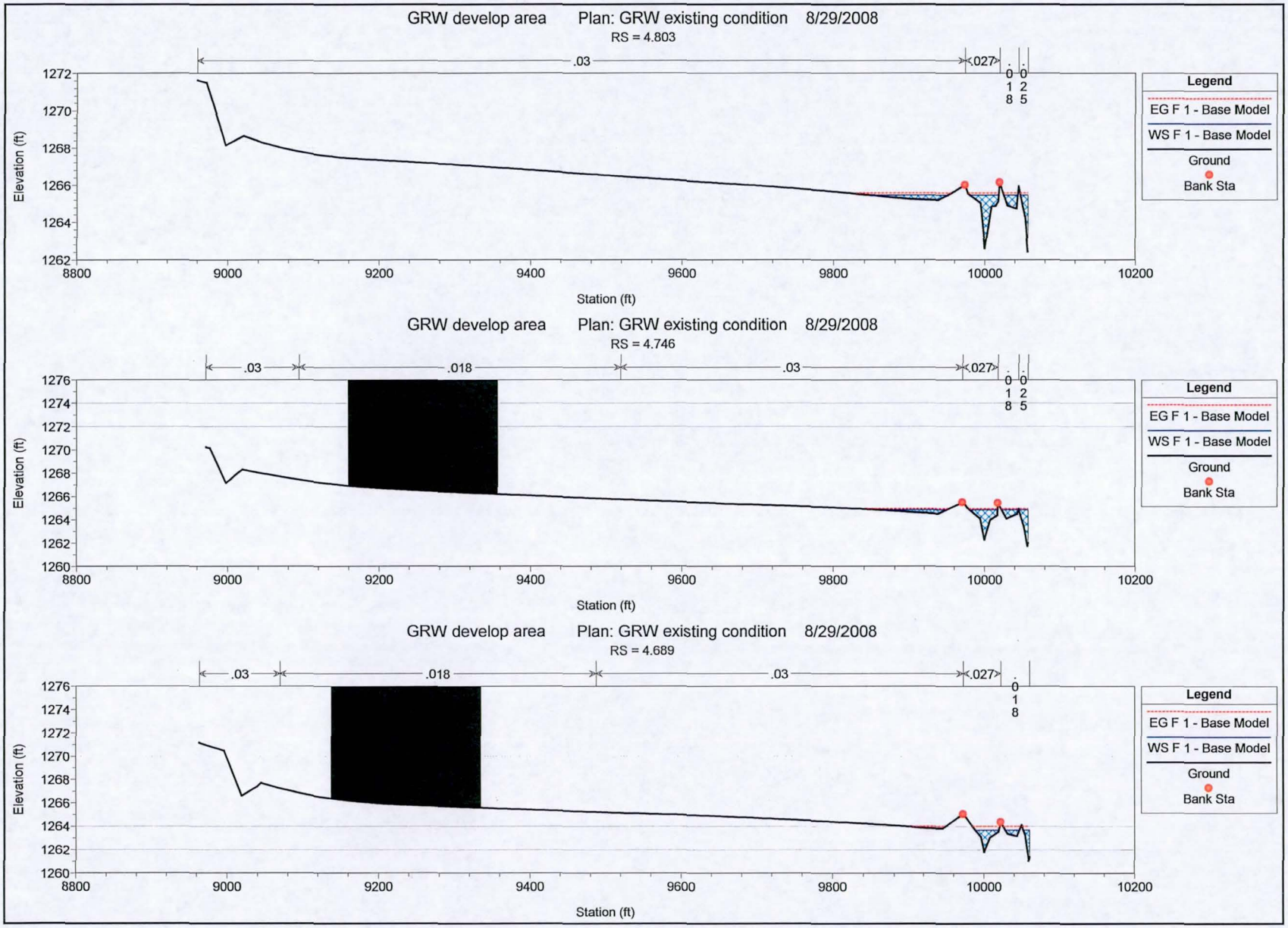
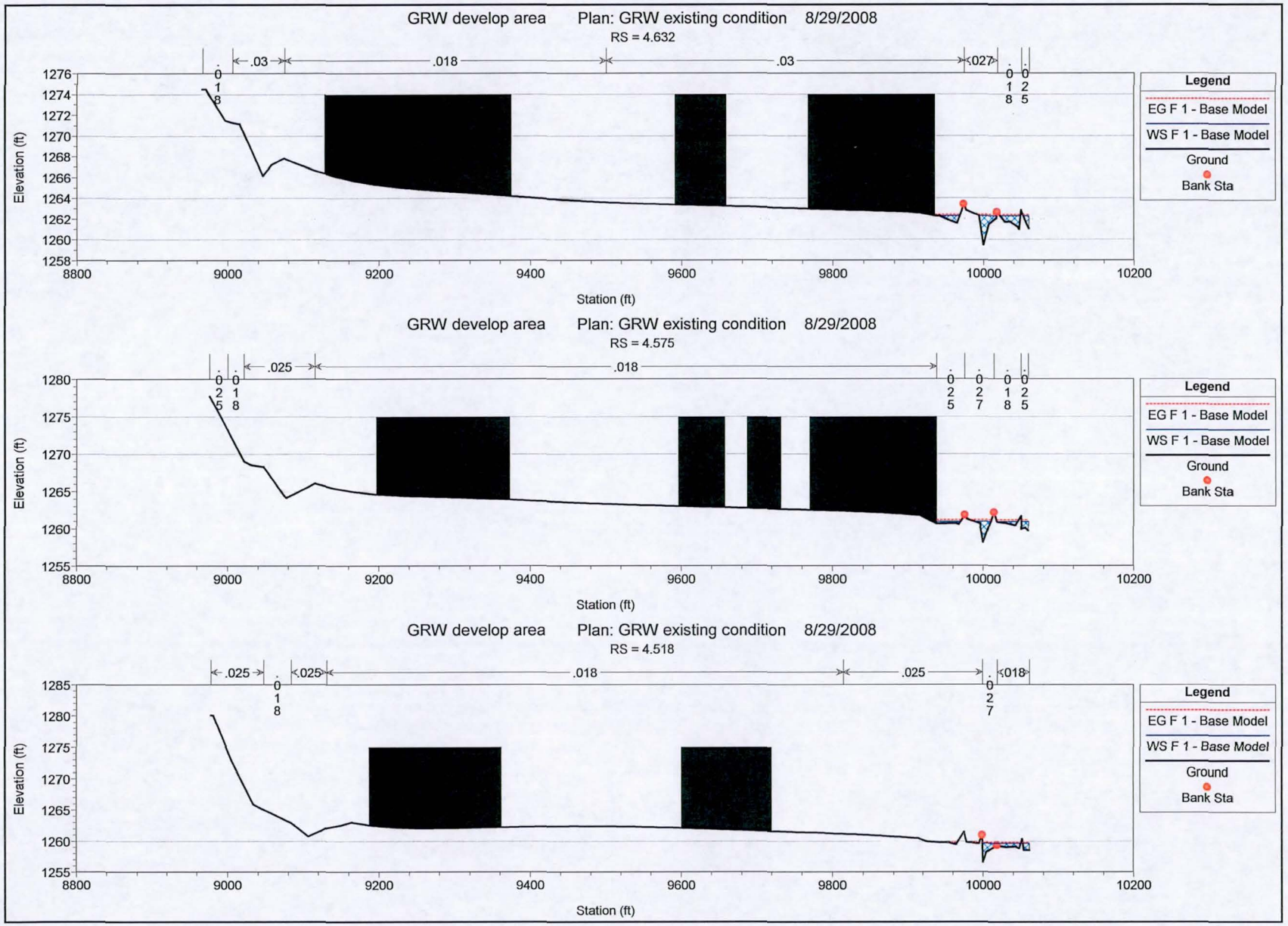
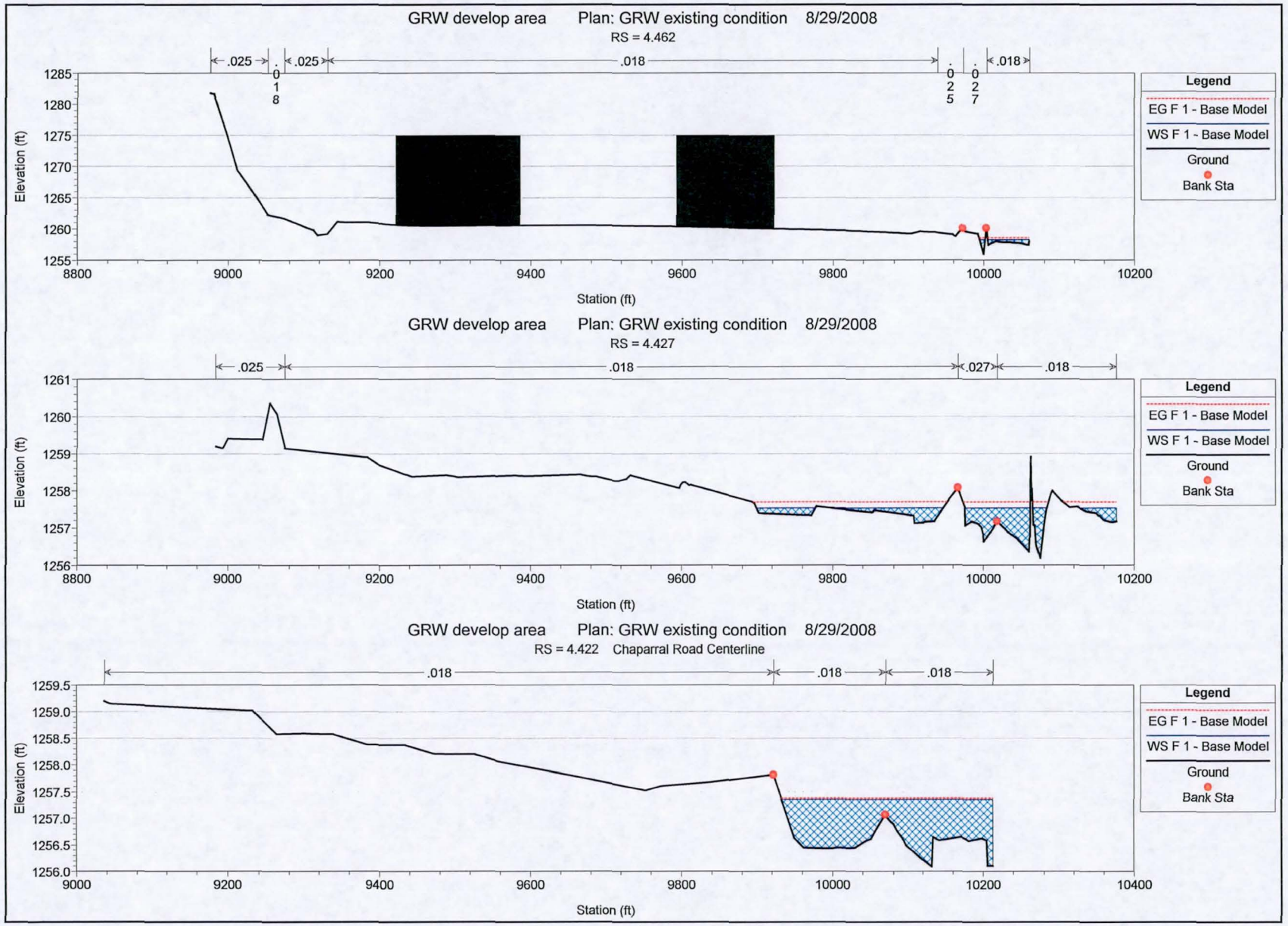
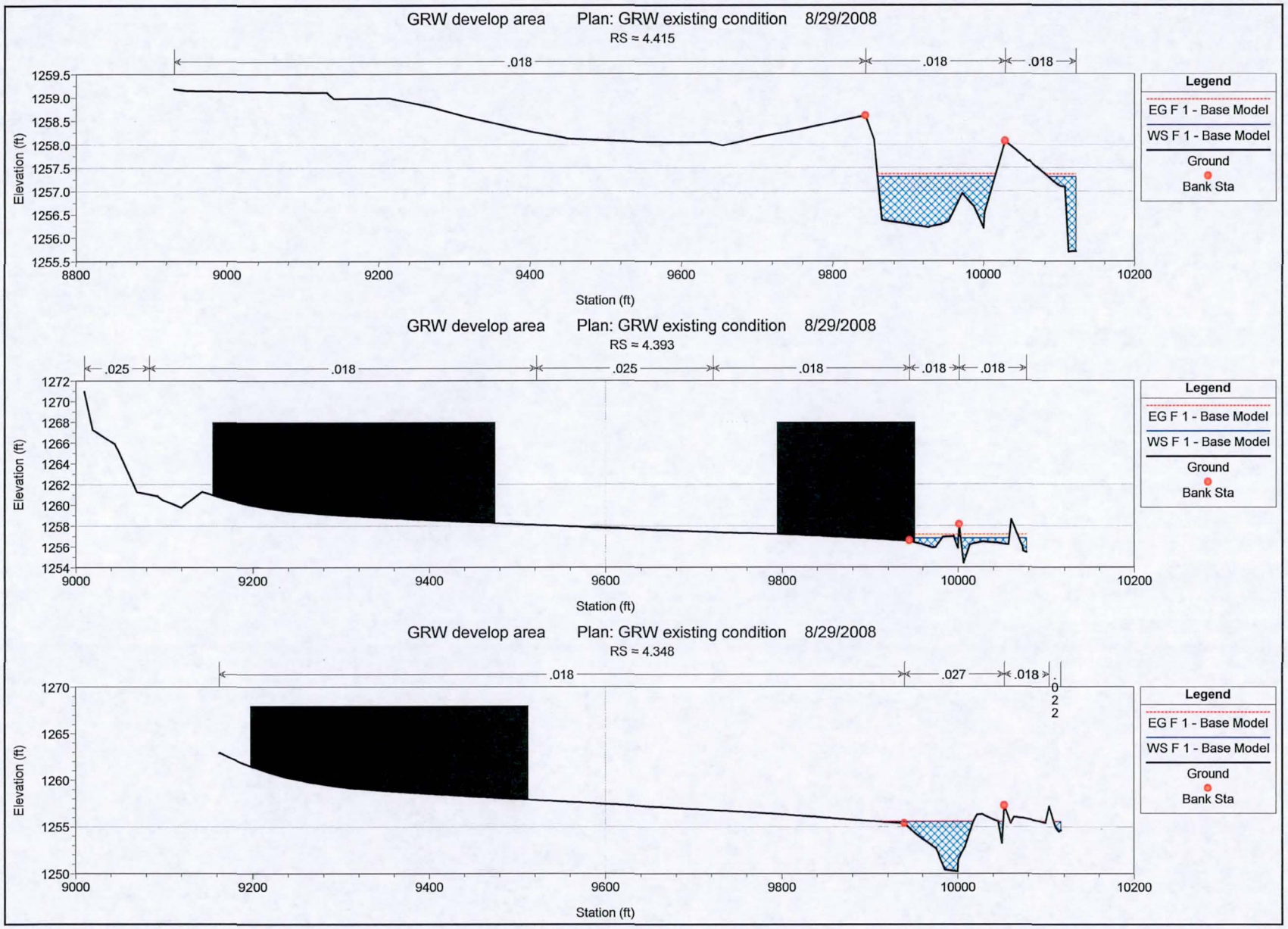
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 5.087
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 5.030
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

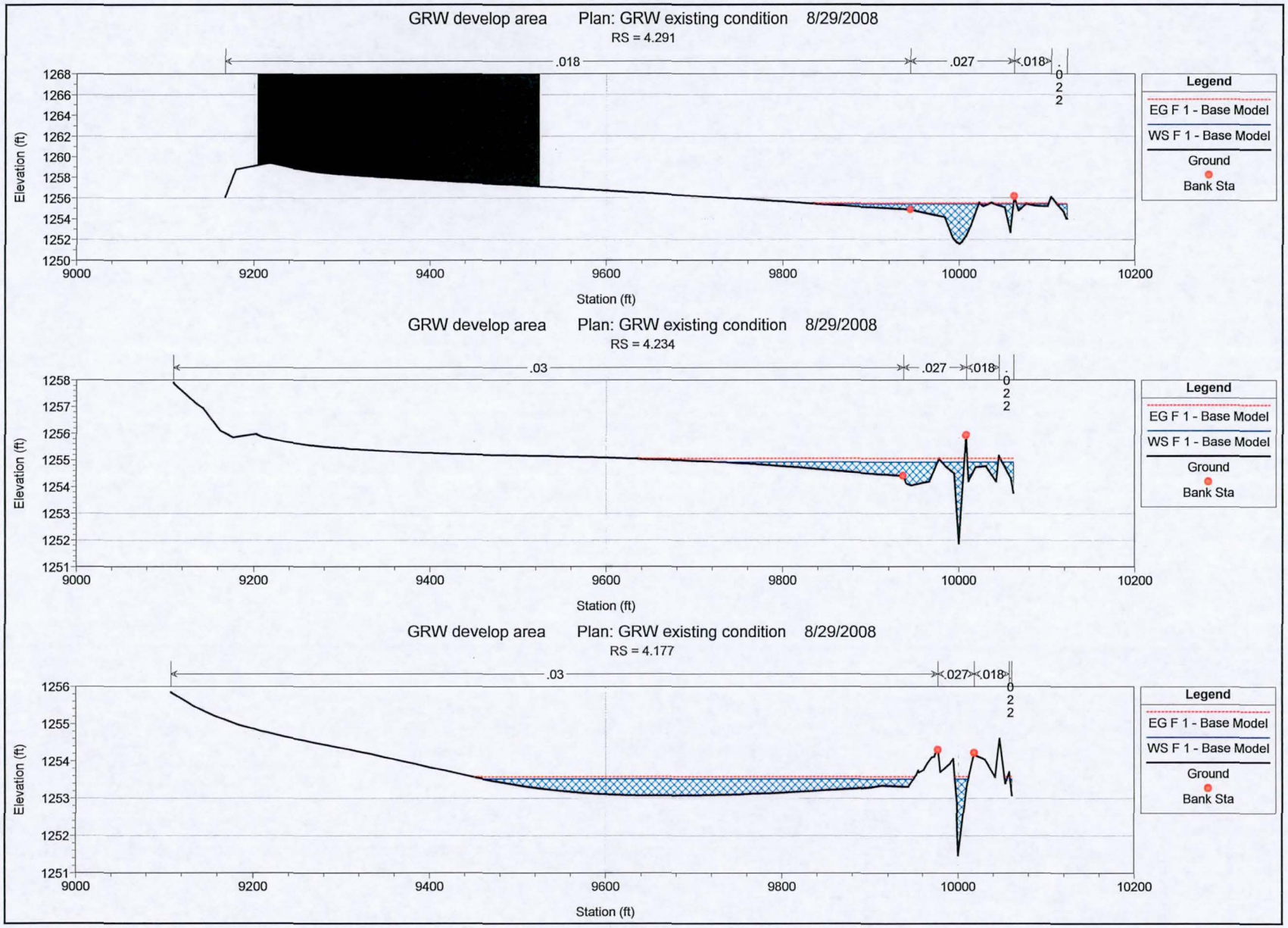

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.973
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.916
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.859
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

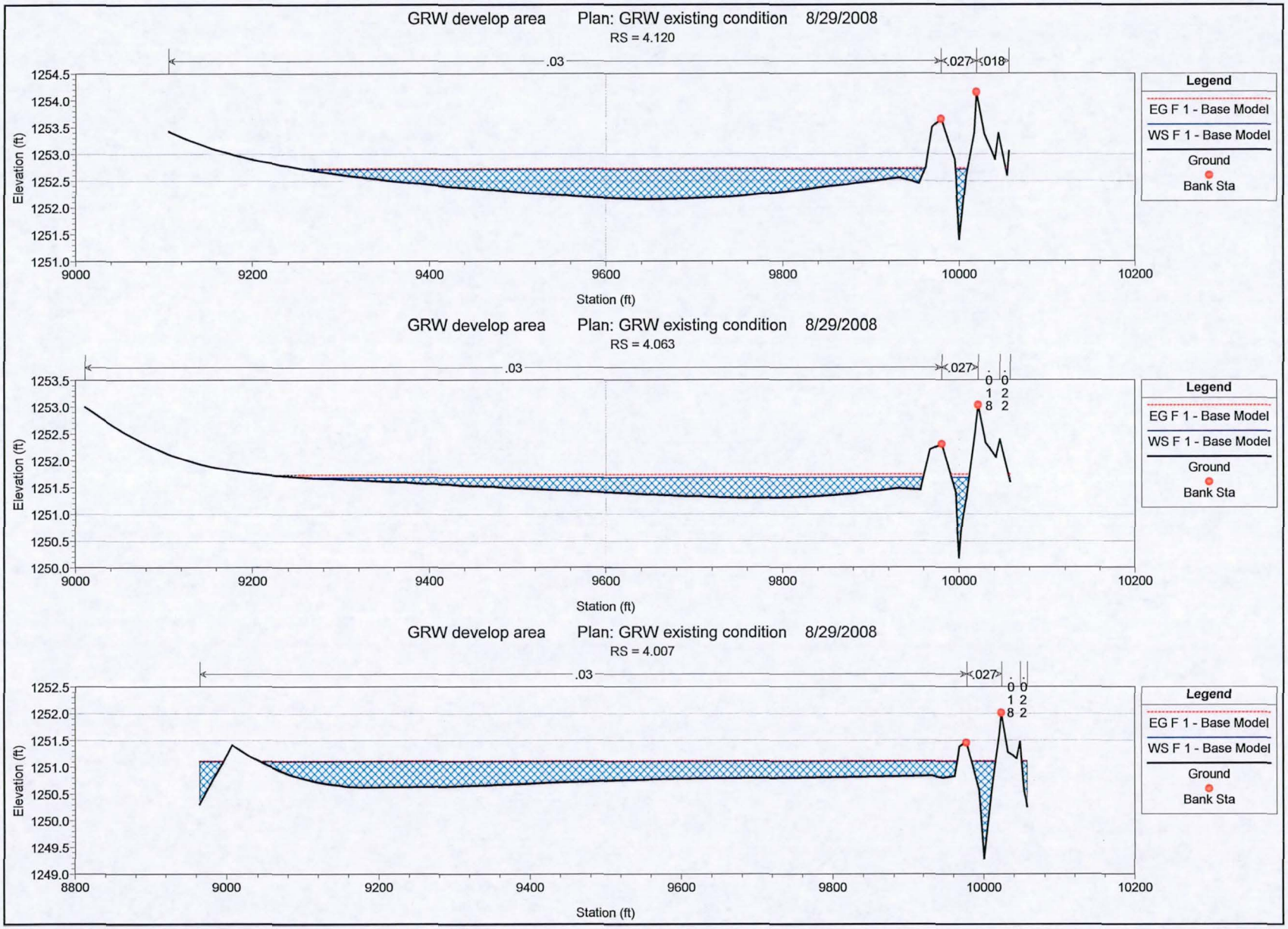

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.803
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.746
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.689
.03
.018
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

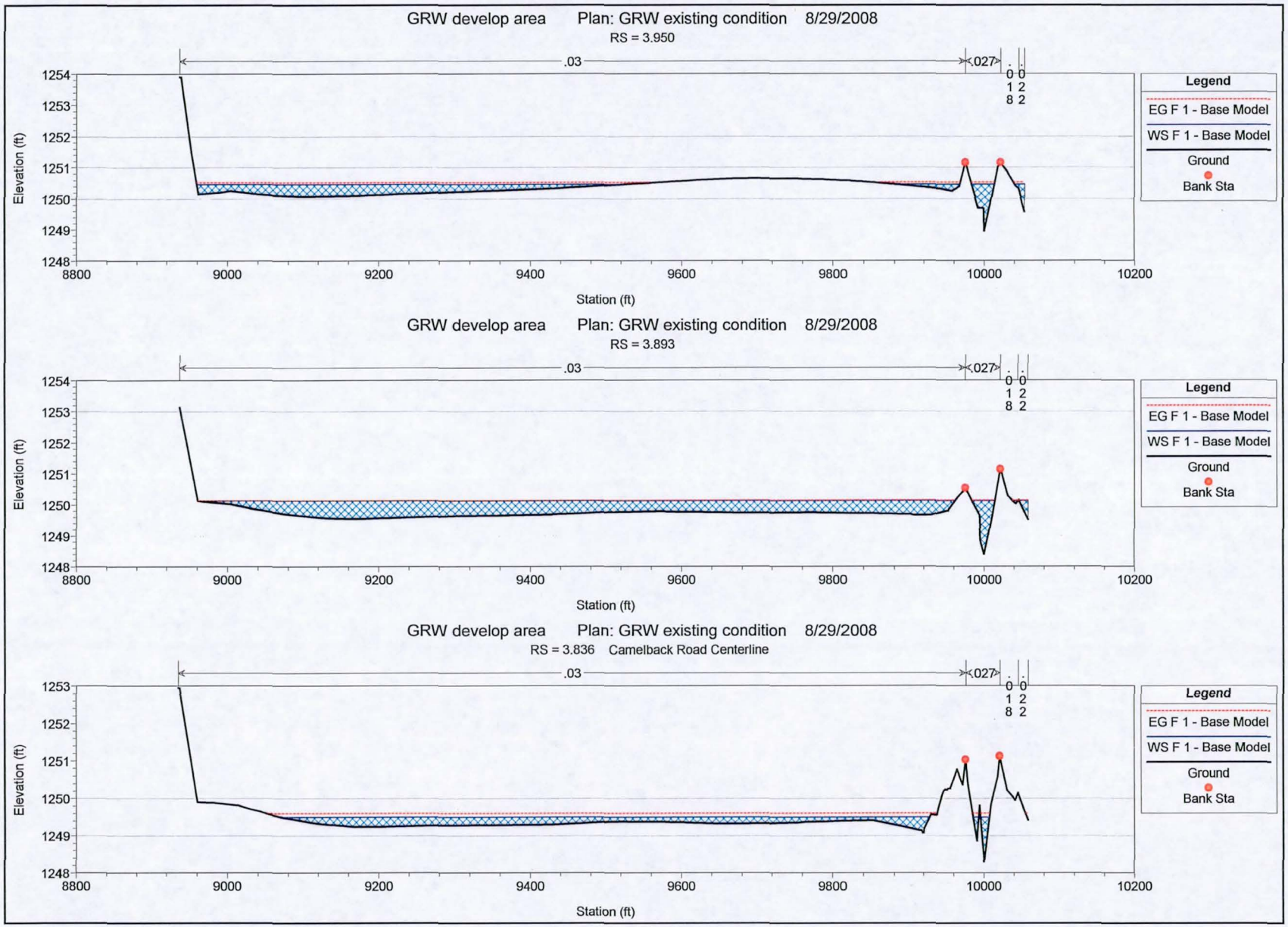

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.632
.018
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.575
.025
.018
.025
.018
.025
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.518
.025
.018
.025
.018
.025
.018
.027
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

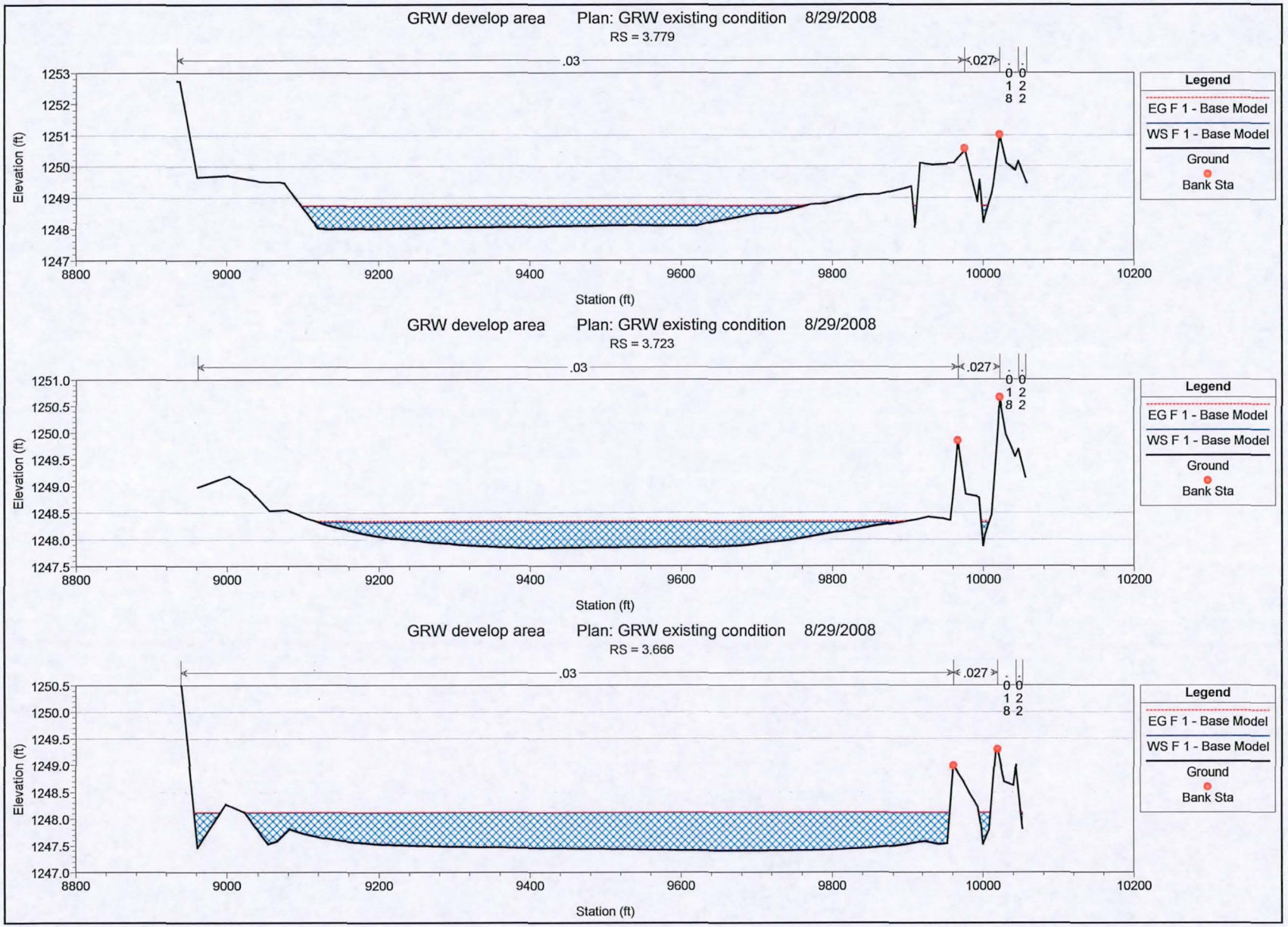

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.462
.025
.018
.025
.018
.018
.025
.027
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.427
.025
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.422 Chaparral Road Centerline
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

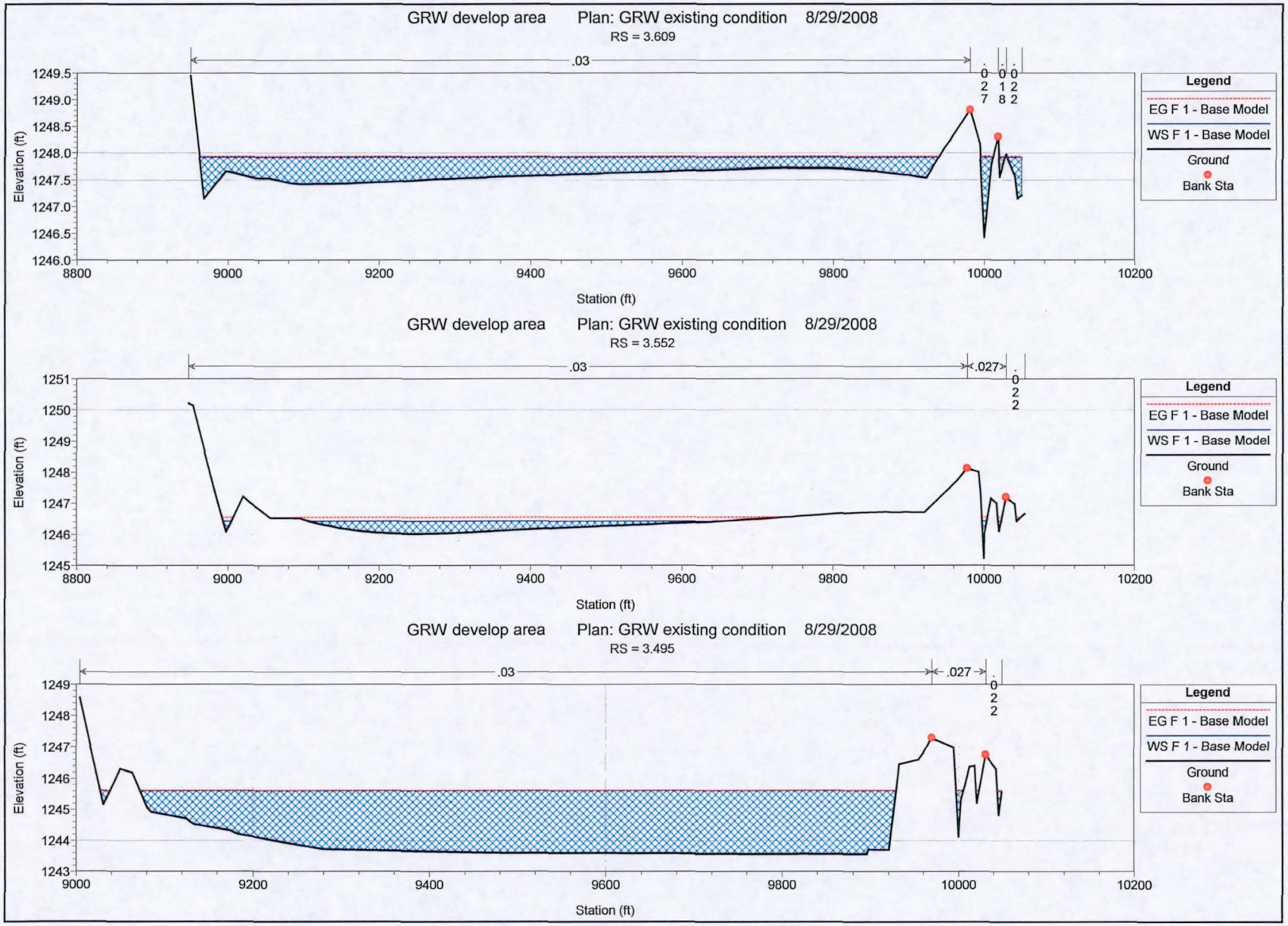

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.415
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.393
.025
.018
.025
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.348
.018
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

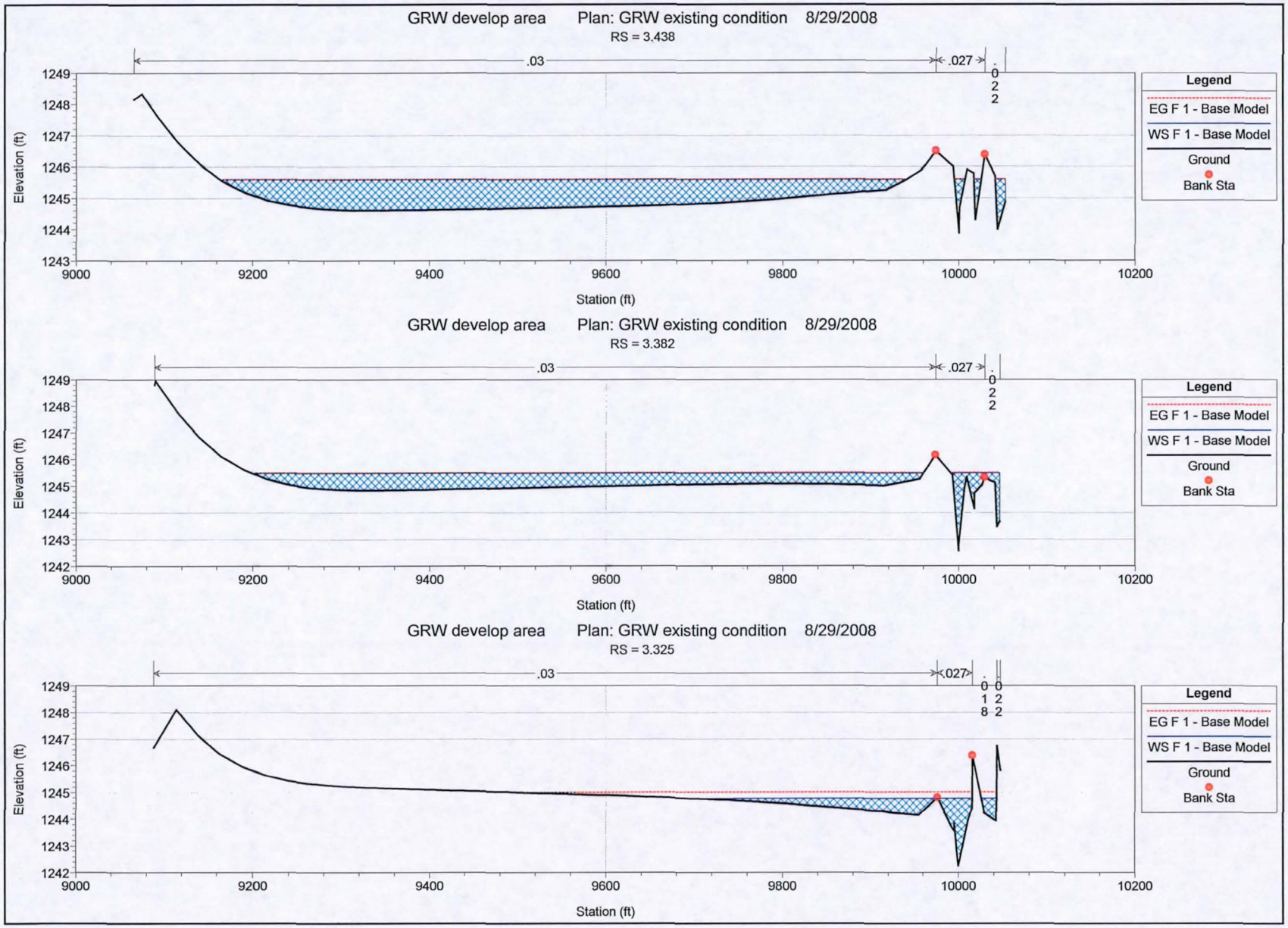

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.291
.018
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.234
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.177
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

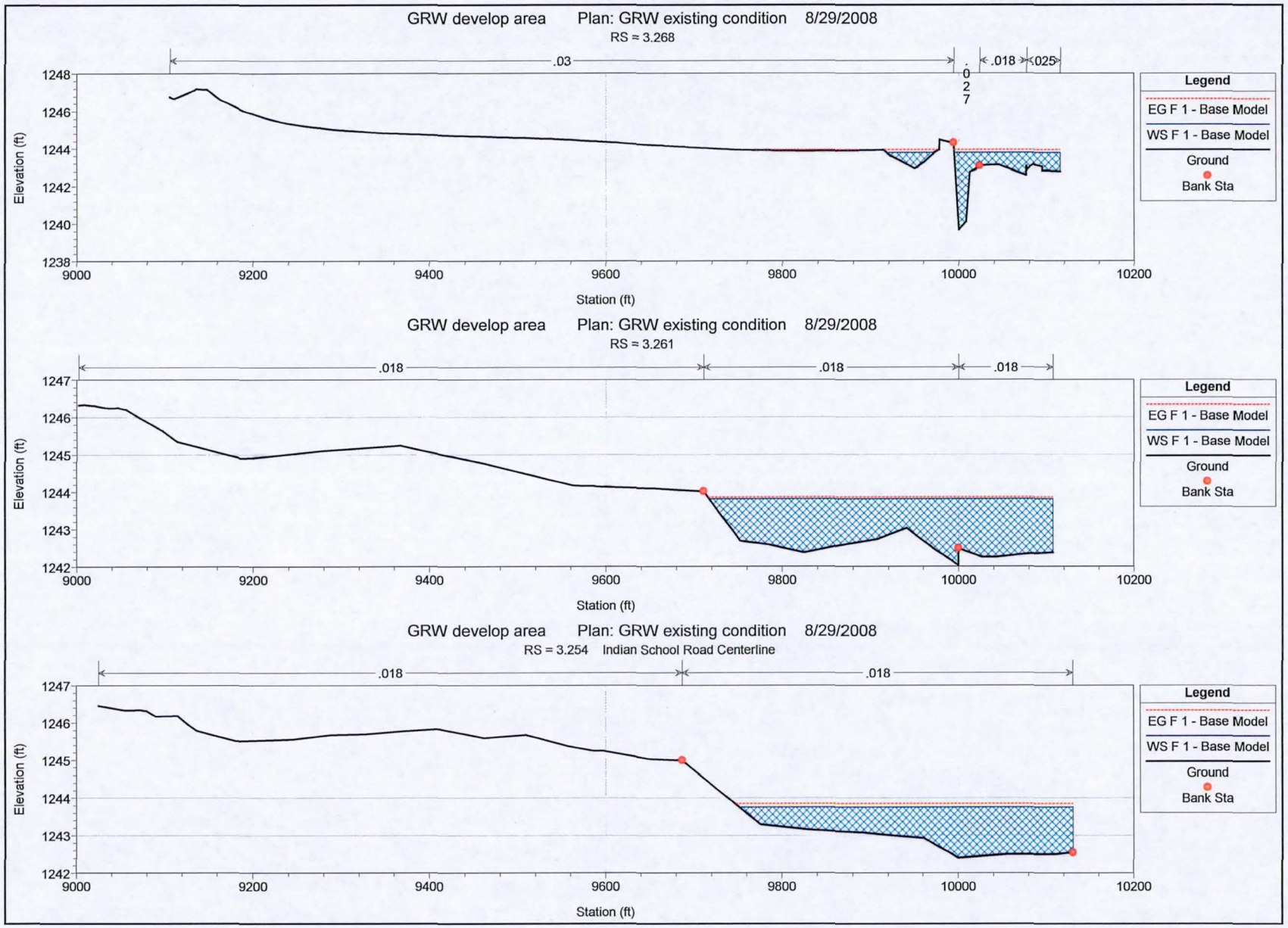

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.120
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.063
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 4.007
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

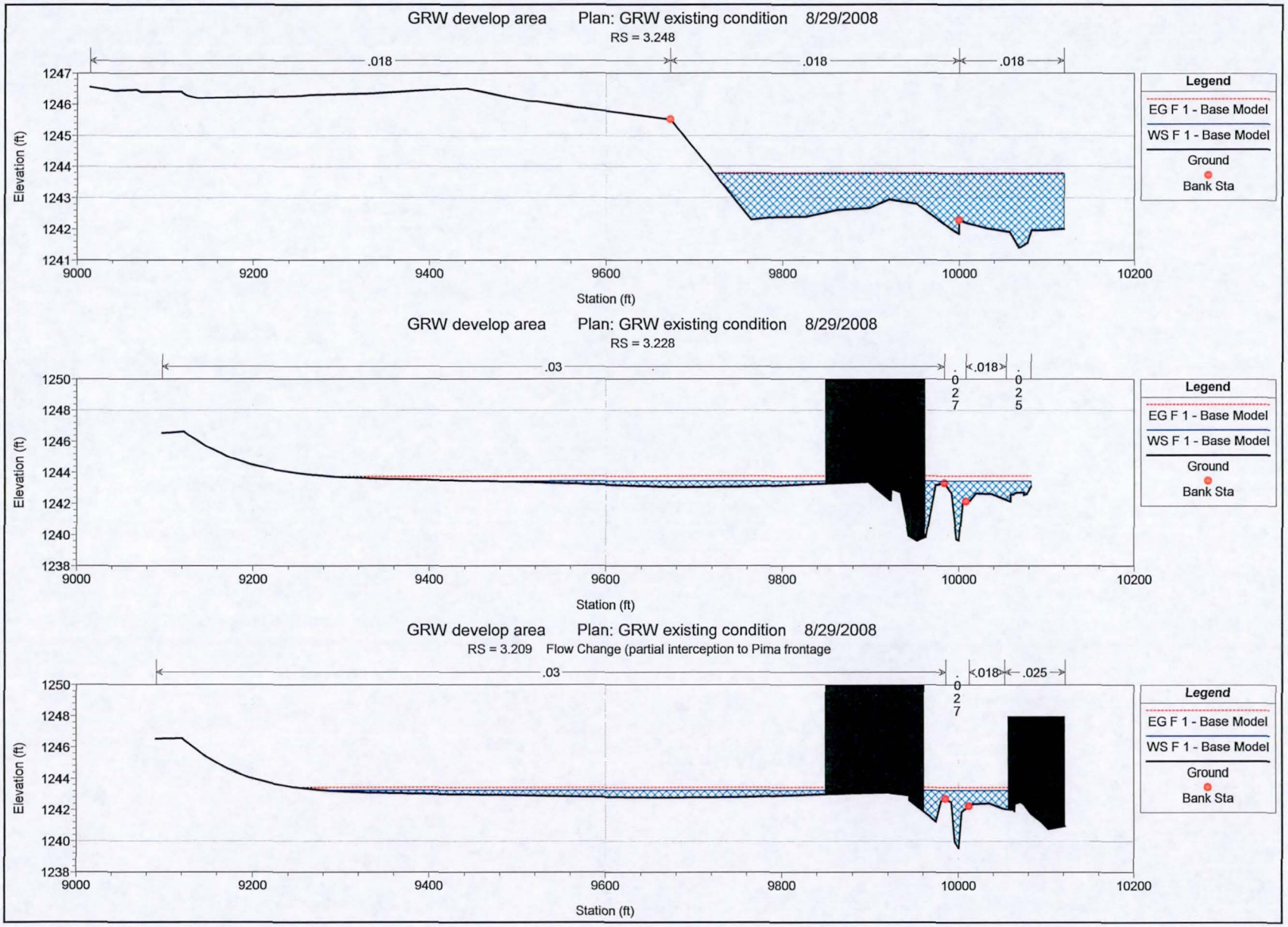

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.950
.03
.027
.012
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.893
.03
.027
.012
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.836 Camelback Road Centerline
.03
.027
.012
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

