```
        FEMA SECTION AH - PROPOSED GRASS-LINED CHANNEL
X1    12750        16      1305      1345       470       530       475
GR     5876      1000      5874      1035      5872      1070      5870      1130      5868      1190
GR   5866.8      1293    5863.9      1305    5859.8      1315    5859.8      1335    5863.8      1345
GR   5866.8      1357      5868      1405      5870      1435      5872      1505      5874      1560
GR     5876      1590

QT        2       285       495
NC        0         0      .080         0         0
        FEMA SECTION AI
X1    13200        19      1244      1334       475       430       430
GR     5880      1000      5878      1045      5876      1075      5874      1090      5872      1110
GR     5870      1170      5868      1220    5866.6      1244      5866      1255    5864.7      1290
GR     5866      1330    5866.6      1334      5868      1345      5870      1360      5872      1405
GR     5874      1510      5876      1535      5878      1555      5880      1565

        PROPOSED DROP STRUCTURE BOTTOM
X1    13699        14      1280      1360       560       460       400
GR     5884      1000      5882      1025      5880      1070      5878      1105      5876      1160
GR     5874      1240    5869.3      1280    5869.3      1360      5874      1390      5876      1435
GR     5878      1575      5880      1675      5882      1685      5884      1690

        PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
X1    13700        14      1280      1360         1         1         1
GR     5884      1000      5882      1025      5880      1070      5878      1105      5876      1160
GR     5874      1240    5872.3      1280    5872.3      1360      5874      1390      5876      1455
GR     5878      1575      5880      1675      5882      1685      5884      1690

        PROPOSED DROP STRUCTURE BOTTOM
X1    14064        14      1335      1425       355       375       364
GR     5890      1000      5888      1035      5886      1085      5884      1110      5882      1145
GR     5880      1305    5875.7      1335    5875.7      1425      5880      1445      5882      1515
GR     5884      1610      5886      1685      5888      1725      5890      1770

        PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
X1    14065        14      1335      1425         1         1         1
GR     5890      1000      5888      1035      5886      1085      5884      1110      5882      1145
GR     5880      1305    5878.7      1335    5878.7      1425      5880      1445      5882      1515
GR     5884      1610      5886      1685      5888      1725      5890      1770

QT        2       165       240
        FEMA SECTION AL
X1    14500        13      1327      1387       410       445       425
GR     5892      1000      5890      1085      5888      1130      5886      1210      5884      1305
GR   5883.8      1327    5883.6      1345    5883.8      1387      5884      1445      5886      1470
GR     5888      1485      5890      1500      5892      1515

        PROPOSED DROP STRUCTURE BOTTOM
X1    14879        14      1170      1230       450       270       379
GR     5902      1000      5900      1025      5898      1045      5896      1065      5894      1105
GR     5892      1120    5886.8      1170    5886.8      1230      5892      1390      5894      1430
GR     5896      1525      5898      1585      5900      1610      5902      1645
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        PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
X1    14880        16      1170      1230         1         1         1
GR     5902      1000      5900      1025      5898      1045      5896      1065      5894      1105
GR     5892      1120      5890      1165    5889.8      1170    5889.8      1230      5890      1235
GR     5892      1390      5894      1430      5896      1525      5898      1585      5900      1610
GR     5902      1645

        FEMA SECTION AN
X1    15400        15      1313      1393       480       360       520
GR     5910      1000      5908      1020      5906      1065      5904      1115      5902      1170
GR     5900      1215    5898.7      1313      5898      1360    5898.7      1393      5900      1460
GR     5902      1500      5904      1535      5906      1575      5908      1615      5910      1635

NC        0         0      .040         0         0
        END PROPOSED RIPRAP LINED CHANNEL
X1    15540        24      1400      1420       135       145       140
GR     5920      1000      5918      1025      5916      1055      5914      1090      5912      1110
GR     5910      1140      5908      1165      5906      1215      5904      1275      5903      1391
GR   5901.5      1400      5899      1406      5899      1414    5901.5      1420      5903      1429
GR     5904      1460      5906      1510      5908      1555      5910      1625      5912      1655
GR     5914      1675      5916      1690      5918      1705      5920      1720

        FEMA SECTION AO - PROPOSED RIPRAP LINED CHANNEL
X1    15800        20      1340      1360       270       250       260
GR     5920      1000      5918      1025      5916      1085      5914      1125      5912      1160
GR     5910      1180      5908      1245    5907.9      1331    5906.4      1340    5903.9      1346
GR   5903.9      1354    5906.4      1360    5907.9      1369      5908      1410      5910      1450
GR     5912      1470      5914      1495      5916      1510      5918      1530      5920      1545

        FEMA SECTION AP - PROPOSED RIPRAP LINED CHANNEL
X1    16200        22      1320      1340       390       410       400
GR     5930      1000      5928      1040      5926      1075      5924      1125      5922      1165
GR     5920      1205      5918      1235      5916      1270    5915.5      1311      5914      1320
GR   5911.5      1326    5911.5      1334      5914      1340    5915.5      1349      5916      1385
GR     5918      1415      5920      1490      5922      1510      5924      1535      5926      1555
GR     5928      1575      5930      1595

        FEMA SECTION AQ - SOUTH OF DRENNAN ROAD - PROPOSED RIPRAP LINED CHANNEL
X1    16600        24      1245      1265       385       420       400
GR     5940      1000      5938      1035      5936      1060      5934      1090      5932      1125
GR     5930      1165      5928      1200      5926      1219      5924      1231    5923.1      1236
GR   5921.6      1245    5919.1      1251    5919.1      1259    5921.6      1265    5923.1      1274
GR     5924      1279      5926      1291      5928      1303      5930      1335      5932      1375
GR     5934      1410      5936      1440      5938      1475      5940      1500
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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 2864.000
       FEMA SECTION A - 144" CMP STORM SEWER ENTRANCE SOUTH OF GRAND BOULEVARD
  2864.000      5.40   5732.00       .00   5732.00   5732.38       .38       .00       .00   5734.30
     535.0        .0     535.0        .0        .0     108.0        .0        .0        .0   5734.30
       .00       .00      4.95       .00      .000      .013      .000      .000   5726.60   1340.00
   .000353        0.        0.        0.         0         0         0       .00     20.00   1360.00


*SECNO 2893.000
       STEP IN CHANNEL WALL (0.5' STEP)
  2893.000      5.19   5731.99       .00       .00   5732.40       .41       .01       .01   5734.30
     535.0        .0     535.0        .0        .0     103.8        .0        .1        .0   5734.30
       .00       .00      5.15       .00      .000      .013      .000      .000   5726.80   1180.00
   .000395       29.       29.       29.         2         0         0       .00     20.00   1200.00


*SECNO 2997.000
       GRADE BREAK IN CHANNEL WALL
  2997.000      5.01   5732.01       .00       .00   5732.45       .44       .04       .01   5735.00
     535.0        .0     535.0        .0        .0     100.4        .0        .3        .1   5735.00
       .01       .00      5.33       .00      .000      .013      .000      .000   5727.00   1370.00
   .000434      104.      104.      104.         1         0         0       .00     20.00   1390.00


CCHV=     .300 CEHV=     .500
*SECNO 3017.000

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      5.00   5732.00       .00       .00   5732.49       .49       .01       .03   5737.10
     535.0        .0     535.0        .0        .0      94.9        .0        .4        .1   5737.10
       .01       .00      5.64       .00      .000      .013      .000      .000   5727.00   1530.00
   .000500       20.       20.       20.         2         0         0       .00     19.00   1549.00
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	GLOSS	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

SPECIAL BRIDGE

SB	XK	XKOR	CDFB	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.= 5731.98 BRIDGE VELOCITY= 6.02 CALCULATED CHANNEL AREA= 98.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	5732.57	.08	0.	535.	126.	126.	5734.10	5738.00	0.

3475 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	4.97	5732.07	.00	.00	5732.57	.50	.08	.00	5738.00
535.0	.0	535.0	.0	.0	94.5	.0	.5	.1	5738.00
.01	.00	5.66	.00	.000	.013	.000	.000	5727.10	1015.00
.000506	50.	50.	50.	0	0	0	.00	19.00	1034.00

CCHV= .100 CEHV= .300
*SECNO 3071.000
DROP STRUCTURE END SILL

3071.000	4.98	5732.08	.00	.00	5732.57	.50	.00	.00	5737.90
535.0	.0	535.0	.0	.0	94.6	.0	.5	.1	5737.90
.01	.00	5.66	.00	.000	.013	.000	.000	5727.10	1015.00
.000505	4.	4.	4.	0	0	0	.00	19.00	1034.00

*SECNO 3098.000
DROP STRUCTURE BOTTOM

3098.000	5.00	5732.10	.00	.00	5732.59	.49	.01	.00	5737.20
535.0	.0	535.0	.0	.0	94.8	.0	.5	.1	5737.20
.01	.00	5.64	.00	.000	.013	.000	.000	5727.10	1015.00
.000501	27.	27.	27.	0	0	0	.00	19.00	1034.00

*SECNO 3114.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	CLOSS	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

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
DROP STRUCTURE CREST (8.5' SLOPING DROP)/END CHANNEL TRANSITION

3114.000	2.90	5734.50	5734.50	.00	5735.96	1.46	.02	.29	5736.80
535.0	.0	535.0	.0	.0	55.2	.0	.6	.1	5736.80
.01	.00	9.69	.00	.000	.013	.000	.000	5731.60	1015.00
.002476	16.	16.	16.	20	11	0	.00	19.00	1034.00

*SECNO 3142.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
FEMA SECTION D - BEGIN CHANNEL TRANSITION

3142.000	4.25	5736.25	5736.25	.00	5737.81	1.56	.06	.03	5737.90
535.0	.0	535.0	.0	.0	53.4	.0	.6	.1	5737.30
.01	.00	10.01	.00	.000	.013	.000	.000	5732.00	1016.68
.002137	28.	28.	28.	20	11	0	.00	17.14	1033.81

*SECNO 3250.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3250.000	4.29	5737.39	5737.39	.00	5738.99	1.60	.23	.01	5739.10
535.0	.0	535.0	.0	.0	52.8	.0	.7	.2	5739.10
.02	.00	10.14	.00	.000	.013	.000	.000	5733.10	1016.71
.002177	105.	108.	110.	20	5	0	.00	16.59	1033.29

*SECNO 3625.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
FEMA SECTION E

3625.000	4.28	5741.18	5741.18	.00	5742.79	1.61	.82	.00	5742.90
535.0	.0	535.0	.0	.0	52.6	.0	1.2	.3	5742.90
.03	.00	10.17	.00	.000	.013	.000	.000	5736.90	1041.72
.002199	370.	375.	380.	20	5	0	.00	16.56	1058.28

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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 4100.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION F
  4100.000      4.29   5747.99   5747.99       .00   5749.59      1.60      1.04       .00   5749.70
     535.0        .0     535.0        .0        .0      52.6        .0       1.8        .5   5749.70
       .04       .00     10.16       .00      .000      .013      .000      .000   5743.70   1016.71
   .002192      475.      475.      475.        20         5         0       .00     16.57   1033.29


*SECNO 4575.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION G
  4575.000      4.29   5754.49   5754.49       .00   5756.09      1.60      1.04       .00   5756.20
     535.0        .0     535.0        .0        .0      52.6        .0       2.3        .7   5756.20
