DS #: 4577C

APN: 124-07-499-001 + More

PROJECT: Park Highlands (Project in CNLV) - Grand Teton Regional Flood Control Facility

SUBMITTAL: 3rd

SCANNED BY/DATE: _____

CHECKED BY/DATE: _____

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: August 28, 2014
TO: **Land Development Services** Department of Public Works			FROM: Albert Sung, P.E. Flood Control Project Engineer for Department of Public Works
SUBJECT:	Drainage Study for: **Park Highlands (Project in CNLV)** **– Grand Teton Regional Flood Control Facility**		**COPIES TO:** Slater Hanifan Group
Cross Streets:	Grand Teton Blvd. & Decatur Blvd.		Crescent Bay Holdings
File Number:	F:\Depot\DSMemos\DS4577C.doc		Bart Anderson, P.E., DevCo
Parcel Number:	124-07-499-001 & More		CCRFCD
Zoning Action:	N/A		CNLV
FEMA Flood Zone	YES	NO **X**	
Proposed Storm Drain	YES **X**	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	11/15/2012; 3/12/2013 & 7/11/2013	7/22/2013	Approved	$400.00	302060: $400
2nd Submittal	2/18/2014	3/4/2014	See Comments Below	$400.00	348090: $400
3rd Submittal	7/24/2014 & 8/14/2014	8/28/2014	Approved	$400.00	364841: $400
			TOTAL FEES (LDDRS):	**$1,200.00**	**$1,200.00**

REMARKS: **2nd Submittal: Response to CCRFCD Comments**

3rd Submittal: Update for CNLV

The Drainage Study for the subject project has been reviewed and:

X	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

***City of Las Vegas Flood Control* staff has reviewed the Technical Drainage Study, Addendum #1 & #2 and Update #1 of the subject development in the *City of North Las Vegas*. *City of Las Vegas* concurs with the acceptance of the drainage study by the *City of North Las Vegas Department of Public Works*. The review of this project was limited to issues of flood control significance to the *City of Las Vegas*.**

1. Study flow rates at the Grand Teton facility are based upon a *Clark County Regional Flood Control District Master Plan Amendment (MPA)* being adopted. The currently adopted future MPU facilities will significantly impact these proposed facility improvements without the approval of the MPA. **If the MPA is not approved, this drainage study and corresponding improvement plans must be updated to accommodate the higher flow impacts from the current Master Planned Facilities.**

2. Approval is predicated upon the construction of the Grand Teton Regional Flood Control Facility improvements at the west side of the intersection of Decatur Boulevard and Grand Teton Drive as shown on the improvement plans prepared by SHG dated 11-12-2013.

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the *City of Las Vegas Flood Control Section.* Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see http://ndep.nv.gov/bwpc/storm01.htm or call (775) 687-9429.

END OF REMARKS
Ays/pbj

T/R/S: T19S/R61E/18
AREA H-18

Mayor
John J. Lee

Council Members
Anita G. Wood
Pamela A. Goynes-Brown
Wade W. Wagner
Isaac E. Barron

CITY OF
NORTH LAS VEGAS

Your Community of Choice

Interim City Manager
Dr. Qiong X. Liu, PE, PTOE

PUBLIC WORKS – DEVELOPMENT AND FLOOD CONTROL
2250 N Las Vegas Blvd., Suite 200 • North Las Vegas, Nevada 89030-6307
Telephone: (702) 633-1200 • Fax: (702) 649-4696 • TDD: (800) 326-6868
www.cityofnorthlasvegas.com

July 17, 2014

Mailed via: E-mail

Kellin Collins, PE
Mark Failla, PE, CFM

Slater Hanifan Group, Inc.
5740 S. Arville Street. Suite #216
Las Vegas, Nevada 89118

Re: Update Technical Drainage Study for Park Highlands Grand Teton Regional Flood Control Facility
CNLV No. 45326

Dear Mrs. Collins and Mr. Failla :

On July 16, 2013, CNLV conditionally approved the above referenced study, dated November 5, 2012, Addendum #1, dated March 7, 2013, Supplemental #1 to Addendum #1, dated May 9, 2013, and Supplemental #2 to Addendum #1, dated July 11, 2013.

On August 27, 2013, the Clark County Regional Flood Control District (CCRFCD) provided a review comment letter for the required corrections. SHG then submitted an Addendum #2 -dated November 13, 2013 for review and it was also conditionally approved by CNLV on February 13, 2014.

Subsequently, CCRFCD issued a second review comment letter on March 20, 2014 and SHG submitted a Supplemental #1 to Addendum #2, dated April 9, 2014 to address CCRFCD's comments and it was conditionally approved by CNLV and CCRFCD on May 6, 2014 and April 15, 2014, respectively.

On May 22, 2014, SHG submitted a Technical Drainage Study Update #1, then on July 3, 2014, SHG submitted the Supplement #1 to the Technical Drainage Study Update #1. CNLV staff has reviewed and found the above referenced submittals to meet the minimum accepted standards for the technical drainage study. This acceptance is contingent upon the following conditions:

1. Concurrence must be obtained by the Clark County Regional Flood Control District (CCRFCD) due to the proposed improvement's proximity to a Regional Flood Control Facilities. Please submit a copy of this drainage study update and all supplements to CCRFCD upon acceptance from CNLV.

2. Since this drainage study is proposing to remove and/or revising various previously approved flood control facilities within Grand Teton east of the proposed detention basin and in Aliante north of Grand Teton, the submitted master drainage studies for the Park Highland East and West projects must include supporting calculations and analyses that reflect the changes from this approved study.