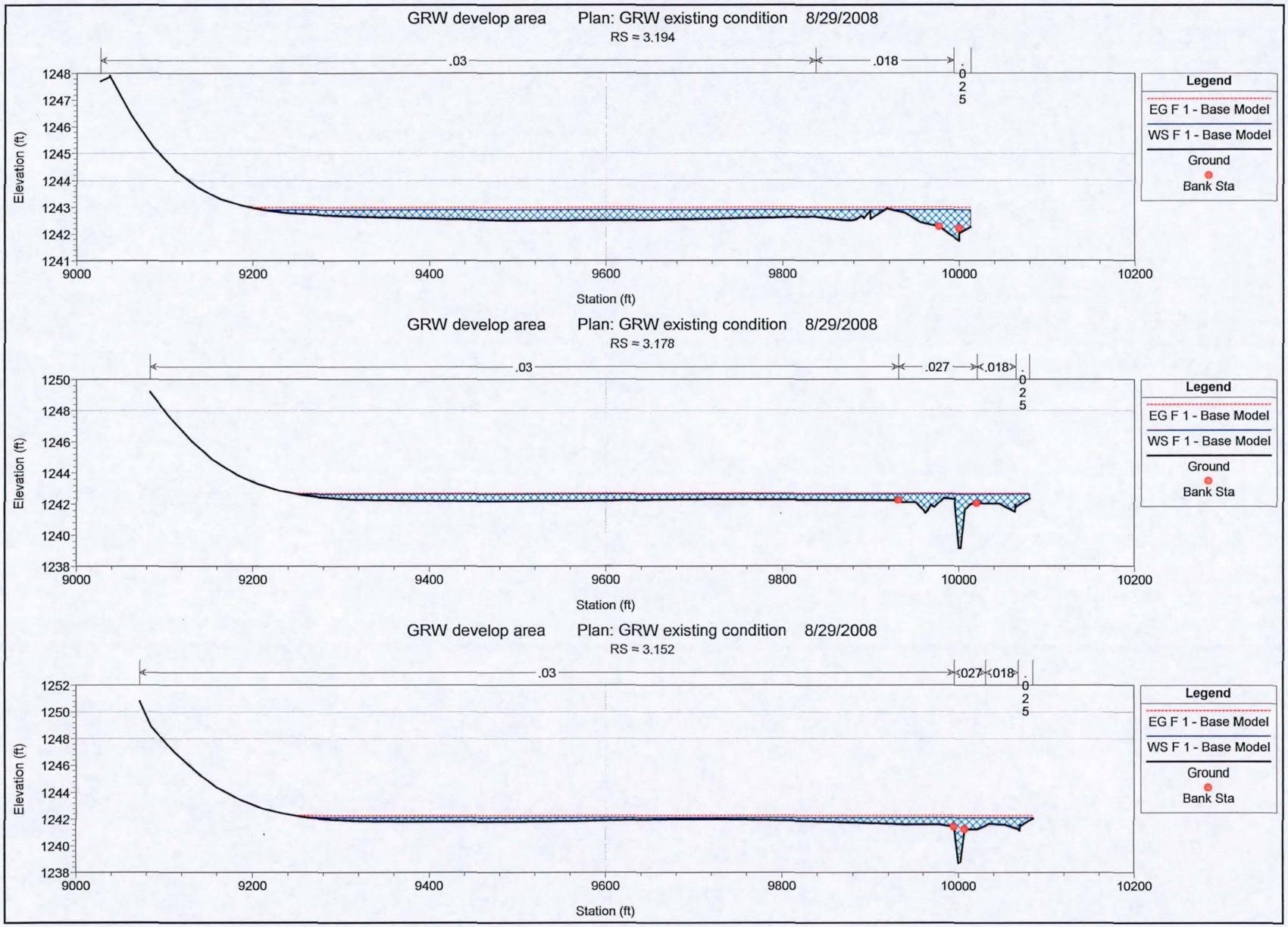

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.779
.03
.027
.0012
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.723
.03
.027
.0012
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.666
.03
.027
.0012
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

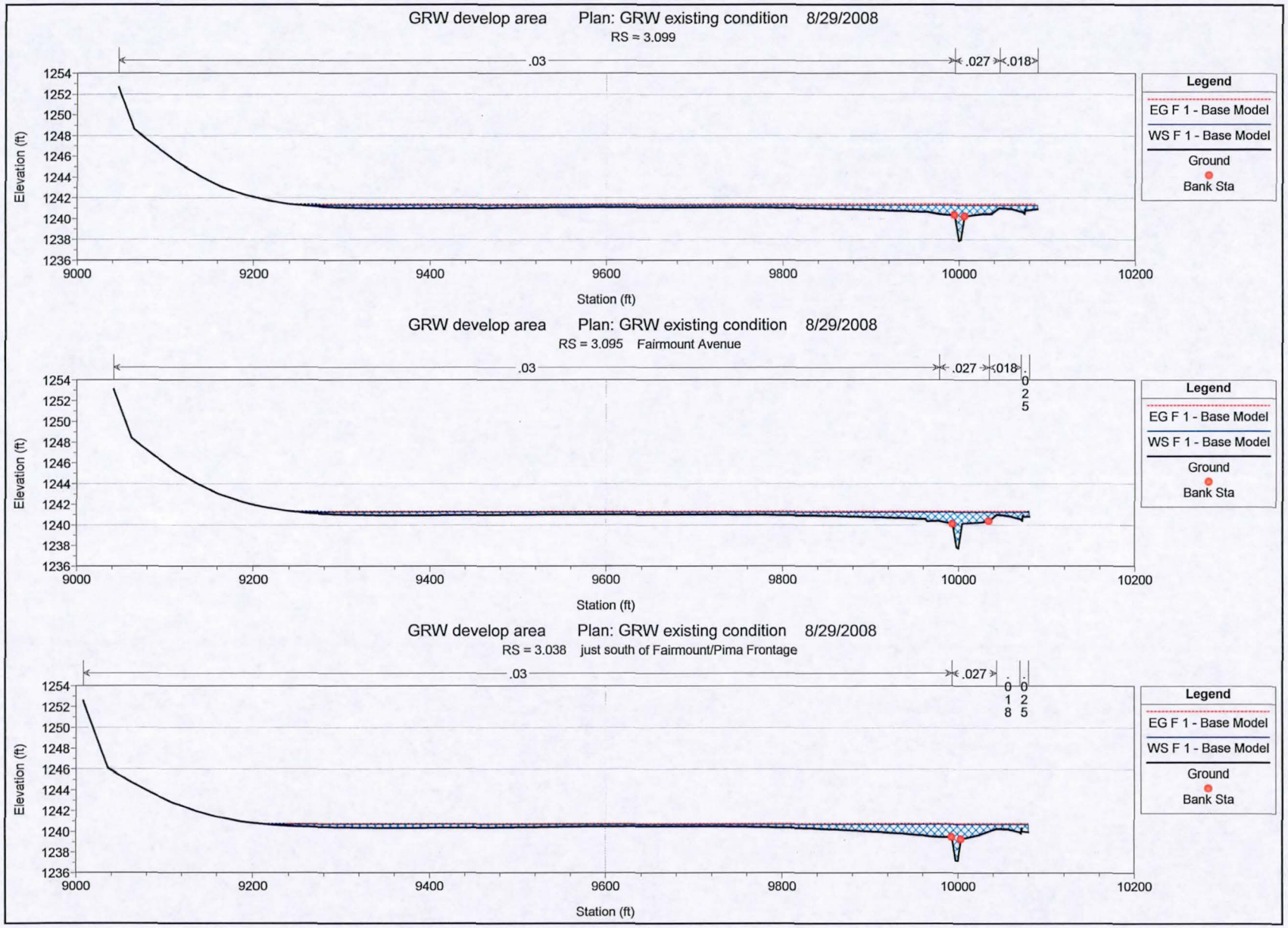

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.609
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.552
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.495
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

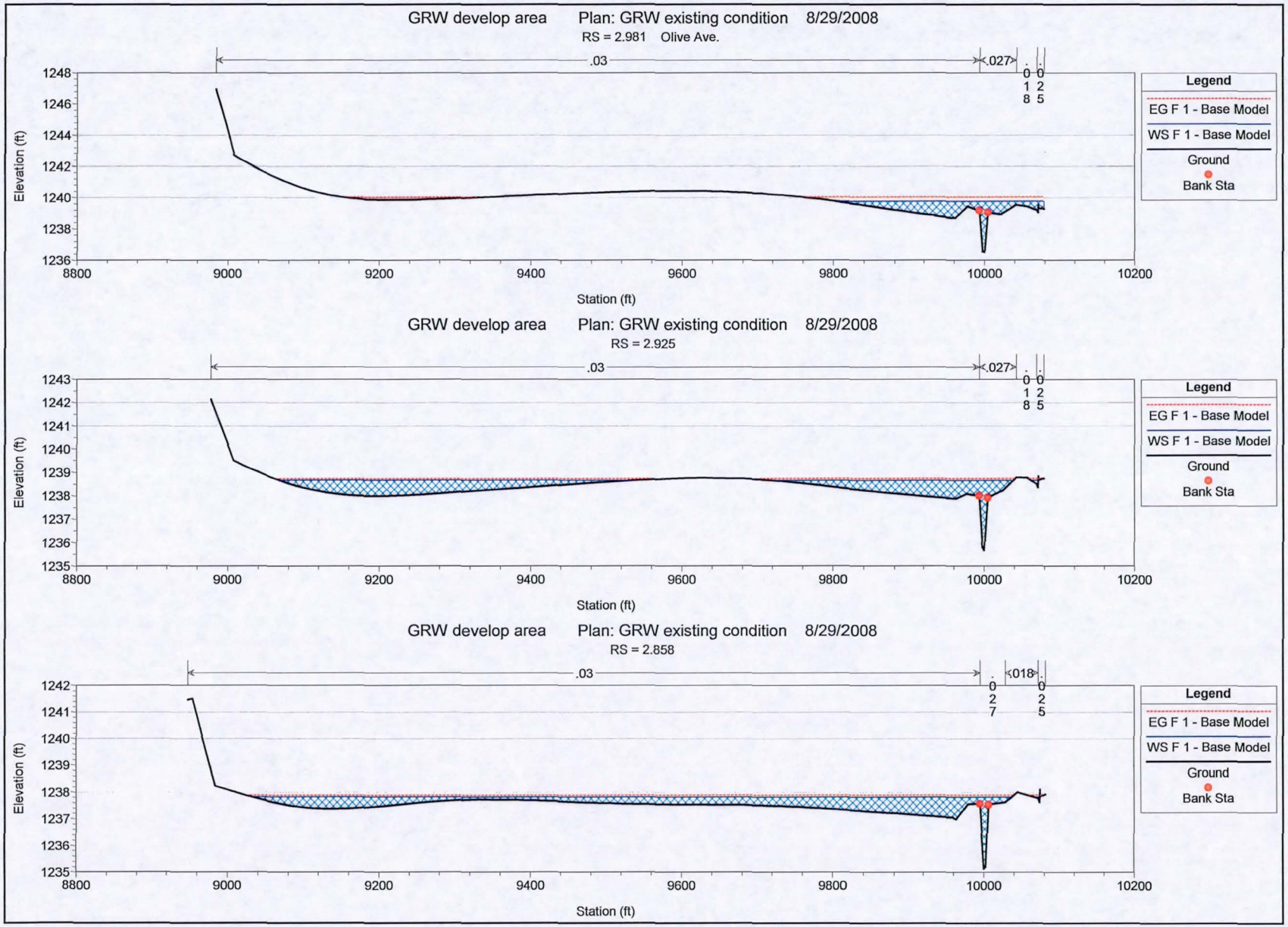

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.438
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.382
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.325
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

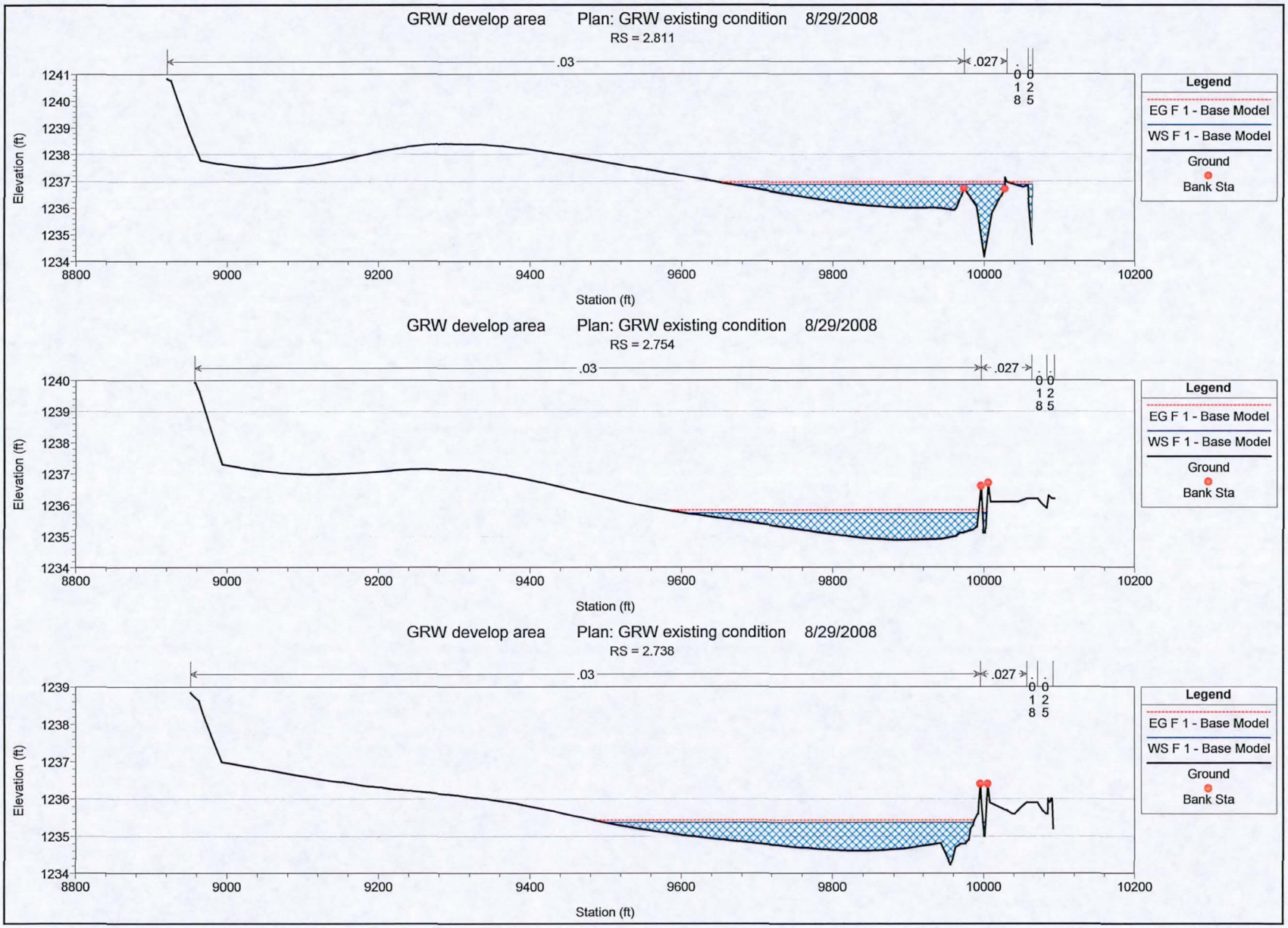

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.268
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.261
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.254 Indian School Road Centerline
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

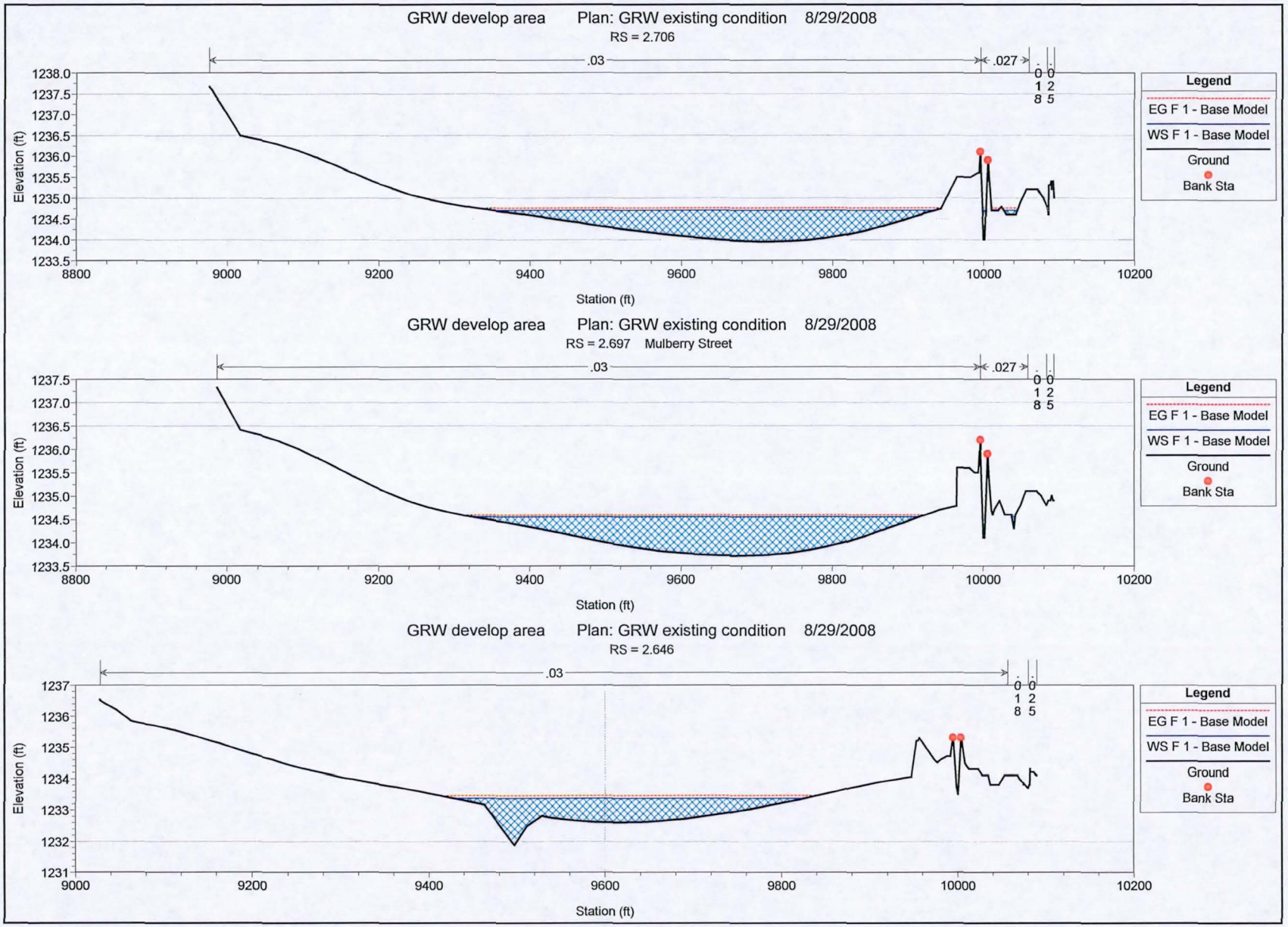

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.248
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.228
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.209 Flow Change (partial interception to Pima frontage
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

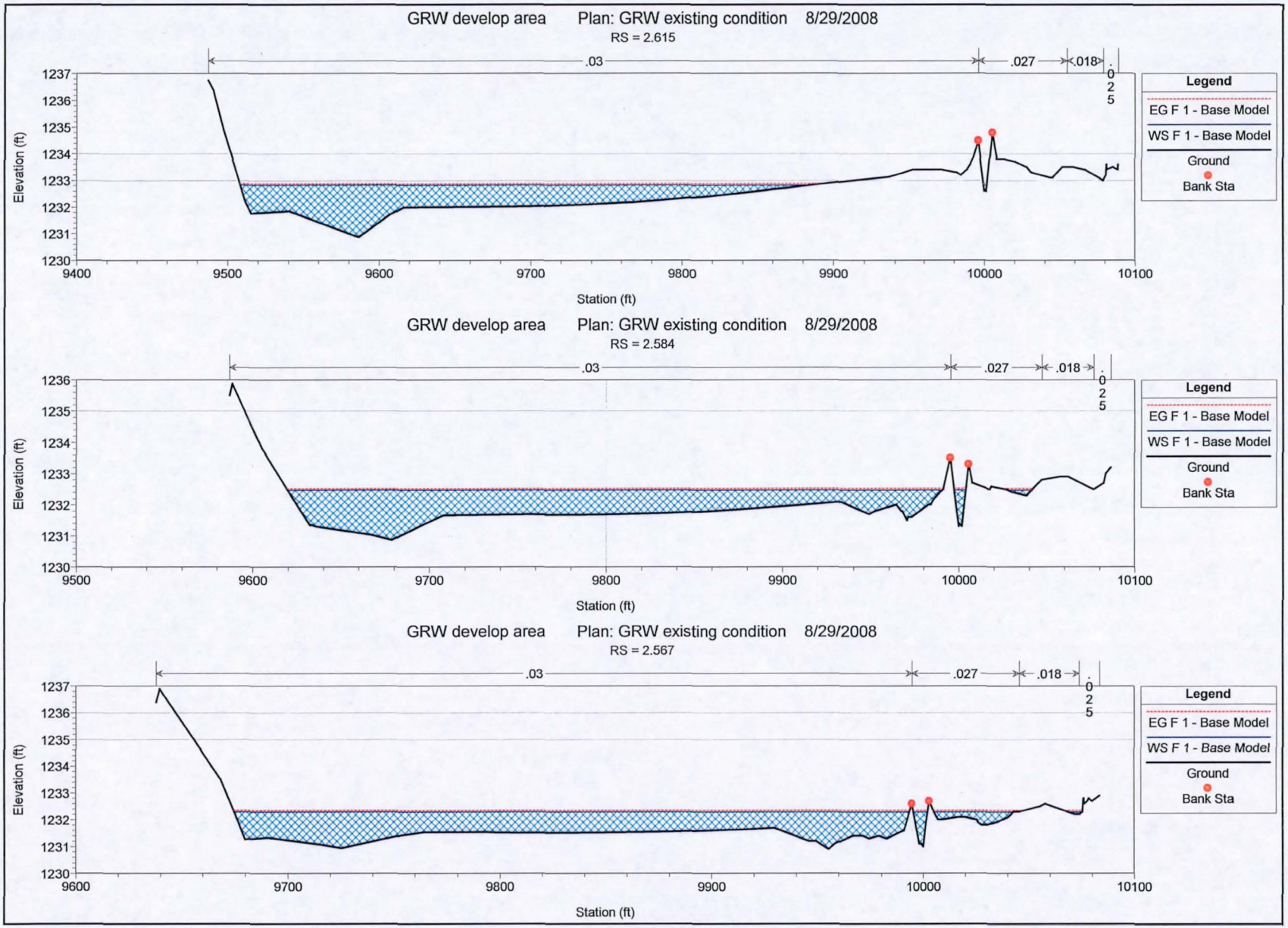

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.194
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.178
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.152
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

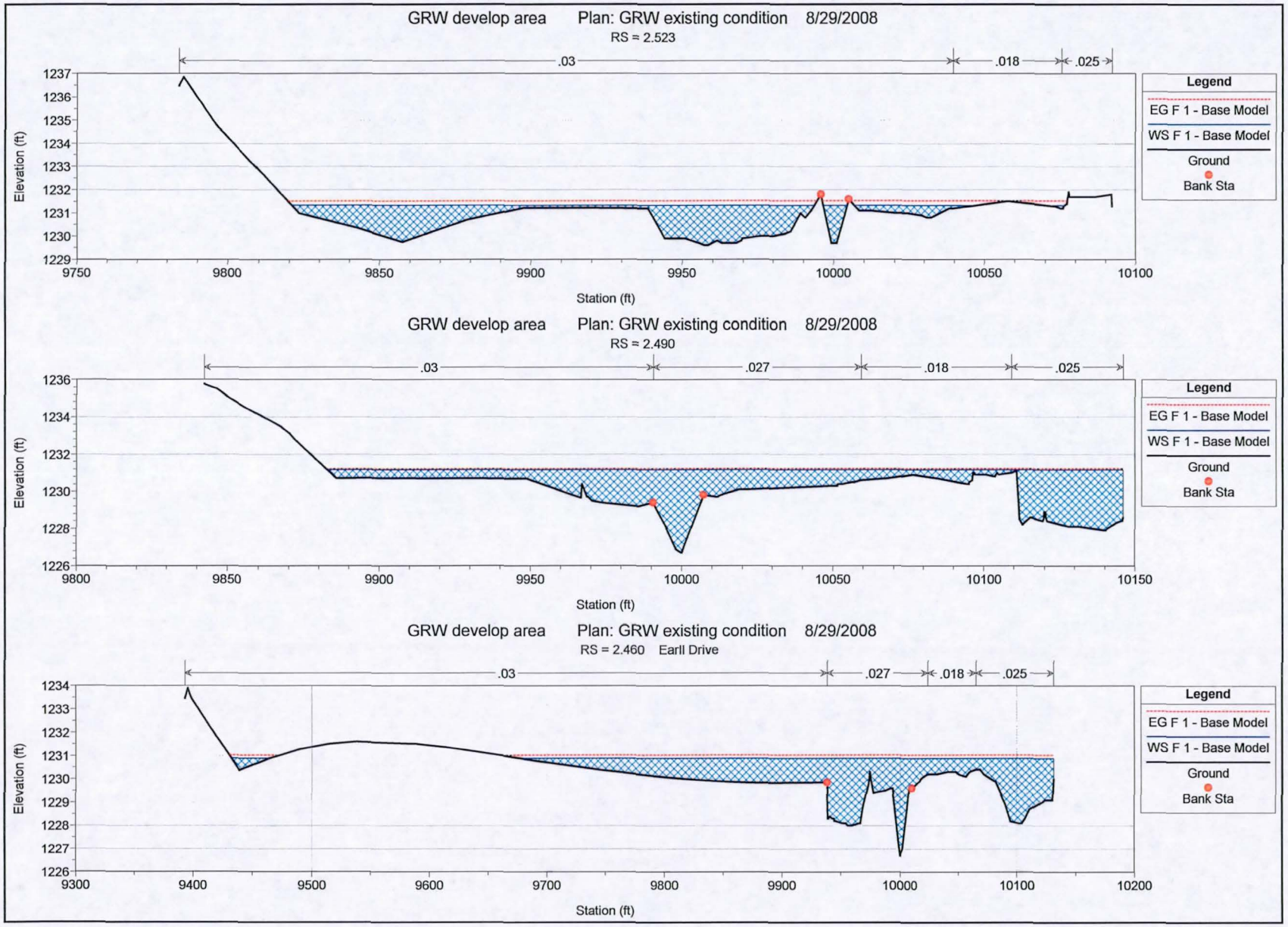

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.099
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.095 Fairmount Avenue
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 3.038 just south of Fairmount/Pima Frontage
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

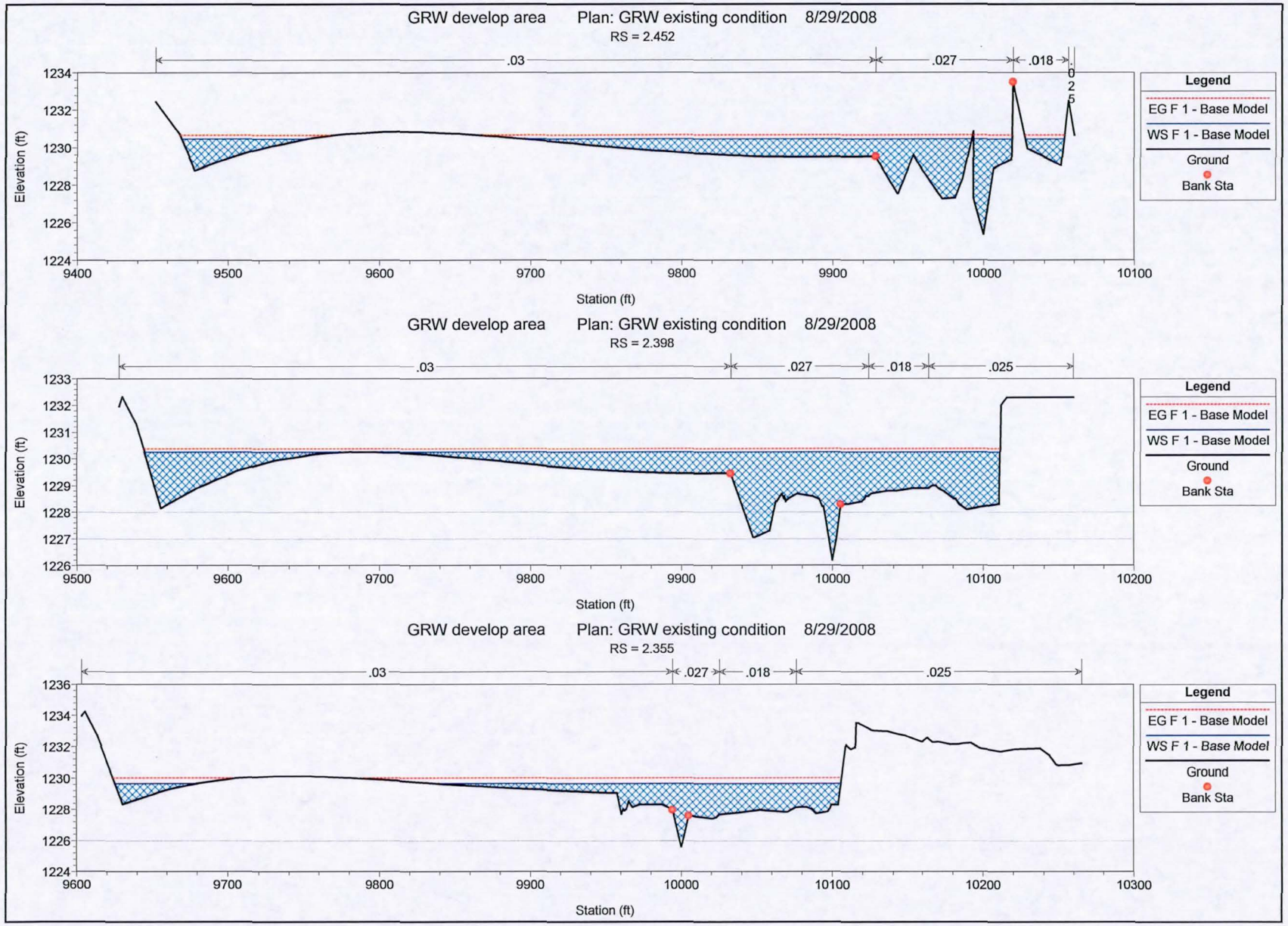

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.981 Olive Ave.
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.925
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.858
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

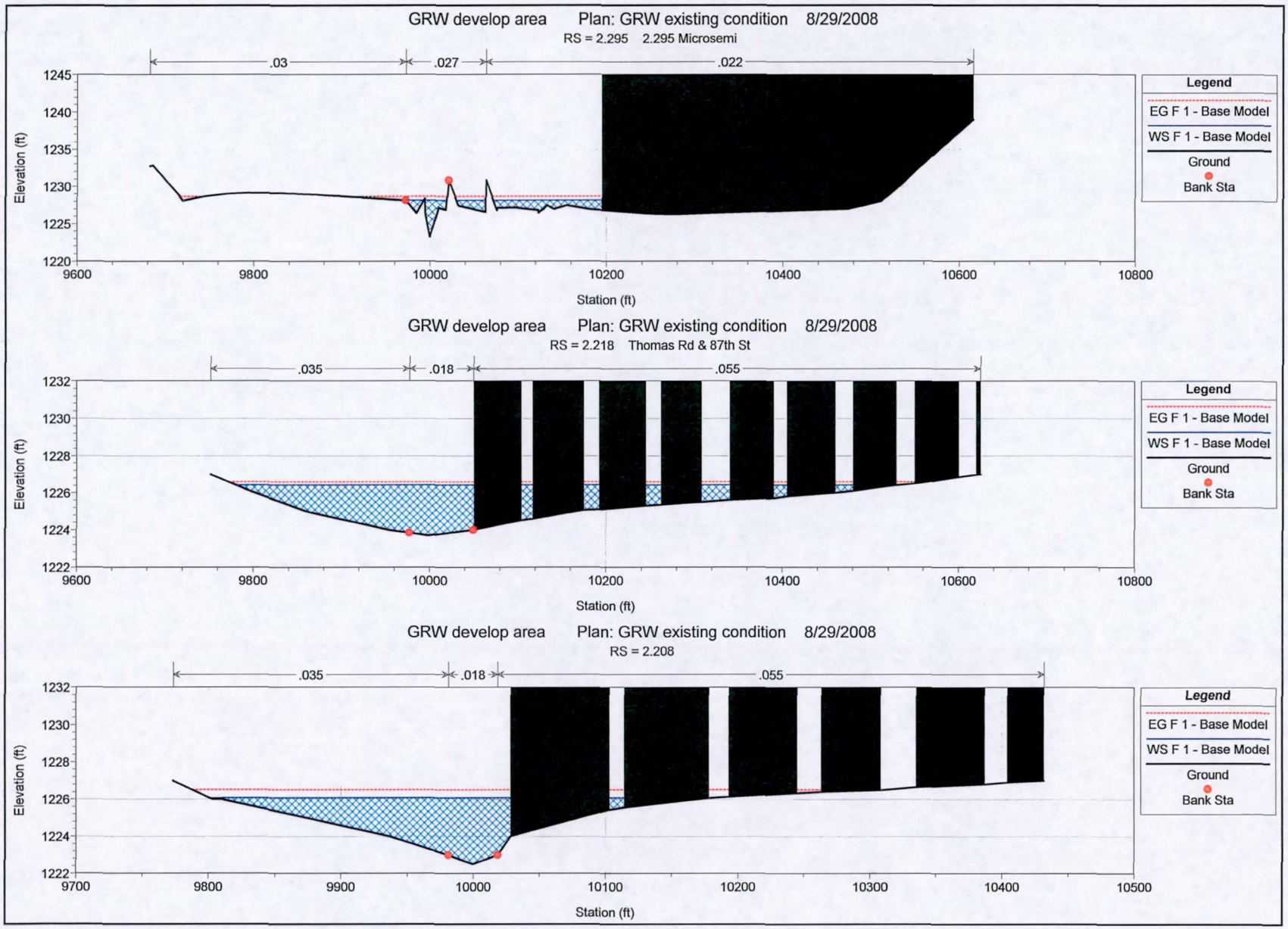

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.811
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1241
1240
1239
1238
1237
1236
1235
1234
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.754
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1240
1239
1238
1237
1236
1235
1234
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.738
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1239
1238
1237
1236
1235
1234
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta


GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.706
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.697 Mulberry Street
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.646
.03
.0 .0
1 2
8 5
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

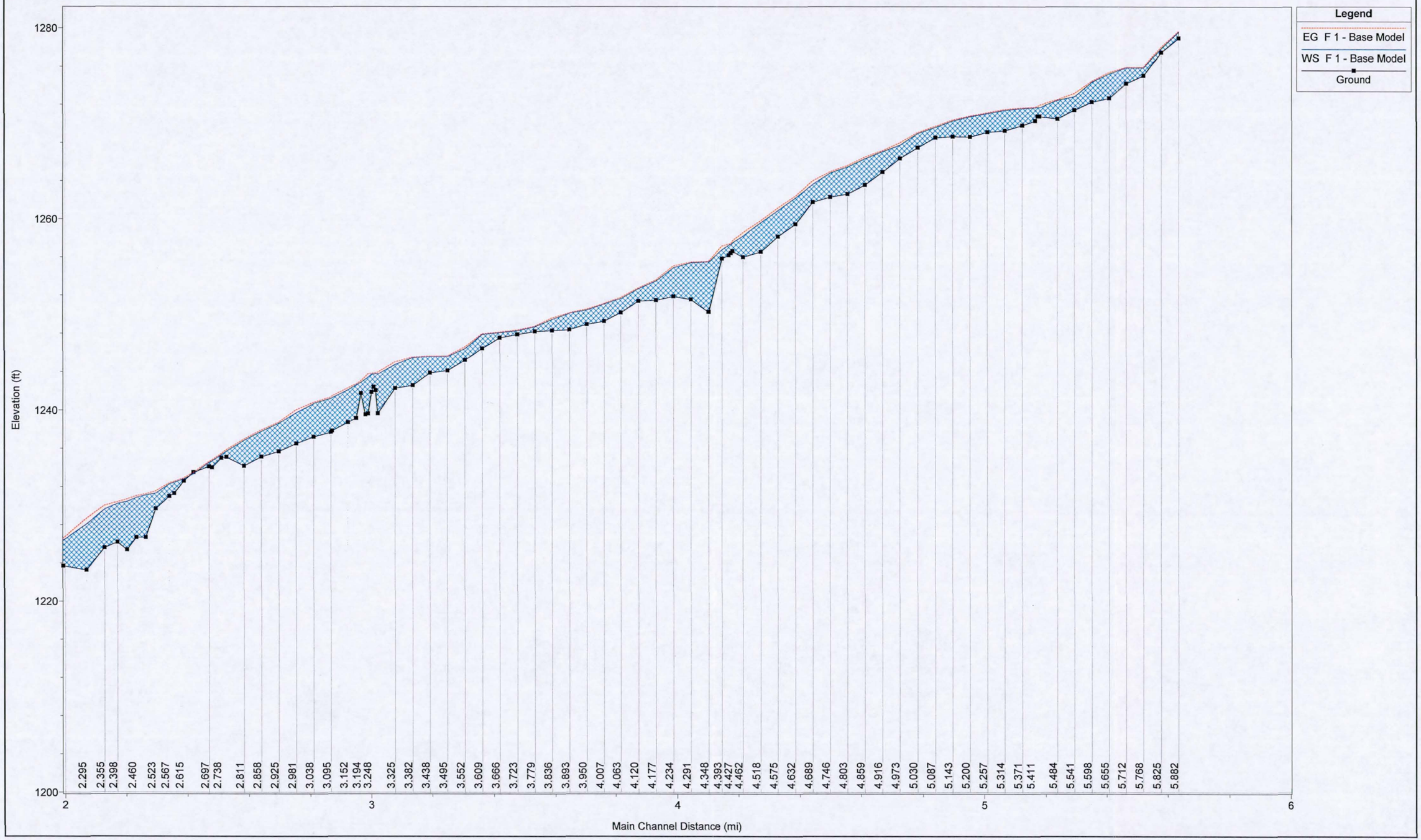

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.615
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.584
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.567
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

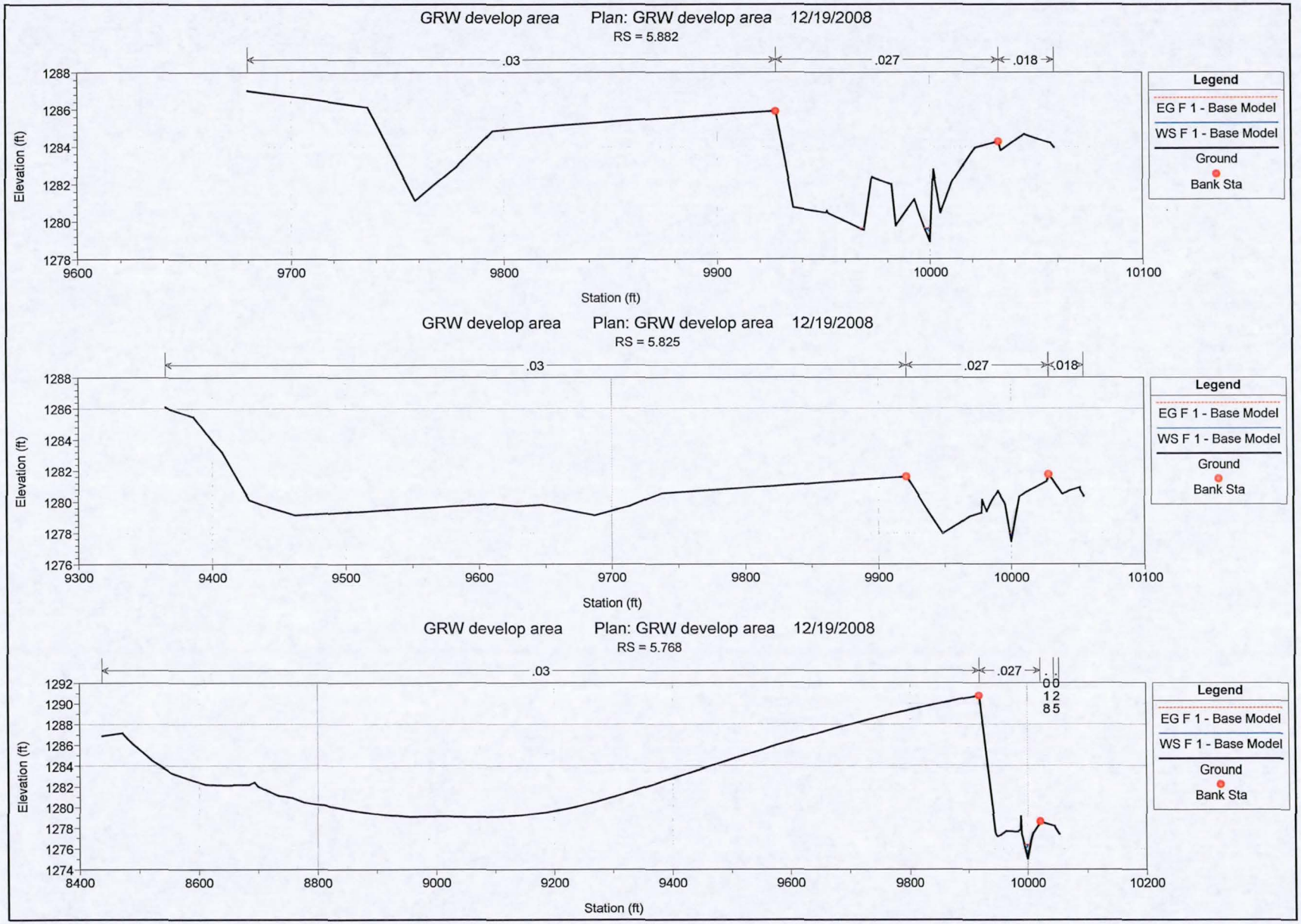

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.523
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.490
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.460 Earll Drive
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

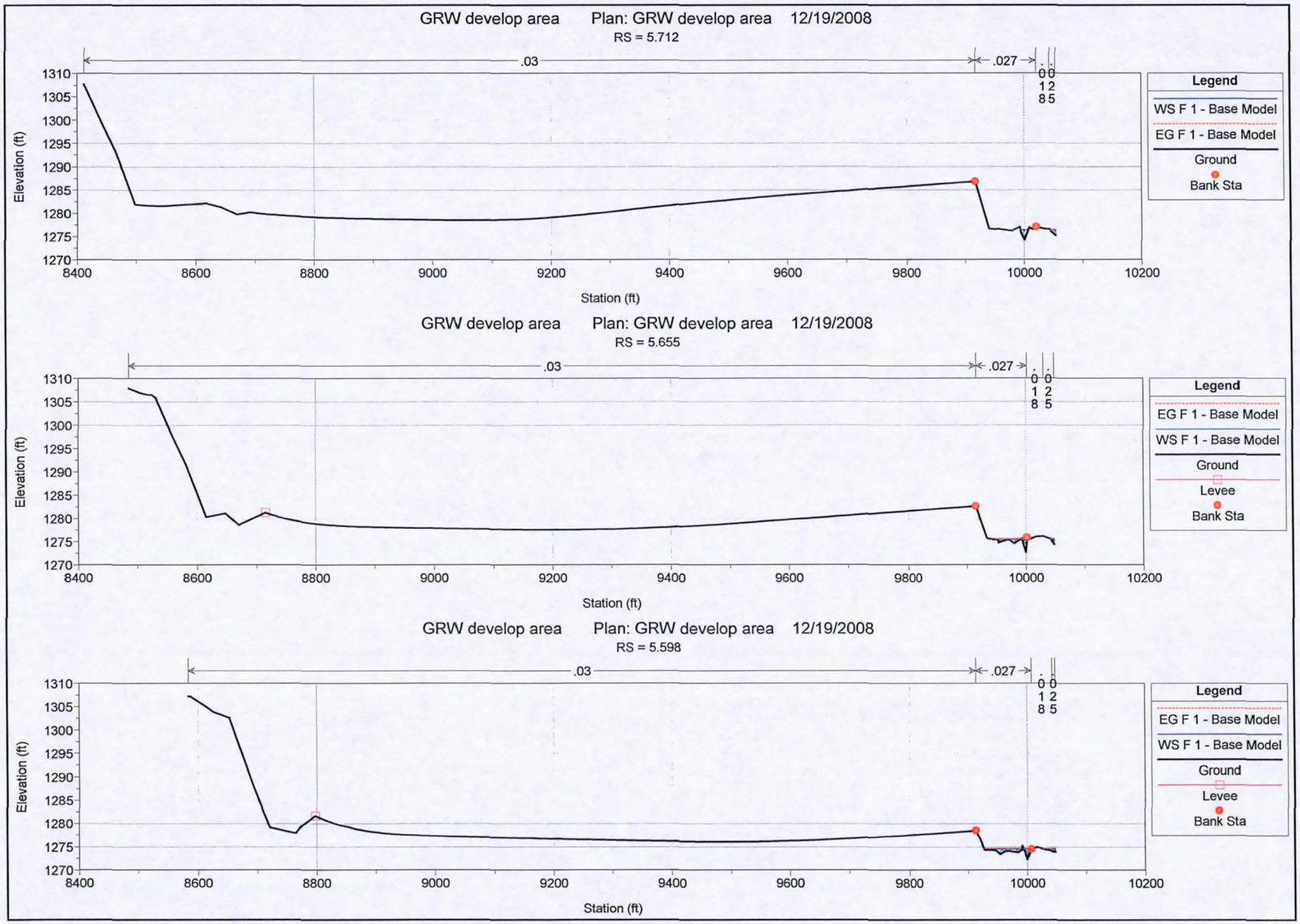

GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.452
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.398
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.355
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta


GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.295 2.295 Microsemi
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.218 Thomas Rd & 87th St
.035
.018
.055
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW existing condition 8/29/2008
RS = 2.208
.035
.018
.055
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

GRW develop area Plan: GRW existing condition 8/29/2008

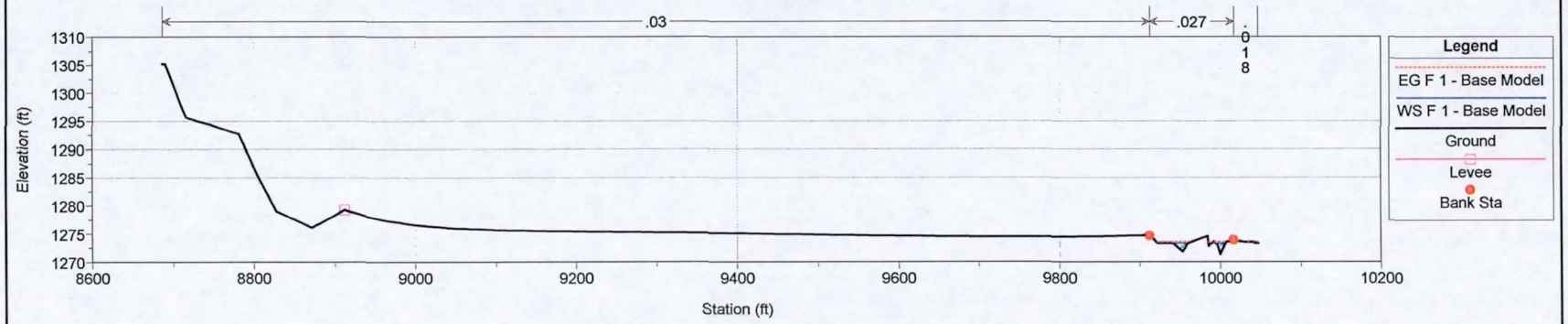



GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.882
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.825
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.768
.03
.027
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.712
.03
.027
.0012
.0085
Elevation (ft)
Station (ft)
Legend
WS F 1 - Base Model
EG F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.655
.03
.027
.0012
.0085
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.598
.03
.027
.0012
.0085
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

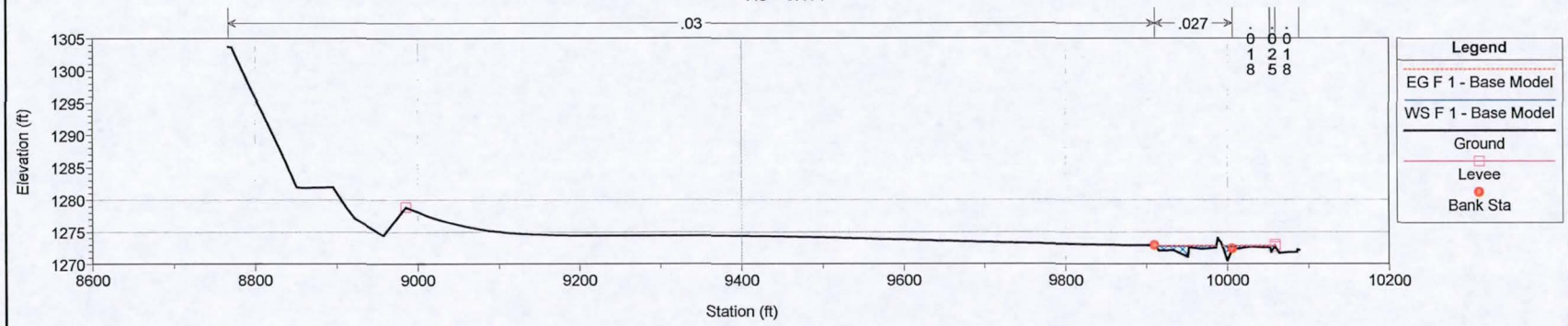
GRW develop area Plan: GRW develop area 12/19/2008