       .05       .00     10.16       .00      .000      .013      .000      .000   5750.20   1086.71
   .002192      485.      475.      465.        20         5         0       .00     16.57   1103.29


*SECNO 5015.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       BEGIN CHANNEL TRANSITION
  5015.000      2.14   5757.84   5757.84       .00   5758.92      1.08       .99       .05   5761.70
     535.0        .0     535.0        .0        .0      64.3        .0       2.9        .9   5761.70
       .07       .00      8.32       .00      .000      .013      .000      .000   5755.70   1100.00
   .002293      435.      440.      445.        20         8         0       .00     30.00   1130.00


*SECNO 5043.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

  5043.000      2.14   5757.94   5757.94       .00   5759.02      1.08       .06       .00   5761.80
     535.0        .0     535.0        .0        .0      64.3        .0       3.0        .9   5761.80
       .07       .00      8.32       .00      .000      .013      .000      .000   5755.80   1095.00
   .002293       28.       28.       28.         2         5         0       .00     30.00   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

CCHV= .300 CEHV= .500
*SECNO 5056.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3673 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED'

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 5761.90 ELREA= 5761.90

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

5056.000	2.24	5758.14	5758.14	.00	5759.27	1.13	.03	.03	5761.90
535.0	.0	535.0	.0	.0	62.7	.0	3.0	.9	5761.90
.07	.00	8.53	.00	.000	.013	.000	.000	5755.90	1095.00
.002313	13.	13.	13.	20	8	0	.00	28.00	1123.00

SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS 5757.63 , NOT 5758.14 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	30.00	2.00	112.00	.02	5756.80	5755.90

*SECNO 5099.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.45

CLASS B LOW FLOW

3420 BRIDGE W.S.= 5758.57 BRIDGE VELOCITY= 8.44 CALCULATED CHANNEL AREA= 50.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	5760.32	.00	0.	525.	112.	112.	5760.80	5762.80	0.

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 5762.80 ELREA= 5762.80

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

5099.000	2.84	5759.64	.00	.00	5760.32	.68	1.05	.00	5762.80
525.0	.0	525.0	.0	.0	79.4	.0	3.1	1.0	5762.80
.07	.00	6.61	.00	.000	.013	.000	.000	5756.80	1125.00
.001064	43.	43.	43.	0	0	0	.00	28.00	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


CONV=     .100 CEHV=     .300
*SECNO 5105.000
       END CHANNEL TRANSITION
  5105.000      2.65   5759.65       .00       .00   5760.32       .68       .01       .00   5763.00
     525.0        .0     525.0        .0        .0      79.4        .0       3.1       1.0   5763.00
       .07       .00      6.61       .00      .000      .013      .000      .000   5757.00   1125.00
   .001133        6.        6.        6.         0         0         0       .00     30.00   1155.00


*SECNO 5133.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       BEGIN CHANNEL TRANSITION
  5133.000      4.24   5762.44   5762.44       .00   5764.03      1.59       .04       .27   5764.29
     525.0        .0     525.0        .0        .0      51.9        .0       3.1       1.0   5764.20
       .07       .00     10.12       .00      .000      .013      .000      .000   5758.20   1156.76
   .002200       28.       28.       28.        20        14         0       .00     16.48   1173.24


*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      4.24   5766.94   5766.94       .00   5768.53      1.59       .44       .00   5768.70
     525.0        .0     525.0        .0        .0      51.9        .0       3.3       1.1   5768.70
       .08       .00     10.12       .00      .000      .013      .000      .000   5762.70   1116.76
   .002196      200.      202.      205.        20         5         0       .00     16.48   1133.24


*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      3.59   5768.89   5768.89       .00   5770.16      1.27       .25       .03   5770.30
     525.0        .0     525.0        .0        .0      58.1        .0       3.5       1.1   5770.30
       .08       .00      9.04       .00      .000      .013      .000      .000   5765.30   1062.82
   .002040      118.      118.      118.        20        15         0       .00     23.36   1086.18
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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 5557.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        END CHANNEL TRANSITION
  5557.000      3.60   5771.50   5771.50       .00   5772.76      1.25       .21       .00   5772.90
     525.0        .0     525.0        .0        .0     56.4        .0       3.6       1.2   5772.90
       .08       .00      8.99       .00      .000      .013      .000      .000   5767.90   1057.79
   .002007      104.      104.      104.        20         5         0       .00     23.41   1081.21


*SECNO 5589.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
        BEGIN CHANNEL TRANSITION
  5589.000      3.09   5771.79   5771.79       .00   5773.34      1.55       .07       .09   5773.70
     525.0        .0     525.0        .0        .0     52.5        .0       3.7       1.2   5773.70
       .08       .00      9.99       .00      .000      .013      .000      .000   5768.70   1050.00
   .002566       32.       32.       32.        20        11         0       .00     17.00   1067.00


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      3.08   5772.38   5772.38       .00   5773.94      1.56       .07       .00   5780.10
     525.0        .0     525.0        .0        .0     52.4        .0       3.7       1.2   5780.10
       .09       .00     10.02       .00      .000      .013      .000      .000   5769.30   1000.00
   .002590       26.       26.       26.        20         5         0       .00     17.00   1017.00


SPECIAL BRIDGE
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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

5227 DOWNSTREAM ELEV IS 5771.86 , NOT 5772.38 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB	XK	XKOR	CDFQ	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 = 1.50

CLASS B LOW FLOW

3420 BRIDGE W.S.= 5772.77 BRIDGE VELOCITY= 10.17 CALCULATED CHANNEL AREA= 48.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
.00	5774.76	.00	0.	525.	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	4.07	5773.87	.00	.00	5774.76	.90	.82	.00	5779.40
525.0	.0	525.0	.0	.0	69.1	.0	3.8	1.2	5779.40
.09	.00	7.59	.00	.000	.013	.000	.000	5769.80	1030.00
.001145	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 = 6.47

FEMA SECTION N - DETENTION POND BOX CULVERT HEADWALL

5702.000	4.83	5774.83	.00	.00	5774.85	.02	.30	.09	5770.00
525.0	186.3	198.8	139.8	452.0	116.2	328.2	4.1	1.3	5770.00
.10	.41	1.71	.43	.040	.013	.040	.000	5770.00	1067.40
.000027	27.	27.	27.	2	0	0	.00	311.00	1378.40

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


*SECNO 6000.000
       FEMA SECTION Q
  6000.000      3.46   5774.86       .00       .00   5774.87       .01       .02       .00   5776.00
     840.0        .0     840.0        .0        .0    1303.9        .0      11.6       4.3   5776.00
       .22       .00       .64       .00      .000      .040      .000      .000   5771.40   1063.52
   .000099      298.      298.      298.         2         0         0       .00    564.45   1627.96


*SECNO 6300.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .16

       FEMA SECTION P
  6300.000      1.75   5774.89       .00       .00   5774.98       .09       .09       .03   5776.00
     840.0        .0     840.0        .0        .0     347.8        .0      17.3       7.4   5776.00
       .26       .00      2.42       .00      .000      .040      .000      .000   5773.10   1138.49
   .003848      230.      300.      390.         0         0         0       .00    324.07   1462.56


*SECNO 6607.000
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      1.43   5777.63   5777.63       .00   5778.15       .52      2.19       .13   5778.00
     675.0        .0     675.0        .0        .0     116.5        .0      18.9       8.9   5778.00
       .27       .00      5.80       .00      .000      .040      .000      .000   5776.20   1268.31
   .023497      307.      307.      307.        20        15         0       .00    113.37   1381.69


*SECNO 6636.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       DROP STRUCTURE BOTTOM
  6636.000      1.68   5778.58   5778.58       .00   5779.34       .76       .64       .07   5785.90
     675.0        .0     675.0        .0        .0      96.6        .0      19.0       9.0   5785.90
       .27       .00      6.99       .00      .000      .040      .000      .000   5776.90   1132.53
   .020984       29.       29.       29.        20        11         0       .00     64.94   1197.47


*SECNO 6637.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
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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	XML	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
DROP STRUCTURE CREST (4' VERTICAL DROP)

6637.000	3.05	5781.95	5781.95	.00	5782.77	.82	.02	.02	5785.90
675.0	.0	675.0	.0	.0	92.8	.0	19.0	9.0	5785.90
.27	.00	7.27	.00	.000	.040	.000	.000	5778.90	1135.80
.021066	1.	1.	1.	20	17	0	.00	58.39	1194.20

*SECNO 6817.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.07

END DROP STRUCTURE RIPRAP APRON

6817.000	2.54	5784.15	.00	.00	5784.44	.29	1.61	.05	5790.60
675.0	.0	675.0	.0	.0	156.2	.0	19.5	9.2	5790.60
.29	.00	4.32	.00	.000	.040	.000	.000	5781.60	1113.68
.004928	210.	180.	155.	4	0	0	.00	72.64	1186.32

*SECNO 6846.000
DROP STRUCTURE BOTTOM

6846.000	2.60	5784.30	.00	.00	5784.57	.28	.14	.00	5790.70
675.0	.0	675.0	.0	.0	160.2	.0	19.6	9.3	5790.70
.29	.00	4.21	.00	.000	.040	.000	.000	5781.70	1113.43
.004566	29.	29.	29.	2	0	0	.00	73.13	1186.57

*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	3.05	5786.75	5786.75	.00	5787.57	.82	.01	.16	5790.70
675.0	.0	675.0	.0	.0	92.7	.0	19.6	9.3	5790.70
.29	.00	7.28	.00	.000	.040	.000	.000	5783.70	1120.81
.021166	1.	1.	1.	20	11	0	.00	58.37	1179.19

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 6992.000

3301 HV CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.92

END RIPRAP APRON

6992.000	2.44	5788.74	.00	.00	5789.06	.32	1.44	.05	5795.30
675.0	.0	675.0	.0	.0	148.6	.0	20.0	9.5	5795.30
.30	.00	4.54	.00	.000	.040	.000	.000	5786.30	1109.15
.005717	145.	145.	145.	3	0	0	.00	71.71	1180.85

*SECNO 7032.000

BEGIN RIPRAP APRON/DROP STURCTURE BOTTOM

7032.000	2.54	5788.94	.00	.00	5789.27	.33	.21	.00	5786.40
675.0	38.4	606.4	30.1	13.0	126.9	10.3	20.2	9.6	5786.40
.30	2.95	4.78	2.92	.040	.040	.040	.000	5786.40	1109.73
.004776	40.	40.	40.	2	0	0	.00	68.40	1178.14

*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	6.13	5797.93	5797.93	.00	5800.23	2.30	.14	.59	5806.00
675.0	.0	675.0	.0	.0	55.4	.0	20.3	9.6	5806.00
.30	.00	12.18	.00	.000	.013	.000	.000	5791.80	1000.00
.002698	40.	40.	40.	20	17	0	.00	12.00	1012.00

*SECNO 8450.000

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 = 8.73

FEMA SECTION W - UPSTREAM OF BRADLEY ROAD BOX CULVERT - DOUBLE 10' x 6'
WITH PROPOSED 10' x 5' DROP INLET ON WEST BARREL

8450.000	7.80	5823.00	.00	.00	5823.00	.00	.00	.23	5816.90
530.0	126.6	325.0	78.4	373.9	1006.3	220.7	20.3	9.6	5816.90
.30	.34	.32	.36	.050	.080	.050	.000	5815.20	1120.00
.000022	0.	0.	0.	0	0	0	.00	330.01	1450.01

*SECNO 8875.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .23

FEMA SECTION X

8875.000	4.51	5823.01	.00	.00	5823.02	.01	.02	.00	5819.60
365.0	103.8	209.0	52.3	140.4	317.2	72.5	30.6	12.2	5819.60
.47	.74	.66	.72	.050	.080	.050	.000	5818.50	1311.93
.000201	400.	425.	435.	2	0	0	.00	205.76	1517.69

*SECNO 9054.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .49

PROPOSED DROP STRUCTURE BOTTOM

9054.000	2.57	5823.07	.00	.00	5823.09	.02	.06	.00	5820.50
365.0	109.0	244.2	11.8	108.2	244.3	12.0	32.3	12.9	5820.50
.52	1.01	1.00	.98	.050	.080	.050	.000	5820.50	1375.83
.000622	149.	179.	204.	2	0	0	.00	188.52	1564.35

