HEC-1 OUTPUT
LARGER SUB-BASINS

DESIGN FOR:

100 YEAR 24 HOUR STORM
TYPE IIA RAINFALL DISTRIBUTION
FULL DEVELOPMENT CONDITIONS
DETENTION PONDS @ WAGNER PARK
RED WING SANCTUARY
VALLEY HI LAKE
UNION BLVD.

1

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FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
****

THIS HEC-1 VERSION CONTAINS ALL OPTIONS EXCEPT ECONOMICS, AND THE NUMBER OF PLANS ARE REDUCED TO 3

1

HEC-1 INPUT PAGE 1

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

  1           ID        SPRING CREEK DBPS  URS PROJECT NO. 40218
  2           ID        FINAL DRAFT    HYDROLOGY FOR THE BASIN - INPUT FILE SP17.INP
  3           ID        USING THE 100-YEAR 24-HOUR STORM IN THE CITY/COUNTY CRITERIA
  4           ID        USE FOR MAIN CHANNEL - LARGER SUBBASINS AT KEY POINTS
  5           ID        RUN DATE  10-9-1992     WITH FULL DETENTION SCHEME 3b + WAGNER PARK
              *DIAGRAM
  6           IT      5 01JUL90     800     300
  7           IO      5

  8           KK      3
  9           KM          RUNOFF FROM BASIN A    DESIGN PT 3 IN OTHER RUN - PLATTE AVE
 10           BA  1.328
 11           LS      0    86.1
 12           UD  0.360
 13           IN     15
 14           PB      0
 15           PC  0.000   0.002   0.007   0.013   0.020   0.026   0.035   0.044   0.053   0.063
 16           PC  0.073   0.083   0.092   0.103   0.112   0.122   0.141   0.172   0.202   0.233
 17           PC  0.264   0.330   0.440   1.760   3.080   3.190   3.300   3.366   3.432   3.476
 18           PC  3.520   3.564   3.608   3.630   3.652   3.674   3.696   3.718   3.740   3.762
 19           PC  3.784   3.801   3.817   3.834   3.850   3.867   3.883   3.900   3.916   3.933
 20           PC  3.949   3.966   3.982   3.997   4.011   4.025   4.039   4.052   4.066   4.079
 21           PC  4.092   4.103   4.114   4.125   4.136   4.147   4.158   4.169   4.180   4.191
 22           PC  4.202   4.213   4.224   4.235   4.246   4.257   4.268   4.279   4.290   4.301
 23           PC  4.312   4.318   4.323   4.329   4.334   4.340   4.345   4.351   4.356   4.362
 24           PC  4.367   4.373   4.378   4.384   4.389   4.395   4.400

 25           KK    3-5
 26           KM        ROUTE FROM DESIGN PT 3 TO DESIGN POINT 5 - PLATTE AVE TO PIKES PEAK AVE
 27           RK   4800   0.015   0.035            TRAP      40     1.5

 28           KK      B
 29           KM        RUNOFF FROM BASIN B
 30           BA  0.383
 31           LS      0    88.0
 32           UD  0.345
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 33          KK       5
 34          KM         COMBINE   3-5,B - PIKES PEAK AVE
 35          HC       2

 36          KK    5DET
 37          KO       1       2     300       7      21
 38          KM        DETENTION STORAGE AT WAGNER PARK USING EXISTING DOUBLE 12X6 CBC
 39          SV       0     .56    1.94    4.08    9.02   16.88   25.46   34.66
 40          SQ      72     432     840    1248    1512    1752    1968    2160
 41          SE    6016    6018    6020    6022    6024    6026    6028    6030
 42          RS       1    ELEV    6016

 43          KK       C
 44          KM         RUNOFF FROM BASIN C
 45          BA   0.781
 46          LS       0    86.7
 47          UD   0.275
1                                    HEC-1 INPUT                                    PAGE  2

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

 48          KK       6
 49          KO       1       2     300       7      21
 50          KM         COMBINE 5,C - CONFLUENCE WITH EAST FORK OF SPRING CREEK
 51          HC       2

 52          KK    6DET
 53          KO       1       2     300       7      21
 54          KM        DETENTION STORAGE AT RED WING SANCTUARY W/ 2-24" RCP & 35' WEIR AT 5989
 55          SV       0     0.3     1.3     3.9     8.4    14.2    21.0    29.5    41.1
 56          SQ       0      30     170     630    1270    2050    2950    3960    5050
 57          SE    5986    5988    5990    5992    5994    5996    5998    6000    6002
 58          RS       1    ELEV    5986

 59          KK     6-7
 60          KM         ROUTE FROM DES PT 6 TO DES PT 7
 61          RK    1400   0.007   0.015            TRAP      45     1.5

 62          KK       D
 63          KM         RUNOFF FROM BASIN D
 64          BA   0.694
 65          LS       0    85.9
 66          UD    0.55

 67          KK       7
 68          KM         COMBINE 6-7,D  - AIRPORT ROAD
 69          HC       2

 70          KK     7-9
 71          KM         ROUTE FROM DES PT 7 TO DES PT 9 - AIRPORT RD TO CHELTON DRIVE
 72          RK    3400   0.007   0.035            TRAP      45     1.5

 73          KK       E
 74          KM         RUNOFF FROM BASIN E
 75          BA   0.288
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 76          LS       0     90.9
 77          UD   0.245

 78          KK       9
 79          KM          COMBINE   7-9,E - CHELTON DRIVE
 80          HC       2

 81          KK    9-10
 82          KM          ROUTE FROM DES PT 9 TO DES PT 10 - CHELTON DR TO VALLEY HI LAKE
 83          RK    1600   0.007   0.035             TRAP      45     1.5

 84          KK       F
 85          KM          RUNOFF FROM BASIN F
 86          BA   0.533
 87          LS       0     79.6
 88          UD   0.280
                                      HEC-1 INPUT                                  PAGE  3
1

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


 89          KK       G
 90          KM          RUNOFF FROM BASIN G
 91          BA   0.907
 92          LS       0     84.5
 93          UD   0.280

 94          KK      10
 95          KO       1       2     300       7      21
 96          KM          COMBINE 9-10,F,G - VALLEY HI LAKE
 97          HC       3

 98          KK   10DET
 99          KO       1       2     300       7      21
100          KM          DETENTION STORAGE AT VALLEY HI LAKE - LEAVE SPILLWAY @ CURRENT EL
101          SV       0     9.2    38.1    78.4   127.6   184.1   246.2   314.1   387.5
102          SQ       0     600    3100    5700   13577   26671   43488   63141   85505
103          SE  5945.0  5946.0  5948.0  5950.0  5952.0  5954.0  5956.0  5958.0  5960.0
104          RS       1    ELEV  5945.0

105          KK   10-12
106          KM          ROUTE FROM DES PT 10 TO DES PT 12 - VALLEY HI LAKE TO CIRCLE DRIVE
107          RK    1600   0.008   0.015             TRAP      22     1.5

108          KK       H
109          KM          RUNOFF FROM BASIN H
110          BA   0.740
111          LS       0     84.1
112          UD   0.300

113          KK      12
114          KM          COMBINE 10-12,H - CIRCLE DRIVE
115          HC       2

116          KK   12-14
117          KM          ROUTE FROM DES PT 12 TO DES PT 14 - CIRCLE DR TO UNION BLVD
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118          RK    4000  0.015   0.035            TRAP       25      1.5
119          KK       I
120          KM         RUNOFF FROM BASIN I
121          BA   0.653
122          LS       0    87.9
123          UD   0.280

124          KK      14
125          KO       1       2     300       7      21
126          KM         COMBINE 12-14,I - UNION BLVD
127          HC       2

128          KK   14DET
129          KO       1       2     300       7      21
130          KM         DETENTION STORAGE AT UNION BLVD. - PROVIDED BY US 24 BYPASS
131          SV       0     0.2     2.3     8.3    16.1    29.4    44.0    60.2    77.3    95.6
132          SV   114.9   134.1   156.2   178.3
133          SQ       0     234     634    1170    1768    2236    2990    3536    4030    4420
                                          HEC-1 INPUT                                              PAGE  4
1
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

134          SQ    4810    5200    5590    5980
135          SE    5878    5880    5882    5884    5886    5888    5890    5892    5894    5896
136          SE    5898    5900    5902    5904
137          RS       1    ELEV    5878

138          KK   14-16
139          KM         ROUTE FROM DES PT 14 TO DES PT 16 - UNION BLVD TO FOUNTAIN CREEK
140          RK    4500   0.010   0.035            TRAP       40      1.5

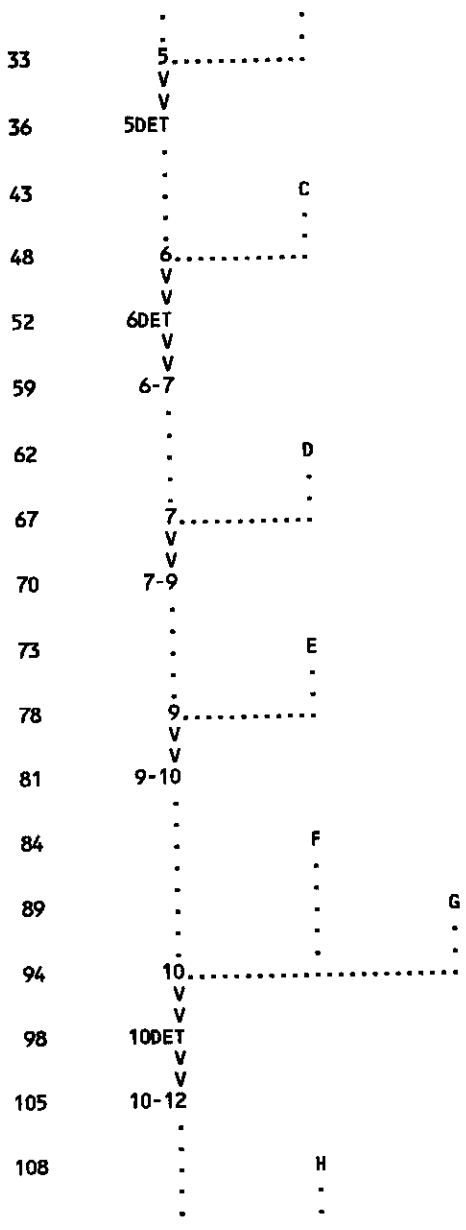
141          KK       J
142          KM         RUNOFF FROM BASIN J
143          BA   0.729
144          LS       0    83.3
145          UD   0.430