RS = 5.541



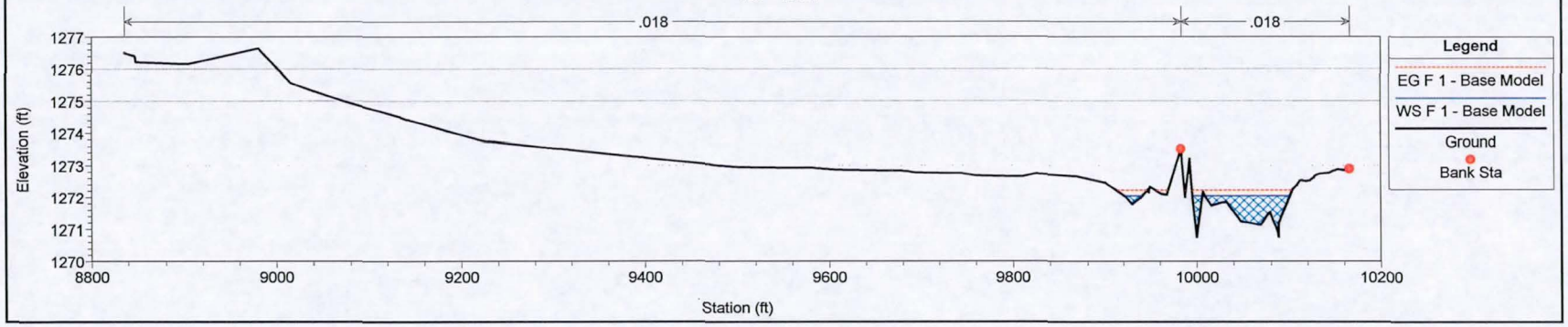
GRW develop area Plan: GRW develop area 12/19/2008

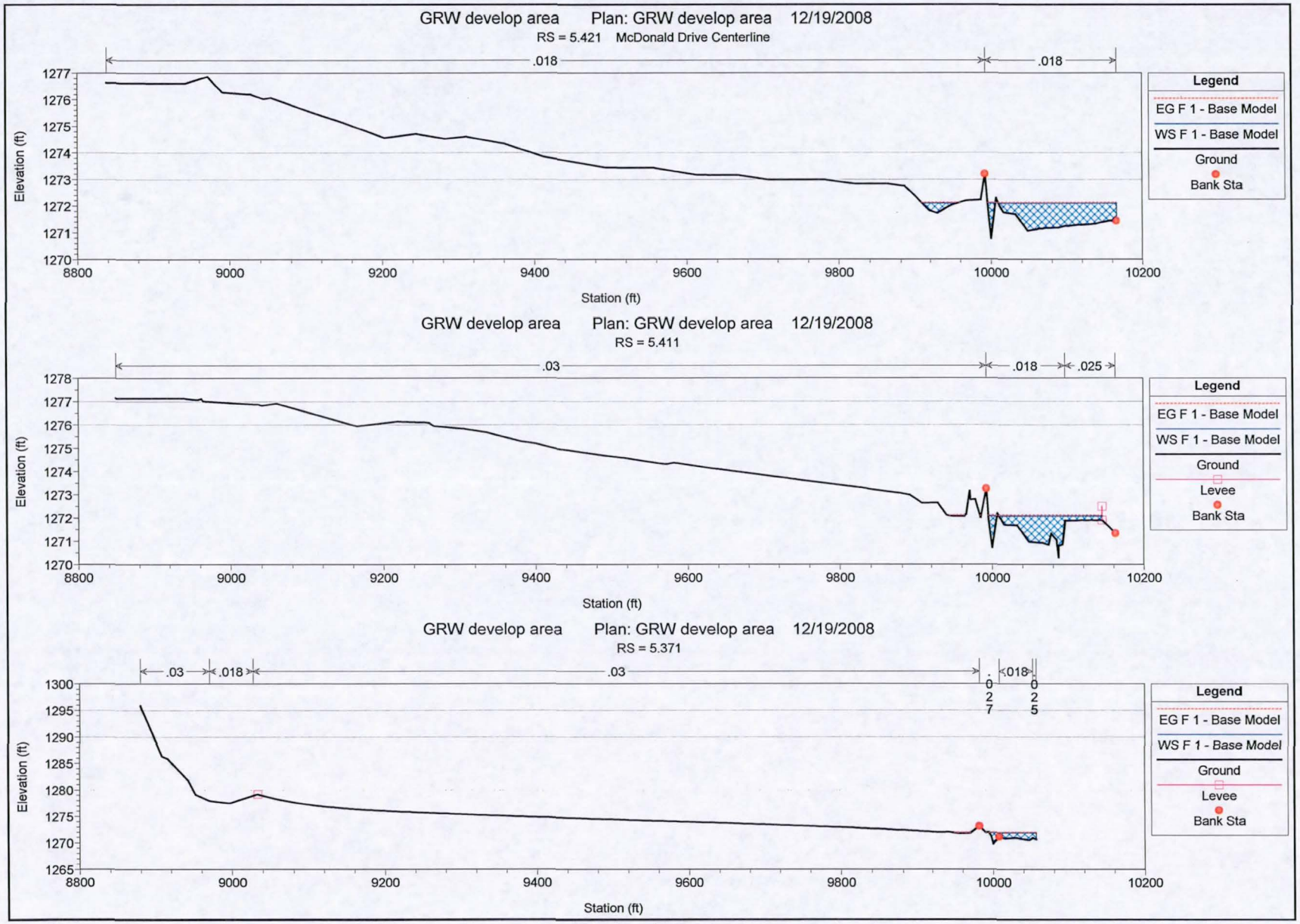
RS = 5.484

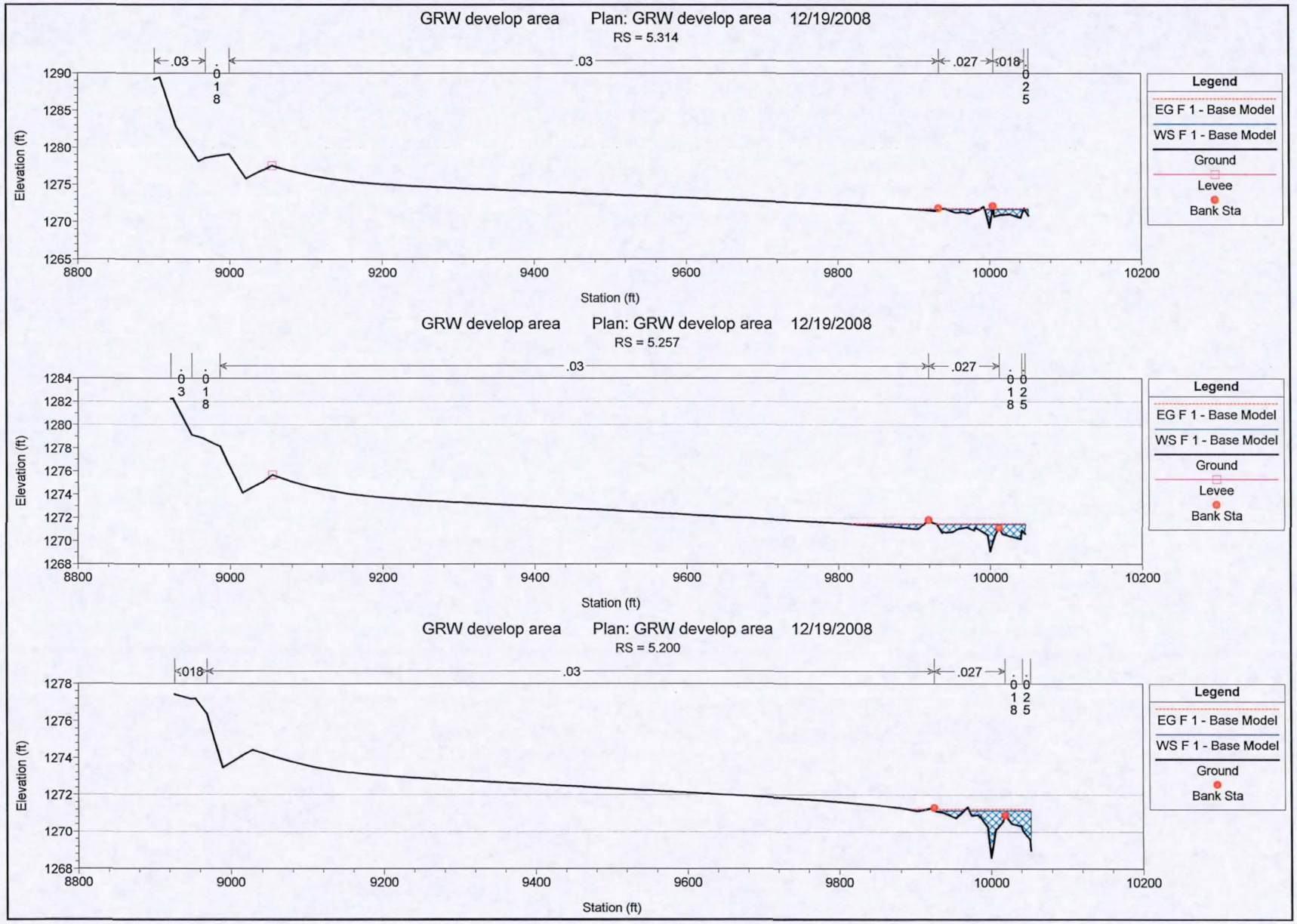


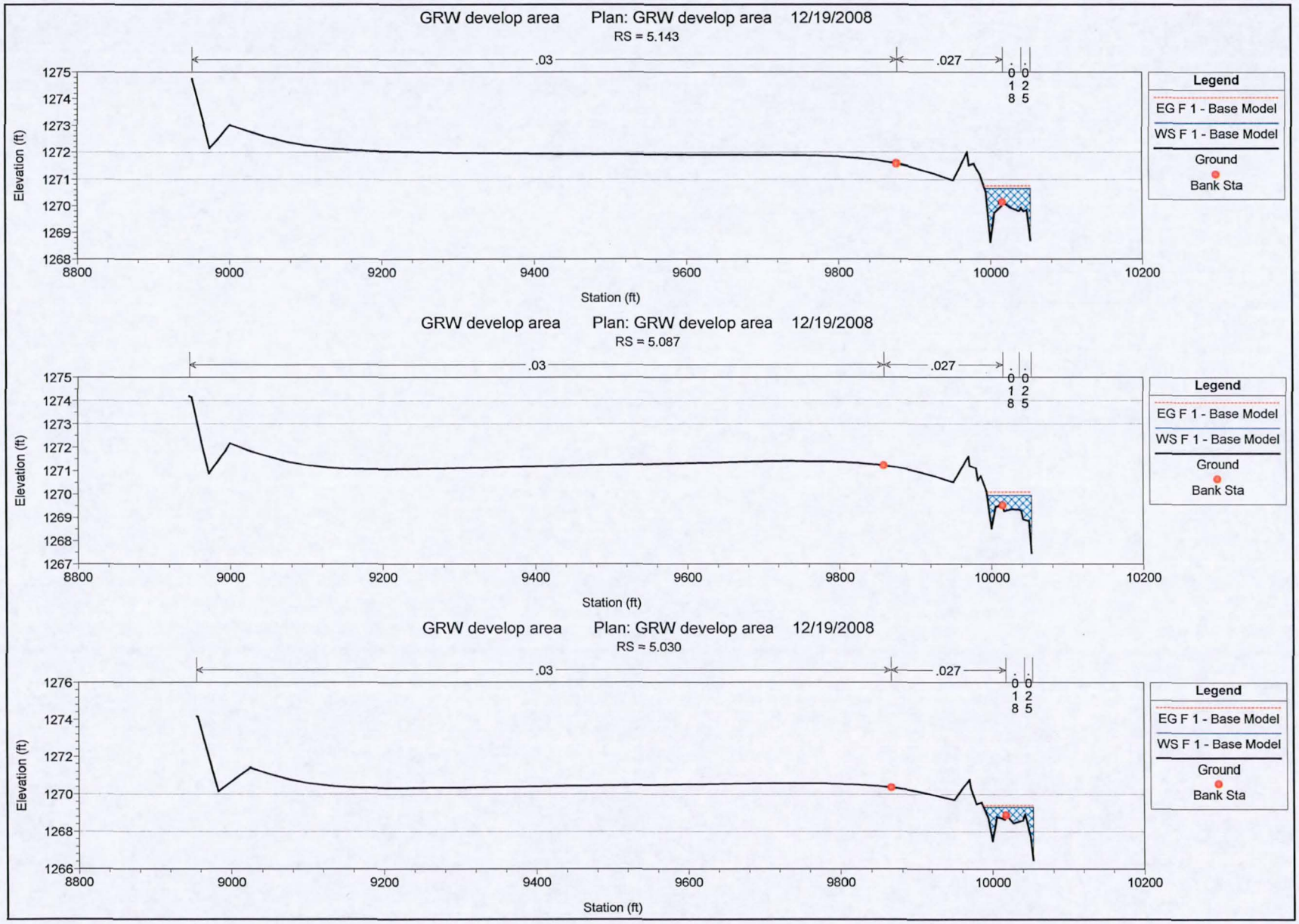
GRW develop area Plan: GRW develop area 12/19/2008

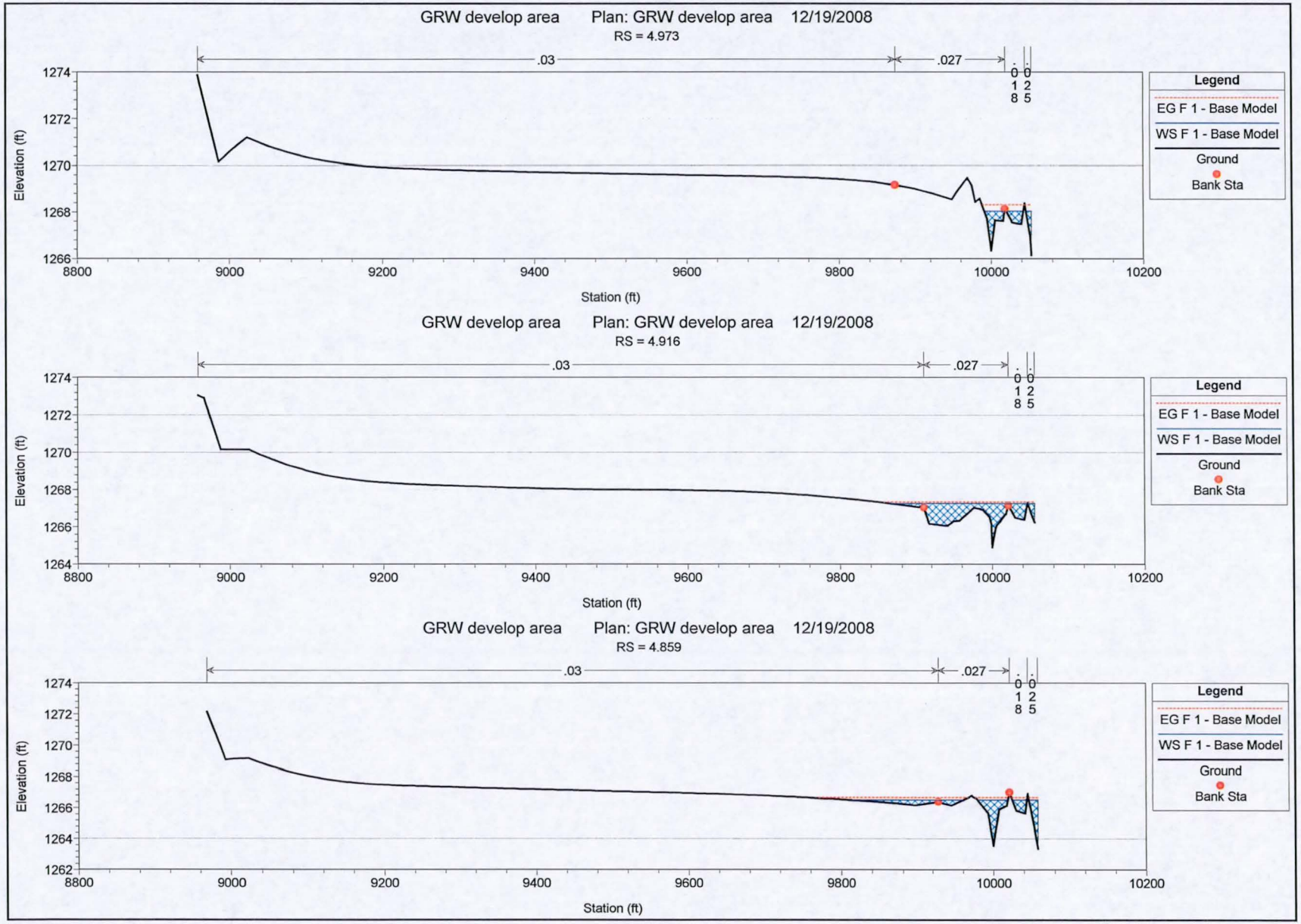
RS = 5.427

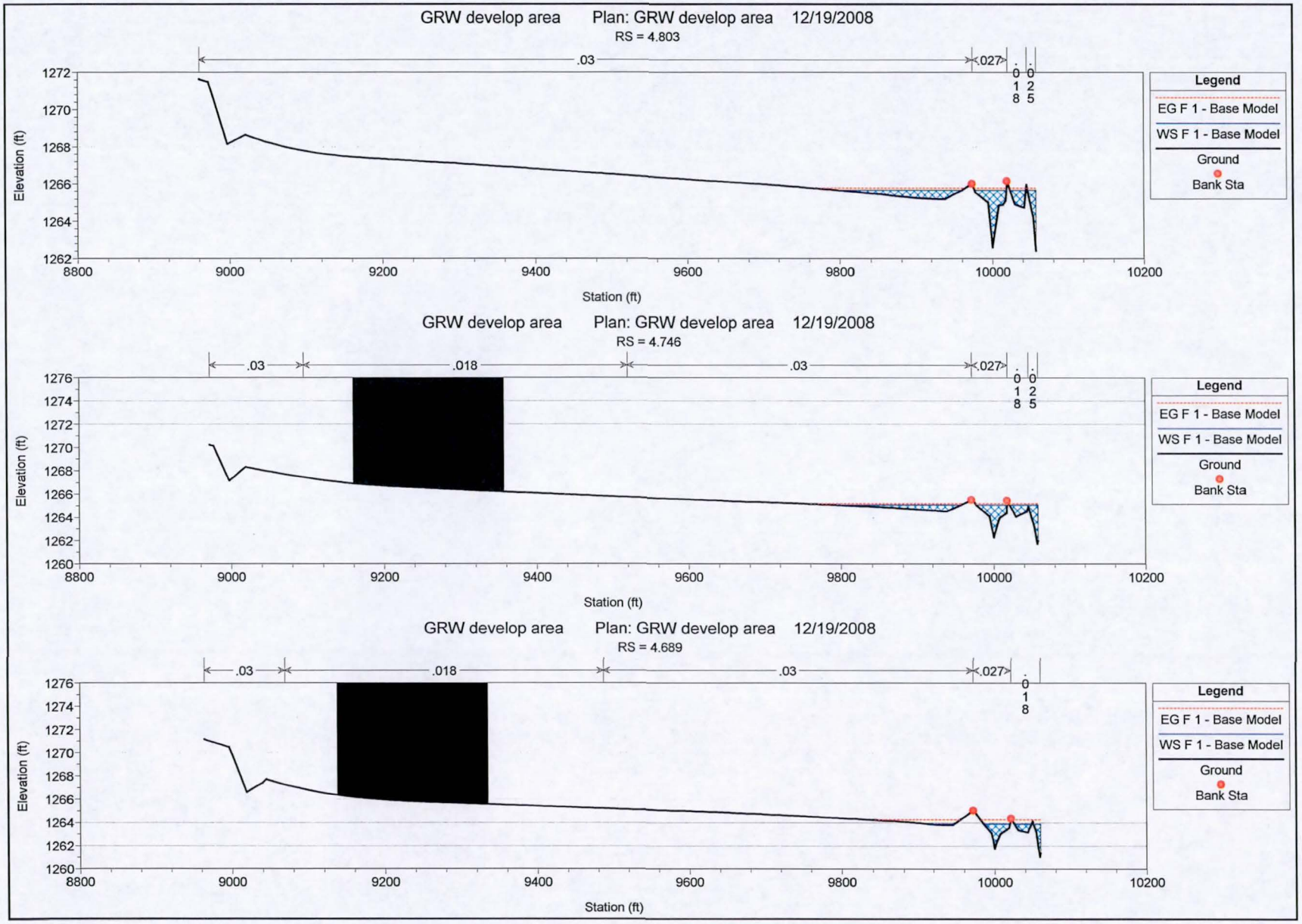


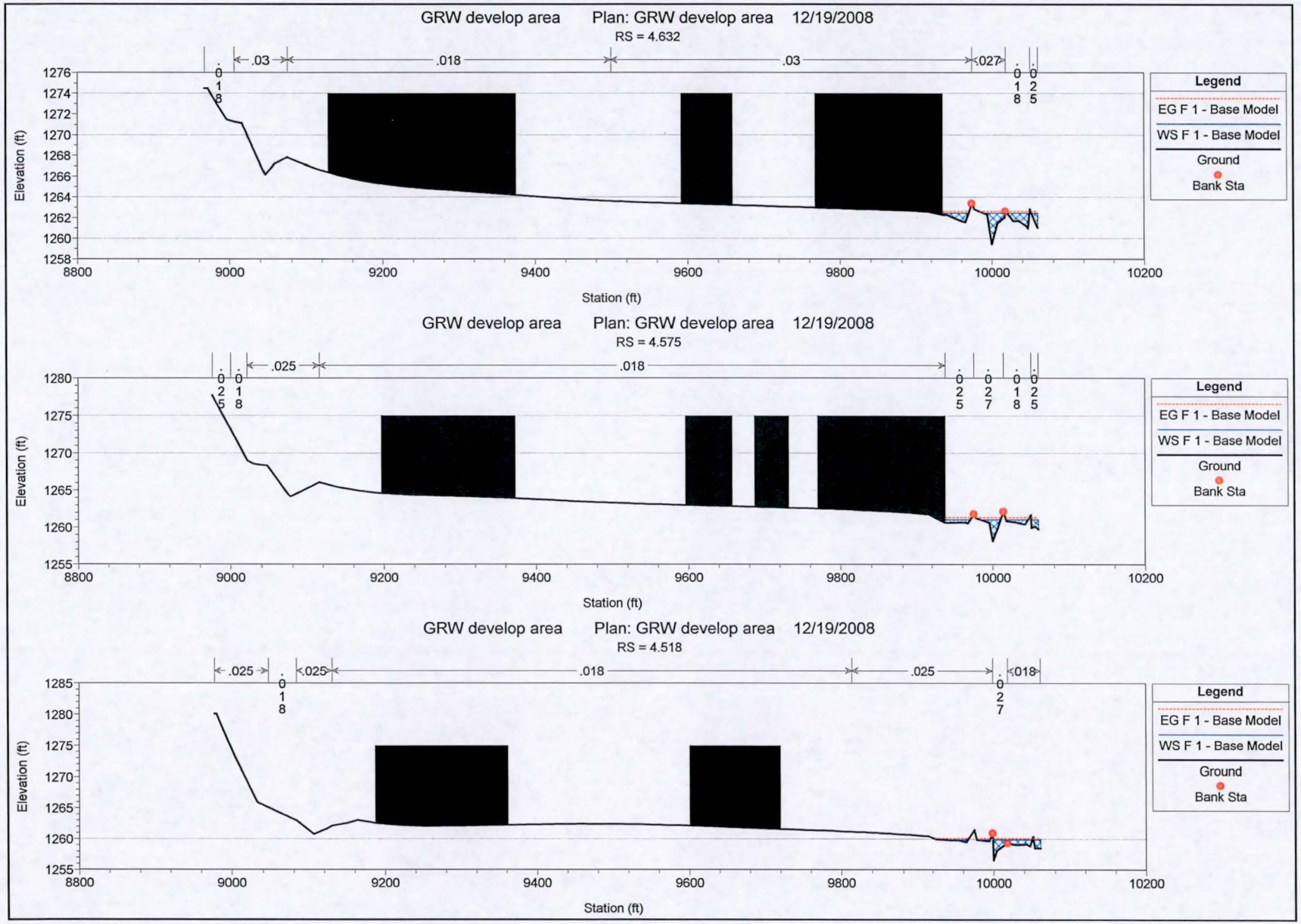

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.421 McDonald Drive Centerline
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.411
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.371
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

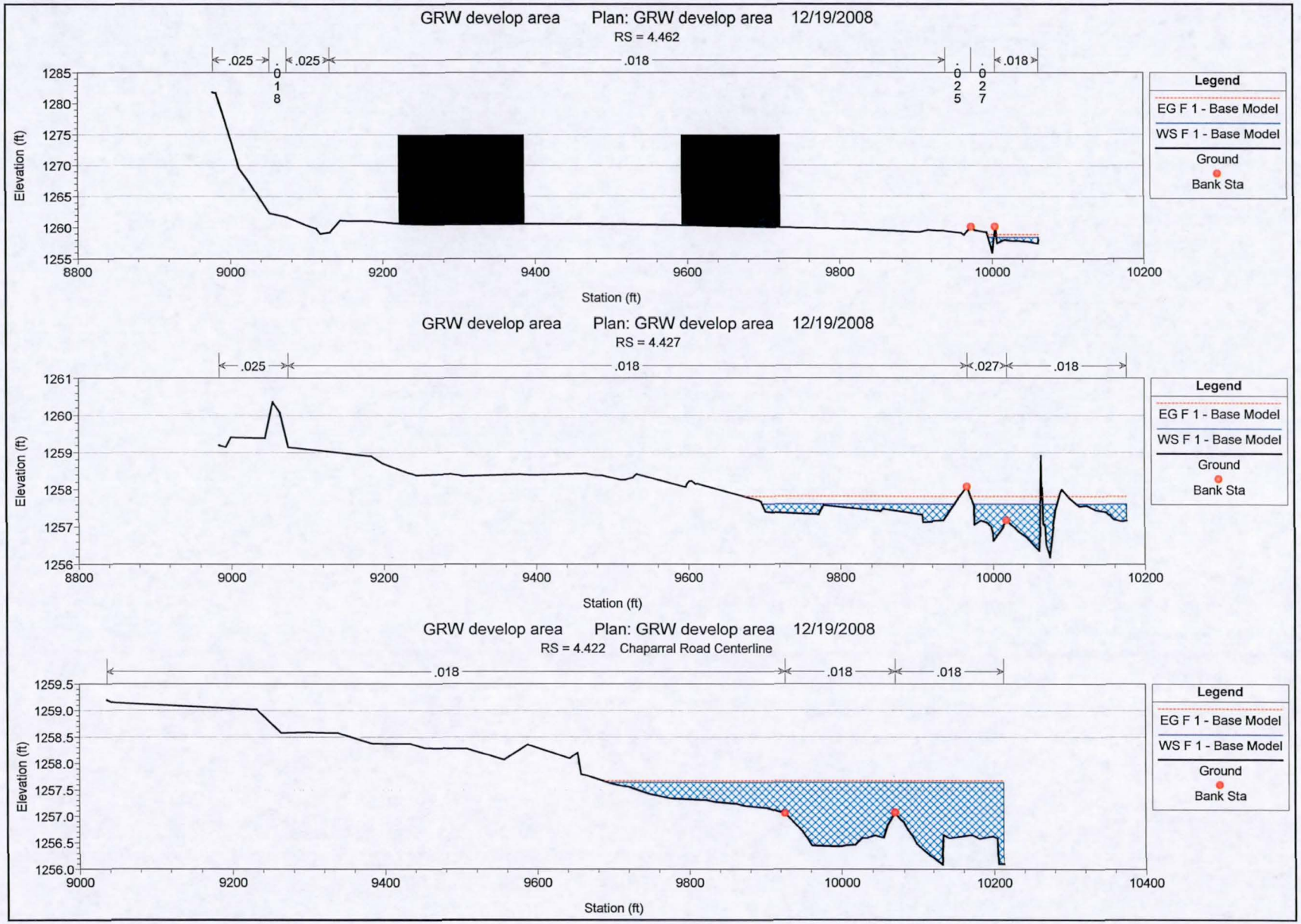

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.314
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.257
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.200
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

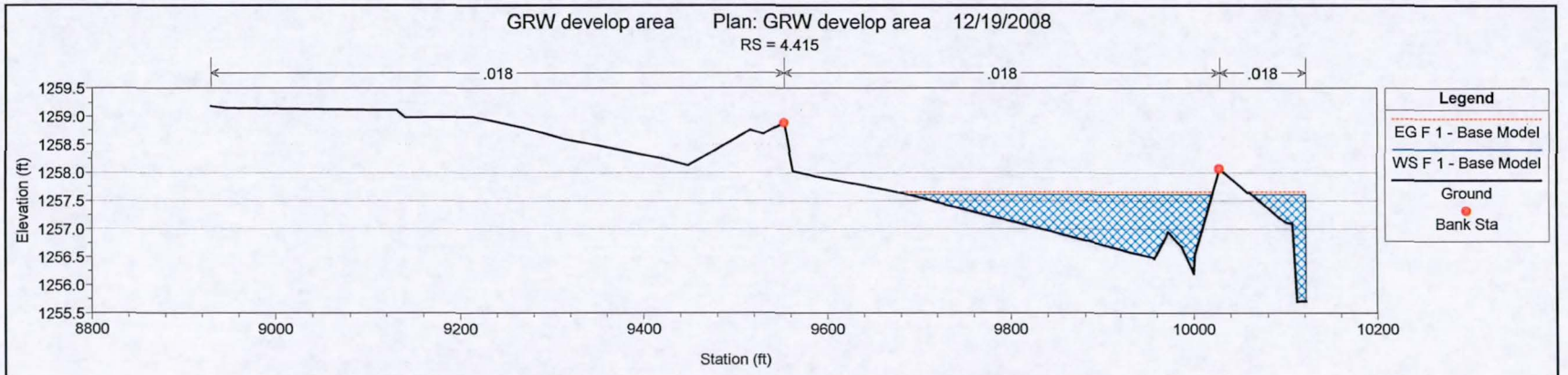

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.143
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.087
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.030
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

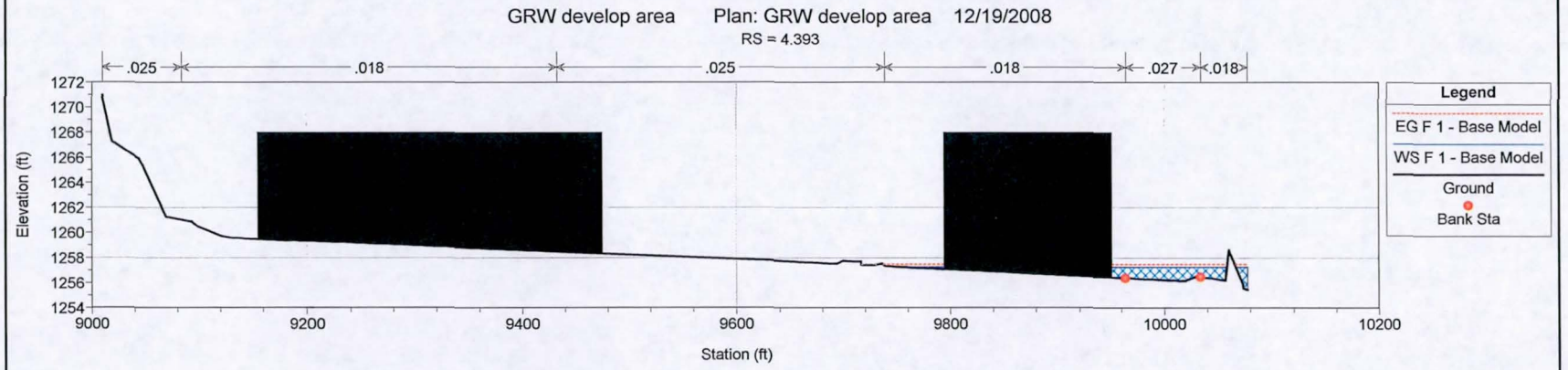

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.973
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.916
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.859
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

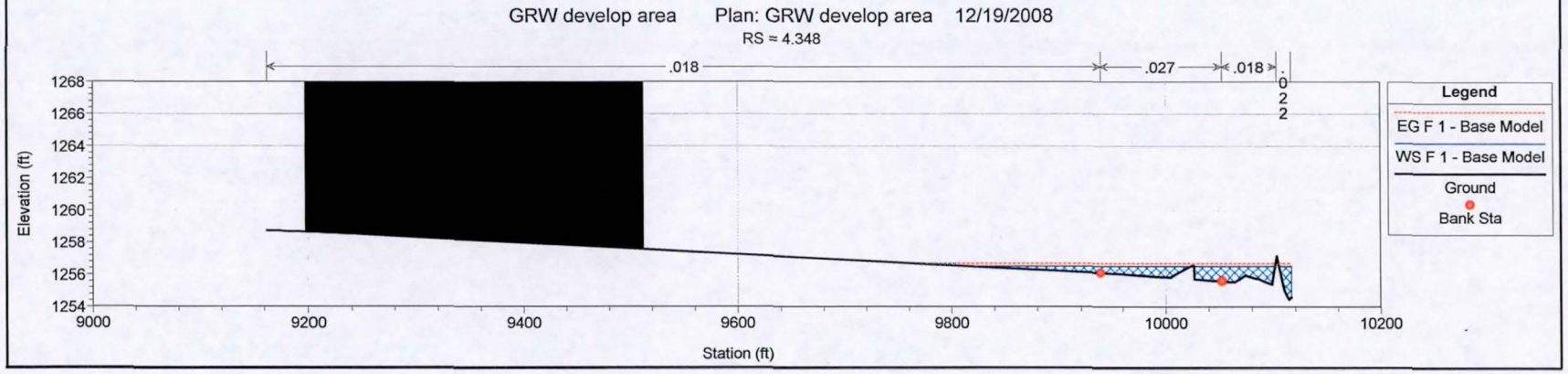

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.803
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.746
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.689
.03
.018
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

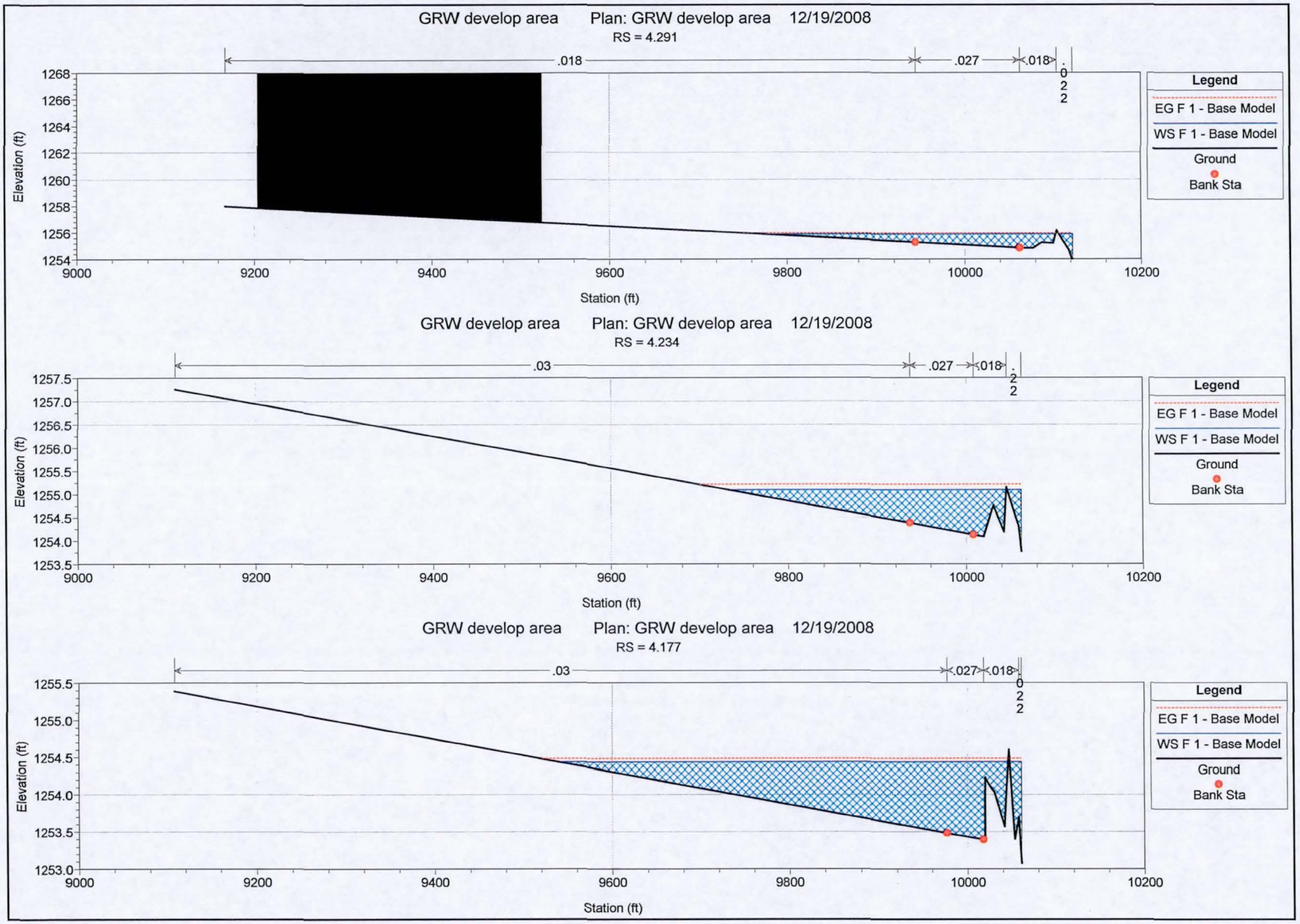

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.632
.018
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.575
.025
.018
.025
.018
.025
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.518
.025
.018
.025
.018
.025
.018
.027
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

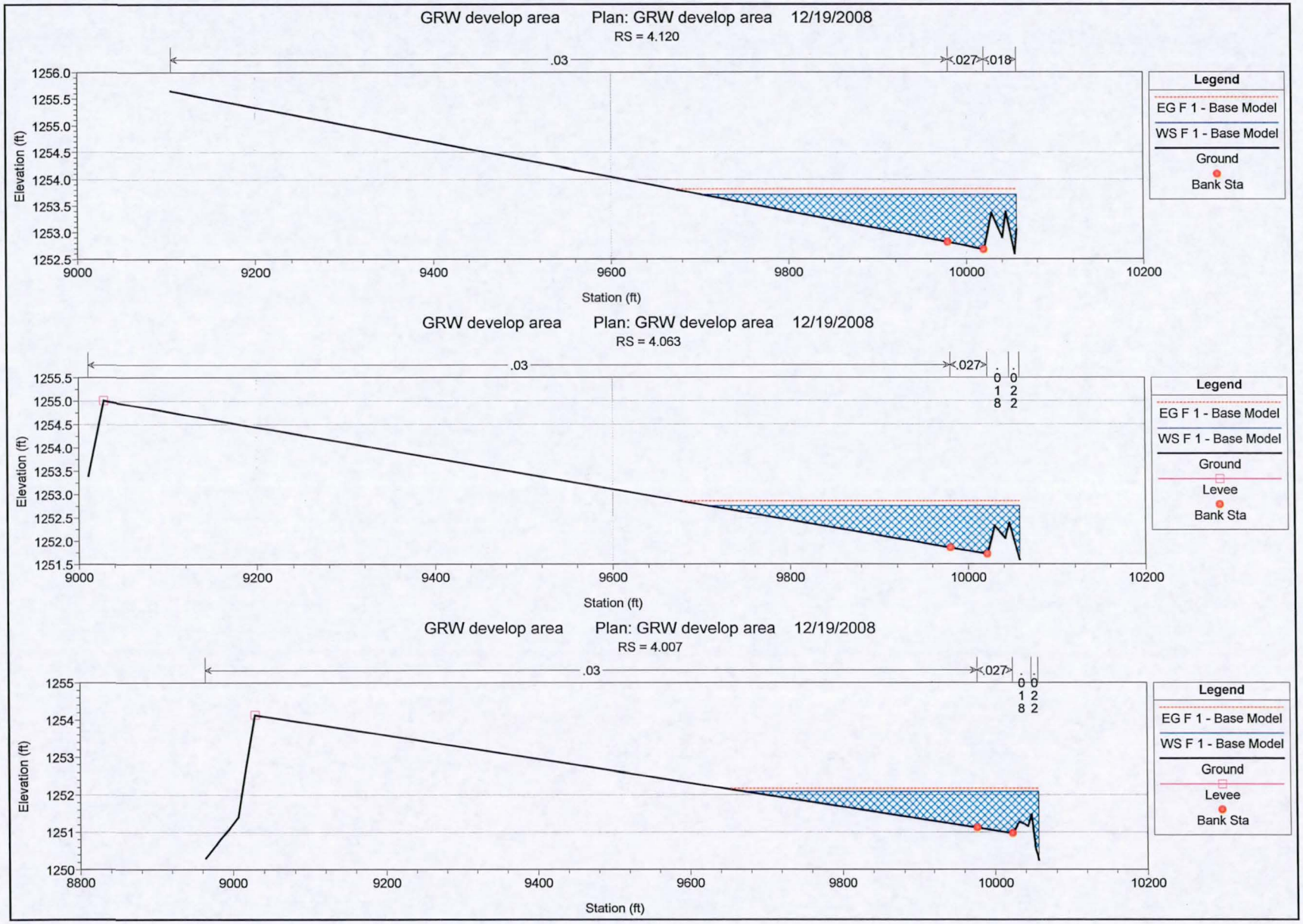

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.462
.025
.025
.018
.018
.018
.025
.027
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.427
.025
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.422 Chaparral Road Centerline
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

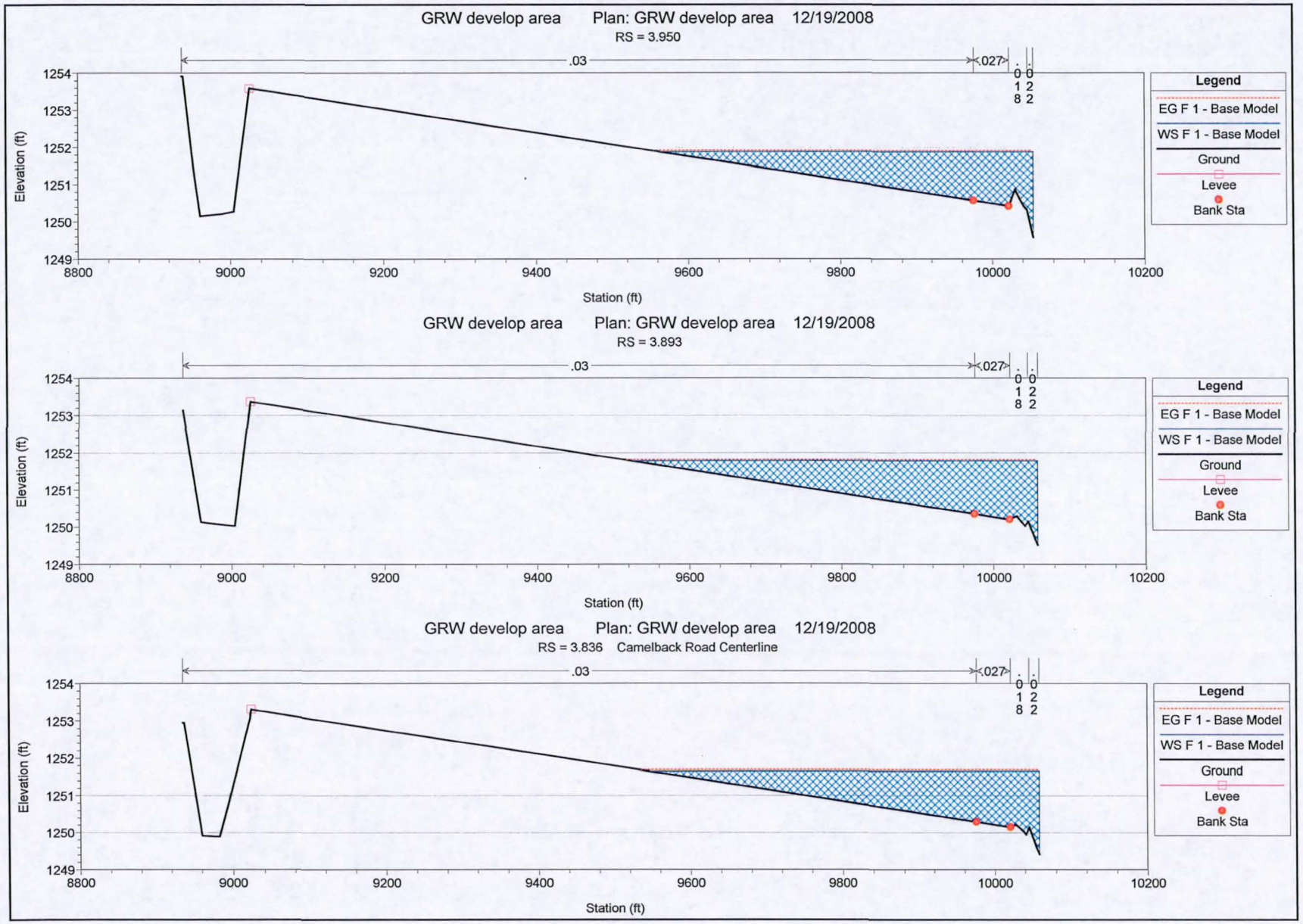

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.415
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

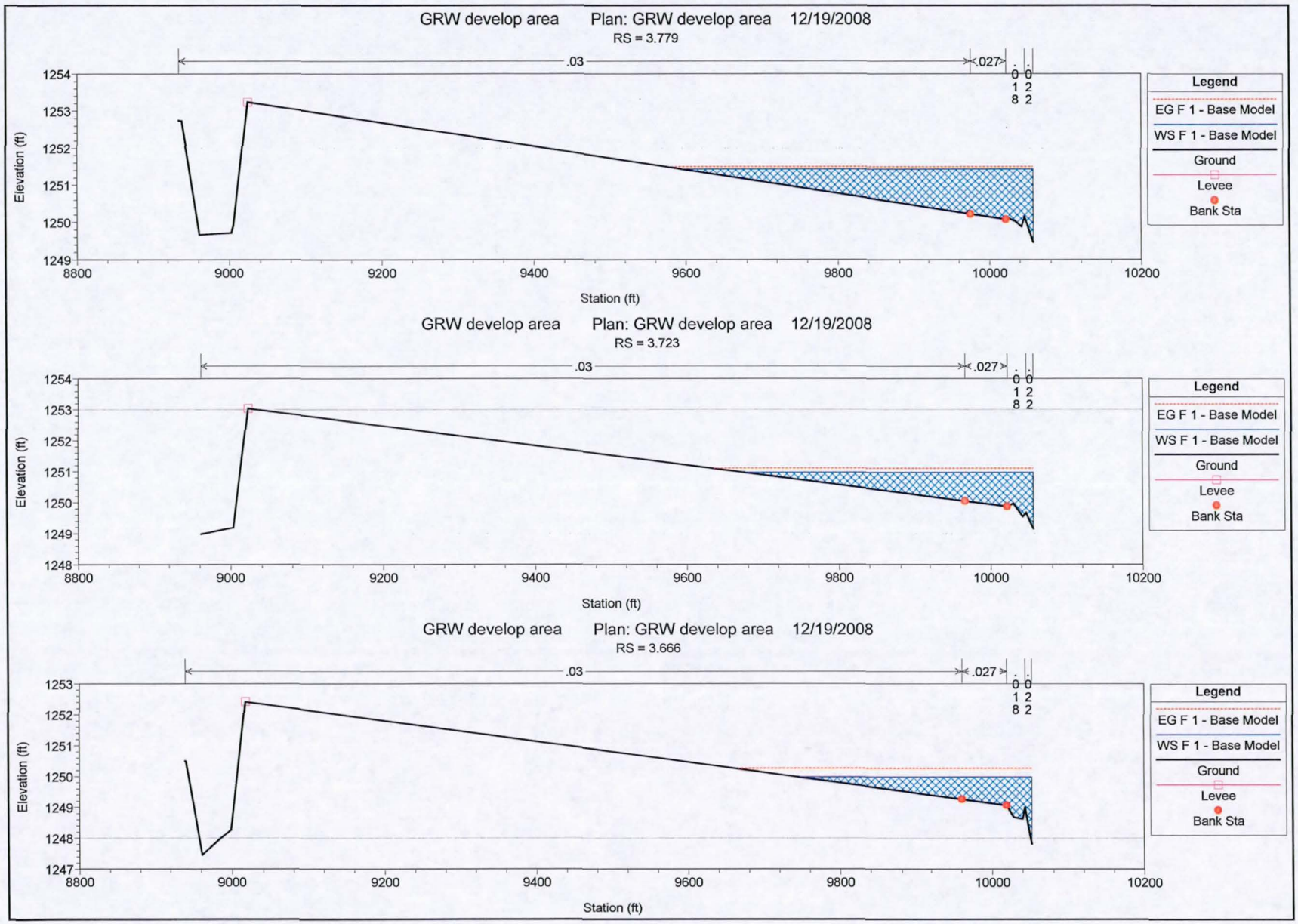

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.393
.025
.018
.025
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