*SECNO 9055.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)

9055.000	.77	5824.27	5824.27	.00	5824.58	.32	.00	.09	5823.50
365.0	21.2	328.9	14.9	5.7	72.7	2.8	32.3	13.0	5823.50
.52	3.75	4.52	5.23	.050	.080	.050	.000	5823.50	1431.76
.084610	1.	1.	1.	20	14	0	.00	130.23	1561.99

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

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*SECND 9300.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.99

       FEMA SECTION Y
  9300.000      3.66   5827.86       .00       .00   5827.94       .08      3.33       .02   5827.20
     365.0       1.1     359.3       4.6       1.1     156.1       4.4      33.0      13.6   5827.20
       .55      1.03      2.30      1.04      .030      .080      .050      .000   5824.20   1365.67
   .005325      240.      245.      240.         7         0         0       .00     86.63   1412.30


*SECND 9700.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .45

       FEMA SECTION Z
  9700.000      2.32   5831.52       .00       .00   5831.74       .21      3.76       .04   5832.30
     340.0        .0     340.0        .0        .0      91.6        .0      34.2      14.2   5832.30
       .58       .00      3.71       .00      .000      .080      .000      .000   5829.20   1267.37
   .022445      470.      400.      355.         5         0         0       .00     59.07   1326.44


*SECND 10150.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.56

       FEMA SECTION AA
 10150.000      3.19   5837.79       .00       .00   5837.90       .11      6.15       .01   5837.30
     340.0       2.5     336.2       1.3       2.2     127.1       1.2      35.3      15.0   5837.30
       .62      1.12      2.64      1.11      .050      .080      .050      .000   5834.60   1243.87
   .009182      505.      450.      405.         3         0         0       .00     84.04   1327.91


*SECND 10600.000
       DOWNSTREAM OF IRRIGATION CANAL NO. 4 AND PROPOSED OUTFALL POND NO. 3
 10600.000      2.23   5842.33       .00       .00   5842.44       .11      4.54       .00   5841.40
     340.0      13.7     295.1      31.2       6.3     110.8      13.7      36.7      15.9   5841.40
       .67      2.19      2.66      2.27      .050      .080      .050      .000   5840.10   1246.66
   .011141      475.      450.      440.         5         0         0       .00    105.94   1352.50


CCHV=     .300 CEHV=     .500
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     ES        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 10650.000

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=     5846.00 ELREA=     5846.00

       PROPOSED OUTFALL CANAL NO. 4 BOX CULVERT - 4' x 4'
       WITH IMPROVED ENTRANCE (14' X 4' SLOPE TAPERED INLET)
 10650.000      3.19   5843.60   5843.60       .00   5845.20      1.61       .46       .75   5846.00
    130.0        .0     130.0        .0        .0      12.8        .0      36.8      16.0   5846.00
      .67       .00     10.17       .00      .000      .013      .000      .000   5840.40   1260.00
   .006009       50.       50.       50.        20        11         0       .00      4.00   1264.00


*SECNO 10870.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.75

       PROPOSED ENTRANCE CANAL NO.4 BOX CULVERT - 4' x 4'
       WITH IMPROVED ENTRANCE (14' x 4' SLOPE TAPERED INLET)
 10870.000      2.40   5850.40       .00       .00   5850.55       .15       .16       .44   5848.00
    130.0       8.7     112.5       8.9      15.5      33.6      16.7      37.0      16.2   5848.00
      .69       .56      3.35       .53      .050      .013      .050      .000   5848.00   1080.38
   .000267      220.      220.      220.         0         0         0       .00     55.25   1135.63


CCHV=     .100 CEHV=     .300
*SECNO 10900.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION AD - UPSTREAM OF IRRIGATION CANAL NO. 4
 10900.000       .43   5850.63   5850.63       .00   5850.83       .20       .03       .02   5850.20
    130.0        .6     125.3       4.1        .3      34.3       1.8      37.0      16.2   5850.20
      .70      2.21      3.66      2.30      .050      .050      .050      .000   5850.20   1063.81
   .046954       30.       30.       30.        20        25         0       .00     89.52   1153.33
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLDSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SETA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 11350.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.54

       FEMA SECTION AE
 11350.000      .92   5854.92       .00       .00   5854.96       .04      4.11       .02   5854.60
    130.0       .4     129.3       .3       .5     78.2       .5      37.6     17.2   5854.60
      .77      .53      1.65       .53      .050      .050      .050      .000   5854.00   1046.22
  .003744     420.     450.      560.        8         0         0       .00     97.96   1144.18


*SECNO 12000.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.68

       UPSTREAM OF PROPOSED ENTRANCE POND NO. 3 - PROPOSED GRASS-LINED CHANNEL
 12000.000     3.52   5859.62       .00       .00   5860.08       .47      4.99       .13   5860.10
    555.0        .0     555.0       .0       .0     101.3       .0      38.9     18.2   5860.10
      .81      .00      5.48       .00      .000      .050      .000      .000   5856.19   1091.21
  .009510     680.     650.      600.        6         0         0       .00     37.59   1128.79


*SECNO 12275.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.79

       FEMA SECTION AG - PROPOSED GRASS-LINED CHANNEL
 12275.000     4.69   5862.09       .00       .00   5862.31       .22      2.20       .02   5861.40
    555.0        .7     553.6       .7       .9     147.1       .9      40.2     18.6   5861.40
      .84      .77      3.76       .77      .050      .050      .050      .000   5857.40   1102.29
  .002967     460.     450.      400.        1         0         0       .00     45.43   1147.71


*SECNO 12750.000
       FEMA SECTION AH - PROPOSED GRASS-LINED CHANNEL
 12750.000     4.08   5863.88       .00       .00   5864.19       .32      1.86       .03   5863.80
    555.0        .0     555.0       .0       .0     123.2       .0      41.7     19.1   5863.80
      .87      .02      4.50       .02      .050      .050      .050      .000   5859.80   1304.68
  .005391     470.     475.      530.        3         0         0       .00     40.64   1345.32


*SECNO 13200.000
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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 =   .41

       FEMA SECTION AI
 13200.000      2.25   5866.95       .00       .00   5867.02       .07      2.81       .02   5866.60
     285.0        .9     283.7        .4       1.0     129.5        .5      43.0      19.8   5866.60
       .93       .86      2.19       .85      .050      .080      .050      .000   5864.70   1238.04
   .008569      475.      450.      430.         3         0         0       .00     98.69   1336.73


*SECNO 13699.000
       PROPOSED DROP STRUCTURE BOTTOM
 13699.000      1.38   5870.68       .00       .00   5870.76       .08      3.74       .00   5869.30
     285.0      18.6     252.5      13.9       8.1     110.4       6.1      44.2      20.8   5869.30
       .97      2.29      2.29      2.29      .050      .080      .050      .000   5869.30   1268.25
   .009860      560.      400.      460.         3         0         0       .00    100.56   1368.81


*SECNO 13700.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
 13700.000       .69   5872.99   5872.99       .00   5873.29       .30       .02       .07   5872.30
     285.0      24.5     242.1      18.4       5.5      54.8       4.1      44.2      20.8   5872.30
       .98      4.45      4.42      4.44      .050      .080      .050      .000   5872.30   1263.88
   .093627        1.        1.        1.        20         8         0       .00    108.21   1372.09


*SECNO 14064.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.75

       PROPOSED DROP STRUCTURE BOTTOM
 14064.000      1.69   5877.39       .00       .00   5877.43       .04      4.12       .03   5875.70
     285.0      16.8     257.1      11.1       9.9     151.7       6.6      45.2      21.7   5875.70
      1.03      1.70      1.69      1.68      .050      .080      .050      .000   5875.70   1323.24
   .004145      355.      364.      375.         8         0         0       .00    109.61   1432.84


*SECNO 14065.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
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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


3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
 14065.000      .65   5879.35   5879.35      .00   5879.63      .29       .01       .07   5878.70
     285.0     20.9     250.3      13.9      4.8      58.1      3.2      45.2      21.7   5878.70
      1.03     4.33      4.30      4.33     .050      .080     .050      .000   5878.70   1320.09
   .096159       1.        1.        1.       20        18        0       .00    114.85   1434.94


*SECNO 14500.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.49

       FEMA SECTION AL
 14500.000     1.13   5884.73      .00      .00   5884.76      .02      5.09      .03   5883.80
     165.0     35.2      61.0      68.7     31.3      62.3     52.0      46.2     23.2   5883.80
      1.14     1.12       .98      1.32     .050      .080     .050      .000   5883.60   1269.95
   .002653     410.      425.      445.        8         0        0       .00    184.27   1454.22


*SECNO 14879.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .17

       PROPOSED DROP STRUCTURE BOTTOM
 14879.000      .58   5887.38   5887.38      .00   5887.62      .25      2.80      .07   5886.80
     165.0      6.4     138.1      20.5      1.6      34.5      5.1      47.0     24.3   5886.80
      1.16     4.01      4.00      4.03     .050      .080     .050      .000   5886.80   1164.46
   .096741     450.      379.      270.       12         8        0       .00     83.25   1247.71


*SECNO 14880.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
 14880.000      .56   5890.36   5890.36      .00   5890.57      .21       .09       .00   5889.80
     165.0     15.9     123.2      25.9      3.8      33.8      7.4      47.0     24.3   5889.80
      1.16     4.19      3.65      3.48     .050      .080     .050      .000   5889.80   1156.83
   .082930       1.        1.        1.       20         8        0       .00    106.33   1263.15


*SECNO 15400.000
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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 = 3.42

FEMA SECTION AN

15400.000	1.38	5899.38	.00	.00	5899.41	.04	8.82	.02	5898.70
165.0	20.7	130.1	14.2	17.1	82.0	11.7	47.9	25.9	5898.70
1.26	1.21	1.59	1.21	.050	.080	.050	.000	5898.00	1262.16
.007074	480.	520.	560.	11	0	0	.00	165.60	1427.76

*SECNO 15540.000

3301 HV CHANGED MORE THAN HVINS

7195 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

END PROPOSED RIPRAP LINED CHANNEL

15540.000	1.93	5900.93	5900.93	.00	5901.64	.72	1.62	.20	5901.50
165.0	.0	165.0	.0	.0	24.3	.0	48.2	26.2	5901.50
1.26	.00	6.79	.00	.000	.040	.000	.000	5899.00	1401.38
.022391	135.	140.	145.	4	11	0	.00	17.24	1418.62

*SECNO 15800.000

FEMA SECTION AO - PROPOSED RIPRAP LINED CHANNEL

15800.000	2.10	5906.00	.00	.00	5906.56	.57	4.91	.02	5906.40
165.0	.0	165.0	.0	.0	27.3	.0	48.3	26.3	5906.40
1.28	.00	6.03	.00	.000	.040	.000	.000	5903.90	1340.96
.016127	270.	260.	250.	4	0	0	.00	18.07	1359.04

*SECNO 16200.000

FEMA SECTION AP - PROPOSED RIPRAP LINED CHANNEL

16200.000	1.93	5913.43	5913.43	.00	5914.14	.71	7.53	.04	5914.00
165.0	.0	165.0	.0	.0	24.4	.0	48.5	26.5	5914.00
1.29	.00	6.77	.00	.000	.040	.000	.000	5911.50	1321.37
.022262	390.	400.	410.	6	11	0	.00	17.26	1338.63

*SECNO 16600.000

FEMA SECTION AQ - SOUTH OF BRENNAN ROAD - PROPOSED RIPRAP LINED CHANNEL

16600.000	2.09	5921.19	.00	.00	5921.76	.57	7.61	.01	5921.60
165.0	.0	165.0	.0	.0	27.2	.0	48.8	26.6	5921.60
1.31	.00	6.07	.00	.000	.040	.000	.000	5919.10	1245.99
.016429	385.	400.	420.	3	0	0	.00	18.02	1264.01