146          KK      16
147          KM         COMBINE 14-16,J - CONFLUENCE WITH FOUNTAIN CREEK
148          HC       2
149          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   8                3
                    V
                    V
  25              3-5
                    .
                    .
  28                .          B
```


33
5
36
5DET
43
C
48
6
52
6DET
59
6-7
62
D
67
7
70
7-9
73
E
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9
81
9-10
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G
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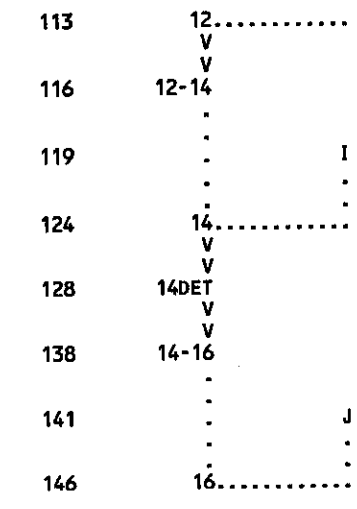
10
98
10DET
105
10-12
108
H



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616

****

SPRING CREEK DBPS URS PROJECT NO. 40218
FINAL DRAFT HYDROLOGY FOR THE BASIN - INPUT FILE SP17.INP
USING THE 100-YEAR 24-HOUR STORM IN THE CITY/COUNTY CRITERIA
USE FOR MAIN CHANNEL - LARGER SUBBASINS AT KEY POINTS
RUN DATE 10-9-1992 WITH FULL DETENTION SCHEME 3b + WAGNER PARK

7 IO OUTPUT CONTROL VARIABLES

IPRNT	5	PRINT CONTROL
IPLOT	0	PLOT CONTROL
QSCAL	0.	HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA

NMIN	5	MINUTES IN COMPUTATION INTERVAL
IDATE	1JUL90	STARTING DATE
ITIME	0800	STARTING TIME
NQ	300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2JUL90	ENDING DATE
NDTIME	0855	ENDING TIME

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

1

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

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	3	2320.	6.17	346.	104.	100.	1.33		
ROUTED TO	3-5	2314.	6.25	346.	104.	101.	1.33		
HYDROGRAPH AT	B	740.	6.17	107.	32.	31.	.38		
2 COMBINED AT	5	3022.	6.25	452.	136.	131.	1.71		
ROUTED TO	5DET	2171.	6.50	452.	141.	137.	1.71	6030.11	6.50
HYDROGRAPH AT	C	1583.	6.08	208.	63.	60.	.78		
2 COMBINED AT	6	3317.	6.17	660.	203.	197.	2.49		
ROUTED TO	6DET	3177.	6.33	659.	203.	197.	2.49	5998.45	6.33
ROUTED TO	6-7	3173.	6.33	659.	204.	197.	2.49		
HYDROGRAPH AT	D	918.	6.42	179.	54.	52.	.69		
2 COMBINED AT	7	4086.	6.33	838.	258.	249.	3.19		
ROUTED TO	7-9	4060.	6.42	843.	259.	250.	3.19		
HYDROGRAPH AT	E	715.	6.08	89.	26.	25.	.29		
2 COMBINED AT	9	4383.	6.33	929.	285.	275.	3.47		
ROUTED TO	9-10	4343.	6.33	930.	286.	275.	3.47		

+	HYDROGRAPH AT	F	823.	6.17	109.	34.	32.	.53	
+	HYDROGRAPH AT	G	1688.	6.17	224.	68.	65.	.91	
+	3 COMBINED AT	10	6304.	6.25	1261.	387.	373.	4.91	
+	ROUTED TO	10DET	5522.	6.42	1259.	386.	372.	4.91	5949.86 6.42
+	ROUTED TO	10-12	5498.	6.42	1259.	386.	372.	4.91	
+	HYDROGRAPH AT	H	1327.	6.17	180.	54.	52.	.74	
+	2 COMBINED AT	12	6253.	6.33	1437.	441.	425.	5.65	
+	ROUTED TO	12-14	6244.	6.42	1436.	440.	424.	5.65	
+	HYDROGRAPH AT	I	1369.	6.08	182.	54.	52.	.65	
+	2 COMBINED AT	14	7026.	6.33	1615.	495.	477.	6.31	
+	ROUTED TO	14DET	5276.	6.75	1615.	495.	477.	6.31	5900.39 6.75
+	ROUTED TO	14-16	5272.	6.83	1617.	495.	477.	6.31	
+	HYDROGRAPH AT	J	1029.	6.25	171.	52.	50.	.73	
+	2 COMBINED AT	16	5677.	6.67	1787.	547.	527.	7.04	

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

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 16-14

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUBCRITICAL RUN FROM FOUNTAIN CR. TO UNION BLVD.

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1*****************************************************
*  WATER SURFACE PROFILES                             *
*  VERSION OF NOVEMBER 1976                           *
*  UPDATED MAY 1984                                   *
*  IBM-PC-XT VERSION AUGUST 1985                      *
*  RUN DATE  02-26-93    TIME  12:01:38                 *
*****************************************************
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**************************************
*  U.S. ARMY CORPS OF ENGINEERS      *
*  THE HYDROLOGIC ENGINEERING CENTER *
*  609 SECOND STREET, SUITE D        *
*  DAVIS, CALIFORNIA 95616           *
  *  (916) 440-2105 (FTS) 448-2105     *
**************************************
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```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
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THIS RUN EXECUTED 02-26-93

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION AUGUST 1985
**************************************************
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C
T1   SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2   100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 16-14
T3   FILE HC216-14.INP - URS PROJECT NO. 40218 - 2-26-93

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	.010000	.00	.1	0.	5838.000	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1.000	.000	-1.000	.000	.000	.000	-1.000	.000	.000	.000

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38.000	1.000	2.000	3.000	8.000	26.000	55.000	56.000	53.000	54.000

J5 LPRNT   NUMSEC   ********REQUESTED SECTION NUMBERS********

-10.000	-10.000	.000	.000	.000	.000	.000	.000	.000	.000

QT	1.000	5677.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.060	.060	.050	.100	.300	.000	.000	.000	.000	.000
X1	1.450	8.000	115.000	176.000	.000	.000	.000	.000	.000	.000
GR	5842.000	.000	5840.000	33.000	5840.000	90.000	5838.000	115.000	5830.000	128.000
GR	5830.000	163.000	5838.000	176.000	5840.000	200.000	.000	.000	.000	.000
X1	1.510	10.000	80.000	140.000	60.000	60.000	60.000	.000	.000	.000
GR	5842.000	.000	5840.000	20.000	5840.000	65.000	5838.000	80.000	5830.600	90.000
GR	5830.600	120.000	5838.000	140.000	5840.000	180.000	5840.000	220.000	5842.000	390.000
	DROP STRUCTURE									
X1	1.550	.000	.000	.000	40.000	40.000	40.000	.000	4.000	.000
X1	1.910	7.000	115.000	185.000	350.000	370.000	360.000	.000	.000	.000
GR	5847.000	.000	5846.000	70.000	5842.000	115.000	5836.000	130.000	5836.000	153.000
GR	5846.000	185.000	5848.000	370.000	.000	.000	.000	.000	.000	.000
X1	2.180	5.000	.000	131.700	260.000	280.000	270.000	.000	.000	.000
GR	5850.000	.000	5844.000	27.000	5837.100	69.000	5837.100	87.000	5852.000	131.700

	DROP STRUCTURE									
X1	2.210	.000	.000	.000	30.000	30.000	30.000	.000	3.000	.000
X1	2.470	5.000	.000	98.000	280.000	240.000	260.000	.000	.000	.000
GR	5851.000	.000	5841.100	39.000	5841.100	63.000	5850.000	98.000	5852.000	113.000
X1	2.810	6.000	55.000	172.000	360.000	320.000	340.000	.000	.000	.000
GR	5858.000	.000	5856.000	55.000	5842.200	100.000	5842.200	140.000	5854.000	172.000
GR	5856.000	195.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	3.030	7.000	99.900	130.100	210.000	230.000	220.000	.000	.000	.000
BT	7.000	.000	5862.000	5862.000	99.900	5861.000	5861.000	100.000	5861.000	5858.000
BT	115.000	5861.000	5858.000	130.000	5861.000	5858.000	130.100	5861.000	5861.000	230.000
BT	5862.000	5862.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	5862.000	.000	5861.000	99.900	5845.700	100.000	5843.000	115.000	5846.500	130.000
GR	5861.000	130.100	5862.000	230.000	.000	.000	.000	.000	.000	.000
	BRIDGE AT LAS VEGAS STREET									
X1	3.110	.000	.000	.000	80.000	80.000	80.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
X1	3.150	7.000	165.000	250.000	40.000	40.000	40.000	.000	.000	.000
GR	5864.000	.000	5860.000	40.000	5858.000	165.000	5846.000	205.000	5846.000	230.000
GR	5860.000	250.000	5864.000	800.000	.000	.000	.000	.000	.000	.000
X1	3.200	18.000	99.900	161.100	50.000	50.000	50.000	.000	.000	.000
BT	18.000	.000	5868.000	5868.000	99.900	5867.000	5867.000	100.000	5867.000	5862.000
BT	113.000	5867.000	5862.000	113.010	5867.000	5862.000	115.000	5867.000	5862.000	115.010
BT	5867.000	5862.000	128.000	5867.000	5862.000	128.010	5867.000	5862.000	130.000	5867.000
BT	5862.000	130.010	5867.000	5862.000	143.000	5867.000	5862.000	143.010	5867.000	5862.000
BT	145.000	5867.000	5862.000	145.010	5867.000	5862.000	161.000	5867.000	5862.000	161.100
BT	5867.000	5867.000	260.000	5868.000	5868.000	.000	.000	.000	.000	.000
GR	5868.000	.000	5867.000	99.900	5849.000	100.000	5849.000	113.000	5862.000	113.010

GR	5862.000	115.000	5849.000	115.010	5849.000	128.000	5862.000	128.010	5862.000	130.000
GR	5849.000	130.010	5849.000	143.000	5862.000	143.010	5862.000	145.000	5849.000	145.010
GR	5853.000	161.000	5867.000	161.100	5868.000	260.000	.000	.000	.000	.000

BRIDGE AT AT&SF RAILROAD TRACKS

X1	3.220	.000	.000	.000	20.000	20.000	20.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
X1	3.470	8.000	203.000	290.000	270.000	230.000	250.000	.000	.000	.000
GR	5870.000	.000	5868.000	29.000	5862.000	203.000	5852.000	260.000	5852.000	280.000
GR	5862.000	290.000	5862.200	360.000	5870.000	400.000	.000	.000	.000	.000

PROPOSED DROP STRUCTURE

X1	3.500	.000	.000	.000	30.000	30.000	30.000	.000	3.000	.000

1

X1	3.710	7.000	193.000	275.000	210.000	210.000	210.000	.000	.000	.000
GR	5870.000	.000	5868.000	20.000	5868.000	80.000	5866.000	193.000	5856.000	200.000
GR	5856.000	250.000	5870.000	275.000	.000	.000	.000	.000	.000	.000

PROPOSED DROP STRUCTURE

X1	3.750	.000	.000	.000	40.000	40.000	40.000	.000	4.000	.000
QT	1.000	5515.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	3.870	18.000	394.900	470.100	110.000	130.000	120.000	.000	.000	.000
BT	18.000	.000	5890.000	5890.000	394.900	5884.600	5884.600	395.000	5884.600	5881.600
BT	414.000	5884.600	5881.600	414.010	5884.600	5881.600	420.000	5884.600	5881.600	420.010
BT	5884.600	5881.600	420.800	5884.600	5881.600	420.810	5884.600	5881.600	444.200	5884.600
BT	5881.600	444.210	5884.600	5881.600	445.000	5884.600	5881.600	445.010	5884.600	5881.600
BT	452.000	5884.600	5881.600	452.100	5884.600	5881.600	470.000	5884.600	5881.600	470.100
BT	5884.600	5884.600	715.000	5890.000	5890.000	.000	.000	.000	.000	.000
GR	5890.000	.000	5884.600	394.900	5878.600	395.000	5870.600	414.000	5863.600	414.010
GR	5862.600	420.000	5881.600	420.010	5881.600	420.800	5862.600	420.810	5862.600	444.200
GR	5881.600	444.210	5881.600	445.000	5862.600	445.010	5862.600	452.000	5869.600	452.100
GR	5878.600	470.000	5884.600	470.100	5890.000	715.000	.000	.000	.000	.000

BRIDGE AT HANCOCK EXPRESSWAY

X1	3.940	.000	.000	.000	70.000	70.000	70.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
X1	4.170	8.000	50.000	160.000	230.000	230.000	230.000	.000	.000	.000
GR	5900.000	.000	5890.000	50.000	5864.500	80.000	5864.500	110.000	5868.000	145.000
GR	5872.000	160.000	5876.000	290.000	5890.000	390.000	.000	.000	.000	.000
X1	4.510	10.000	350.000	470.000	340.000	340.000	340.000	.000	.000	.000
GR	5884.000	.000	5880.000	45.000	5872.000	85.000	5872.000	135.000	5874.000	300.000
GR	5880.000	350.000	5867.600	405.000	5867.600	445.000	5880.000	470.000	5882.000	495.000
X1	4.750	10.000	415.000	530.000	230.000	250.000	240.000	.000	.000	.000
GR	5890.000	.000	5880.000	90.000	5874.000	120.000	5874.000	200.000	5880.000	270.000
GR	5878.000	370.000	5876.000	415.000	5869.000	455.000	5869.000	500.000	5894.000	530.000

PROPOSED DROP STRUCTURE

X1	4.790	.000	.000	.000	40.000	40.000	40.000	.000	4.000	.000

X1	5.020	10.000	311.000	455.000	230.000	230.000	230.000	.000	.000	.000
GR	5890.000	.000	5880.000	130.000	5878.000	180.000	5876.000	182.000	5876.000	220.000
GR	5885.000	308.000	5884.000	311.000	5874.100	342.000	5874.100	382.000	5898.000	455.000
QT	1.000	5276.000	.000	.000	.000	.000	.000	.000	.000	.000
	END OF REACH 16-14									
X1	5.360	11.000	284.000	390.000	330.000	350.000	340.000	.000	.000	.000
GR	5896.000	.000	5890.000	90.000	5882.000	110.000	5880.000	195.000	5880.000	210.000
GR	5882.000	270.000	5882.000	284.000	5875.700	313.000	5875.700	338.000	5893.000	390.000
GR	5900.000	435.000	.000	.000	.000	.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

THIS RUN EXECUTED 02-26-93

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**************************************************
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION AUGUST 1985
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

FILE HC216-14.INP - URS

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
	1.450	5839.72	5838.18	5841.73	9.72	11.44	2.25	2.25	93.49	196.65
*	1.510	5840.81	5840.10	5842.34	10.21	10.34	2.40	2.48	11.88	288.98
*	1.550	5844.10	5844.10	5846.26	9.50	11.98	2.35	2.64	18.99	228.59
*	1.910	5847.55	5844.85	5848.40	11.55	7.96	3.09	1.36	.00	328.54
	2.180	5848.81	5845.23	5849.56	11.71	6.96	.00	.00	5.37	122.12
*	2.210	5848.23	5848.23	5850.75	8.13	12.75	.00	.00	21.47	111.39
*	2.470	5851.96	5849.07	5852.92	10.86	7.90	.00	1.75	.00	112.70
*	2.810	5853.65	5849.28	5854.34	11.45	6.68	.00	.00	62.66	171.05
*	3.030	5854.87	5854.87	5860.07	11.87	18.31	.00	.00	99.94	130.06
*	3.110	5859.09	5854.86	5861.71	16.09	12.97	.00	.00	99.91	130.09

	3.150	5861.69	5854.80	5862.05	15.69	5.16	1.70	.80	23.11	482.30
*	3.200	5861.39	5856.49	5862.58	12.39	8.73	.00	.00	99.93	161.06
	3.220	5861.70	5856.47	5862.82	12.70	8.51	.00	.00	99.93	161.06
*	3.470	5863.16	5860.70	5864.28	11.16	8.65	1.38	2.03	169.47	364.90
*	3.500	5863.69	5863.69	5866.44	8.69	13.30	.00	.00	210.46	288.69
*	3.710	5867.18	5862.92	5868.14	11.18	7.89	1.12	.00	126.13	269.97
*	3.750	5866.91	5866.91	5869.96	6.91	14.01	.00	.00	195.16	262.35

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
*	3.870	5873.73	5871.98	5876.27	11.13	12.78	.00	.00	406.55	460.33
*	3.940	5876.38	5871.99	5877.76	13.78	9.42	.00	.00	400.26	465.60
*	4.170	5878.03	5871.29	5878.27	13.53	4.30	.00	1.88	64.08	304.51
*	4.510	5878.40	5874.33	5878.51	10.80	3.15	2.13	.00	53.00	466.77
*	4.750	5878.63	5875.69	5878.96	9.63	5.24	2.65	.00	96.88	511.55
*	4.790	5879.69	5879.69	5881.27	6.69	10.64	4.16	.00	111.54	508.03
*	5.020	5881.97	5879.84	5882.42	7.87	6.16	4.09	.00	104.37	406.04
*	5.360	5883.89	5882.91	5884.49	8.19	7.26	3.92	.00	105.27	362.62

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 1.510 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 1.550 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1.550 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 1.910 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 2.210 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2.210 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 2.470 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 2.810 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.030 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.110 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.200 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.470 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.500 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3.500 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 3.710 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.750 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3.750 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 3.870 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 3.940 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 4.170 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 4.510 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 4.750 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 4.790 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4.790 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 5.020 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 5.360 PROFILE= 1 INTERPOLATED XSECTIONS USED

THIS RUN EXECUTED 02-26-93

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION AUGUST 1985
****

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 10-13

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUPERCRITICAL RUN FROM VALLEY HI LAKE TO UNION BLVD.

```
*******************************************************
*                                                     *
*  WATER SURFACE PROFILES                             *
*  DEVELOPED BY THE COE                               *
*  VERSION OF SEPTEMBER 1988                          *
*  ERROR: 01,02,03                                    *
*  RUN DATE     2/23/93   TIME   14:26:27             *
*                                                     *
*******************************************************
```


```
*****************************************
*                                       *
*  DODSON & ASSOCIATES, INC.            *
*  HYDROLOGIST AND CIVIL ENGINEERS      *
*  5629 FM 1960 WEST SUITE 314          *
*  HOUSTON, TEXAS  77069                *
*  (713) 440-3787 Fax (713) 440-4742    *
*                                       *
*****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X     X
XXXXXXX  XXXX     X          XXXXX   XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

END OF BANNER

2/23/93 14:26:27

THIS RUN EXECUTED 2/23/93 14:26:27

```
*******************************************************
  HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

  ERROR CORR -  01,02,03
  MODIFICATION -
*******************************************************
```

```
T1      SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2      100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 10-13
T3      FILE HYD2.DAT - URS PROJECT NO. 40218 - 10-12-92

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ
        0       2        0        1       -1        0      0.3        0     5939        0

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

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
       38       1        2        3        8       26       43       42       53       54
```

```
J5   LPRNT    NUMSEC                ********REQUESTED SECTION NUMBERS********

     -10        -10

QT        1        5522
NC     0.06        0.06      0.015        0.1        0.3
          CONTROL SECTION FOR SIDE CHANNEL SPILLWAY AT VALLEY HI LAKE
X1    10.95           4          0      31.01         27         27         27          0          0          0
GR     5950           0       5929       0.01       5929         31       5950      31.01
```

X1	10.923	0	0	0	30	30	30	0	-0.27	0
X1	10.893	0	0	0	30	30	30	0	-0.30	0
X1	10.863	0	0	0	30	30	30	0	-0.30	0
X1	10.833	0	0	0	30	30	30	0	-0.30	0
X1	10.803	0	0	0	30	30	30	0	-0.30	0
X1	10.773	0	0	0	30	30	30	0	-0.15	0
X1	10.743	0	0	0	31	29	30	0	-0.15	0
X1	10.713	0	0	0	31	29	30	0	-0.15	0

X1	10.683	0	0	0	32	30	31	0	-0.15	0
X1	10.652	0	0	0	50	50	50	0	-0.15	0
X1	10.602	0	0	0	50	50	50	0	-0.25	0
X1	10.552	0	0	0	50	50	50	0	-0.25	0
X1	10.502	0	0	0	50	50	50	0	-0.25	0
X1	10.452	0	0	0	50	50	50	0	-0.25	0
X1	10.402	0	0	0	50	50	50	0	-0.25	0
X1	10.352	0	0	0	50	50	50	0	-0.25	0
X1	10.302	0	0	0	50	50	50	0	-0.25	0
X1	10.252	0	0	0	50	50	50	0	-0.25	0
X1	10.202	0	0	0	48	52	50	0	-0.25	0
X1	10.152	0	0	0	48	52	50	0	-0.25	0

X1	10.102	0	0	0	48	52	50	0	-0.25	0
X1	10.052	0	0	0	48	52	50	0	-0.25	0
X1	10.002	0	0	0	50	50	50	0	-0.25	0
X1	9.952	0	0	0	50	50	50	0	-0.25	0
X1	9.902	0	0	0	50	50	50	0	-0.25	0
X1	9.852	0	0	0	62	62	62	0	-0.25	0
QT	1	5586								
	BRIDGE AT FOUNTAIN BLVD.									
X1	9.79	0	0	0	50	50	50	0	-0.5	0
X1	9.74	0	0	0	50	50	50	0	-0.5	0
X1	9.69	0	0	0	50	50	50	0	-0.5	0
X1	9.64	0	0	0	50	50	50	0	-0.5	0
X1	9.59	0	0	0	50	50	50	0	-0.5	0

X1	9.54	0	0	0	50	50	50	0	-0.5	0
X1	9.49	0	0	0	50	50	50	0	-0.5	0
X1	9.44	0	0	0	50	50	50	0	-0.5	0
QT	1	6253								
X1	9.39	0	0	0	77	75	76	0	-1.83	0
NC	0.06	0.06	0.015	0.3	0.5					
	FACE OF INLET FOR CBC AT CIRCLE DRIVE									
X1	9.314	0	0	0	27	27	27	0	-2.77	0
X1	9.287	8	0	28.01	27	27	27	0	0	0
GR	5923.7	0	5911.7	0.01	5911.7	13.5	5923.7	13.51	5923.7	14.5
GR	5911.7	14.51	5911.7	28	5923.7	28.01				
	THROAT OF INLET FOR CBC AT CIRCLE DRIVE									
X1	9.26	8	0	25.01	51	49	50	0	0	0
GR	5920.7	0	5908.7	0.01	5908.7	12	5920.7	12.01	5920.7	13
GR	5908.7	13.01	5908.7	25	5920.7	25.01				
X1	9.21	0	0	0	50	50	50	0	-0.49	0
X1	9.16	0	0	0	50	50	50	0	-0.49	0
X1	9.11	0	0	0	50	50	50	0	-0.49	0

X1	9.06	0	0	0	50	50	50	0	-0.49	0
X1	9.01	0	0	0	50	50	50	0	-0.49	0
X1	8.96	0	0	0	50	50	50	0	-0.49	0
X1	8.91	0	0	0	50	50	50	0	-0.49	0
X1	8.86	0	0	0	50	50	50	0	-0.49	0
X1	8.81	0	0	0	50	50	50	0	-0.49	0
X1	8.76	0	0	0	50	50	50	0	-0.49	0
X1	8.71	0	0	0	50	50	50	0	-0.49	0
X1	8.66	0	0	0	50	50	50	0	-0.49	0
X1	8.61	0	0	0	50	50	50	0	-0.49	0

