SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CCHV= .300 CEHV= .500
*SECNO 5056.000
FEMA SECTION H - OUTFALL ASPEN DR/HACKBERRY DR BOX CULVERT - 18'x 4'

5056.000	7.42	5763.32	.00	.00	5764.14	.82	.01	.14	5761.90
1028.0	17.9	989.8	20.3	23.7	133.6	28.2	5.1	1.7	5761.90
.06	.76	7.41	.72	.040	.013	.040	.000	5755.90	1069.07
.000573	13.	13.	13.	2	0	0	.00	99.67	1168.73

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.60	2.60	.00	18.00	.00	72.00	.02	5756.80	5755.90

*SECNO 5099.000
PRESSURE AND WEIR FLOW, Weir Submergence Based on TRAPEZOIDAL Shape

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
5769.60	5765.04	.00	555.	596.	72.	72.	5760.80	5762.80	134.

FEMA SECTION I - ENTRANCE ASPEN DR/HACKBERRY DR BOX CULVERT - 18'x 4'

5099.000	7.01	5763.81	.00	.00	5765.03	1.22	.88	.00	5762.80
1145.0	8.4	1126.4	10.2	10.6	126.2	14.6	5.2	1.7	5762.80
.06	.80	8.92	.70	.040	.013	.040	.000	5756.80	1113.58
.000897	43.	43.	43.	3	0	0	.00	76.58	1190.16

CCHV= .100 CEHV= .300
*SECNO 5105.000
END CHANNEL TRANSITION

5105.000	7.10	5764.10	.00	.00	5765.06	.96	.00	.03	5763.00
1145.0	9.0	1124.5	11.5	12.5	142.0	17.4	5.3	1.7	5763.00
.06	.72	7.92	.66	.040	.013	.040	.000	5757.00	1111.77
.000658	6.	6.	6.	2	0	0	.00	80.77	1192.54

*SECNO 5133.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	DLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
BEGIN CHANNEL TRANSITION

5133.000	6.65	5764.85	5764.85	.00	5767.08	2.23	.03	.38	5764.20
1170.0	3.5	1164.9	1.6	4.3	97.1	2.1	5.3	1.8	5764.20
.06	.82	12.00	.75	.040	.013	.040	.000	5758.20	1141.29
.001804	28.	28.	28.	20	11	0	.00	40.23	1181.53

*SECNO 5335.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
FEMA SECTION J - END CHANNEL TRANSITION

5335.000	6.76	5769.46	5769.46	.00	5771.57	2.11	.35	.01	5768.70
1170.0	5.3	1160.3	4.4	6.1	99.2	5.5	5.8	2.0	5768.70
.06	.87	11.70	.79	.040	.013	.040	.000	5762.70	1096.93
.001666	200.	202.	205.	20	8	0	.00	52.66	1149.58

*SECNO 5453.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
FEMA SECTION K - BEGIN CHANNEL TRANSITION

5453.000	5.49	5770.79	5770.79	.00	5772.56	1.77	.20	.03	5770.30
1170.0	1.4	1167.3	1.3	2.4	109.2	2.2	6.1	2.1	5770.30
.07	.59	10.69	.59	.040	.013	.040	.000	5765.30	1050.19
.001655	118.	118.	118.	20	15	0	.00	47.76	1097.95

*SECNO 5557.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
END CHANNEL TRANSITION

5557.000	5.40	5773.30	5773.30	.00	5775.17	1.87	.18	.03	5772.90
1170.0	.2	1169.6	.2	.4	106.5	.4	6.4	2.2	5772.90
.07	.53	10.99	.53	.040	.013	.040	.000	5767.90	1053.20
.001811	104.	104.	104.	20	5	0	.00	32.95	1086.16

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 5589.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       BEGIN CHANNEL TRANSITION
  5589.000      5.28   5773.98   5773.98       .00   5776.62      2.63       .07       .23   5773.70
    1170.0        .0    1169.9       .1        .1      89.8        .1       6.5       2.3   5773.70
       .07       .02     13.02       .50      .040      .013      .040      .000   5768.70   1049.38
   .002613       32.       32.       32.        20         8         0       .00     18.61   1067.99


CCHV=     .300 CEHV=     .500
*SECNO 5615.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=     5780.00 ELREA=     5780.00

       FEMA SECTION L - OUTFALL DETENTION POND BOX CULVERT - DOUBLE 8'x 6'
  5615.000      5.26   5774.56   5774.56       .00   5777.22      2.66       .07       .01   5780.10
    1170.0        .0    1170.0        .0        .0      89.4        .0       6.5       2.3   5780.10
       .07       .00     13.09       .00      .000      .013      .000      .000   5769.30   1000.00
   .002724       26.       26.       26.        20         5         0       .00     17.00   1017.00



SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS    5773.66 , NOT    5774.56 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.60      2.60       .00     17.00      1.00     96.00       .01   5769.80   5769.30

*SECNO 5675.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.47
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CLASS B LOW FLOW

3420 BRIDGE W.S.= 5775.04 BRIDGE VELOCITY= 13.28 CALCULATED CHANNEL AREA= 84.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
5778.25	5778.26	.00	0.	1170.	96.	96.	5775.80	5779.40	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 5779.40 ELREA= 5779.40

FEMA SECTION M - ENTRANCE DETENTION POND BOX CULVERT - DOUBLE 8'x 6'

5675.000	6.93	5776.73	.00	.00	5778.26	1.53	1.04	.00	5779.40
1170.0	.0	1170.0	.0	.0	117.8	.0	6.7	2.3	5779.40
.07	.00	9.93	.00	.000	.013	.000	.000	5769.80	1030.00
.001264	60.	60.	60.	0	0	0	.00	17.00	1047.00

CCHV= .100 CEHV= .300
*SECNO 5702.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 10.19

FEMA SECTION N - DETENTION POND BOX CULVERT HEADWALL

5702.000	8.40	5778.40	.00	.00	5778.42	.01	.00	.15	5770.00
1170.0	489.5	332.6	347.9	1130.4	201.7	806.9	7.4	2.4	5770.00
.08	.43	1.65	.43	.040	.013	.040	.000	5770.00	1034.96
.000012	27.	27.	27.	2	0	0	.00	379.09	1414.06

*SECNO 6000.000
FEMA SECTION O

6000.000	7.02	5778.42	.00	.00	5778.42	.00	.00	.00	5776.00
1405.0	2.9	1400.0	2.1	20.1	3386.3	14.6	26.4	5.8	5776.00
.28	.15	.41	.14	.040	.040	.040	.000	5771.40	1038.37
.000012	298.	298.	298.	2	0	0	.00	618.72	1657.09

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECND 6300.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .42

       FEMA SECTION P
  6300.000      5.32   5778.42       .00       .00   5778.43       .01       .01       .00   5776.00
    1405.0       5.9    1395.0       4.2      17.1    1735.7      12.2      44.3       9.4   5776.00
       .39       .34       .80       .34      .040      .040      .040      .000   5773.10   1090.87
   .000067      230.      300.      390.         0         0         0       .00    429.22   1520.09


*SECND 6607.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION Q - END DROP STRUCTURE RIPRAP APRON
  6607.000      2.06   5778.26   5778.26       .00   5779.01       .75       .07       .22   5778.00
    1365.0        .6    1364.0        .5        .4     195.7        .3      51.2      11.4   5778.00
       .40      1.36      6.97      1.35      .040      .040      .040      .000   5776.20   1256.76
   .020421      307.      307.      307.        20        18         0       .00    135.83   1392.59


*SECND 6636.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       DROP STRUCTURE BOTTOM
  6636.000      2.62   5779.52   5779.52       .00   5780.63      1.11       .56       .11   5785.90
    1365.0        .0    1365.0        .0        .0     161.5        .0      51.3      11.5   5785.90
       .40       .00      8.45       .00      .000      .040      .000      .000   5776.90   1128.36
   .018249       29.       29.       29.        20        11         0       .00     73.29   1201.64


*SECND 6637.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       DROP STRUCTURE CREST (4' VERTICAL DROP)
  6637.000      4.05   5782.95   5782.95       .00   5784.15      1.20       .02       .03   5785.90
    1365.0        .0    1365.0        .0        .0     155.4        .0      51.3      11.5   5785.90
       .40       .00      8.78       .00      .000      .040      .000      .000   5778.90   1131.79
   .018403        1.        1.        1.        20        14         0       .00     66.41   1198.21
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 6817.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.90

END DROP STRUCTURE RIPRAP APRON

6817.000	3.74	5785.34	.00	.00	5785.80	.47	1.58	.07	5790.60
1365.0	.0	1365.0	.0	.0	249.0	.0	52.1	11.8	5790.60
.41	.00	5.48	.00	.000	.040	.000	.000	5781.60	1108.39
.005119	210.	180.	155.	3	0	0	.00	83.22	1191.61

*SECNO 6846.000

DROP STRUCTURE BOTTOM

6846.000	3.80	5785.50	.00	.00	5785.95	.45	.14	.00	5790.70
1365.0	.0	1365.0	.0	.0	254.6	.0	52.3	11.9	5790.70
.41	.00	5.36	.00	.000	.040	.000	.000	5781.70	1108.09
.004800	29.	29.	29.	2	0	0	.00	83.82	1191.91

*SECNO 6847.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

DROP STRUCTURE CREST (4' VERTICAL DROP)

6847.000	4.05	5787.75	5787.75	.00	5788.95	1.20	.01	.23	5790.70
1365.0	.0	1365.0	.0	.0	155.3	.0	52.3	11.9	5790.70
.41	.00	8.79	.00	.000	.040	.000	.000	5783.70	1116.80
.018439	1.	1.	1.	20	8	0	.00	66.40	1183.20

*SECNO 6992.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.77

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      END RIPRAP APRON
 6992.000     3.60   5789.90      .00      .00   5790.41      .51     1.39      .07   5795.30
   1365.0       .0    1365.0       .0       .0     237.4       .0     53.0     12.1   5795.30
      .42      .00      5.75      .00     .000      .040     .000     .000  5786.30   1104.01
  .005876     145.     145.     145.        3         0        0      .00    81.98   1185.99


*SECNO 7032.000
      BEGIN RIPRAP APRON/DROP STURCTURE BOTTOM
 7032.000     3.67   5790.07      .00      .00   5790.65      .58      .22      .02   5786.40
   1365.0    107.6    1173.1     84.3     27.3     183.7     21.6     53.2     12.2   5786.40
      .42     3.94      6.39     3.90     .040      .040     .040     .000  5786.40   1105.14
  .005214      40.       40.      40.        3         0        0      .00    76.63   1181.77


*SECNO 7072.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      5806.00 ELREA=      5806.00

      FEMA SECTION R - DROP STRUCTURE CREST (5.4' SLOPING DROP)/144" CMP STORM
      SEWER OUTFALL SOUTH OF WAGEMAN DRIVE
 7072.000     8.89   5800.69  5800.69      .00   5804.38     3.69      .16      .93   5806.00
   1365.0       .0    1365.0       .0       .0      88.6       .0     53.3     12.2   5806.00
      .42      .00     15.41      .00     .000      .013     .000     .000  5791.80   1000.00
  .003260      40.       40.      40.       20        17        0      .00    12.00   1012.00


*SECNO 8450.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  9.77

      FEMA SECTION W - UPSTREAM OF BRADLEY ROAD BOX CULVERT - DOUBLE 10' x 6'
 8450.000    10.50   5825.70      .00      .00   5825.71      .00      .00      .37   5816.90
   1315.0    398.8     666.9    249.3    734.4    1384.3    471.6     53.3     12.2   5816.90
      .42      .54       .48      .53     .050      .080     .050     .000  5815.20   1080.24
  .000032       0.        0.       0.        0         0        0      .00   406.02   1486.26


*SECNO 8875.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .37

      FEMA SECTION X
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
8875.000	7.22	5825.72	.00	.00	5825.74	.02	.03	.00	5819.60
1375.0	556.8	553.5	264.8	489.2	533.6	224.6	71.8	15.7	5819.60
.53	1.14	1.04	1.18	.050	.080	.050	.000	5818.50	1231.99
.000248	400.	425.	435.	2	0	0	.00	315.21	1547.20

*SECNO 9300.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

FEMA SECTION Y

9300.000	3.82	5828.02	5828.02	.00	5829.00	.98	.37	.29	5827.20
1375.0	6.8	1340.9	27.3	1.7	167.0	6.7	78.6	17.6	5827.20
.54	4.00	8.03	4.06	.050	.080	.050	.000	5824.20	1364.53
.059228	390.	425.	445.	20	11	0	.00	90.68	1455.21

*SECNO 9700.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.66

FEMA SECTION Z

9700.000	5.20	5834.40	.00	.00	5834.56	.16	5.48	.08	5832.30
1045.0	53.4	951.3	40.3	25.1	288.3	18.5	80.9	18.6	5832.30
.57	2.13	3.30	2.18	.050	.080	.050	.000	5829.20	1225.98
.004822	470.	400.	355.	6	0	0	.00	130.03	1356.01

*SECNO 10150.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .43

FEMA SECTION AA

10150.000	3.87	5838.47	.00	.00	5838.93	.46	4.28	.09	5837.30
1045.0	50.2	969.1	25.7	13.4	174.6	6.6	83.6	19.9	5837.30
.60	3.74	5.55	3.92	.050	.080	.050	.000	5834.60	1228.26
.026500	505.	450.	405.	4	0	0	.00	105.27	1333.52

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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#SECNO 10625.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.71

       FEMA SECTION AB - DOWNSTREAM OF IRRIGATION CANAL NO. 4
 10625.000      3.62   5845.62       .00       .00   5845.83       .21      6.88       .03   5843.40
    1045.0     141.0     737.6     166.4      38.0     204.3      42.4      86.3      21.1   5843.40
       .63      3.71      3.61      3.92      .050      .080      .050      .000   5842.00   1213.81
   .009068      500.      475.      465.         4         0         0       .00    128.33   1342.14


#SECNO 10675.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION AC - UPSTREAM OF IRRIGATION CANAL NO. 4
 10675.000       .62   5854.62   5854.62       .00   5854.92       .30       .84       .03   5854.00
    1045.0     404.0     219.2     421.7      92.3      49.6      96.9      86.6      21.4   5854.00
       .64      4.38      4.42      4.35      .050      .050      .050      .000   5854.00   1087.25
   .041810       50.       50.       50.        20        20         0       .00    395.15   1482.40


#SECNO 10900.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.02

       FEMA SECTION AD
 10900.000      2.33   5856.33       .00       .00   5856.43       .10      1.49       .02   5854.00
    1045.0      73.6     495.5     475.9      30.1     186.4     192.2      88.2      23.0   5854.00
       .66      2.44      2.66      2.48      .050      .050      .050      .000   5854.00   1073.90
   .002590      225.      225.      225.         6         0         0       .00    196.05   1269.95


#SECNO 11350.000
       FEMA SECTION AE
 11350.000      3.38   5857.38       .00       .00   5857.50       .12      1.06       .01   5854.60
    1045.0     100.4     875.4      69.2      50.8     299.7      36.3      92.6      24.9   5854.60
       .71      1.97      2.92      1.91      .050      .050      .050      .000   5854.00   1024.65
   .001943      420.      450.      560.         5         0         0       .00    145.71   1170.35


#SECNO 11825.000
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .64

FEMA SECTION AF

11825.000	3.58	5858.68	.00	.00	5858.91	.23	1.38	.03	5857.10
1045.0	45.9	962.7	36.4	22.1	241.9	18.2	96.2	26.4	5857.10
.74	2.07	3.98	2.00	.050	.050	.050	.000	5855.10	1041.47
.004807	470.	475.	480.	2	0	0	.00	138.76	1180.23

*SECNO 12275.000

FEMA SECTION AG

12275.000	3.99	5861.39	.00	.00	5861.72	.33	2.77	.03	5860.70
1045.0	7.7	1034.2	3.1	5.8	224.4	2.4	98.9	27.8	5860.70
.77	1.32	4.61	1.32	.050	.050	.050	.000	5857.40	1065.10
.008211	460.	450.	400.	2	0	0	.00	123.77	1188.87

*SECNO 12750.000

FEMA SECTION AH

12750.000	4.50	5864.30	.00	.00	5864.53	.23	2.80	.01	5864.20
1045.0	.0	1045.0	.0	.0	271.8	.0	101.6	29.0	5864.20
.81	.02	3.84	.02	.050	.050	.050	.000	5859.80	1266.07
.004439	470.	475.	530.	3	0	0	.00	101.91	1367.98

*SECNO 13200.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .38

FEMA SECTION AI

13200.000	2.91	5867.61	.00	.00	5867.88	.26	3.34	.01	5866.60
825.0	22.8	791.8	10.4	8.8	189.5	4.0	104.1	30.1	5866.60
.84	2.59	4.18	2.57	.050	.080	.050	.000	5864.70	1226.61
.018772	475.	450.	430.	2	0	0	.00	115.36	1341.97

*SECNO 13625.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.42

FEMA SECTION AJ

13625.000	2.58	5873.18	.00	.00	5873.32	.14	5.43	.01	5871.50
825.0	128.7	505.0	191.3	40.9	170.5	60.4	106.4	31.6	5871.50
.87	3.15	2.96	3.17	.050	.080	.050	.000	5870.60	1244.31
.009265	490.	425.	375.	5	0	0	.00	180.24	1424.55

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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*SECNO 14075.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3720 CRITICAL DEPTH ASSUMED
      FEMA SECTION AK
 14075.000     1.69  5880.40  5880.40      .00  5880.82      .43     8.59      .09  5879.50
     825.0    106.2    628.2     90.6     23.0    116.5     18.2    108.6     33.5  5879.50
       .90     4.62     5.39     4.98     .050     .080     .050     .000  5878.70  1273.40
   .059672     430.     450.     470.       20       14        0      .00   185.43  1458.83
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*SECNO 14500.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.44

      FEMA SECTION AL
 14500.000     1.75  5885.35      .00      .00  5885.38      .03     4.52      .04  5883.80
     370.0     99.1    115.4    155.5     75.3     99.1     95.6    110.7     35.5  5883.80
       .98     1.32     1.16     1.63     .050     .080     .050     .000  5883.60  1240.80
   .002013     410.     425.     445.        9        0        0      .00   221.09  1461.89
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*SECNO 14950.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      FEMA SECTION AM
 14950.000     1.21  5891.61  5891.61      .00  5891.93      .31     2.58      .08  5891.10
     370.0     17.5    321.4     31.1      5.3     69.1      9.4    112.5     37.2  5891.10
      1.01     3.31     4.65     3.31     .050     .080     .050     .000  5890.40  1155.43
   .076216     500.     450.     350.       20       19        0      .00   137.14  1292.57
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*SECNO 15400.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.17

      FEMA SECTION AN
 15400.000     1.79  5899.79      .00      .00  5899.85      .06     7.90      .03  5898.70
     370.0     78.0    238.6     53.3     45.1    115.5     30.8    113.9     39.1  5898.70
      1.07     1.73     2.07     1.73     .050     .080     .050     .000  5898.00  1230.50
   .007573     405.     450.     510.        7        0        0      .00   218.91  1449.40
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 15800.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
FEMA SECTION AO

15800.000	1.21	5908.01	5908.01	.00	5908.29	.28	5.14	.06	5907.20
370.0	79.9	244.2	46.0	30.1	50.6	17.3	115.2	40.9	5907.20
1.10	2.65	4.82	2.65	.050	.050	.050	.000	5906.80	1244.59
.025931	420.	400.	390.	7	17	0	.00	165.67	1410.25

*SECNO 16200.000
FEMA SECTION AP

16200.000	1.32	5916.42	.00	.00	5916.64	.22	8.34	.01	5915.50
370.0	69.9	234.7	65.4	24.3	55.9	23.4	116.2	42.3	5915.50
1.13	2.88	4.20	2.80	.050	.050	.050	.000	5915.10	1262.67
.017176	390.	400.	410.	6	0	0	.00	134.90	1397.57