```
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   100-YR 24-HOUR            WGFUT.DAT

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         3         0         0         0         0         0         0    5733.7         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     DWSEL     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 2864.000
       FEMA SECTION A - 144" CMP STORM SEWER ENTRANCE SOUTH OF GRAND BOULEVARD
  2864.000      7.10   5733.70       .00   5733.70   5734.37       .67       .00       .00   5734.30
     935.0        .0     935.0        .0        .0     142.0        .0        .0        .0   5734.30
       .00       .00      6.58       .00      .000      .013      .000      .000   5726.60   1340.00
   .000497        0.        0.        0.         0         0         0       .00     20.00   1360.00


#SECNO 2893.000
       STEP IN CHANNEL WALL (0.5' STEP)
  2893.000      6.89   5733.69       .00       .00   5734.40       .72       .02       .01   5734.30
     935.0        .0     935.0        .0        .0     137.7        .0        .1        .0   5734.30
       .00       .00      6.79       .00      .000      .013      .000      .000   5726.80   1180.00
   .000541       29.       29.       29.         2         0         0       .00     20.00   1200.00


#SECNO 2997.000
       GRADE BREAK IN CHANNEL WALL
  2997.000      6.72   5733.72       .00       .00   5734.47       .75       .06       .01   5735.00
     935.0        .0     935.0        .0        .0     134.4        .0        .4        .1   5735.00
       .01       .00      6.96       .00      .000      .013      .000      .000   5727.00   1370.00
   .000580      104.      104.      104.         2         0         0       .00     20.00   1390.00


CCHV=     .300 CEHV=     .500
#SECNO 3017.000

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      6.69   5733.69       .00       .00   5734.53       .84       .01       .04   5737.10
     935.0        .0     935.0        .0        .0     127.1        .0        .5        .1   5737.10
       .01       .00      7.36       .00      .000      .013      .000      .000   5727.00   1530.00
   .000669       20.       20.       20.         2         0         0       .00     19.00   1549.00
```

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

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
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
5735.06	5734.67	.16	0.	935.	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	7.24	5734.34	.00	.00	5735.06	.72	.53	.00	5738.00
935.0	.0	935.0	.0	.0	137.8	.0	.6	.1	5738.00
.01	.00	6.79	.00	.000	.013	.000	.000	5727.10	1015.00
.000535	50.	50.	50.	2	0	0	.00	19.00	1034.00

CCHV= .100 CEHV= .300
*SECNO 3071.000
DROP STRUCTURE END SILL

3071.000	7.24	5734.34	.00	.00	5735.06	.72	.00	.00	5737.90
935.0	.0	935.0	.0	.0	137.6	.0	.6	.1	5737.90
.01	.00	6.79	.00	.000	.013	.000	.000	5727.10	1015.00
.000537	4.	4.	4.	0	0	0	.00	19.00	1034.00

*SECNO 3098.000
DROP STRUCTURE BOTTOM

3098.000	7.26	5734.36	.00	.00	5735.07	.71	.01	.00	5737.20
935.0	.0	935.0	.0	.0	137.9	.0	.7	.1	5737.20
.01	.00	6.78	.00	.000	.013	.000	.000	5727.10	1015.00
.000534	27.	27.	27.	0	0	0	.00	19.00	1034.00

*SECNO 3114.000

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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


3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       DROP STRUCTURE CREST (3.5' SLOPING DROP)/END CHANNEL TRANSITION
  3114.000      4.22   5735.82   5735.82       .00   5737.93      2.11       .02       .42   5736.80
     935.0        .0     935.0        .0        .0     80.1        .0        .8        .1   5736.80
       .01       .00     11.67       .00      .000      .013      .000      .000   5731.60   1015.00
   .002497       16.       16.       16.        20        11         0       .00     19.00   1034.00


#SECNO 3142.000
3280 CROSS SECTION   3142.00 EXTENDED       .09 FEET

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION D - BEGIN CHANNEL TRANSITION
  3142.000      5.89   5737.89   5737.89       .00   5739.78      1.89       .06       .02   5737.90
     935.0        .0     931.1       3.9        .0     84.2       5.1        .8        .1   5737.30
       .01       .00     11.06       .76      .000      .013      .040      .000   5732.00   1015.01
   .001796       28.       28.       28.        20        11         0       .00     34.99   1050.00


#SECNO 3250.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  3250.000      5.80   5738.90   5738.90       .00   5741.02      2.12       .21       .07   5739.10
     935.0        .0     935.0        .0        .0     80.0        .0       1.0        .2   5739.10
       .01       .00     11.69       .00      .000      .013      .000      .000   5733.10   1015.20
   .002148      105.      108.      110.        20         5         0       .00     19.59   1034.80


#SECNO 3625.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION E
  3625.000      5.84   5742.74   5742.74       .00   5744.82      2.07       .79       .00   5742.90
     935.0        .0     935.0        .0        .0     80.9        .0       1.7        .4   5742.90
       .02       .00     11.56       .00      .000      .013      .000      .000   5736.90   1040.16
   .002082      370.      375.      380.        20         5         0       .00     19.69   1059.84
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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
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION F
  4100.000      5.82   5749.52   5749.52       .00   5751.62      2.10      1.00       .01   5749.70
     935.0        .0     935.0        .0        .0      80.3        .0       2.6        .6   5749.70
       .03       .00     11.64       .00      .000      .013      .000      .000   5743.70   1015.18
   .002121      475.      475.      475.        20         5         0       .00     19.63   1034.82


*SECNO 4575.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION G
  4575.000      5.85   5756.05   5756.05       .00   5758.12      2.07      1.00       .00   5756.20
     935.0        .0     935.0        .0        .0      81.1        .0       3.5        .8   5756.20
       .04       .00     11.54       .00      .000      .013      .000      .000   5750.20   1085.15
   .002072      485.      475.      465.        20         5         0       .00     19.70   1104.85


*SECNO 5015.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       BEGIN CHANNEL TRANSITION
  5015.000      3.10   5758.81   5758.81       .00   5760.37      1.56       .94       .05   5761.70
     935.0        .0     935.0        .0        .0      93.1        .0       4.4       1.0   5761.70
       .06       .00     10.04       .00      .000      .013      .000      .000   5755.70   1100.00
   .002188      435.      440.      445.        20        11         0       .00     30.00   1130.00


*SECNO 5043.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

  5043.000      3.10   5758.90   5758.90       .00   5760.47      1.57       .06       .00   5761.80
     935.0        .0     935.0        .0        .0      93.1        .0       4.4       1.1   5761.80
       .06       .00     10.04       .00      .000      .013      .000      .000   5755.80   1095.00
   .002192       28.       28.       28.         2         5         0       .00     30.00   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

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CCHV=     .300 CEHV=     .500
*SECNO 5056.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      5761.90 ELREA=      5761.90

        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
  5056.000      3.25   5759.15   5759.15       .00   5760.79      1.63       .03       .03   5761.90
     935.0        .0     935.0        .0        .0     91.1        .0       4.5       1.1   5761.90
       .06       .00     10.26       .00      .000      .013      .000      .000   5755.90   1095.00
   .002208       13.       13.       13.        20         8         0       .00     28.00   1123.00



SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS    5758.35 , NOT    5759.15 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     30.00      2.00    112.00       .02   5756.80   5755.90

*SECNO 5099.000

3301 HV CHANGED MORE THAN HVINS

CLASS B LOW FLOW

3420 BRIDGE W.S.=    5759.49 BRIDGE VELOCITY=      10.04     CALCULATED CHANNEL AREA=        75.

 EGPRS      EGLWC      H3       QWEIR      QLOW      BAREA   TRAPEZOID      ELLC     ELTRD     WEIRLN
                                                              AREA
   5760.71   5761.78       .00        0.      885.      112.      112.     5760.80   5762.80        0.



3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      5762.80 ELREA=      5762.80

        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
  5099.000      4.02   5760.82       .00       .00   5761.78       .96       .99       .00   5762.80
     885.0        .0     885.0        .0        .0    112.5        .0       4.6       1.1   5762.80
       .06       .00      7.87       .00      .000      .013      .000      .000   5756.80   1125.00
   .001038       43.       43.       43.         0         0         0       .00     28.00   1153.00
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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


CCHV=     .100 CEHV=     .300
*SECNO 5105.000
       END CHANNEL TRANSITION
  5105.000      3.91   5760.91       .00       .00   5761.79       .88       .01       .01   5763.00
     885.0        .0     885.0        .0        .0     117.3        .0       4.6       1.1   5763.00
       .06       .00      7.54       .00      .000      .013      .000      .000   5757.00   1125.00
   .000963        6.        6.        6.         2         0         0       .00     30.00   1155.00


*SECNO 5133.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       BEGIN CHANNEL TRANSITION
  5133.000      5.68   5763.88   5763.88       .00   5765.89      2.01       .04       .34   5764.20
     885.0        .0     885.0        .0        .0      77.8        .0       4.6       1.1   5764.20
       .06       .00     11.38       .00      .000      .013      .000      .000   5758.20   1155.32
   .002074       28.       28.       28.        20        11         0       .00     19.37   1174.68


*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      5.66   5768.36   5768.36       .00   5770.40      2.04       .42       .01   5768.70
     885.0        .0     885.0        .0        .0      77.3        .0       5.0       1.2   5768.70
       .07       .00     11.45       .00      .000      .013      .000      .000   5762.70   1115.34
   .002109      200.      202.      205.        20         5         0       .00     19.32   1134.66


*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      4.73   5770.03   5770.03       .00   5771.63      1.59       .24       .04   5770.30
     885.0        .0     885.0        .0        .0      87.4        .0       5.2       1.3   5770.30
       .07       .00     10.12       .00      .000      .013      .000      .000   5765.30   1060.53
   .001898      118.      118.      118.        20        15         0       .00     27.94   1088.47
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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     BSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 5557.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       END CHANNEL TRANSITION
  5557.000      4.74   5772.64   5772.64       .00   5774.23      1.58       .20       .00   5772.90
     885.0        .0     885.0        .0        .0      57.6        .0       5.4       1.3   5772.90
       .07       .00     10.19       .00      .000      .013      .000      .000   5767.90   1055.52
   .001667      104.      104.      104.        20         5         0       .00     27.96   1083.48


*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      4.36   5773.06   5773.06       .00   5775.27      2.21       .07       .19   5773.70
     885.0        .0     885.0        .0        .0      74.1        .0       5.5       1.4   5773.70
       .07       .00     11.94       .00      .000      .013      .000      .000   5768.70   1050.00
   .002661       32.       32.       32.        20        11         0       .00     17.00   1067.00


CCHV=     .300 CEHV=     .500
*SECNO 5615.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUN 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      4.37   5773.67   5773.67       .00   5775.87      2.20       .07       .00   5780.10
     885.0        .0     885.0        .0        .0      74.3        .0       5.5       1.4   5780.10
       .07       .00     11.91       .00      .000      .013      .000      .000   5769.30   1000.00
   .002640       26.       26.       26.        20         5         0       .00     17.00   1017.00
```

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

SPECIAL BRIDGE

5227 DOWNSTREAM ELEV IS 5772.92 , NOT 5773.67 HYDRAULIC JUMP OCCURS DOWNSTREAM (IF LOW FLOW CONTROLS)

SB	XK	XKOR	CDFO	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 = 1.48

CLASS B LOW FLOW

3420 BRIDGE W.S.= 5774.11 BRIDGE VELOCITY= 12.10 CALCULATED CHANNEL AREA= 69.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD	WEIRLN
5775.78	5776.83	.00	0.	885.	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	5.76	5775.56	.00	.00	5776.83	1.27	.95	.00	5779.40
885.0	.0	885.0	.0	.0	97.9	.0	5.6	1.4	5779.40
.07	.00	9.04	.00	.000	.013	.000	.000	5769.80	1030.00
.001209	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 = 8.75

FEMA SECTION N - DETENTION POND BOX CULVERT HEADWALL

5702.000	6.94	5776.94	.00	.00	5776.95	.02	.00	.13	5770.00
885.0	354.4	275.6	255.0	840.0	166.6	595.1	6.2	1.5	5770.00
.08	.42	1.65	.43	.040	.013	.040	.000	5770.00	1044.11
.000016	27.	27.	27.	2	0	0	.00	355.32	1399.43