X1	8.56	0	0	0	50	50	50	0	-0.49	0
X1	8.51	0	0	0	50	50	50	0	-0.49	0
X1	8.46	0	0	0	50	50	50	0	-0.49	0
X1	8.41	0	0	0	50	50	50	0	-0.49	0
X1	8.36	0	0	0	50	50	50	0	-0.49	0
X1	8.31	0	0	0	50	50	50	0	-0.49	0
X1	8.26	0	0	0	50	50	50	0	-0.49	0
X1	8.21	0	0	0	50	50	50	0	-0.49	0
X1	8.16	0	0	0	50	50	50	0	-0.49	0
X1	8.11	0	0	0	50	50	50	0	-0.49	0
X1	8.06	0	0	0	50	50	50	0	-0.49	0
X1	8.01	0	0	0	50	50	50	0	-0.49	0
X1	7.96	0	0	0	50	50	50	0	-0.49	0
X1	7.91	0	0	0	50	50	50	0	-0.49	0
X1	7.86	0	0	0	50	50	50	0	-0.49	0

```
X1     7.81         0          0          0          50         50         50          0      -0.49         0

          END CBC UNDER U.S. HIGHWAY 24 BYPASS
X1     7.76         0          0          0                                             0      -0.49         0


PROFILE FOR STREAM   FILE HYD2.DAT - URS PRO


PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


ELEVATION  5894.     5904.     5914.     5924.     5934.     5944.     5954.     5964.     5974.     5984.
    SECNO  CUMDIS

    10.95      0.  .         .         .         .    I    .    W    E     L   .         .         .         .         .
               5.  .         .         .         .    I    .    W    E     L   .         .         .         .         .
              10.  .         .         .         .    I    .    W    E     L   .         .         .         .         .
              15.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
              20.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
              25.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
    10.92     30.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
              35.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
              40.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
              45.  .         .         .         .    I    .   WC    E     L   .         .         .         .         .
              50.  .         .         .         .    I    .  WC     E     L   .         .         .         .         .
              55.  .         .         .         .   I     .  WC     E    L    .         .         .         .         .
    10.89     60.  .         .         .         .   I     .  WC     E    L    .         .         .         .         .
              65.  .         .         .         .   I     .  WC     E    L    .         .         .         .         .
              70.  .         .         .         .   I     .  WC     E    L    .         .         .         .         .
              75.  .         .         .         .   I     .  WC     E    L    .         .         .         .         .
              80.  .         .         .         .   I     .  WC    E.    L    .         .         .         .         .
              85.  .         .         .         .   I     .  WC    E.    L    .         .         .         .         .
    10.86     90.  .         .         .         .   I     .  WC    E.    L    .         .         .         .         .
              95.  .         .         .         .   I     .  WC    E.    L    .         .         .         .         .
             100.  .         .         .         .   I     .  WC    E.    L    .         .         .         .         .
             105.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             110.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             115.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
    10.83    120.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             125.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             130.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             135.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             140.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
             145.  .         .         .         .   I     . W C    E.    L    .         .         .         .         .
    10.80    150.  .         .         .         .   I     . WC     E.    L    .         .         .         .         .
             155.  .         .         .         .   I     . WC     E.    L    .         .         .         .         .
             160.  .         .         .         .  I      . WC     E.   L     .         .         .         .         .
             165.  .         .         .         .  I      . WC     E.   L     .         .         .         .         .
             170.  .         .         .         .  I      . WC     E.   L     .         .         .         .         .
             175.  .         .         .         .  I      . WC     E.   L     .         .         .         .         .
    10.77    180.  .         .         .         .  I      . WC     E.   L     .         .         .         .         .
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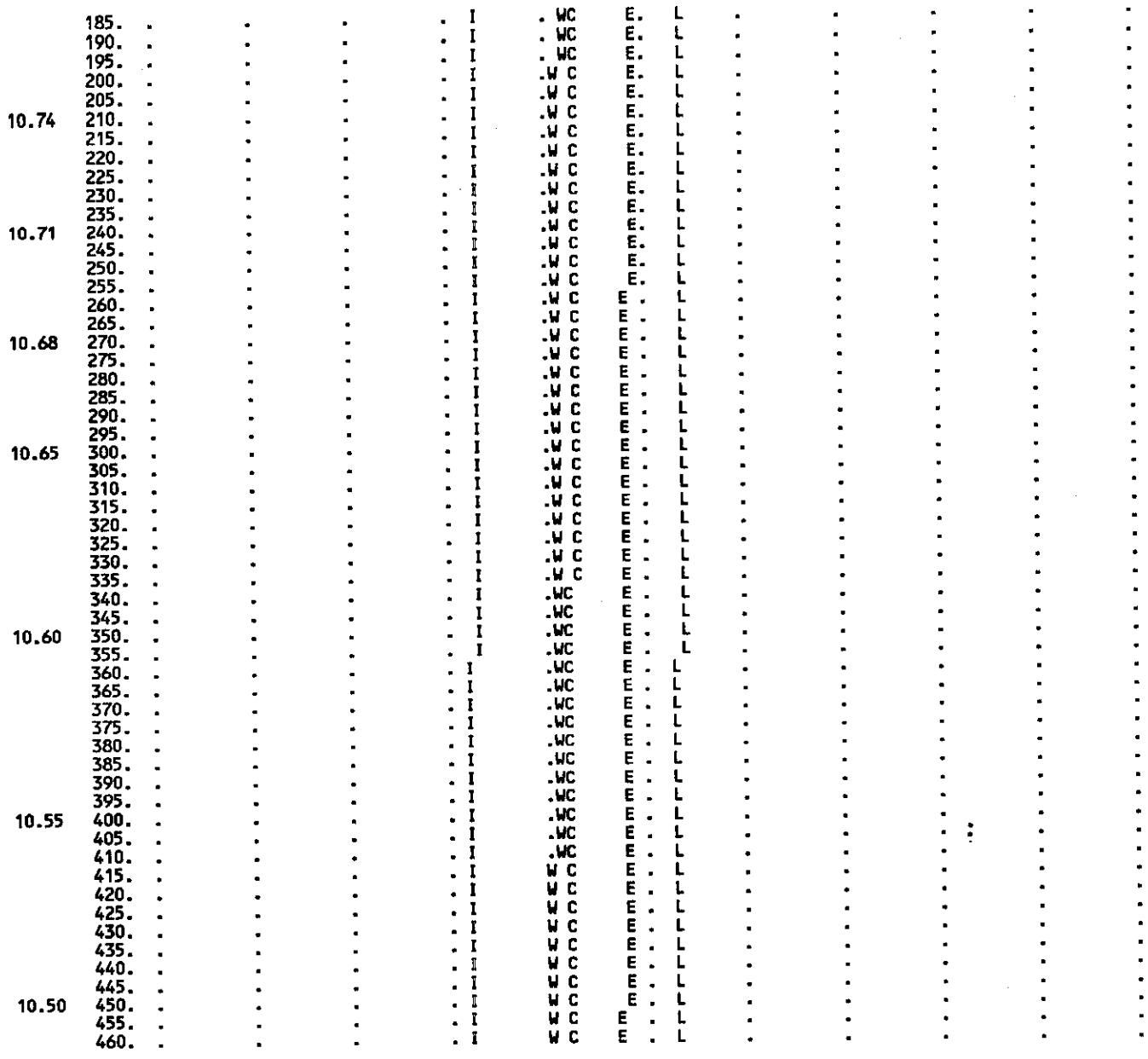
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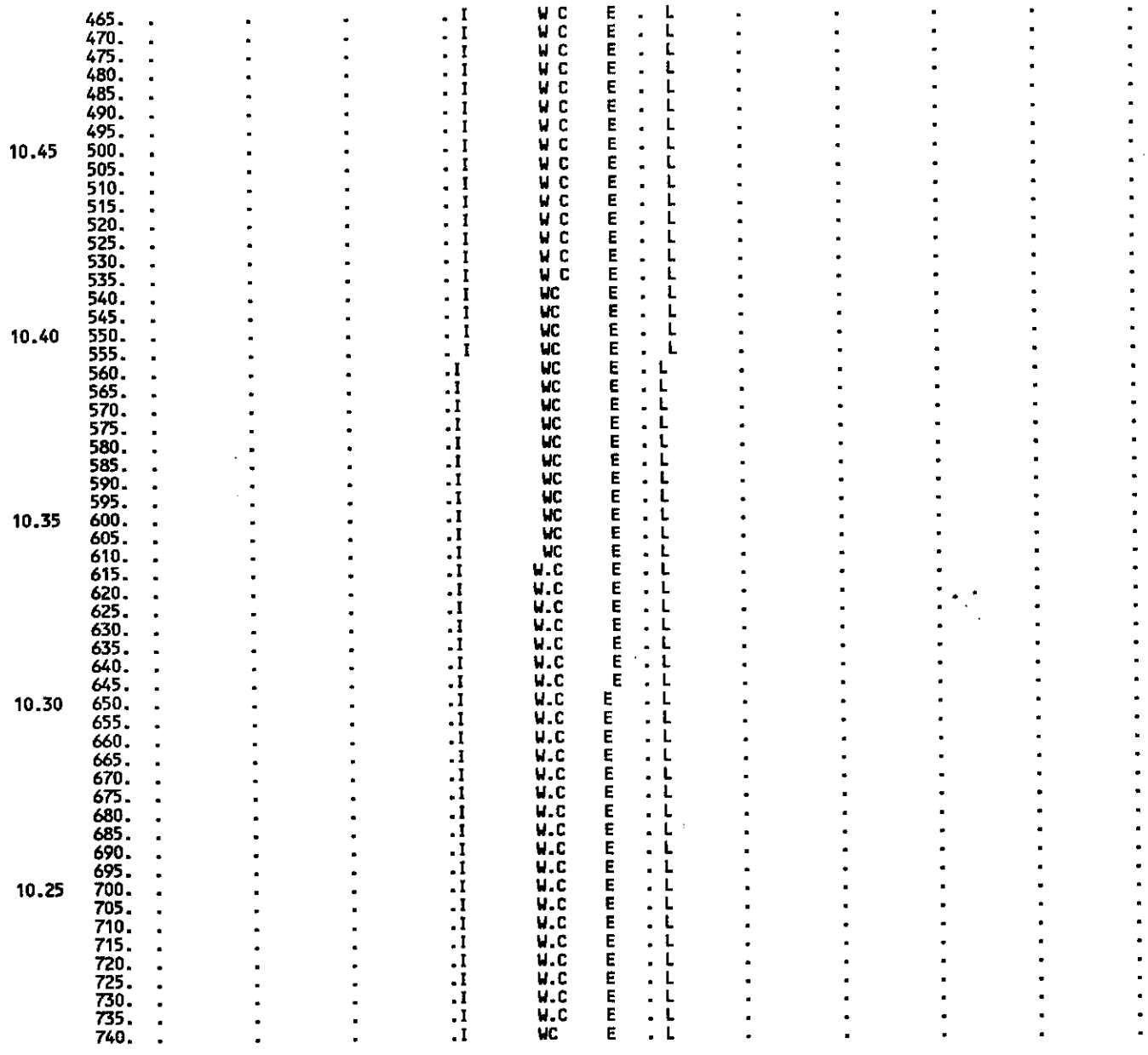
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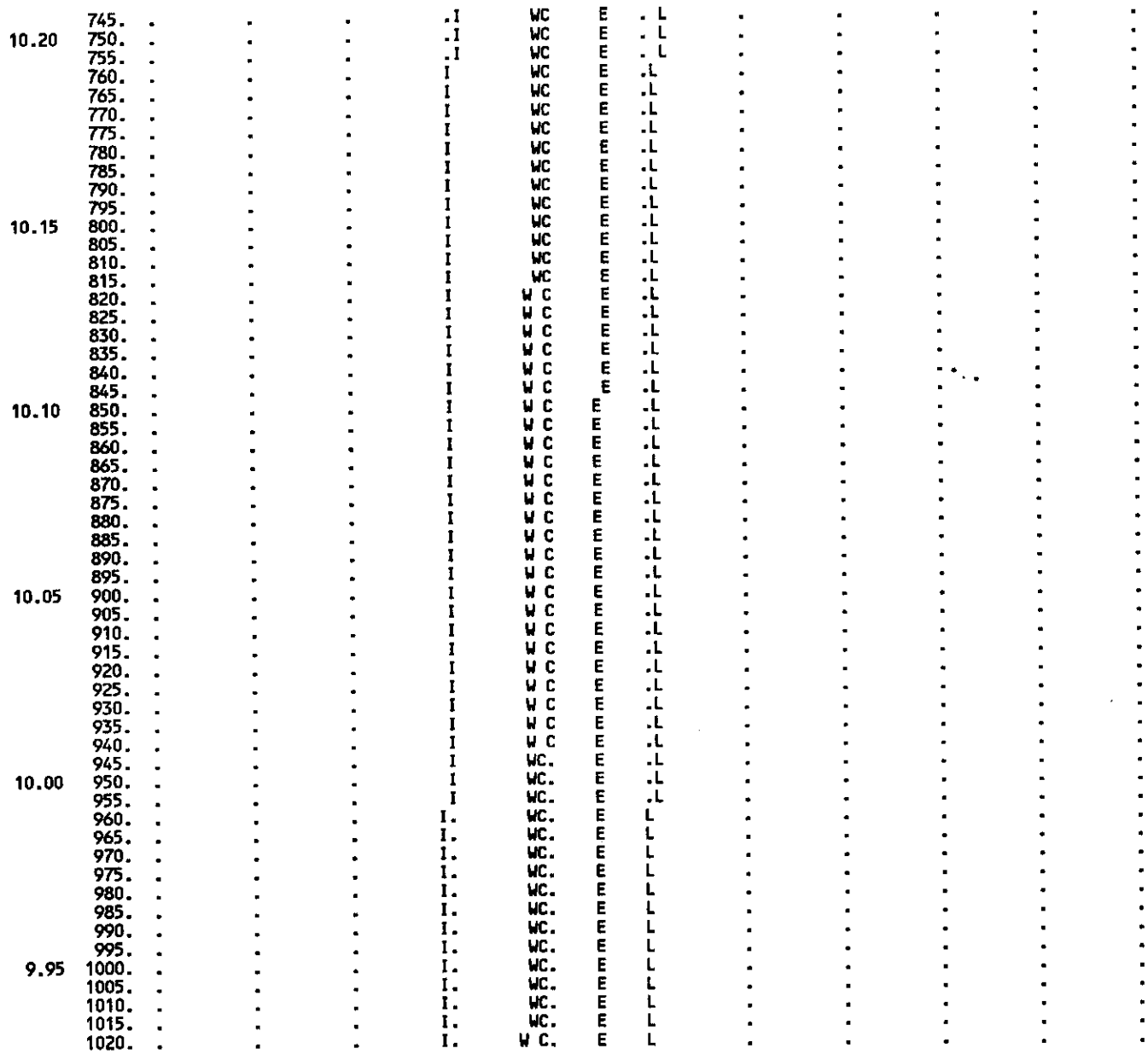
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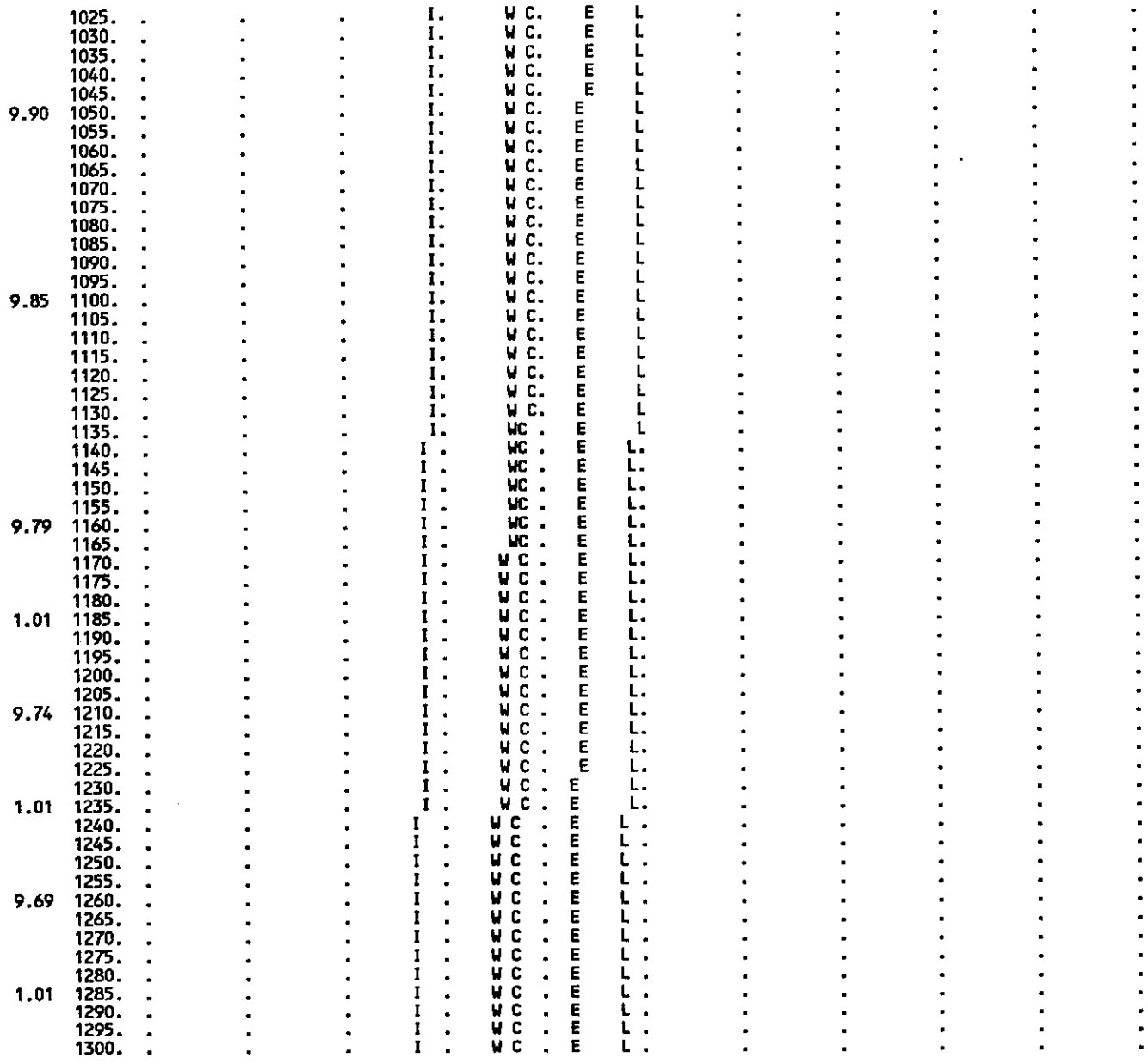
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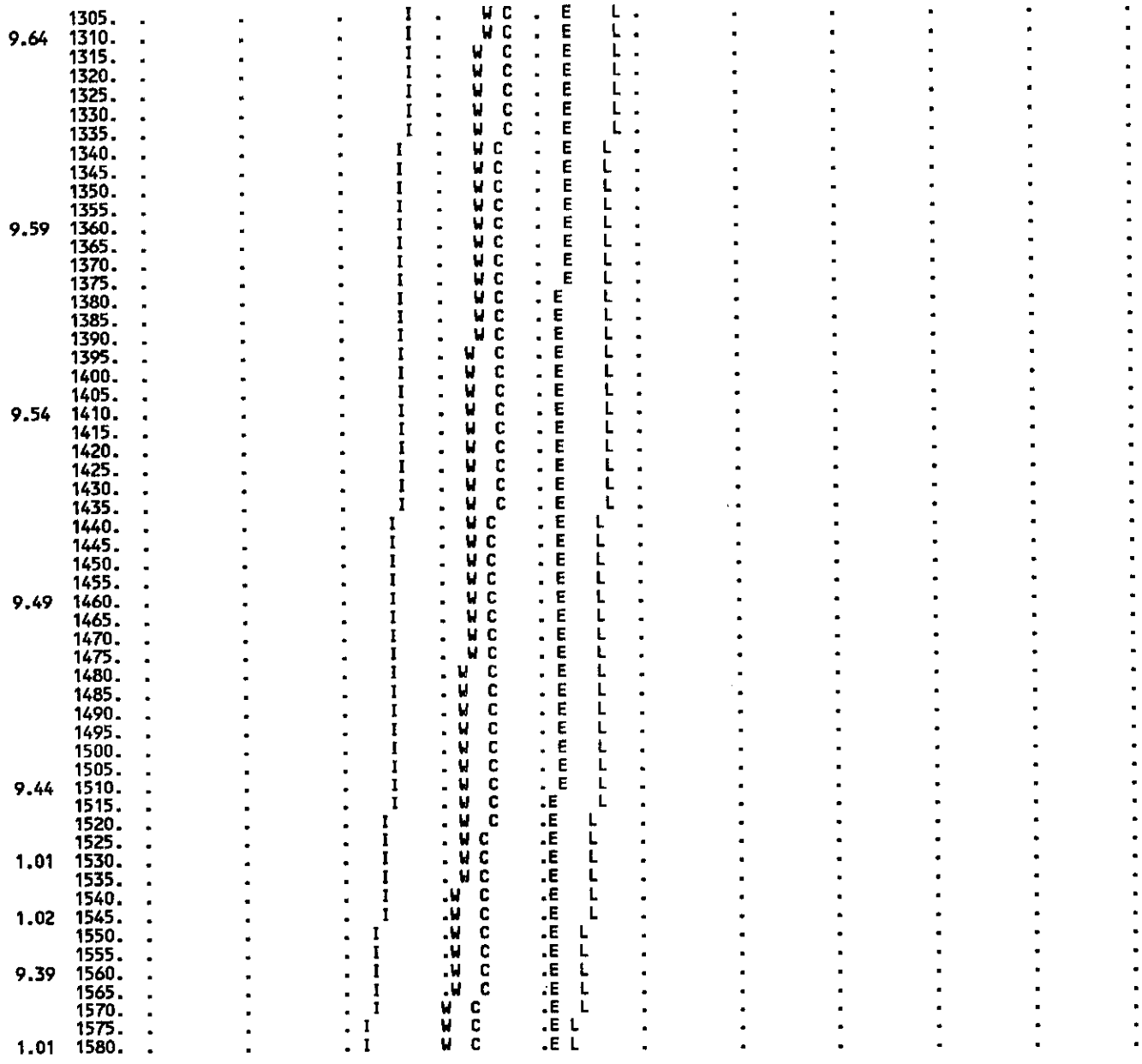
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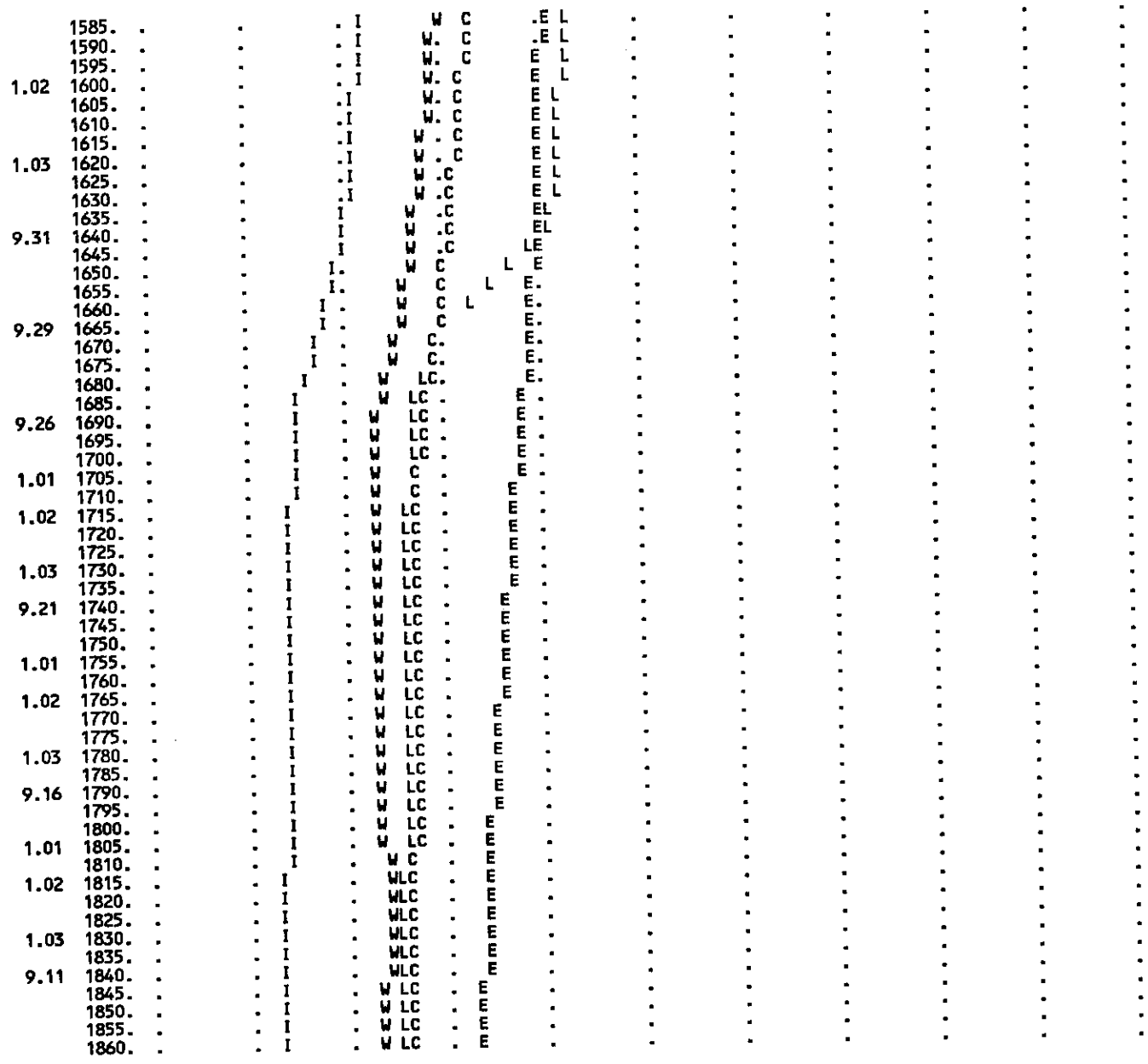
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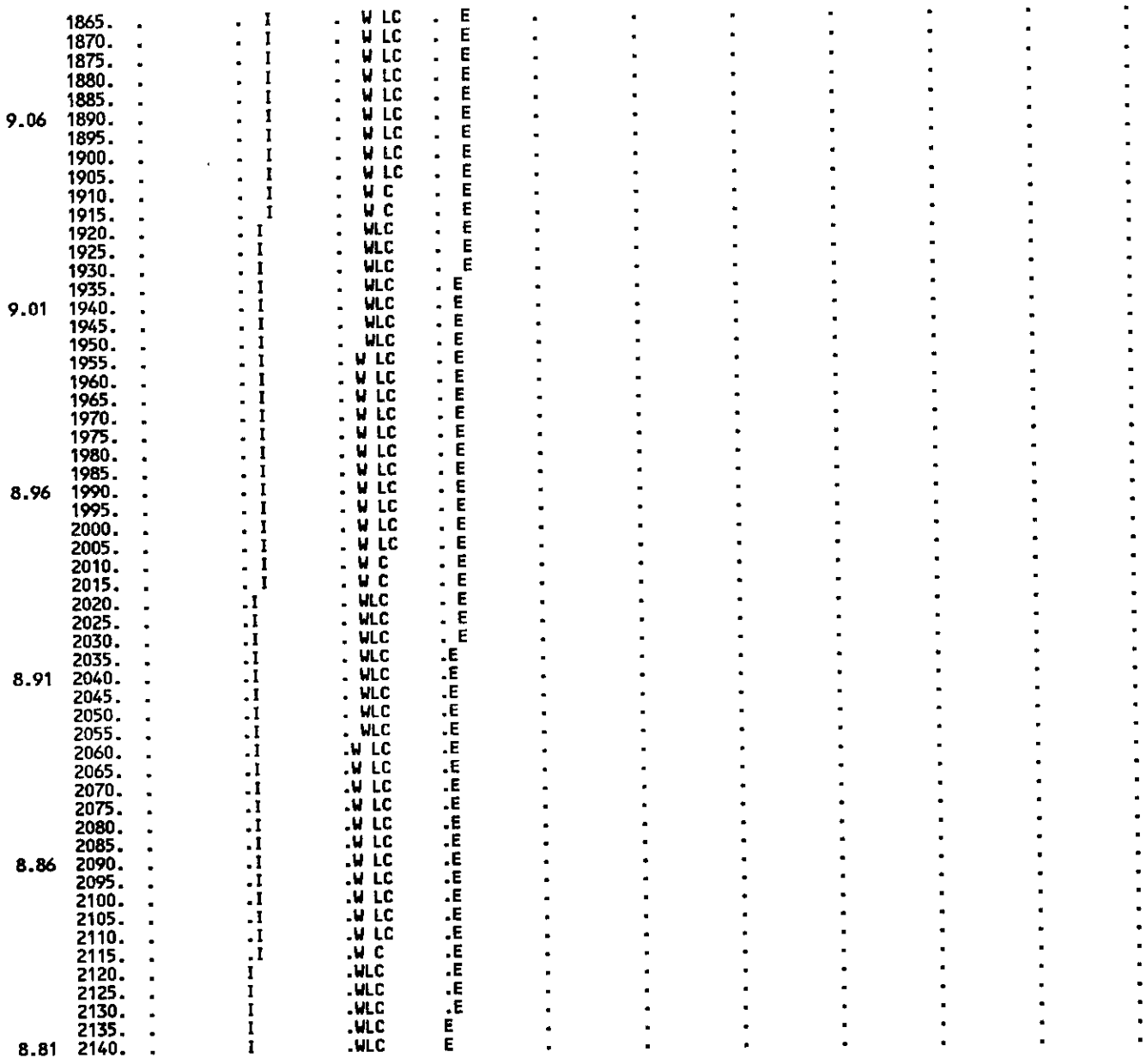
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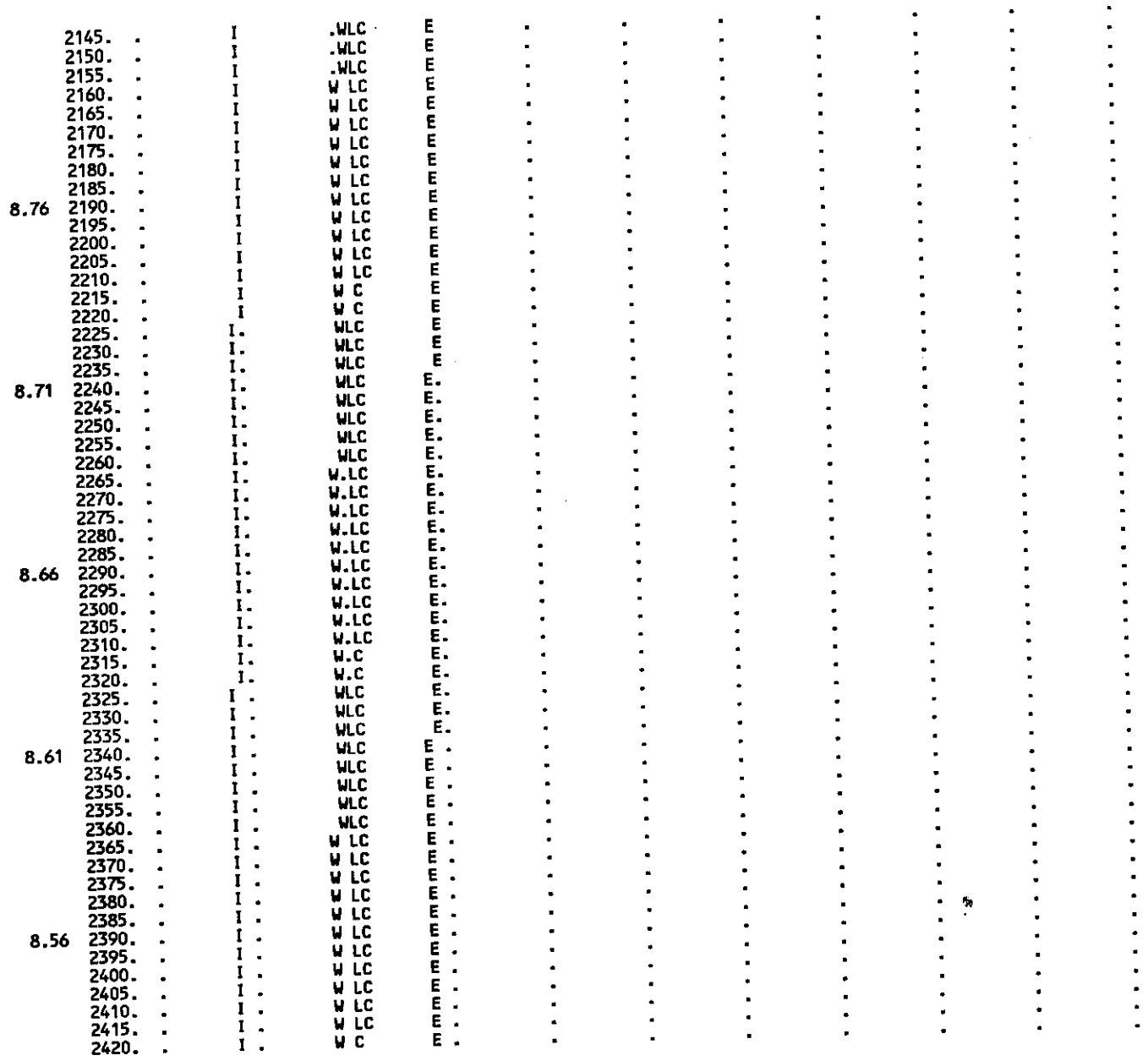
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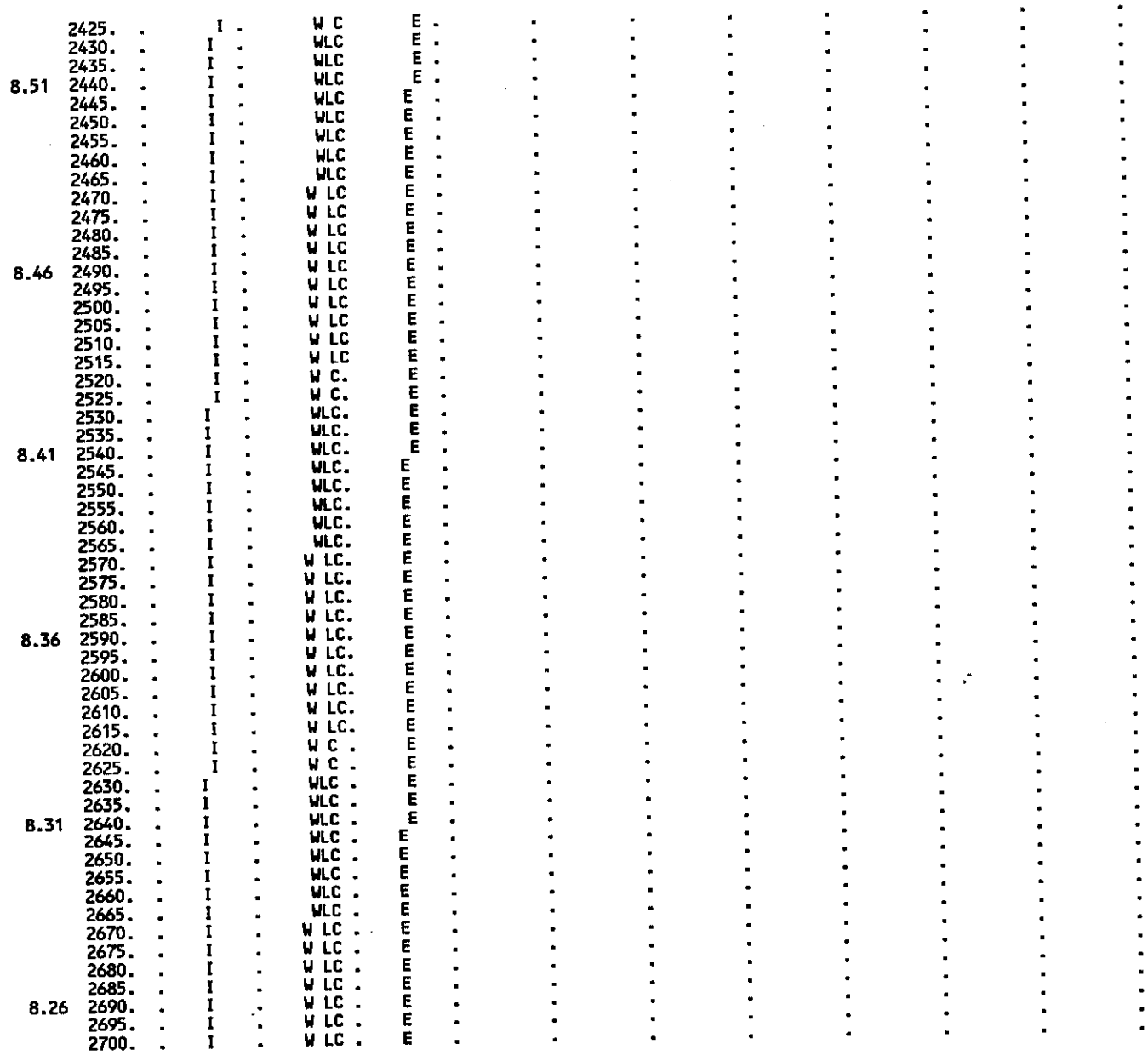
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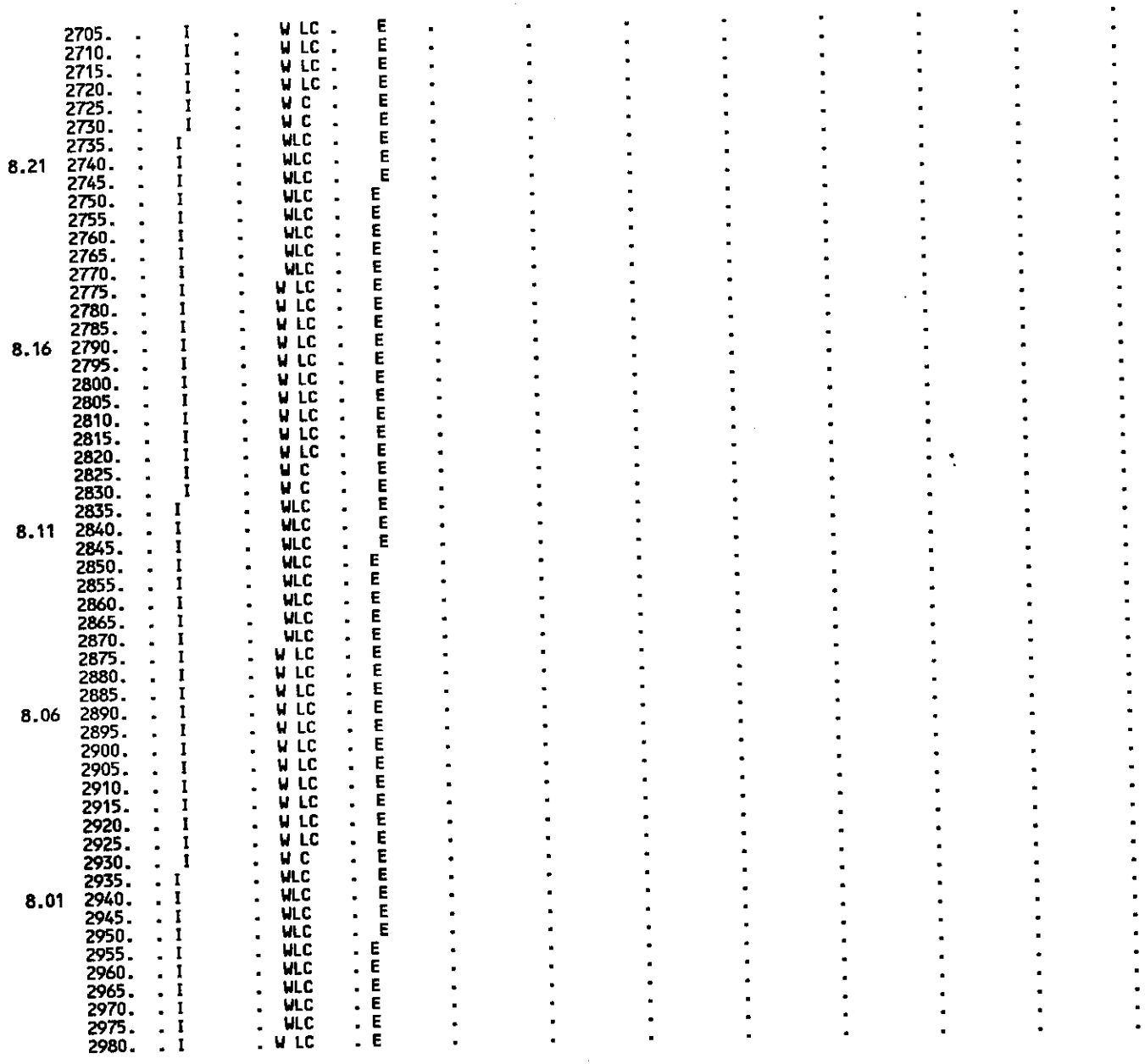
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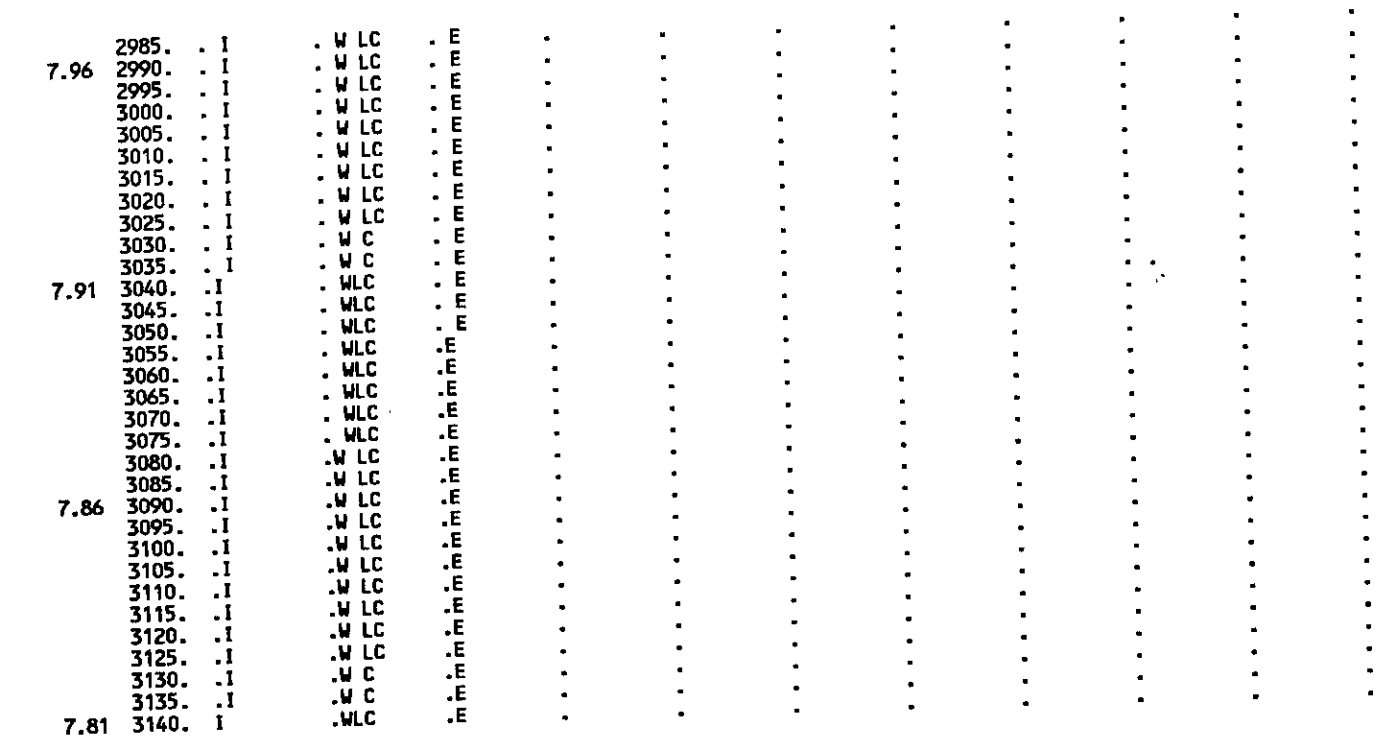
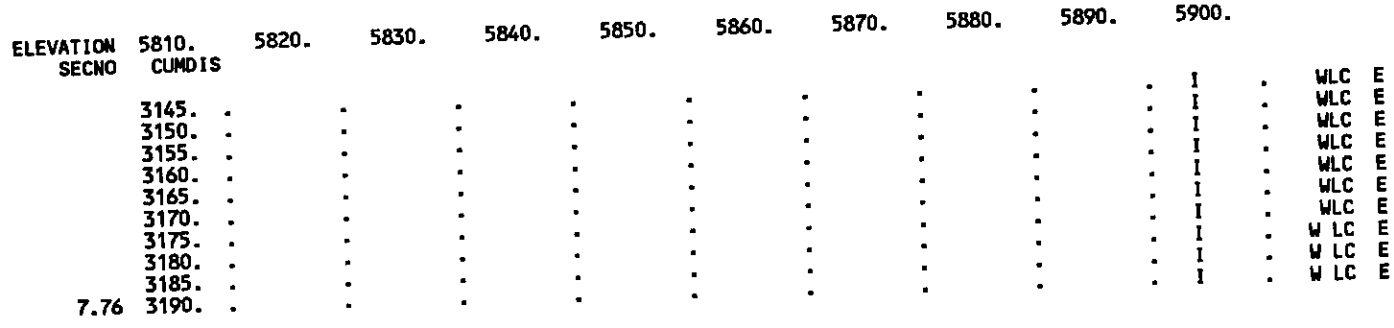


PROFILE FOR STREAM FILE HYD2.DAT - URS PRO

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA



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HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

FILE HYD2.DAT - URS PRO

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	Q	ELMIN	SSTA	ENDST