*SECNO 16600.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
FEMA SECTION AQ - SOUTH OF DRENNAN ROAD

16600.000	2.05	5926.35	5926.35	.00	5926.93	.58	9.29	.11	5926.00
370.0	1.3	367.6	1.1	.8	60.2	.6	116.9	43.1	5926.00
1.15	1.70	6.11	1.70	.050	.050	.050	.000	5924.30	220.57
.033053	385.	400.	420.	8	14	0	.00	57.98	278.54

```
T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 144" CMP STORM SEWER ENTRANCE SOUTH OF GRAND BOULEVARD TO DRENNAN ROAD
T3      WINDMILL GULCH FLOODWAY RUN   100-YEAR 2-HOUR              WGFLWY.DAT

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        3        0        0        0        0        0        0     5734.8      0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     15        0       -1        0        0        0        0        0        0        0
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 2



CCHV=     .100 CEHV=     .300
*SECNO 2864.000
 2800 NAT Q1=     517.58  WSEL=    5734.75  ENC Q1=     625.48  WSEL=    5735.75  RATIO=   -.2085
 NAT Q1=     668.  RATIOS LOB, CH, ROB=    .0278   .9361   .0361  WSEL=    5735.75

3470 ENCROACHMENT STATIONS=     1340.0    1360.0  TYPE=      4  TARGET=        .064
       FEMA SECTION A - 144" CMP STORM SEWER ENTRANCE SOUTH OF GRAND BOULEVARD
  2864.000      8.20   5734.80       .00   5734.75   5735.62       .82       .00       .00   5734.30
    1190.0        .0    1190.0        .0        .0     164.0        .0        .0        .0 100000.00
       .00       .00      7.26       .00      .000      .013      .000      .000   5726.60   1340.00
   .000541        0.        0.        0.         0         0         0       .00     20.00   1360.00


*SECNO 2893.000
 2800 NAT Q1=     497.04  WSEL=    5734.73  ENC Q1=     605.27  WSEL=    5735.73  RATIO=   -.2178
 NAT Q1=     623.  RATIOS LOB, CH, ROB=    .0091   .9723   .0187  WSEL=    5735.73

3470 ENCROACHMENT STATIONS=     1180.0    1200.0  TYPE=      4  TARGET=        .028
       STEP IN CHANNEL WALL (0.5' STEP)
  2893.000      7.99   5734.79       .00   5734.73   5735.65       .86       .02       .01   5734.30
    1190.0        .0    1190.0        .0        .0     159.7        .0        .1        .0 100000.00
       .00       .00      7.45       .00      .000      .013      .000      .000   5726.80   1180.00
   .000582       29.       29.       29.         2         0         0       .00     20.00   1200.00


*SECNO 2997.000
 2800 NAT Q1=     474.56  WSEL=    5734.76  ENC Q1=     575.61  WSEL=    5735.76  RATIO=   -.2129
 NAT Q1=     577.  RATIOS LOB, CH, ROB=    .0015   .9970   .0015  WSEL=    5735.76

3470 ENCROACHMENT STATIONS=     1370.0    1390.0  TYPE=      4  TARGET=        .003
       GRADE BREAK IN CHANNEL WALL
  2997.000      7.83   5734.83       .00   5734.76   5735.72       .90       .06       .01   5735.00
    1190.0        .0    1190.0        .0        .0     156.7        .0        .5        .1 100000.00
       .00       .00      7.60       .00      .000      .013      .000      .000   5727.00   1370.00
   .000614      104.      104.      104.         1         0         0       .00     20.00   1390.00


CCHV=     .300 CEHV=     .500
*SECNO 3017.000
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

2800 NAT Q1= 440.96 WSEL= 5734.72 ENC Q1= 520.16 WSEL= 5735.72 RATIO= -.1796
NAT Q1= 520. RATIOS LOB, CH, ROB= .0000 1.0000 .0000 WSEL= 5735.72

3470 ENCROACHMENT STATIONS= 1530.0 1549.0 TYPE= 4 TARGET= .000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 5737.10 ELREA= 5737.10

FEMA SECTION B - OUTFALL GRAND BOULEVARD BOX CULVERT - DOUBLE 9' x 7'

3017.000	7.78	5734.78	.00	5734.72	5735.79	1.01	.01	.05	5737.10
1190.0	.0	1190.0	.0	.0	147.9	.0	.6	.1	100000.00
.01	.00	8.05	.00	.000	.013	.000	.000	5727.00	1530.00
.000713	20.	20.	20.	2	0	0	.00	19.00	1549.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.60	2.60	.00	19.00	1.00	126.00	.01	5727.10	5727.00

*SECNO 3067.000
CLASS A LOW FLOW

3420 BRIDGE W.S.= 5734.67 BRIDGE VELOCITY= 8.63 CALCULATED CHANNEL AREA= 137.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
5737.00	5737.49	.19	0.	1190.	126.	126.	5734.10	5738.00	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 5738.00 ELREA= 5738.00

FEMA SECTION C - ENTRANCE GRAND BOULEVARD BOX CULVERT - DOUBLE 9'x 7'

3067.000	9.75	5736.85	.00	5735.85	5737.49	.64	1.70	.00	5738.00
1190.0	.0	1190.0	.0	.0	185.2	.0	.7	.1	5738.00
.01	.00	6.43	.00	.000	.013	.000	.000	5727.10	1015.00
.000389	50.	50.	50.	0	0	0	.00	19.00	1034.00

CCHV= .100 CEHV= .300
*SECNO 3071.000
2800 NAT Q1= 522.20 WSEL= 5735.85 ENC Q1= 603.56 WSEL= 5736.85 RATIO= -.1558
NAT Q1= 604. RATIOS LOB, CH, ROB= .0000 1.0000 .0000 WSEL= 5736.85

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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=     1015.0    1034.0  TYPE=      4  TARGET=         .000
       DROP STRUCTURE END SILL
  3071.000      9.75   5736.85       .00   5735.85   5737.49       .64       .00       .00   5737.90
    1190.0        .0    1190.0        .0        .0     185.3        .0        .8        .1 100000.00
       .01       .00      6.42       .00      .000      .013      .000      .000   5727.10   1015.00
   .000389        4.        4.        4.         0         0         0       .00     19.00   1034.00


*SECNO 3098.000
 2800 NAT Q1=     523.07  WSEL=    5735.86  ENC Q1=     604.61  WSEL=    5736.86  RATIO=   -.1559
 NAT Q1=     605.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5736.86

3470 ENCROACHMENT STATIONS=     1015.0    1034.0  TYPE=      4  TARGET=         .000
       DROP STRUCTURE BOTTOM
  3098.000      9.76   5736.86       .00   5735.86   5737.50       .64       .01       .00   5737.20
    1190.0        .0    1190.0        .0        .0     185.5        .0        .9        .1 100000.00
       .01       .00      6.42       .00      .000      .013      .000      .000   5727.10   1015.00
   .000388       27.       27.       27.         0         0         0       .00     19.00   1034.00


*SECNO 3114.000
 2800 NAT Q1=     210.33  WSEL=    5736.17  ENC Q1=     284.13  WSEL=    5737.17  RATIO=   -.3509
 NAT Q1=     285.  RATIOS LOB, CH, ROB=    .0009   .9976   .0015  WSEL=    5737.17

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1015.0    1034.0  TYPE=      4  TARGET=         .002
       DROP STRUCTURE CREST (8.5' SLOPING DROP)/END CHANNEL TRANSITION
  3114.000      4.95   5736.55   5736.55   5736.17   5739.04      2.48       .01       .55   5736.80
    1190.0        .0    1190.0        .0        .0      94.1        .0        .9        .1 100000.00
       .01       .00     12.64       .00      .000      .013      .000      .000   5731.60   1015.00
   .002534       16.       16.       16.        20         8         0       .00     19.00   1034.00


*SECNO 3142.000
 2800 NAT Q1=     259.07  WSEL=    5738.29  ENC Q1=     354.61  WSEL=    5739.29  RATIO=   -.3688
 NAT Q1=     372.  RATIOS LOB, CH, ROB=    .0121   .9525   .0354  WSEL=    5739.29
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3280 CROSS SECTION   3142.00 EXTENDED       .64 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1015.0    1035.0  TYPE=      4  TARGET=         .048
       FEMA SECTION D - BEGIN CHANNEL TRANSITION
  3142.000      6.44   5738.44   5738.44   5738.29   5740.87      2.43       .06       .01   5737.90
    1190.0        .0    1190.0        .0        .0      95.1        .0       1.0        .1   5737.30
       .01       .00     12.51       .00      .000      .013      .000      .000   5732.00   1015.00
   .002134       28.       28.       28.        20        11         0       .00     20.00   1035.00


*SECNO 3250.000
 2800 NAT Q1=     251.69  WSEL=    5739.50  ENC Q1=     348.66  WSEL=    5740.50  RATIO=   -.3853
 NAT Q1=     363.  RATIOS LOB, CH, ROB=    .0127   .9595   .0278  WSEL=    5740.50
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1015.0    1035.0  TYPE=      4  TARGET=         .041
  3250.000      6.60   5739.70   5739.70   5739.50   5742.09      2.39       .23       .00   5739.10
    1190.0        .0    1190.0        .0        .0      95.9        .0       1.2        .2   5739.10
       .01       .00     12.41       .00      .000      .013      .000      .000   5733.10   1015.00
   .002084      105.      108.      110.        20         5         0       .00     20.00   1035.00


*SECNO 3625.000
 2800 NAT Q1=     247.49  WSEL=    5743.26  ENC Q1=     344.01  WSEL=    5744.26  RATIO=   -.3900
 NAT Q1=     357.  RATIOS LOB, CH, ROB=    .0322   .9643   .0035  WSEL=    5744.26
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1040.0    1060.0  TYPE=      4  TARGET=         .036
       FEMA SECTION E
  3625.000      6.56   5743.46   5743.46   5743.26   5745.89      2.42       .79       .01   5742.90
    1190.0        .0    1190.0        .0        .0      95.2        .0       2.1        .3   5742.90
       .02       .00     12.49       .00      .000      .013      .000      .000   5736.90   1040.00
   .002126      370.      375.      380.        20         5         0       .00     20.00   1060.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 4100.000
 2800 NAT Q1=     254.98  WSEL=    5750.14  ENC Q1=     352.16  WSEL=    5751.14  RATIO=   -.3811
 NAT Q1=     370.  RATIOS LOB, CH, ROB=    .0133   .9514   .0354  WSEL=    5751.14
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1015.0    1035.0  TYPE=      4  TARGET=         .049
       FEMA SECTION F
  4100.000      6.57   5750.27   5750.27   5750.14   5752.69      2.42      1.01       .00   5749.70
    1190.0        .0    1190.0        .0        .0      95.3        .0       3.1        .6   5749.70
       .03       .00     12.49       .00      .000      .013      .000      .000   5743.70   1015.00
   .002122      475.      475.      475.        20         5         0       .00     20.00   1035.00


*SECNO 4575.000
 2800 NAT Q1=     213.71  WSEL=    5756.17  ENC Q1=     305.15  WSEL=    5757.17  RATIO=   -.4279
 NAT Q1=     307.  RATIOS LOB, CH, ROB=    .0044   .9946   .0009  WSEL=    5757.17
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1085.0    1105.0  TYPE=      4  TARGET=         .005
       FEMA SECTION G
  4575.000      6.57   5756.77   5756.77   5756.17   5759.19      2.42      1.01       .00   5756.20
    1190.0        .0    1190.0        .0        .0      95.3        .0       4.1        .8   5756.20
       .04       .00     12.48       .00      .000      .013      .000      .000   5750.20   1085.00
   .002119      485.      475.      465.        20         5         0       .00     20.00   1105.00


*SECNO 5015.000
 2800 NAT Q1=     212.84  WSEL=    5761.66  ENC Q1=     303.91  WSEL=    5762.66  RATIO=   -.4279
 NAT Q1=     310.  RATIOS LOB, CH, ROB=    .0116   .9792   .0092  WSEL=    5762.66
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1105.0    1125.0  TYPE=      4  TARGET=         .021
       END CHANNEL TRANSITION
  5015.000      6.56   5762.26   5762.26   5761.66   5764.69      2.42       .93       .00   5761.70
    1190.0        .0    1190.0        .0        .0      95.3        .0       5.1       1.0   5761.70
       .05       .00     12.49       .00      .000      .013      .000      .000   5755.70   1105.00
   .002123      435.      440.      445.        20         5         0       .00     20.00   1125.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 5043.000
 2800 NAT Q1=     524.87  WSEL=    5763.46  ENC Q1=     609.91  WSEL=    5764.46  RATIO=   -.1620
 NAT Q1=     717.  RATIOS LOB, CH, ROB=    .0701   .8506   .0793  WSEL=    5764.46

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.00


3470 ENCROACHMENT STATIONS=     1105.0    1125.0  TYPE=      4  TARGET=         .149
       BEGIN CHANNEL TRANSITION
  5043.000      8.27   5764.07       .00   5763.46   5764.88       .80       .03       .16   5761.80
    1190.0        .0    1190.0        .0        .0     165.4        .0       5.2       1.0 100000.00
       .05       .00      7.19       .00      .000      .013      .000      .000   5755.80   1105.00
   .000529       28.       28.       28.         4         0         0       .00     20.00   1125.00


CCHV=     .300 CEHV=     .500
*SECNO 5056.000
 2800 NAT Q1=     429.33  WSEL=    5763.32  ENC Q1=     510.29  WSEL=    5764.32  RATIO=   -.1886
 NAT Q1=     586.  RATIOS LOB, CH, ROB=    .0578   .8714   .0709  WSEL=    5764.32

3470 ENCROACHMENT STATIONS=     1105.0    1123.0  TYPE=      4  TARGET=         .129
       FEMA SECTION H - OUTFALL ASPEN DR/HACKBERRY DR BOX CULVERT - 18'x 4'
  5056.000      8.06   5763.96       .00   5763.32   5765.00      1.04       .01       .12   5761.90
    1190.0        .0    1190.0        .0        .0     145.1        .0       5.2       1.0 100000.00
       .05       .00      8.20       .00      .000      .013      .000      .000   5755.90   1105.00
   .000747       13.       13.       13.         2         0         0       .00     18.00   1123.00


SPECIAL BRIDGE

SB  XK        XKOR      CDFO      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      1.60      2.60       .00     18.00       .00     72.00       .02   5756.80   5755.90

*SECNO 5099.000
 2800 NAT Q1=     382.39  WSEL=    5763.81  ENC Q1=     469.50  WSEL=    5764.81  RATIO=   -.2278
 NAT Q1=     515.  RATIOS LOB, CH, ROB=    .0337   .9110   .0553  WSEL=    5764.81
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3470 ENCROACHMENT STATIONS=     1135.0    1153.0  TYPE=      4  TARGET=         .089
       FEMA SECTION I - ENTRANCE ASPEN DR/HACKBERRY DR BOX CULVERT - 18'x 4'
  5099.000      7.65   5764.45       .00   5763.81   5765.57      1.12       .03       .04   5762.80
    1170.0        .0    1170.0        .0        .0     137.7        .0       5.4       1.0 100000.00
       .05       .00      8.50       .00      .000      .013      .000      .000   5756.80   1135.00
   .000833       43.       43.       43.         0         0         5       .00     18.00   1153.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


CCHV=     .100 CEHV=     .300
*SECNO 5105.000
 2800 NAT Q1=     446.48  WSEL=    5764.10  ENC Q1=     546.23  WSEL=    5765.10  RATIO=   -.2234
 NAT Q1=     595.  RATIOS LOB, CH, ROB=    .0326   .9178   .0496  WSEL=    5765.10

3470 ENCROACHMENT STATIONS=     1135.0    1155.0  TYPE=      4  TARGET=         .082
       END CHANNEL TRANSITION
  5105.000      7.70   5764.70       .00   5764.10   5765.60       .90       .00       .02   5763.00
    1170.0        .0    1170.0        .0        .0     154.1        .0       5.4       1.0 100000.00
       .05       .00      7.59       .00      .000      .013      .000      .000   5757.00   1135.00
   .000621        6.        6.        6.         2         0         0       .00     20.00   1155.00


*SECNO 5133.000
 2800 NAT Q1=     275.48  WSEL=    5764.85  ENC Q1=     374.86  WSEL=    5765.85  RATIO=   -.3607
 NAT Q1=     393.  RATIOS LOB, CH, ROB=    .0271   .9531   .0197  WSEL=    5765.85

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1155.0    1175.0  TYPE=      4  TARGET=         .047
       BEGIN CHANNEL TRANSITION
  5133.000      6.50   5764.70   5764.70   5764.85   5767.11      2.40       .03       .45   5764.20
    1170.0        .0    1170.0        .0        .0      94.0        .0       5.5       1.0   5764.20
       .06       .00     12.44       .00      .000      .013      .000      .000   5758.20   1155.00
   .002132       28.       28.       28.        20        15         0       .00     20.00   1175.00


*SECNO 5335.000
 2800 NAT Q1=     286.66  WSEL=    5769.46  ENC Q1=     386.18  WSEL=    5770.46  RATIO=   -.3472
 NAT Q1=     412.  RATIOS LOB, CH, ROB=    .0359   .9368   .0273  WSEL=    5770.46
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1115.0    1135.0  TYPE=      4  TARGET=         .063
       FEMA SECTION J - END CHANNEL TRANSITION
  5335.000      6.51   5769.21   5769.21   5769.46   5771.61      2.39       .43       .00   5768.70
    1170.0        .0    1170.0        .0        .0      94.3        .0       5.9       1.1   5768.70
       .06       .00     12.41       .00      .000      .013      .000      .000   5762.70   1115.00
   .002116      200.      202.      205.        20         5         0       .00     20.00   1135.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 5453.000
 2800 NAT Q1=     287.58  WSEL=    5770.79  ENC Q1=     424.87  WSEL=    5771.79  RATIO=   -.4774
 NAT Q1=     437.  RATIOS LOB, CH, ROB=    .0133   .9726   .0142  WSEL=    5771.79

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1060.0    1089.0  TYPE=      4  TARGET=         .027
       FEMA SECTION K - BEGIN CHANNEL TRANSITION
  5453.000      5.39   5770.69   5770.69   5770.79   5772.57      1.88       .24       .05   5770.30
    1170.0        .0    1170.0        .0        .0     106.3        .0       6.2       1.2   5770.30
       .06       .00     11.01       .00      .000      .013      .000      .000   5765.30   1060.00
   .001881      118.      118.      118.        20        15         0       .00     29.00   1089.00


*SECNO 5557.000
 2800 NAT Q1=     274.96  WSEL=    5773.30  ENC Q1=     410.75  WSEL=    5774.30  RATIO=   -.4938
 NAT Q1=     414.  RATIOS LOB, CH, ROB=    .0035   .9924   .0042  WSEL=    5774.30
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1055.0    1084.0  TYPE=      4  TARGET=         .008
       END CHANNEL TRANSITION
  5557.000      5.41   5773.31   5773.31   5773.30   5775.17      1.86       .19       .00   5772.90
    1170.0        .0    1170.0        .0        .0     106.8        .0       6.4       1.3   5772.90
       .07       .00     10.96       .00      .000      .013      .000      .000   5767.90   1055.00
   .001855      104.      104.      104.        20         5         0       .00     29.00   1084.00


*SECNO 5589.000
 2800 NAT Q1=     228.87  WSEL=    5773.98  ENC Q1=     305.54  WSEL=    5774.98  RATIO=   -.3350
 NAT Q1=     307.  RATIOS LOB, CH, ROB=    .0015   .9960   .0025  WSEL=    5774.98

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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   SECND     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=     1050.0    1067.0  TYPE=      4  TARGET=         .004
       BEGIN CHANNEL TRANSITION
  5589.000      5.27   5773.97   5773.97   5773.98   5776.62      2.65       .07       .23   5773.70
    1170.0        .0    1170.0        .0        .0      89.6        .0       6.5       1.3 100000.00
       .07       .00     13.05       .00      .000      .013      .000      .000   5768.70   1050.00
   .002703       32.       32.       32.        20         8         0       .00     17.00   1067.00


CCHV=     .300 CEHV=     .500
*SECND 5615.000
 2800 NAT Q1=     224.17  WSEL=    5774.56  ENC Q1=     285.97  WSEL=    5775.56  RATIO=   -.2757
 NAT Q1=     286.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5775.56
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1000.0    1017.0  TYPE=      4  TARGET=         .000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=     5780.00 ELREA=     5780.00

       FEMA SECTION L - OUTFALL DETENTION POND BOX CULVERT - DOUBLE 8'x 6'
  5615.000      5.27   5774.57   5774.57   5774.56   5777.22      2.65       .07       .00   5830.10
    1170.0        .0    1170.0        .0        .0      89.5        .0       6.5       1.3 100000.00
       .07       .00     13.07       .00      .000      .013      .000      .000   5769.30   1000.00
   .002714       26.       26.       26.        20         5         0       .00     17.00   1017.00



SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS    5773.66 , NOT    5774.57 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.60      2.60       .00     17.00      1.00     96.00       .01   5769.80   5769.30

*SECND 5675.000
 PRESS FLOW BECAUSE EGLWC OF    5778.90  EXCEEDS 1.5 DEPTH
 2800 NAT Q1=     329.06  WSEL=    5776.73  ENC Q1=     395.07  WSEL=    5777.73  RATIO=   -.2006
 NAT Q1=     395.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5777.73
 WATER EL=CHANGE FROM NATURAL PROFILES BRIDGE

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.47
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=     1030.0    1047.0  TYPE=      4  TARGET=         .000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      5779.40 ELREA=      5779.40

       FEMA SECTION M - ENTRANCE DETENTION POND BOX CULVERT - DOUBLE 8'x 6'
  5675.000      6.94   5776.74       .00   5776.73   5778.27      1.53       .11       .34   5779.40
    1170.0        .0    1170.0        .0        .0     118.0        .0       6.7       1.3 100000.00
       .07       .00      9.92       .00      .000      .013      .000      .000   5769.80   1030.00
   .001261       60.       60.       60.         0         0         0       .00     17.00   1047.00


CCHV=     .100 CEHV=     .300
*SECNO 5702.000
 2800 NAT Q1=    3354.11  WSEL=    5778.40  ENC Q1=    3354.11  WSEL=    5779.40  RATIO=    .0000
 NAT Q1=    4248.  RATIOS LOB, CH, ROB=    .4267   .2705   .3028  WSEL=    5779.40

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  8.24


3470 ENCROACHMENT STATIONS=     1117.1    1328.3  TYPE=      4  TARGET=         .211
       FEMA SECTION N - DETENTION POND BOX CULVERT HEADWALL
  5702.000      8.39   5778.39       .00   5778.40   5778.42       .03       .00       .15   5770.00
    1170.0     471.4     410.0     288.6     828.4     201.5     486.7       7.2       1.4   5770.00
       .08       .57      2.03       .59      .040      .013      .040      .000   5770.00   1117.09
   .000019       27.       27.       27.         2         0         0       .00    211.19   1328.28


*SECNO 6000.000
 2800 NAT Q1=    4046.42  WSEL=    5778.42  ENC Q1=    5270.13  WSEL=    5779.42  RATIO=   -.3024
 NAT Q1=    5307.  RATIOS LOB, CH, ROB=    .0040   .9931   .0029  WSEL=    5779.42

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.48


3470 ENCROACHMENT STATIONS=     1055.0    1645.0  TYPE=      4  TARGET=         .007
       FEMA SECTION O
  6000.000      7.02   5778.42       .00   5778.42   5778.43       .00       .00       .00   5776.00
    1405.0        .0    1405.0        .0        .0    3388.9        .0      24.0       4.1   5776.00
       .28       .00       .41       .00      .000      .040      .000      .000   5771.40   1055.00
   .000012      298.      298.      298.         2         0         0       .00    590.00   1645.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


#SECNO 6300.000
 2800 NAT Q1=    1713.46  WSEL=    5778.42  ENC Q1=    2412.32  WSEL=    5779.42  RATIO=   -.4079
 NAT Q1=    2443.  RATIOS LOB, CH, ROB=    .0074   .9874   .0052  WSEL=    5779.42

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .42


3470 ENCROACHMENT STATIONS=     1105.0    1510.0  TYPE=      4  TARGET=         .013
       FEMA SECTION P
  6300.000      5.33   5778.43       .00   5778.42   5778.44       .01       .01       .00   5776.00
    1405.0        .0    1405.0        .0        .0    1738.9        .0      41.6       7.6   5776.00
       .38       .00       .81       .00      .000      .040      .000      .000   5773.10   1105.00
   .000069      230.      300.      390.         0         0         0       .00    405.00   1510.00


#SECNO 6607.000
 2800 NAT Q1=      95.52  WSEL=    5778.26  ENC Q1=     223.17  WSEL=    5779.26  RATIO=  -1.3364
 NAT Q1=     228.  RATIOS LOB, CH, ROB=    .0118   .9787   .0095  WSEL=    5779.26

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1260.0    1390.0  TYPE=      4  TARGET=         .021
       FEMA SECTION Q - END DROP STRUCTURE RIPRAP APRON
  6607.000      2.06   5778.26   5778.26   5778.26   5779.02       .76       .07       .22   5778.00
    1365.0        .0    1365.0        .0        .0     195.2        .0      48.5       9.4   5778.00
       .39       .00      6.99       .00      .000      .040      .000      .000   5776.20   1260.00
   .020738      307.      307.      307.        20        18         0       .00    130.00   1390.00


#SECNO 6636.000
 2800 NAT Q1=     101.04  WSEL=    5779.52  ENC Q1=     180.05  WSEL=    5780.52  RATIO=   -.7819
 NAT Q1=     180.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5780.52
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1100.0    1230.0  TYPE=      4  TARGET=         .000
       DROP STRUCTURE BOTTOM
  6636.000      2.62   5779.52   5779.52   5779.52   5780.63      1.11       .56       .11   5785.90
    1365.0        .0    1365.0        .0        .0     161.2        .0      48.6       9.5   5785.90
       .39       .00      8.47       .00      .000      .040      .000      .000   5776.90   1128.37
   .018331       29.       29.       29.        20        11         0       .00     73.26   1201.63
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 6637.000
 2800 NAT Q1=     100.62  WSEL=    5782.95  ENC Q1=     173.74  WSEL=    5783.95  RATIO=   -.7267
 NAT Q1=     174.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5783.95
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1100.0    1230.0  TYPE=      4  TARGET=         .000
       DROP STRUCTURE CREST (4' VERTICAL DROP)
  6637.000      4.06   5782.96   5782.96   5782.95   5784.15      1.19       .02       .02   5785.90
    1365.0        .0    1365.0        .0        .0     155.8        .0      48.6       9.5   5785.90
       .39       .00      8.76       .00      .000      .040      .000      .000   5778.90   1131.77
   .018281        1.        1.        1.        20        14         0       .00     66.46   1198.23


*SECNO 6817.000
 2800 NAT Q1=     190.78  WSEL=    5785.34  ENC Q1=     294.46  WSEL=    5786.34  RATIO=   -.5435
 NAT Q1=     294.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5786.34

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.88


3470 ENCROACHMENT STATIONS=     1085.0    1215.0  TYPE=      4  TARGET=         .000
       END DROP STRUCTURE RIPRAP APRON
  6817.000      3.74   5785.34       .00   5785.34   5785.81       .47      1.58       .07   5790.60
    1365.0        .0    1365.0        .0        .0     248.4        .0      49.4       9.8   5790.60
       .40       .00      5.50       .00      .000      .040      .000      .000   5781.60   1108.42
   .005153      210.      180.      155.         2         0         0       .00     83.16   1191.58


*SECNO 6846.000
 2800 NAT Q1=     197.02  WSEL=    5785.50  ENC Q1=     302.08  WSEL=    5786.50  RATIO=   -.5332
 NAT Q1=     302.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5786.50

3470 ENCROACHMENT STATIONS=     1085.0    1215.0  TYPE=      4  TARGET=         .000
       DROP STRUCTURE BOTTOM
  6846.000      3.81   5785.51       .00   5785.50   5785.95       .45       .14       .00   5790.70
    1365.0        .0    1365.0        .0        .0     254.7        .0      49.6       9.9   5790.70
       .40       .00      5.36       .00      .000      .040      .000      .000   5781.70   1108.08
   .004791       29.       29.       29.         2         0         0       .00     83.84   1191.92
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECND 6847.000
 2800 NAT Q1=     100.52  WSEL=    5787.75  ENC Q1=     173.62  WSEL=    5788.75  RATIO=   -.7272
 NAT Q1=     174.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5788.75

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1085.0    1215.0  TYPE=      4  TARGET=         .000
       DROP STRUCTURE CREST (4' VERTICAL DROP)
  6847.000      4.05   5787.75   5787.75   5787.75   5788.95      1.20       .01       .23   5790.70
    1365.0        .0    1365.0        .0        .0     155.5        .0      49.6       9.9   5790.70
       .40       .00      8.78       .00      .000      .040      .000      .000   5783.70   1116.79
   .018371        1.        1.        1.        20         8         0       .00     66.43   1183.21


*SECND 6992.000
 2800 NAT Q1=     178.08  WSEL=    5789.90  ENC Q1=     278.65  WSEL=    5790.90  RATIO=   -.5648
 NAT Q1=     279.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5790.90

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.77


3470 ENCROACHMENT STATIONS=     1080.0    1210.0  TYPE=      4  TARGET=         .000
       END RIPRAP APRON
  6992.000      3.60   5789.90       .00   5789.90   5790.41       .51      1.39       .07   5795.30
    1365.0        .0    1365.0        .0        .0     237.3        .0      50.2      10.1   5795.30
       .41       .00      5.75       .00      .000      .040      .000      .000   5786.30   1104.01
   .005884      145.      145.      145.         3         0         0       .00     81.97   1185.99


*SECND 7032.000
 2800 NAT Q1=     189.03  WSEL=    5790.07  ENC Q1=     242.70  WSEL=    5791.07  RATIO=   -.2839
 NAT Q1=     293.  RATIOS LOB, CH, ROB=    .0966   .8277   .0757  WSEL=    5791.07

3470 ENCROACHMENT STATIONS=     1120.0    1170.0  TYPE=      4  TARGET=         .172
       BEGIN RIPRAP APRON/DROP STURCTURE BOTTOM
  7032.000      3.49   5789.89       .00   5790.07   5790.84       .95       .30       .13   5786.40
    1365.0        .0    1365.0        .0        .0     174.8        .0      50.4      10.2   5786.40
       .41       .00      7.81       .00      .000      .040      .000      .000   5786.40   1120.00
   .009922       40.       40.       40.         2         0         0       .00     50.00   1170.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 7072.000
 2800 NAT Q1=     239.09  WSEL=    5800.69  ENC Q1=     280.39  WSEL=    5801.69  RATIO=   -.1727
 NAT Q1=     280.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5801.69

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1000.0    1012.0  TYPE=      4  TARGET=         .000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      5806.00 ELREA=      5806.00

       FEMA SECTION R - DROP STRUCTURE CREST (5.4' SLOPING DROP)/144" CMP STORM
       SEWER OUTFALL SOUTH OF WAGEMAN DRIVE
  7072.000      8.85   5800.65   5800.65   5800.69   5804.38      3.73       .21       .83   5856.00
    1365.0        .0    1365.0        .0        .0      88.1        .0      50.5      10.2 100000.00
       .41       .00     15.50       .00      .000      .013      .000      .000   5791.80   1000.00
   .003306       40.       40.       40.        20        20         0       .00     12.00   1012.00


*SECNO 8450.000
 2800 NAT Q1=    2335.18  WSEL=    5825.70  ENC Q1=    2335.18  WSEL=    5826.40  RATIO=    .0000
 NAT Q1=    2734.  RATIOS LOB, CH, ROB=    .3153   .4855   .1992  WSEL=    5826.40

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  8.60


3470 ENCROACHMENT STATIONS=     1157.6    1411.4  TYPE=      4  TARGET=         .146
       FEMA SECTION W - UPSTREAM OF BRADLEY ROAD BOX CULVERT - DOUBLE 10' x 6'
  8450.000     10.50   5825.70       .00   5825.70   5825.71       .01       .00       .37   5816.90
    1315.0     362.2     762.6     190.2     534.1    1384.3     266.5      50.5      10.2   5816.90
       .41       .68       .55       .71      .050      .080      .050      .000   5815.20   1157.56
   .000041        0.        0.        0.         0         0         0       .00    253.82   1411.38


*SECNO 8875.000
 2800 NAT Q1=     872.30  WSEL=    5825.72  ENC Q1=     872.30  WSEL=    5826.42  RATIO=    .0000
 NAT Q1=    1114.  RATIOS LOB, CH, ROB=    .4278   .3722   .2000  WSEL=    5826.42

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .35
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=     1322.3    1495.8  TYPE=      4  TARGET=         .217
       FEMA SECTION X
 9875.000      7.22   5825.72       .00   5825.72   5825.75       .03       .04       .01   5819.60
   1375.0     541.1     671.2     162.7     341.8     534.6     103.4      65.8      12.3   5819.60
      .49      1.58      1.26      1.57      .050      .080      .050      .000   5818.50   1322.34
  .000363      400.      425.      435.         1         0         0       .00    173.44   1495.78


*SECND 9300.000
 2800 NAT Q1=      56.50  WSEL=    5828.02  ENC Q1=      84.62  WSEL=    5828.72  RATIO=   -.4977
 NAT Q1=      93.  RATIOS LOB, CH, ROB=    .0247   .9093   .0660  WSEL=    5828.72

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1369.0    1439.0  TYPE=      4  TARGET=         .091
       FEMA SECTION Y
 9300.000      3.70   5827.90   5827.90   5828.02   5829.07      1.17       .53       .34   5827.20
   1375.0        .0    1375.0       .0        .0     158.4        .0      71.2      13.4   5827.20
      .51       .00      8.68       .00      .000      .080      .000      .000   5824.20   1369.00
  .076217      390.      425.      445.        20        11         0       .00     70.00   1439.00


*SECND 9700.000
 2800 NAT Q1=     150.49  WSEL=    5834.40  ENC Q1=     178.14  WSEL=    5835.10  RATIO=   -.1837
 NAT Q1=     214.  RATIOS LOB, CH, ROB=    .0986   .8311   .0703  WSEL=    5835.10

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.04


3470 ENCROACHMENT STATIONS=     1262.0    1332.0  TYPE=      4  TARGET=         .169
       FEMA SECTION Z
 9700.000      5.58   5834.78       .00   5834.40   5834.95       .17      5.78       .10   5832.30
   1045.0        .0    1045.0       .0        .0     314.7        .0      73.4      14.1   5832.30
      .54       .00      3.32       .00      .000      .080      .000      .000   5829.20   1262.00
  .004757      470.      400.      355.         5         0         0       .00     70.00   1332.00
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 10150.000
 2800 NAT Q1=      64.19  WSEL=    5838.47  ENC Q1=      89.96  WSEL=    5839.17  RATIO=   -.4014
 NAT Q1=     107.  RATIOS LOB, CH, ROB=    .1063   .8446   .0491  WSEL=    5839.17

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .44


3470 ENCROACHMENT STATIONS=     1253.0    1323.0  TYPE=      4  TARGET=         .155
       FEMA SECTION AA
 10150.000      4.09   5838.69       .00   5838.47   5839.16       .47      4.12       .09   5837.30
    1045.0        .0    1045.0        .0        .0     190.3        .0      76.0      14.8   5837.30
       .56       .00      5.49       .00      .000      .080      .000      .000   5834.60   1253.00
   .024376      505.      450.      405.         2         0         0       .00     70.00   1323.00


*SECNO 10625.000
 2800 NAT Q1=     109.74  WSEL=    5845.62  ENC Q1=     111.12  WSEL=    5846.32  RATIO=   -.0126
 NAT Q1=     172.  RATIOS LOB, CH, ROB=    .1671   .6452   .1877  WSEL=    5846.32

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.51


3470 ENCROACHMENT STATIONS=     1243.0    1313.0  TYPE=      4  TARGET=         .355
       FEMA SECTION AB - DOWNSTREAM OF IRRIGATION CANAL NO. 4
 10625.000      4.24   5846.24       .00   5845.62   5846.51       .28      7.34       .02   5843.40
    1045.0        .0    1045.0        .0        .0     247.5        .0      78.4      15.5   5843.40
       .59       .00      4.22       .00      .000      .080      .000      .000   5842.00   1243.00
   .010653      500.      475.      465.         5         0         0       .00     70.00   1313.00


*SECNO 10675.000
 2800 NAT Q1=      51.11  WSEL=    5854.62  ENC Q1=      51.11  WSEL=    5855.32  RATIO=    .0000
 NAT Q1=     183.  RATIOS LOB, CH, ROB=    .3866   .2059   .4075  WSEL=    5855.32
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1229.8    1338.5  TYPE=      4  TARGET=         .721
       FEMA SECTION AC - UPSTREAM OF IRRIGATION CANAL NO. 4
 10675.000      1.42   5855.42   5855.42   5854.62   5856.13       .71       .87       .13   5854.00
    1045.0      91.6     781.7     171.7      14.5     113.5      26.2      78.6      15.7   5854.00
       .60      6.31      6.89      6.55      .050      .050      .050      .000   5854.00   1229.78
   .033669       50.       50.       50.        20        17         0       .00    108.69   1338.46
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 10900.000
 2800 NAT Q1=     205.34  WSEL=    5856.33  ENC Q1=     205.34  WSEL=    5857.03  RATIO=    .0000
 NAT Q1=     328.  RATIOS LOB, CH, ROB=    .0726   .4603   .4671  WSEL=    5857.03

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.01


3470 ENCROACHMENT STATIONS=     1090.0    1200.7  TYPE=      4  TARGET=         .374
       FEMA SECTION AD
 10900.000      3.27   5857.27       .00   5856.33   5857.40       .13      1.21       .06   5854.00
    1045.0        .0     763.9     281.1        .0     261.8     100.4      79.9      16.2   5854.00
       .62       .00      2.92      2.80      .000      .050      .050      .000   5854.00   1090.00
   .002093      225.      225.      225.         4         0         0       .00    110.67   1200.67


*SECNO 11350.000
 2800 NAT Q1=     237.07  WSEL=    5857.38  ENC Q1=     272.95  WSEL=    5858.08  RATIO=   -.1514
 NAT Q1=     340.  RATIOS LOB, CH, ROB=    .1156   .8026   .0819  WSEL=    5858.08

3470 ENCROACHMENT STATIONS=     1056.0    1146.0  TYPE=      4  TARGET=         .197
       FEMA SECTION AE
 11350.000      4.11   5858.11       .00   5857.38   5858.24       .13       .84       .00   5854.60