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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 6000.000
       FEMA SECTION O
  6000.000      5.56   5776.96       .00       .00   5776.96       .01       .01       .00   5776.00
    1600.0        .5    1599.2        .3       3.2    2524.4       2.3      20.3       4.8   5776.00
       .21       .15       .63       .15      .040      .040      .040      .000   5771.40   1048.42
   .000042      298.      298.      298.         2         0         0       .00    601.37   1649.79


*SECNO 6300.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  XRATIO =   .35

       FEMA SECTION P
  6300.000      3.87   5776.97       .00       .00   5777.00       .03       .03       .01   5776.00
    1600.0       1.2    1598.0        .8       2.7    1146.2       1.9      33.0       8.3   5776.00
       .27       .43      1.39       .42      .040      .040      .040      .000   5773.10   1099.36
   .000352      230.      300.      390.         0         0         0       .00    414.67   1514.03


*SECNO 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      1.90   5778.10   5778.10       .00   5778.79       .69       .27       .20   5778.00
    1165.0        .0    1165.0        .0        .1     174.5        .0      37.6      10.2   5778.00
       .29       .05      6.68       .05      .040      .040      .040      .000   5776.20   1258.80
   .021834      307.      307.      307.        20         8         0       .00    132.16   1390.96


*SECNO 6636.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       DROP STRUCTURE BOTTOM
  6636.000      2.37   5779.27   5779.27       .00   5780.29      1.03       .59       .10   5785.90
    1165.0        .0    1165.0        .0        .0     143.2        .0      37.8      10.3   5785.90
       .29       .00      8.14       .00      .000      .040      .000      .000   5776.90   1129.48
   .019018      29.       29.       29.        20        11         0       .00     71.03   1200.52
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	ES	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 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	3.81	5782.71	5782.71	.00	5783.79	1.09	.02	.02	5783.99
1165.0	.0	1165.0	.0	.0	139.3	.0	37.8	10.3	5785.90
.29	.00	8.36	.00	.000	.040	.000	.000	5778.90	1132.78
.018547	1.	1.	1.	20	14	0	.00	64.44	1197.22

%SECNO 6817.000

3301 HV CHANGED MORE THAN HVINS

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

END DROP STRUCTURE RIPRAP APRON

6817.000	3.42	5785.02	.00	.00	5785.44	.42	1.58	.07	5790.60
1165.0	.0	1165.0	.0	.0	223.2	.0	38.5	10.6	5790.60
.30	.00	5.22	.00	.000	.040	.000	.000	5781.60	1109.79
.005122	210.	180.	155.	3	0	0	.00	80.43	1190.21

%SECNO 6846.000
DROP STRUCTURE BOTTOM

6846.000	3.48	5785.19	.00	.00	5785.59	.40	.14	.00	5790.70
1165.0	.0	1165.0	.0	.0	228.4	.0	38.7	10.6	5790.70
.30	.00	5.10	.00	.000	.040	.000	.000	5781.70	1109.50
.004739	29.	29.	29.	2	0	0	.00	81.00	1190.50

%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	3.79	5787.49	5787.49	.00	5788.59	1.10	.01	.21	5790.70
1165.0	.0	1165.0	.0	.0	138.3	.0	38.7	10.6	5790.70
.30	.00	8.43	.00	.000	.040	.000	.000	5783.70	1117.84
.018962	1.	1.	1.	20	8	0	.00	64.31	1182.16

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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     ESTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

#SECNO 6992.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.80

       END RIPRAP APRON
  6992.000      3.30   5789.60       .00       .00   5790.06       .46      1.40       .06   5795.30
    1165.0        .0    1165.0        .0        .0     213.2        .0      39.2      10.9   5799.30
       .31       .00      5.46       .00      .000      .040      .000      .000   5786.30   1103.35
   .005861      145.      145.      145.         3         0         0       .00     79.31   1184.66


#SECNO 7032.000
       BEGIN RIPRAP APRON/DROP STRUCTURE BOTTOM
  7032.000      3.38   5789.78       .00       .00   5790.29       .51       .22       .01   5786.40
    1165.0      85.5    1012.4      67.0      23.1     169.1      18.3      39.4      10.9   5786.40
       .31      3.70      5.99      3.66      .040      .040      .040      .000   5786.40   1106.32
   .003112       40.       40.       40.         3         0         0       .00     74.52   1180.84


#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 WABEMAN DRIVE
  7072.000      8.15   5799.95   5799.95       .00   5803.27      3.32       .16       .84   5806.00
    1165.0        .0    1165.0        .0        .0      79.7        .0      39.6      11.0   5806.00
       .31       .00     14.62       .00      .000      .013      .000      .000   5791.80   1000.00
   .003107       40.       40.       40.        20        17         0       .00     12.00   1012.00


#SECNO 8450.000
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        GLOSS     L-BANK ELEV
   Q         BLOB      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 =  8.32

       FEMA SECTION W - UPSTREAM OF BRADLEY ROAD BOX CULVERT - DOUBLE 10' x 6'
       WITH PROPOSED 10' x 5' DROP INLET ON WEST BARREL
  8450.000      9.30   5824.50       .00       .00   5824.50       .00       .00       .33   5816.90
     915.0     235.5     502.4     157.1     560.0    1216.3     348.3      39.6      11.0   5816.90
       .31       .46       .41       .45      .050      .080      .050      .000   5815.20   1101.24
   .000028        0.        0.        0.         0         0         0       .00    370.01   1471.26


*SECNO 8875.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .31

       FEMA SECTION X
  8875.000      6.02   5824.52       .00       .00   5824.52       .01       .02       .00   5819.60
     570.0     203.2     266.6     100.2     308.8     437.3     147.3      54.1      14.1   5819.60
       .49       .66       .61       .68      .050      .080      .050      .000   5818.50   1262.08
   .000112      400.      425.      435.         2         0         0       .00    273.08   1535.17


*SECNO 9054.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .60

       PROPOSED DROP STRUCTURE BOTTOM
  9054.000      4.04   5824.54       .00       .00   5824.55       .01       .03       .00   5820.50
     570.0     224.8     320.9      24.4     266.6     383.4      29.6      57.2      15.0   5820.50
       .55       .84       .84       .82      .050      .080      .050      .000   5820.50   1327.91
   .000316      149.      179.      204.         1         0         0       .00    241.77   1569.68


*SECNO 9055.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
  9055.000      1.01   5824.51   5824.51       .00   5824.89       .38       .00       .11   5823.50
     570.0      61.2     480.6      28.2      15.1      95.7       4.8      57.2      15.0   5823.50
       .55      4.06      5.02      5.92      .050      .080      .050      .000   5823.50   1410.57
   .072280        1.        1.        1.        20        11         0       .00    153.24   1563.81
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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 9300.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 3.45

FEMA SECTION Y

9300.000	4.17	5828.37	.00	.00	5829.49	.12	3.57	.03	5827.20
570.0	7.0	538.6	24.4	4.6	191.3	13.0	58.1	15.8	5827.20
.57	1.33	2.81	1.88	.050	.080	.050	.000	5824.20	1356.69
.006067	240.	245.	240.	7	0	0	.00	102.00	1458.69

*SECNO 9700.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE. KRATIO = .46

FEMA SECTION Z

9700.000	2.78	5831.98	.00	.00	5832.21	.22	3.69	.03	5832.30
455.0	.0	455.0	.0	.0	120.0	.0	59.6	16.5	5832.30
.60	.00	3.79	.00	.000	.080	.000	.000	5829.20	1265.07
.018457	470.	400.	355.	5	0	0	.00	64.82	1329.89

*SECNO 10150.000

FEMA SECTION AA

10150.000	3.46	5838.06	.00	.00	5838.20	.14	5.98	.01	5837.30
455.0	8.7	441.6	4.7	5.4	145.9	2.9	61.0	17.3	5837.30
.64	1.62	3.03	1.63	.050	.080	.050	.000	5834.60	1238.51
.010015	505.	450.	405.	5	0	0	.00	91.94	1330.45

*SECNO 10600.000

DOWNSTREAM OF IRRIGATION CANAL NO. 4 AND PROPOSED OUTFALL POND NO. 3

10600.000	2.52	5842.62	.00	.00	5842.74	.12	4.55	.00	5841.40
455.0	26.1	372.1	56.8	10.2	130.9	20.8	62.7	18.4	5841.40
.69	2.56	2.84	2.73	.050	.080	.050	.000	5840.10	1243.79
.010175	475.	450.	440.	5	0	0	.00	110.86	1354.65

CCHV= .300 CEHV= .500
*SECNO 10650.000

3301 HV CHANGED MORE THAN HVINS

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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


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

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      5846.00 ELREA=      5846.00

       PROPOSED OUTFALL CANAL NO. 4 BOX CULVERT - 4' x 4'
       WITH IMPROVED ENTRANCE (14' X 4' SLOPE TAPERED INLET)
 10650.000      4.04   5844.44   5844.44       .00   5846.48      2.04       .45       .96   5846.00
     183.0        .0     185.0        .0        .0      16.2        .0      62.8      18.5   5846.00
       .69       .00     11.45       .00      .000      .013      .000      .000   5840.40   1260.00
   .006814       50.       50.       50.        20        14         0       .00      4.00   1264.00


*SECNO 10870.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.79

       PROPOSED ENTRANCE CANAL NO.4 BOX CULVERT - 4' x 4'
       WITH IMPROVED ENTRANCE (14' x 4' SLOPE TAPERED INLET)
 10870.000      2.80   5850.80       .00       .00   5851.00       .20       .18       .55   5848.00
     185.0      15.2     153.4      16.5      24.1      39.2      28.9      63.0      18.7   5848.00
       .71       .63      3.91       .57      .050      .013      .050      .000   5848.00   1072.79
   .000296      220.      220.      220.         0         0         0       .00     76.44   1149.23


CCHV=     .100 CEHV=     .300
*SECNO 10900.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .12

       FEMA SECTION AD - UPSTREAM OF IRRIGATION CANAL NO. 4
 10900.000       .67   5850.87       .00       .00   5851.03       .16       .03       .00   5850.20
     185.0       1.2     174.8       9.0        .6      53.8       4.4      63.1      18.7   5850.20
       .71      1.96      3.25      2.04      .050      .050      .050      .000   5850.20   1063.13
   .020296       30.       30.       30.         2         0         0       .00     94.94   1158.08


*SECNO 11350.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.01

       FEMA SECTION AE
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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


11350.000      1.03   5855.03       .00       .00   5855.09       .07      4.05       .01   5854.60
    185.0       1.0     183.3       .7       1.4      88.3       .9      63.9      19.8   5854.60
      .77       .75      2.08      .75      .050      .050      .050      .000   5854.00   1044.54
  .005012      420.      450.      560.         5         0         0       .00    100.77   1145.31


*SECNO 12000.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.13

       UPSTREAM OF PROPOSED ENTRANCE POND NO. 3 - PROPOSED GRASS-LINED CHANNEL
12000.000      4.80   5860.90       .00       .00   5861.78       .88      6.45       .24   5860.10
   1150.0       2.2    1145.6       2.2       1.3     152.2       1.3      65.7      20.8   5860.10
      .80      1.69      7.53      1.69      .050      .050      .050      .000   5856.10   1086.78
  .011353      680.      650.      600.         6         0         0       .00     46.44   1133.22


*SECNO 12275.000

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

       FEMA SECTION AG - PROPOSED GRASS-LINED CHANNEL
12275.000      6.48   5863.88       .00       .00   5864.26       .38      2.43       .05   5861.40
   1150.0      22.9    1104.2      22.9      12.2     218.8      12.2      67.8      21.4   5861.40
      .82      1.88      5.05      1.88      .050      .050      .050      .000   5857.40   1095.12
  .003147      460.      450.      400.         2         0         0       .00     59.75   1154.88