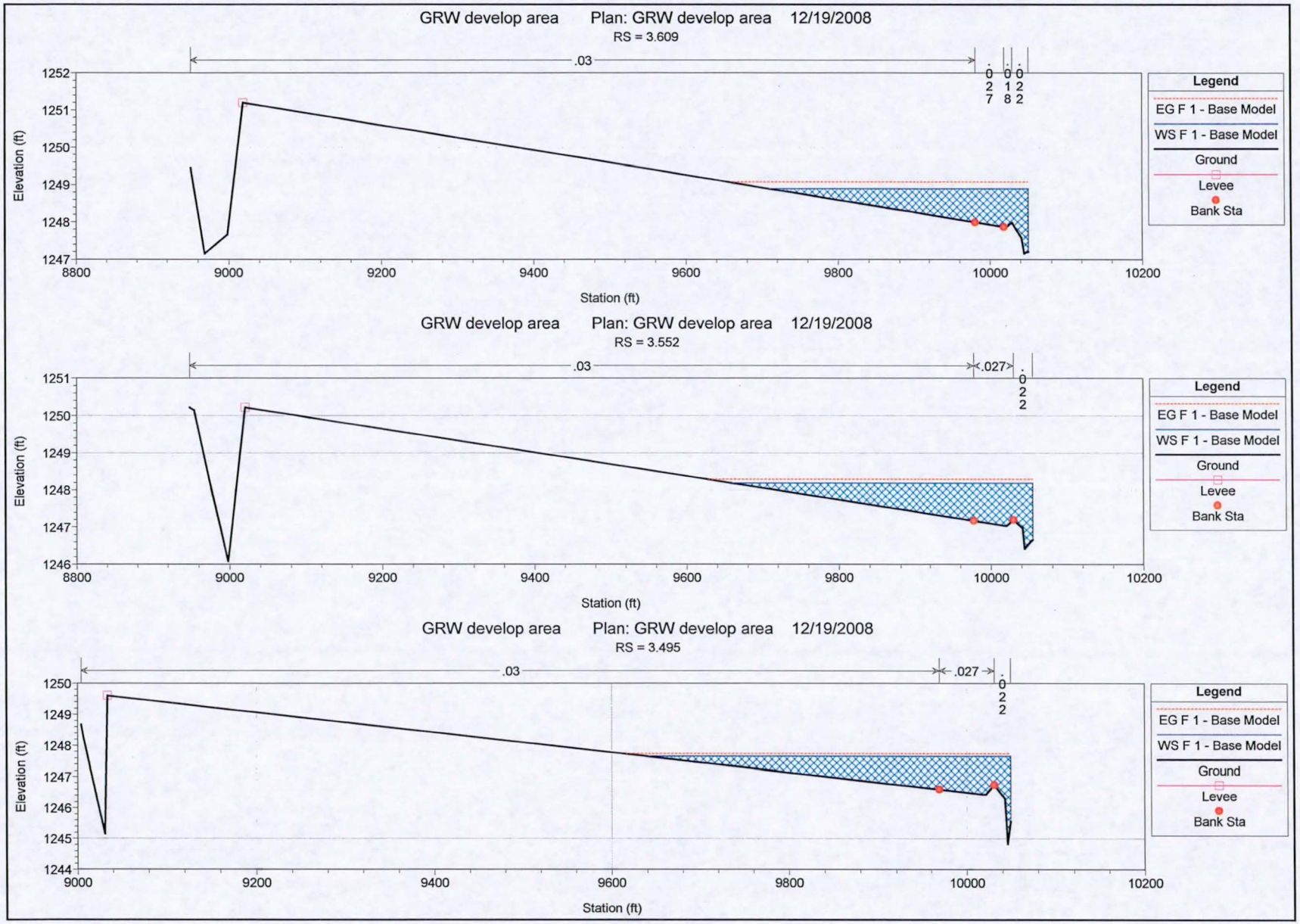

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.348
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

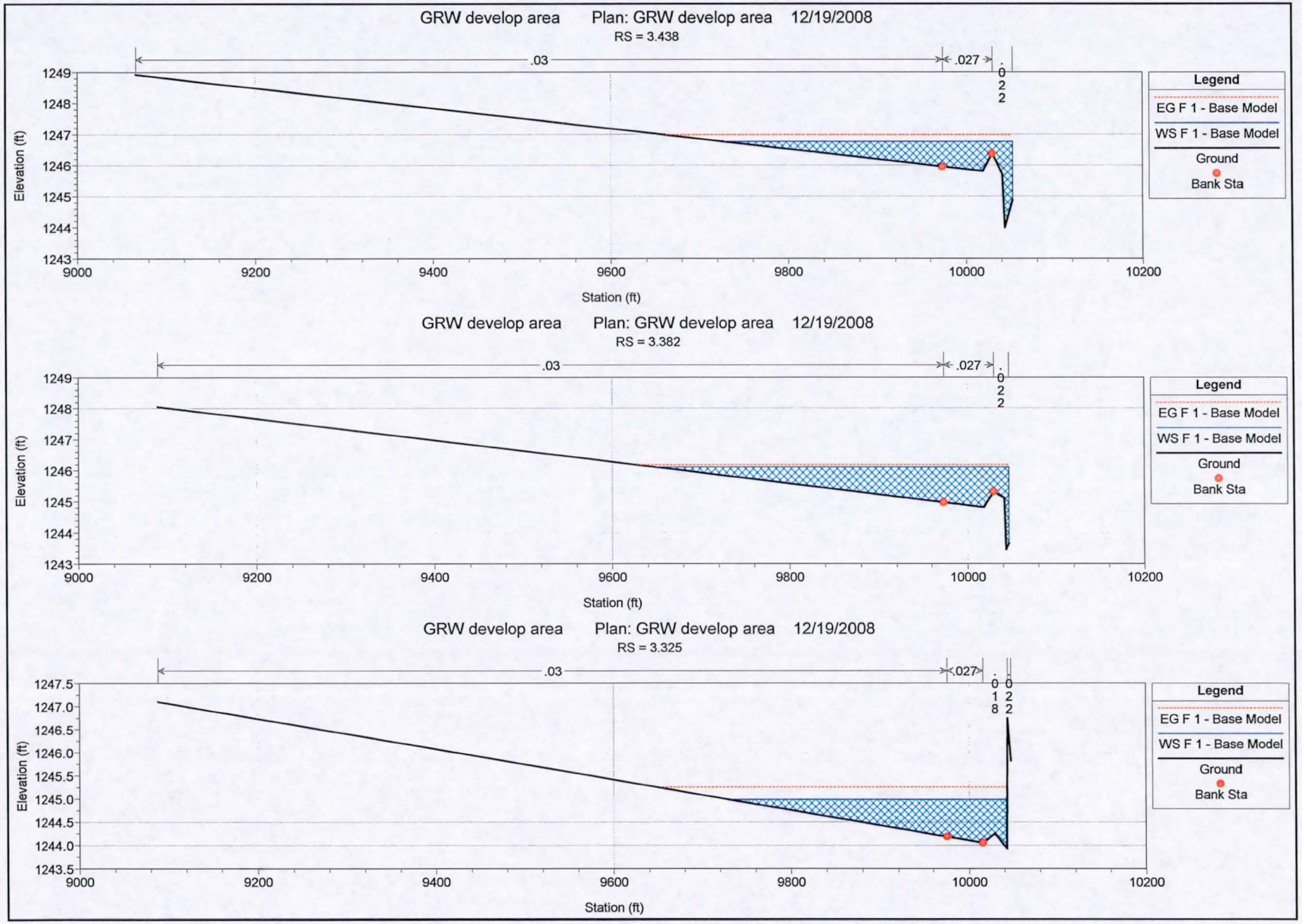

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.291
.018
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.234
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.177
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

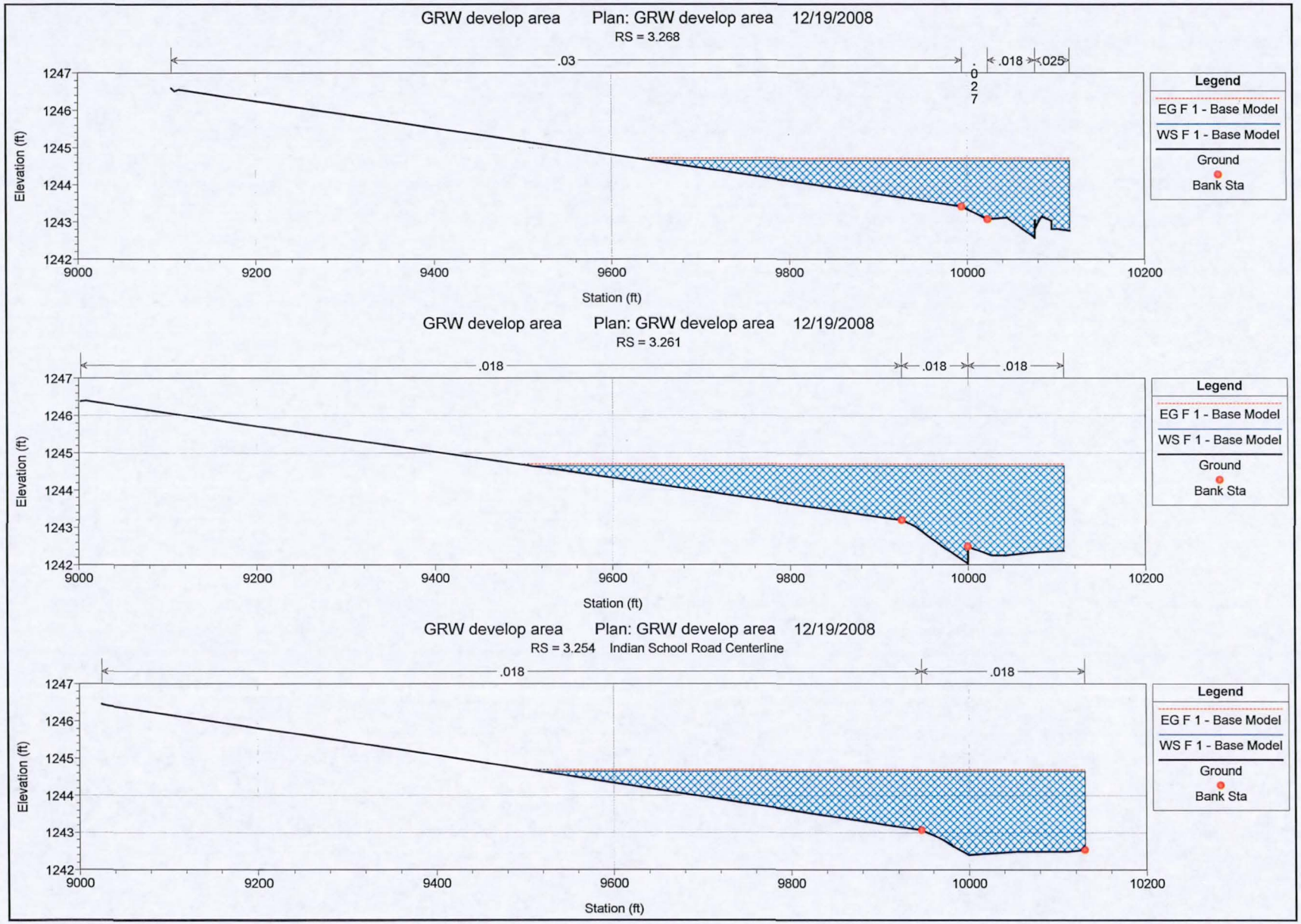

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.120
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.063
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.007
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

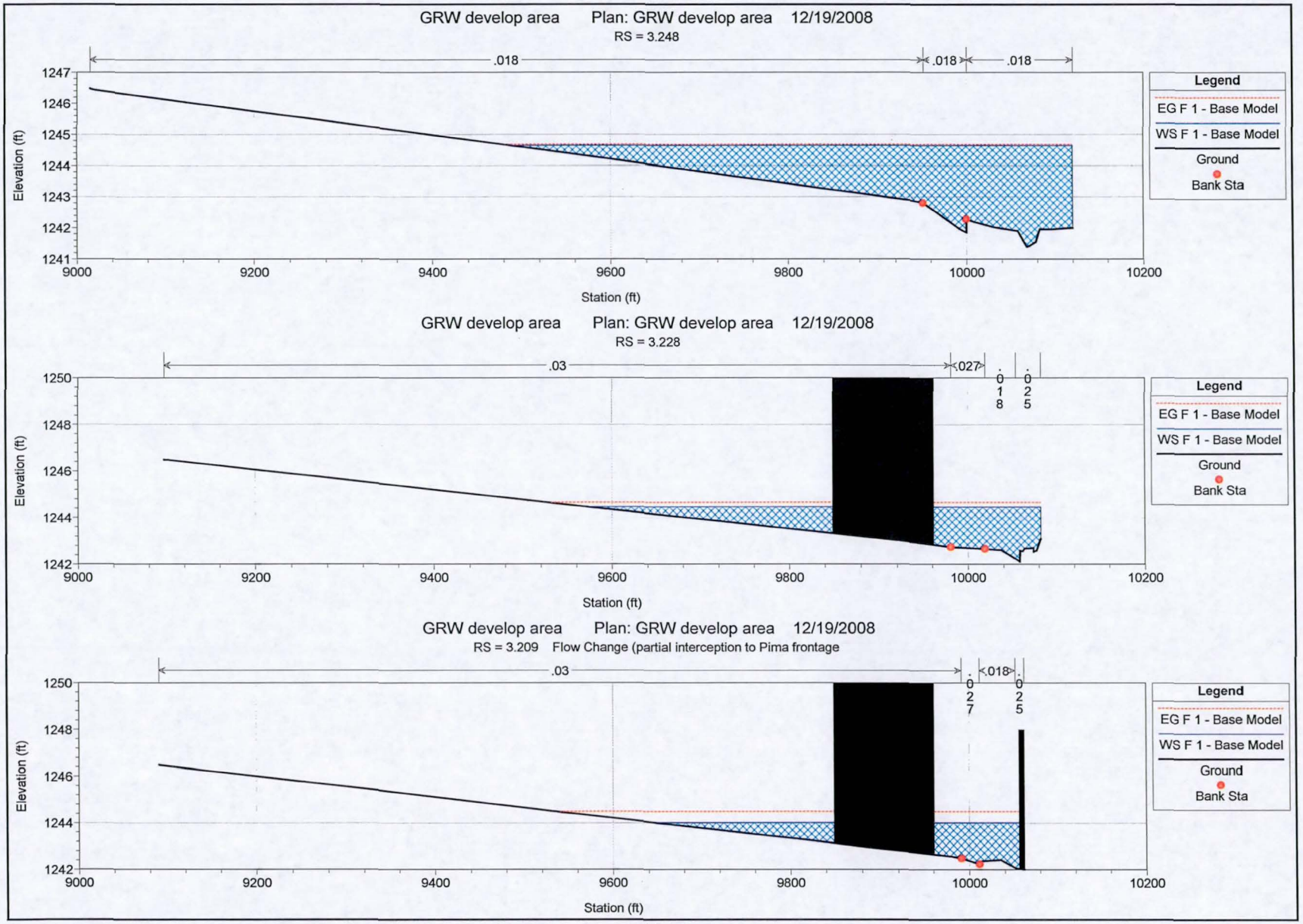

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.950
.03
.027
.018
.022
Elevation (ft)
1254
1253
1252
1251
1250
1249
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.893
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.836 Camelback Road Centerline
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

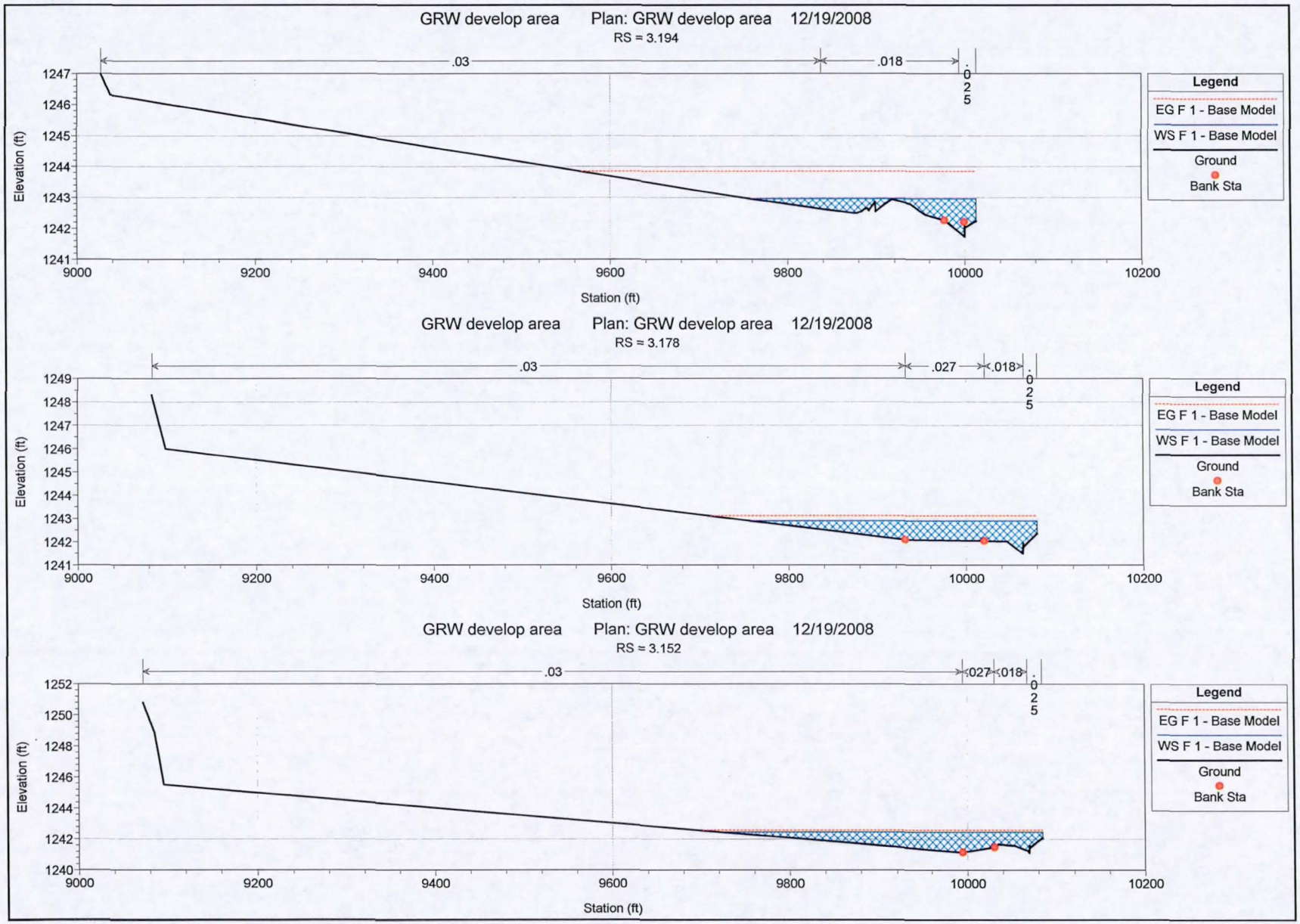

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.779
.03
.027
.0182
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.723
.03
.027
.0182
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.666
.03
.027
.0182
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.609
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.552
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.495
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.438
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.382
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.325
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

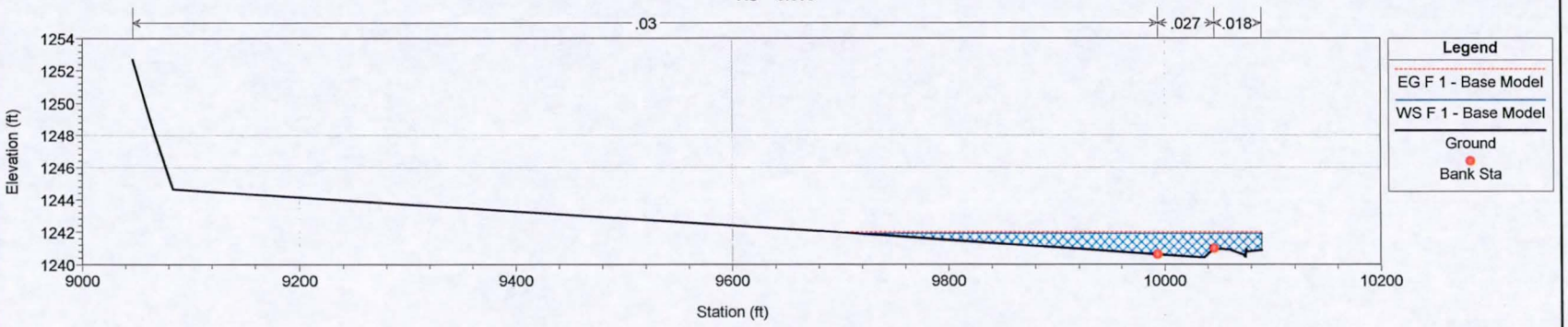

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.268
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.261
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.254 Indian School Road Centerline
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.248
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.228
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.209 Flow Change (partial interception to Pima frontage
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.194
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.178
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.152
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

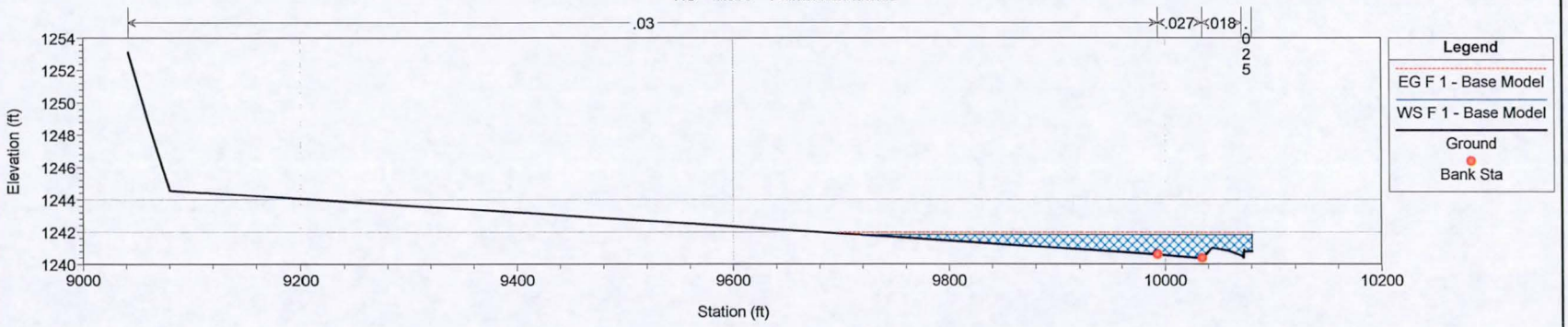
GRW develop area Plan: GRW develop area 12/19/2008

RS = 3.099



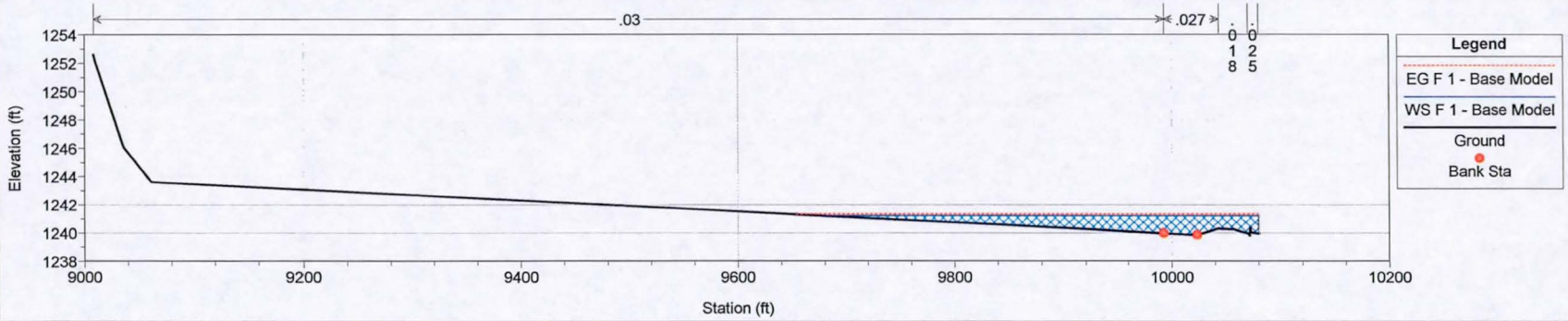
GRW develop area Plan: GRW develop area 12/19/2008

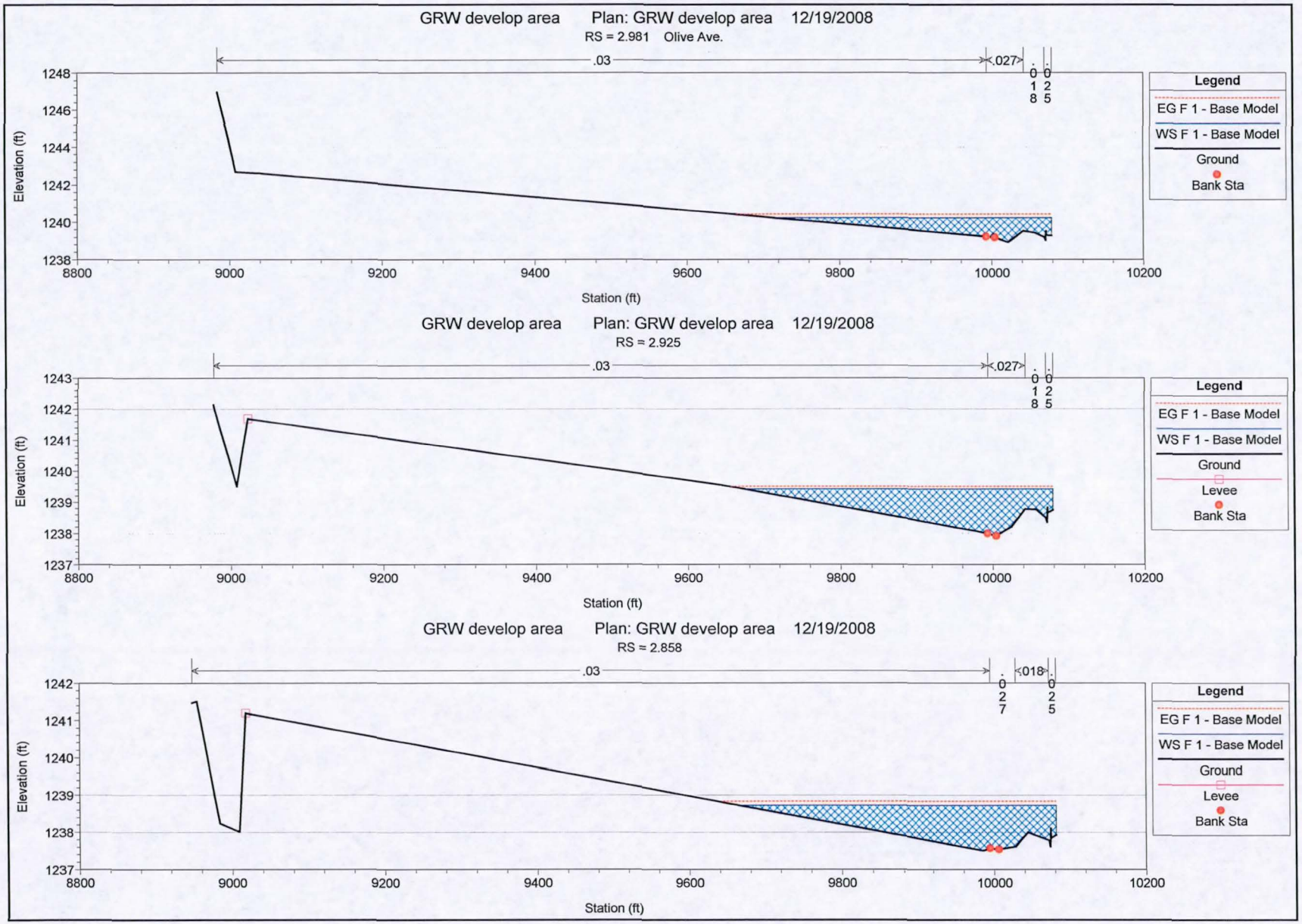
RS = 3.095 Fairmount Avenue

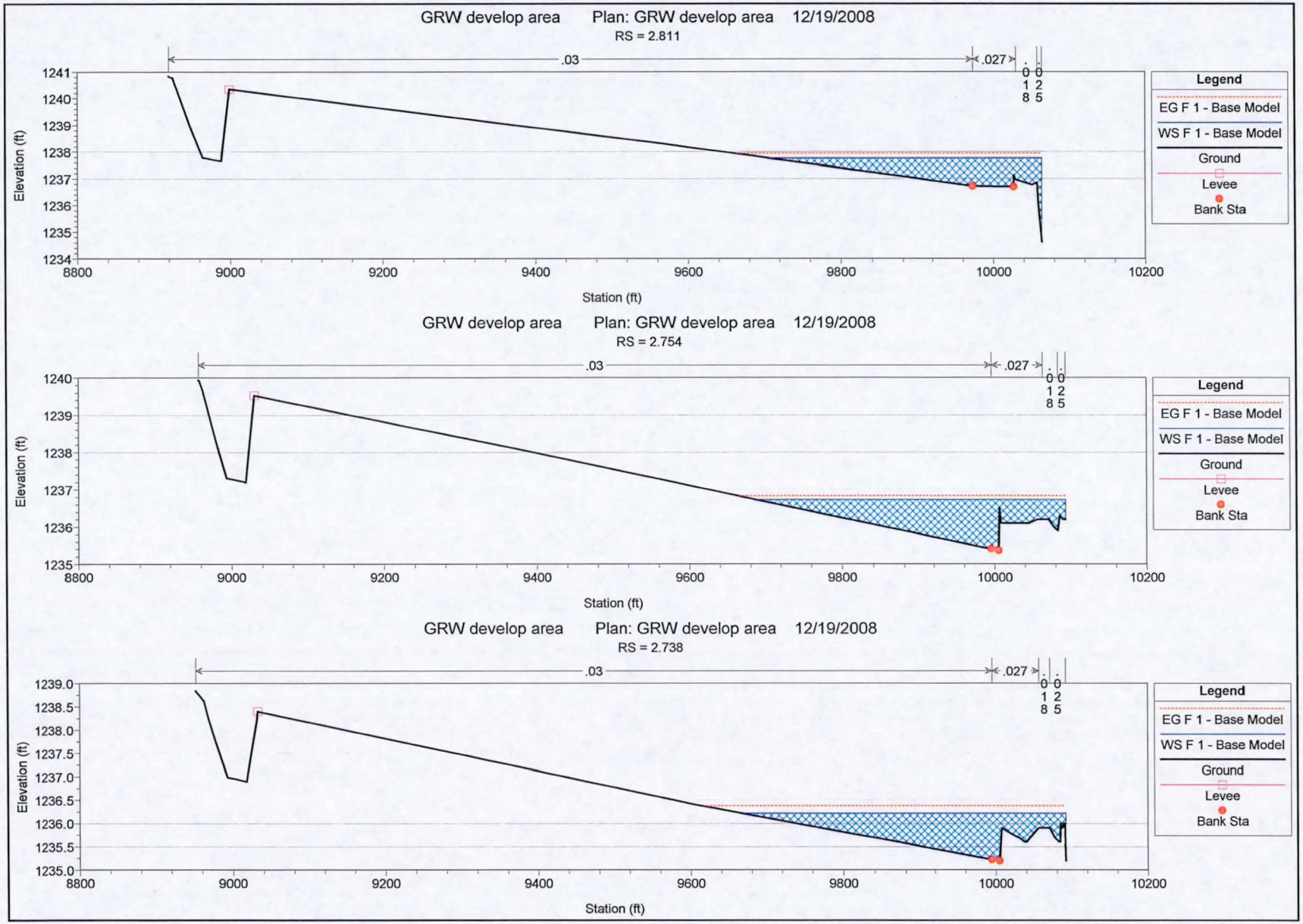


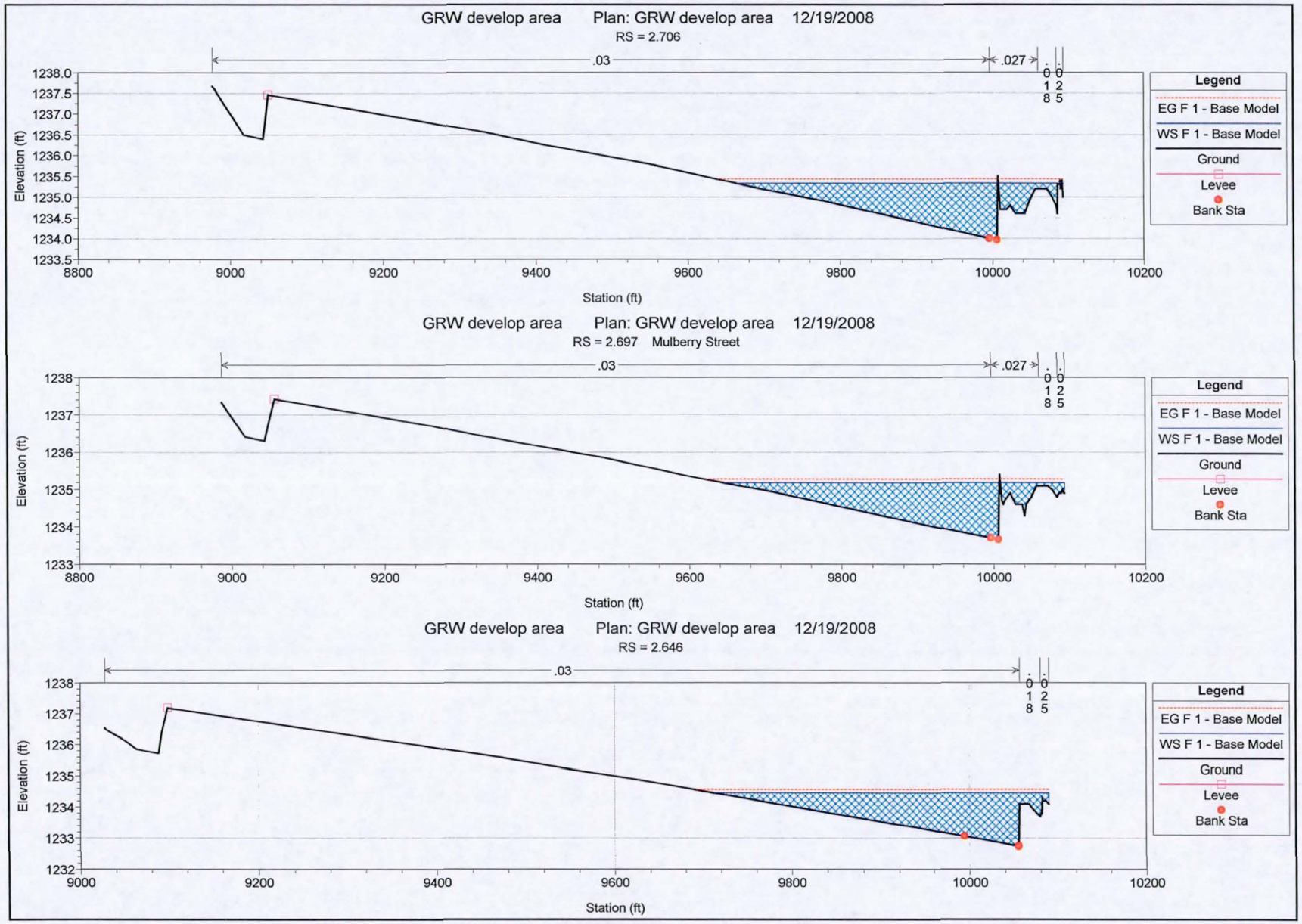
GRW develop area Plan: GRW develop area 12/19/2008

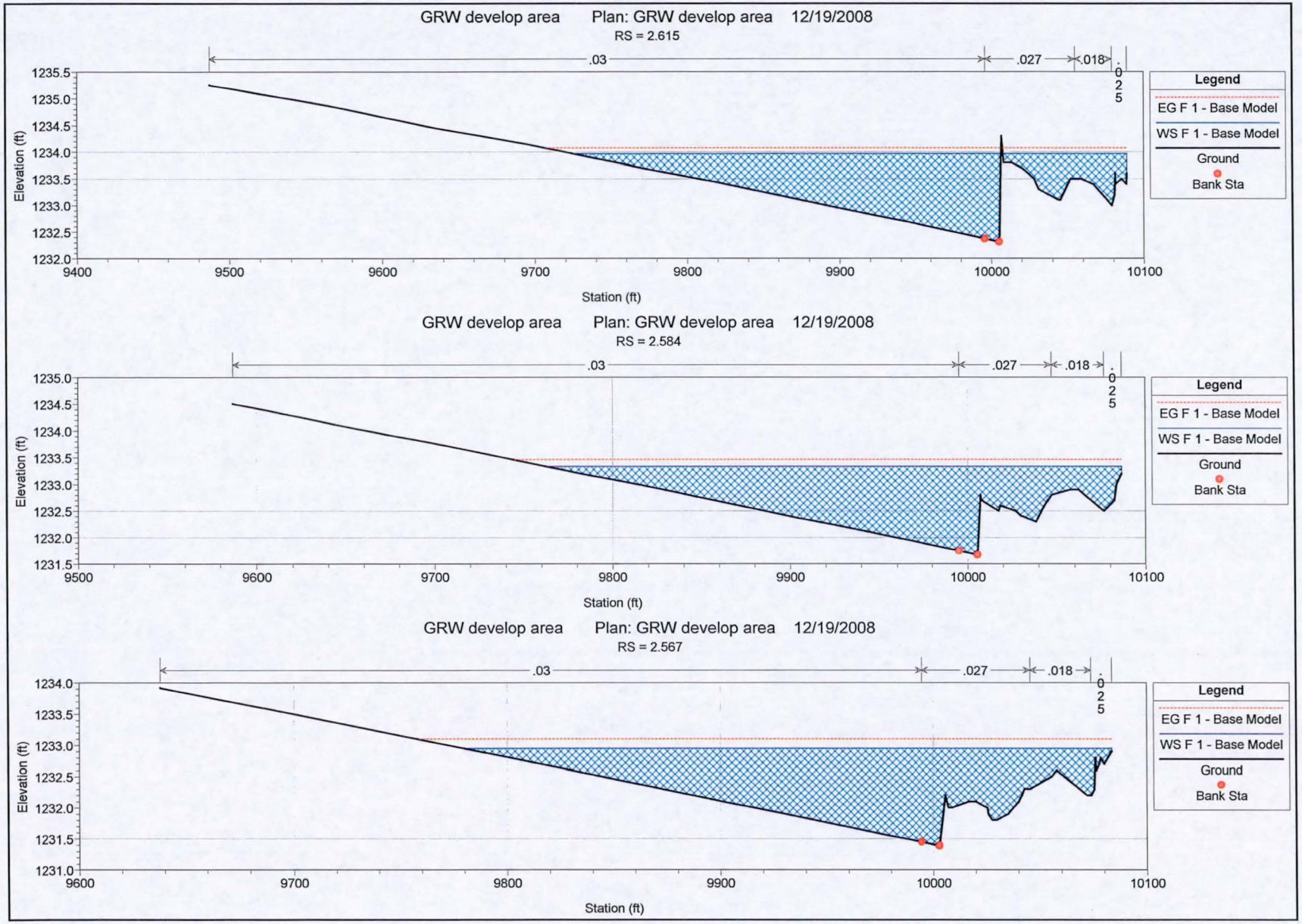
RS = 3.038 just south of Fairmount/Pima Frontage

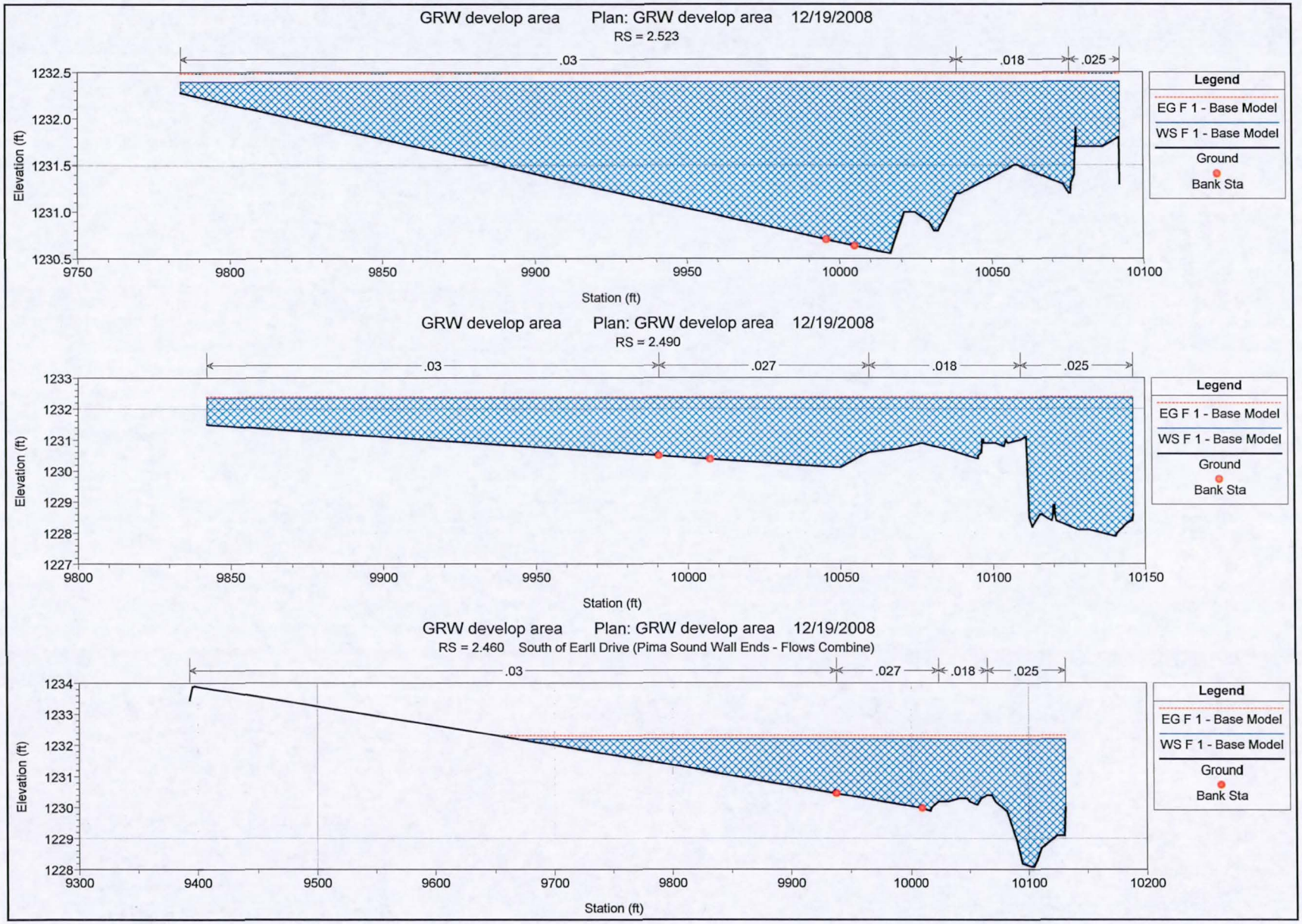


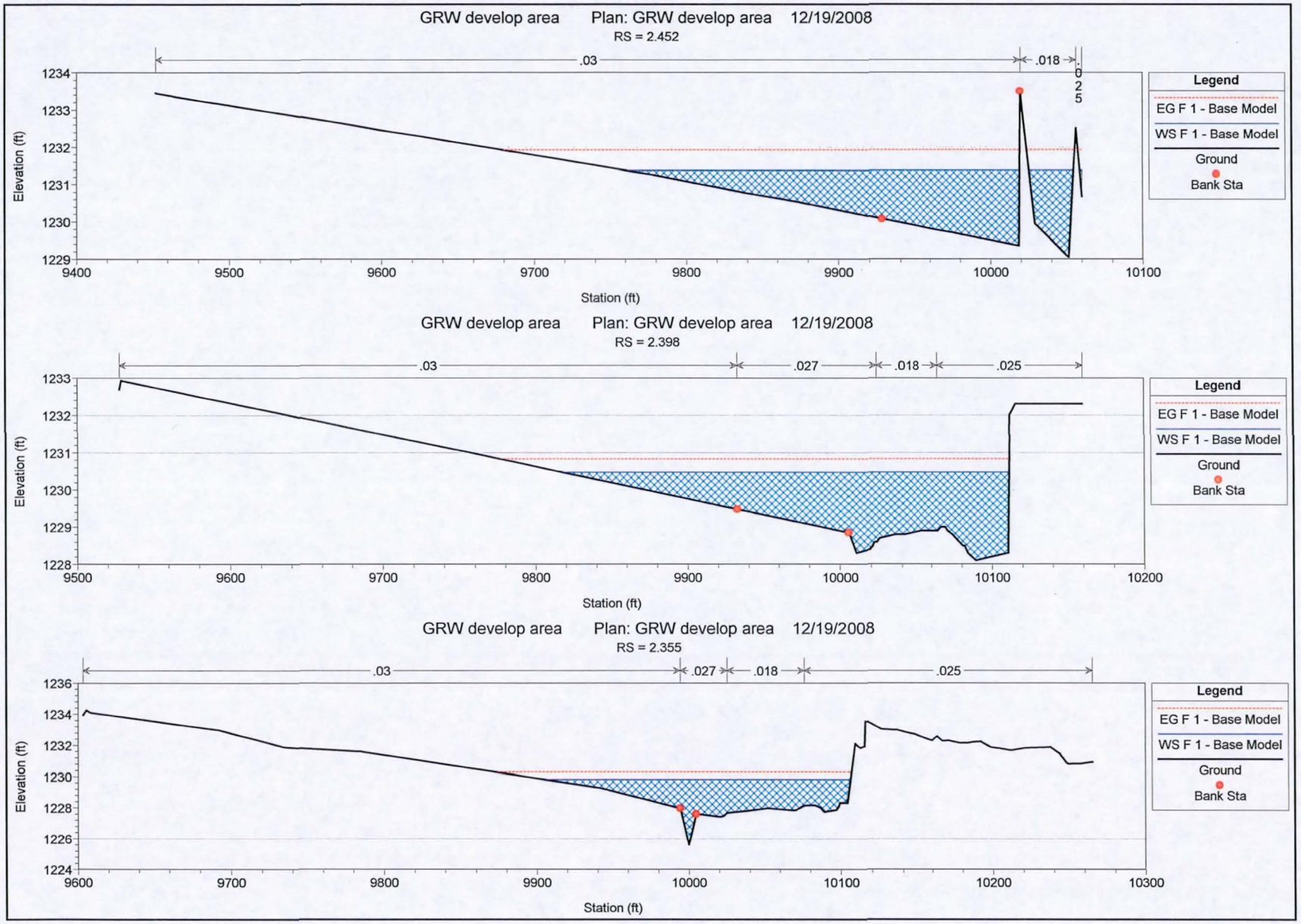

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.981 Olive Ave.
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.925
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.858
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