    1045.0        .0    1045.0        .0        .0     365.6        .0      83.8      17.3   5854.60
       .66       .00      2.86       .00      .000      .050      .000      .000   5854.00   1056.00
   .001578      420.      450.      560.         2         0         0       .00     90.00   1146.00


*SECNO 11825.000
 2800 NAT Q1=     150.72  WSEL=    5858.68  ENC Q1=     235.30  WSEL=    5859.68  RATIO=   -.5612
 NAT Q1=     277.  RATIOS LOB, CH, ROB=    .0812   .8493   .0695  WSEL=    5859.68

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .66


3470 ENCROACHMENT STATIONS=     1067.0    1157.0  TYPE=      4  TARGET=         .151
       FEMA SECTION AF
 11825.000      4.04   5859.14       .00   5858.68   5859.35       .21      1.08       .03   5857.10
    1045.0        .0    1045.0        .0        .0     282.6        .0      87.4      18.3   5857.10
       .70       .00      3.70       .00      .000      .050      .000      .000   5855.10   1067.00
   .003574      470.      475.      480.         2         0         0       .00     90.00   1157.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       ARDB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 12275.000
 2800 NAT Q1=     115.32  WSEL=    5861.39  ENC Q1=     211.21  WSEL=    5862.39  RATIO=   -.8315
 NAT Q1=     226.  RATIOS LOB, CH, ROB=    .0451   .9364   .0185  WSEL=    5862.39

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .65


3470 ENCROACHMENT STATIONS=     1082.0    1182.0  TYPE=      4  TARGET=         .064
       FEMA SECTION AG
 12275.000      4.00   5861.40       .00   5861.39   5861.73       .33      2.35       .04   5860.70
    1045.0        .0    1045.0        .0        .0     226.0        .0      90.0      19.3   5860.70
       .73       .00      4.62       .00      .000      .050      .000      .000   5857.40   1082.00
   .008344      460.      450.      400.         2         0         0       .00    100.00   1182.00


*SECNO 12750.000
 2800 NAT Q1=     156.85  WSEL=    5864.30  ENC Q1=     264.32  WSEL=    5865.30  RATIO=   -.6852
 NAT Q1=     267.  RATIOS LOB, CH, ROB=    .0042   .9913   .0045  WSEL=    5865.30

3470 ENCROACHMENT STATIONS=     1267.0    1367.0  TYPE=      4  TARGET=         .009
       FEMA SECTION AH
 12750.000      4.51   5864.31       .00   5864.30   5864.54       .23      2.79       .01   5864.20
    1045.0        .0    1045.0        .0        .0     273.3        .0      92.7      20.3   5864.20
       .76       .00      3.82       .00      .000      .050      .000      .000   5859.80   1267.00
   .004371      470.      475.      530.         2         0         0       .00    100.00   1367.00


*SECNO 13200.000
 2800 NAT Q1=      60.21  WSEL=    5867.61  ENC Q1=     110.50  WSEL=    5868.62  RATIO=   -.8351
 NAT Q1=     128.  RATIOS LOB, CH, ROB=    .0931   .8653   .0417  WSEL=    5868.62

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .37


3470 ENCROACHMENT STATIONS=     1244.0    1334.0  TYPE=      4  TARGET=         .135
       FEMA SECTION AI
 13200.000      2.94   5867.64       .00   5867.61   5867.93       .29      3.37       .02   5866.60
     825.0        .0     825.0        .0        .0     191.8        .0      95.1      21.3   5866.60
       .79       .00      4.30       .00      .000      .080      .000      .000   5864.70   1244.00
   .020185      475.      450.      430.         4         0         0       .00     90.00   1334.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 13625.000
 2800 NAT Q1=      85.71  WSEL=    5873.18  ENC Q1=      99.53  WSEL=    5874.18  RATIO=   -.1613
 NAT Q1=     198.  RATIOS LOB, CH, ROB=    .2011   .5022   .2967  WSEL=    5874.18

3470 ENCROACHMENT STATIONS=     1285.0    1365.0  TYPE=      4  TARGET=         .498
       FEMA SECTION AJ
 13625.000      3.25   5873.85       .00   5873.18   5874.06       .21      6.12       .01   5871.50
     825.0        .0     825.0        .0        .0     223.8        .0      97.1      22.2   5871.50
       .82       .00      3.69       .00      .000      .080      .000      .000   5870.60   1285.00
   .010792      490.      425.      375.         5         0         0       .00     80.00   1365.00


*SECNO 14075.000
 2800 NAT Q1=      33.77  WSEL=    5880.40  ENC Q1=      66.77  WSEL=    5881.40  RATIO=   -.9770
 NAT Q1=     127.  RATIOS LOB, CH, ROB=    .2829   .5256   .1915  WSEL=    5881.40

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .63


3470 ENCROACHMENT STATIONS=     1331.0    1421.0  TYPE=      4  TARGET=         .474
       FEMA SECTION AK
 14075.000      2.36   5881.06       .00   5880.40   5881.40       .34      7.30       .04   5879.50
     825.0        .0     825.0        .0        .0     176.3        .0      99.2      23.0   5879.50
       .85       .00      4.68       .00      .000      .080      .000      .000   5878.70   1331.00
   .027119      430.      450.      470.         4         0         0       .00     90.00   1421.00


*SECNO 14500.000
 2800 NAT Q1=      82.47  WSEL=    5885.35  ENC Q1=      82.47  WSEL=    5886.35  RATIO=    .0000
 NAT Q1=     221.  RATIOS LOB, CH, ROB=    .3426   .2554   .4019  WSEL=    5886.35

3470 ENCROACHMENT STATIONS=     1321.5    1402.0  TYPE=      4  TARGET=         .627
       FEMA SECTION AL
 14500.000      2.40   5886.00       .00   5885.35   5886.07       .07      4.64       .03   5883.80
     370.0      27.3     256.9      85.8      11.9     138.2      32.7     101.0      23.9   5883.80
       .90      2.30      1.86      2.62      .050      .080      .050      .000   5883.60   1321.55
   .003294      410.      425.      445.         5         0         0       .00     80.49   1402.04


*SECNO 14950.000
 2800 NAT Q1=      13.40  WSEL=    5891.61  ENC Q1=      41.96  WSEL=    5892.61  RATIO=  -2.1307
 NAT Q1=      77.  RATIOS LOB, CH, ROB=    .1589   .5442   .2969  WSEL=    5892.61
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1176.0    1256.0  TYPE=      4  TARGET=         .456
       FEMA SECTION AM
 14950.000      1.22   5891.62   5891.62   5891.61   5892.06       .44      4.15       .11   5891.10
    370.0        .0     370.0        .0        .0      69.8        .0     102.2      24.7   5891.10
      .93       .00      5.30       .00      .000      .080      .000      .000   5890.40   1176.00
   .099203      500.      450.      350.        20         8         0       .00     80.00   1256.00


*SECND 15400.000
 2800 NAT Q1=      42.52  WSEL=    5899.79  ENC Q1=      65.91  WSEL=    5900.79  RATIO=   -.5501
 NAT Q1=     159.  RATIOS LOB, CH, ROB=    .3462   .4157   .2381  WSEL=    5900.79

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.65


3470 ENCROACHMENT STATIONS=     1313.0    1393.0  TYPE=      4  TARGET=         .584
       FEMA SECTION AN
 15400.000      2.26   5900.26       .00   5899.79   5900.35       .09      8.26       .03   5898.70
    370.0        .0     370.0        .0        .0     153.4        .0     103.4      25.5   5898.70
      .98       .00      2.41       .00      .000      .080      .000      .000   5898.00   1313.00
   .007445      405.      450.      510.         8         0         0       .00     80.00   1393.00


*SECND 15800.000
 2800 NAT Q1=      22.98  WSEL=    5908.01  ENC Q1=      47.67  WSEL=    5909.01  RATIO=  -1.0749
 NAT Q1=     114.  RATIOS LOB, CH, ROB=    .3676   .4198   .2126  WSEL=    5909.01

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1318.0    1368.0  TYPE=      4  TARGET=         .580
       FEMA SECTION AO
 15800.000      1.39   5908.19   5908.19   5908.01   5908.79       .60      5.68       .15   5907.20
    370.0        .0     370.0        .0        .0      59.3        .0     104.4      26.1   5907.20
     1.00       .00      6.24       .00      .000      .050      .000      .000   5906.80   1318.00
   .036970      420.      400.      390.        10        14         0       .00     50.00   1368.00
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 16200.000
 2800 NAT Q1=      28.23  WSEL=    5916.42  ENC Q1=      51.87  WSEL=    5917.42  RATIO=   -.8373
 NAT Q1=     108.  RATIOS LOB, CH, ROB=    .2568   .4784   .2648  WSEL=    5917.42

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.65


3470 ENCROACHMENT STATIONS=     1304.0    1354.0  TYPE=      4  TARGET=         .522
       FEMA SECTION AP
 16200.000      1.81   5916.91       .00   5916.42   5917.24       .33      8.42       .03   5915.50
     370.0        .0     370.0        .0        .0      80.6        .0     105.0      26.6   5915.50
      1.02       .00      4.59       .00      .000      .050      .000      .000   5915.10   1304.00
   .013562      390.      400.      410.         6         0         0       .00     50.00   1354.00


*SECNO 16600.00
 2800 NAT Q1=      20.35  WSEL=    5926.35  ENC Q1=      55.40  WSEL=    5927.35  RATIO=  -1.7224
 NAT Q1=      60.  RATIOS LOB, CH, ROB=    .0436   .9215   .0349  WSEL=    5927.35
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      225.0     275.0  TYPE=      4  TARGET=         .078
       FEMA SECTION AQ - SOUTH OF DRENNAN ROAD
 16600.000      2.04   5926.34   5926.34   5926.35   5926.94       .60      8.27       .08   5926.00
     370.0        .0     370.0        .0        .0      59.6        .0     105.7      27.0   5926.00
      1.04       .00      6.21       .00      .000      .050      .000      .000   5924.30    225.00
   .035323      385.      400.      420.        10         8         0       .00     50.00    275.00
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THIS RUN EXECUTED 02DEC91 16:01:13

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HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

WINDMILL GULCH FLOODWA

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	2864.000	.00	.00	.00	5726.60	1167.00	5734.75	.00	5735.54	5.08	7.13	176.67	517.58
	2864.000	.00	.00	.00	5726.60	1190.00	5734.80	.00	5735.62	5.41	7.26	164.00	511.43
	2893.000	29.00	.00	.00	5726.80	1167.00	5734.73	.00	5735.57	5.51	7.35	162.76	497.04
	2893.000	29.00	.00	.00	5726.80	1190.00	5734.79	.00	5735.65	5.82	7.45	159.74	493.30
	2997.000	104.00	.00	.00	5727.00	1167.00	5734.76	.00	5735.64	6.05	7.51	155.29	474.56
	2997.000	104.00	.00	.00	5727.00	1190.00	5734.83	.00	5735.72	6.14	7.60	156.66	480.31
	3017.000	20.00	.00	.00	5727.00	1167.00	5734.72	.00	5735.71	7.00	7.95	146.78	440.96
	3017.000	20.00	.00	.00	5727.00	1190.00	5734.78	.00	5735.79	7.13	8.05	147.91	445.61
	3067.000	50.00	5738.00	5734.10	5727.10	1058.00	5735.85	.00	5736.48	4.10	6.36	166.29	522.36
	3067.000	50.00	5738.00	5734.10	5727.10	1190.00	5736.85	.00	5737.49	3.89	6.43	185.21	603.40
	3071.000	4.00	.00	.00	5727.10	1058.00	5735.85	.00	5736.48	4.10	6.36	166.25	522.20
	3071.000	4.00	.00	.00	5727.10	1190.00	5736.85	.00	5737.49	3.89	6.42	185.25	603.56
	3098.000	27.00	.00	.00	5727.10	1058.00	5735.86	.00	5736.49	4.09	6.36	166.45	523.07
	3098.000	27.00	.00	.00	5727.10	1190.00	5736.86	.00	5737.50	3.88	6.42	185.46	604.49
*	3114.000	16.00	.00	.00	5731.60	1058.00	5736.17	5736.17	5738.48	25.30	12.19	86.82	210.33
*	3114.000	16.00	.00	.00	5731.60	1190.00	5736.55	5736.55	5739.04	25.34	12.64	94.14	236.41
*	3142.000	28.00	.00	.00	5732.00	1061.00	5738.29	5738.29	5740.27	16.77	11.35	104.47	259.07
*	3142.000	28.00	.00	.00	5732.00	1190.00	5738.44	5738.44	5740.87	21.34	12.51	95.14	257.62
*	3250.000	108.00	.00	.00	5733.10	1080.00	5739.50	5739.50	5741.63	18.41	11.71	95.74	251.69
*	3250.000	108.00	.00	.00	5733.10	1190.00	5739.70	5739.70	5742.09	20.84	12.41	95.90	260.65
*	3625.000	375.00	.00	.00	5736.90	1080.00	5743.26	5743.26	5745.43	19.04	11.83	94.06	247.49
*	3625.000	375.00	.00	.00	5736.90	1190.00	5743.46	5743.46	5745.89	21.26	12.49	95.24	258.08

	SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	4100.000	475.00	.00	.00	5743.70	1080.00	5750.14	5750.14	5752.23	17.94	11.61	97.49	254.98
*	4100.000	475.00	.00	.00	5743.70	1190.00	5750.27	5750.27	5752.69	21.22	12.49	95.31	258.35
*	4575.000	475.00	.00	.00	5750.20	980.00	5756.17	5756.17	5758.31	21.03	11.74	83.46	213.71
*	4575.000	475.00	.00	.00	5750.20	1190.00	5756.77	5756.77	5759.19	21.19	12.48	95.35	258.50
*	5015.000	440.00	.00	.00	5755.70	980.00	5761.66	5761.66	5763.81	21.20	11.78	83.21	212.84
*	5015.000	440.00	.00	.00	5755.70	1190.00	5762.26	5762.26	5764.69	21.23	12.49	95.29	258.27
*	5043.000	28.00	.00	.00	5755.80	980.00	5763.46	.00	5764.00	3.49	6.06	233.31	524.87
*	5043.000	28.00	.00	.00	5755.80	1190.00	5764.07	.00	5764.88	5.29	7.19	165.42	517.47
	5056.000	13.00	.00	.00	5755.90	1028.00	5763.32	.00	5764.14	5.73	7.41	185.46	429.33
	5056.000	13.00	.00	.00	5755.90	1190.00	5763.96	.00	5765.00	7.47	8.20	145.09	435.32
	5099.000	43.00	5762.80	5760.80	5756.80	1145.00	5763.81	.00	5765.03	8.97	8.92	151.43	382.39
	5099.000	43.00	999999.00	.00	5756.80	1170.00	5764.45	.00	5765.57	8.33	8.50	137.67	405.42
	5105.000	6.00	.00	.00	5757.00	1145.00	5764.10	.00	5765.06	6.58	7.92	171.96	446.48
	5105.000	6.00	.00	.00	5757.00	1170.00	5764.70	.00	5765.60	6.21	7.59	154.10	469.56
*	5133.000	28.00	.00	.00	5758.20	1170.00	5764.85	5764.85	5767.08	18.04	12.00	103.50	275.48
*	5133.000	28.00	.00	.00	5758.20	1170.00	5764.70	5764.70	5767.11	21.32	12.44	94.02	253.39
*	5335.000	202.00	.00	.00	5762.70	1170.00	5769.46	5769.46	5771.57	16.66	11.70	110.82	286.66
*	5335.000	202.00	.00	.00	5762.70	1170.00	5769.21	5769.21	5771.61	21.16	12.41	94.26	254.32
*	5453.000	118.00	.00	.00	5765.30	1170.00	5770.79	5770.79	5772.56	16.55	10.69	113.83	287.58
*	5453.000	118.00	.00	.00	5765.30	1170.00	5770.69	5770.69	5772.57	18.81	11.01	106.30	269.74
*	5557.000	104.00	.00	.00	5767.90	1170.00	5773.30	5773.30	5775.17	18.11	10.99	107.24	274.96
*	5557.000	104.00	.00	.00	5767.90	1170.00	5773.31	5773.31	5775.17	18.55	10.96	106.80	271.65
*	5589.000	32.00	.00	.00	5768.70	1170.00	5773.98	5773.98	5776.62	26.13	13.02	90.06	228.87
*	5589.000	32.00	.00	.00	5768.70	1170.00	5773.97	5773.97	5776.62	27.03	13.05	89.64	225.02
*	5615.000	26.00	.00	.00	5769.30	1170.00	5774.56	5774.56	5777.22	27.24	13.09	89.40	224.17
*	5615.000	26.00	.00	.00	5769.30	1170.00	5774.57	5774.57	5777.22	27.14	13.07	89.52	224.58
*	5675.000	60.00	5779.40	5775.80	5769.80	1170.00	5776.73	.00	5778.26	12.64	9.93	117.84	329.06
*	5675.000	60.00	999999.00	.00	5769.80	1170.00	5776.74	.00	5778.27	12.61	9.92	117.95	329.50
*	5702.000	27.00	.00	.00	5770.00	1170.00	5778.40	.00	5778.42	.12	1.65	2138.97	3354.11
*	5702.000	27.00	.00	.00	5770.00	1170.00	5778.39	.00	5778.42	.19	2.03	1516.58	2715.88
	6000.000	298.00	.00	.00	5771.40	1405.00	5778.42	.00	5778.42	.12	.41	3421.07	4046.42
*	6000.000	298.00	.00	.00	5771.40	1405.00	5778.42	.00	5778.43	.12	.41	3388.94	4015.12
*	6300.000	300.00	.00	.00	5773.10	1405.00	5778.42	.00	5778.43	.67	.80	1765.06	1713.46
*	6300.000	300.00	.00	.00	5773.10	1405.00	5778.43	.00	5778.44	.69	.81	1738.89	1692.90

	SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	6607.000	307.00	.00	.00	5776.20	1365.00	5778.26	5778.26	5779.01	204.21	6.97	196.44	95.52
*	6607.000	307.00	.00	.00	5776.20	1365.00	5778.26	5778.26	5779.02	207.38	6.99	195.18	94.79
*	6636.000	29.00	.00	.00	5776.90	1365.00	5779.52	5779.52	5780.63	182.49	8.45	161.48	101.04
*	6636.000	29.00	.00	.00	5776.90	1365.00	5779.52	5779.52	5780.63	183.31	8.47	161.23	100.82
*	6637.000	1.00	.00	.00	5778.90	1365.00	5782.95	5782.95	5784.15	184.03	8.78	155.43	100.62
*	6637.000	1.00	.00	.00	5778.90	1365.00	5782.96	5782.96	5784.15	182.81	8.76	155.78	100.96
*	6817.000	180.00	.00	.00	5781.60	1365.00	5785.34	.00	5785.80	51.19	5.48	248.98	190.78
*	6817.000	180.00	.00	.00	5781.60	1365.00	5785.34	.00	5785.81	51.53	5.50	248.41	190.14
	6846.000	29.00	.00	.00	5781.70	1365.00	5785.50	.00	5785.95	48.00	5.36	254.57	197.02
	6846.000	29.00	.00	.00	5781.70	1365.00	5785.51	.00	5785.95	47.91	5.36	254.73	197.21
*	6847.000	1.00	.00	.00	5783.70	1365.00	5787.75	5787.75	5788.95	184.39	8.79	155.33	100.52
*	6847.000	1.00	.00	.00	5783.70	1365.00	5787.75	5787.75	5788.95	183.71	8.78	155.52	100.71
*	6992.000	145.00	.00	.00	5786.30	1365.00	5789.90	.00	5790.41	58.76	5.75	237.44	178.08
*	6992.000	145.00	.00	.00	5786.30	1365.00	5789.90	.00	5790.41	58.84	5.75	237.33	177.95
	7032.000	40.00	.00	.00	5786.40	1365.00	5790.07	.00	5790.65	52.14	6.39	232.57	189.03
	7032.000	40.00	.00	.00	5786.40	1365.00	5789.89	.00	5790.84	99.22	7.81	174.76	137.03
*	7072.000	40.00	.00	.00	5791.80	1365.00	5800.69	5800.69	5804.38	32.60	15.41	88.56	239.09
*	7072.000	40.00	.00	.00	5791.80	1365.00	5800.65	5800.65	5804.38	33.06	15.50	88.07	237.41
*	8450.000	.10	.00	.00	5815.20	1315.00	5825.70	.00	5825.71	.32	.48	2590.34	2335.18
*	8450.000	.10	.00	.00	5815.20	1315.00	5825.70	.00	5825.71	.41	.55	2184.95	2042.21
*	8875.000	425.00	.00	.00	5818.50	1375.00	5825.72	.00	5825.74	2.48	1.04	1247.39	872.30
*	8875.000	425.00	.00	.00	5818.50	1375.00	5825.72	.00	5825.75	3.63	1.26	979.84	721.49
*	9300.000	425.00	.00	.00	5824.20	1375.00	5828.02	5828.02	5829.00	592.28	8.03	175.39	56.50
*	9300.000	425.00	.00	.00	5824.20	1375.00	5827.90	5827.90	5829.07	762.17	8.68	158.38	49.81
*	9700.000	400.00	.00	.00	5829.20	1045.00	5834.40	.00	5834.56	48.22	3.30	331.78	150.49
*	9700.000	400.00	.00	.00	5829.20	1045.00	5834.78	.00	5834.95	47.57	3.32	314.66	151.51
*	10150.000	450.00	.00	.00	5834.60	1045.00	5838.47	.00	5838.93	265.00	5.55	194.58	64.19
*	10150.000	450.00	.00	.00	5834.60	1045.00	5838.69	.00	5839.16	243.76	5.49	190.26	66.93
*	10625.000	475.00	.00	.00	5842.00	1045.00	5845.62	.00	5845.83	90.68	3.61	284.76	109.74
*	10625.000	475.00	.00	.00	5842.00	1045.00	5846.24	.00	5846.51	106.53	4.22	247.50	101.25
*	10675.000	50.00	.00	.00	5854.00	1045.00	5854.62	5854.62	5854.92	418.10	4.42	238.79	51.11
*	10675.000	50.00	.00	.00	5854.00	1045.00	5855.42	5855.42	5856.13	336.69	6.89	154.22	56.95
*	10900.000	225.00	.00	.00	5854.00	1045.00	5856.33	.00	5856.43	25.90	2.66	408.71	205.34
*	10900.000	225.00	.00	.00	5854.00	1045.00	5857.27	.00	5857.40	20.93	2.92	362.16	228.43

	SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRINS	EG	10*KS	VCH	AREA	.01K
	11350.000	450.00	.00	.00	5854.00	1045.00	5857.38	.00	5857.50	19.43	2.92	386.82	237.07
	11350.000	450.00	.00	.00	5854.00	1045.00	5858.11	.00	5858.24	15.78	2.86	365.65	263.09
*	11825.000	475.00	.00	.00	5855.10	1045.00	5858.68	.00	5858.91	48.07	3.98	282.21	150.72
*	11825.000	475.00	.00	.00	5855.10	1045.00	5859.14	.00	5859.35	35.74	3.70	282.65	174.79
	12275.000	450.00	.00	.00	5857.40	1045.00	5861.39	.00	5861.72	82.11	4.61	232.58	115.32
*	12275.000	450.00	.00	.00	5857.40	1045.00	5861.40	.00	5861.73	83.44	4.62	225.98	114.40
	12750.000	475.00	.00	.00	5859.80	1045.00	5864.30	.00	5864.53	44.39	3.84	271.92	156.85
	12750.000	475.00	.00	.00	5859.80	1045.00	5864.31	.00	5864.54	43.71	3.82	273.34	158.07
*	13200.000	450.00	.00	.00	5864.70	825.00	5867.61	.00	5867.88	187.72	4.18	202.37	60.21
*	13200.000	450.00	.00	.00	5864.70	825.00	5867.64	.00	5867.93	201.85	4.30	191.81	58.07
*	13625.000	425.00	.00	.00	5870.60	825.00	5873.18	.00	5873.32	92.65	2.96	271.84	85.71
	13625.000	425.00	.00	.00	5870.60	825.00	5873.85	.00	5874.06	107.92	3.69	223.75	79.42
*	14075.000	450.00	.00	.00	5878.70	825.00	5880.40	5880.40	5880.82	596.72	5.39	157.76	33.77
*	14075.000	450.00	.00	.00	5878.70	825.00	5881.06	.00	5881.40	271.19	4.68	176.26	50.10
*	14500.000	425.00	.00	.00	5883.60	370.00	5885.35	.00	5885.38	20.13	1.16	269.98	82.47
	14500.000	425.00	.00	.00	5883.60	370.00	5886.00	.00	5886.07	32.94	1.86	182.80	64.47
*	14950.000	450.00	.00	.00	5890.40	370.00	5891.61	5891.61	5891.93	762.16	4.65	83.78	13.40
*	14950.000	450.00	.00	.00	5890.40	370.00	5891.62	5891.62	5892.06	992.03	5.30	69.94	11.75
*	15400.000	450.00	.00	.00	5898.00	370.00	5899.79	.00	5899.85	75.73	2.07	191.51	42.52
*	15400.000	450.00	.00	.00	5898.00	370.00	5900.26	.00	5900.35	74.45	2.41	153.44	42.88
*	15800.000	400.00	.00	.00	5906.80	370.00	5908.01	5908.01	5908.29	259.31	4.82	98.06	22.98
*	15800.000	400.00	.00	.00	5906.80	370.00	5908.19	5908.19	5908.79	369.70	6.24	59.30	19.24
	16200.000	400.00	.00	.00	5915.10	370.00	5916.42	.00	5916.64	171.76	4.20	103.58	28.23
*	16200.000	400.00	.00	.00	5915.10	370.00	5916.91	.00	5917.24	135.62	4.59	80.64	31.77
*	16600.000	400.00	.00	.00	5924.30	370.00	5926.35	5926.35	5926.93	330.53	6.11	61.62	20.35
*	16600.000	400.00	.00	.00	5924.30	370.00	5926.34	5926.34	5926.94	353.23	6.21	59.57	19.69

WINDMILL GULCH FLOODWA

SUMMARY PRINTOUT TABLE 150

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	2864.000	1167.00	5734.75	.00	.00	.00	80.85	.00
	2864.000	1190.00	5734.80	.05	.00	.05	20.00	.00
	2893.000	1167.00	5734.73	.00	-.02	.00	39.36	29.00
	2893.000	1190.00	5734.79	.06	-.01	.06	20.00	29.00
	2997.000	1167.00	5734.76	.00	.03	.00	20.00	104.00
	2997.000	1190.00	5734.83	.06	.04	.06	20.00	104.00
	3017.000	1167.00	5734.72	.00	-.04	.00	19.00	20.00
	3017.000	1190.00	5734.78	.06	-.04	.06	19.00	20.00
	3067.000	1058.00	5735.85	.00	1.12	.00	19.00	50.00
	3067.000	1190.00	5736.85	1.00	2.06	1.00	19.00	50.00
	3071.000	1058.00	5735.85	.00	.00	.00	19.00	4.00
	3071.000	1190.00	5736.85	1.00	.00	1.00	19.00	4.00
	3098.000	1058.00	5735.86	.00	.01	.00	19.00	27.00
	3098.000	1190.00	5736.86	1.00	.01	1.00	19.00	27.00
*	3114.000	1058.00	5736.17	.00	.31	.00	19.00	16.00
*	3114.000	1190.00	5736.55	.39	-.31	.39	19.00	16.00
*	3142.000	1061.00	5738.29	.00	2.12	.00	40.86	28.00
*	3142.000	1190.00	5738.44	.15	1.88	.15	20.00	28.00
*	3250.000	1080.00	5739.50	.00	1.21	.00	38.17	108.00
*	3250.000	1190.00	5739.70	.19	1.26	.19	20.00	108.00
*	3625.000	1080.00	5743.26	.00	3.76	.00	36.09	375.00
*	3625.000	1190.00	5743.46	.20	3.77	.20	20.00	375.00
*	4100.000	1080.00	5750.14	.00	6.88	.00	42.76	475.00
*	4100.000	1190.00	5750.27	.13	6.80	.13	20.00	475.00
*	4575.000	980.00	5756.17	.00	6.04	.00	19.95	475.00
*	4575.000	1190.00	5756.77	.59	6.50	.59	20.00	475.00
*	5015.000	980.00	5761.66	.00	5.49	.00	19.92	440.00
*	5015.000	1190.00	5762.26	.60	5.50	.60	20.00	440.00
*	5043.000	980.00	5763.46	.00	1.80	.00	123.13	28.00
*	5043.000	1190.00	5764.07	.62	1.81	.62	20.00	28.00
	5056.000	1028.00	5763.32	.00	-.13	.00	99.67	13.00
	5056.000	1190.00	5763.96	.64	-.11	.64	18.00	13.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	5099.000	1145.00	5763.81	.00	.49	.00	76.58	43.00
	5099.000	1170.00	5764.45	.64	.49	.64	18.00	43.00
	5105.000	1145.00	5764.10	.00	.29	.00	80.77	6.00
	5105.000	1170.00	5764.70	.60	.25	.60	20.00	6.00
*	5133.000	1170.00	5764.85	.00	.75	.00	40.23	28.00
*	5133.000	1170.00	5764.70	-.15	.00	-.15	20.00	28.00
*	5335.000	1170.00	5769.46	.00	4.61	.00	52.66	202.00
*	5335.000	1170.00	5769.21	-.25	4.51	-.25	20.00	202.00
*	5453.000	1170.00	5770.79	.00	1.33	.00	47.76	118.00
*	5453.000	1170.00	5770.69	-.10	1.48	-.10	29.00	118.00
*	5557.000	1170.00	5773.30	.00	2.50	.00	32.95	104.00
*	5557.000	1170.00	5773.31	.01	2.62	.01	29.00	104.00
*	5589.000	1170.00	5773.98	.00	.69	.00	18.61	32.00
*	5589.000	1170.00	5773.97	-.01	.67	-.01	17.00	32.00
*	5615.000	1170.00	5774.56	.00	.57	.00	17.00	26.00
*	5615.000	1170.00	5774.57	.01	.59	.01	17.00	26.00
*	5675.000	1170.00	5776.73	.00	2.17	.00	17.00	60.00
*	5675.000	1170.00	5776.74	.01	2.17	.01	17.00	60.00
*	5702.000	1170.00	5778.40	.00	1.67	.00	379.09	27.00
*	5702.000	1170.00	5778.39	-.01	1.65	-.01	211.19	27.00
	6000.000	1405.00	5778.42	.00	.02	.00	618.72	298.00
*	6000.000	1405.00	5778.42	.00	.03	.00	590.00	298.00
*	6300.000	1405.00	5778.42	.00	.00	.00	429.22	300.00
*	6300.000	1405.00	5778.43	.00	.00	.00	405.00	300.00
*	6607.000	1365.00	5778.26	.00	-.16	.00	135.83	307.00
*	6607.000	1365.00	5778.26	.00	-.17	.00	130.00	307.00
*	6636.000	1365.00	5779.52	.00	1.26	.00	73.29	29.00
*	6636.000	1365.00	5779.52	.00	1.26	.00	73.26	29.00
*	6637.000	1365.00	5782.95	.00	3.43	.00	66.41	1.00
*	6637.000	1365.00	5782.96	.01	3.44	.01	66.46	1.00
*	6817.000	1365.00	5785.34	.00	2.38	.00	83.22	180.00
*	6817.000	1365.00	5785.34	.00	2.38	.00	83.16	180.00
	6846.000	1365.00	5785.50	.00	.17	.00	83.82	29.00
	6846.000	1365.00	5785.51	.00	.17	.00	83.84	29.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	6847.000	1365.00	5787.75	.00	2.25	.00	66.40	1.00
*	6847.000	1365.00	5787.75	.00	2.25	.00	66.43	1.00
*	6992.000	1365.00	5789.90	.00	2.15	.00	81.98	145.00
*	6992.000	1365.00	5789.90	.00	2.14	.00	81.97	145.00
	7032.000	1365.00	5790.07	.00	.18	.00	76.63	40.00
	7032.000	1365.00	5789.89	-.18	.00	-.18	50.00	40.00
*	7072.000	1365.00	5800.69	.00	10.61	.00	12.00	40.00
*	7072.000	1365.00	5800.65	-.04	10.75	-.04	12.00	40.00
*	8450.000	1315.00	5825.70	.00	25.01	.00	406.02	.10
*	8450.000	1315.00	5825.70	.00	25.05	.00	253.82	.10
*	8875.000	1375.00	5825.72	.00	.02	.00	315.21	425.00
*	8875.000	1375.00	5825.72	.00	.02	.00	173.44	425.00
*	9300.000	1375.00	5828.02	.00	2.30	.00	90.68	425.00
*	9300.000	1375.00	5827.90	-.12	2.18	-.12	70.00	425.00
*	9700.000	1045.00	5834.40	.00	6.38	.00	130.03	400.00
*	9700.000	1045.00	5834.78	.38	6.88	.38	70.00	400.00
*	10150.000	1045.00	5838.47	.00	4.07	.00	105.27	450.00
*	10150.000	1045.00	5838.69	.22	3.91	.22	70.00	450.00
*	10625.000	1045.00	5845.62	.00	7.15	.00	128.33	475.00
*	10625.000	1045.00	5846.24	.61	7.55	.61	70.00	475.00
*	10675.000	1045.00	5854.62	.00	9.00	.00	395.15	50.00
*	10675.000	1045.00	5855.42	.80	9.18	.80	108.69	50.00
*	10900.000	1045.00	5856.33	.00	1.71	.00	196.05	225.00
*	10900.000	1045.00	5857.27	.94	1.85	.94	110.67	225.00
	11350.000	1045.00	5857.38	.00	1.05	.00	145.71	450.00
	11350.000	1045.00	5858.11	.73	.84	.73	90.00	450.00
*	11825.000	1045.00	5858.68	.00	1.30	.00	138.76	475.00
*	11825.000	1045.00	5859.14	.45	1.02	.45	90.00	475.00
	12275.000	1045.00	5861.39	.00	2.71	.00	123.77	450.00
*	12275.000	1045.00	5861.40	.01	2.27	.01	100.00	450.00
	12750.000	1045.00	5864.30	.00	2.91	.00	101.91	475.00
	12750.000	1045.00	5864.31	.02	2.91	.02	100.00	475.00
*	13200.000	825.00	5867.61	.00	3.32	.00	115.36	450.00
*	13200.000	825.00	5867.64	.03	3.33	.03	90.00	450.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	13625.000	825.00	5873.18	.00	5.57	.00	180.24	425.00
	13625.000	825.00	5873.85	.67	6.21	.67	80.00	425.00
*	14075.000	825.00	5880.40	.00	7.21	.00	185.43	450.00
*	14075.000	825.00	5881.06	.66	7.21	.66	90.00	450.00
*	14500.000	370.00	5885.35	.00	4.95	.00	221.09	425.00
	14500.000	370.00	5886.00	.65	4.94	.65	80.49	425.00
*	14950.000	370.00	5891.61	.00	6.27	.00	137.14	450.00
*	14950.000	370.00	5891.62	.01	5.62	.01	80.00	450.00
*	15400.000	370.00	5899.79	.00	8.18	.00	218.91	450.00
*	15400.000	370.00	5900.26	.47	8.64	.47	80.00	450.00
*	15800.000	370.00	5908.01	.00	8.22	.00	165.67	400.00
*	15800.000	370.00	5908.19	.17	7.92	.17	50.00	400.00
	16200.000	370.00	5916.42	.00	8.40	.00	134.90	400.00
*	16200.000	370.00	5916.91	.49	8.72	.49	50.00	400.00
*	16600.000	370.00	5926.35	.00	9.94	.00	57.98	400.00
*	16600.000	370.00	5926.34	-.01	9.43	-.01	50.00	400.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION SECNO=   3114.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3114.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3114.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   3114.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3114.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3114.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   3142.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3142.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3142.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   3142.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3142.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3142.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   3250.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3250.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3250.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   3250.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3250.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3250.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   3625.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3625.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3625.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   3625.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   3625.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   3625.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   4100.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   4100.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   4100.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   4100.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   4100.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   4100.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   4575.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   4575.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   4575.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   4575.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   4575.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   4575.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5015.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5015.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5015.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5015.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5015.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5015.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=   5043.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   5043.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=   5133.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5133.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5133.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5133.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5133.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5133.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5335.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5335.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5335.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5335.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5335.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5335.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5453.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=   5453.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5453.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5453.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5453.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5557.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=   5557.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5557.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5557.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5557.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5589.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=   5589.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5589.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5589.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5589.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5615.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=   5615.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   5615.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   5615.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   5615.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   5675.000  PROFILE=  1  HYDRAULIC JUMP D.S.
WARNING SECNO=   5675.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=   5675.000  PROFILE=  2  HYDRAULIC JUMP D.S.
WARNING SECNO=   5675.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   5702.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   5702.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6000.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6300.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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WARNING SECNO=   6300.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   6607.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6607.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6607.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   6607.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=   6607.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   6636.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6636.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6636.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   6636.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6636.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6636.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   6637.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6637.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6637.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   6637.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6637.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6637.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=   6817.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   6817.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   6847.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6847.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6847.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   6847.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   6847.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   6847.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=   6992.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   6992.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   7072.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   7072.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   7072.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   7072.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   7072.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   7072.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=   8450.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   8450.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   8875.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   8875.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   9300.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   9300.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   9300.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   9300.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   9300.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=   9300.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=   9700.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   9700.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  10150.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  10150.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  10625.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  10625.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  10675.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  10675.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  10675.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  10675.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  10675.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  10675.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=  10900.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  10900.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  11825.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  11825.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  12275.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  13200.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  13200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  13625.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  14075.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  14075.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
WARNING SECNO=  14075.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  14500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  14950.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  14950.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  14950.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=  14950.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  14950.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  14950.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

WARNING SECNO=  15400.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  15400.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=  15800.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  15800.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  15800.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  15800.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=  16200.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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CAUTION SECNO=  16600.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  16600.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=  16600.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  16600.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
```