*SECNO 12750.000
       FEMA SECTION AH - PROPOSED GRASS-LINED CHANNEL
12750.000      5.83   5865.63       .00       .00   5866.15       .51      1.85       .04   5863.80
   1150.0      13.0    1124.0      13.0       6.7     193.4       6.7      70.2      22.0   5863.80
      .84      1.93      5.81      1.93      .050      .050      .050      .000   5859.80   1297.66
  .004919      470.      475.      530.         3         0         0       .00     54.68   1352.34


*SECNO 13200.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .53
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       FEMA SECTION AI
 13200.000      3.38   5868.08      .00      .00   5868.13      .06      1.94      .05   5866.60
     495.0      26.2     456.9     11.9     18.5     230.3      8.5      72.6     23.0   5866.60
       .91      1.42      1.98     1.41     .050      .080     .050      .000   5864.70   1213.32
   .003264      475.      450.     430.        1         0        0       .00    127.19   1345.51


#SECNO 13699.000

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

       PROPOSED DROP STRUCTURE BOTTOM
 13699.000      1.49   5870.79      .00      .00   5871.00      .21      2.82      .04   5869.30
     495.0      34.6     434.5     25.9      9.5     119.5      7.1      74.5     24.1   5869.30
       .94      3.65      3.64     3.64     .050      .080     .050      .000   5869.30   1267.29
   .022468      560.      400.     460.        3         0        0       .00    102.24   1369.53


#SECNO 13700.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
 13700.000       .97   5873.27   5873.27      .00   5873.68      .40       .04      .06   5872.30
     495.0      56.9     395.4     42.7     11.1      77.8      8.3      74.5     24.1   5872.30
       .94      5.12      5.08     5.12     .050      .080     .050      .000   5872.30   1257.12
   .077797        1.        1.       1.       20        14        0       .00    120.04   1377.16


#SECNO 14064.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.13

       PROPOSED DROP STRUCTURE BOTTOM
 14064.000      2.23   5877.94      .00      .00   5878.01      .07      4.30      .03   5875.70
     495.0      37.6     432.6     24.8     17.5     201.6     11.7      75.9     25.1   5875.70
       .99      2.15      2.15     2.13     .050      .080     .050      .000   5875.70   1319.37
   .004554      355.      364.     375.        8         0        0       .00    116.04   1435.42


#SECNO 14065.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
 14065.000       .91   5879.61   5879.61      .00   5880.01      .40       .01      .10   5878.70
     495.0      48.6     414.1     32.3      9.5      81.8      6.3      75.9     25.1   5878.70
       .99      5.10      5.06     5.09     .050      .080     .050      .000   5878.70   1314.03
   .084425        1.        1.       1.       20        18        0       .00    124.95   1438.98
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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 14500.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.00

       FEMA SECTION AL
 14500.000      1.40   5885.00       .00       .00   5885.02       .02      4.98       .04   5883.80
    240.0      57.4      81.5     101.1      48.2      78.3      70.3      77.3      26.7   5883.80
     1.06      1.19      1.04      1.44      .050      .080      .050      .000   5883.60   1257.29
   .002209     410.      425.      445.         9         0         0       .00    209.26   1457.55


#SECNO 14879.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE BOTTOM
 14879.000       .73   5887.53   5887.53       .00   5887.83       .30      2.35       .08   5886.80
    240.0      11.3     192.5      36.2       2.5      43.7       8.1      78.3      27.9   5886.80
     1.11      4.43      4.41      4.44      .050      .080      .050      .000   5886.80   1163.09
   .086167     450.      379.      270.        20        11         0       .00     89.38   1252.39


#SECNO 14880.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       PROPOSED DROP STRUCTURE CREST (3' VERTICAL DROP)
 14880.000       .70   5890.50   5890.50       .00   5890.75       .25       .05       .01   5889.80
    240.0      26.0     166.3      47.7       5.8      41.8      12.5      78.3      27.9   5889.80
     1.11      4.52      3.98      3.81      .050      .080      .050      .000   5889.80   1153.83
   .074455        1.        1.        1.        20         8         0       .00    119.66   1273.49


#SECNO 15400.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.19

       FEMA SECTION AN
 15400.000      1.56   5899.56       .00       .00   5899.61       .05      8.64       .02   5898.70
    240.0      39.6     173.3      27.1      27.5      96.3      18.8      79.6      29.7   5898.70
     1.19      1.44      1.80      1.44      .050      .080      .050      .000   5898.00   1248.61
   .007325     480.      520.      560.         9         0         0       .00    188.41   1437.02
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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 15540.000

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       END PROPOSED RIPRAP LINED CHANNEL
 15540.000      2.38   5901.38   5901.38       .00   5902.22       .84      1.62       .24   5901.50
    240.0        .0     240.0        .0        .0      32.5        .0      79.8      30.1   5901.50
     1.20       .00      7.38       .00      .000      .040      .000      .000   5899.00   1400.30
   .021084      135.     140.      145.        20        14         0       .00     19.40   1419.70


*SECNO 15800.000
       FEMA SECTION AO - PROPOSED RIPRAP LINED CHANNEL
 15800.000      2.51   5906.41       .00       .00   5907.13       .72      4.90       .01   5906.40
    240.0        .0     240.0        .0        .0      35.2        .0      80.0      30.2   5906.40
     1.21       .00      6.82       .00      .000      .040      .000      .000   5903.90   1339.94
   .016924      270.     260.      250.         3         0         0       .00     20.12   1360.06


*SECNO 16200.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
       FEMA SECTION AP - PROPOSED RIPRAP LINED CHANNEL
 16200.000      2.38   5913.88   5913.88       .00   5914.72       .84      7.53       .04   5914.00
    240.0        .0     240.0        .0        .0      32.6        .0      80.4      30.4   5914.00
     1.22       .00      7.37       .00      .000      .040      .000      .000   5911.50   1320.30
   .021039      390.     400.      410.         3        11         0       .00     19.41   1339.70


*SECNO 16600.000
       FEMA SECTION AQ - SOUTH OF DRENNAN ROAD - PROPOSED RIPRAP LINED CHANNEL
 16600.000      2.50   5921.60       .00       .00   5922.33       .73      7.60       .01   5921.60
    240.0        .0     240.0        .0        .0      35.0        .0      80.7      30.6   5921.60
     1.24       .00      6.86       .00      .000      .040      .000      .000   5919.10   1245.00
   .017241      385.     400.      420.         4         0         0       .00     20.00   1265.00
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THIS RUN EXECUTED 04FEB92 09:32:09

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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

WINDMILL GULCH FUTURE

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	535.00	5732.00	.00	5732.38	3.53	4.95	108.00	284.94
	2864.000	.00	.00	.00	5726.60	935.00	5733.70	.00	5734.37	4.97	6.58	142.00	419.34
	2893.000	29.00	.00	.00	5726.80	535.00	5731.99	.00	5732.40	3.95	5.15	103.79	269.13
	2893.000	29.00	.00	.00	5726.80	935.00	5733.69	.00	5734.40	5.41	6.79	137.71	401.82
	2997.000	104.00	.00	.00	5727.00	535.00	5732.01	.00	5732.45	4.34	5.33	100.43	256.67
	2997.000	104.00	.00	.00	5727.00	935.00	5733.72	.00	5734.47	5.50	6.96	134.40	388.39
	3017.000	20.00	.00	.00	5727.00	535.00	5732.00	.00	5732.49	5.00	5.64	94.93	239.26
	3017.000	20.00	.00	.00	5727.00	935.00	5733.69	.00	5734.53	6.69	7.36	127.08	361.47
	3067.000	50.00	5738.00	5734.10	5727.10	535.00	5732.07	.00	5732.57	5.66	5.66	94.52	237.79
	3067.000	50.00	5738.00	5734.10	5727.10	935.00	5734.34	.00	5735.06	5.35	6.79	137.76	404.20
	3071.000	4.00	.00	.00	5727.10	535.00	5732.08	.00	5732.57	5.05	5.66	94.56	237.96
	3071.000	4.00	.00	.00	5727.10	935.00	5734.34	.00	5735.06	5.37	6.79	137.62	403.63
	3098.000	27.00	.00	.00	5727.10	535.00	5732.10	.00	5732.59	5.01	5.64	94.84	238.96
	3098.000	27.00	.00	.00	5727.10	935.00	5734.36	.00	5735.07	5.34	6.78	137.88	404.68
*	3114.000	16.00	.00	.00	5731.60	535.00	5734.50	5734.50	5735.96	24.76	9.69	55.19	107.51
*	3114.000	16.00	.00	.00	5731.60	935.00	5735.82	5735.82	5737.93	24.97	11.67	80.12	187.12
*	3142.000	28.00	.00	.00	5732.00	535.00	5736.25	5736.25	5737.81	21.37	10.01	53.43	115.73
*	3142.000	28.00	.00	.00	5732.00	935.00	5737.89	5737.89	5739.78	17.96	11.06	89.28	220.63
*	3250.000	108.00	.00	.00	5733.10	535.00	5737.39	5737.39	5738.99	21.77	10.14	52.72	114.67
*	3250.000	108.00	.00	.00	5733.10	935.00	5738.90	5738.90	5741.02	21.48	11.69	79.98	201.76
*	3625.000	375.00	.00	.00	5736.90	535.00	5741.18	5741.18	5742.79	21.99	10.17	52.59	114.09
*	3625.000	375.00	.00	.00	5736.90	935.00	5742.74	5742.74	5744.82	20.82	11.56	80.91	204.93

	SECND	XLCH	ELTRD	ELLC	ELMIN	B	CWBEL	CRIWB	EG	10%KB	VCN	AREA	.01K
*	4100.000	475.00	.00	.00	5743.70	535.00	5747.99	5747.99	5749.59	21.92	10.16	52.64	114.27
*	4100.000	475.00	.00	.00	5743.70	935.00	5749.52	5749.52	5751.62	21.21	11.64	80.35	203.02
*	4575.000	475.00	.00	.00	5750.20	535.00	5754.49	5754.49	5756.09	21.92	10.16	52.64	114.26
*	4575.000	475.00	.00	.00	5750.20	935.00	5756.05	5756.05	5758.12	20.72	11.54	81.05	205.43
*	5015.000	440.00	.00	.00	5755.70	535.00	5757.84	5757.84	5758.92	22.93	8.32	64.28	111.71
*	5015.000	440.00	.00	.00	5755.70	935.00	5758.81	5758.81	5760.37	21.88	10.94	93.15	199.91
*	5043.000	28.00	.00	.00	5755.80	535.00	5757.94	5757.94	5759.02	22.93	8.32	64.28	111.71
*	5043.000	28.00	.00	.00	5755.80	935.00	5758.90	5758.90	5760.47	21.92	10.04	93.09	199.72
*	5056.000	13.00	.00	.00	5755.90	535.00	5758.14	5758.14	5759.27	23.13	8.53	62.74	111.23
*	5056.000	13.00	.00	.00	5755.90	935.00	5759.15	5759.15	5760.79	22.08	10.28	91.12	199.00
*	5099.000	43.00	5762.80	5760.80	5756.80	525.00	5759.64	.00	5760.32	10.64	6.61	79.45	160.95
*	5099.000	43.00	5762.80	5760.80	5756.80	885.00	5760.82	.00	5761.78	10.38	7.87	112.49	274.67
	5105.000	6.00	.00	.00	5757.00	525.00	5759.65	.00	5760.32	11.33	6.61	79.44	155.95
	5105.000	6.00	.00	.00	5757.00	885.00	5760.91	.00	5761.79	9.63	7.54	117.30	285.19
*	5133.000	28.00	.00	.00	5758.20	525.00	5762.44	5762.44	5764.03	22.00	10.12	51.86	111.94
*	5133.000	28.00	.00	.00	5758.20	885.00	5763.88	5763.88	5765.89	20.74	11.38	77.79	194.34
*	5335.000	202.00	.00	.00	5762.70	525.00	5766.94	5766.94	5768.53	21.96	10.12	51.89	112.03
*	5335.000	202.00	.00	.00	5762.70	885.00	5768.36	5768.36	5770.40	21.09	11.45	77.31	192.70
*	5453.000	118.00	.00	.00	5765.30	525.00	5768.89	5768.89	5770.16	20.40	9.04	58.06	116.24
*	5453.000	118.00	.00	.00	5765.30	885.00	5770.03	5770.03	5771.63	18.98	10.12	87.44	203.16
*	5557.000	104.00	.00	.00	5767.90	525.00	5771.50	5771.50	5772.76	20.07	8.99	58.40	117.18
*	5557.000	104.00	.00	.00	5767.90	885.00	5772.64	5772.64	5774.23	18.87	10.10	87.61	203.71
*	5589.000	32.00	.00	.00	5768.70	525.00	5771.79	5771.79	5773.34	25.66	9.99	52.54	103.64
*	5589.000	32.00	.00	.00	5768.70	885.00	5773.06	5773.06	5775.27	26.61	11.94	74.12	171.37
*	5615.000	26.00	.00	.00	5769.30	525.00	5772.38	5772.38	5773.94	25.90	10.02	52.38	103.15
*	5615.000	26.00	.00	.00	5769.30	885.00	5773.67	5773.67	5775.87	26.40	11.91	74.32	172.24
*	5675.000	60.00	5779.40	5775.80	5769.80	525.00	5773.87	.00	5774.76	11.45	7.59	69.13	155.13
*	5675.000	60.00	5779.40	5775.80	5769.80	885.00	5775.56	.00	5776.83	12.09	9.04	97.87	234.55
*	5702.000	27.00	.00	.00	5770.00	525.00	5774.83	.00	5774.85	.27	1.71	896.37	1003.09
*	5702.000	27.00	.00	.00	5770.00	885.00	5776.94	.00	5776.95	.16	1.65	1601.79	2226.21
	6000.000	298.00	.00	.00	5771.40	840.00	5774.86	.00	5774.87	.99	.64	1303.88	846.35
	6000.000	298.00	.00	.00	5771.40	1600.00	5776.96	.00	5776.96	.42	.63	2529.84	2472.29
*	6300.000	300.00	.00	.00	5773.10	840.00	5774.89	.00	5774.98	38.48	2.42	347.77	135.41
*	6300.000	300.00	.00	.00	5773.10	1600.00	5776.97	.00	5777.00	3.52	1.39	1150.90	852.99