*	10.950	5938.91	5938.91	5943.93	9.91	17.97	5522.00	5929.00	.01	31.00
	10.923	5937.90	5938.66	5943.76	9.17	19.42	5522.00	5928.73	.01	31.00
	10.893	5937.27	5938.35	5943.59	8.84	20.18	5522.00	5928.43	.01	31.00
	10.863	5936.70	5938.07	5943.42	8.57	20.81	5522.00	5928.13	.01	31.00
	10.833	5936.18	5937.78	5943.25	8.35	21.34	5522.00	5927.83	.01	31.00
	10.803	5935.72	5937.45	5943.07	8.19	21.75	5522.00	5927.53	.01	31.00
*	10.773	5935.57	5937.30	5942.91	8.19	21.75	5522.00	5927.38	.01	31.00
	10.743	5935.42	5937.15	5942.75	8.19	21.73	5522.00	5927.23	.01	31.00
	10.713	5935.28	5937.00	5942.59	8.20	21.70	5522.00	5927.08	.01	31.00
	10.683	5935.15	5936.85	5942.44	8.21	21.67	5522.00	5926.93	.01	31.00
	10.652	5935.03	5936.70	5942.26	8.25	21.58	5522.00	5926.78	.01	31.00
	10.602	5934.79	5936.44	5942.01	8.26	21.56	5522.00	5926.53	.01	31.00
	10.552	5934.55	5936.20	5941.75	8.27	21.54	5522.00	5926.28	.01	31.00
*	10.502	5934.29	5935.94	5941.50	8.26	21.55	5522.00	5926.03	.01	31.00
	10.452	5934.05	5935.70	5941.25	8.27	21.53	5522.00	5925.78	.01	31.00
	10.402	5933.81	5935.44	5940.99	8.28	21.51	5522.00	5925.53	.01	31.00

*	10.352	5933.55	5935.20	5940.74	8.27	21.52	5522.00	5925.28	.01	31.00

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	Q	ELMIN	SSTA	ENDST
	10.302	5933.31	5934.95	5940.49	8.28	21.50	5522.00	5925.03	.01	31.00
*	10.252	5933.05	5934.70	5940.24	8.27	21.51	5522.00	5924.78	.01	31.00
	10.202	5932.82	5934.44	5939.99	8.28	21.49	5522.00	5924.53	.01	31.00
*	10.152	5932.56	5934.20	5939.74	8.27	21.51	5522.00	5924.28	.01	31.00
	10.102	5932.32	5933.94	5939.48	8.29	21.48	5522.00	5924.03	.01	31.00
	10.052	5932.08	5933.69	5939.23	8.30	21.47	5522.00	5923.78	.01	31.00
*	10.002	5931.82	5933.45	5938.99	8.29	21.48	5522.00	5923.53	.01	31.00
*	9.952	5931.57	5933.19	5938.74	8.29	21.48	5522.00	5923.28	.01	31.00
*	9.902	5931.31	5932.94	5938.49	8.28	21.49	5522.00	5923.03	.01	31.00
*	9.852	5931.06	5932.70	5938.24	8.27	21.51	5522.00	5922.78	.01	31.00
	9.790	5930.57	5932.28	5937.91	8.29	21.75	5586.00	5922.28	.01	31.00
	9.740	5929.85	5931.77	5937.61	8.07	22.35	5586.00	5921.78	.01	31.00
	9.690	5929.17	5931.27	5937.28	7.89	22.87	5586.00	5921.28	.01	31.00
	9.640	5928.52	5930.78	5936.95	7.73	23.31	5586.00	5920.78	.01	31.00
	9.590	5927.90	5930.27	5936.61	7.61	23.68	5586.00	5920.28	.01	31.00
	9.540	5927.29	5929.78	5936.25	7.51	24.02	5586.00	5919.78	.01	31.00
	9.490	5926.69	5929.28	5935.88	7.41	24.33	5586.00	5919.28	.01	31.00
	9.440	5926.11	5928.78	5935.50	7.33	24.59	5586.00	5918.78	.01	31.00
	9.390	5924.80	5927.74	5935.05	7.85	25.69	6253.00	5916.95	.01	31.00
	9.314	5921.32	5924.99	5933.74	7.14	28.29	6253.00	5914.18	.01	31.00
	9.287	5919.55	5923.64	5933.08	7.85	29.52	6253.00	5911.70	.00	28.01
	9.260	5917.05	5921.61	5932.14	8.35	31.17	6253.00	5908.70	.00	25.01
	9.210	5917.15	5921.15	5930.33	8.94	29.13	6253.00	5908.21	.00	25.01

	9.160	5917.39	5920.63	5928.66	9.67	26.93	6253.00	5907.72	.00	25.01
	9.110	5917.50	5920.14	5927.50	10.27	25.38	6253.00	5907.23	.00	25.01
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	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	Q	ELMIN	SSTA	ENDST
*	9.010	5916.64	5919.16	5926.40	10.39	25.07	6253.00	5906.25	.00	25.01
*	8.960	5916.15	5918.67	5925.91	10.39	25.07	6253.00	5905.76	.00	25.01
*	8.910	5915.66	5918.18	5925.42	10.39	25.07	6253.00	5905.27	.00	25.01
*	8.860	5915.17	5917.69	5924.93	10.39	25.07	6253.00	5904.78	.00	25.01
*	8.810	5914.68	5917.20	5924.44	10.39	25.07	6253.00	5904.29	.00	25.01
*	8.760	5914.19	5916.71	5923.95	10.39	25.07	6253.00	5903.80	.00	25.01
*	8.710	5913.70	5916.22	5923.46	10.39	25.07	6253.00	5903.31	.00	25.01
*	8.660	5913.21	5915.73	5922.97	10.39	25.07	6253.00	5902.82	.00	25.01
*	8.610	5912.72	5915.24	5922.48	10.39	25.07	6253.00	5902.33	.00	25.01
*	8.560	5912.23	5914.75	5921.99	10.39	25.07	6253.00	5901.84	.00	25.01
*	8.510	5911.74	5914.26	5921.50	10.39	25.07	6253.00	5901.35	.00	25.01
*	8.460	5911.25	5913.77	5921.01	10.39	25.07	6253.00	5900.86	.00	25.01
*	8.410	5910.76	5913.28	5920.52	10.39	25.07	6253.00	5900.37	.00	25.01
*	8.360	5910.27	5912.79	5920.03	10.39	25.07	6253.00	5899.88	.00	25.01
*	8.310	5909.78	5912.29	5919.54	10.39	25.07	6253.00	5899.39	.00	25.01
*	8.260	5909.29	5911.80	5919.05	10.39	25.07	6253.00	5898.90	.00	25.01
*	8.210	5908.80	5911.31	5918.56	10.39	25.07	6253.00	5898.41	.00	25.01
*	8.160	5908.31	5910.82	5918.07	10.39	25.07	6253.00	5897.92	.00	25.01
*	8.110	5907.82	5910.33	5917.58	10.39	25.07	6253.00	5897.42	.00	25.01
*	8.060	5907.33	5909.84	5917.09	10.39	25.07	6253.00	5896.93	.00	25.01
*	8.010	5906.84	5909.35	5916.60	10.39	25.07	6253.00	5896.44	.00	25.01
*	7.960	5906.35	5908.86	5916.11	10.39	25.07	6253.00	5895.95	.00	25.01

*	7.910	5905.86	5908.37	5915.62	10.39	25.07	6253.00	5895.46	.00	25.01
*	7.860	5905.37	5907.88	5915.13	10.39	25.07	6253.00	5894.97	.00	25.01
*	7.810	5904.88	5907.39	5914.64	10.39	25.07	6253.00	5894.48	.00	25.01
*	7.760	5904.39	5906.90	5914.15	10.39	25.07	6253.00	5893.99	.00	25.01

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 10.950 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 10.773 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 10.502 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 10.352 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 10.252 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 10.152 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 10.002 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 9.952 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 9.902 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 9.852 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 9.060 PROFILE= 1 WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO= 9.060 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 9.010 PROFILE= 1 WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO= 9.010 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION SECNO=     8.060  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=     8.010  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=     8.010  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=     7.960  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=     7.960  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