FLOODWAY DATA, WINDMILL GULCH FLOODWA
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
2864.000	20.	164.	7.3	5734.9	5734.8	.1
2893.000	20.	160.	7.4	5734.8	5734.7	.1
2997.000	20.	157.	7.6	5734.9	5734.8	.1
3017.000	19.	148.	8.0	5734.8	5734.7	.1
3067.000	19.	185.	6.4	5736.8	5735.8	1.0
3071.000	19.	185.	6.4	5736.8	5735.8	1.0
3098.000	19.	185.	6.4	5736.9	5735.9	1.0
3114.000	19.	94.	12.6	5736.6	5736.2	.4
3142.000	20.	95.	12.5	5738.4	5738.3	.1
3250.000	20.	96.	12.4	5739.7	5739.5	.2
3625.000	20.	95.	12.5	5743.5	5743.3	.2
4100.000	20.	95.	12.5	5750.2	5750.1	.1
4575.000	20.	95.	12.5	5756.8	5756.2	.6
5015.000	20.	95.	12.5	5762.3	5761.7	.6
5043.000	20.	165.	7.2	5764.1	5763.5	.6
5056.000	18.	145.	8.2	5763.9	5763.3	.6
5099.000	18.	138.	8.5	5764.4	5763.8	.6
5105.000	20.	154.	7.6	5764.7	5764.1	.6
5133.000	20.	94.	12.4	5764.7	5764.9	-.2
5335.000	20.	94.	12.4	5769.3	5769.5	-.2
5453.000	29.	106.	11.0	5770.7	5770.8	-.1
5557.000	29.	107.	11.0	5773.3	5773.3	.0
5589.000	17.	90.	13.1	5774.0	5774.0	.0
5615.000	17.	90.	13.1	5774.6	5774.6	.0
5675.000	17.	118.	9.9	5776.7	5776.7	.0
5702.000	211.	1517.	.8	5778.4	5778.4	.0
6000.000	590.	3389.	.4	5778.4	5778.4	.0
6300.000	405.	1739.	.8	5778.4	5778.4	.0
6607.000	130.	195.	7.0	5778.3	5778.3	.0
6636.000	73.	161.	8.5	5779.5	5779.5	.0
6637.000	66.	156.	8.8	5783.0	5783.0	.0
6817.000	83.	248.	5.5	5785.3	5785.3	.0
6846.000	84.	255.	5.4	5785.5	5785.5	.0
6847.000	66.	156.	8.8	5787.8	5787.8	.0
6992.000	82.	237.	5.8	5789.9	5789.9	.0
7032.000	50.	175.	7.8	5789.9	5790.1	-.2
7072.000	12.	88.	15.5	5800.7	5800.7	.0
8450.000	254.	2185.	.6	5825.7	5825.7	.0
8875.000	173.	980.	1.4	5825.7	5825.7	.0
9300.000	70.	158.	8.7	5827.9	5828.0	-.1
9700.000	70.	315.	3.3	5834.8	5834.4	.4
10150.000	70.	190.	5.5	5838.7	5838.5	.2