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	6607.000	307.00	.00	.00	5776.20	675.00	5777.63	5777.63	5778.15	234.97	5.80	116.47	44.04
*	6607.000	307.00	.00	.00	5776.20	1165.00	5778.10	5778.10	5778.79	218.34	6.68	174.59	75.84
*	6636.000	29.00	.00	.00	5776.90	675.00	5778.58	5778.58	5779.34	209.84	6.99	96.62	46.60
*	6636.000	29.00	.00	.00	5776.90	1165.00	5779.27	5779.27	5780.29	190.18	8.14	143.19	84.48
*	6637.000	1.00	.00	.00	5778.90	675.00	5781.95	5781.95	5782.77	210.66	7.27	92.84	46.51
*	6637.000	1.00	.00	.00	5778.90	1165.00	5782.71	5782.71	5783.79	185.47	8.36	139.29	85.54
*	6817.000	180.00	.00	.00	5781.60	675.00	5784.15	.00	5784.44	49.28	4.32	156.17	96.15
*	6817.000	180.00	.00	.00	5781.60	1165.00	5785.02	.00	5785.44	51.22	5.22	223.25	162.76
	6846.000	29.00	.00	.00	5781.70	675.00	5784.30	.00	5784.57	45.66	4.21	160.23	99.89
	6846.000	29.00	.00	.00	5781.70	1165.00	5785.19	.00	5785.59	47.89	5.10	228.45	168.34
*	6847.000	1.00	.00	.00	5783.70	675.00	5786.75	5786.75	5787.57	211.66	7.28	92.70	46.40
*	6847.000	1.00	.00	.00	5783.70	1165.00	5787.49	5787.49	5788.59	189.62	8.43	138.26	84.60
*	6992.000	145.00	.00	.00	5786.30	675.00	5788.74	.00	5789.06	57.17	4.54	148.59	89.28
*	6992.000	145.00	.00	.00	5786.30	1165.00	5789.60	.00	5790.06	58.61	5.46	213.18	132.18
	7032.000	40.00	.00	.00	5786.40	675.00	5788.94	.00	5789.27	47.76	4.78	150.28	97.67
	7032.000	40.00	.00	.00	5786.40	1165.00	5789.78	.00	5790.29	51.12	5.99	210.62	162.95
*	7072.000	40.00	.00	.00	5791.80	675.00	5797.93	5797.93	5800.23	26.98	12.18	55.44	129.94
*	7072.000	40.00	.00	.00	5791.80	1165.00	5799.95	5799.95	5803.27	31.07	14.62	79.67	208.99
*	8450.000	.10	.00	.00	5815.20	530.00	5823.00	.00	5823.00	.22	.32	1600.88	1134.98
*	8450.000	.10	.00	.00	5815.20	915.00	5824.50	.00	5824.50	.28	.41	2124.65	1738.57
*	8875.000	425.00	.00	.00	5818.50	365.00	5823.01	.00	5823.02	2.01	.66	530.06	257.72
*	8875.000	425.00	.00	.00	5818.50	570.00	5824.52	.00	5824.52	1.12	.61	893.37	538.72
*	9054.000	179.00	.00	.00	5820.50	365.00	5823.07	.00	5823.09	8.22	1.00	364.55	127.33
*	9054.000	179.00	.00	.00	5820.50	570.00	5824.54	.00	5824.55	3.16	.84	679.62	320.76
*	9055.000	1.00	.00	.00	5823.50	365.00	5824.27	5824.27	5824.58	846.10	4.52	81.24	12.55
*	9055.000	1.00	.00	.00	5823.50	570.00	5824.51	5824.51	5824.89	722.80	5.02	115.57	21.20
*	9300.000	245.00	.00	.00	5824.20	365.00	5827.86	.00	5827.94	53.25	2.30	161.59	50.02
*	9300.000	245.00	.00	.00	5824.20	570.00	5828.37	.00	5828.49	60.67	2.81	208.93	73.18
*	9700.000	400.00	.00	.00	5829.20	340.00	5831.52	.00	5831.74	224.45	3.71	91.55	22.69
*	9700.000	400.00	.00	.00	5829.20	455.00	5831.98	.00	5832.21	184.57	3.79	120.05	33.49
*	10150.000	450.00	.00	.00	5834.60	340.00	5837.79	.00	5837.90	91.82	2.64	130.58	35.48
	10150.000	450.00	.00	.00	5834.60	455.00	5838.06	.00	5838.20	100.15	3.03	154.14	45.47
	10600.000	450.00	.00	.00	5840.10	340.00	5842.33	.00	5842.44	111.41	2.66	130.83	32.21
	10600.000	450.00	.00	.00	5840.10	455.00	5842.62	.00	5842.74	101.75	2.84	161.89	45.11

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	10650.000	50.00	.00	.00	5840.40	130.00	5843.60	5843.60	5845.20	60.09	10.17	12.78	16.77
*	10650.000	50.00	.00	.00	5840.40	185.00	5844.44	5844.44	5846.48	68.14	11.45	16.15	22.41
*	10870.000	220.00	.00	.00	5848.00	130.00	5850.40	.00	5850.55	2.67	3.35	65.88	79.61
*	10870.000	220.00	.00	.00	5848.00	185.00	5850.80	.00	5851.00	2.96	3.91	92.22	107.44
*	10900.000	30.00	.00	.00	5850.20	130.00	5850.63	5850.63	5850.83	469.54	3.66	36.29	6.00
*	10900.000	30.00	.00	.00	5850.20	185.00	5850.87	.00	5851.03	202.96	3.25	58.81	12.99
*	11350.000	450.00	.00	.00	5854.00	130.00	5854.92	.00	5854.96	37.44	1.65	79.42	21.25
*	11350.000	450.00	.00	.00	5854.00	185.00	5855.03	.00	5855.09	50.12	2.08	90.58	26.13
*	12000.000	650.00	.00	.00	5856.10	555.00	5859.62	.00	5860.08	95.10	5.48	101.26	56.91
*	12000.000	650.00	.00	.00	5856.10	1150.00	5860.90	.00	5861.78	113.53	7.53	154.80	107.93
*	12275.000	450.00	.00	.00	5857.40	555.00	5862.09	.00	5862.31	29.67	3.76	148.99	101.89
*	12275.000	450.00	.00	.00	5857.40	1150.00	5863.88	.00	5864.26	31.47	5.05	243.15	204.99
	12750.000	475.00	.00	.00	5859.80	555.00	5863.88	.00	5864.19	53.51	4.50	123.23	75.39
	12750.000	475.00	.00	.00	5859.80	1150.00	5865.63	.00	5866.15	49.19	5.81	206.87	163.97
*	13200.000	450.00	.00	.00	5864.70	285.00	5866.95	.00	5867.02	85.69	2.19	131.05	30.79
*	13200.000	450.00	.00	.00	5864.70	495.00	5868.08	.00	5868.13	32.64	1.98	257.22	86.84
	13699.000	400.00	.00	.00	5869.30	285.00	5870.68	.00	5870.76	98.60	2.29	124.61	28.70
*	13699.000	400.00	.00	.00	5869.30	495.00	5870.79	.00	5871.00	224.68	3.64	136.06	33.02
*	13700.000	1.00	.00	.00	5872.30	285.00	5872.99	5872.99	5873.29	936.27	4.42	64.46	9.31
*	13700.000	1.00	.00	.00	5872.30	495.00	5873.27	5873.27	5873.68	777.97	5.08	97.23	17.75
*	14064.000	364.00	.00	.00	5875.70	285.00	5877.39	.00	5877.43	41.45	1.69	168.27	44.27
*	14064.000	364.00	.00	.00	5875.70	495.00	5877.94	.00	5878.01	45.54	2.15	230.74	73.35
*	14065.000	1.00	.00	.00	5878.70	285.00	5879.35	5879.35	5879.63	961.59	4.30	66.16	9.19
*	14065.000	1.00	.00	.00	5878.70	495.00	5879.61	5879.61	5880.01	844.25	5.06	97.66	17.04
*	14500.000	425.00	.00	.00	5883.60	165.00	5884.73	.00	5884.76	26.53	.98	145.57	32.03
*	14500.000	425.00	.00	.00	5883.60	240.00	5885.00	.00	5885.02	22.09	1.04	196.82	51.06
*	14879.000	379.00	.00	.00	5886.80	165.00	5887.38	5887.38	5887.62	967.41	4.00	41.23	5.30
*	14879.000	379.00	.00	.00	5886.80	240.00	5887.53	5887.53	5887.83	861.67	4.41	54.34	8.18
*	14880.000	1.00	.00	.00	5889.80	165.00	5890.36	5890.36	5890.57	829.30	3.65	45.01	5.73
*	14880.000	1.00	.00	.00	5889.80	240.00	5890.50	5890.50	5890.75	744.55	3.98	60.06	8.80
*	15400.000	520.00	.00	.00	5898.00	165.00	5899.38	.00	5899.41	70.74	1.55	110.79	19.62
*	15400.000	520.00	.00	.00	5898.00	240.00	5899.56	.00	5899.61	73.25	1.80	142.59	28.04
*	15540.000	140.00	.00	.00	5899.00	165.00	5900.93	5900.93	5901.64	223.91	6.79	24.31	11.03
*	15540.000	140.00	.00	.00	5899.00	240.00	5901.38	5901.38	5902.22	210.84	7.38	32.54	16.53