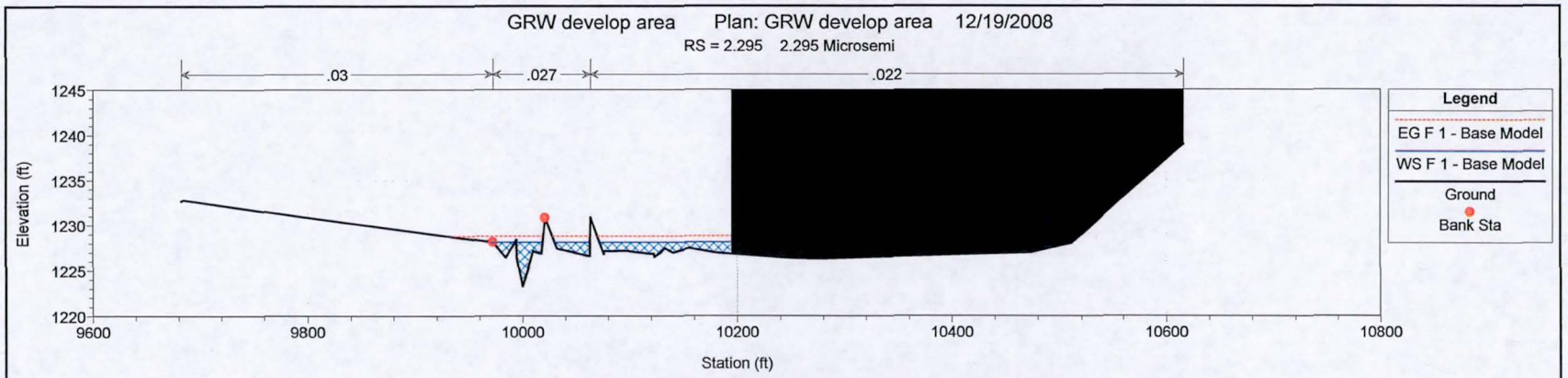

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.811
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1241
1240
1239
1238
1237
1236
1235
1234
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.754
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1240
1239
1238
1237
1236
1235
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.738
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1239.0
1238.5
1238.0
1237.5
1237.0
1236.5
1236.0
1235.5
1235.0
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

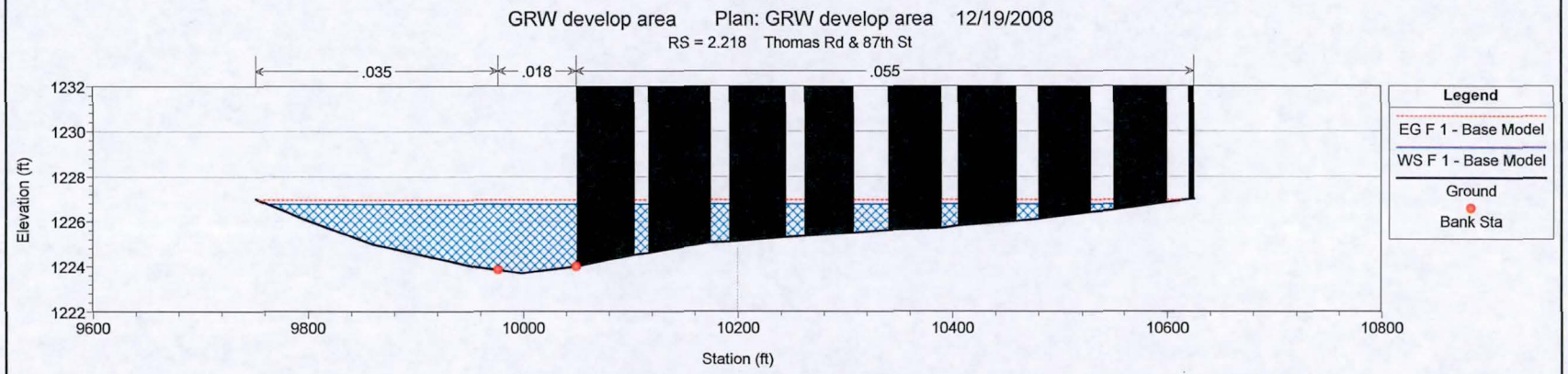

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.706
.03
.027
.0128
.0025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.697 Mulberry Street
.03
.027
.0128
.0025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.646
.03
.0128
.0025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Levee
Bank Sta

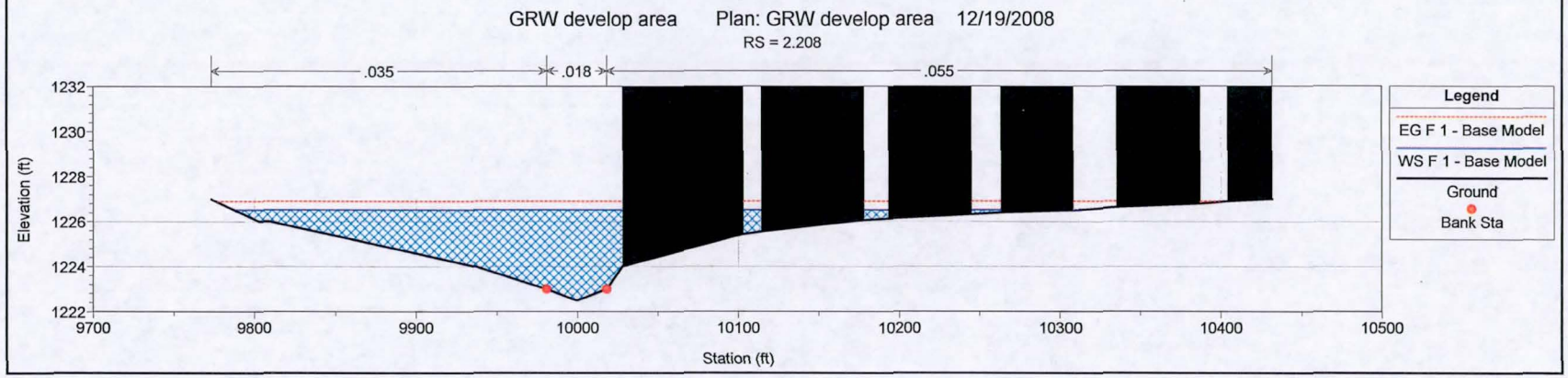

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.615
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.584
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.567
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

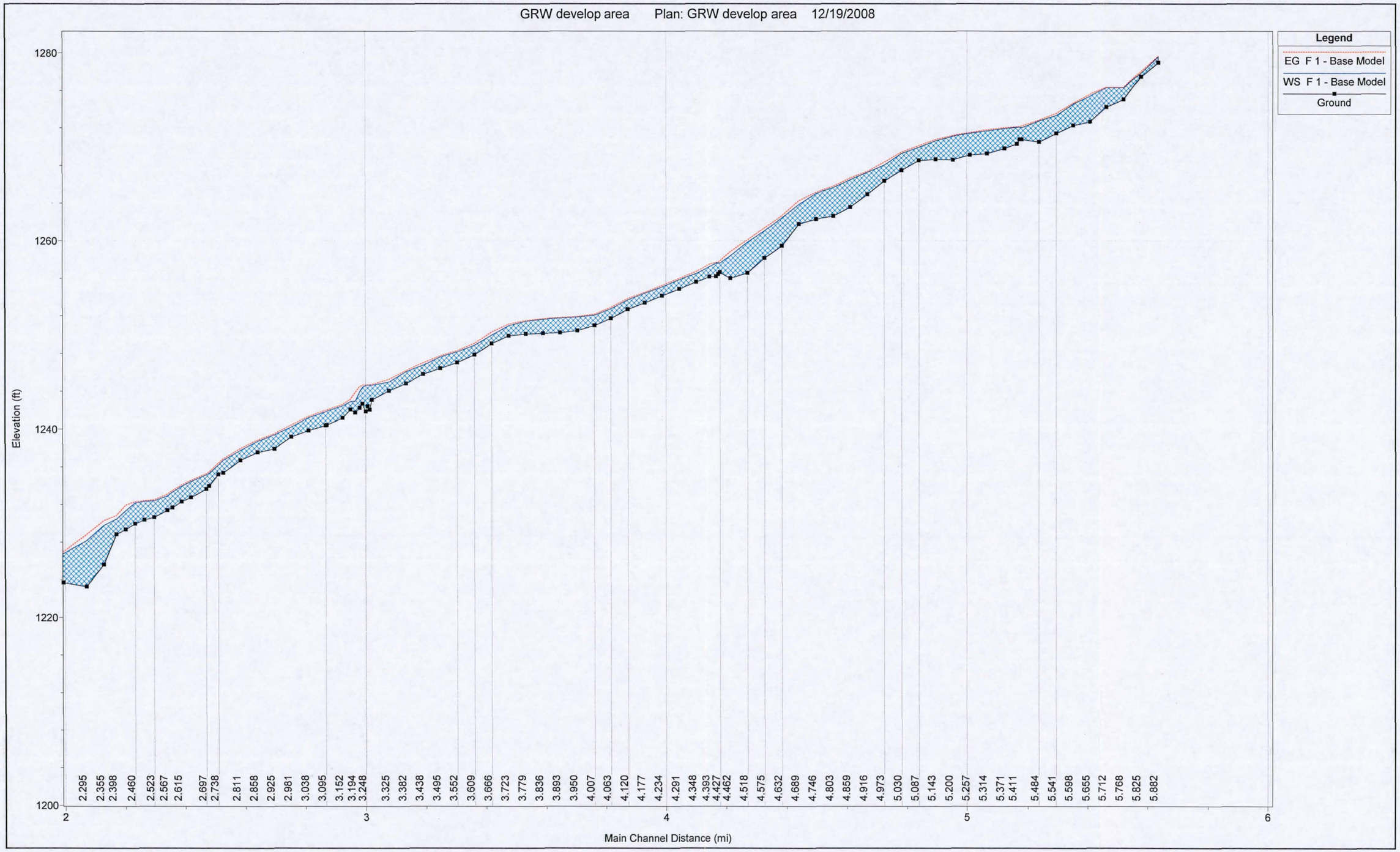

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.523
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.490
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.460 South of Earll Drive (Pima Sound Wall Ends - Flows Combine)
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

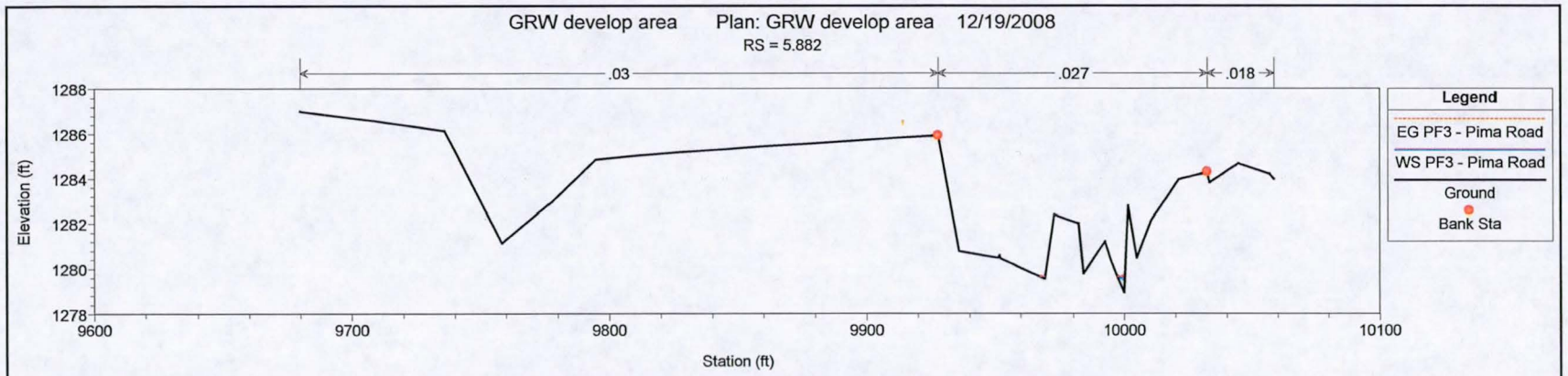

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.452
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.398
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.355
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

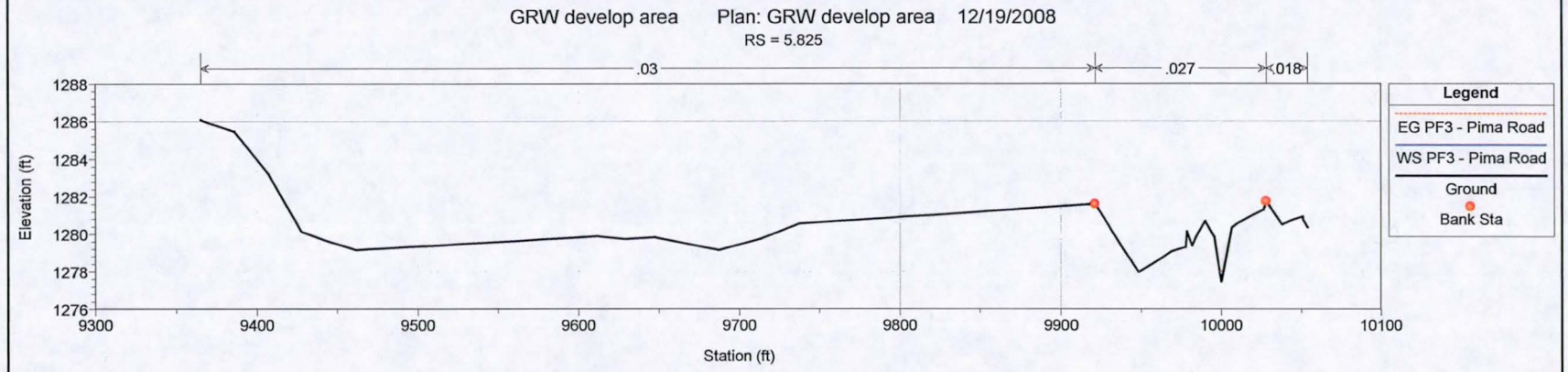

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.295 2.295 Microsemi
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

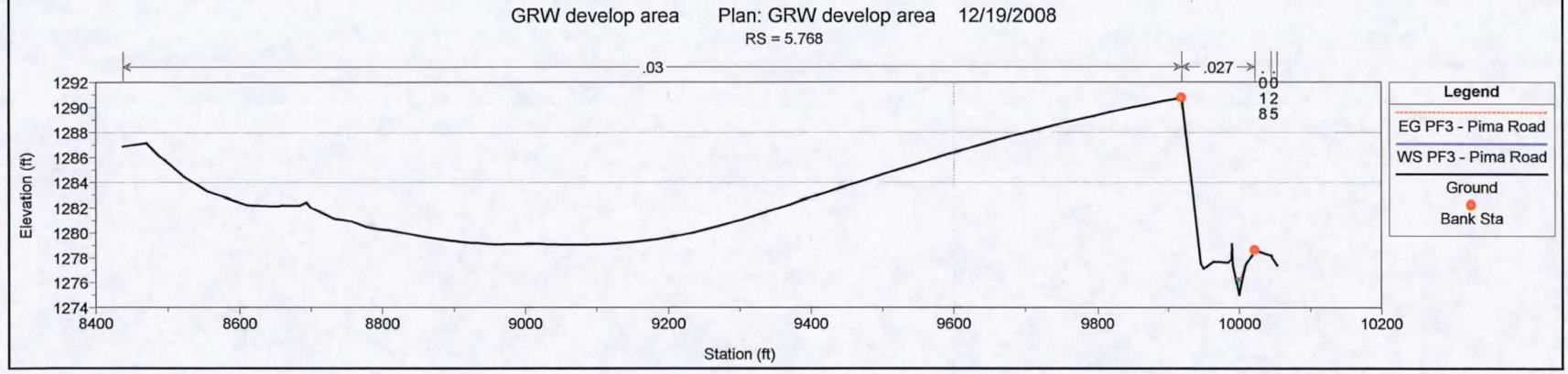

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.218 Thomas Rd & 87th St
.035
.018
.055
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

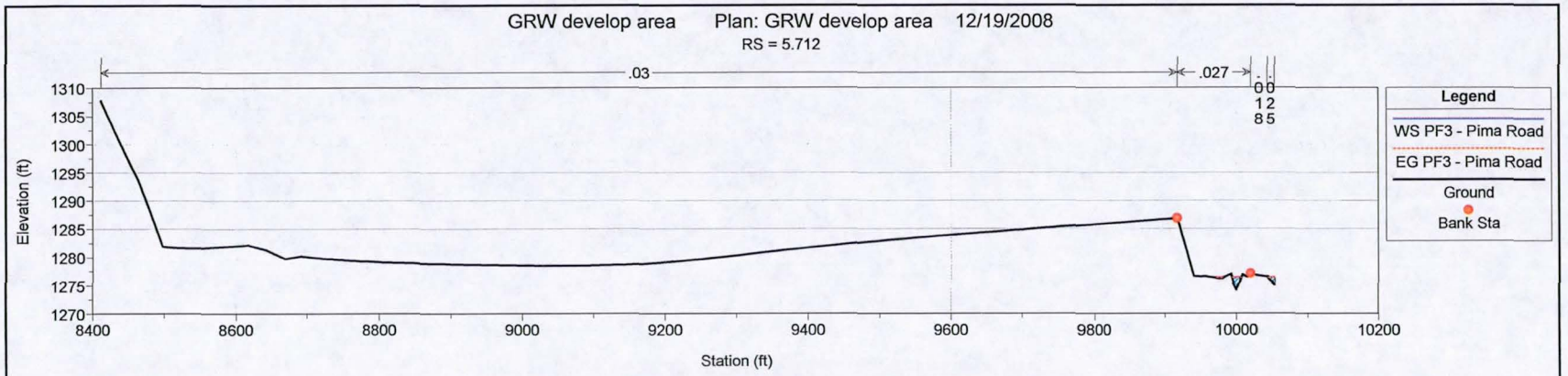

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.208
.035
.018
.055
Elevation (ft)
Station (ft)
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Bank Sta

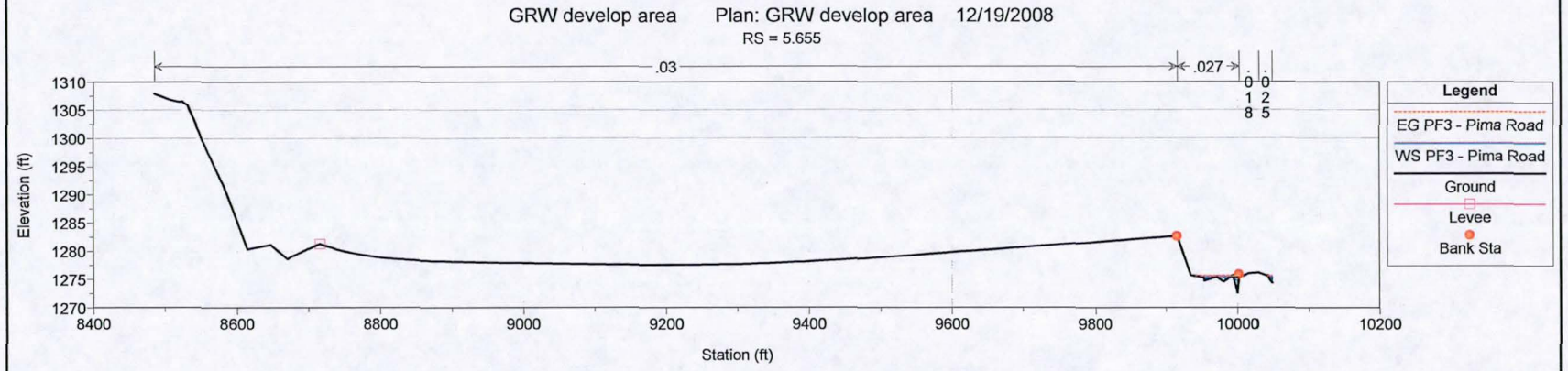

GRW develop area Plan: GRW develop area 12/19/2008
Legend
EG F 1 - Base Model
WS F 1 - Base Model
Ground
Elevation (ft)
1280
1260
1240
1220
1200
2
3
4
5
6
Main Channel Distance (mi)
2.295
2.355
2.398
2.460
2.523
2.567
2.615
2.697
2.738
2.811
2.858
2.925
2.981
3.038
3.095
3.152
3.194
3.248
3.325
3.382
3.438
3.495
3.552
3.609
3.666
3.723
3.779
3.836
3.893
3.950
4.007
4.063
4.120
4.177
4.234
4.291
4.348
4.393
4.427
4.462
4.518
4.575
4.632
4.689
4.746
4.803
4.859
4.916
4.973
5.030
5.087
5.143
5.200
5.257
5.314
5.371
5.411
5.484
5.541
5.598
5.655
5.712
5.768
5.825
5.882

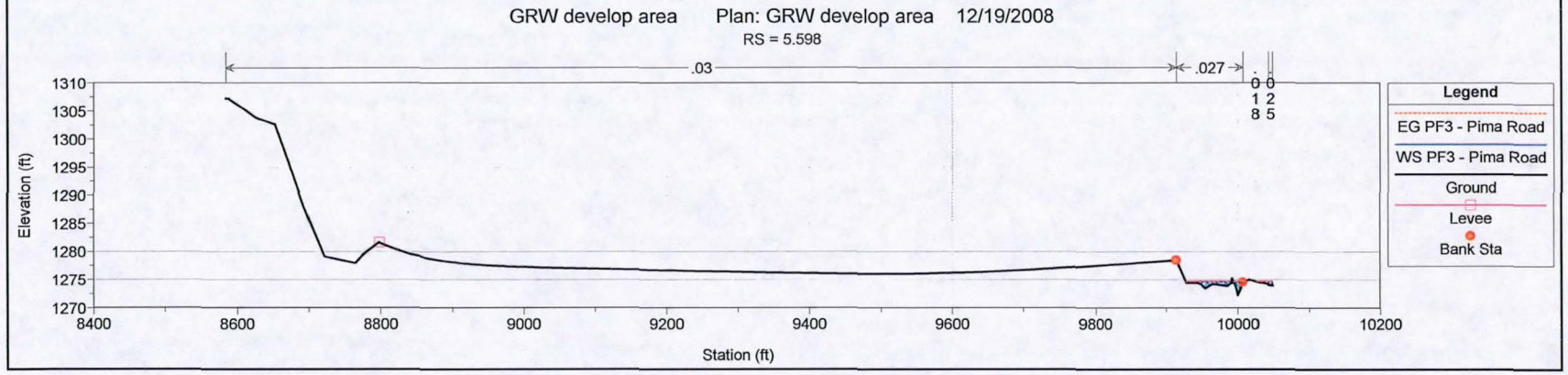

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.882
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

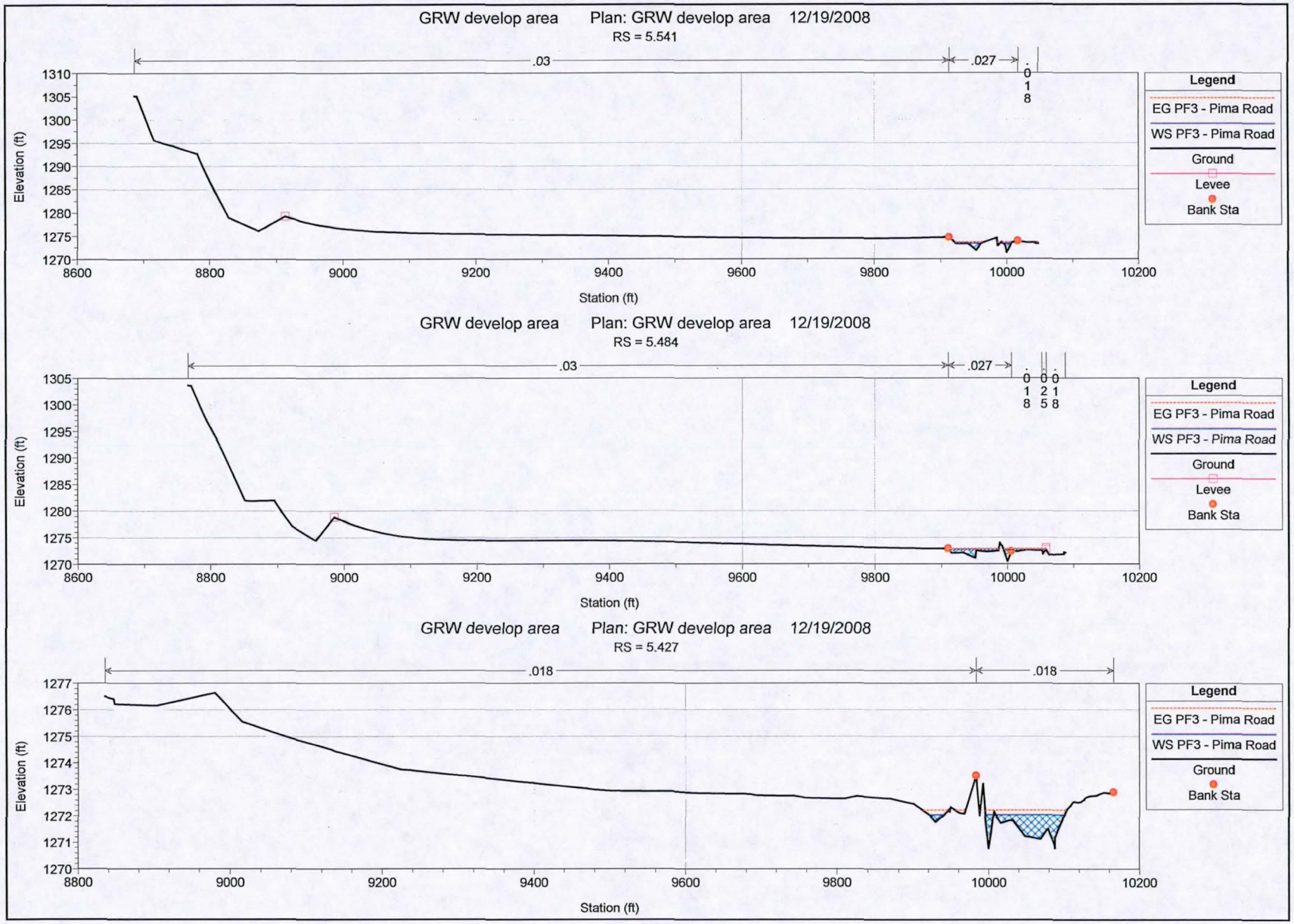

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.825
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

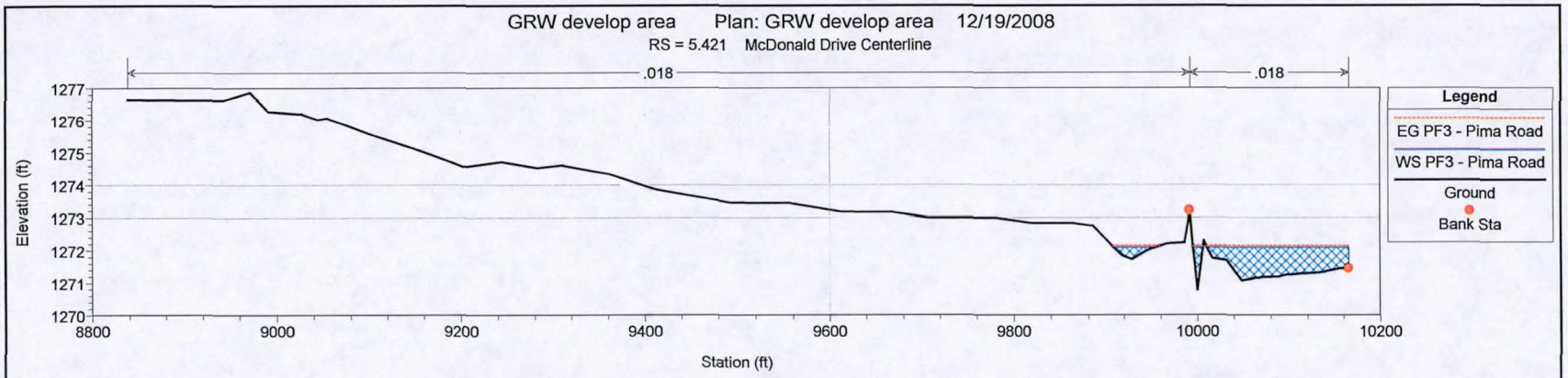

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.768
.03
.027
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

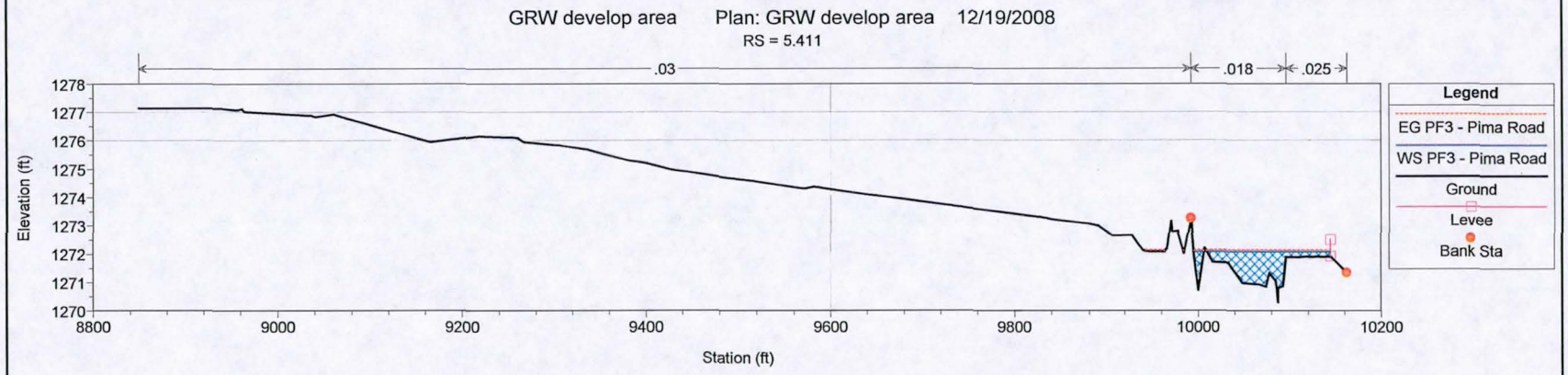

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.712
.03
.027
.0
.0
12
85
Elevation (ft)
1310
1305
1300
1295
1290
1285
1280
1275
1270
8400
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
WS PF3 - Pima Road
EG PF3 - Pima Road
Ground
Bank Sta

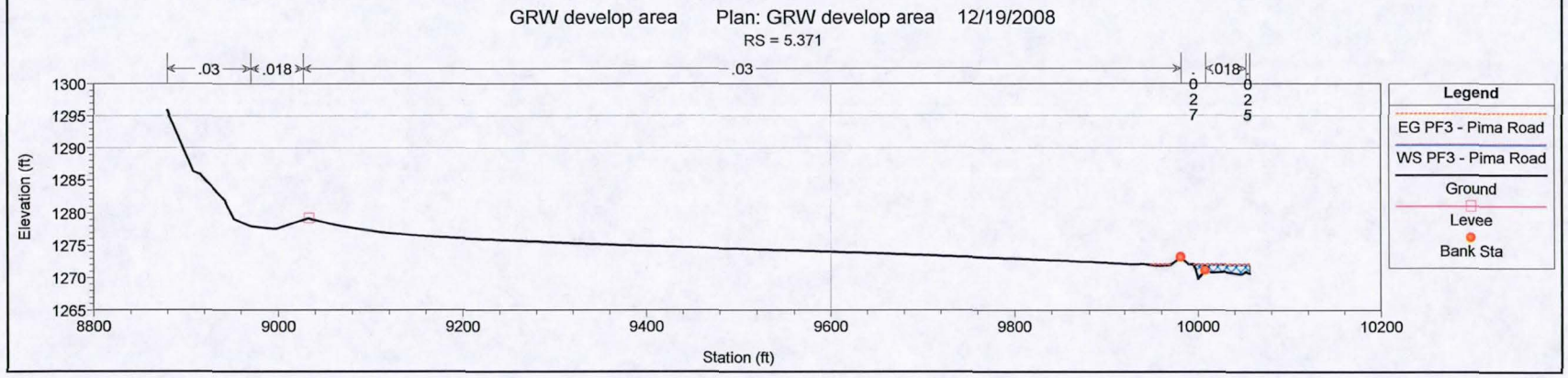

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.655
.03
.027
.0
.0
12
85
Elevation (ft)
1310
1305
1300
1295
1290
1285
1280
1275
1270
8400
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

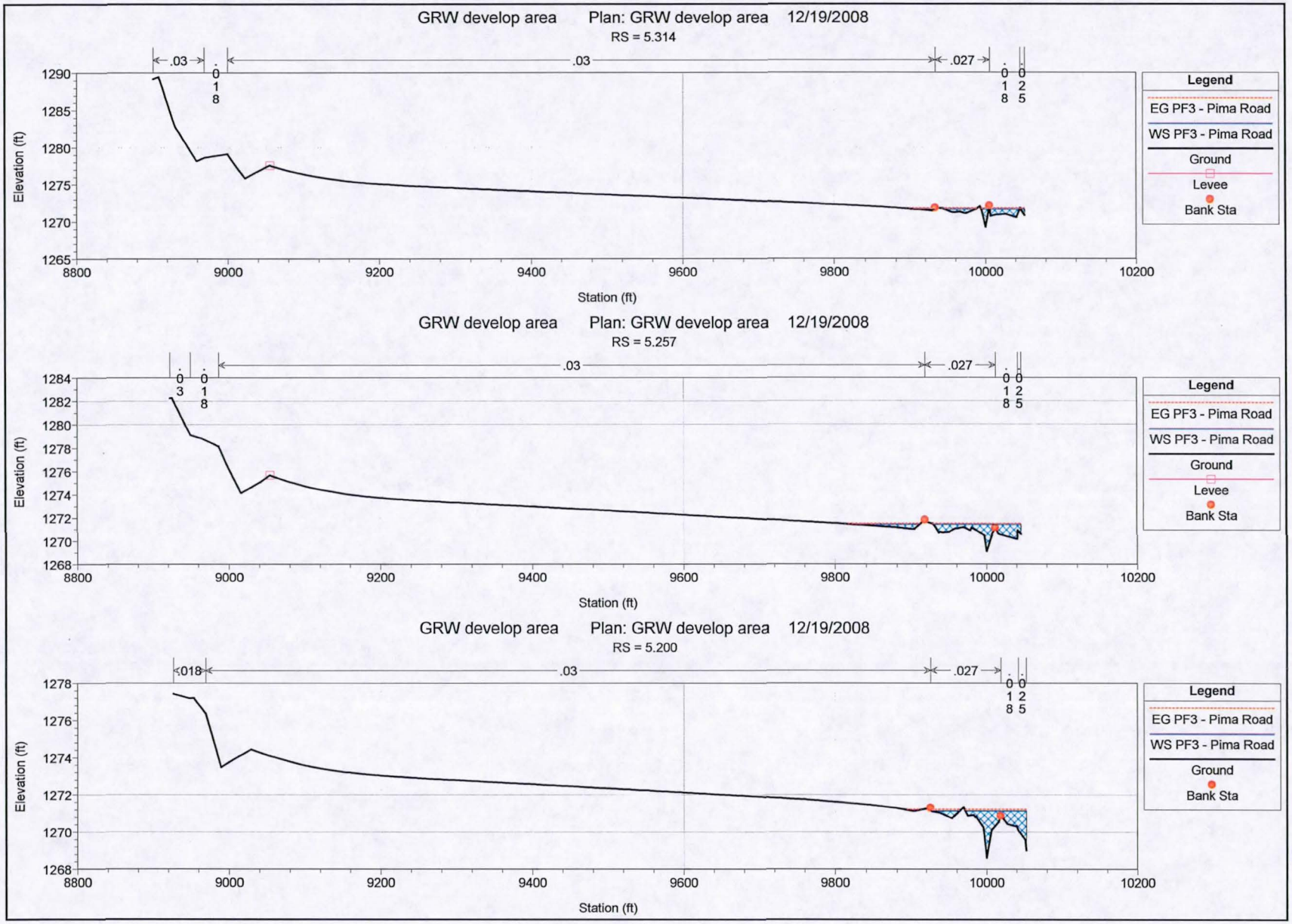

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.598
.03
.027
.0
.0
12
85
Elevation (ft)
1310
1305
1300
1295
1290
1285
1280
1275
1270
8400
8600
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

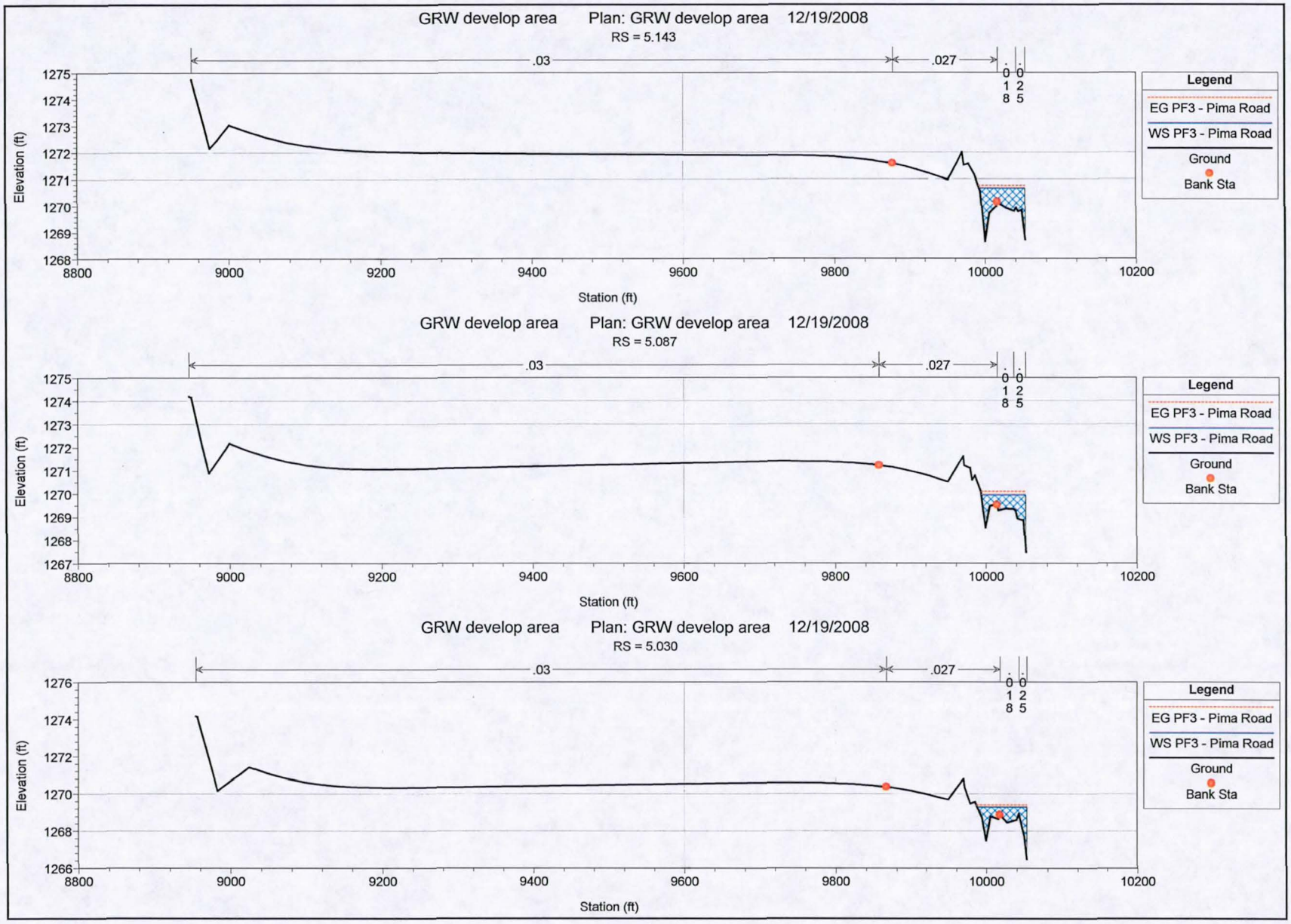

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.541
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.484
.03
.027
.018
.025
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.427
.018
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

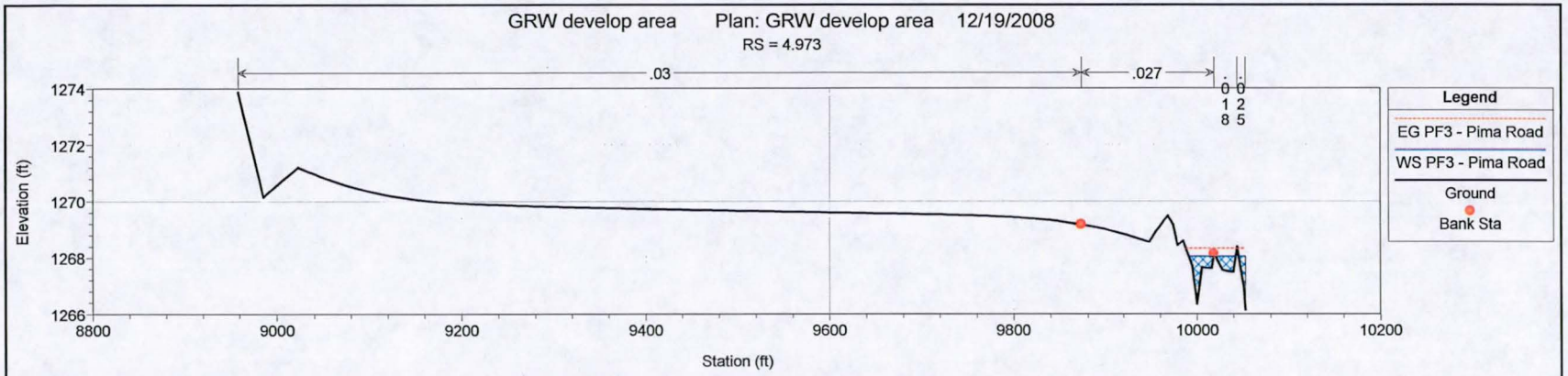

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.421 McDonald Drive Centerline
.018
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

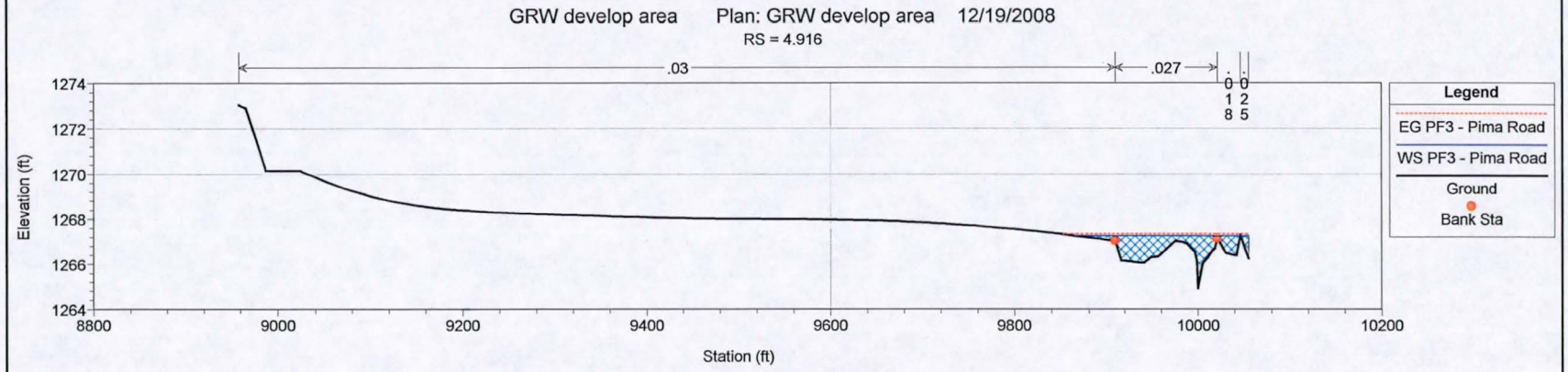

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.411
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

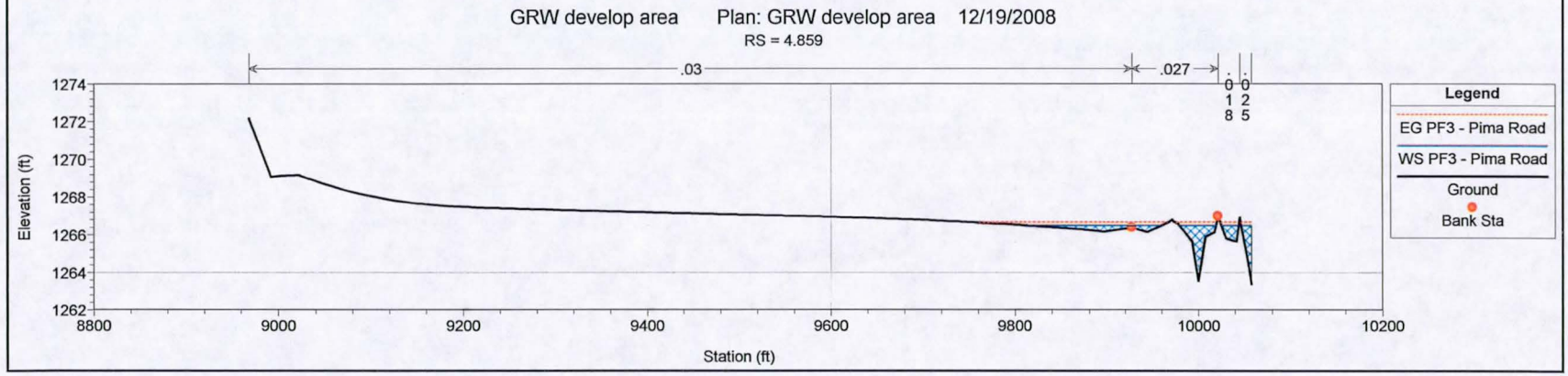

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.371
.03
.018
.03
.027
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