```
CAUTION SECNO=      7.910  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=      7.910  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      7.860  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=      7.860  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      7.810  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=      7.810  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=      7.760  PROFILE=  1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO=      7.760  PROFILE=  1  20 TRIALS ATTEMPTED TO BALANCE WSEL
```

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 10-7

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUBCRITICAL RUN FROM VALLEY HI LAKE TO AIRPORT ROAD

```
**********************************************************
*  WATER SURFACE PROFILES                                *
*  DEVELOPED BY THE COE                                  *
*  VERSION OF SEPTEMBER 1988                             *
*  ERROR: 01,02,03                                       *
*  RUN DATE     2/23/93   TIME   14:28:38                *
**********************************************************
```

```
****************************************
*  DODSON & ASSOCIATES, INC.           *
*  HYDROLOGIST AND CIVIL ENGINEERS     *
*  5629 FM 1960 WEST SUITE 314         *
*  HOUSTON, TEXAS  77069               *
*  (713) 440-3787 Fax (713) 440-4742   *
****************************************
```

```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

END OF BANNER

THIS RUN EXECUTED 2/23/93 14:28:38

```
**************************************************
  HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

  ERROR CORR -  01,02,03
  MODIFICATION -
**************************************************
```

```
T1      SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2      100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 10-7
T3      FILE HC210-7.INP - URS PROJECT NO. 40218 - 02-17-93

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0         2         0         0        -1         0        .1         0      5950         0

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

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
       38         1         2         3         8        26        55        56        53        54
```

J5 LPRNT NUMSEC ********REQUESTED SECTION NUMBERS********

-10 -10

```
QT      1     5700
NC   .035     .035     .035       .1       .3
X1   12.28       7       59      130        0        0        0        0        0        0
GR    5952      15     5952       30     5952       59   5943.4       76   5943.4      117
GR    5950     130     5951      135

X1   12.62       8       53      148      330      350      340        0        0        0
GR   5954.5      0     5954       53     5945       71     5945      140     5949      148
GR    5949     160     5950      170     5950      230

X1   12.82       7       55      151      200      205      200        0        0        0
X2    4833       0        0        0        0        0        0        0        0        0
GR   5956.5      0     5956       55     5946       75     5946      143     5950      151
GR    5950     199     5954      207

X1   13.03       7       52      152      195      215      210        0        0        0
GR    5958      20     5958       52     5947       74     5947      144     5951      152
GR    5951     200     5956      210

X1   13.23       7       52      154      195      220      200        0        0        0
GR    5962      30     5960       52     5948       76     5948      146     5952      154
GR    5952     190     5960      206
```