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	15800.000	260.00	.00	.00	5903.90	165.00	5906.00	.00	5906.56	161.27	6.03	27.35	12.99
	15800.000	260.00	.00	.00	5903.90	240.00	5906.41	.00	5907.13	169.24	6.82	35.20	18.45
	16200.000	400.00	.00	.00	5911.50	165.00	5913.43	5913.43	5914.14	222.62	6.77	24.36	11.06
*	16200.000	400.00	.00	.00	5911.50	240.00	5913.88	5913.88	5914.72	210.39	7.37	32.56	16.55
	16600.000	400.00	.00	.00	5919.10	165.00	5921.19	.00	5921.76	164.29	6.07	27.17	12.87
	16600.000	400.00	.00	.00	5919.10	240.00	5921.60	.00	5922.33	172.41	6.86	35.00	18.28

WINDMILL GULCH FUTURE

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	2864.000	535.00	5732.00	.00	.00	.00	20.00	.00
	2864.000	935.00	5733.70	1.70	.00	.00	20.00	.00
	2893.000	535.00	5731.99	.00	-.01	.00	20.00	29.00
	2893.000	935.00	5733.69	1.70	-.01	.00	20.00	29.00
	2997.000	535.00	5732.01	.00	.02	.00	20.00	104.00
	2997.000	935.00	5733.72	1.71	.03	.00	20.00	104.00
	3017.000	535.00	5732.00	.00	-.02	.00	19.00	20.00
	3017.000	935.00	5733.69	1.69	-.03	.00	19.00	20.00
	3067.000	535.00	5732.07	.00	.08	.00	19.00	50.00
	3067.000	935.00	5734.34	2.27	.65	.00	19.00	50.00
	3071.000	535.00	5732.08	.00	.00	.00	19.00	4.00
	3071.000	935.00	5734.34	2.26	.00	.00	19.00	4.00
	3098.000	535.00	5732.10	.00	.02	.00	19.00	27.00
	3098.000	935.00	5734.36	2.26	.02	.00	19.00	27.00
*	3114.000	535.00	5734.50	.00	2.41	.00	19.00	16.00
*	3114.000	935.00	5735.82	1.31	1.46	.00	19.00	16.00
*	3142.000	535.00	5736.25	.00	1.75	.00	17.14	28.00
*	3142.000	935.00	5737.89	1.64	2.07	.00	34.99	28.00
*	3250.000	535.00	5737.39	.00	1.14	.00	16.59	108.00
*	3250.000	935.00	5738.90	1.50	1.01	.00	19.59	108.00
*	3625.000	535.00	5741.18	.00	3.79	.00	16.56	375.00
*	3625.000	935.00	5742.74	1.56	3.85	.00	19.69	375.00
*	4100.000	535.00	5747.99	.00	6.80	.00	16.57	475.00
*	4100.000	935.00	5749.52	1.53	6.77	.00	19.63	475.00
*	4575.000	535.00	5754.49	.00	6.50	.00	16.57	475.00
*	4575.000	935.00	5756.05	1.57	6.54	.00	19.70	475.00
*	5015.000	535.00	5757.84	.00	3.36	.00	30.00	440.00
*	5015.000	935.00	5758.81	.96	2.75	.00	30.00	440.00
*	5043.000	535.00	5757.94	.00	.10	.00	30.00	28.00
*	5043.000	935.00	5758.90	.96	.10	.00	30.00	28.00
*	5056.000	535.00	5758.14	.00	.20	.00	28.00	13.00
*	5056.000	935.00	5759.15	1.01	.25	.00	28.00	13.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	5099.000	525.00	5759.64	.00	1.50	.00	28.00	43.00
*	5099.000	885.00	5760.82	1.18	1.66	.00	28.00	43.00
	5105.000	525.00	5759.65	.00	.01	.00	30.00	6.00
	5105.000	885.00	5760.91	1.26	.09	.00	30.00	6.00
*	5133.000	525.00	5762.44	.00	2.79	.00	16.48	28.00
*	5133.000	885.00	5763.88	1.45	2.98	.00	19.37	28.00
*	5335.000	525.00	5766.94	.00	4.50	.00	16.48	202.00
*	5335.000	885.00	5768.36	1.42	4.48	.00	19.32	202.00
*	5453.000	525.00	5768.89	.00	1.95	.00	23.36	118.00
*	5453.000	885.00	5770.03	1.15	1.67	.00	27.94	118.00
*	5557.000	525.00	5771.50	.00	2.61	.00	23.41	104.00
*	5557.000	885.00	5772.64	1.14	2.61	.00	27.96	104.00
*	5589.000	525.00	5771.79	.00	.29	.00	17.00	32.00
*	5589.000	885.00	5773.06	1.27	.42	.00	17.00	32.00
*	5615.000	525.00	5772.38	.00	.59	.00	17.00	26.00
*	5615.000	885.00	5773.67	1.29	.61	.00	17.00	26.00
*	5675.000	525.00	5773.87	.00	1.49	.00	17.00	60.00
*	5675.000	885.00	5775.36	1.69	1.89	.00	17.00	60.00
*	5702.000	525.00	5774.83	.00	.97	.00	311.00	27.00
*	5702.000	885.00	5776.94	2.10	1.38	.00	355.32	27.00
	6000.000	840.00	5774.86	.00	.03	.00	564.45	298.00
	6000.000	1600.00	5776.96	2.09	.02	.00	601.37	298.00
*	6300.000	840.00	5774.89	.00	.03	.00	324.07	300.00
*	6300.000	1600.00	5776.97	2.08	.01	.00	414.67	300.00
*	6607.000	675.00	5777.63	.00	2.73	.00	113.37	307.00
*	6607.000	1165.00	5778.10	.47	1.13	.00	132.16	307.00
*	6636.000	675.00	5778.58	.00	.96	.00	64.94	29.00
*	6636.000	1165.00	5779.27	.69	1.17	.00	71.03	29.00
*	6637.000	675.00	5781.95	.00	3.37	.00	58.39	1.00
*	6637.000	1165.00	5782.71	.76	3.44	.00	64.44	1.00
*	6817.000	675.00	5784.15	.00	2.20	.00	72.64	180.00
*	6817.000	1165.00	5785.02	.88	2.31	.00	80.43	180.00
	6846.000	675.00	5784.30	.00	.15	.00	73.13	29.00
	6846.000	1165.00	5785.19	.89	.16	.00	81.00	29.00

	SECND	Q	DWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	6847.000	675.00	5786.75	.00	2.45	.00	58.37	1.00
*	6847.000	1165.00	5787.49	.74	2.30	.00	64.31	1.00
*	6992.000	675.00	5788.74	.00	1.99	.00	71.71	145.00
*	6992.000	1165.00	5789.60	.86	2.11	.00	79.31	145.00
	7032.000	675.00	5788.94	.00	.20	.00	68.40	40.00
	7032.000	1165.00	5789.78	.85	.19	.00	74.52	40.00
*	7072.000	675.00	5797.93	.00	8.99	.00	12.00	40.00
*	7072.000	1165.00	5799.95	2.02	10.17	.00	12.00	40.00
*	8450.000	530.00	5823.00	.00	25.07	.00	330.01	.10
*	8450.000	915.00	5824.50	1.50	24.55	.00	370.91	.10
*	8875.000	365.00	5823.01	.00	.01	.00	205.76	425.00
*	8875.000	570.00	5824.52	1.50	.02	.00	273.08	425.00
*	9054.000	365.00	5823.07	.00	.06	.00	188.52	179.00
*	9054.000	570.00	5824.54	1.47	.03	.00	241.77	179.00
*	9055.000	365.00	5824.27	.00	1.19	.00	130.23	1.00
*	9055.000	570.00	5824.51	.24	-.04	.00	153.24	1.00
*	9300.000	365.00	5827.86	.00	3.59	.00	86.63	245.00
*	9300.000	570.00	5828.37	.51	3.86	.00	102.00	245.00
*	9700.000	340.00	5831.52	.00	3.67	.00	59.07	400.00
*	9700.000	455.00	5831.98	.46	3.62	.00	64.82	400.00
*	10150.000	340.00	5837.79	.00	6.27	.00	84.04	450.00
	10150.000	455.00	5838.06	.27	6.07	.00	91.94	450.00
	10600.000	340.00	5842.33	.00	4.54	.00	105.84	450.00
	10600.000	455.00	5842.62	.29	4.56	.00	110.86	450.00
*	10650.000	130.00	5843.60	.00	1.26	.00	4.00	50.00
*	10650.000	185.00	5844.44	.84	1.82	.00	4.00	50.00
*	10870.000	130.00	5850.40	.00	6.81	.00	55.25	220.00
*	10870.000	185.00	5850.80	.40	6.36	.00	76.44	220.00
*	10900.000	130.00	5850.63	.00	.23	.00	89.52	30.00
*	10900.000	185.00	5850.87	.25	.07	.00	94.94	30.00
*	11350.000	130.00	5854.92	.00	4.29	.00	97.96	450.00
*	11350.000	185.00	5855.03	.10	4.15	.00	100.77	450.00
*	12000.000	555.00	5859.62	.00	4.70	.00	37.59	650.00
*	12000.000	1150.00	5860.90	1.29	5.88	.00	46.44	650.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	12275.000	555.00	5862.09	.00	2.47	.00	45.43	450.00
*	12275.000	1150.00	5863.88	1.79	2.97	.00	59.75	450.00
	12750.000	555.00	5863.88	.00	1.79	.00	40.64	475.00
	12750.000	1150.00	5865.63	1.76	1.76	.00	54.68	475.00
*	13200.000	285.00	5866.95	.00	3.07	.00	98.69	450.00
*	13200.000	495.00	5868.08	1.13	2.44	.00	127.19	450.00
	13699.000	285.00	5870.68	.00	3.73	.00	100.56	400.00
*	13699.000	495.00	5870.79	.11	2.72	.00	102.24	400.00
*	13700.000	285.00	5872.99	.00	2.30	.00	108.21	1.00
*	13700.000	495.00	5873.27	.29	2.48	.00	120.04	1.00
*	14064.000	285.00	5877.39	.00	4.40	.00	109.61	364.00
*	14064.000	495.00	5877.94	.55	4.66	.00	116.04	364.00
*	14065.000	285.00	5879.35	.00	1.96	.00	114.85	1.00
*	14065.000	495.00	5879.61	.26	1.67	.00	124.95	1.00
*	14500.000	165.00	5884.73	.00	5.39	.00	184.27	425.00
*	14500.000	240.00	5885.00	.26	5.39	.00	200.26	425.00
*	14879.000	165.00	5887.38	.00	2.64	.00	83.25	379.00
*	14879.000	240.00	5887.53	.15	2.53	.00	89.38	379.00
*	14880.000	165.00	5890.36	.00	2.99	.00	106.33	1.00
*	14880.000	240.00	5890.50	.13	2.97	.00	119.66	1.00
*	15400.000	165.00	5899.38	.00	9.01	.00	165.60	520.00
*	15400.000	240.00	5899.56	.19	9.07	.00	188.41	520.00
*	15540.000	165.00	5900.93	.00	1.55	.00	17.24	140.00
*	15540.000	240.00	5901.38	.45	1.81	.00	19.40	140.00
	15800.000	165.00	5906.00	.00	5.07	.00	18.07	260.00
	15800.000	240.00	5906.41	.41	5.03	.00	20.12	260.00
	16200.000	165.00	5913.43	.00	7.43	.00	17.26	400.00
*	16200.000	240.00	5913.88	.45	7.47	.00	19.41	400.00
	16600.000	165.00	5921.19	.00	7.76	.00	18.02	400.00
	16600.000	240.00	5921.60	.42	7.72	.00	20.00	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

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CAUTION SECNO=   3142.000  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION SECNO=   5043.000  PROFILE=  1  MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=   5099.000  PROFILE=  1  HYDRAULIC JUMP D.S.
WARNING SECNO=   5099.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
CAUTION SECNO=   5099.000  PROFILE=  2  HYDRAULIC JUMP D.S.

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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

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CAUTION SECNO=   6847.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=   7072.000  PROFILE=  2  PROBABLE MINIMUM SPECIFIC ENERGY
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CAUTION SECNO=  16200.000  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=  16200.000  PROFILE=  2  MINIMUM SPECIFIC ENERGY
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L. FLOODPLAIN MAPS