FLOODWAY DATA, WINDMILL GULCH FLOODWA
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
10625.000	70.	247.	4.2	5846.2	5845.6	.6
10675.000	109.	154.	6.8	5855.4	5854.6	.8
10900.000	111.	362.	2.9	5857.2	5856.3	.9
11350.000	90.	366.	2.9	5858.1	5857.4	.7
11825.000	90.	283.	3.7	5859.2	5858.7	.5
12275.000	100.	226.	4.6	5861.4	5861.4	.0
12750.000	100.	273.	3.8	5864.3	5864.3	.0
13200.000	90.	192.	4.3	5867.6	5867.6	.0
13625.000	80.	224.	3.7	5873.9	5873.2	.7
14075.000	90.	176.	4.7	5881.1	5880.4	.7
14500.000	80.	183.	2.0	5886.0	5885.3	.7
14950.000	80.	70.	5.3	5891.6	5891.6	.0
15400.000	80.	153.	2.4	5900.3	5899.8	.5
15800.000	50.	59.	6.2	5908.2	5908.0	.2
16200.000	50.	81.	4.6	5916.9	5916.4	.5
16600.000	50.	60.	6.2	5926.4	5926.4	.0

G. HEC-2 ANALYSIS

Aspen Drive Overflow - Floodway
2-Hour, 100-Year

THIS RUN EXECUTED 02DEC91 15:50:20

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**********************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.0;  February 1991
**********************************


T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 ASPEN DRIVE OVERFLOW
T3      ASPEN DRIVE            NATURAL RUN   100-YEAR 2-HOUR      ASPENFW.DAT

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0         2         0         0        -1         0         0         0    5738.3         0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1         0        -1         0         0         0         0         0         0         0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150       200

NC     .040      .040      .016        .1         .3
BT        2       110       110
ET                         10.4
        FEMA SECTION A-MAIN CHANNEL STA.30+17 FEMA SECTION B OUTFALL GRAND BLVD.
X1        0         5      1000      1564         0         0         0
GR     5740      1000    5738.1      1515    5737.1      1530    5737.1      1549    5738.1      1564

        FEMA SECTION B
X1      115         6      1035      1071       115       115       115
GR   5738.3      1000      5738      1010    5736.7      1035    5736.5      1053    5736.4      1071
GR   5738.5      1105

        FEMA SECTION C - INTERSECTION OF ASPEN DRIVE AND MARIAN DRIVE
X1      505         7      1040      1076       380       400       390
GR   5742.4      1000      5742      1025    5741.7      1040    5741.9      1058    5741.8      1076
GR     5742      1095    5742.7      1120

        FEMA SECTION D
X1      910         7      1125      1161       395       415       405
GR     5750      1000      5748      1090    5747.1      1125    5747.3      1143    5747.2      1161
GR     5748      1185    5748.6      1200

        FEMA SECTION E
X1     1545         6      1030      1066       645       625       635
GR     5766      1000      5760      1020    5759.1      1030    5759.8      1048    5759.4      1066
GR   5760.4      1095
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 1



CCHV=     .100 CEHV=     .300
*SECNO  .000
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION A-MAIN CHANNEL STA.30+17 FEMA SECTION B OUTFALL GRAND BLVD.
     .000       .81   5737.91   5737.91   5738.30   5738.21       .29       .00       .00   5740.00
    110.0        .0     110.0       .0       .0      25.3        .0       .0       .0   5738.10
      .00       .00      4.35       .00      .000      .016      .000      .000   5737.10   1517.82
  .004495        0.        0.        0.         0        13         0       .00     43.36   1561.18