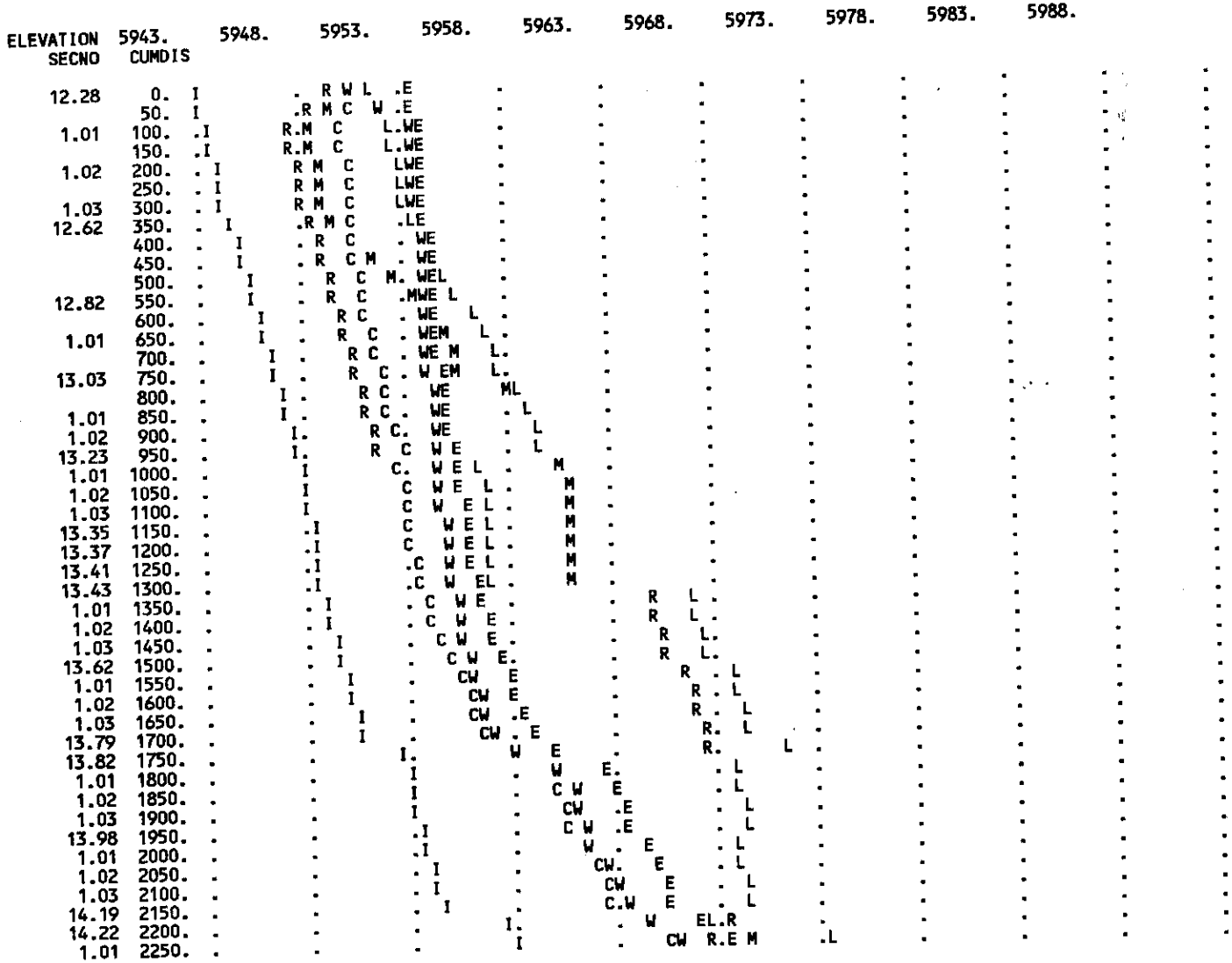
2/23/93 14:28:38 PAGE 2

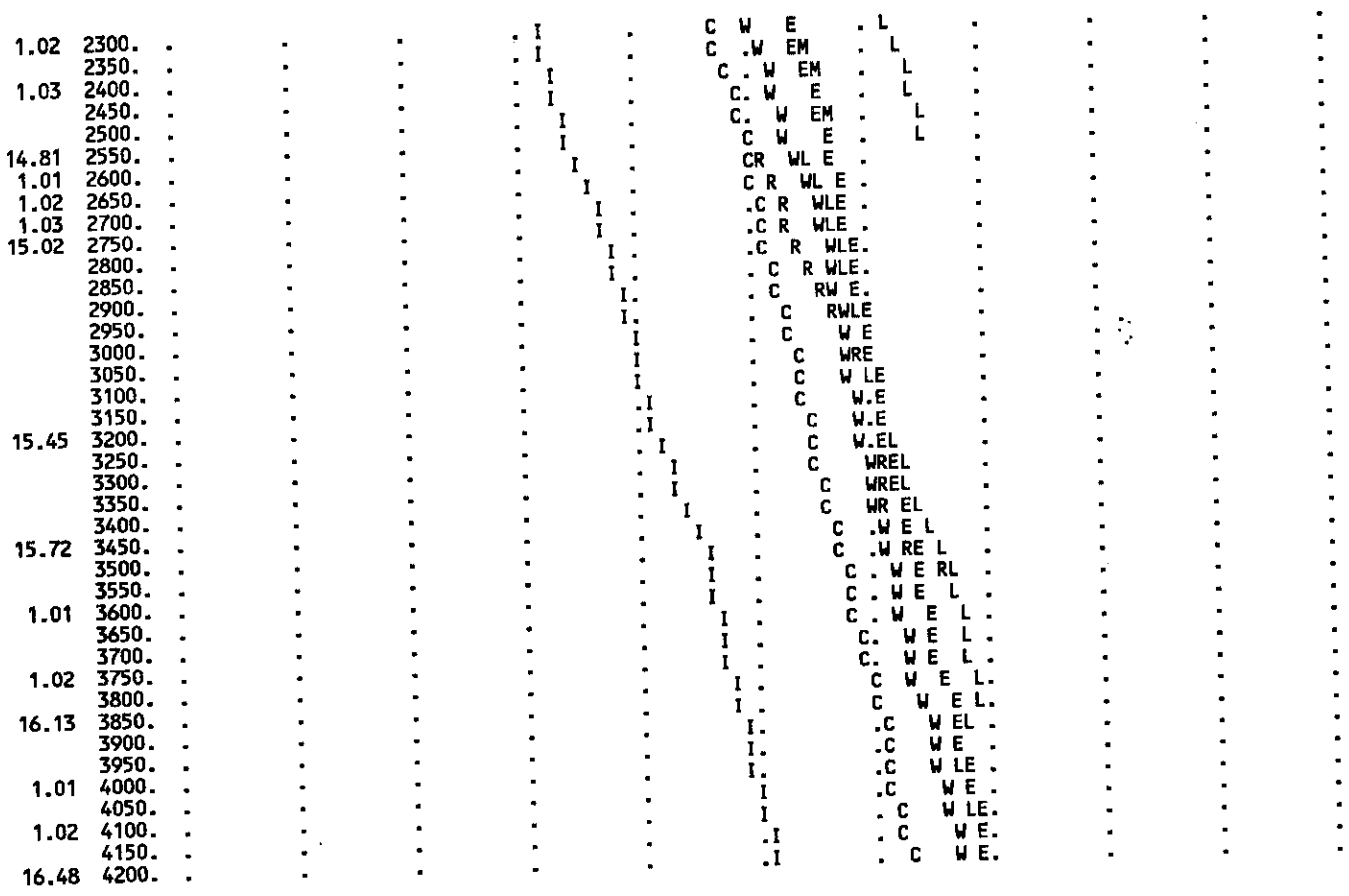
```
X1   13.35       7       48      143      150      110      120        0        0        0
X2    4383       0        0        0        0        0        0        0        0        0
GR    5962      15   5961.5       36   5957.5       48   5948.7       61   5948.7      130
GR   5957.5    143   5961.5      155

X1   13.37       7       48      143       20       20       20        0        0        0
BT       4      36   5961.5   5961.5       48   5961.5   5957.5      143   5961.5   5957.5
BT     155  5961.5   5957.5
GR    5962      15   5961.5       36   5957.5       48   5948.7       61   5948.7      130
GR   5957.5    143   5961.5      155

          BRIDGE AT CHELTON ROAD
X1   13.41       7       48      143       40       40       40        0        0        0
BT       4      36   5961.5   5961.5       48   5961.5   5957.5      143   5961.5   5957.5
BT     155  5961.5   5957.5
GR    5962      15   5961.5       36   5957.5       48   5948.9       61   5948.9      130
GR   5957.5    143   5961.5      155

X1   13.43       7       51      147       20       20       20        0        0        0
GR   5961.5      0   5961.5       42   5957.5       51     5949       64     5949      134
GR   5957.5    147   5961.5      160

X1   13.62       7       79      202      230      140      190        0        0        0
```

GR	5970	0	5970	68	5968	79	5950	115	5950	170
GR	5966	202	5966	230						
X1	13.79	6	87	206	170	170	170	0	0	0
GR	5974	12	5972	80	5970	87	5951	125	5951	172
GR	5967.8	206								
	DROP STRUCTURE									
X1	13.82	5	80	205	30	30	30	0	0	0
GR	5974	10	5972	80	5953	120	5953	180	5967.8	205
X1	13.98	8	79	173	130	220	160	0	0	0
GR	5974	25	5974	47	5972	57	5970	79	5953.8	110
GR	5953.8	140	5970	173	5970	200				
X1	14.19	5	80	162	210	210	210	0	0	0
X2	4325	0	0	0	0	0	0	0	0	0
GR	5972	76	5970	80	5954.9	110	5954.9	132	5970	162
	DROP STRUCTURE									
X1	14.22	5	82	158	30	30	30	0	0	0
GR	5970	72	5968	82	5957.8	102	5957.8	136	5968.8	158
X1	14.81	7	90	160	590	590	590	0	0	0
GR	5978	85	5976	90	5960.6	115	5960.6	143	5970	160
GR	5972	162	5972	195						

X1	15.02	7	76	150	245	180	210	0	0	0
X2	4086	0	0	0	0	0	0	0	0	0
GR	5974.2	0	5974	60	5972	76	5962	98	5962	128
GR	5970	150	5972	155						
X1	15.45	4	71	160	430	430	430	0	0	0
GR	5974	71	5964	100	5964	128	5974	160		
X1	15.72	7	74	158	270	270	270	0	0	0
GR	5980	40	5978	55	5976	74	5966	100	5966	145
GR	5974	158	5976	200						
X1	16.13	5	70	150	410	410	410	0	0	0
GR	5979.8	42	5978	70	5967.5	100	5967.5	142	5978	150
	END OF REACH 10-7									
X1	16.48	6	65	145	350	350	350	0	0	0
GR	5978	37	5978	65	5969	85	5969	130	5978	145
GR	5980	180								

PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA





2/23/93 14:28:38

THIS RUN EXECUTED 2/23/93 14:29: 4

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

FILE HC210-7.INP - URS P

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
*	12.280	5950.83	5950.83	5953.78	7.43	13.81	.00	2.36	61.32	134.13
	12.620	5954.19	5950.97	5954.61	9.19	5.63	.29	3.70	33.12	230.00
	12.820	5954.41	5951.31	5954.86	8.41	5.66	.00	3.93	58.18	207.00
	13.030	5954.64	5952.22	5955.21	7.64	6.36	.00	4.13	58.72	207.28
	13.230	5954.95	5953.19	5955.76	6.95	7.52	.00	4.50	62.11	195.89
	13.350	5955.23	5953.52	5956.36	6.53	8.53	.00	.00	51.35	139.65
	13.370	5955.37	5953.52	5956.45	6.67	8.34	.00	.00	51.15	139.85
	13.410	5955.51	5953.71	5956.61	6.61	8.40	.00	.00	51.01	139.99
	13.430	5955.63	5953.76	5956.69	6.63	8.27	.00	.00	53.88	144.12
	13.620	5956.21	5955.42	5957.91	6.21	10.48	.00	.00	102.59	182.41
	13.790	5957.29	5956.92	5959.41	6.29	11.66	.00	.00	112.40	184.75
*	13.820	5958.17	5958.17	5960.46	5.17	12.15	.00	.00	109.12	188.73
	13.980	5961.80	5961.13	5964.02	8.00	11.97	.00	.00	94.70	156.29
	14.190	5963.76	5963.12	5966.12	8.86	12.33	.00	.00	92.40	149.60
*	14.220	5964.67	5964.67	5967.39	6.87	13.22	.00	.00	88.52	149.75
	14.810	5970.01	5968.24	5971.70	9.41	10.41	.00	.00	99.73	160.01
	15.020	5971.52	5968.81	5972.53	9.52	8.05	.00	1.81	77.05	153.81

SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
15.450	5972.88	5970.75	5973.96	8.88	8.36	.00	.00	74.26	156.40
15.720	5973.87	5971.75	5974.97	7.87	8.43	.00	.00	79.55	157.78
16.130	5975.40	5973.54	5976.71	7.90	9.18	.00	.00	77.42	148.02

16.480	5976.99	5974.80	5978.10	7.99	8.43	.00	.00	67.22	143.33

2/23/93 14:28:38

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 12.280 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 13.820 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 13.820 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 14.220 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 14.220 PROFILE= 1 MINIMUM SPECIFIC ENERGY

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 7-6

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUBCRITICAL RUN FROM AIRPORT ROAD TO RED WING DETENTION POND

```
*****************************************************
*  WATER SURFACE PROFILES                           *
*  DEVELOPED BY THE COE                             *
*  VERSION OF SEPTEMBER 1988                        *
*  ERROR: 01,02,03                                  *
*  RUN DATE     3/ 2/93   TIME   16:51:17           *
*****************************************************
```


```
*****************************************
*  DODSON & ASSOCIATES, INC.            *
*  HYDROLOGIST AND CIVIL ENGINEERS      *
*  5629 FM 1960 WEST SUITE 314          *
*  HOUSTON, TEXAS  77069                *
*  (713) 440-3787 Fax (713) 440-4742    *
*****************************************
```


```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                 X
XXXXXXX  XXXX     X           XXXXX  XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

END OF BANNER

3/ 2/93 16:51:17

THIS RUN EXECUTED 3/ 2/93 16:51:17

```
*****************************************************
  HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

  ERROR CORR -  01,02,03
  MODIFICATION -
*****************************************************

T1      SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2      100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 7-6
T3      FILE HC27-6.INP  - URS PROJECT NO. 40218 - 02-22-93

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0       2         0         1        -1         0        .1         0      5998         0

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

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
       38         1         2         3         8        26        55        56        53  . . .  54
```

```
J5  LPRNT    NUMSEC                  *********REQUESTED SECTION NUMBERS*********

    -10        -10

QT       1      3177
NC    .035      .035      .015        .1        .3
        END OF REACH 7-6
X1   18.15         6        53       111       140       140       140         0         0         0
GR    6004         0      6000        53      5989        64      5989       100      6000       111
GR    6002       160

NC    .035      .035      .020        .1        .3
X1   18.01         7        58       114        50        50        50         0         0         0
GR    6002        33    5990.6        58    5985.1        66    5985.1       106    5990.6       114
GR    5998       130      6000       150

X1   17.96         9        70       118        70        70        70         0         0         0
X2    4086         0         0         0         0         0         0         0         0         0
GR    6003         0      6002        16      6000        38    5990.3        70    5984.8        78
GR  5984.8       110    5990.3       118      5998       132      6000       153

X1   17.89         8        62       118       147       147       147         0         0         0
GR  6000.4         0      6000        39    5989.8        62    5984.3        70    5984.3       110
GR  5989.8       118      5998       135      6000       157

                                                                                        PAGE    2
    3/ 2/93      16:51:17


X1   17.75         0                           147       147       147         0      -1.0         0

X1   17.59         0                           147       147       147         0      -1.0         0

X1   17.45         8        66       120       143       132       137         0         0         0
GR  5993.5        50      5992        54    5986.9        66    5981.4        74    5981.4       112
GR  5986.9       120      5990       127      5992       134

X1   17.31         0                           143       132       137         0      -0.9         0

X1   17.18         0                           143       132       137         0      -0.9         0

X1   17.04         7        76       135       110       110       110         0         0         0
GR  5985.5        65    5984.2        76    5978.7        84    5978.7       127    5984.2       135
GR    5986       140      5988       170

NC    .035      .035      .015        .1        .3
X1   16.93         8        75       138       100       100       100         0         0         0
GR    5985        48    5983.5        75      5978        83      5978       130    5983.5       138
GR    5984       140      5986       143      5988       210

        BRIDGE AT AIRPORT ROAD
X1   16.83        19      73.9     131.9        70        70        70         0         0         0
```

GR	5985	0	5982.3	73.9	5977.3	74	5977.3	84	5982.3	84.1
GR	5982.3	84.9	5977.3	85	5977.3	98	5982.3	98.1	5982.3	98.9
GR	5977.3	99	5977.3	117	5982.3	117.1	5982.3	117.9	5977.3	118
GR	5977.3	131	5982.3	131.9	5984	150	5985	210		
X1	16.76	18	73.9	131.9	100	100	100	0	0	0
BT	4	0	5984	5984	73.9	5984	5981.9	131.9	5984	5981.9
BT	150	5984	5984							
GR	5984	0	5981.9	73.9	5976.9	74	5976.9	84	5981.9	84.1
GR	5981.9	84.9	5976.9	85	5976.9	98	5981.9	98.1	5981.9	98.9
GR	5976.9	99	5976.9	117	5981.9	117.1	5981.9	117.9	5976.9	118
GR	5976.9	131	5981.9	131.9	5984	150				
NC	.035	.035	.035	.1	.3					
X1	16.66	6	74	146	0	0	0	0	0	0
GR	5982	50	5980	74	5969.8	93	5969.8	122	5980	146
GR	5982	230								

THIS RUN EXECUTED 3/ 2/93 16:51:46

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

FILE HC27-6.INP - URS P

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
*	18.150	5994.86	5994.86	5997.46	5.86	12.96	.00	.00	58.14	105.86
	18.010	5988.48	5990.50	5995.27	3.38	20.90	.00	.00	61.08	110.92
	17.960	5991.84	5991.84	5994.81	7.04	13.87	2.02	1.90	64.93	120.80
	17.890	5989.17	5990.56	5994.07	4.88	17.75	.00	.00	62.89	117.11
	17.750	5988.51	5989.56	5992.71	5.21	16.45	.00	.00	62.41	117.59

17.590	5987.58	5988.57	5991.65	5.28	16.19	.00	.00	62.30	117.70
17.450	5987.35	5987.84	5990.71	5.95	14.70	1.04	1.04	64.91	121.04
17.310	5986.19	5986.95	5989.94	5.69	15.53	.03	.03	65.56	120.43
17.180	5985.18	5986.06	5989.10	5.58	15.89	.03	.03	65.82	120.17
17.040	5983.48	5984.75	5988.02	4.77	17.11	.00	.00	77.05	133.95
16.930	5982.25	5983.76	5987.34	4.25	18.11	.00	.00	76.83	136.17
16.830	5981.46	5983.07	5986.45	4.16	17.93	.00	.00	73.92	131.75
16.760	5981.42	5982.70	5985.66	4.52	16.52	.00	.00	73.91	131.81
16.660	5974.67	5976.88	5981.75	4.87	21.35	.00	.00	83.92	133.47

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 18.150 PROFILE= 1 CRITICAL DEPTH ASSUMED

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 6-5

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUBCRITICAL RUN FROM RED WING DETENTION
POND TO WAGNER PARK DETENTION POND