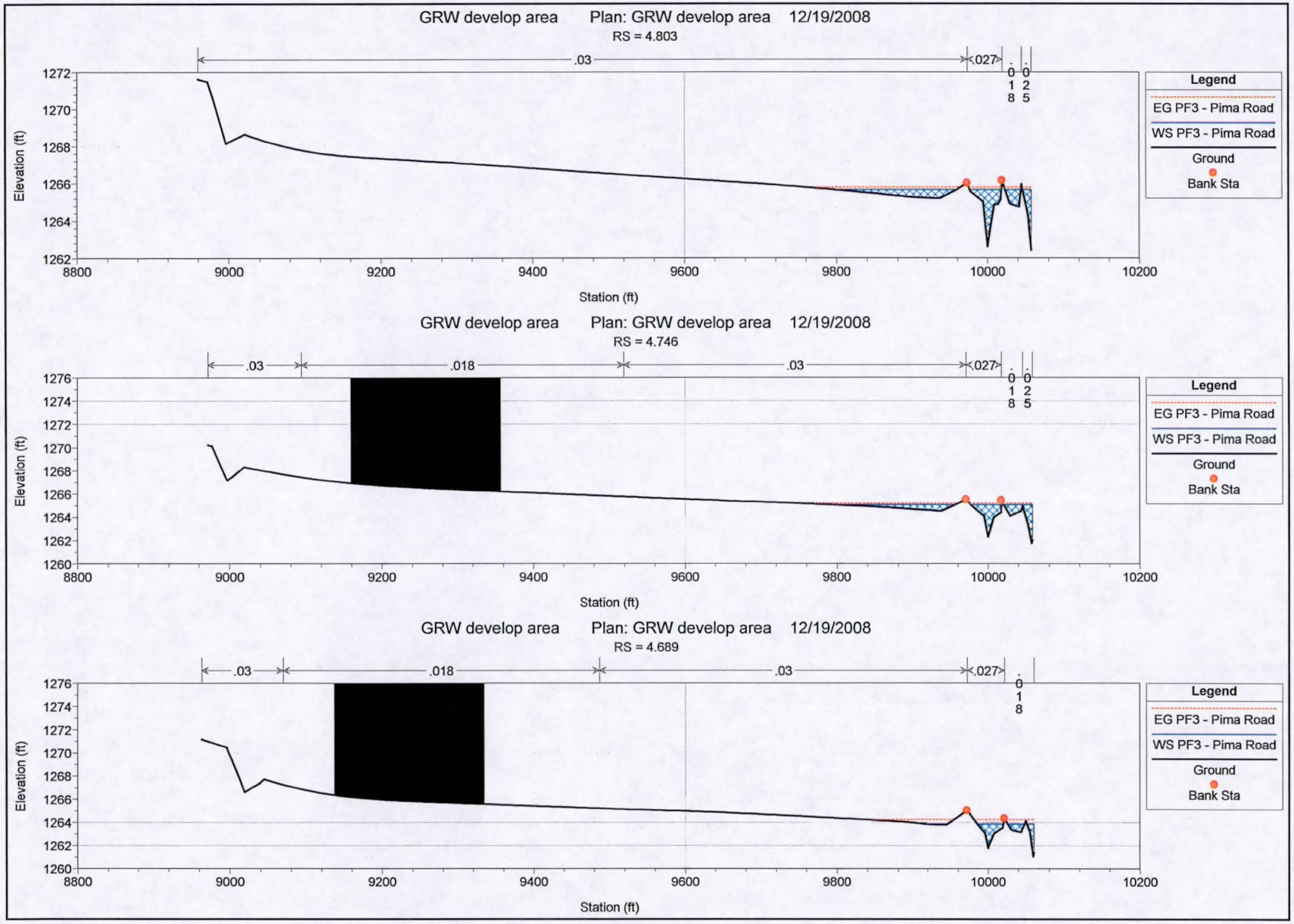

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.314
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.257
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.200
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

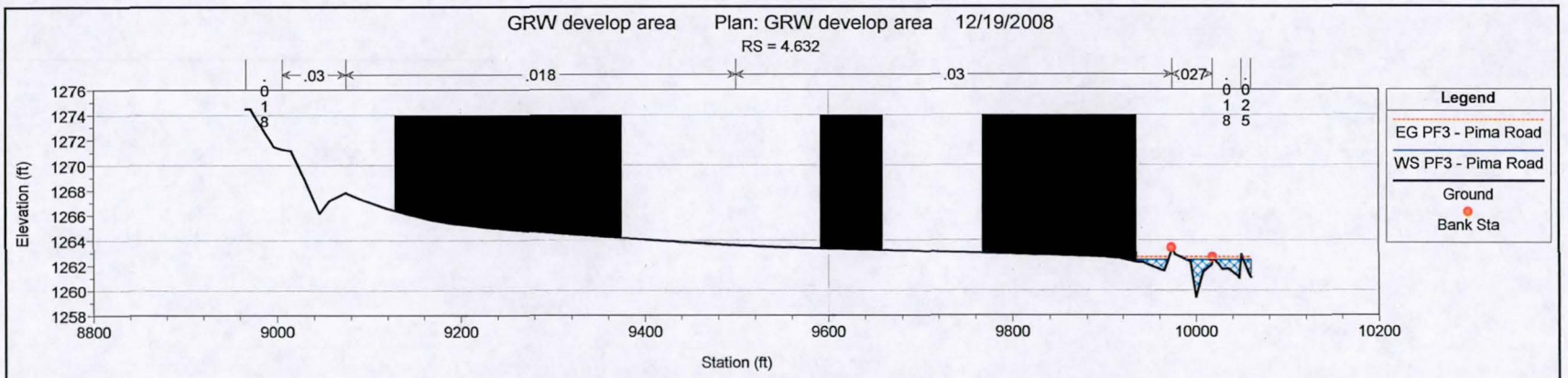

GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.143
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.087
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 5.030
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

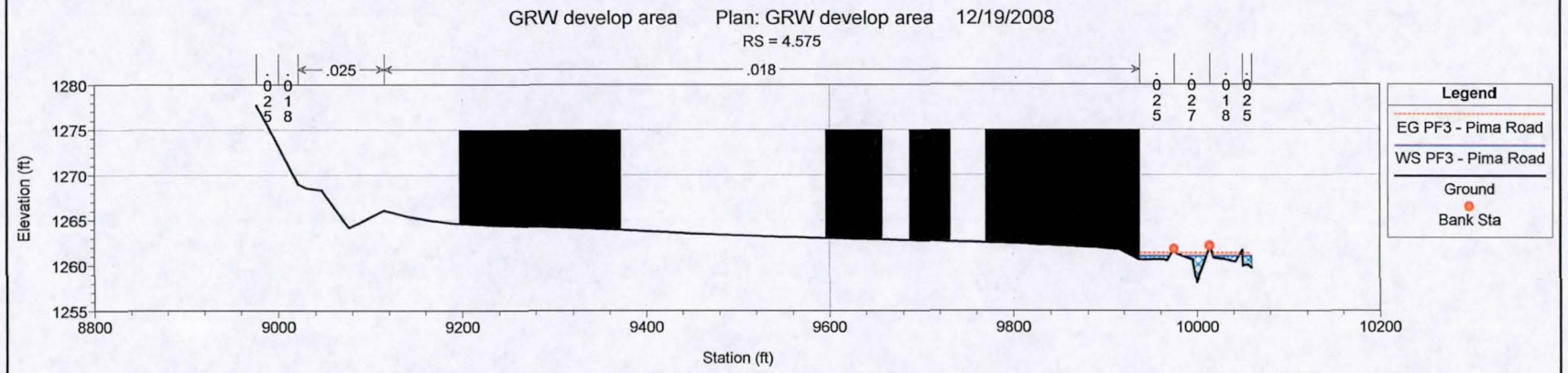

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.973
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1274
1272
1270
1268
1266
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

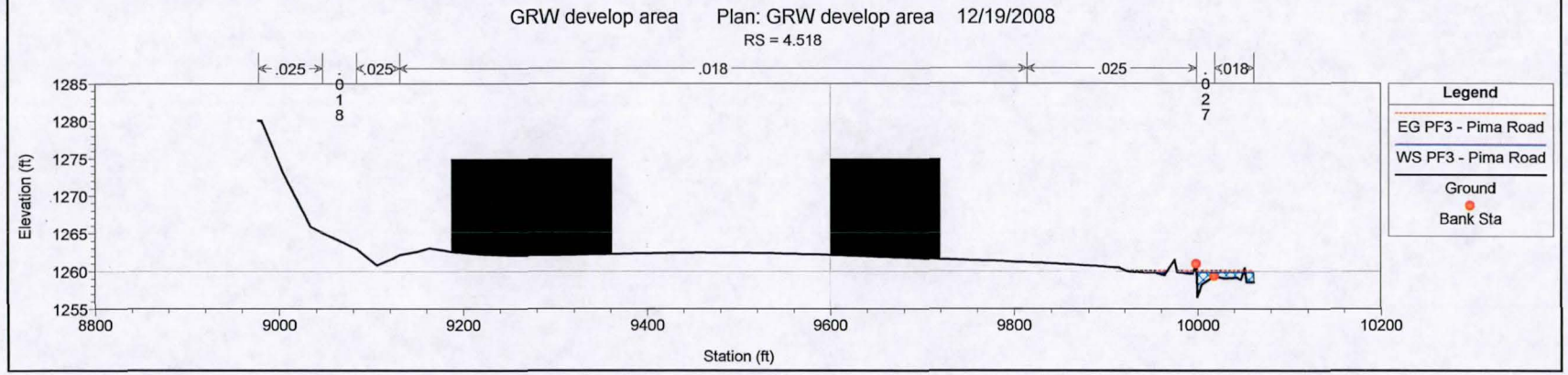

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.916
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1274
1272
1270
1268
1266
1264
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

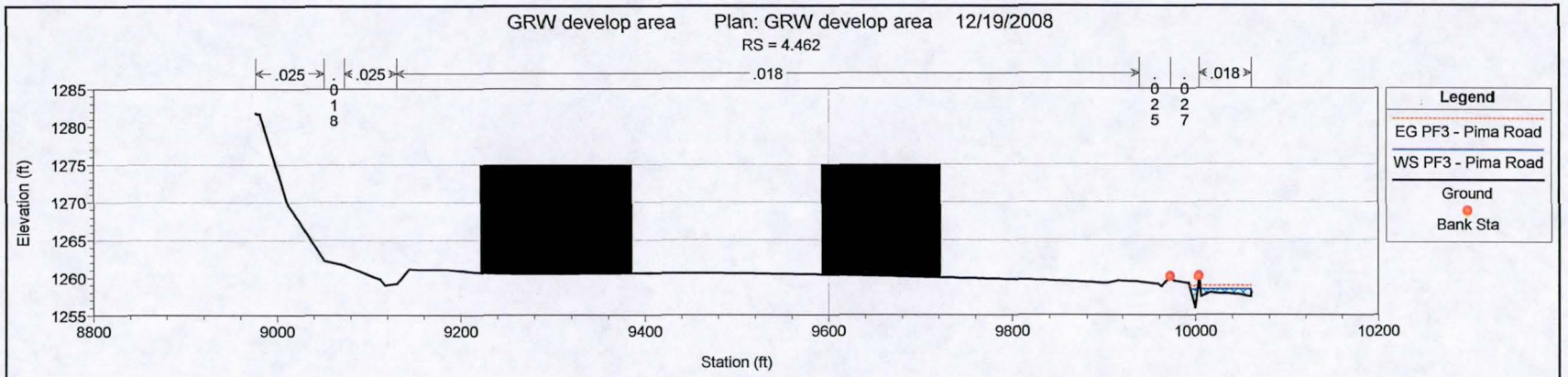

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.859
.03
.027
.0 .0
1 2
8 5
Elevation (ft)
1274
1272
1270
1268
1266
1264
1262
8800
9000
9200
9400
9600
9800
10000
10200
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

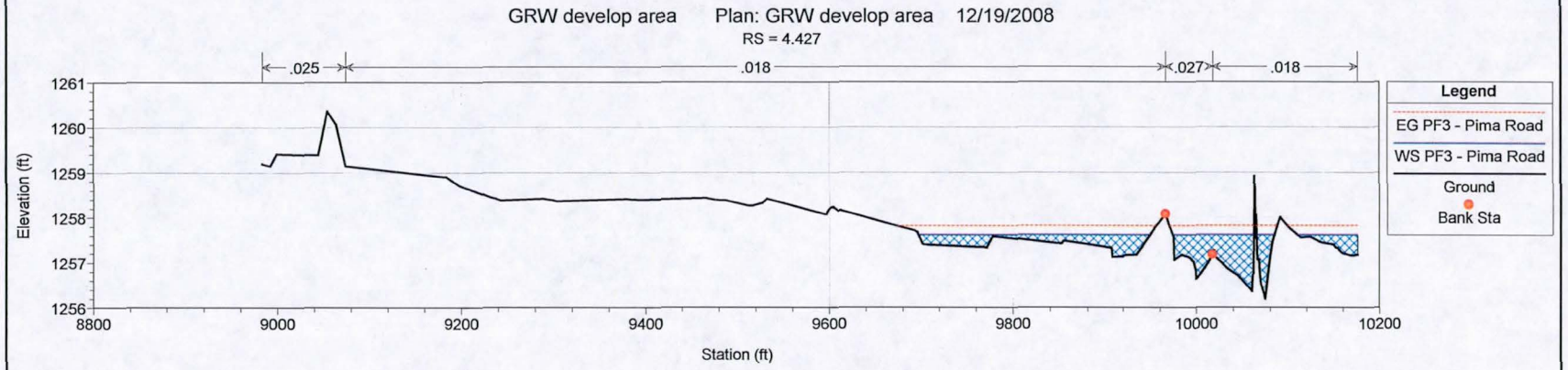

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.803
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.746
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.689
.03
.018
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

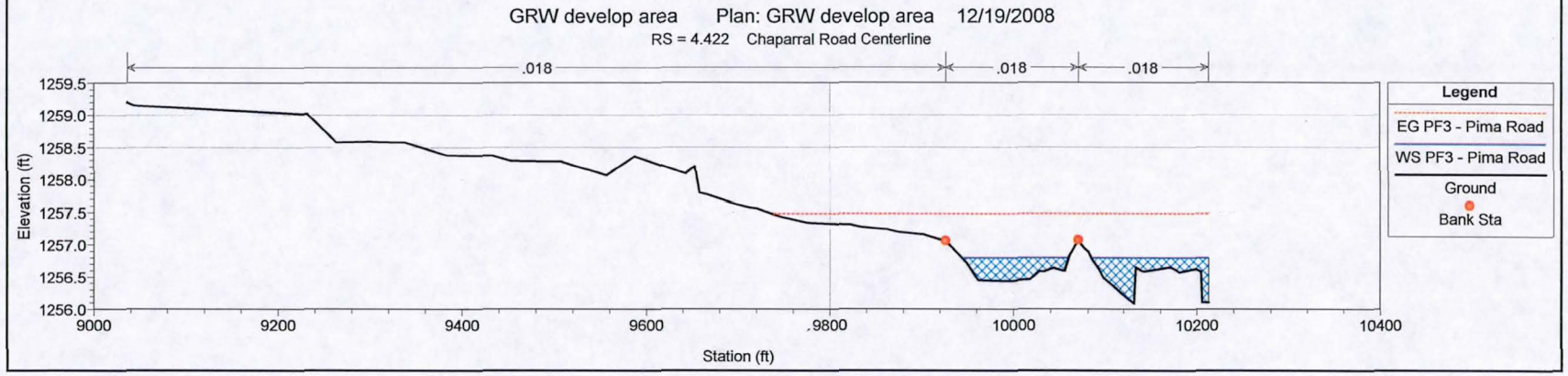

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.632
.018
.03
.018
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

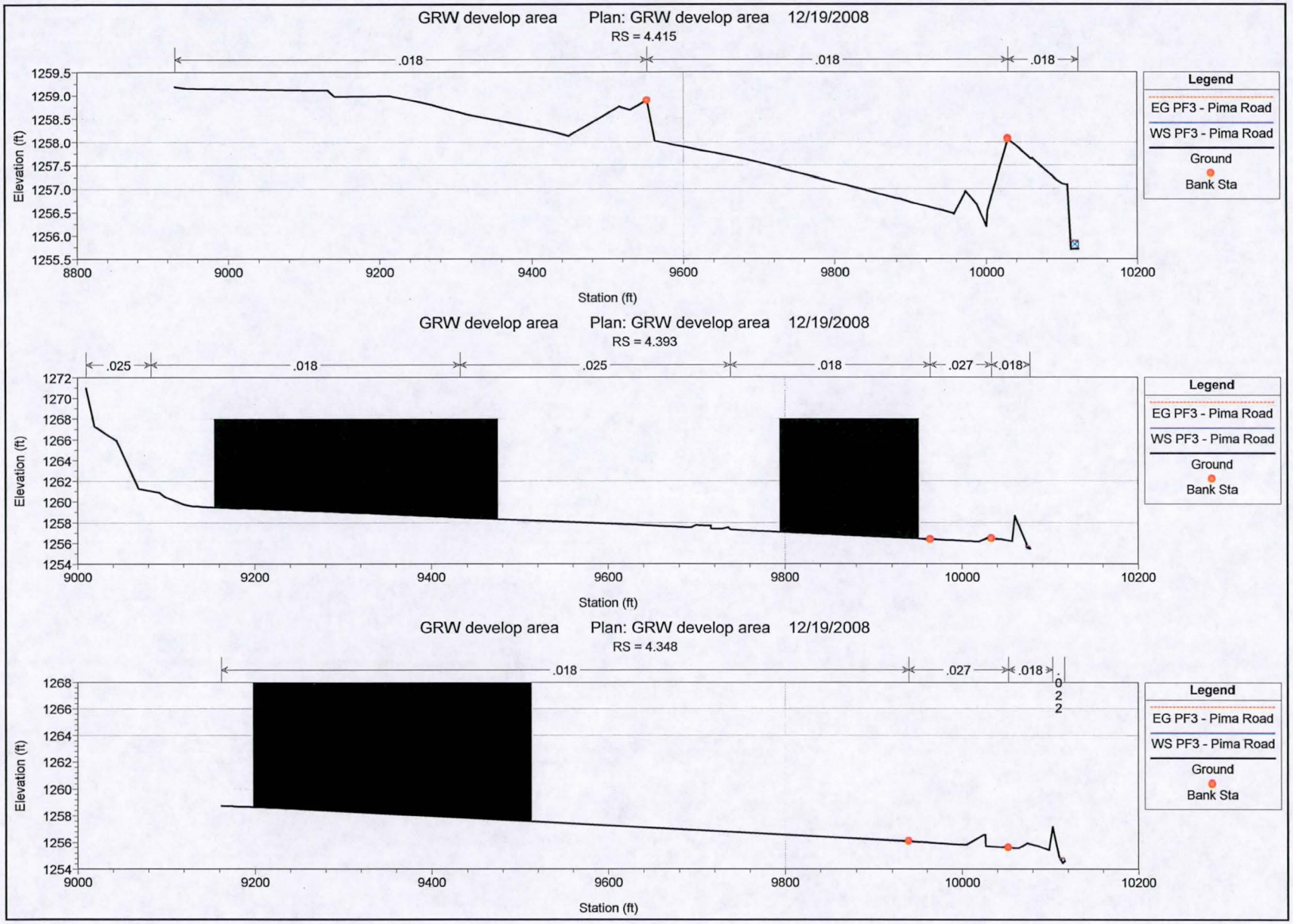

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.575
.025
.018
.018
.025
.025
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

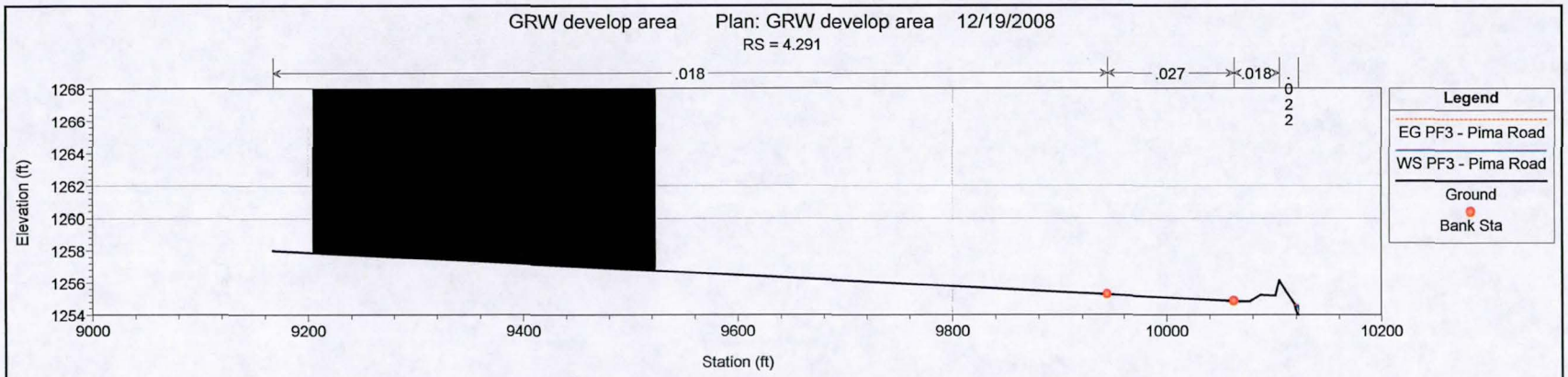

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.518
.025
.018
.025
.018
.025
.018
.027
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

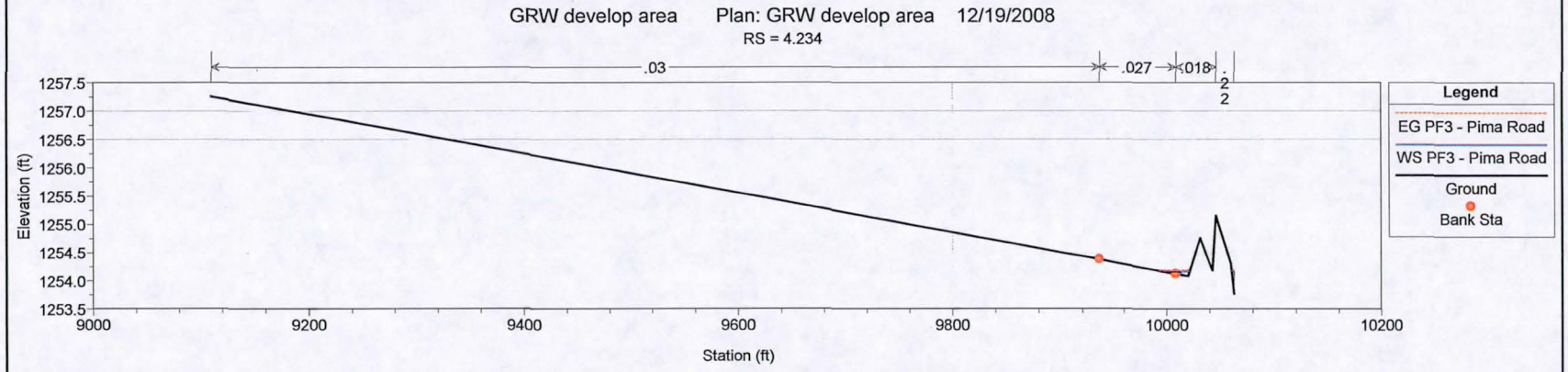

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.462
.025
.018
.025
.018
.018
.025
.027
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

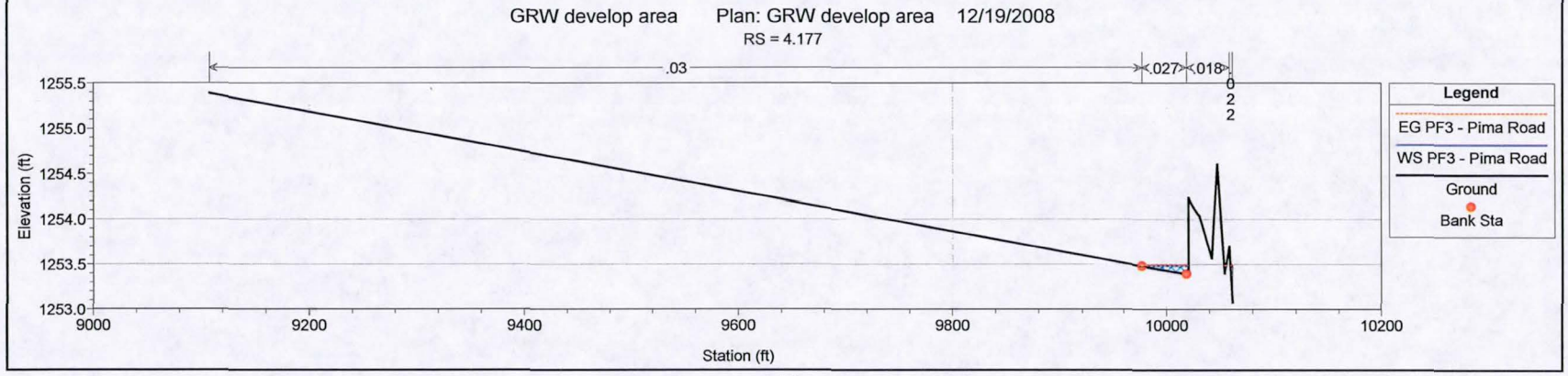

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.427
.025
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

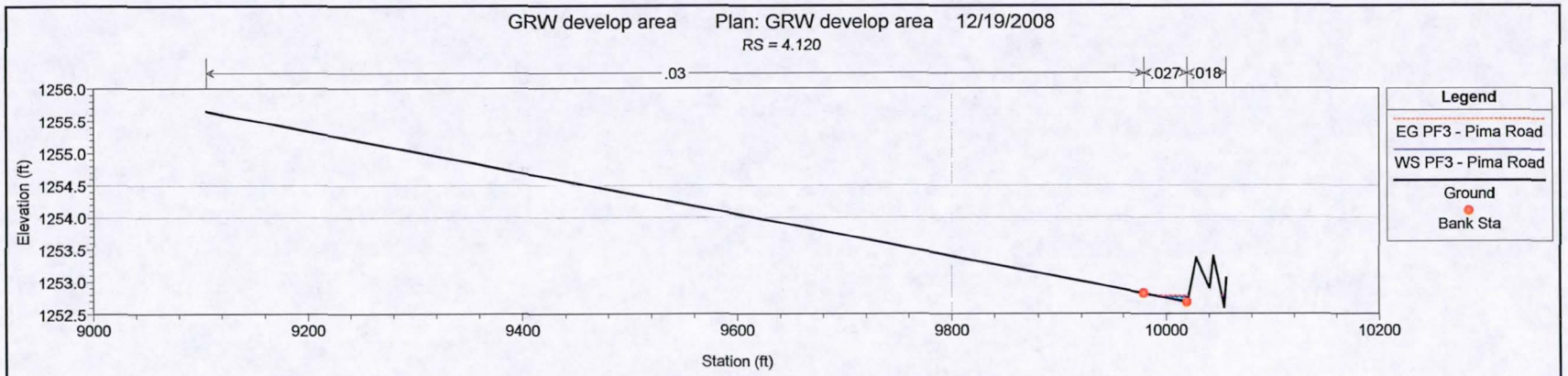

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.422 Chaparral Road Centerline
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

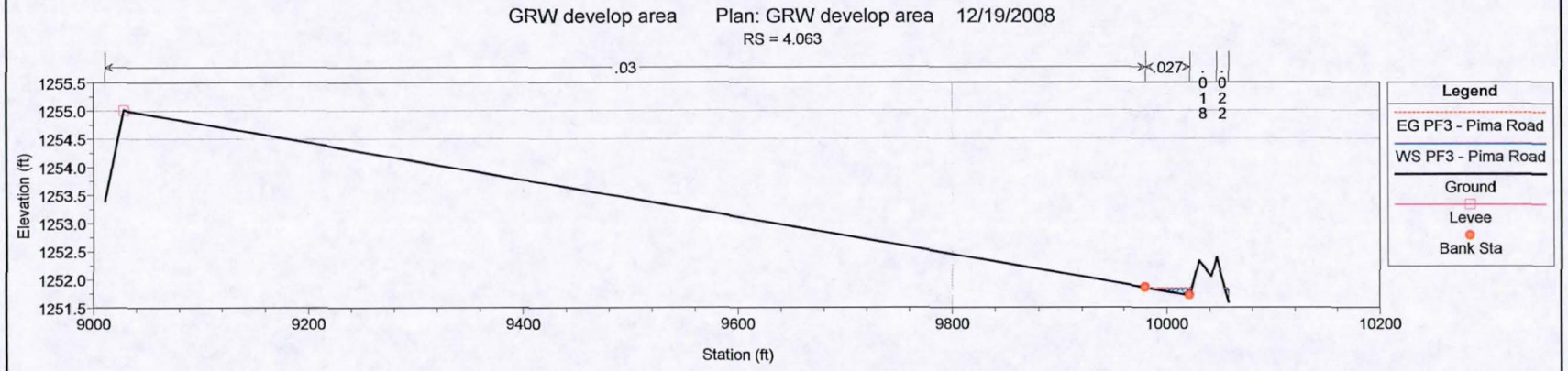

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.415
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.393
.025
.018
.025
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.348
.018
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

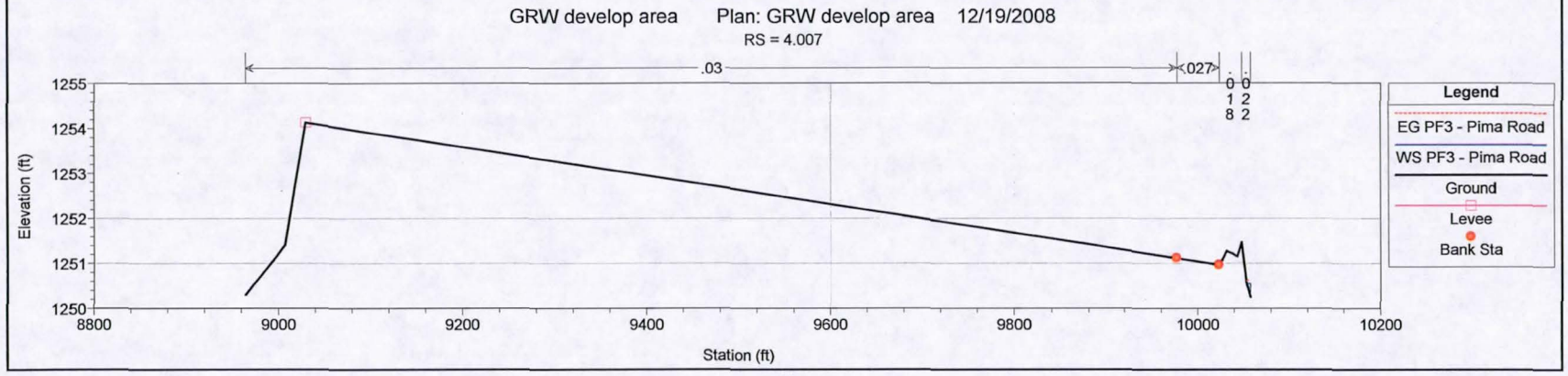

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.291
.018
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

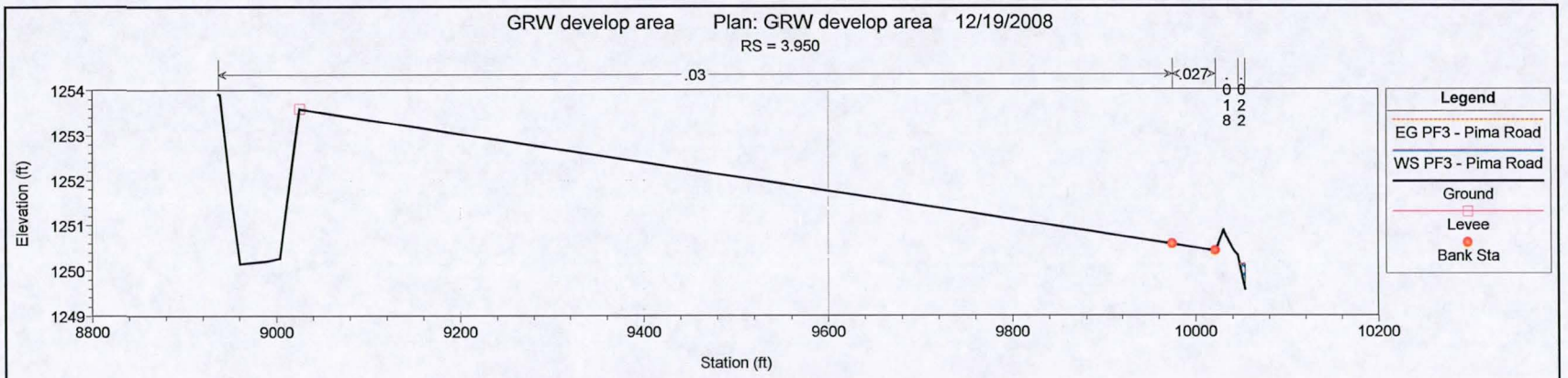

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.234
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

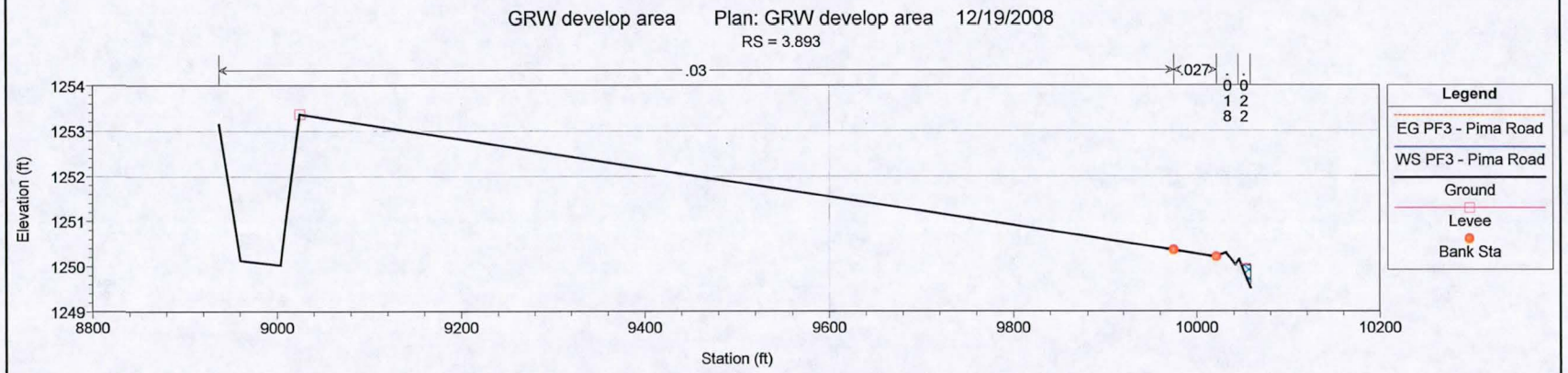

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.177
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

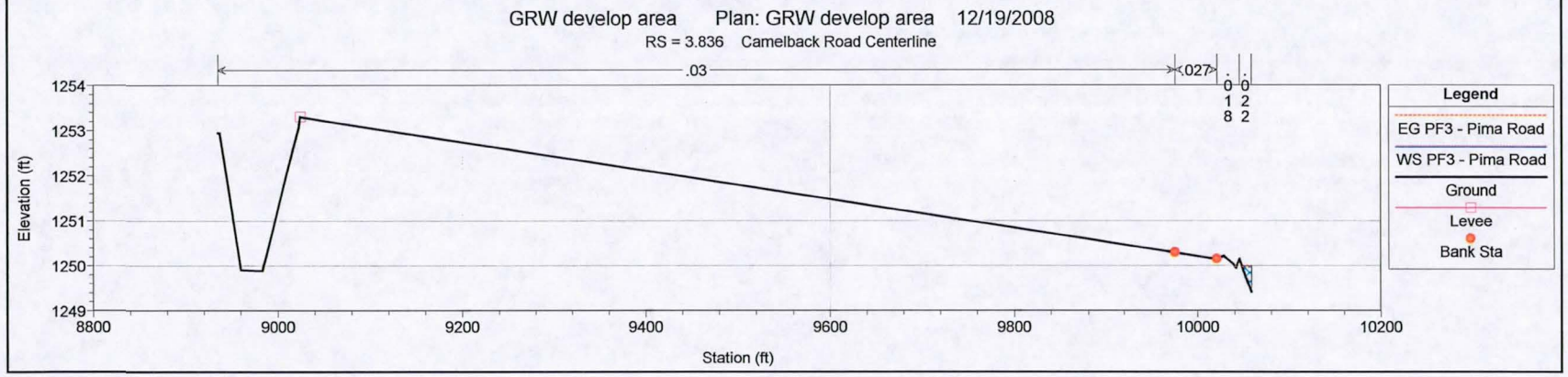

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.120
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

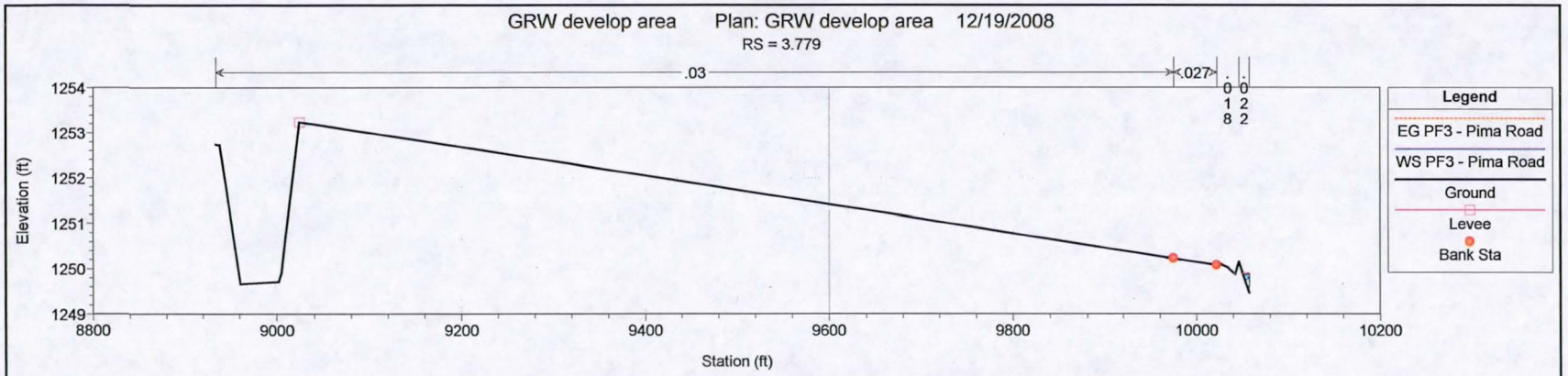

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.063
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

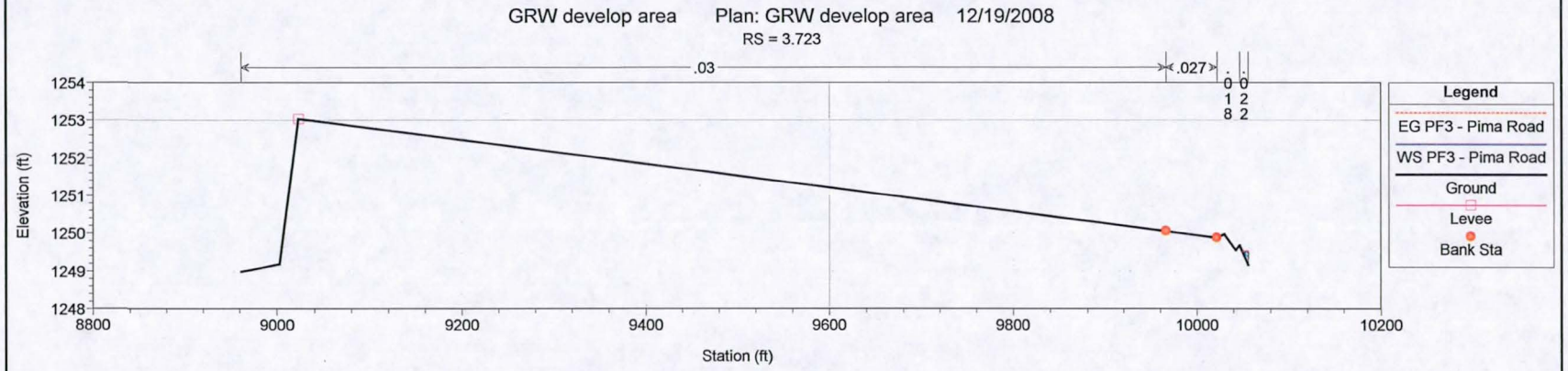

GRW develop area Plan: GRW develop area 12/19/2008
RS = 4.007
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

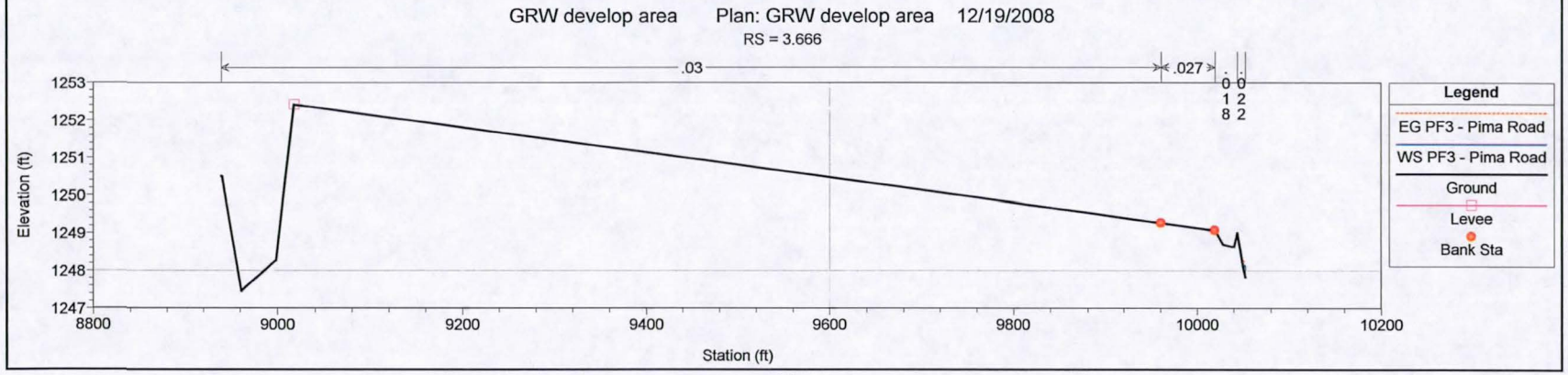

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.950
.03
.027
.018
.012
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

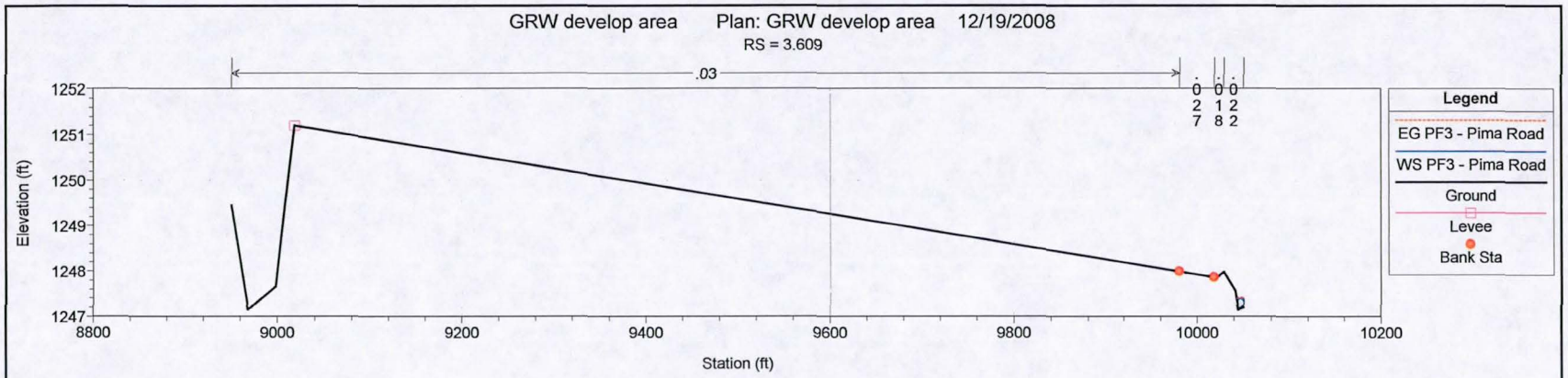

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.893
.03
.027
.018
.012
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

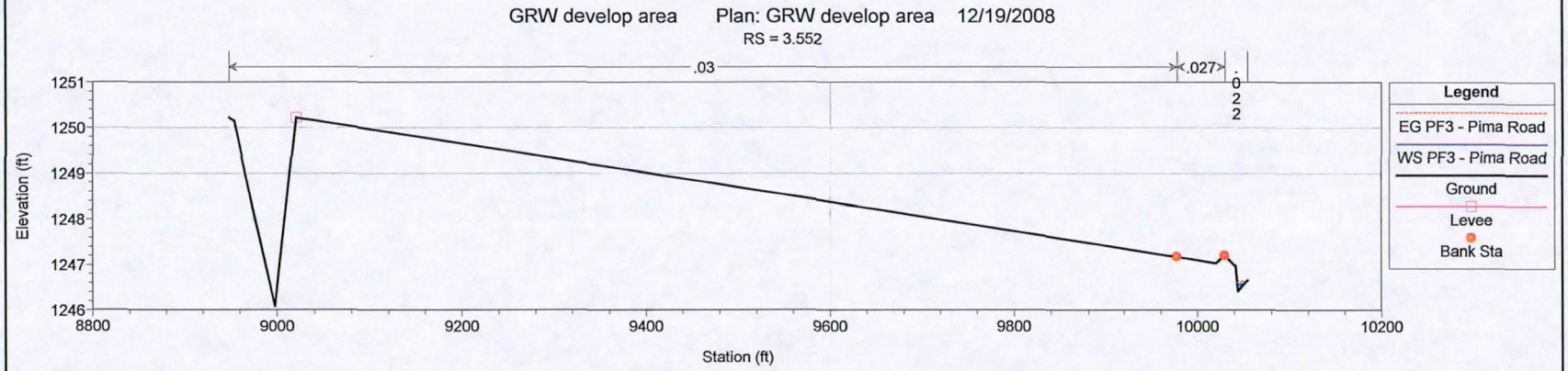

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.836 Camelback Road Centerline
.03
.027
.018
.012
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

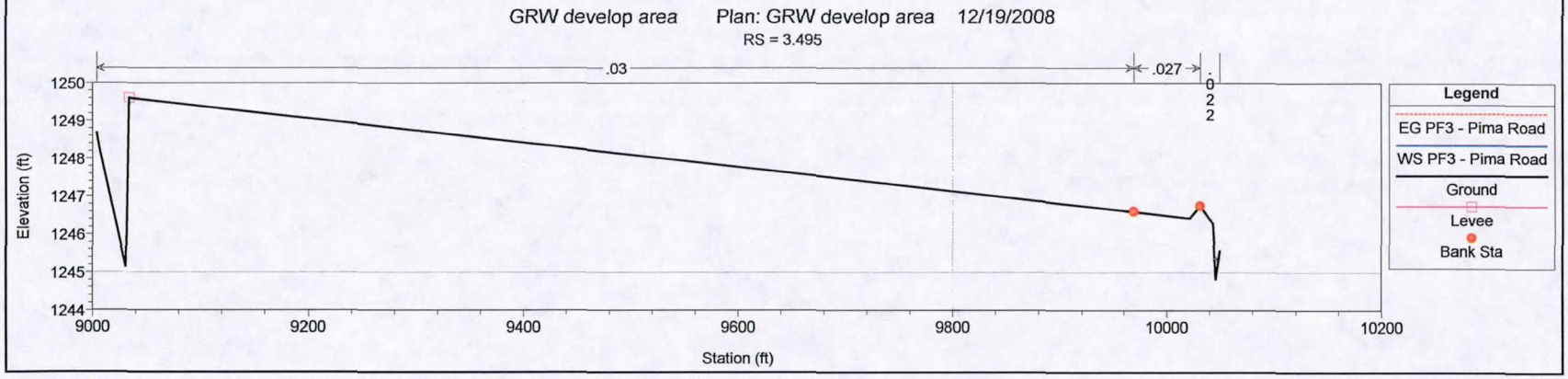

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.779
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