*SECNO 115.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  6.10

       FEMA SECTION B
  115.000      1.85   5738.25       .00       .00   5738.27       .03       .04       .03   5736.70
    110.0       8.6      90.8      10.7      23.4      62.0      27.6        .2        .2   5736.40
      .03       .37      1.46       .39      .040      .016      .040      .000   5736.40   1001.80
  .000121      115.      115.      115.         2         0         0       .00     99.08   1100.89


*SECNO 505.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION C - INTERSECTION OF ASPEN DRIVE AND MARIAN DRIVE
  505.000       .64   5742.34   5742.34       .00   5742.56       .22       .14       .06   5741.70
    110.0      15.3      80.0      14.7      11.0      18.5      10.4        .9       1.1   5741.80
      .06      1.39      4.32      1.41      .040      .016      .040      .000   5741.70   1003.78
  .005254      380.      390.      400.        20        22         0       .00    103.35   1107.13


*SECNO 910.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION D
  910.000       .71   5747.81   5747.81       .00   5748.06       .25      1.98       .01   5747.10
    110.0      12.2      91.6       6.2       9.7      20.9       5.5       1.2       2.0   5747.20
      .08      1.26      4.38      1.13      .040      .016      .040      .000   5747.10   1097.54
  .004589      395.      405.      415.        20         8         0       .00     81.64   1179.18
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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#SECNO 1545.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION E
  1545.000       .99   5760.09   5760.09       .00   5760.36       .27      3.09       .01   5759.10
     110.0       9.4      91.7       8.9       5.4      20.2       6.8       1.7       3.0   5759.40
       .13      1.75      4.54      1.31      .040      .016      .040      .000   5759.10   1019.71
   .005164      645.      635.      625.        20        14         0       .00     66.18   1085.90
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T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 ASPEN DRIVE OVERFLOW
T3      ASPEN DRIVE FLOODWAY RUN   100-YEAR 2-HOUR                ASPENFW.DAT

J1  ICHECK    ING      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        3        0        0        0        0        0        0     5738.3      0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     15        0       -1        0        0        0        0        0        0        0
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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


#PROF 2



CCHV=     .100 CEHV=     .300
#SECNO  .000
 2800 NAT Q1=      16.41  WSEL=    5737.91  ENC Q1=     108.42  WSEL=    5738.91  RATIO=  -5.6079
 NAT Q1=     108.  RATIOS LOB, CH, ROB=    .0000  1.0000   .0000  WSEL=    5738.91
3280 CROSS SECTION       .00 EXTENDED       .20 FEET


3470 ENCROACHMENT STATIONS=     1000.0    1564.0  TYPE=      4  TARGET=         .000
       FEMA SECTION A-MAIN CHANNEL STA.30+17 FEMA SECTION B OUTFALL GRAND BLVD.
     .000      1.20   5738.30       .00   5737.91   5738.38       .08       .00       .00   5790.00
    110.0        .0     110.0        .0        .0      49.2        .0        .0        .0   5738.10
      .00       .00      2.23       .00      .000      .016      .000      .000   5737.10   1460.73
  .001558        0.        0.        0.         0         0         0       .00    103.27   1564.00


#SECNO 115.000
 2800 NAT Q1=     100.15  WSEL=    5738.25  ENC Q1=     177.31  WSEL=    5739.25  RATIO=   -.7704
 NAT Q1=     241.  RATIOS LOB, CH, ROB=    .1286   .7347   .1367  WSEL=    5739.25
3280 CROSS SECTION    115.00 EXTENDED       .09 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.18


3470 ENCROACHMENT STATIONS=     1035.0    1071.0  TYPE=      4  TARGET=         .265
       FEMA SECTION B
   115.000      1.98   5738.38       .00   5738.25   5738.42       .04       .04       .00   5736.70
     110.0        .0     110.0        .0        .0      67.2        .0        .2        .2   5736.40
       .02       .00      1.64       .00      .000      .016      .000      .000   5736.40   1035.00
   .000154      115.      115.      115.         0         0         0       .00     36.00   1071.00


#SECNO 505.000
 2800 NAT Q1=      15.18  WSEL=    5742.34  ENC Q1=      66.81  WSEL=    5743.34  RATIO=  -3.4024
 NAT Q1=     111.  RATIOS LOB, CH, ROB=    .1994   .6026   .1979  WSEL=    5743.34
3280 CROSS SECTION    505.00 EXTENDED       .08 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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3470 ENCROACHMENT STATIONS=     1040.0    1076.0  TYPE=      4  TARGET=         .397
       FEMA SECTION C - INTERSECTION OF ASPEN DRIVE AND MARIAN DRIVE
  505.000       .78   5742.48   5742.48   5742.34   5742.82       .34       .17       .09   5741.70
    110.0        .0     110.0        .0        .0      23.5        .0        .6        .5   5741.80
      .04       .00      4.69       .00      .000      .016      .000      .000   5741.70   1040.00
  .004746      380.      390.      400.        20        18         0       .00     36.00   1076.00


*SECNO 910.000
 2800 NAT Q1=      16.24  WSEL=    5747.81  ENC Q1=      71.76  WSEL=    5748.81  RATIO=  -3.4193
 NAT Q1=     108.  RATIOS LOB, CH, ROB=    .2041   .6663   .1296  WSEL=    5748.81
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1125.0    1161.0  TYPE=      4  TARGET=         .334
       FEMA SECTION D
  910.000       .79   5747.89   5747.89   5747.81   5748.22       .33      1.88       .00   5747.10
    110.0        .0     110.0        .0        .0      23.8        .0        .8        .8   5747.20
      .07       .00      4.62       .00      .000      .016      .000      .000   5747.10   1125.00
  .004519      395.      405.      415.        20         5         0       .00     36.00   1161.00


*SECNO 1545.000
 2800 NAT Q1=      15.31  WSEL=    5760.09  ENC Q1=      70.25  WSEL=    5761.09  RATIO=  -3.5894
 NAT Q1=      92.  RATIOS LOB, CH, ROB=    .0872   .7602   .1526  WSEL=    5761.09
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1030.0    1066.0  TYPE=      4  TARGET=         .240
       FEMA SECTION E
 1545.000      1.08   5760.18   5760.18   5760.09   5760.52       .34      2.94       .00   5759.10
    110.0        .0     110.0        .0        .0      23.6        .0       1.1       1.4   5759.40
      .10       .00      4.67       .00      .000      .016      .000      .000   5759.10   1030.00
  .004752      645.      635.      625.        20        14         0       .00     36.00   1066.00
```

THIS RUN EXECUTED 02DEC91 15:50:43

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

ASPEN DRIVE

SUMMARY PRINTOUT TABLE 150

	SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	.000	.00	.00	.00	5737.10	110.00	5737.91	5737.91	5738.21	44.95	4.35	25.31	16.41
	.000	.00	.00	.00	5737.10	110.00	5738.30	.00	5738.38	15.58	2.23	49.24	27.86
*	115.000	115.00	.00	.00	5736.40	110.00	5738.25	.00	5738.27	1.21	1.46	112.94	100.15
*	115.000	115.00	.00	.00	5736.40	110.00	5738.38	.00	5738.42	1.54	1.64	67.17	88.62
*	505.000	390.00	.00	.00	5741.70	110.00	5742.34	5742.34	5742.56	52.54	4.32	39.88	15.18
*	505.000	390.00	.00	.00	5741.70	110.00	5742.48	5742.48	5742.82	47.46	4.69	23.48	15.97
*	910.000	405.00	.00	.00	5747.10	110.00	5747.81	5747.81	5748.06	45.89	4.38	36.11	16.24
*	910.000	405.00	.00	.00	5747.10	110.00	5747.89	5747.89	5748.22	45.19	4.62	23.83	16.36
*	1545.000	635.00	.00	.00	5759.10	110.00	5760.09	5760.09	5760.36	51.64	4.54	32.39	15.31
*	1545.000	635.00	.00	.00	5759.10	110.00	5760.18	5760.18	5760.52	47.52	4.67	23.57	15.96

ASPEN DRIVE

SUMMARY PRINTOUT TABLE 150

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	.000	110.00	5737.91	.00	.00	-.39	43.36	.00
	.000	110.00	5738.30	.39	.00	.39	103.27	.00
*	115.000	110.00	5738.25	.00	.33	.00	99.08	115.00
*	115.000	110.00	5738.38	.14	.08	.14	36.00	115.00
*	505.000	110.00	5742.34	.00	4.09	.00	103.35	390.00
*	505.000	110.00	5742.48	.14	4.10	.14	36.00	390.00
*	910.000	110.00	5747.81	.00	5.47	.00	81.64	405.00
*	910.000	110.00	5747.89	.08	5.41	.08	36.00	405.00
*	1545.000	110.00	5760.09	.00	12.28	.00	66.18	635.00
*	1545.000	110.00	5760.18	.09	12.29	.09	36.00	635.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=      .000  PROFILE=  1  CRITICAL DEPTH ASSUMED

WARNING SECNO=    115.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=    115.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=    505.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    505.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    505.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    505.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    505.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    505.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=    910.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    910.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    910.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    910.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    910.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    910.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   1545.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1545.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1545.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   1545.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1545.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1545.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

FLOODWAY DATA, ASPEN DRIVE
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	103.	49.	2.2	5738.3	5737.9	.4
115.000	36.	67.	1.6	5738.3	5738.2	.1
505.000	36.	23.	4.7	5742.4	5742.3	.1
910.000	36.	24.	4.6	5747.9	5747.8	.1
1545.000	36.	24.	4.7	5760.2	5760.1	.1

H. HEC-2 ANALYSIS

Hackberry Drive Overflow - Floodway
2-Hour, 100-Year

THIS RUN EXECUTED 02DEC91 02:52:10

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**********************************
HEC-2 WATER SURFACE PROFILES

Version  4.6.0;  February 1991
**********************************


T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 HACKBERRY DRIVE OVERFLOW
T3     HACKBERRY DRIVE        NATURAL RUN   100-YEAR 2-HOUR     HACKFW.DAT

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        2        0        0       -1        0        0        0       5752

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1        0       -1        0        0        0        0        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150       200

NC    .040      .040      .013       .1        .3
QT      2       100       100
ET                        10.4
        SWALE BETWEEN HOUSES EAST OF HACKBERRY DR AND SOUTH OF WIDEFIELD DR
X1     75         7      1070      1075         0         0         0
GR   5753      1000    5751.7      1070    5750.7      1071    5750.7      1074    5751.7      1075
GR   5752      1270    5752.3      1280

        SWALE BETWEEN HOUSES EAST OF HACKBERRY DR AND SOUTH OF WIDEFIELD DR
X1    170        10      1097      1105        95        95        95
GR  5754.5     1000      5754      1025    5753.5      1094    5752.5      1097      5752      1097
GR   5752      1105    5752.5      1105    5753.5      1108      5754      1305    5754.6      1330

NC      0         0      .016         0         0
        INTERSECTION OF HACKBERRY DRIVE AND WIDEFIELD DRIVE
X1    365         5      1040      1076       160       240       195
GR  5755.7     1000    5754.7      1040    5755.2      1058    5754.9      1076      5756      1135

        NORTH OF INTERSECTION OF HACKBERRY DRIVE AND WIDEFIELD DRIVE
X1    700         5      1035      1071       335       335       335
GR  5761.6     1000    5760.8      1035      5761      1053    5760.9      1071      5762      1100
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
#PROF 1


CCHV=     .100 CEHV=     .300
#SECNO 75.000
3720 CRITICAL DEPTH ASSUMED
       SWALE BETWEEN HOUSES EAST OF HACKBERRY DR AND SOUTH OF WIDEFIELD DR
   75.000      1.52   5752.22   5752.22   5752.00   5752.38       .17       .00       .00   5751.70
    100.0       4.7      35.5      59.8       7.2       6.6      72.7        .0        .0   5751.70
      .00       .65      5.38       .82      .040      .013      .040      .000   5750.70   1042.07
  .001878        0.        0.        0.         0        10         0       .00    235.21   1277.28


#SECNO 170.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       SWALE BETWEEN HOUSES EAST OF HACKBERRY DR AND SOUTH OF WIDEFIELD DR
  170.000      2.01   5754.01   5754.01       .00   5754.20       .19       .10       .01   5752.50
    100.0       9.5      68.5      22.0      20.7      16.1      53.5        .2        .6   5752.50
      .01       .46      4.27       .41      .040      .013      .040      .000   5752.00   1024.68
  .000645       95.       95.       95.        20        15         0       .00    280.58   1305.26


#SECNO 365.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       INTERSECTION OF HACKBERRY DRIVE AND WIDEFIELD DRIVE
  365.000       .76   5755.46   5755.46       .00   5755.68       .22       .29       .01   5754.70
    100.0      17.6      71.8      10.5      11.6      16.7       8.5        .5       1.5   5754.90
      .02      1.52      4.31      1.24      .040      .016      .040      .000   5754.70   1009.49
  .006031      160.      195.      240.        20        22         0       .00     96.69   1106.18


#SECNO 700.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       NORTH OF INTERSECTION OF HACKBERRY DRIVE AND WIDEFIELD DRIVE
  700.000       .67   5761.47   5761.47       .00   5761.71       .24      1.79       .01   5760.80
    100.0      12.0      83.3       4.7       9.8      19.5       4.2        .8       2.2   5760.90
      .05      1.23      4.26      1.10      .040      .016      .040      .000   5760.80   1005.77
  .004751      335.      335.      335.        20         9         0       .00     80.21   1085.98
```

T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY 89-820
T2 HACKBERRY DRIVE OVERFLOW
T3 HACKBERRY DRIVE FLOODWAY RUN 100-YEAR 2-HOUR HACKFW.DAT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	3	0	0	0	0	0	0	5752	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	0	0	0	0

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 2



CCHV=     .100 CEHV=     .300
*SECNO 75.000
 2800 NAT Q1=      23.07  WSEL=    5752.22  ENC Q1=      23.07  WSEL=    5753.22  RATIO=    .0000
 NAT Q1=     168.  RATIOS LOB, CH, ROB=    .1225   .1250   .7525  WSEL=    5753.22
3280 CROSS SECTION     75.00 EXTENDED       .80 FEET

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1070.0    1077.9  TYPE=      4  TARGET=         .862
        SWALE BETWEEN HOUSES EAST OF HACKBERRY DR AND SOUTH OF WIDEFIELD DR
    75.000      2.40   5753.10   5753.10   5752.22   5754.11      1.00       .00       .00   5751.70
     100.0        .0      92.1       7.9        .0      11.0       4.0        .0        .0   5751.70
       .00       .00      8.36      1.97      .000      .013      .040      .000   5750.70   1070.00
   .003057        0.        0.        0.         0        13         0       .00      7.88   1077.88


*SECNO 170.000
 2800 NAT Q1=      39.38  WSEL=    5754.01  ENC Q1=      52.96  WSEL=    5755.01  RATIO=   -.3448
 NAT Q1=     215.  RATIOS LOB, CH, ROB=    .2169   .2459   .5372  WSEL=    5755.01
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1097.0    1105.0  TYPE=      4  TARGET=         .754
        SWALE BETWEEN HOUSES EAST OF HACKBERRY DR AND SOUTH OF WIDEFIELD DR
   170.000      1.69   5753.69   5753.69   5754.01   5754.54       .85       .30       .02   5752.50
     100.0        .0     100.0        .0        .0      13.5        .0        .0        .0 100000.00
       .00       .00      7.39       .00      .000      .013      .000      .000   5752.00   1097.00
   .003314       95.       95.       95.        20        15         0       .00      8.00   1105.00


*SECNO 365.000
 2800 NAT Q1=      12.88  WSEL=    5755.46  ENC Q1=      63.04  WSEL=    5756.46  RATIO=  -3.8954
 NAT Q1=     107.  RATIOS LOB, CH, ROB=    .2024   .5893   .2083  WSEL=    5756.46

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 1040.0 1076.0 TYPE= 4 TARGET= .411
INTERSECTION OF HACKBERRY DRIVE AND WIDEFIELD DRIVE

365.000	.92	5755.62	5755.62	5755.46	5755.93	.31	.77	.05	5754.70
100.0	.0	100.0	.0	.0	22.2	.0	.1	.1	5754.90
.02	.00	4.50	.00	.000	.016	.000	.000	5754.70	1040.00
.004749	160.	195.	240.	20	11	0	.00	36.00	1076.00

*SECND 700.000
2800 NAT Q1= 14.51 WSEL= 5761.47 ENC Q1= 68.92 WSEL= 5762.47 RATIO= -3.7504
NAT Q1= 99. RATIOS LOB, CH, ROB= .1922 .6967 .1111 WSEL= 5762.47
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 1035.0 1071.0 TYPE= 4 TARGET= .303
NORTH OF INTERSECTION OF HACKBERRY DRIVE AND WIDEFIELD DRIVE

700.000	.74	5761.54	5761.54	5761.47	5761.86	.32	1.59	.00	5760.80
100.0	.0	100.0	.0	.0	22.1	.0	.3	.4	5760.90
.04	.00	4.51	.00	.000	.016	.000	.000	5760.80	1035.00
.004749	335.	335.	335.	20	15	0	.00	36.00	1071.00

THIS RUN EXECUTED 02DEC91 02:52:32

****
HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HACKBERRY DRIVE

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	75.000	.00	.00	.00	5750.70	100.00	5752.22	5752.22	5752.38	18.78	5.38	86.52	23.07
*	75.000	.00	.00	.00	5750.70	100.00	5753.10	5753.10	5754.11	30.57	8.36	15.03	18.09
*	170.000	95.00	.00	.00	5752.00	100.00	5754.01	5754.01	5754.20	6.45	4.27	90.28	39.38
*	170.000	95.00	.00	.00	5752.00	100.00	5753.69	5753.69	5754.54	33.14	7.39	13.54	17.37
*	365.000	195.00	.00	.00	5754.70	100.00	5755.46	5755.46	5755.68	60.31	4.31	36.78	12.88
*	365.000	195.00	.00	.00	5754.70	100.00	5755.62	5755.62	5755.93	47.49	4.50	22.21	14.51
*	700.000	335.00	.00	.00	5760.80	100.00	5761.47	5761.47	5761.71	47.51	4.26	33.56	14.51
*	700.000	335.00	.00	.00	5760.80	100.00	5761.54	5761.54	5761.86	47.49	4.51	22.15	14.51

HACKBERRY DRIVE

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	75.000	100.00	5752.22	.00	.00	.22	235.21	.00
*	75.000	100.00	5753.10	.88	.00	.88	7.88	.00
*	170.000	100.00	5754.01	.00	1.79	.00	280.58	95.00
*	170.000	100.00	5753.69	-.31	.59	-.31	8.00	95.00
*	365.000	100.00	5755.46	.00	1.46	.00	96.69	195.00
*	365.000	100.00	5755.62	.15	1.92	.15	36.00	195.00
*	700.000	100.00	5761.47	.00	6.01	.00	80.21	335.00
*	700.000	100.00	5761.54	.07	5.92	.07	36.00	335.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=     75.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=     75.000  PROFILE=  2  CRITICAL DEPTH ASSUMED

CAUTION SECNO=    170.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    170.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    170.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    170.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    170.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    170.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=    365.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    365.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    365.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    365.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    365.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    365.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=    700.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    700.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    700.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    700.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    700.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    700.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

FLOODWAY DATA, HACKBERRY DRIVE
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
75.000	8.	15.	6.7	5753.1	5752.2	.9
170.000	8.	14.	7.4	5753.7	5754.0	-.3
365.000	36.	22.	4.5	5755.7	5755.5	.2
700.000	36.	22.	4.5	5761.6	5761.5	.1

I. HEC-2 ANALYSIS

Grand Boulevard Drive Overflow - Floodway
2-Hour, 100-Year

THIS RUN EXECUTED 02DEC91 15:54:59

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************************************
HEC-2 WATER SURFACE PROFILES

Version  4.6.0;  February 1991
************************************

T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 GRAND BOULEVARD OVERFLOW
T3      GRAND BOULEVARD        NATURAL RUN   100-YEAR 2-HOUR      GRANDFW.DAT

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        2        0        0        0        0        0        0   5715.16       0

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0        0        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150       200

NC    .040      .040      .016       .1        .3
QT       2        23        23
ET                        10.4
X1     350         5      1040      1076         0         0         0
GR  5713.4      1000    5712.4      1040    5712.6      1058    5712.4      1076      5714      1115

        FEMA SECTION A - INTERSECTION OF GRAND BOULEVARD AND MARQUETTE DRIVE
X1     530         8      1045      1085       170       190       180
GR    5716      1000    5714.2      1045    5714.5      1065    5713.8      1085    5713.9      1105
GR  5713.8      1135      5714      1160      5716      1205

        FEMA SECTION B
X1    1000         5      1040      1076       450       490       470
GR  5723.8      1000    5722.6      1040    5722.7      1058    5722.4      1076      5724      1085