```
**********************************************************
*  WATER SURFACE PROFILES                                *
*  DEVELOPED BY THE COE                                  *
*  VERSION OF SEPTEMBER 1988                             *
*  ERROR: 01,02,03                                       *
*  RUN DATE     2/26/93   TIME   11:11:38                *
**********************************************************
```

```
****************************************
*  DODSON & ASSOCIATES, INC.           *
*  HYDROLOGIST AND CIVIL ENGINEERS     *
*  5629 FM 1960 WEST SUITE 314         *
*  HOUSTON, TEXAS  77069               *
*  (713) 440-3787 Fax (713) 440-4742   *
****************************************
```

```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X     X
XXXXXXX  XXXX     X          XXXXX   XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX
```

END OF BANNER

THIS RUN EXECUTED 2/26/93 11:11:38

```
**************************************************
  HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

  ERROR CORR -  01,02,03
  MODIFICATION -
**************************************************
```

```
T1      SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2      100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 6-5
T3      FILE HC26-52.INP - URS PROJECT NO. 40218 - 02-25-93
```

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	0	0	0	.1	0	5998.5	0
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	-1	0	-1	0	0	0	-1	0	0	0

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	1	2	3	8	26	55	56	53	54

J5 LPRNT NUMSEC ********REQUESTED SECTION NUMBERS********

-10 -10

QT	1	2171								
NC	.035	.035	.035	.1	.3					
X1	19.23	6	93	161	0	0	0	0	0	161
GR	6010.1	60	5999.1	93	5992.1	107	5992.1	147	5999.1	
GR	6010.1	194								
	DROP STRUCTURE									
X1	19.26	6	93	173	30	30	30	0	0	0
GR	6010.1	69	6002.3	93	5995.3	107	5995.3	159	6002.3	173
GR	6010.3	197								
X1	19.35	6	107	175	93	80	90	0	0	0
GR	6016	67	6002.7	107	5995.7	121	5995.7	161	6002.7	175
GR	6012	203								
X1	19.41	6	107	175	60	60	60	0	0	0
GR	6018	62	6003	107	5996	121	5996	161	6003	175
GR	6018	220								
	DROP STRUCTURE									
X1	19.44	6	106	186	30	30	30	0	0	0
GR	6018	71	6006.2	106	5999.2	120	5999.2	172	6006.2	186
GR	6018	215								

X1	19.53	6	114	182	90	90	90	0	0	0
GR	6018	80	6006.6	114	5999.6	128	5999.6	168	6006.6	182
GR	6024	234								
	END OF ENERGY DISSIPATOR									
X1	19.61	6	115	183	80	80	80	0	0	0
GR	6020	75	6007	115	6000	129	6000	169	6007	183
GR	6025	237								

THIS RUN EXECUTED 2/26/93 11:11:43

****

HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

FILE HC26-52.INP - URS P

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
	19.230	5998.50	5996.28	5999.14	6.40	6.42	.00	.00	94.20	159.80
*	19.260	5998.90	5998.90	6000.51	3.60	10.19	.00	.00	99.80	166.20
	19.350	6000.67	5999.88	6001.86	4.97	8.74	.00	.00	111.06	170.94
	19.410	6001.15	6000.17	6002.24	5.15	8.37	.00	.00	110.69	171.31
*	19.440	6002.79	6002.79	6004.41	3.59	10.22	.00	.00	112.82	179.18
	19.530	6004.58	6003.78	6005.76	4.98	8.72	.00	.00	118.04	177.96
	19.610	6005.20	6004.17	6006.26	5.20	8.29	.00	.00	118.61	179.39

2/26/93 11:11:38

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 19.260 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 19.260 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 19.440 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 19.440 PROFILE= 1 MINIMUM SPECIFIC ENERGY

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 5-4

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUBCRITICAL RUN FROM WAGNER PARK
DETENTION POND TO BIJOU STREET

```
*****************************************************
*  WATER SURFACE PROFILES                           *
*  DEVELOPED BY THE COE                             *
*  VERSION OF SEPTEMBER 1988                        *
*  ERROR: 01,02,03                                  *
*  RUN DATE     2/26/93    TIME    11:37:42         *
*****************************************************
```


```
****************************************
*  DODSON & ASSOCIATES, INC.           *
*  HYDROLOGIST AND CIVIL ENGINEERS     *
*  5629 FM 1960 WEST SUITE 314         *
*  HOUSTON, TEXAS  77069               *
*  (713) 440-3787 Fax (713) 440-4742   *
****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X         XXXXX     XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
```

END OF BANNER

2/26/93 11:37:42

THIS RUN EXECUTED 2/26/93 11:37:42

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****************************************************
 HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

 ERROR CORR -  01,02,03
 MODIFICATION -
****************************************************
```

T1 SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2 100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 5-4
T3 FILE HC25-4.INP - URS PROJECT NO. 40218 - 02-26-93

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0	2	0	0	0	0	.1	0	6030.1	0

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

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38	1	2	3	8	26	55	56	53	54

J5 LPRNT NUMSEC ********REQUESTED SECTION NUMBERS********

-10 -10

QT	1	3019								
NC	.035	.035	.035	.1	.3					
X1	20.99	6	138	191	0	0	0	0	0	0
GR	6048	100	6029	138	6025	146	6025	183	6029	191
GR	6040	208								
	DROP STRUCTURE									
X1	21.02	6	130	193	30	30	30	0	0	0
GR	6048	98	6032.2	130	6028.2	138	6028.2	185	6032.2	193
GR	6052	220								
X1	21.10	7	127	177	80	80	80	0	0	0
GR	6050	85	6046	104	6032.6	127	6028.6	140	6028.6	159
GR	6032.6	177	6050	207						
X1	21.17	6	120	170	70	70	70	0	0	0
GR	6050	84	6033	120	6029	128	6029	162	6033	170
GR	6050	190								

THIS RUN EXECUTED 2/26/93 11:37:46

****
HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

FILE HC25-4.INP - URS P

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
*	20.990	6030.28	6030.28	6032.56	5.28	12.15	3.06	2.94	135.44	192.97
*	21.020	6032.85	6032.85	6034.93	4.65	11.55	2.01	1.88	128.68	193.89

21.100	6035.06	6034.74	6037.06	6.46	11.43	4.01	4.01	122.80	181.22
21.170	6036.28	6034.51	6037.49	7.27	8.93	3.37	3.00	113.06	173.85

2/26/93 11:37:42

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 20.990 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO= 21.020 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 21.020 PROFILE= 1 MINIMUM SPECIFIC ENERGY

HEC-2 OUTPUT
SPRING CREEK MAIN CHANNEL
REACH 3-4

DESIGN FOR:

100 YEAR 24 HOUR STORM
FULL DEVELOPMENT CONDITIONS
SUPERCRITICAL RUN FROM PLATTE AVE. TO BIJOU STREET

```
*******************************************************
*  WATER SURFACE PROFILES                             *
*  DEVELOPED BY THE COE                               *
*  VERSION OF SEPTEMBER 1988                          *
*  ERROR: 01,02,03                                    *
*  RUN DATE     2/23/93   TIME   16:16:12             *
*******************************************************
```


```
*****************************************
*  DODSON & ASSOCIATES, INC.            *
*  HYDROLOGIST AND CIVIL ENGINEERS      *
*  5629 FM 1960 WEST SUITE 314          *
*  HOUSTON, TEXAS  77069                *
*  (713) 440-3787 Fax (713) 440-4742    *
*****************************************
```


```
X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                  X     X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX              XXXXXXX

END OF BANNER
```


THIS RUN EXECUTED 2/23/93 16:16:13

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*****************************************************
  HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

  ERROR CORR -  01,02,03
  MODIFICATION -
*****************************************************

T1      SPRING CREEK DRAINAGE BASIN PLANNING STUDY
T2      100 YEAR DISCHARGE - PROPOSED SYSTEM - REACH 4-3
T3      FILE HC2 4-3.INP - URS PROJECT NO. 40218 - 02-23-93

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0       2         0         1        -1         0        .1         0      6052         0
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
       -1       0         0         0         0         0        -1         0         0         0

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
       38         1         2         3         8        26        55        56        53        54
```

```
J5  LPRNT    NUMSEC                 ********REQUESTED SECTION NUMBERS********

    -10      -10

QT       1      2400
NC    .035      .035     .015       .1        .3
         END OF REACH 4-3
X1   22.27         7      115      152       130      130       130        0        0        0
GR    6068        90     6064      104    6063.4      115    6055.9      126   6055.9      141
GR  6063.4       152     6068      160

X1   22.14         7      117      154       130      112       100        0        0        0
GR    6066        82     6064      108    6062.4      117    6054.9      128   6054.9      143
GR  6062.4       154     6064      169

         DROP STRUCTURE
X1   22.04         6      109      146        20       20        20        0        0        0
GR    6066       100   6061.8      109    6054.3      120    6054.3      135   6061.8      146
GR    6062       160

X1   22.02         7      110      147       140      140       140        0        0        0
GR    6066       102   6059.7      110    6052.2      121    6052.2      136   6059.7      147
GR    6060       151     6062      160

X1   21.88         6      113      150       110      110       110        0        0        0
GR    6064       105   6058.8      113    6051.3      124    6051.3      139   6058.8      150
GR    6060       191

    2/23/93    16:16:13                                                          PAGE    2


         DROP STRUCTURE
X1   21.77         9      117      154        20       20        20        0        0        0
X2    2600         0        0        0         0        0         0        0        0        0
GR    6064        78     6064       86      6062       93      6060       98   6058.2      117
GR  6050.7       128   6050.7      143    6058.2      154      6060      170

X1   21.75         9      118      155       120      120       120        0        0        0
GR    6064        86     6062       93      6060      100    6057.1      118   6049.6      129
GR  6049.6       144   6057.1      155      6058      162      6060      170

X1   21.63         9      118      155        90       90        90        0        0        0
X2    2787         0        0        0         0        0         0        0        0        0
GR    6064        86     6062       94      6060      100    6056.4      118   6048.9      129
GR  6048.9       144   6056.4      155      6058      169      6060      175

         DROP STRUCTURE
X1   21.54         9      114      151        20       20        20        0        0        0
GR    6064        79     6062       90      6060       92    6055.8      114   6048.3      125
GR  6048.3       140   6055.8      151      6058      160      6060      165

X1   21.52         7      111      148       110      110       110        0        0        0
GR    6064        83     6060       92    6053.7      111    6046.2      122   6046.2      137
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GR   6053.7      148     6060      162

X1    21.41        7      108      145       80       80       80        0        0        0
GR     6061       85     6060       88   6053.1      108   6045.6      119   6045.6      134
GR   6053.1      145     6056      160

X1    21.33        7    106.9    144.1       20       20       20        0        0        0
GR     6060       15     6058       88   6050.6    106.9   6045.1      107   6045.1      144
GR   6050.6    144.1     6058      170

       BRIDGE AT BIJOU STREET
X1    21.31       20    109.9    147.1       80       80       80        0        0        0
BT        4       80     6058     6058    109.9     6057     6050    147.1     6057     6050
BT      170     6058     6058
GR     6060        0     6058       50     6058       80     6050    109.9     6045      110
GR     6045      118     6050    118.1     6050    118.9     6045      119     6045      127
GR     6050    127.1     6050    127.9     6045      128     6045      136     6050    136.1
GR     6050    136.9     6045      137     6045      147     6050    147.1     6058      170

X1    21.23       20    119.9    157.1       20       20       20        0        0        0
BT        4       70     6056     6056    119.9     6054   6049.5    157.1     6052   6049.5
BT      170     6054     6054
GR     6058       20     6056       70   6049.5    119.9   6044.5      120   6044.5      128
GR   6049.5    128.1   6049.5    128.9   6044.5      129   6044.5      137   6049.5    137.1
GR   6049.5    137.9   6044.5      138   6044.5      146   6049.5    146.1   6049.5    146.9
GR   6044.5      147   6044.5      157   6049.5    157.1     6054      170     6056      220
```



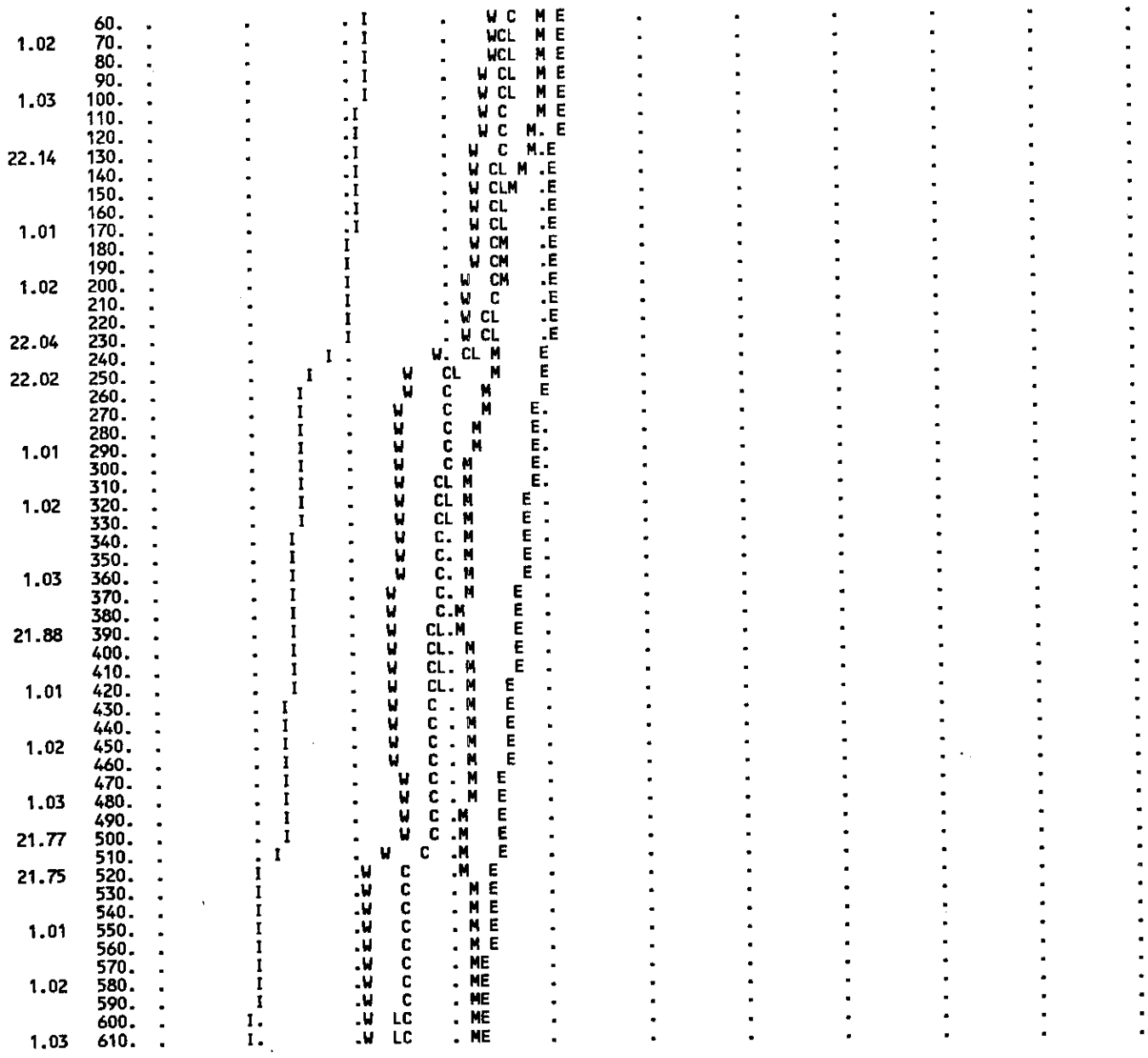
```
X1    21.21        9    119.9    157.1        0        0        0        0        0        0
GR     6056       15     6054       70     6054      100     6052      110     6050    119.9
GR   6044.4      120   6044.4      157     6050    157.1     6052      200
```

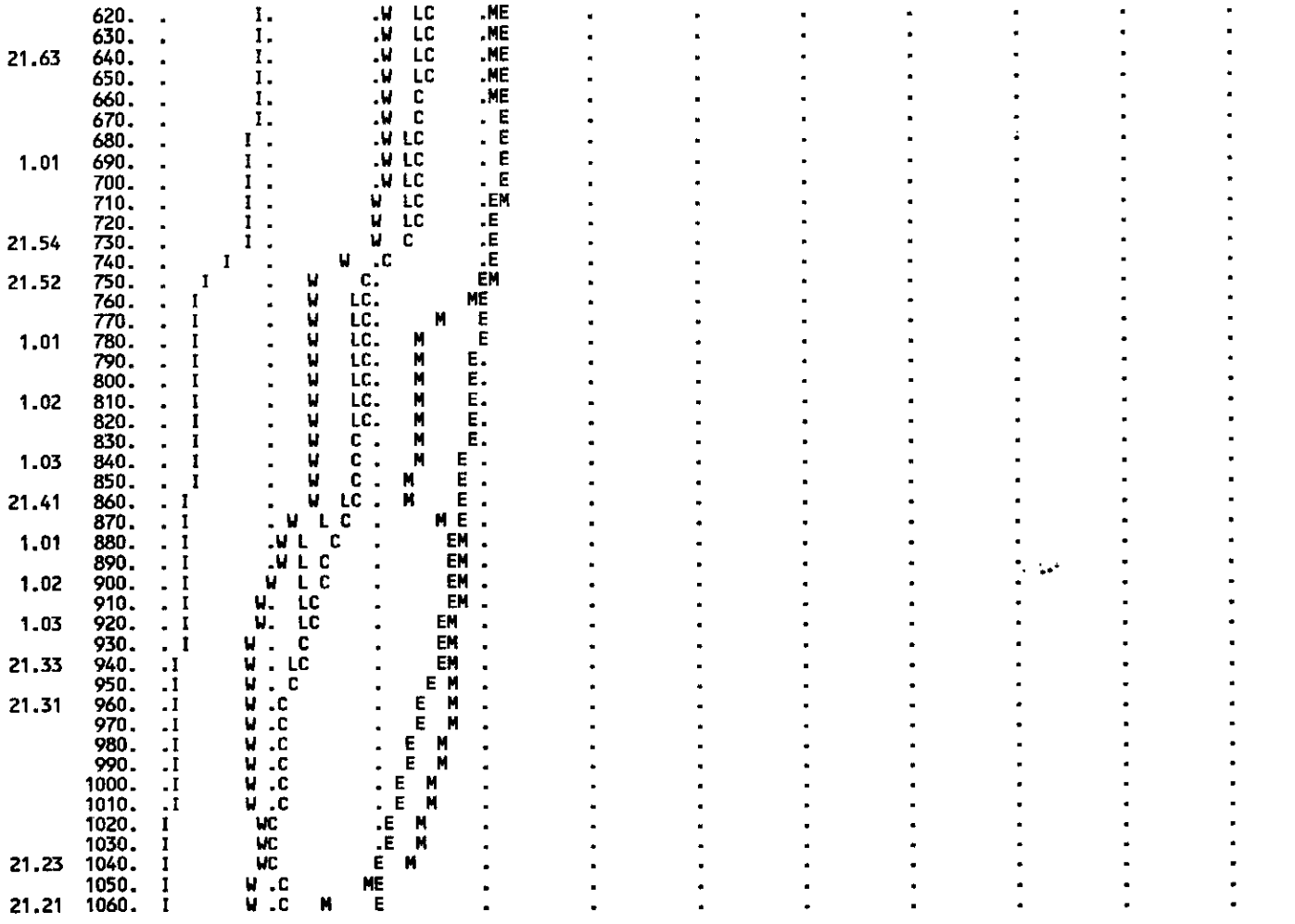
```
PROFILE FOR STREAM  FILE HC2 4-3.INP - URS P