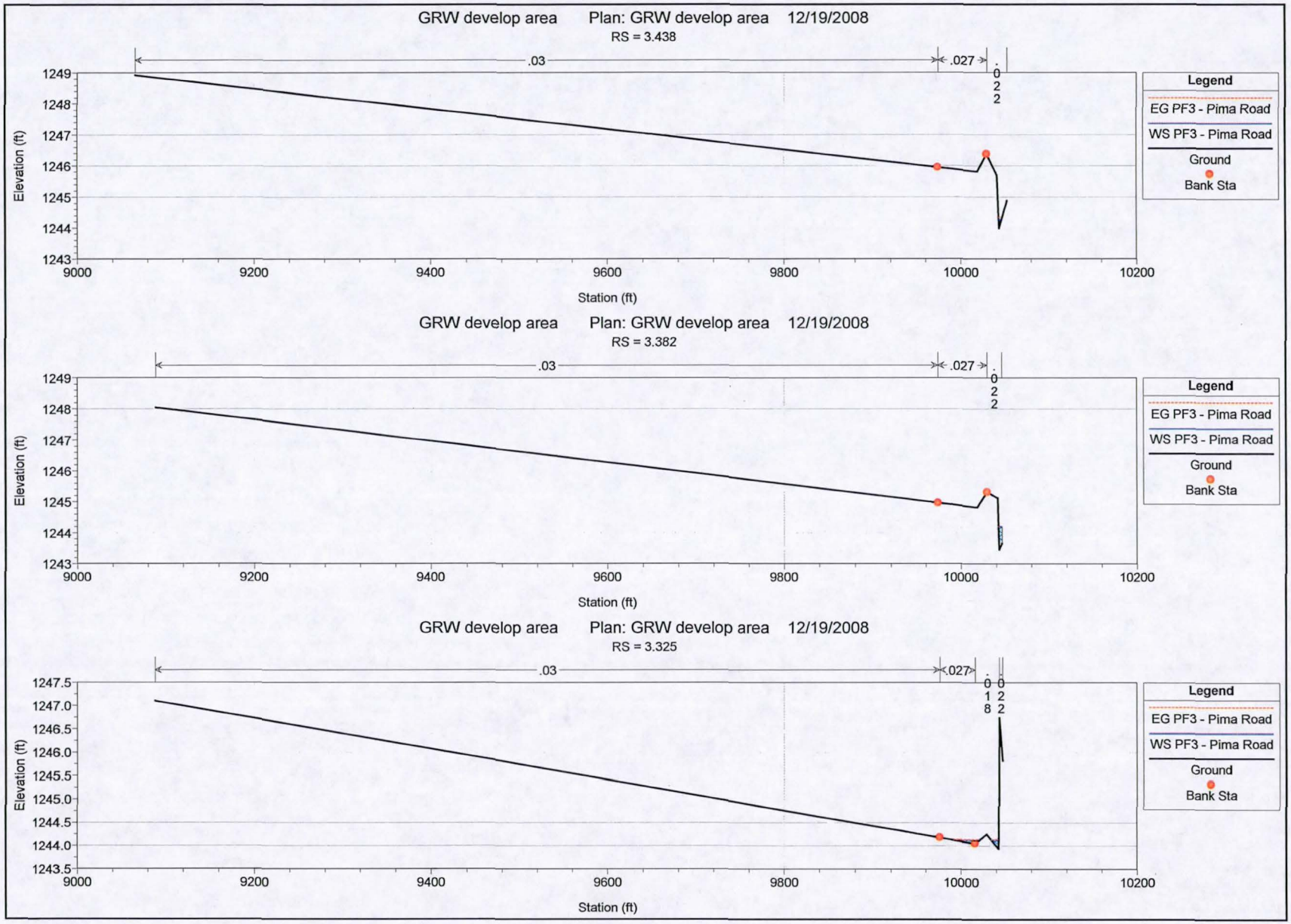

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.723
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

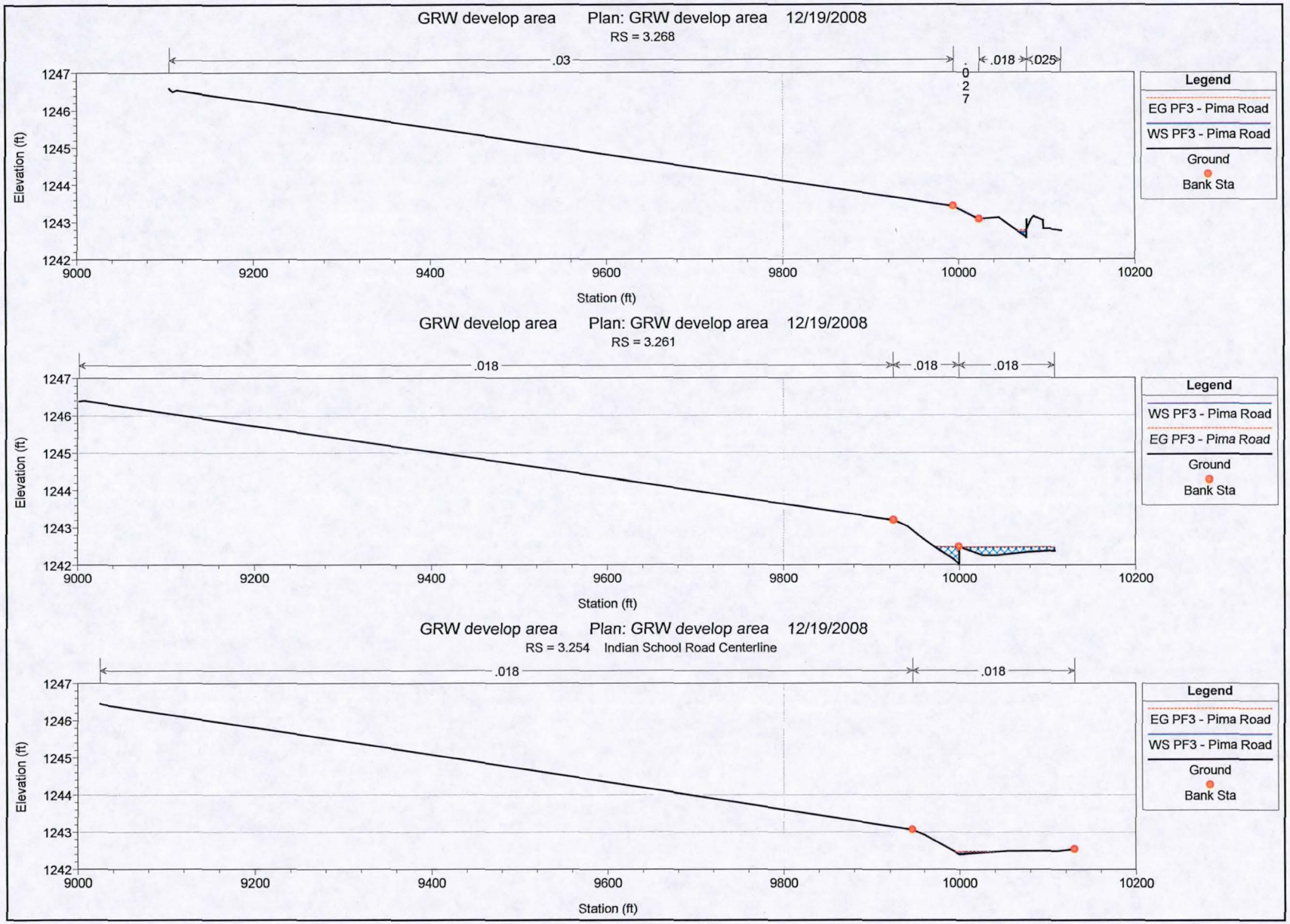

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.666
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

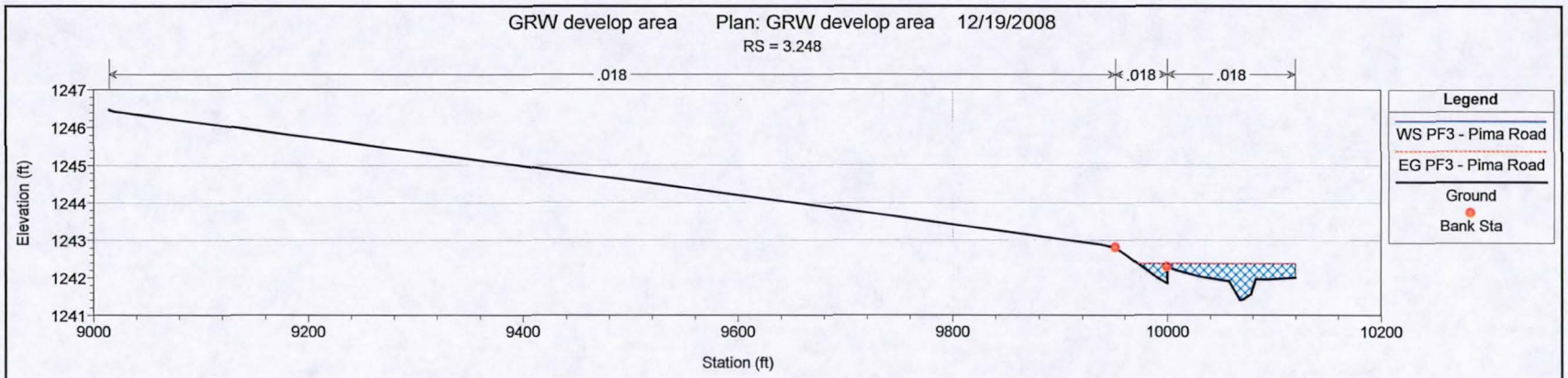

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.609
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

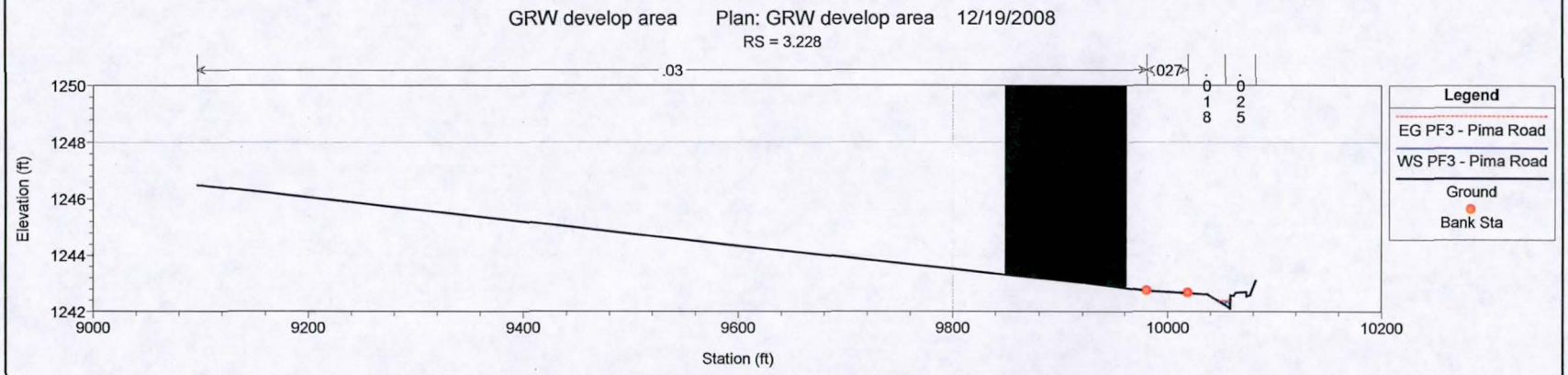

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.552
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

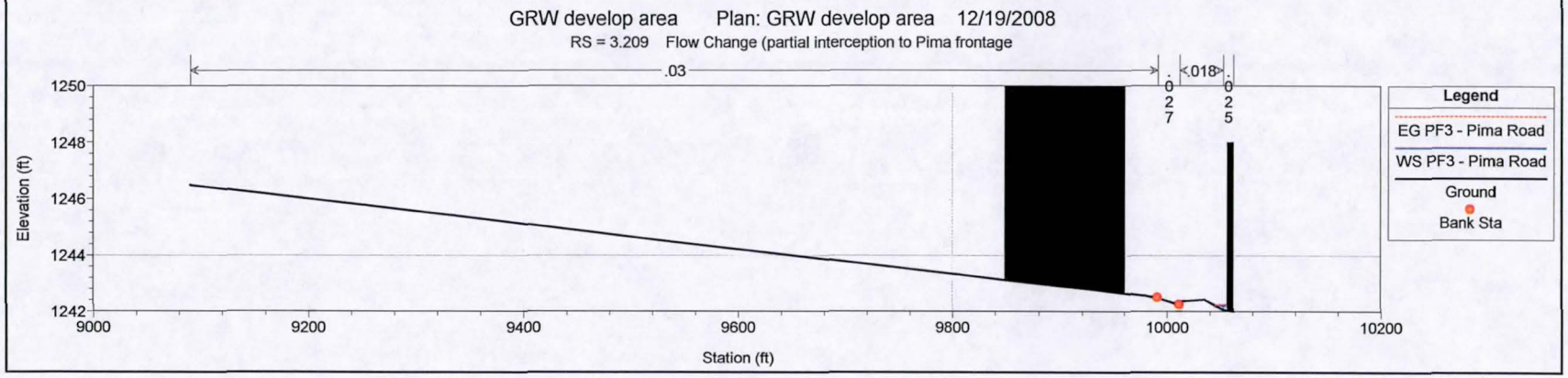

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.495
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

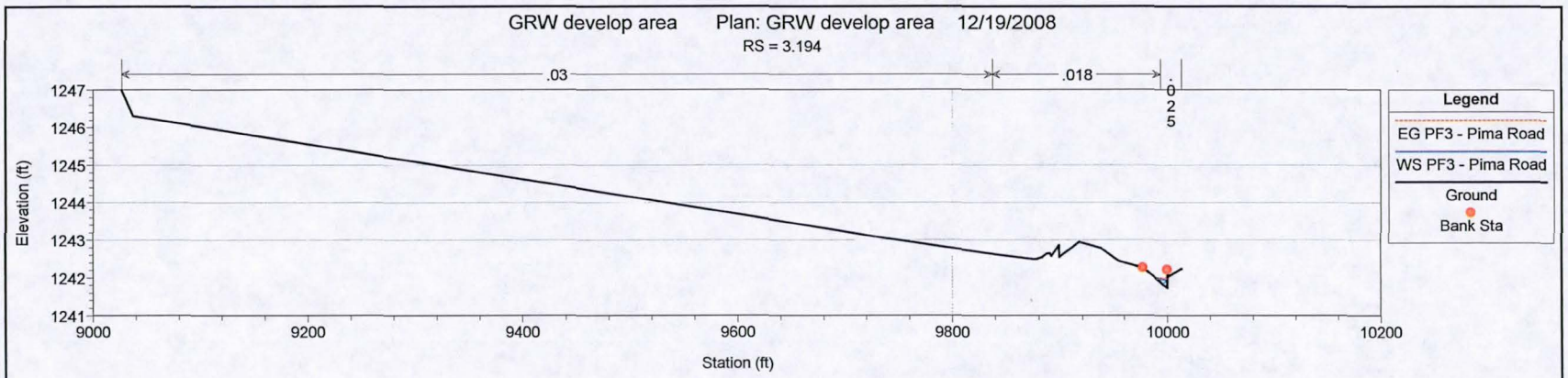

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.438
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.382
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.325
.03
.027
.018
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

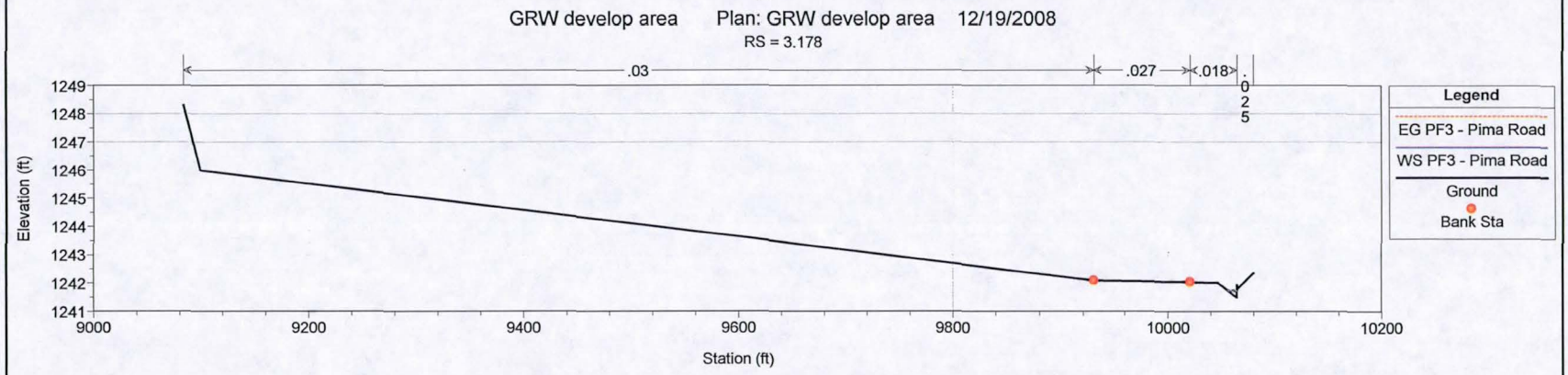

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.268
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.261
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
WS PF3 - Pima Road
EG PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.254 Indian School Road Centerline
.018
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

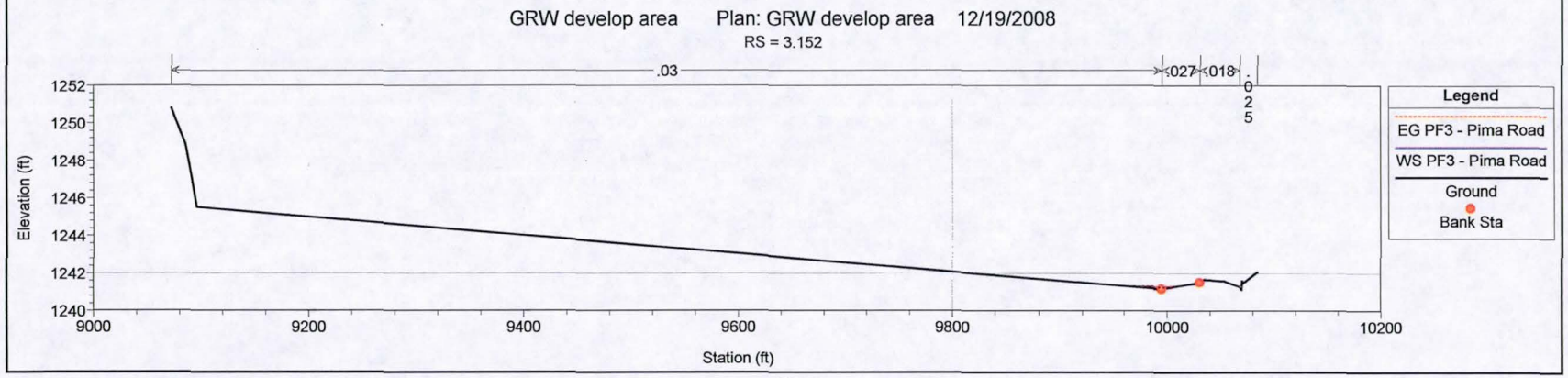

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.248
.018
.018
.018
Elevation (ft)
Station (ft)
Legend
WS PF3 - Pima Road
EG PF3 - Pima Road
Ground
Bank Sta

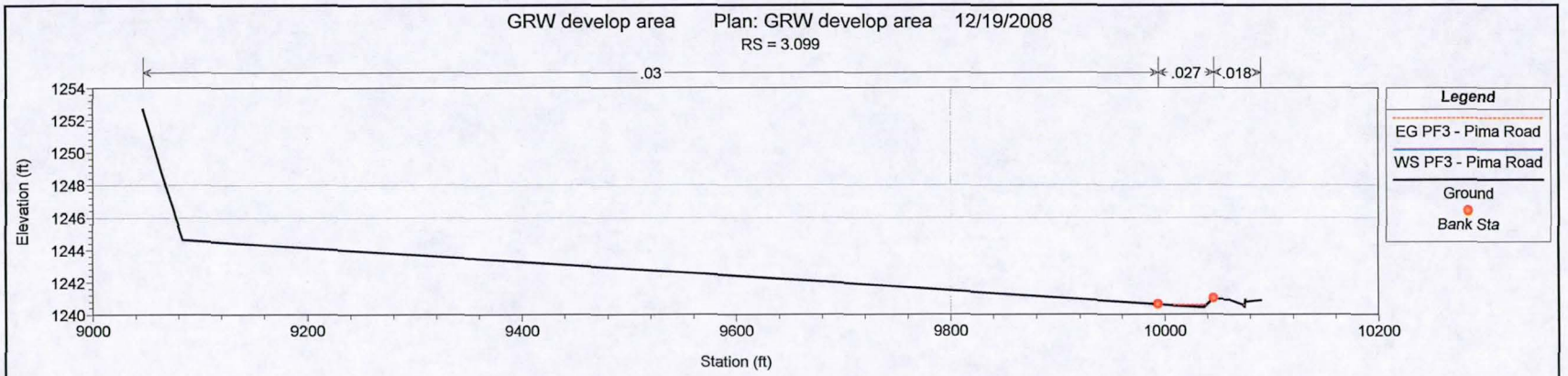

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.228
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

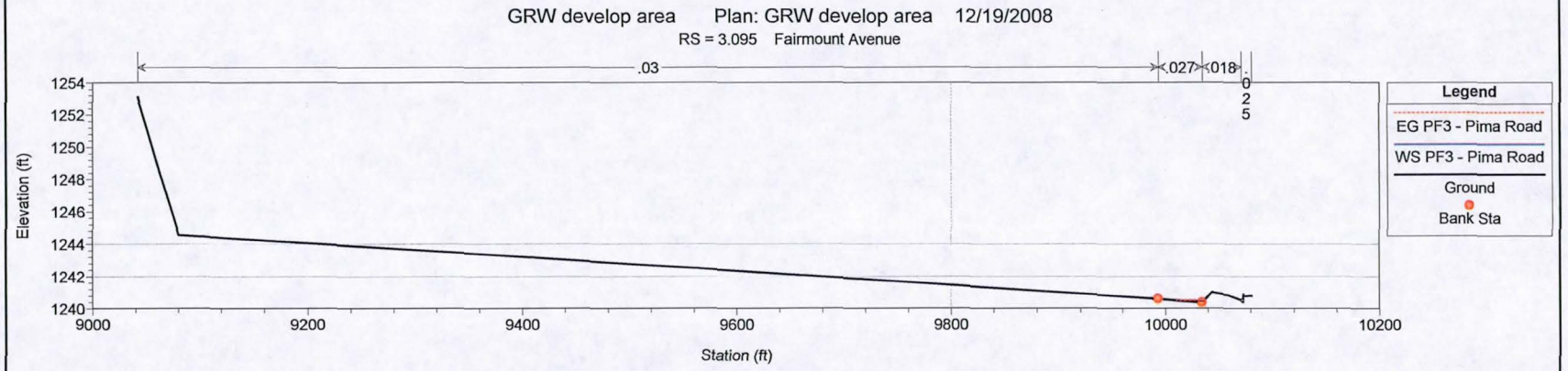

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.209 Flow Change (partial interception to Pima frontage
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

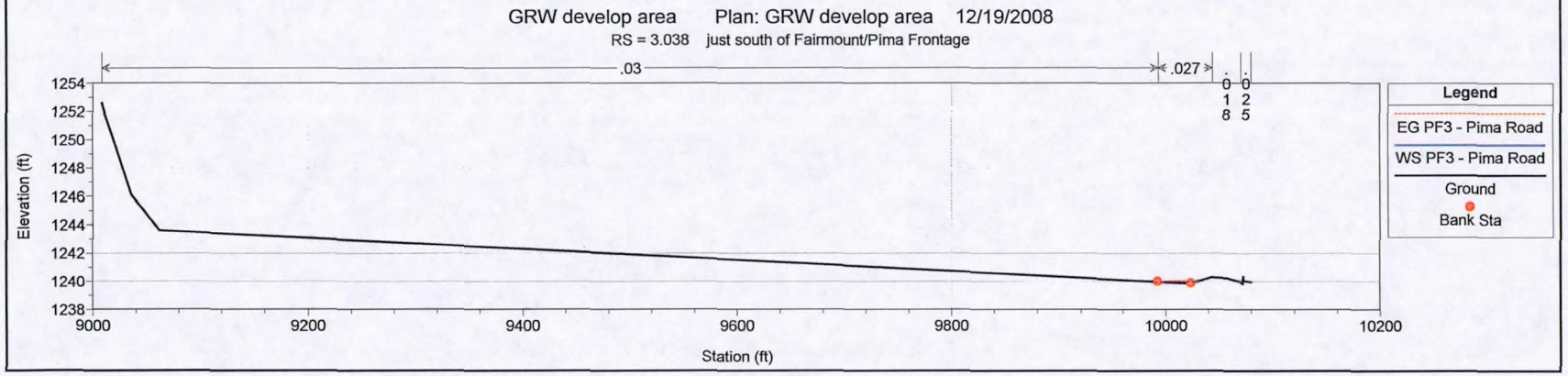

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.194
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

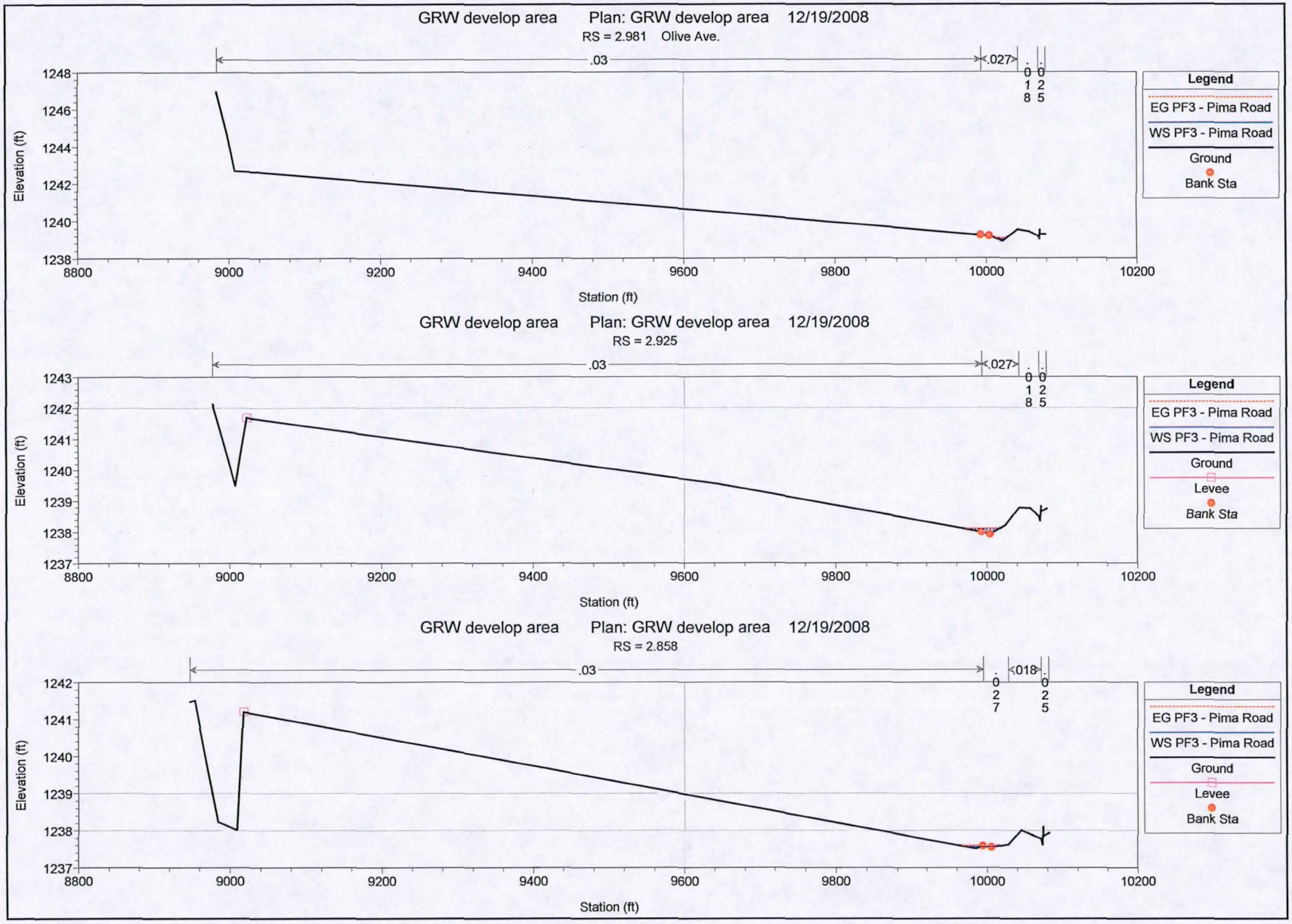

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.178
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

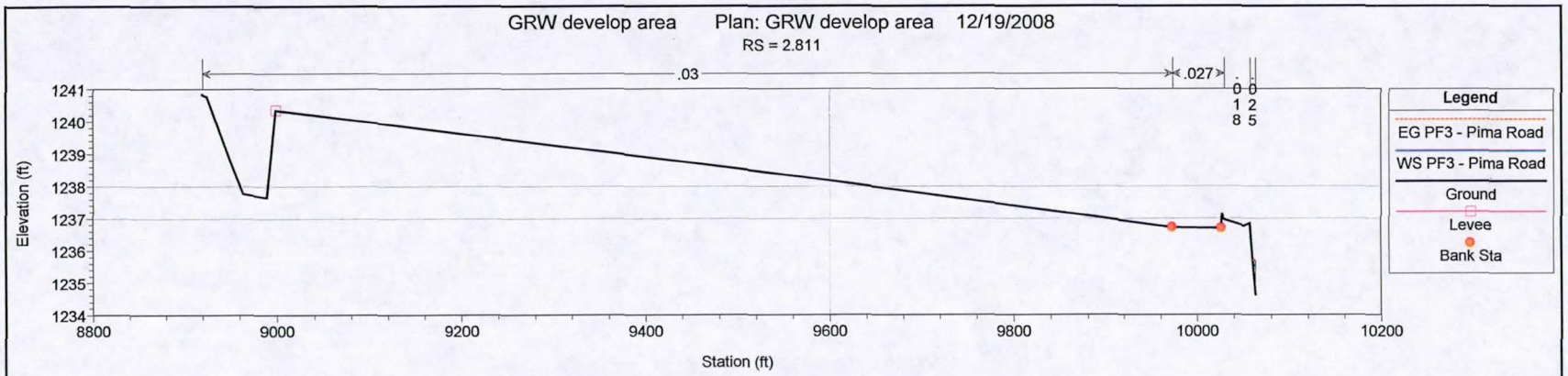

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.152
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

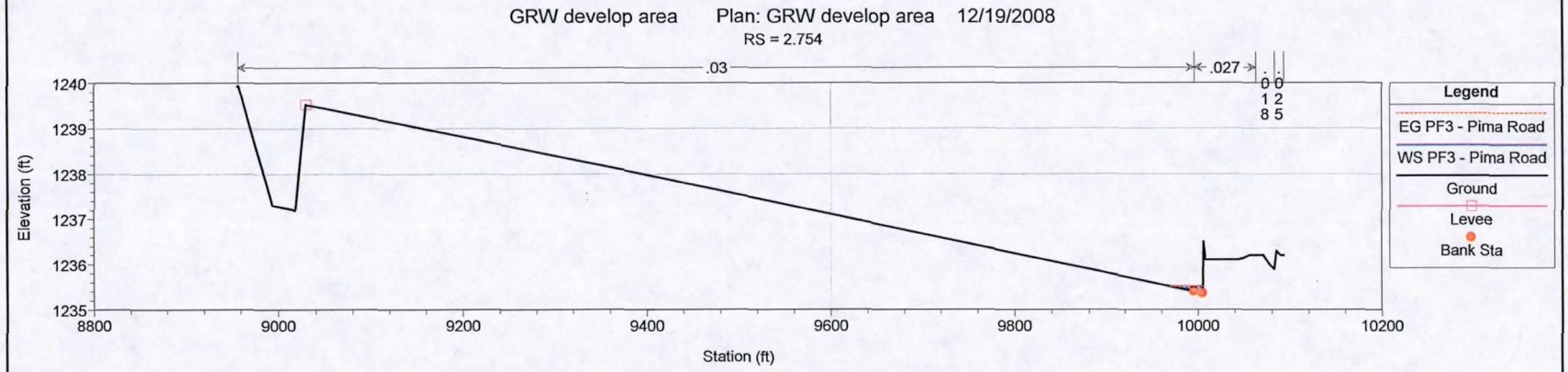

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.099
.03
.027
.018
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

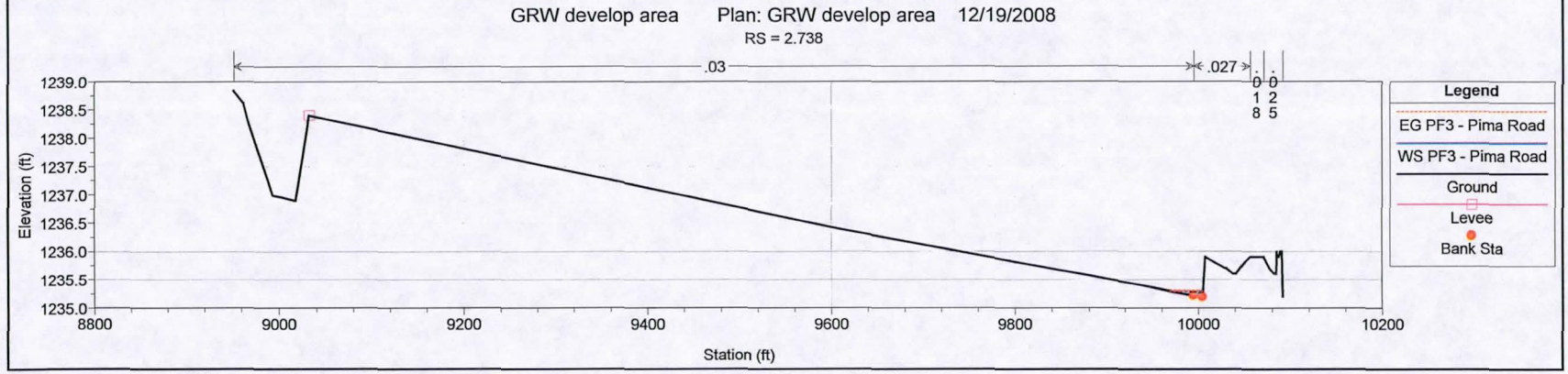

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.095 Fairmount Avenue
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

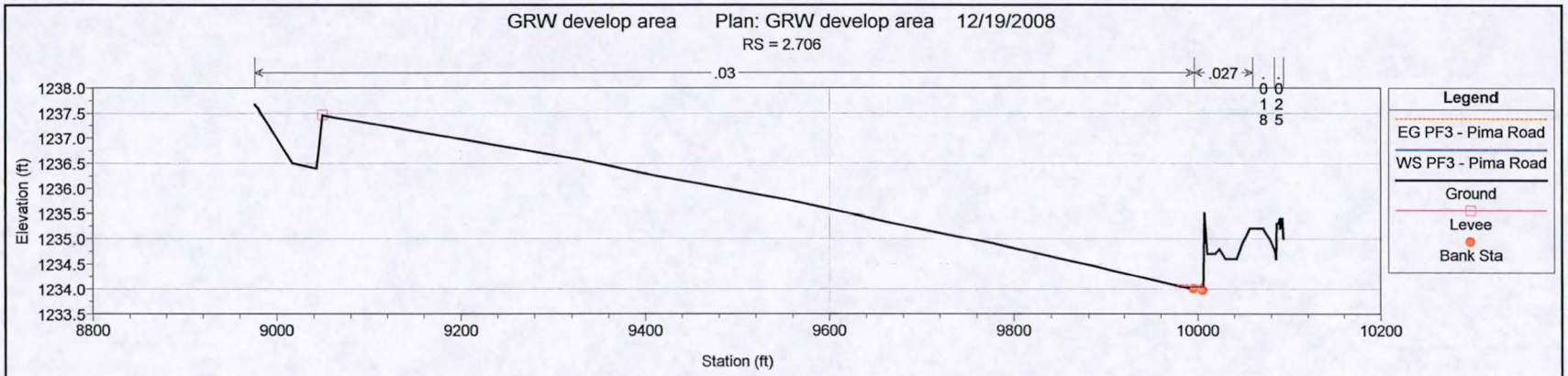

GRW develop area Plan: GRW develop area 12/19/2008
RS = 3.038 just south of Fairmount/Pima Frontage
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

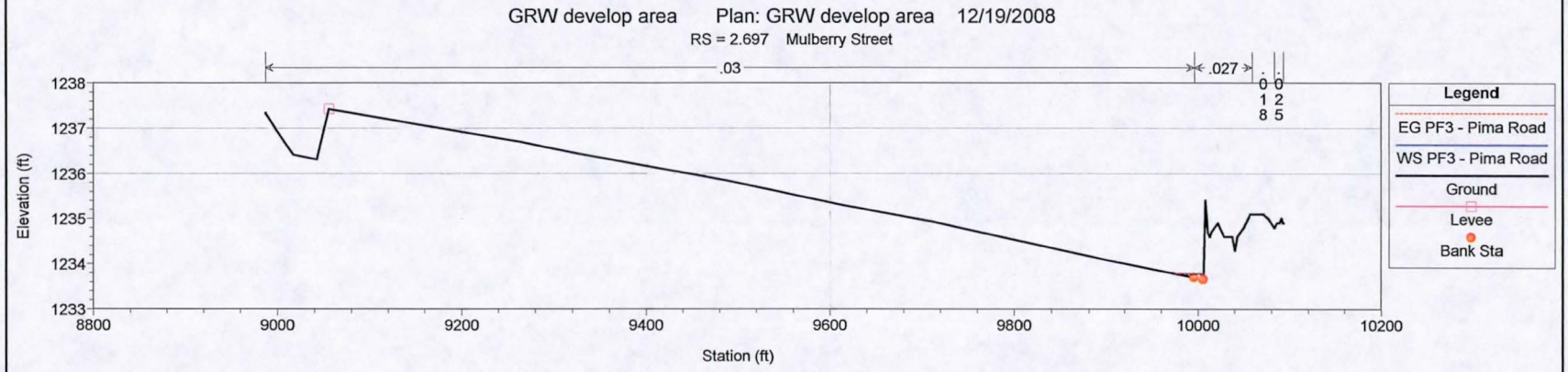

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.981 Olive Ave.
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.925
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.858
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

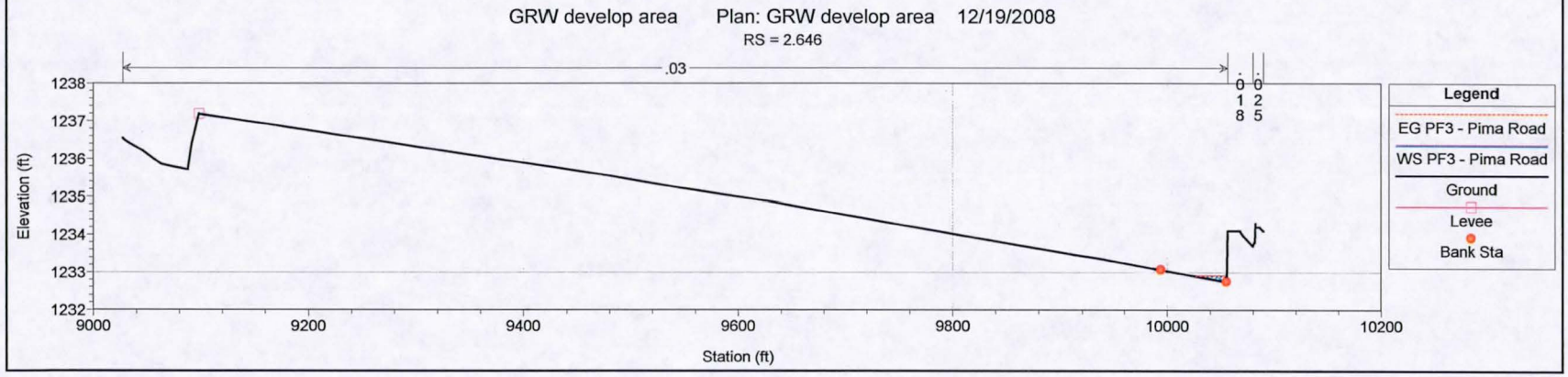

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.811
.03
.027
.0128
.0025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

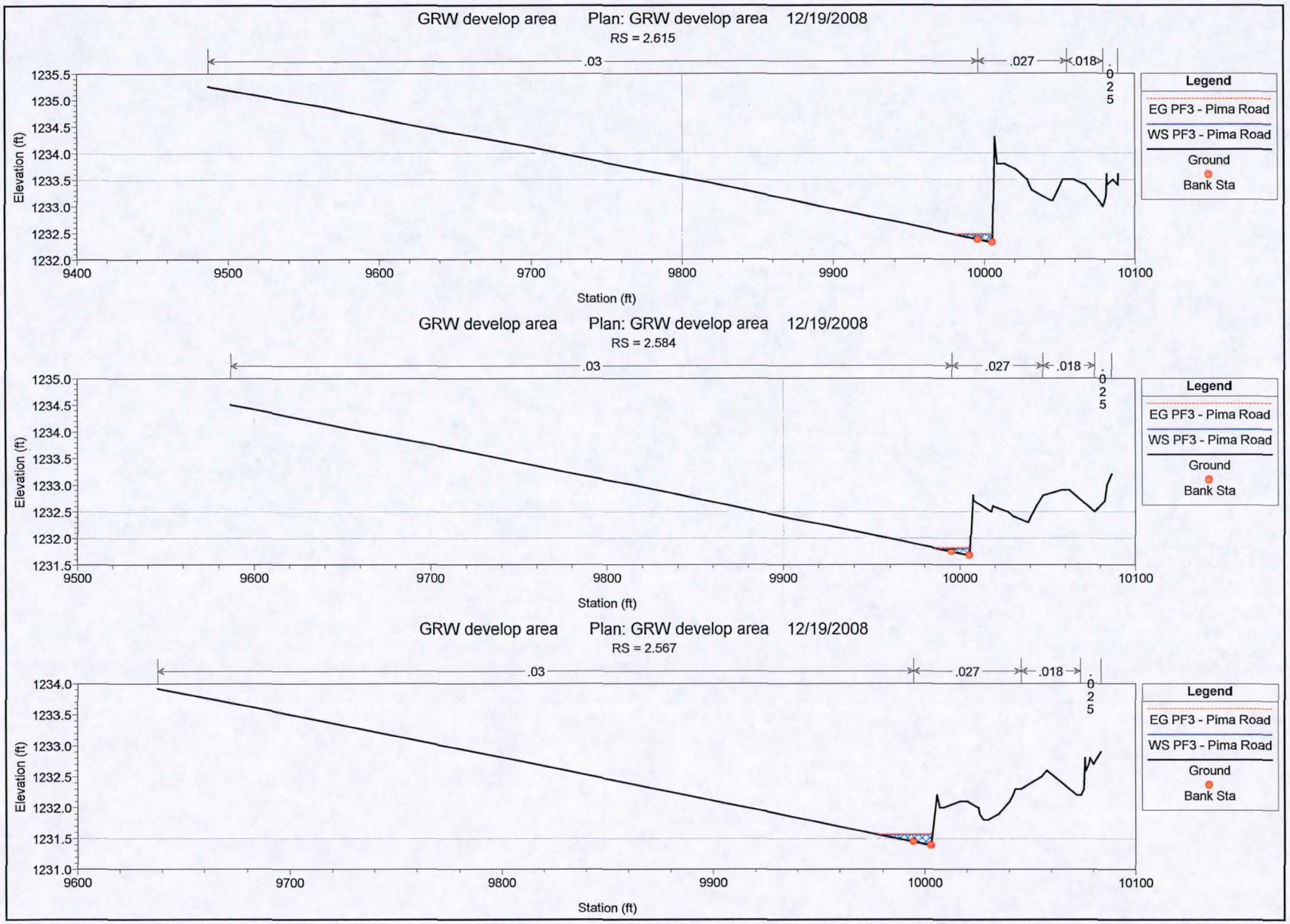

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.754
.03
.027
.0128
.0025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

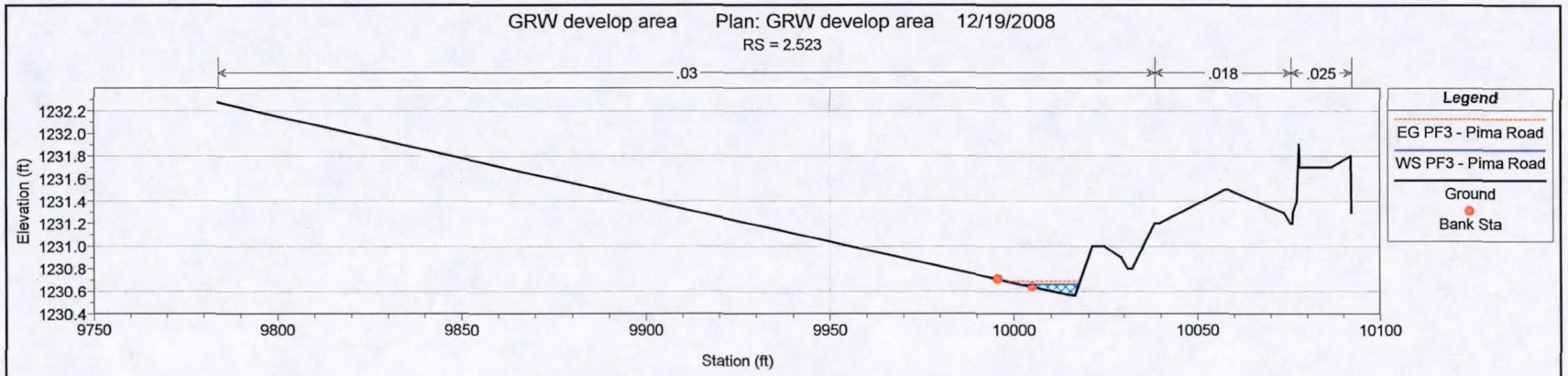

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.738
.03
.027
.0128
.0025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

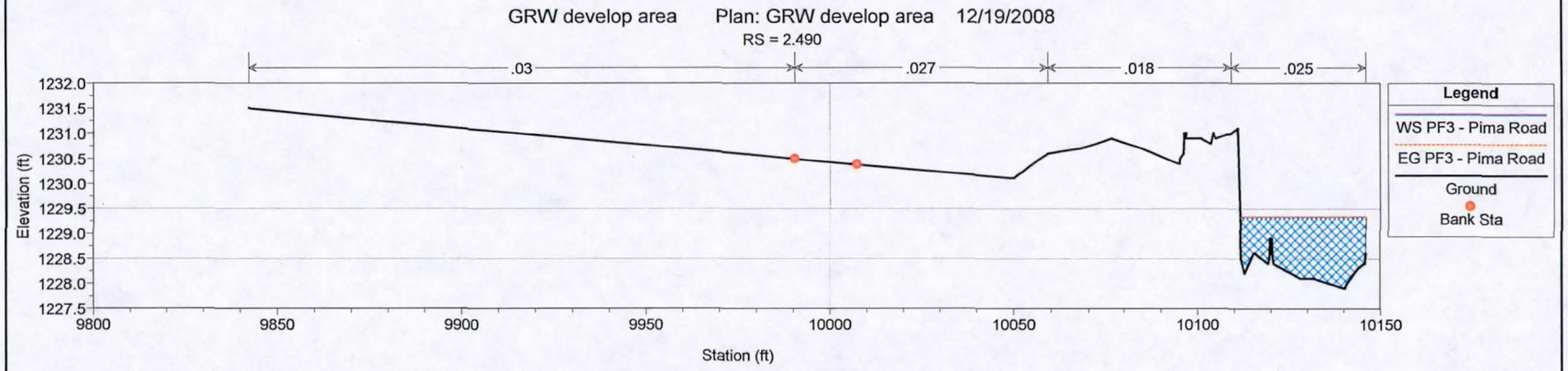

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.706
.03
.027
.0185
.0125
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