        FEMA SECTION C
X1    1290         7      1045      1081       290       290       290
GR    5732      1000      5730      1020    5728.7      1045      5729      1063    5728.8      1081
GR    5730      1095    5730.7      1120

        EAST OF INTERSECTION OF GRAND BOULEVARD AND HACKBERRY DRIVE
X1    1500         5      1035      1071       210       210       210
GR    5735      1000      5734      1035    5734.1      1053      5734      1071    5734.5      1105
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
#PROF 1


CCHV=     .100 CEHV=     .300
#SECNO 350.000
3280 CROSS SECTION    350.00 EXTENDED      1.76 FEET

   350.000      2.76   5715.16       .00   5715.16   5715.16       .00       .00       .00   5712.40
      23.0       4.8      14.5       3.7      90.4      95.7      76.4        .0        .0   5712.40
       .00       .05       .15       .05      .040      .016      .040      .000   5712.40   1000.00
   .000001        0.        0.        0.         0         0         0       .00    115.00   1115.00


#SECNO 530.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .30

        FEMA SECTION A - INTERSECTION OF GRAND BOULEVARD AND MARQUETTE DRIVE
   530.000      1.36   5715.16       .00       .00   5715.16       .00       .00       .00   5714.20
      23.0        .7       9.0      13.2      11.5      36.4     112.2        .9        .6   5713.80
       .30       .06       .25       .12      .040      .016      .040      .000   5713.80   1020.99
   .000008      170.      180.      190.         0         0         0       .00    165.13   1186.11


#SECNO 1000.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        FEMA SECTION B
  1000.000       .42   5722.82   5722.82       .00   5722.93       .11       .01       .03   5722.60
      23.0        .6      21.9        .5        .8       7.9        .5       1.8       1.7   5722.40
       .35       .70      2.77      1.06      .040      .016      .040      .000   5722.40   1032.68
   .006735      450.      470.      490.        20        17         0       .00     45.68   1078.36


#SECNO 1290.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        FEMA SECTION C
  1290.000       .39   5729.09   5729.09       .00   5729.20       .11      1.95       .00   5728.70
      23.0       1.5      21.1        .4       1.5       7.7        .5       1.9       2.0   5728.80
       .38      1.02      2.73       .84      .040      .016      .040      .000   5728.70   1037.51
   .006730      290.      290.      290.        20        11         0       .00     46.87   1084.38
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
*SECNO 1500.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
```

EAST OF INTERSECTION OF GRAND BOULEVARD AND HACKBERRY DRIVE

1500.000	.26	5734.26	5734.26	.00	5734.36	.10	1.36	.00	5734.00
23.0	.9	20.3	1.8	1.2	7.7	2.4	1.9	2.3	5734.00
.41	.76	2.63	.76	.040	.016	.040	.000	5734.00	1025.75
.006280	210.	210.	210.	20	14	0	.00	63.21	1088.96

T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY 89-820
T2 GRAND BOULEVARD OVERFLOW
T3 GRAND BOULEVARD FLOODWAY RUN 100-YEAR 2-HOUR GRANDFW.DAT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	3	0	0	0	0	0	0	5715.16	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	0	0	0	0

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


#PROF 2



CCHV=     .100 CEHV=     .300
#SECNO 350.000
 2800 NAT Q1=     270.47  WSEL=    5715.16  ENC Q1=     290.65  WSEL=    5716.16  RATIO=   -.0746
 NAT Q1=     478.  RATIOS LOB, CH, ROB=    .2132   .6083   .1785  WSEL=    5716.16
3280 CROSS SECTION    350.00 EXTENDED      1.76 FEET


3470 ENCROACHMENT STATIONS=     1040.0    1076.0  TYPE=      4  TARGET=         .392
   350.000      2.76   5715.16       .00   5715.16   5715.16       .00       .00       .00   5712.40
      23.0        .0      23.0        .0        .0      95.7        .0        .0        .0   5712.40
       .00       .00       .24       .00      .000      .016      .000      .000   5712.40   1040.00
   .000002        0.        0.        0.         0         0         0       .00     36.00   1076.00


#SECNO 530.000
 2800 NAT Q1=      81.09  WSEL=    5715.16  ENC Q1=     109.29  WSEL=    5716.16  RATIO=   -.3478
 NAT Q1=     260.  RATIOS LOB, CH, ROB=    .0707   .4200   .5094  WSEL=    5716.16

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .20


3470 ENCROACHMENT STATIONS=     1045.0    1085.0  TYPE=      4  TARGET=         .580
        FEMA SECTION A - INTERSECTION OF GRAND BOULEVARD AND MARQUETTE DRIVE
   530.000      1.36   5715.16       .00   5715.16   5715.16       .01       .00       .00   5714.20
      23.0        .0      23.0        .0        .0      36.4        .0        .3        .2   5713.80
       .08       .00       .63       .00      .000      .016      .000      .000   5713.80   1045.00
   .000057      170.      180.      190.         0         0         0       .00     40.00   1085.00


#SECNO 1000.000
 2800 NAT Q1=       2.80  WSEL=    5722.82  ENC Q1=      46.57  WSEL=    5723.82  RATIO= -15.6164
 NAT Q1=      55.  RATIOS LOB, CH, ROB=    .1219   .8479   .0302  WSEL=    5723.82
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1040.0    1076.0  TYPE=      4  TARGET=         .152
        FEMA SECTION B
  1000.000       .43   5722.83   5722.83   5722.82   5722.95       .12       .09       .03   5722.60
      23.0        .0      23.0        .0        .0       8.2        .0        .5        .6   5722.40
       .13       .00      2.80       .00      .000      .016      .000      .000   5722.40   1040.00
   .006717      450.      470.      490.        20        17         0       .00     36.00   1076.00
```

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SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


#SECND 1290.000
 2800 NAT Q1=       2.80  WSEL=    5729.09  ENC Q1=      46.26  WSEL=    5730.09  RATIO= -15.4994
 NAT Q1=      55.  RATIOS LOB, CH, ROB=    .1028   .8460   .0512  WSEL=    5730.09
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1045.0    1081.0  TYPE=      4  TARGET=         .154
       FEMA SECTION C
  1290.000       .41   5729.11   5729.11   5729.09   5729.23       .12      1.90       .00   5728.70
     23.0        .0      23.0        .0        .0       8.3        .0        .6        .8   5728.80
      .15       .00      2.76       .00      .000      .016      .000      .000   5728.70   1045.00
   .006360      290.      290.      290.        20         8         0       .00     36.00   1081.00


#SECND 1500.000
 2800 NAT Q1=       2.90  WSEL=    5734.26  ENC Q1=      46.21  WSEL=    5735.26  RATIO= -14.9233
 NAT Q1=      67.  RATIOS LOB, CH, ROB=    .1230   .6874   .1896  WSEL=    5735.26
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1035.0    1071.0  TYPE=      4  TARGET=         .313
       EAST OF INTERSECTION OF GRAND BOULEVARD AND HACKBERRY DRIVE
  1500.000       .28   5734.28   5734.28   5734.26   5734.40       .12      1.32       .00   5734.00
     23.0        .0      23.0        .0        .0       8.4        .0        .6       1.0   5734.00
      .18       .00      2.75       .00      .000      .016      .000      .000   5734.00   1035.00
   .006259      210.      210.      210.        20        16         0       .00     36.00   1071.00
```

THIS RUN EXECUTED 02DEC91 15:55:19

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HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

GRAND BOULEVARD

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	350.000	.00	.00	.00	5712.40	23.00	5715.16	.00	5715.16	.01	.15	262.58	270.47
	350.000	.00	.00	.00	5712.40	23.00	5715.16	.00	5715.16	.02	.24	95.75	155.22
*	530.000	180.00	.00	.00	5713.80	23.00	5715.16	.00	5715.16	.08	.25	160.10	81.09
*	530.000	180.00	.00	.00	5713.80	23.00	5715.16	.00	5715.16	.57	.63	36.42	30.59
*	1000.000	470.00	.00	.00	5722.40	23.00	5722.82	5722.82	5722.93	67.35	2.77	9.20	2.80
*	1000.000	470.00	.00	.00	5722.40	23.00	5722.83	5722.83	5722.95	67.17	2.80	8.20	2.81
*	1290.000	290.00	.00	.00	5728.70	23.00	5729.09	5729.09	5729.20	67.30	2.73	9.67	2.80
*	1290.000	290.00	.00	.00	5728.70	23.00	5729.11	5729.11	5729.23	63.60	2.76	8.34	2.88
*	1500.000	210.00	.00	.00	5734.00	23.00	5734.26	5734.26	5734.36	62.80	2.63	11.29	2.90
*	1500.000	210.00	.00	.00	5734.00	23.00	5734.28	5734.28	5734.40	62.59	2.75	8.37	2.91

GRAND BOULEVARD

SUMMARY PRINTOUT TABLE 150

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	350.000	23.00	5715.16	.00	.00	.00	115.00	.00
	350.000	23.00	5715.16	.00	.00	.00	36.00	.00
*	530.000	23.00	5715.16	.00	.00	.00	165.13	180.00
*	530.000	23.00	5715.16	.00	.00	.00	40.00	180.00
*	1000.000	23.00	5722.82	.00	7.66	.00	45.68	470.00
*	1000.000	23.00	5722.83	.01	7.67	.01	36.00	470.00
*	1290.000	23.00	5729.09	.00	6.27	.00	46.87	290.00
*	1290.000	23.00	5729.11	.02	6.28	.02	36.00	290.00
*	1500.000	23.00	5734.26	.00	5.17	.00	63.21	210.00
*	1500.000	23.00	5734.28	.02	5.18	.02	36.00	210.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
WARNING SECNO=    530.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=    530.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=   1000.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1000.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1000.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   1000.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1000.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1000.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   1290.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1290.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1290.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   1290.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1290.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1290.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   1500.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1500.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1500.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=   1500.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1500.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1500.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

FLOODWAY DATA; GRAND BOULEVARD
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
350.000	36.	96.	.2	5715.2	5715.2	.0
530.000	40.	36.	.6	5715.2	5715.2	.0
1000.000	36.	8.	2.8	5722.8	5722.8	.0
1290.000	36.	8.	2.8	5729.1	5729.1	.0
1500.000	36.	8.	2.7	5734.3	5734.3	.0

J. HEC-2 ANALYSIS

Dix Circle Overflow - Floodway
2-Hour, 100-Year

THIS RUN EXECUTED 02DEC91 15:51:26

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**********************************
HEC-2 WATER SURFACE PROFILES

Version  4.6.0;  February 1991
**********************************


T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 DIX CIRCLE OVERFLOW
T3      DIX CIRCLE            NATURAL RUN   100-YEAR 2-HOUR      DIXFW.DAT

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        2        0        0        0        0        0        0    5712.60

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0        0        0        0        0


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150      200

NC    .040     .040     .016      .1       .3
QT       2       61       61
ET                      10.4
X1     100        7     1030     1070        0        0        0
GR    5714     1000     5712     1015   5709.9     1030   5710.3     1050   5709.9     1070
GR    5710     1080     5712     1140

        FEMA SECTION A
X1     320        6     1035     1125      190      290      220
GR  5717.1     1000     5716     1030   5715.1     1035   5715.5     1070   5715.2     1125
GR  5715.6     1170

        FEMA SECTION B
X1     690        7     1040     1080      320      410      370
GR  5726.4     1000     5726     1015     5724     1030   5722.8     1040   5723.5     1060
GR  5722.6     1080   5723.6     1115

        FEMA SECTION C
X1    1120        8     1040     1080      430      430      430
GR  5729.2     1000     5728     1035   5727.9     1040   5728.1     1060   5727.9     1080
GR    5728     1085     5730     1100   5730.4     1115

        SECTION AT WEST CURB RETURN OF INTERSECTION OF DIX CIRCLE & LIBBY COURT
X1    1210        6     1005     1045       90       90       90
GR  5729.3     1000   5728.6     1005     5729     1025   5728.5     1045     5729     1050
GR    5730     1065
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
*PROF 1


CCHV=     .100 CEHV=     .300
*SECNO 100.000
3280 CROSS SECTION    100.00 EXTENDED       .60 FEET

   100.000      2.70   5712.60       .00   5712.60   5712.60       .00       .00       .00   5709.90
      61.0       3.2      41.5      16.3      26.1     100.0     122.5        .0        .0   5709.90
       .00       .12       .42       .13      .040      .016      .040      .000   5709.90   1010.50
   .000006        0.        0.        0.         0         0         0       .00    129.50   1140.00


*SECNO 320.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        FEMA SECTION A
   320.000       .44   5715.54   5715.54       .00   5715.65       .11       .01       .03   5715.10
      61.0        .6      53.9       6.5        .5      19.0       6.5        .8        .7   5715.20
       .02      1.16      2.84       .99      .040      .016      .040      .000   5715.10   1032.55
   .007467      190.      220.      290.        20        29         0       .00    130.86   1163.41


*SECNO 690.000

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        FEMA SECTION B
   690.000       .76   5723.36   5723.36       .00   5723.53       .18      2.87       .02   5722.80
      61.0       1.8      42.1      17.1       1.3      10.8      10.0       1.0       1.6   5722.60
       .06      1.39      3.91      1.71      .040      .016      .040      .000   5722.60   1035.36
   .007789      320.      370.      410.        20        17         0       .00     63.81   1106.47


*SECNO 1120.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        FEMA SECTION C
  1120.000       .46   5728.36   5728.36       .00   5728.54       .18      2.87       .00   5727.90
      61.0       5.0      52.3       3.7       4.0      14.5       2.6       1.2       2.2   5727.90
       .09      1.25      3.60      1.44      .040      .016      .040      .000   5727.90   1024.39
   .005797      430.      430.      430.         5        14         0       .00     63.34   1087.73
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 1210.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
SECTION AT WEST CURB RETURN OF INTERSECTION OF DIX CIRCLE & LIBBY COURT

1210.000	.66	5729.16	5729.16	.00	5729.36	.20	.52	.01	5728.60
61.0	1.3	56.5	3.2	1.1	15.2	2.2	1.3	2.3	5728.50
.10	1.19	3.70	1.46	.040	.016	.040	.000	5728.50	1001.03
.005758	90.	90.	90.	5	14	0	.00	51.32	1052.34

T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY 89-820
T2 DIX CIRCLE OVERFLOW
T3 DIX CIRCLE FLOODWAY RUN 100-YEAR 2-HOUR DIXFW.DAT

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	3	0	0	0	0	0	0	5712.6	0

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15	0	-1	0	0	0	0	0	0	0

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


#PROF 2



CCHV=     .100 CEHV=     .300
#SECNO 100.000
 2800 NAT Q1=     251.29  WSEL=    5712.60  ENC Q1=     299.71  WSEL=    5713.60  RATIO=   -.1927
 NAT Q1=     471.  RATIOS LOB, CH, ROB=    .0662   .6367   .2971  WSEL=    5713.60
3280 CROSS SECTION    100.00 EXTENDED       .60 FEET


3470 ENCROACHMENT STATIONS=     1030.0    1070.0  TYPE=      4  TARGET=         .363
   100.000      2.70   5712.60       .00   5712.60   5712.61       .01       .00       .00   5709.90
      61.0        .0      61.0        .0        .0     100.0        .0        .0        .0   5709.90
       .00       .00       .61       .00      .000      .016      .000      .000   5709.90   1030.00
   .000015        0.        0.        0.         0         0         0       .00     40.00   1070.00


#SECNO 320.000
 2800 NAT Q1=       7.06  WSEL=    5715.54  ENC Q1=     115.04  WSEL=    5716.54  RATIO= -15.2966
 NAT Q1=     138.  RATIOS LOB, CH, ROB=    .0176   .8334   .1489  WSEL=    5716.54
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1035.0    1125.0  TYPE=      4  TARGET=         .167
        FEMA SECTION A
   320.000       .47   5715.57   5715.57   5715.54   5715.69       .12       .01       .03   5715.10
      61.0        .0      61.0        .0        .0      21.8        .0        .3        .3   5715.20
       .02       .00      2.79       .00      .000      .016      .000      .000   5715.10   1035.00
   .006064      190.      220.      290.        20        22         0       .00     90.00   1125.00


#SECNO 690.000
 2800 NAT Q1=       6.91  WSEL=    5723.36  ENC Q1=      54.33  WSEL=    5724.36  RATIO=  -6.8608
 NAT Q1=      77.  RATIOS LOB, CH, ROB=    .0456   .7095   .2449  WSEL=    5724.36
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1040.0    1080.0  TYPE=      4  TARGET=         .291
        FEMA SECTION B
   690.000       .91   5723.51   5723.51   5723.36   5723.73       .21      2.12       .03   5722.80
      61.0        .0      61.0        .0        .0      16.5        .0        .5        .9   5722.60
       .05       .00      3.69       .00      .000      .016      .000      .000   5722.60   1040.00
   .005432      320.      370.      410.        20        17         0       .00     40.00   1080.00
```

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

```
*SECNO 1120.000
 2800 NAT Q1=       8.01  WSEL=    5728.36  ENC Q1=      62.30  WSEL=    5729.36  RATIO=  -6.7766
 NAT Q1=      79.  RATIOS LOB, CH, ROB=    .1463   .7867   .0670  WSEL=    5729.36
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1040.0    1080.0  TYPE=      4  TARGET=         .213
        FEMA SECTION C
  1120.000       .52   5728.42   5728.42   5728.36   5728.63       .21      2.27       .00   5727.90
      61.0        .0      61.0        .0        .0      16.7        .0        .6       1.3   5727.90
       .08       .00      3.65       .00      .000      .016      .000      .000   5727.90   1040.00
   .005130      430.      430.      430.         4        11         0       .00     40.00   1080.00


*SECNO 1210.000
 2800 NAT Q1=       8.04  WSEL=    5729.16  ENC Q1=      63.66  WSEL=    5730.16  RATIO=  -6.9186
 NAT Q1=      72.  RATIOS LOB, CH, ROB=    .0316   .8848   .0836  WSEL=    5730.16
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     1005.0    1045.0  TYPE=      4  TARGET=         .115
        SECTION AT WEST CURB RETURN OF INTERSECTION OF DIX CIRCLE & LIBBY COURT
  1210.000       .69   5729.19   5729.19   5729.16   5729.40       .21       .47       .00   5728.60
      61.0        .0      61.0        .0        .0      16.6        .0        .7       1.4   5728.50
       .09       .00      3.68       .00      .000      .016      .000      .000   5728.50   1005.00
   .005285       90.       90.       90.        17        11         0       .00     40.00   1045.00
```

THIS RUN EXECUTED 02DEC91 15:51:50

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HEC-2 WATER SURFACE PROFILES

Version 4.6.0; February 1991
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

DIX CIRCLE

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	100.000	.00	.00	.00	5709.90	61.00	5712.60	.00	5712.60	.06	.42	248.58	251.29
	100.000	.00	.00	.00	5709.90	61.00	5712.60	.00	5712.61	.15	.61	99.98	157.16
*	320.000	220.00	.00	.00	5715.10	61.00	5715.54	5715.54	5715.65	74.67	2.84	26.06	7.06
*	320.000	220.00	.00	.00	5715.10	61.00	5715.57	5715.57	5715.69	60.64	2.79	21.83	7.83
*	690.000	370.00	.00	.00	5722.60	61.00	5723.36	5723.36	5723.53	77.89	3.91	22.06	6.91
*	690.000	370.00	.00	.00	5722.60	61.00	5723.51	5723.51	5723.73	54.32	3.69	16.51	8.28
*	1120.000	430.00	.00	.00	5727.90	61.00	5728.36	5728.36	5728.54	57.97	3.60	21.09	8.01
*	1120.000	430.00	.00	.00	5727.90	61.00	5728.42	5728.42	5728.63	51.30	3.65	16.70	8.52
*	1210.000	90.00	.00	.00	5728.50	61.00	5729.16	5729.16	5729.36	57.58	3.70	18.56	8.04
*	1210.000	90.00	.00	.00	5728.50	61.00	5729.19	5729.19	5729.40	52.85	3.68	16.59	8.39