PLOTTED POINTS (BY PRIORITY) E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


ELEVATION  6044.     6049.     6054.     6059.     6064.     6069.     6074.     6079.     6084.     6089.
   SECNO   CUMDIS

   22.27     0.  .         .         . I       .       W .  E   M  .         .         .         .         .         .
            10.  .         .         . I       .      WL .  E M    .         .         .         .         .         .
            20.  .         .         . I       .      WCL . EM     .         .         .         .         .         .
            30.  .         .         . I       .      WCL .ME      .         .         .         .         .         .
    1.01    40.  .         .         . I       .      WCL .ME      .         .         .         .         .         .
            50.  .         .         .I        .     W C  .ME      .         .         .         .         .         .
```





2/23/93 16:16:13 PAGE 4

THIS RUN EXECUTED 2/23/93 16:16:34

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HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -
****

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

FILE HC2 4-3.INP - URS P

SUMMARY PRINTOUT

	SECNO	CWSEL	CRIWS	EG	DEPTH	VCH	VLOB	VROB	SSTA	ENDST
*	22.270	6063.16	6063.16	6065.74	7.26	12.89	.00	.00	115.35	151.65
	22.140	6061.07	6062.17	6065.14	6.17	16.18	.00	.00	118.95	152.05
	22.040	6060.32	6061.52	6064.67	6.02	16.75	.00	.00	111.18	143.82
	22.020	6057.24	6059.45	6064.28	5.04	21.29	.00	.00	113.62	143.38
	21.880	6056.52	6058.56	6062.92	5.22	20.31	.00	.00	116.35	146.65
	21.770	6056.72	6058.25	6061.81	6.02	18.10	.00	.00	119.16	151.84
	21.750	6055.14	6057.14	6061.55	5.54	20.33	.00	.00	120.88	152.12
	21.630	6055.12	6056.72	6060.47	6.22	18.56	.00	.00	119.87	153.13
	21.540	6054.46	6056.11	6059.96	6.16	18.81	.00	.00	115.96	149.04
	21.520	6051.56	6054.00	6059.56	5.36	22.70	.00	.00	114.13	144.87
	21.410	6051.20	6053.43	6058.34	5.60	21.44	.00	.00	110.79	142.21
	21.330	6048.24	6050.68	6057.19	3.13	24.02	.00	.00	106.94	144.06
	21.310	6048.59	6050.00	6056.52	3.59	22.60	.00	.00	109.93	147.07
	21.230	6048.66	6049.50	6054.54	4.16	19.45	.00	.00	119.92	157.08
	21.210	6048.20	6049.97	6054.30	3.80	19.82	.00	.00	119.93	157.07

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 22.270 PROFILE= 1 CRITICAL DEPTH ASSUMED

UNDERGROUND SYSTEM ANALYSIS

SPRING CREEK DBPS – RATIONAL METHOD 10YR

DATE: Oct 30, 1991

SUB-BASIN	AREA (ACRES)	C	T.O.C (MIN)	INTENSITY	Q(CFS)	CFS/ACRE
A1	88.6	0.58	14.3	3.98	204	2.3
A2	81.0	0.73	14.3	3.98	236	2.9
B1	119.1	0.66	16.4	3.76	295	2.5
B2	122.9	0.59	19.3	3.47	252	2.0
B3	64.8	0.53	19.7	3.43	119	1.8
B4	74.8	0.72	14.1	3.99	216	2.9
B5	27.6	0.53	17.7	3.63	53	1.9
C1	115.2	0.77	17.4	3.66	322	2.8
C2	156.0	0.88	15.0	3.90	533	3.4
D1	89.4	0.85	17.1	3.69	281	3.1
D2	59.8	0.89	13.2	4.09	219	3.7
E1	50.7	0.79	12.5	4.15	167	3.3
F1	76.7	0.76	16.8	3.72	217	2.8
F2-1	64.9	0.69	16.0	3.80	170	2.6
F2-2	65.9	0.90	13.8	4.03	239	3.6
F3	139.9	0.59	18.0	3.60	297	2.1
F4	29.9	0.81	16.3	3.77	91	3.1
F5	195.3	0.60	19.4	3.46	402	2.1
F6	45.4	0.50	13.6	4.04	92	2.0
F7	89.8	0.64	18.0	3.60	208	2.3
F8	32.9	0.59	10.0	4.70	91	2.8
G1	80.1	0.68	14.8	3.92	214	2.7
G2-1	69.5	0.49	13.7	4.03	136	2.0
G2-2	57.5	0.60	14.2	3.98	138	2.4
G3	40.8	0.81	16.9	3.71	123	3.0
H1	138.6	0.76	16.7	3.73	393	2.8
I1	74.0	0.39	13.7	4.03	116	1.6
I2	45.3	0.59	14.5	3.95	106	2.3
I3	119.8	0.67	16.8	3.73	298	2.5
J1-1	82.3	0.60	15.1	3.89	191	2.3
J1-2	80.2	0.53	20.6	3.34	143	1.8
J2	104.4	0.44	20.4	3.36	153	1.5
J3	54.0	0.63	19.2	3.48	118	2.2

SPRING CREEK DBPS – RATIONAL METHOD 10YR

DATE: Oct 30, 1991

SUB-BASIN	AREA (ACRES)	C	T.O.C (MIN)	INTENSITY	Q(CFS)	CFS/ACRE
K1	153.9	0.75	18.5	3.55	411	2.7
K2-1	134.9	0.56	19.8	3.42	259	1.9
K2-2	39.1	0.57	14.7	3.93	88	2.2
K3-1	33.5	0.42	18.2	3.58	50	1.5
K3-2	45.2	0.40	10.0	4.70	86	1.9
K4	81.5	0.44	20.7	3.33	119	1.5
K5	42.7	0.75	16.2	3.78	121	2.8
L1	89.3	0.64	14.5	3.95	224	2.5
L2	142.6	0.61	16.5	3.75	328	2.3
L3	38.4	0.72	16.7	3.73	103	2.7
L4	79.2	0.62	18.5	3.55	174	2.2
M2	73.5	0.70	16.2	3.78	194	2.6
M3	126.1	0.63	19.1	3.49	278	2.2
M4	100.3	0.59	16.0	3.80	224	2.2
M5	47.9	0.83	14.0	4.00	159	3.3
N1	97.8	0.90	16.7	3.73	327	3.3
N2	45.9	0.90	13.0	4.10	169	3.7
N3	21.4	0.88	15.3	3.87	73	3.4
N4	66.9	0.43	23.6	3.14	90	1.4
O1	60.9	0.87	14.0	4.00	212	3.5
O2	94.4	0.50	17.5	3.65	171	1.8
P1	19.8	0.71	12.4	4.16	58	2.9
P2	129.7	0.65	18.9	3.51	295	2.3

SPRING CREEK DBPS - 36' RES. STREET CAPACITIES USED FOR ANALYZING FLOODING AREAS

STREET CAPACITIES FOR 10 YEAR STORM

STREET SLOPE	Sw	Sx	TOTAL SPREAD (FT)	GUTTER FLOW (CFS)	STREET FLOW (CFS)	CAPACITY ONE SIDE (CFS)	TOTAL CAPACITY (CFS)
0.50%	6.25%	2.00%	18.0	2.7	5.9	8.6	17.1
1.00%	6.25%	2.00%	18.0	3.8	8.4	12.1	24.3
1.50%	6.25%	2.00%	18.0	4.6	10.2	14.9	29.7
2.00%	6.25%	2.00%	18.0	5.3	11.8	17.1	34.3
2.50%	6.25%	2.00%	18.0	6.0	13.2	19.2	38.3
3.00%	6.25%	2.00%	18.0	6.5	14.5	21.0	42.0
3.50%	6.25%	2.00%	18.0	7.1	15.6	22.7	45.4
4.00%	6.25%	2.00%	18.0	7.5	16.7	24.3	48.5
4.50%	6.25%	2.00%	18.0	8.0	17.7	25.7	51.4
5.00%	6.25%	2.00%	18.0	8.4	18.7	27.1	54.2
5.50%	6.25%	2.00%	18.0	8.9	19.6	28.4	56.9
6.00%	6.25%	2.00%	18.0	9.2	20.5	29.7	59.4

STREET CAPACITIES FOR 100 YEAR STORM

STREET SLOPE	Sw	Sx	TOTAL SPREAD (FT)	GUTTER FLOW (CFS)	STREET FLOW (CFS)	CAPACITY ONE SIDE (CFS)	TOTAL CAPACITY (CFS)
0.50%	6.25%	2.00%	18.0	12.0	57.5	69.4	138.9
1.00%	6.25%	2.00%	18.0	16.9	81.3	98.2	196.4
1.50%	6.25%	2.00%	18.0	20.8	99.5	120.3	240.5
2.00%	6.25%	2.00%	18.0	24.0	114.9	138.9	277.8
2.50%	6.25%	2.00%	18.0	26.8	128.5	155.3	310.5
3.00%	6.25%	2.00%	18.0	29.4	140.7	170.1	340.2
3.50%	6.25%	2.00%	18.0	31.7	152.0	183.7	367.4
4.00%	6.25%	2.00%	18.0	33.9	162.5	196.4	392.8
4.50%	6.25%	2.00%	18.0	36.0	172.4	208.3	416.6
5.00%	6.25%	2.00%	18.0	37.9	181.7	219.6	439.2
5.50%	6.25%	2.00%	18.0	39.8	190.5	230.3	460.6
6.00%	6.25%	2.00%	18.0	41.5	199.0	240.5	481.1

SPRING CREEK DBPS
CAPACITIES USED FOR IMPROVEMENTS - FLOODING INVESTIGATION-36' RESIDENTIAL

AVERAGE BASIN SLOPE	CURB INLET PICK UP (CFS)		RCP CAPACITY (CFS) AND MAX. # OF TRIBUTARY INLETS					
	12' ON GRADE DEPTH = 0.25'	12' IN SUMP DEPTH = 0.37'	18" CAPACITY/#	24" CAPACITY/#	30" CAPACITY/#	36" CAPACITY/#	42" CAPACITY/#	48" CAPACITY/#
1.00%	9.8	12.0	10.5 / 1	22.6 / 2	41.0 / 3	66.6 / 5	100.6 / 8	143.6 / 16
2.00%	11.1	12.0	14.9 / 1	32.0 / 2	58.0 / 4	94.2 / 6	142.2 / 10	203.1 / 14
3.00%	12.0	12.0	18.2 / 1	39.2 / 2	71.0 / 4	115.4 / 7	174.2 / 11	248.7 / 16
4.00%	12.4	12.0	21.0 / 1	45.2 / 3	82.0 / 5	133.2 / 8	201.2 / 12	287.2 / 17
5.00%	12.9	12.0	23.5 / 1	50.6 / 3	91.7 / 5	148.9 / 8	224.9 / 13	321.1 / 19
6.00%	13.6	12.0	25.7 / 1	55.4 / 3	100.4 / 6	163.1 / 9	246.4 / 14	351.6 / 19

OF INLETS IS BASED ON USING 75% OF THE PIPE CAPACITY SHOWN, EXCEPT 18" WHICH ARE USED AS LATERALS ONLY

25% OF THE PIPE CAPACITY IS RESERVED FOR LOSSES AND TO PASS A PORTION OF THE 100 YEAR STORM

SPRING CREEK DBPS
CAPACITIES USED FOR IMPROVEMENTS – FLOODING INVESTIGATION – ARTERIAL

AVERAGE BASIN SLOPE	CURB INLET PICK UP (CFS)		RCP CAPACITY (CFS) AND MAX. # OF TRIBUTARY INLETS					
	12' ON GRADE DEPTH = 0.25'	12' IN SUMP DEPTH = 0.37'	18″ CAPACITY/#	24″ CAPACITY/#	30″ CAPACITY/#	36″ CAPACITY/#	42″ CAPACITY/#	48″ CAPACITY/#
1.00%	6.6	8.0	10.5 / 1	22.6 / 2	41.0 / 5	66.6 / 8	100.6 / 11	143.6 / 16
2.00%	7.5	8.0	14.9 / 1	32.0 / 3	58.0 / 6	94.2 / 9	142.2 / 14	203.1 / 20
3.00%	7.6	8.0	18.2 / 1	39.2 / 4	71.0 / 7	115.4 / 11	174.2 / 17	248.7 / 25
4.00%	8.2	8.0	21.0 / 1	45.2 / 4	82.0 / 8	133.2 / 12	201.2 / 18	287.2 / 26
5.00%	8.7	8.0	23.5 / 1	50.6 / 4	91.7 / 8	148.9 / 13	224.9 / 19	321.1 / 28
6.00%	8.9	8.0	25.7 / 1	55.4 / 5	100.4 / 8	163.1 / 14	246.4 / 21	351.6 / 30

OF INLETS IS BASED ON USING 75% OF THE PIPE CAPACITY SHOWN, EXCEPT 18″ WHICH ARE USED AS LATERALS ONLY

25% OF THE PIPE CAPACITY IS RESERVED FOR LOSSES AND TO PASS A PORTION OF THE 100 YEAR STORM

SPRING CREEK DBPS - *ARTERIAL*
STREET CAPACITIES USED FOR ANALYZING FLOODING AREAS

STREET CAPACITIES FOR 10 YEAR STORM

STREET SLOPE	Sw	Sx	TOTAL SPREAD (FT)	GUTTER FLOW (CFS)	STREET FLOW (CFS)	CAPACITY ONE SIDE (CFS)	TOTAL CAPACITY (CFS)
0.50%	6.25%	2.00%	14.0	1.8	2.7	4.5	9.1
1.00%	6.25%	2.00%	14.0	2.6	3.9	6.4	12.9
1.50%	6.25%	2.00%	14.0	3.1	4.7	7.9	15.8
2.00%	6.25%	2.00%	14.0	3.6	5.5	9.1	18.2
2.50%	6.25%	2.00%	14.0	4.0	6.1	10.2	20.3
3.00%	6.25%	2.00%	14.0	4.4	6.7	11.1	22.3
3.50%	6.25%	2.00%	14.0	4.8	7.2	12.0	24.1
4.00%	6.25%	2.00%	14.0	5.1	7.7	12.9	25.7
4.50%	6.25%	2.00%	14.0	5.4	8.2	13.6	27.3
5.00%	6.25%	2.00%	14.0	5.7	8.7	14.4	28.8
5.50%	6.25%	2.00%	14.0	6.0	9.1	15.1	30.2
6.00%	6.25%	2.00%	14.0	6.3	9.5	15.8	31.5

STREET CAPACITIES FOR 100 YEAR STORM

STREET SLOPE	Sw	Sx	TOTAL SPREAD (FT)	GUTTER FLOW (CFS)	STREET FLOW (CFS)	CAPACITY ONE SIDE (CFS)	TOTAL CAPACITY (CFS)
0.50%	6.25%	2.00%	29.0	5.7	23.9	29.6	59.1
1.00%	6.25%	2.00%	29.0	8.0	13.2	21.3	42.5
1.50%	6.25%	2.00%	29.0	9.8	16.2	26.0	52.1
2.00%	6.25%	2.00%	29.0	11.4	18.7	30.1	60.1
2.50%	6.25%	2.00%	29.0	12.7	20.9	33.6	67.2
3.00%	6.25%	2.00%	29.0	13.9	22.9	36.8	73.6
3.50%	6.25%	2.00%	29.0	15.0	24.7	39.8	79.5
4.00%	6.25%	2.00%	29.0	16.1	26.4	42.5	85.0
4.50%	6.25%	2.00%	29.0	17.0	28.0	45.1	90.2
5.00%	6.25%	2.00%	29.0	18.0	29.5	47.5	95.0
5.50%	6.25%	2.00%	29.0	18.8	31.0	49.8	99.7
6.00%	6.25%	2.00%	29.0	19.7	32.4	52.1	104.1