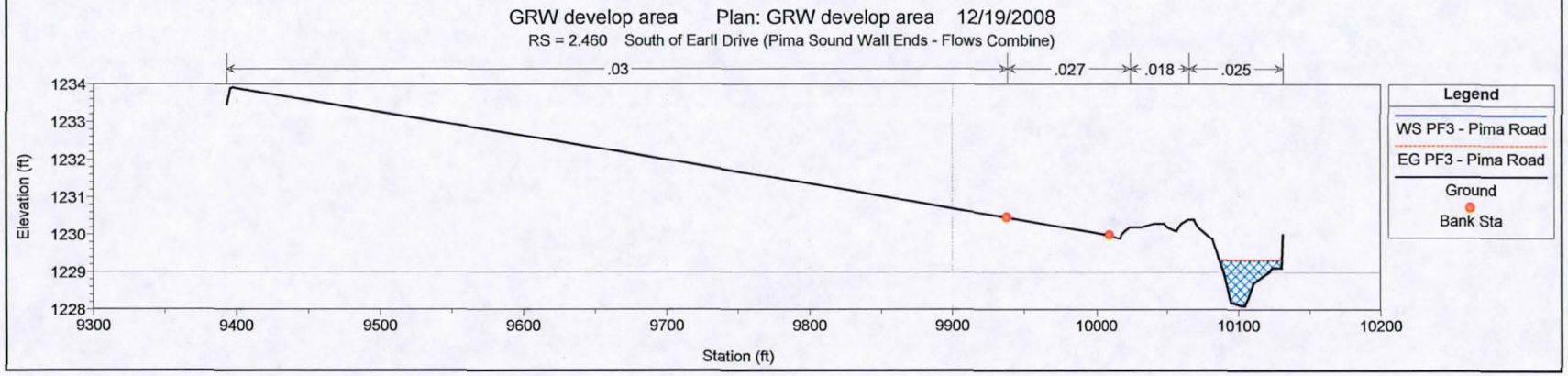

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.697 Mulberry Street
.03
.027
.0185
.0125
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

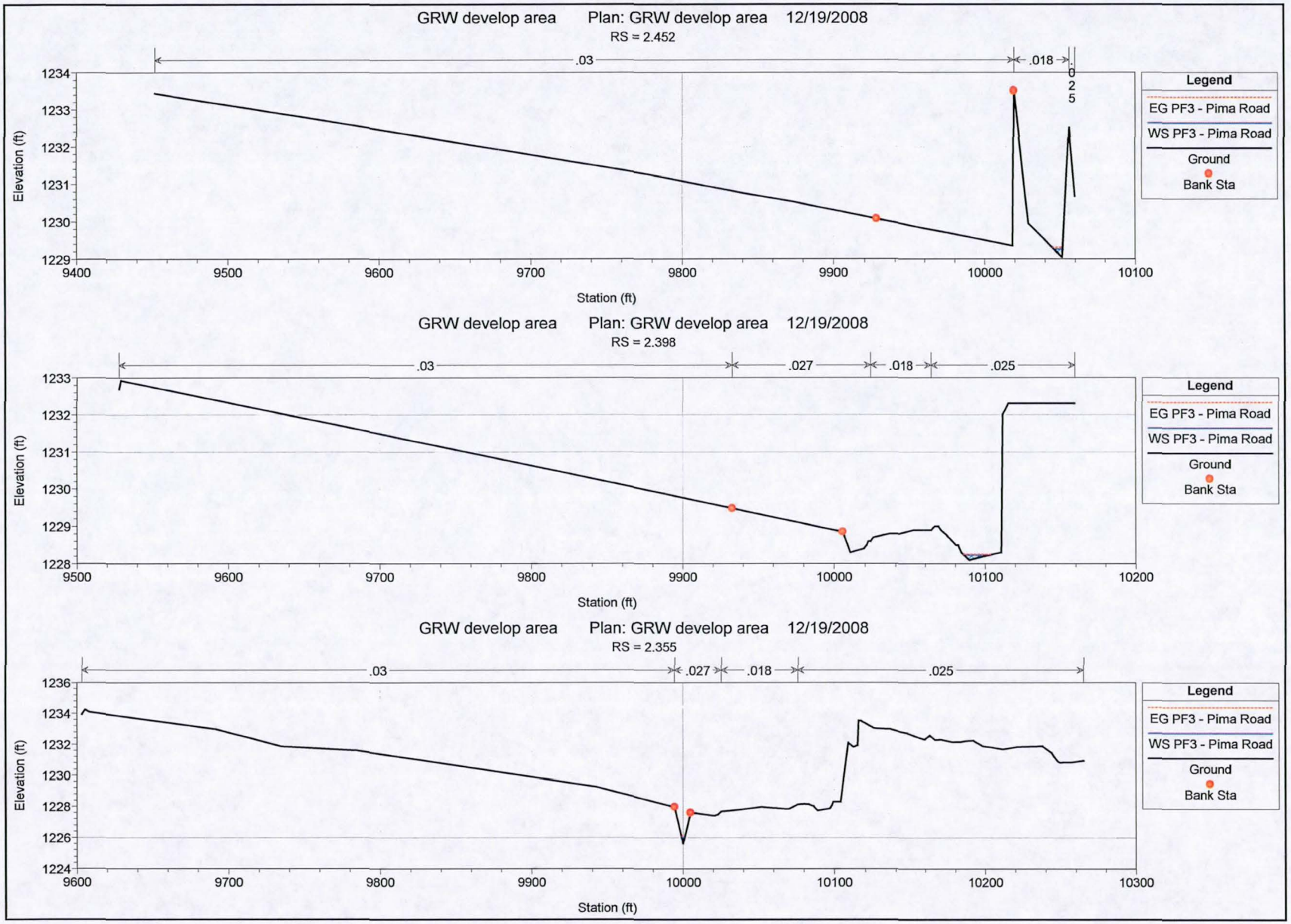

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.646
.03
.0185
.0125
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Levee
Bank Sta

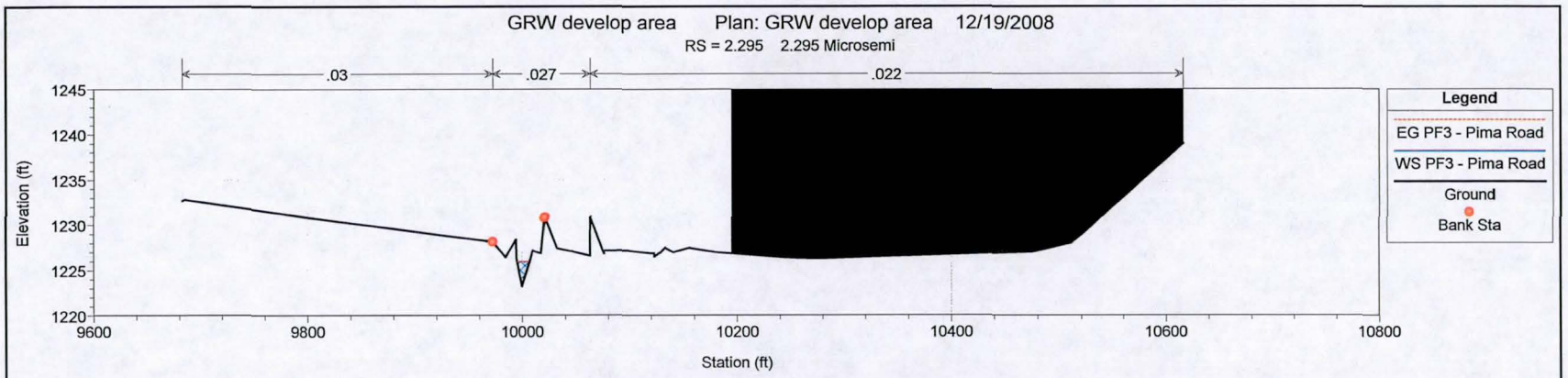

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.615
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.584
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.567
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

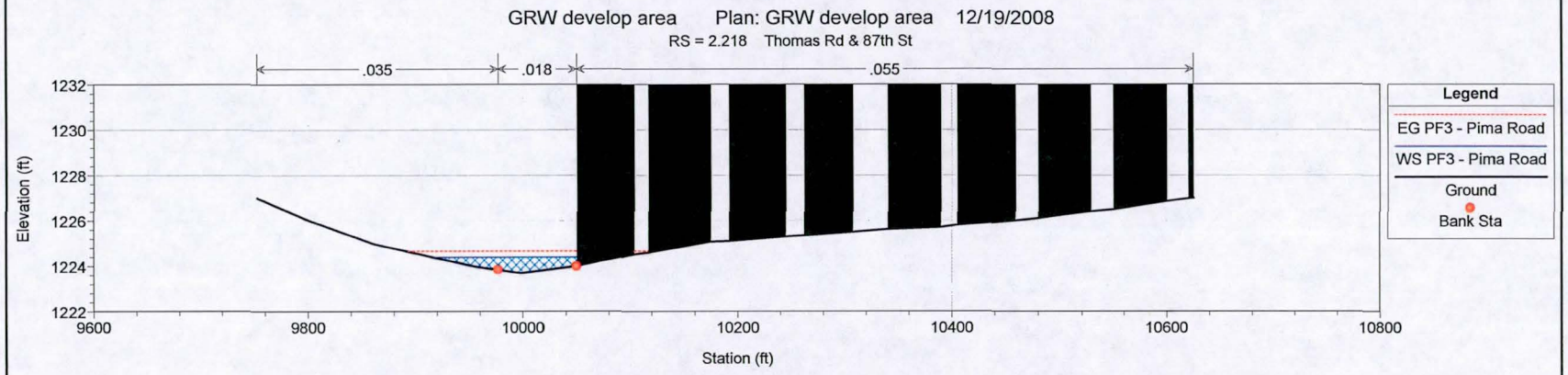

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.523
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

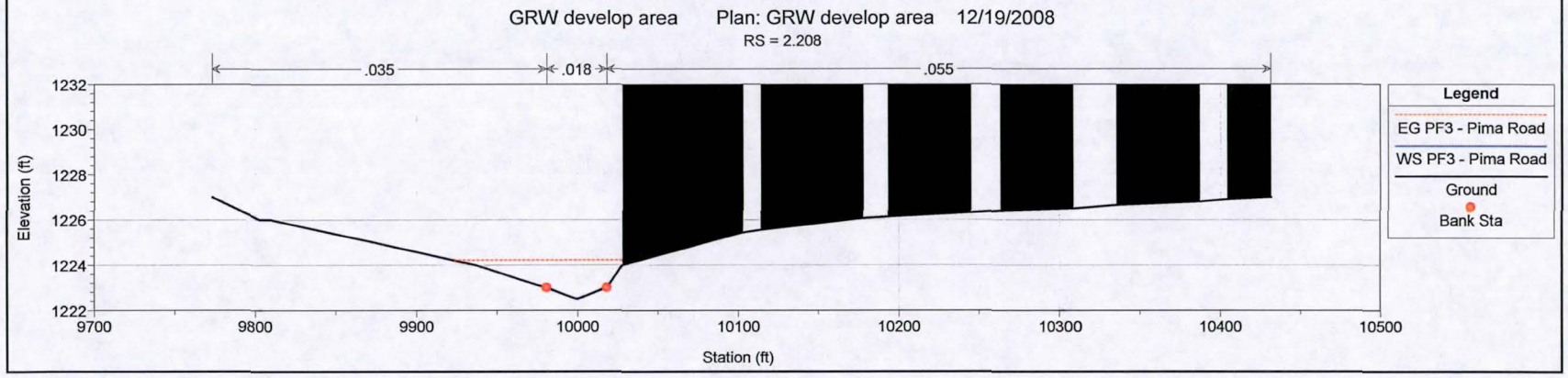

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.490
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
WS PF3 - Pima Road
EG PF3 - Pima Road
Ground
Bank Sta

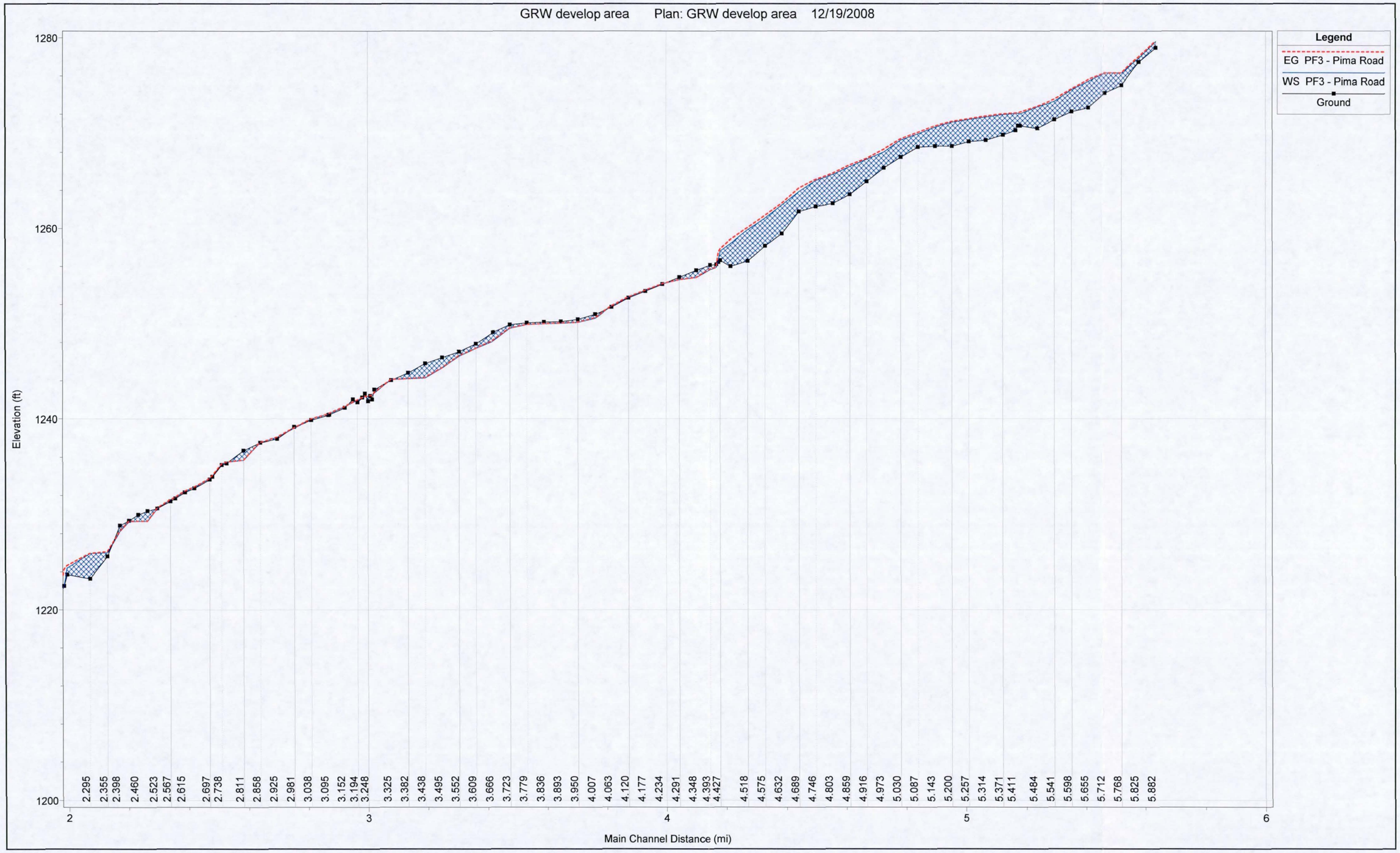

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.460 South of Earll Drive (Pima Sound Wall Ends - Flows Combine)
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
WS PF3 - Pima Road
EG PF3 - Pima Road
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.452
.03
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.398
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta
GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.355
.03
.027
.018
.025
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.295 2.295 Microsemi
.03
.027
.022
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.218 Thomas Rd & 87th St
.035
.018
.055
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta

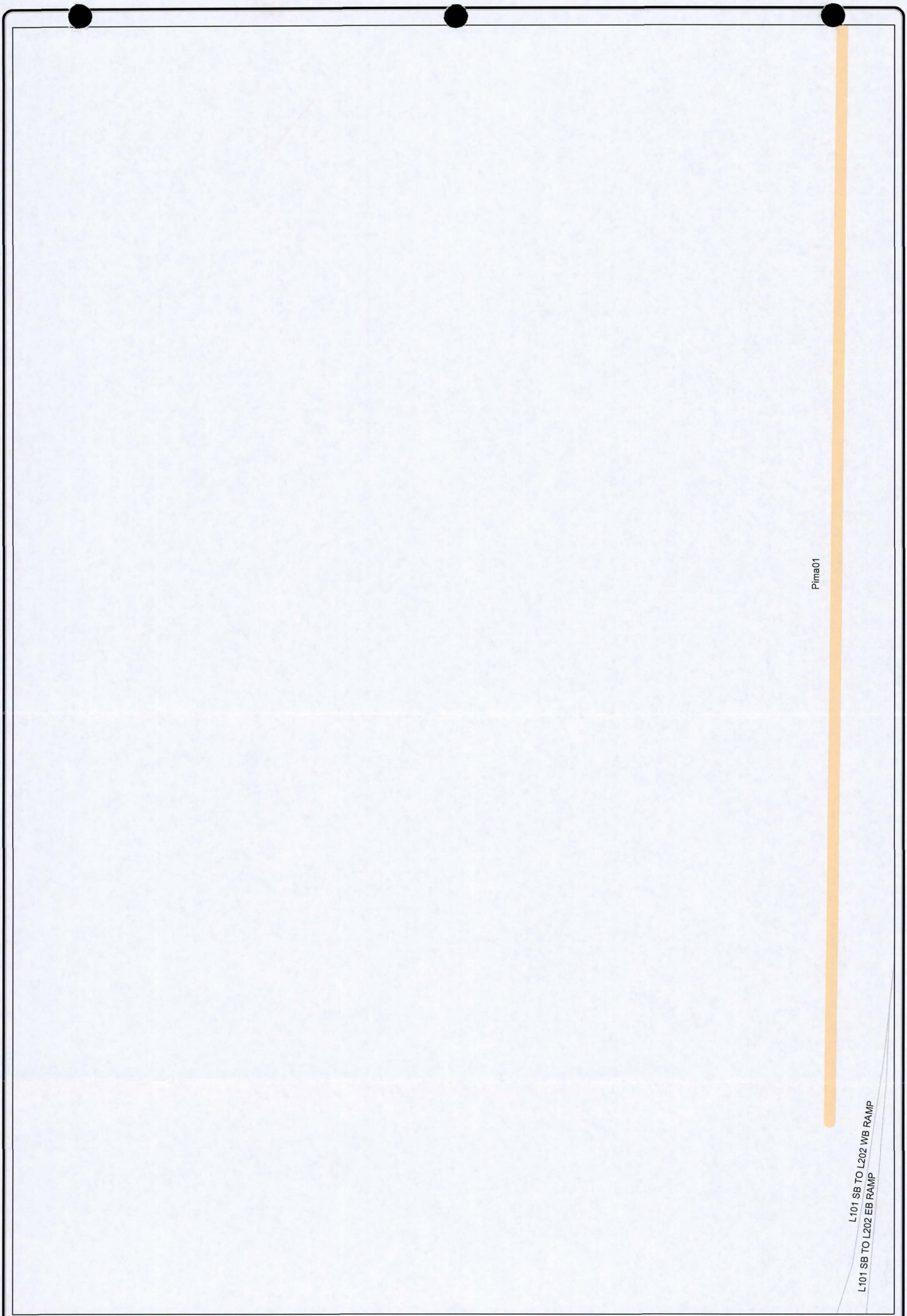

GRW develop area Plan: GRW develop area 12/19/2008
RS = 2.208
.035
.018
.055
Elevation (ft)
Station (ft)
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Bank Sta


GRW develop area Plan: GRW develop area 12/19/2008
Legend
EG PF3 - Pima Road
WS PF3 - Pima Road
Ground
Elevation (ft)
1280
1260
1240
1220
1200
2.295
2.355
2.398
2.460
2.523
2.567
2.615
2.697
2.738
2.811
2.858
2.925
2.981
3.038
3.095
3.152
3.194
3.248
3.325
3.382
3.438
3.495
3.552
3.609
3.666
3.723
3.779
3.836
3.893
3.950
4.007
4.063
4.120
4.177
4.234
4.291
4.348
4.393
4.427
4.518
4.575
4.632
4.689
4.746
4.803
4.859
4.916
4.973
5.030
5.087
5.143
5.200
5.257
5.314
5.371
5.411
5.484
5.541
5.598
5.655
5.712
5.768
5.825
5.882
2
3
4
5
6
Main Channel Distance (mi)

D. Utility Conflicts Inventory and Costs

1. **Exhibits – McKellips Road to Chaparral Road along Pima Road**

2. **Summary Table with Estimated Relocation Costs**



0 150 300 600 Feet

Utilities - Sheet 01

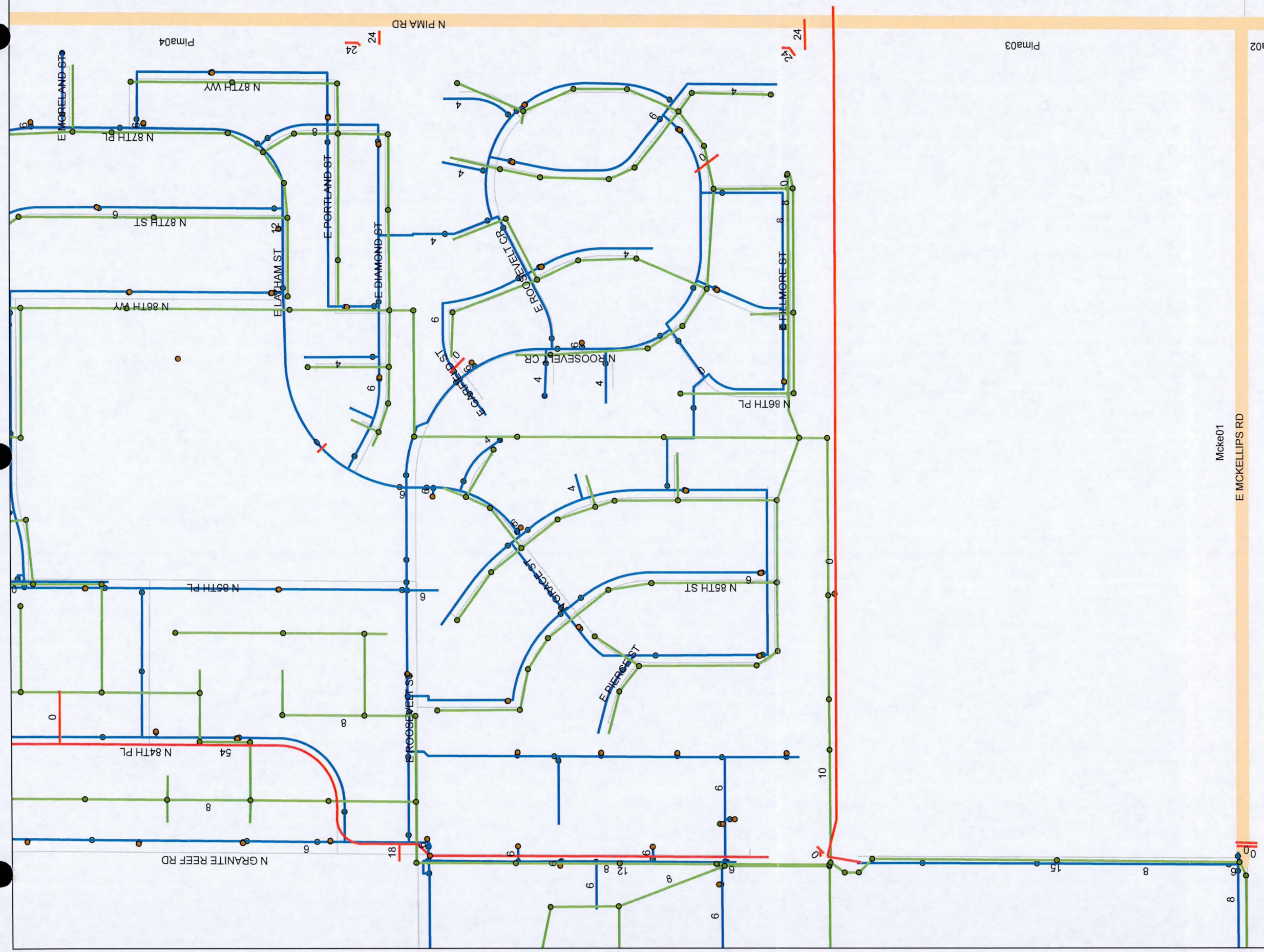
City of Scottsdale
Granite Reef Wash Project

PIMA ROAD CONDUIT

Map: Util Sht 01

Printed On: 01/16/2008

Created By: **PSOMAS**



City of Scottsdale
Granite Reef Wash Project

PIMA ROAD CONDUIT

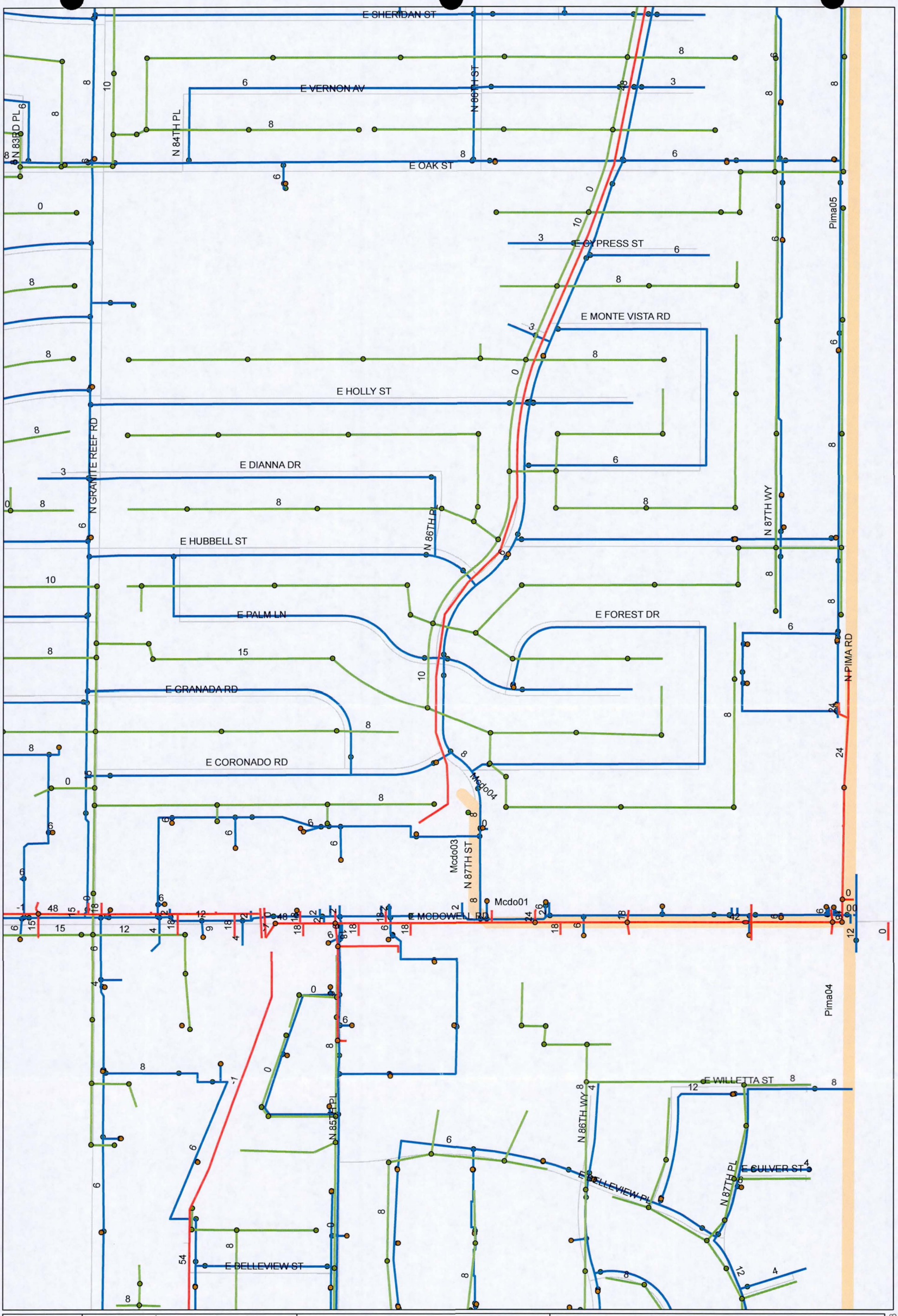
Created By: **PSOMAS**

Utilities - Sheet 02

0 150 300 600 Feet

Printed On: 01/16/2008

Map: Util Sht 02



Feet
0 150 300 600

Utilities - Sheet 03

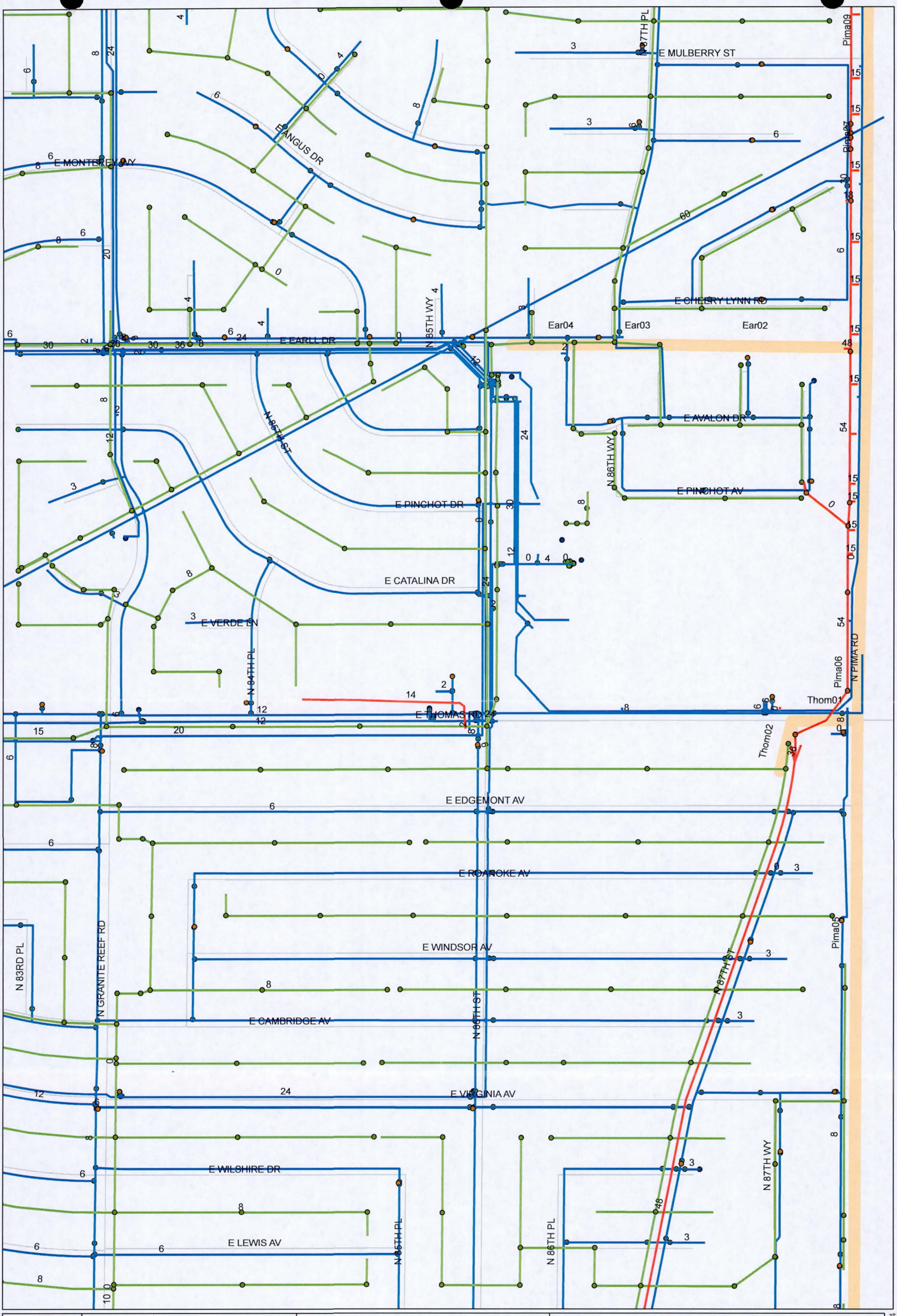
City of Scottsdale
Granite Reef Wash Project

PIMA ROAD CONDUIT

Map: Util Sht 03

Printed On: 01/16/2008

Created By: PSOMAS



City of Scottsdale
Granite Reef Wash Project

PIMA ROAD CONDUIT

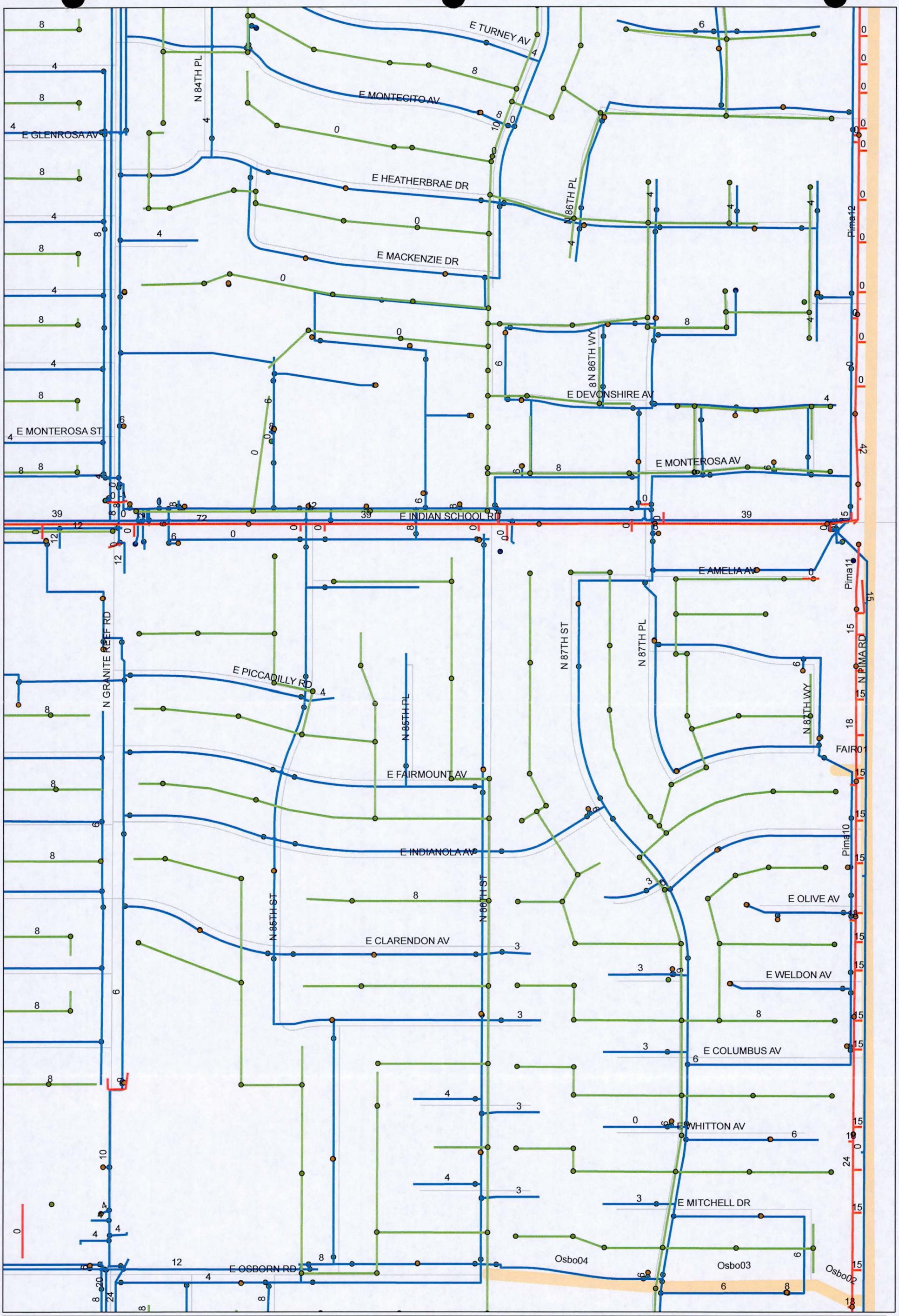
Utilities - Sheet 04

0 150 300 600 Feet

Map: Util Sht 04

Printed On: 01/16/2008

Created By: PSOMAS



Feet
0 150 300 600

Utilities - Sheet 05

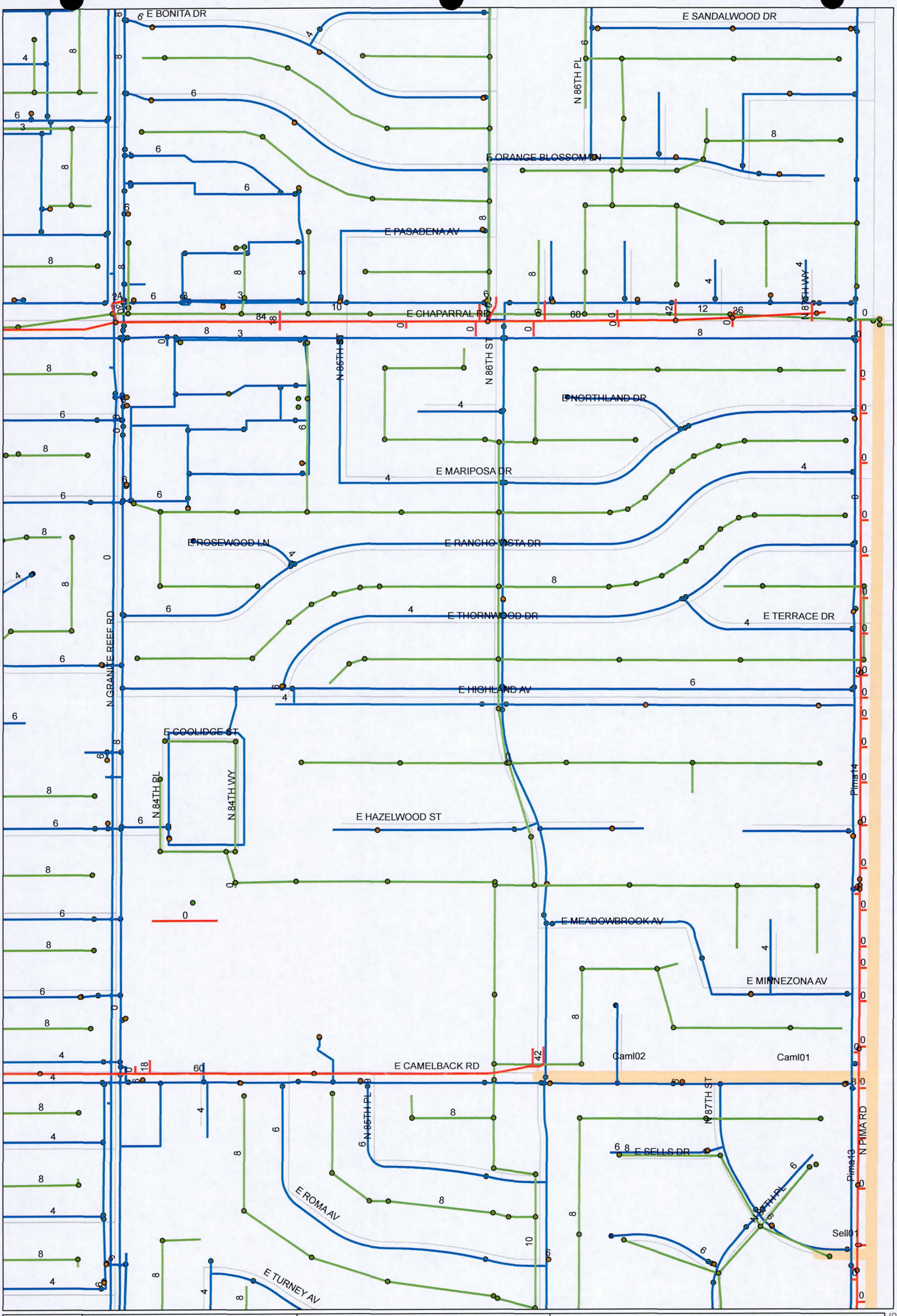
City of Scottsdale
Granite Reef Wash Project

PIMA ROAD CONDUIT

Map: Util Sht 05

Printed On: 01/16/2008

Created By: PSOMAS



Feet
0 150 300 600

Utilities - Sheet 06

City of Scottsdale
Granite Reef Wash Project

PIMA ROAD CONDUIT

Map: Util Sht 06

Printed On: 01/16/2008

Created By: PSOMAS

PSOMAS
Consulting Engineers
3800 N Central Ave, Suite 1200, Phoenix AZ 85012
Phone: 602+2228260, FAX: 266-0218

Job **Granite Reef Wash**
Client **City of Scottsdale**
Project **7CSC067701**
Calculated by **David A. Violette**
Checked by **JKK**
Date **Dec-08**

RCBC units in ft, CIPP in inches

Phase	ID	Label	Type	Width or Dia	Barrels	Height	Label	Segment Length, ft	D'stream Cover, ft	Upstream Cover, ft	Avg Cover, ft	Utilities Exhibit Sht #	Summary Utility Reloc Cost, $
2	32	Caml01	Circular	84	1	7	1x84	500	16	7	11	05	$41,000
2	10	Caml02	Circular	84	1	7	1x84	605	7	6	6	05	$18,150
1	30	Ear01	Box	7	1	4	7x4x1	30	22	3	12	04	$0
1	7	Ear02	Box	7	1	4	7x4x1	625	3	3	3	04	$0
1	17	Ear03	Box	7	1	4	7x4x1	190	3	3	3	04	$15,200
1	23	Ear04	Box	7	1	4	7x4x1	370	3	2	2	04	$34,500
1	28	FAIR01	Circular	36	1	3	1x36	30	17	5	11	05	$6,000
1	13	Mcdo01	Circular	84	1	7	1x84	1,254	21	10	16	03	$125,400
1	19	Mcdo02	Circular	84	1	7	1x84	70	10	9	10	03	$2,100
1	26	Mcdo03	Circular	84	1	7	1x84	355	9	7	8	03	$35,500
1	5	Mcdo04	Circular	84	1	7	1x84	65	7	3	5	03	$0
2	3	Mcke01	Box	7	2	3	7x3x2	2,655	23	2	12	02	$0
1	22	Osbo01	Circular	72	1	6	1x72	30	12	2	7	05	$10,000
1	27	Osbo02	Circular	72	1	6	1x72	140	2	4	3	05	$0
1	29	Osbo03	Box	10	1	4	10x4x1	560	4	3	3	05	$5,700
1	2	Osbo04	Box	10	1	4	10x4x1	540	2	1	1	05	$21,200
1	0	Pima01	Box	12	1	16	12x16x1	4,288	12	13	13	01	$0
1	12	Pima02	Box	12	1	16	12x16x1	177	13	10	11	02	$0
1	11	Pima03	Box	12	1	16	12x16x1	2,935	10	9	9	02	$50,000
1	18	Pima04	Circular	120	2	10	2x120	2,433	15	30	23	02, 03	$4,500
1	21	Pima05	Circular	120	2	10	2x120	5,265	30	19	25	03, 04	$42,000
1	16	Pima06	Circular	120	2	10	2x120	1,338	19	16	18	04	$136,800
1	9	Pima07	Circular	120	2	10	2x120	760	16	17	17	04	$76,000
1	4	Pima08	Circular	120	2	10	2x120	30	17	7	12	04	$3,000
1	24	Pima09	Circular	120	2	10	2x120	440	7	8	8	04	$44,000
1	14	Pima10	Circular	108	2	9	2x108	1,860	9	11	10	05	$186,000
1	6	Pima11	Circular	108	2	9	2x108	878	11	12	12	05	$90,800
1	31	Pima12	Circular	108	2	9	2x108	1,990	12	13	13	05	$0
2	25	Pima13	Circular	84	2	7	2x84	620	15	16	16	05, 06	$0
2	20	Pima14	Circular	84	1	7	1x84	2,640	16	18	17	06	$0
2	1	Sell01	Circular	96	1	8	1x96	30	14	5	10		$0
1	8	Thom01	Circular	54	2	5	2x54	191	25	9	17	04	$3,000
1	15	Thom02	Circular	54	2	5	2x54	65	9	7	8	04	$4,000
										Total Utility Relocation Cost			**$954,850**

PSOMAS
Consulting Engineers
3800 N Central Ave, Suite 1200, Phoenix AZ 85012
Phone: 602+2228260, FAX: 266-0218

RCBC units in ft, CIPP in inches

Job **Granite Reef Wash**
Client **City of Scottsdale**
Project **7CSC067701**
Calculated by **David A. Violette**
Checked by **JKK**
Date **Dec-08**

Pima04	Item	Len, lf	Unit Cost, $/lf	Cost, $
	12" water	150	$30	$4,500
			Total	**$4,500**

Pima05	Item	Len, lf	Unit Cost, $/lf	Cost, $
	12" water	200	$30	$6,000
	24" storm	900	$40	$36,000
			Total	**$42,000**

Pima06	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	100	$30	$3,000
	24" water	1,338	$100	$133,800
			Total	**$136,800**

Pima07	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" water	760	$100	$76,000
			Total	**$76,000**

Pima08	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" water	30	$100	$3,000
			Total	**$3,000**

Pima09	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" water	440	$100	$44,000
				$0
			Total	**$44,000**

Pima10	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" water	1,860	$100	$186,000
			Total	**$186,000**

Mcke01	Item	Len, lf	Unit Cost, $/lf	Cost, $
			$30	$0
			Total	**$0**

Mcdo01	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
	42" storm	1,254	$100	$125,400
			Total	**$125,400**

Mcdo02	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	70	$30	$2,100
				$0
			Total	**$2,100**

Mcdo03	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	355	$100	$35,500
			Total	**$35,500**

Mcdo04	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
			Total	**$0**

Thom01	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	100	$30	$3,000
	12" water	190	$40	$7,600
			Total	**$3,000**

Thom02	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" sewer	100	$40	$4,000
			Total	**$4,000**

PSOMAS
Consulting Engineers
3800 N Central Ave, Suite 1200, Phoenix AZ 85012
Phone: 602+2228260, FAX: 266-0218

Job **Granite Reef Wash**
Client **City of Scottsdale**
Project **7CSC067701**
Calculated by **David A. Violette**
Checked by **JKK**
Date **Dec-08**

RCBC units in ft, CIPP in inches

Pima11	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" water	878	$100	$87,800
	15" storm	100	$30	$3,000
			Total	**$90,800**

Pima12	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
			Total	**$0**

Pima13	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
				$0
			Total	**$0**

Pima14	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
				$0
			Total	**$0**

Caml01	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" water	200	$100	$20,000
	8" water	500	$30	$15,000
	15" storm	200	$30	$6,000
			Total	**$41,000**

Caml02	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	605	$30	$18,150
			Total	**$18,150**

FAIR01	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	100	$30	$3,000
	15" storm	100	$30	$3,000
			Total	**$6,000**

Ear01	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
				$0
			Total	**$0**

Ear02	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
			Total	**$0**

Ear03	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	190	$30	$5,700
	8" sewer	190	$50	$9,500
			Total	**$15,200**

Ear04	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	400	$30	$12,000
	8" sewer	450	$50	$22,500
			Total	**$34,500**

Osbo01	Item	Len, lf	Unit Cost, $/lf	Cost, $
	24" storm	100	$100	$10,000
				$0
				$0
			Total	**$10,000**

Osbo02	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
			Total	**$0**

Osbo03	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	190	$30	$5,700
				$0
			Total	**$5,700**

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RCBC units in ft, CIPP in inches

Job **Granite Reef Wash**
Client **City of Scottsdale**
Project **7CSC067701**
Calculated by **David A. Violette**
Checked by **JKK**
Date **Dec-08**

Sell01	Item	Len, lf	Unit Cost, $/lf	Cost, $
				$0
				$0
			Total	**$0**

Osbo04	Item	Len, lf	Unit Cost, $/lf	Cost, $
	8" water	540	$30	$16,200
	8" sewer	100	$50	$5,000
			Total	**$21,200**

E. Electronic Files