DIX CIRCLE

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	100.000	61.00	5712.60	.00	.00	.00	129.50	.00
	100.000	61.00	5712.60	.00	.00	.00	40.00	.00
*	320.000	61.00	5715.54	.00	2.94	.00	130.86	220.00
*	320.000	61.00	5715.57	.03	2.97	.03	90.00	220.00
*	690.000	61.00	5723.36	.00	7.81	.00	63.81	370.00
*	690.000	61.00	5723.51	.16	7.94	.16	40.00	370.00
*	1120.000	61.00	5728.36	.00	5.01	.00	63.34	430.00
*	1120.000	61.00	5728.42	.05	4.90	.05	40.00	430.00
*	1210.000	61.00	5729.16	.00	.79	.00	51.32	90.00
*	1210.000	61.00	5729.19	.03	.77	.03	40.00	90.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION SECNO=    320.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    320.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    320.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    320.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    320.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    320.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=    690.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    690.000  PROFILE=  1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    690.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=    690.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=    690.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=    690.000  PROFILE=  2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=   1120.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1120.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1120.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1120.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=   1210.000  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1210.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=   1210.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=   1210.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
```

FLOODWAY DATA, DIX CIRCLE
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
100.000	40.	100.	.6	5712.6	5712.6	.0
320.000	90.	22.	2.8	5715.5	5715.5	.0
690.000	40.	17.	3.7	5723.6	5723.4	.2
1120.000	40.	17.	3.7	5728.5	5728.4	.1
1210.000	40.	17.	3.7	5729.2	5729.2	.0

K. HEC-2 ANALYSIS

Main Channel-Future Condition
24-Hour, 10-Year and 24-Hour, 100-Year

THIS RUN EXECUTED 04FEB92 09:28:29

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**********************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.0;  February 1991
**********************************


T1 WINDMILL GULCH DRAINAGE BASIN PLANNING STUDY - WILSON & COMPANY   89-820
T2 144" CMP STORM SEWER ENTRANCE SOUTH OF GRAND BOULEVARD TO DRENNAN ROAD
T3        WINDMILL GULCH FUTURE CONDITION   10-YEAR 24-HOUR        WGFUT.DAT

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    G        WSEL     FB

      0        2        0        0        0        0        0        0     5732.0      0

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1        0        0        0        0        0        0        0


NC     .040     .040     .013      .1       .3
QT        2      535      935
        FEMA SECTION A - 144" CMP STORM SEWER ENTRANCE SOUTH OF GRAND BOULEVARD
X1     2864        7     1340     1360
GR     5738     1000     5736     1240   5734.3     1340   5726.6     1340   5726.6     1360
GR   5734.3     1360     5736     1490

        STEP IN CHANNEL WALL (0.5' STEP)
X1     2893        9     1180     1200       29       29       29
GR     5737     1000     5736     1125   5735.3     1165   5734.3     1180   5726.8     1180
GR   5726.8     1200   5734.3     1200   5734.8     1215   5736.5     1290

        GRADE BREAK IN CHANNEL WALL
X1     2997        7     1370     1390      104      104      104
GR     5738     1000     5736     1355     5735     1370     5727     1370     5727     1390
GR     5735     1390     5736     1405

NC        0        0        0       .3       .5
        FEMA SECTION B - OUTFALL GRAND BOULEVARD BOX CULVERT - DOUBLE 9' x 7'
X1     3017        7     1530     1549       20       20       20
X3       10        0        0        0        0        0        0   5737.1   5737.1
GR     5740     1000   5738.1     1515   5737.1     1530     5727     1530     5727     1549
GR   5737.1     1549   5738.1     1564

SB     1.05      1.6      2.6        0       19        1      126      .01   5727.1     5727
        FEMA SECTION C - ENTRANCE GRAND BOULEVARD BOX CULVERT - DOUBLE 9'x 7'
X1     3067        5     1015     1034       50       50       50
X2        0        0        1   5734.1     5738
X3       10        0        0        0        0        0        0     5738     5738
BT        5     1000   5738.5   5738.5     1015     5738   5734.1     1015     5738   5734.1
BT     1034     5738   5734.1     1034     5738   5734.1
GR   5738.5     1000     5738     1015   5727.1     1015   5727.1     1034     5738     1034
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NC       0         0         0        .1        .3
        DROP STRUCTURE END SILL
X1    3071         5      1015      1034         4         4         4
GR   5738.4      1000    5737.9      1015    5727.1      1015    5727.1      1034    5737.9      1034

        DROP STRUCTURE BOTTOM
X1    3098         5      1015      1034        27        27        27
GR   5737.7      1000    5737.2      1015    5727.1      1015    5727.1      1034    5737.2      1034

        DROP STRUCTURE CREST (8.5' SLOPING DROP)/END CHANNEL TRANSITION
X1    3114         6      1015      1034        16        16        16
GR   5737.3      1000    5736.8      1015    5731.6      1015    5731.6      1034    5736.8      1034
GR   5737.3      1060

        FEMA SECTION D - BEGIN CHANNEL TRANSITION
X1    3142         6      1015      1035        28        28        28
GR   5738.9      1000    5737.9      1015      5732      1021      5732      1029    5737.3      1035
GR   5737.8      1050

X1    3250         8      1015      1035       105       110       108
GR   5740.1      1000    5739.1      1015    5733.1      1021    5733.1      1029    5739.1      1035
GR   5739.6      1050      5740      1062    5741.3      1100

        FEMA SECTION E
X1    3625         7      1040      1060       370       380       375
GR   5743.9      1000    5742.9      1040    5736.9      1046    5736.9      1054    5742.9      1060
GR    5746      1075      5748      1085

        FEMA SECTION F
X1    4100         7      1015      1035       475       475       475
GR   5750.7      1000    5749.7      1015    5743.7      1021    5743.7      1029    5749.7      1035
GR    5750      1045      5752      1135

        FEMA SECTION G
X1    4575         8      1085      1105       485       465       475
GR    5760      1000    5758.2      1060    5756.2      1085    5750.2      1091    5750.2      1099
GR   5756.2      1105      5758      1110    5759.5      1165

        BEGIN CHANNEL TRANSITION
X1    5015        12      1100      1130       435       445       440
GR    5768      1000      5766      1025      5764      1035    5762.2      1090    5761.7      1100
GR   5755.7      1100    5755.7      1130    5761.7      1130    5762.2      1140      5764      1225
GR    5766      1235      5768      1285


X1    5043        12      1095      1125        28        28        28
GR    5768      1000      5766      1025      5764      1045    5762.3      1090    5761.8      1095
GR   5755.8      1095    5755.8      1125    5761.8      1125    5762.3      1135      5764      1205
GR    5766      1240      5768      1310
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NC       0         0         0        .3        .5
       FEMA SECTION H - OUTFALL ASPEN DR/HACKBERRY DR BOX CULVERT - 18'x 4'
       WITH PROPOSED ADDITIONAL 10' x 4' BARREL & CHANNEL WIDENING 40' D/S
X1    5056        12      1095      1123        13        13        13
X3      10         0         0         0         0         0         0    5761.9    5761.9
GR    5768      1000      5766      1030      5764      1050    5762.4      1085    5761.9      1095
GR  5755.9      1095    5755.9      1123    5761.9      1123    5762.4      1133      5764      1195
GR    5766      1225      5768      1300

QT       2       525       885
SB    1.05       1.6       2.6         0        30         2       112       .02    5756.8    5755.9
       FEMA SECTION I - ENTRANCE ASPEN DR/HACKBERRY DR BOX CULVERT - 18'x 4'
       WITH PROPOSED ADDITIONAL 10' x 4' BARREL & CHANNEL WIDENING 40' D/S
X1    5099        15      1125      1153        43        43        43
X2       0         0         1    5760.8    5762.8
X3      10         0         0         0         0         0         0    5762.8    5762.8
BT      15      1000      5772      5772      1015      5770      5770      1040      5768      5768
BT    1065      5766      5766      1115    5763.3    5763.3      1125    5762.8    5760.8      1125
BT  5762.8    5760.8      1153    5762.8    5760.8      1153    5762.8    5760.8      1163    5763.3
BT  5763.3      1200      5764      5764      1240      5766      5766      1255      5768      5768
BT    1340      5770      5770      1355      5772      5772
GR    5772      1000      5770      1015      5768      1040      5766      1065    5763.3      1115
GR  5762.8      1125    5756.8      1125    5756.8      1153    5762.8      1153    5763.3      1163
GR    5764      1200      5766      1240      5768      1255      5770      1340      5772      1355

NC       0         0         0        .1        .3
       END CHANNEL TRANSITION
X1    5105        15      1125      1155         6         6         6
GR    5772      1000      5770      1020      5768      1045      5766      1070    5763.5      1115
GR    5763      1125      5757      1125      5757      1155      5763      1155    5763.5      1165
GR    5764      1190      5766      1240      5768      1250      5770      1340      5772      1355

       BEGIN CHANNEL TRANSITION
X1    5133        13      1155      1175        28        28        28
GR    5772      1000      5770      1030      5768      1065    5764.7      1145    5764.2      1155
GR  5758.2      1161    5758.2      1169    5764.2      1175    5765.2      1185      5766      1230
GR    5768      1265      5770      1280      5772      1370

       FEMA SECTION J - END CHANNEL TRANSITION
X1    5335        11      1115      1135       200       205       202
GR    5774      1000      5772      1050      5770      1080    5769.2      1105    5768.7      1115
GR  5762.7      1121    5762.7      1129    5768.7      1135      5770      1160      5772      1190
GR    5774      1230

       FEMA SECTION K - BEGIN CHANNEL TRANSITION
X1    5453         9      1060      1089       118       118       118
GR    5774      1000      5772      1045    5770.8      1050    5770.3      1060    5765.3      1070
GR  5765.3      1079    5770.3      1089      5772      1120      5774      1150
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        END CHANNEL TRANSITION
X1    5357        10      1055      1084       104       104       104
GR    5778      1000      5776      1030      5774      1050    5772.9      1055    5767.9      1065
GR  5767.9      1074    5772.9      1084      5774      1090      5776      1115      5777      1135

        BEGIN CHANNEL TRANSITION
X1    5589         9      1050      1067        32        32        32
GR    5780      1000      5778      1030      5776      1045    5773.7      1050    5768.7      1050
GR  5768.7      1067    5773.7      1067      5776      1075      5780      1085

NC       0         0         0        .3        .5
        FEMA SECTION _ - OUTFALL DETENTION POND BOX CULVERT - DOUBLE 8'x 6'
X1    5615         4      1000      1017        26        26        26
X3      10         0         0         0         0         0         0      5780      5780
GR  5780.1      1000    5769.3      1000    5769.3      1017    5780.1      1017

SB    1.05       1.6       2.6         0        17         1        96       .01    5769.8    5769.3
        FEMA SECTION M - ENTRANCE DETENTION POND BOX CULVERT - DOUBLE 8'x 6'
X1    5675         8      1030      1047        60        60        60
X2       0         0         1    5775.8    5779.4
X3      10         0         0         0         0         0         0    5779.4    5779.4
BT       8      1000      5784      5784      1019    5779.4    5779.4      1030    5779.4    5775.8
BT    1030    5779.4    5775.8      1047    5779.4    5775.8      1047    5779.4    5775.8      1058
BT  5779.4    5779.4      1077      5784      5784
GR    5784      1000    5779.4      1019    5779.4      1030    5769.8      1030    5769.8      1047
GR  5779.4      1047    5779.4      1058      5784      1077

NC       0         0         0        .1        .3
        FEMA SECTION N - DETENTION POND BOX CULVERT HEADWALL
X1    5702        10      1238      1262        27        27        27
GR    5784      1000      5776      1050      5774      1080      5772      1160      5770      1238
GR    5770      1262      5772      1325      5774      1370      5782      1450    5783.5      1490

GT       2       840      1600
NC       0         0      .040         0         0
        FEMA SECTION O
X1    6000        10      1055      1645       298       298       298
GR    5784      1000      5776      1055      5774      1070      5772      1120    5771.4      1290
GR    5772      1335      5774      1615      5776      1645      5782      1675      5784      1700

        FEMA SECTION P
X1    6300         8      1105      1510       230       390       300
GR    5794      1000      5776      1105      5774      1165    5773.1      1295    5773.9      1350
GR    5774      1425      5776      1510      5794      1585

GT       2       675      1165
        FEMA SECTION Q - END DROP STRUCTURE RIPRAP APRON
X1    6607        14      1260      1390       307       307       307
GR    5794      1000      5792      1015      5790      1030      5788      1055      5786      1075
GR    5784      1080      5782      1195      5780      1235      5778      1260    5776.2      1300
GR  5776.2      1350      5778      1390      5780      1410      5794      1490
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        DROP STRUCTURE BOTTOM
X1    6636        8      1100      1230        29        29        29
GR    5788     1000      5786      1045    5785.9      1100    5776.9      1140    5776.9      1190
GR  5785.9     1230      5786      1260      5788      1285

        DROP STRUCTURE CREST (4' VERTICAL DROP)
X1    6637       14      1100      1230         1         1         1
GR    5788     1000      5786      1045    5785.9      1100    5785.9      1120    5780.9      1140
GR  5780.9     1153    5778.9      1159    5778.9      1171    5780.9      1177    5780.9      1190
GR  5785.9     1210    5785.9      1230      5786      1260      5788      1285

        END DROP STRUCTURE RIPRAP APRON
X1    6817        9      1085      1215       210       155       180
GR    5800     1000      5796      1015      5794      1030      5792      1050    5790.6      1085
GR  5781.6     1125    5781.6      1175    5790.6      1215      5800      1255

        DROP STRUCTURE BOTTOM
X1    6846        9      1085      1215        29        29        29
GR    5800     1000      5796      1015      5794      1040      5792      1080    5790.7      1085
GR  5781.7     1125    5781.7      1175    5790.7      1215      5800      1250

        DROP STRUCTURE CREST (4' VERTICAL DROP)
X1    6847       15      1085      1215         1         1         1
GR    5800     1000      5796      1015      5794      1040      5792      1080    5790.7      1085
GR  5790.7     1105    5785.7      1125    5785.7      1138    5783.7      1144    5783.7      1156
GR  5785.7     1162    5785.7      1175    5790.7      1195    5790.7      1215      5800      1250

        END RIPRAP APRON
X1    6992       10      1080      1210       145       145       145
GR    5804     1000      5802      1005      5800      1020      5798      1065      5796      1075
GR  5795.3     1080    5786.3      1120    5786.3      1170    5795.3      1210      5804      1245

        BEGIN RIPRAP APRON/DROP STURCTURE BOTTOM
X1    7032        8      1120      1170        40        40        40
GR    5806     1000      5804      1010      5802      1050      5800      1065    5786.4      1120
GR  5786.4     1170      5802      1220      5806      1250

NC       0        0      .013         0         0
        FEMA SECTION R - DROP STRUCTURE CREST (5.4' SLOPING DROP)/144" CMP STORM
        SEWER OUTFALL SOUTH OF WAGEMAN DRIVE
X1    7072        9      1000      1012        40        40        40
X3      10        0         0         0         0         0         0      5806      5806
GR    5806     1000    5797.8      1000    5794.8    1000.8    5792.8    1002.7    5791.8      1006
GR  5792.8   1009.3    5794.8    1011.2    5797.8      1012      5806      1012

QT       2      530       915
NC    .050     .050      .080         0         0
        FEMA SECTION W - UPSTREAM OF BRADLEY ROAD BOX CULVERT - DOUBLE 10' x 6'
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        WITH PROPOSED 10' x 5' DROP INLET ON WEST BARREL
X1     8450       21     1236     1376       .1       .1       .1
RC        3        0     5815      530   5823.0      915   5824.3
GR     5832     1000     5830     1020     5828     1045     5826     1075     5824     1110
GR     5822     1130     5820     1170     5818     1220   5816.9     1236     5816     1250
GR   5815.2     1330     5816     1355   5816.9     1376     5818     1400     5820     1405
GR     5822     1435     5824     1465     5826     1490     5828     1535     5830     1585
GR     5832     1620

QT        2      365      570
        FEMA SECTION X
X1     8875       19     1397     1477      400      435      425
GR     5834     1000     5832     1070     5830     1130     5828     1175     5826     1225
GR     5824     1275     5822     1350     5820     1375   5819.6     1397   5818.5     1453
GR   5819.6     1477     5820     1485     5822     1505     5824     1530     5826     1550
GR     5828     1565     5830     1590     5832     1620     5834     1645

        PROPOSED DROP STRUCTURE BOTTOM
X1     9054       14     1460     1555      149      204      179
GR     5836     1000     5834     1060     5832     1105     5830     1160     5828     1230
GR     5826     1280   5820.5     1460   5820.5     1555     5826     1575     5828     1610
GR     5830     1650     5832     1675     5834     1700     5836     1740

        PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
X1     9055       16     1460     1555        1        1        1
GR     5836     1000     5834     1060     5832     1160     5830     1160     5828     1230
GR     5826     1280     5824     1455   5823.5     1460   5823.5     1555     5824     1560
GR     5826     1575     5828     1610     5830     1650     5832     1675     5834     1700
GR     5836     1740

        FEMA SECTION Y
X1     9300       15     1369     1439      240      240      245
GR     5836     1000     5834     1060     5832     1155     5830     1320     5828     1365
GR   5827.2     1369     5826     1375   5824.2     1380     5826     1420   5827.2     1439
GR     5828     1455     5830     1475     5832     1505     5834     1535     5836     1550

QT        2      340      455
        FEMA SECTION Z
X1     9700       15     1262     1332      470      355      400
GR     5840     1000     5838     1065     5836     1150     5834     1245   5832.3     1262
GR     5832     1265     5830     1275   5829.2     1280     5830     1315     5832     1330
GR   5832.3     1332     5834     1345     5836     1400     5838     1415     5840     1425

        FEMA SECTION AA
X1    10150       20     1253     1323      505      405      450
GR     5850     1000     5848     1010     5846     1025     5844     1050     5842     1095
GR     5840     1190     5838     1240   5837.3     1253     5836     1275   5834.6     1290
GR     5836     1310   5837.3     1323     5838     1330     5840     1345   5841.6     1365
GR     5842     1400     5844     1425     5846     1475     5848     1515     5850     1535
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        DOWNSTREAM OF IRRIGATION CANAL NO. 4 AND PROPOSED OUTFALL POND NO. 3
X1    10600        25      1259      1329       475       440       450
GR     5860      1000      5858      1025      5856      1045      5854      1065      5854      1165
GR     5852      1170      5850      1175      5848      1185      5846      1200      5844      1230
GR     5842      1250    5841.4      1259    5840.1      1280    5841.4      1329      5842      1350
GR     5844      1365      5846      1375      5848      1385      5850      1390      5852      1400
GR     5854      1410      5854      1500      5856      1540      5858      1590      5860      1655

QT        2       130       185
NC        0         0      .013        .3        .5
        PROPOSED OUTFALL CANAL NO. 4 BOX CULVERT - 4' x 4'
        WITH IMPROVED ENTRANCE (14' X 4' SLOPE TAPERED INLET)
X1    10650        21      1260      1264        50        50        50
X3       10         0         0         0         0         0         0      5846      5846
GR     5860      1000      5858      1020      5856      1045      5854      1070      5854      1160
GR     5852      1185      5850      1205      5848      1240      5846      1260    5840.4      1260
GR   5840.4      1264      5846      1264      5848      1300      5850      1335      5852      1350
GR     5854      1370      5854      1425      5856      1460      5858      1505      5860      1560
GR     5860      1610

        PROPOSED ENTRANCE CANAL NO.4 BOX CULVERT - 4' x 4'
        WITH IMPROVED ENTRANCE (14' x 4' SLOPE TAPERED INLET)
X1    10870        12      1098      1112       220       220       220
RC        3         0      5848       130    5850.4       185    5850.8
GR     5858      1000      5856      1035      5854      1040      5852      1050      5850      1088
GR     5848      1098      5848      1112      5850      1122      5852      1190      5854      1220
GR     5856      1250      5858      1280

NC        0         0      .050        .1        .3
        FEMA SECTION AD - UPSTREAM OF IRRIGATION CANAL NO. 4
X1    10900        10      1065      1145        30        30        30
GR     5857      1000      5856      1045      5854      1050      5852      1060    5850.2      1065
GR   5850.2      1145      5852      1180      5854      1210      5856      1235      5858      1265

        FEMA SECTION AE
X1    11350        11      1051      1141       420       560       450
GR     5862      1000      5858      1015      5856      1030    5854.6      1051      5854      1060
GR     5854      1135    5854.6      1141      5856      1155      5858      1170      5860      1190
GR     5862      1220

QT        2       555      1150
        UPSTREAM OF PROPOSED ENTRANCE POND NO. 3 - PROPOSED GRASS-LINED CHANNEL
X1    12000        13      1090      1130       680       600       650
GR     5870      1000      5864      1027    5863.1      1078    5860.1      1090    5856.1      1100
GR   5856.1      1120    5860.1      1130    5863.1      1142      5864      1280      5866      1300
GR   5867.5      1340      5868      1365      5870      1375

        FEMA SECTION AG - PROPOSED GRASS-LINED CHANNEL
X1    12275        13      1105      1145       460       400       450
GR     5874      1000      5866      1033    5864.4      1093    5861.4      1105    5857.4      1115
GR   5857.4      1135    5861.4      1145    5864.4      1157      5866      1240      5868      1265
GR     5870      1275      5872      1370      5874      1380
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