3. Since this study is proposing to add, remove, and revise various regional flood control facilities, a CCRFCD Master Plan Amendment (MPA) must be submitted and processed by the Engineer once this study and the currently submitted master drainage studies for Park Highlands East and West have been reviewed and approved by CNLV, CLV, and CCRFCD.

   All proposed CCRFCD's flood control facilities, by this project, must be fully maintained by the developer until the MPA has been approved and the maintenance funding has been secured by CNLV.

4. Approval from the City of Las Vegas (CLV) will be required since the project is proposing to construct storm drain improvements within CLV's public ROW.

5. Please note that no onsite development will be allowed until either all required interim or the permanent regional flood control and infrastructure facilities are constructed to intercept all offsite flows.

6. Please note that prior to approving the Improvement Drawings, all previously approved Improvement Drawings on CNLV files must be revised to reflect the changes from this approved drainage study.

7. Please note that this drainage study must be updated in the future to reflect any changes to the Improvement Drawings in the approved drainage study.

8. Please coordinate with Duane McNelly, Development and Flood Control Project Leader, when submitting Improvement Drawings for this project. Mr. McNelly can be reached at (702) 633-2312.

Please be advised that all land surface area disturbances over 1 acre and/or adjacent to a water way must submit a "Notice of Intent" to discharge to the Nevada Division of Environmental Protection, which certifies that a stormwater pollution prevention plan has been developed and is maintained on site. For more information, including forms and applications, see http://ndep.nv.gov/bwpc/storm01.htm.

Acceptance of this drainage study update does not imply approval of the Improvement Drawings and calculations associated with the drainage for this site. A detailed review of the Improvement Drawings will be performed by staff during the improvement plan review process.

Any future changes in the proposed design (or design assumptions) as outlined in the approved drainage study and the attached preliminary plans which affect drainage must be addressed in a Drainage Study Amendment and accepted by the CNLV Development and Flood Control Section. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, CNLV reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

CNLV, its officials, or employees assume no liability for information, data, calculations and conclusions presented by the consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review. If you have any questions concerning this matter, please contact me at (702) 633-1932.

Sincerely,

Dan Le, P.E., CFM
Senior Engineer
Development and Flood Control Division

				TIME	3.58
+ 2 COMBINED AT	2I	1.43	1	FLOW	192.
				TIME	3.58
+ HYDROGRAPH AT	2-11	.03	1	FLOW	22.
				TIME	3.58
+ HYDROGRAPH AT	2-12	.03	1	FLOW	17.
				TIME	3.58
+ 2 COMBINED AT	2J	.05	1	FLOW	39.
				TIME	3.58
+ 2 COMBINED AT	DUMMY	1.48	1	FLOW	231.
				TIME	3.58
+ HYDROGRAPH AT	2-13	.03	1	FLOW	18.
				TIME	3.58
+ 2 COMBINED AT	PT2	1.51	1	FLOW	249.
				TIME	3.58

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RE060S	MANE	4.75	22.80	256.50	.22	5.00	22.79	260.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3074E+01 EXCESS= .0000E+00 OUTFLOW= .3076E+01 BASIN STORAGE= .8120E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP6S	MANE	5.00	14.02	280.00	.06	5.00	14.02	280.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2302E+01 EXCESS= .0000E+00 OUTFLOW= .2303E+01 BASIN STORAGE= .1545E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP5E	MANE	4.25	7.96	233.75	-1.00	5.00	7.89	235.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP2E	MANE	4.50	7.94	243.00	-1.00	5.00	7.94	245.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP3E	MANE	5.00	20.08	260.00	-1.00	5.00	20.08	260.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP4E	MANE	5.00	6.85	255.00	-1.00	5.00	6.85	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	5.00	29.00	245.00	.09	5.00	29.00	245.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4699E+01 EXCESS= .0000E+00 OUTFLOW= .4702E+01 BASIN STORAGE= .1574E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	.00	.00	-1.00	5.00	.00	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	5.00	23.78	240.00	.05	5.00	23.78	240.00	.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2898E+01 EXCESS= .0000E+00 OUTFLOW= .2900E+01 BASIN STORAGE= .1148E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060E	MANE	4.75	19.28	280.25	-1.00	5.00	19.22	280.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	60.03	290.00	-1.00	5.00	60.03	290.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	110.34	290.00	1.04	5.00	110.34	290.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2001E+02 EXCESS= .0000E+00 OUTFLOW= .2001E+02 BASIN STORAGE= .9991E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	5.00	116.05	290.00	.97	5.00	116.05	290.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2143E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .9746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RE440E	MANE	2.25	7.47	252.00	-1.00	5.00	6.69	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	5.00	124.91	305.00	.26	5.00	124.91	305.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2532E+02 EXCESS= .0000E+00 OUTFLOW= .2532E+02 BASIN STORAGE= .1872E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATI

RCP14S MANE

FOR PLAN = 1 RATI

RE220 MANE

CONTINUITY SUMMARY (AC-FT)

FOR PLAN = 1 RAT

RE240E MANE

FOR PLAN = 1 RAT

RCP16E MANE

FOR PLAN = 1 RAT

RCP4S MANE

FOR PLAN = 1 RATI

RCP8S MANE

FOR PLAN = 1 RATI

RCP18 MANE

CONTINUITY SUMMARY (AC-FT)

FOR PLAN = 1 RAT

RCP10S MANE

FOR PLAN = 1 RAT

RCP11S MANE

FOR PLAN = 1 RAT

RCP22 MANE

CONTINUITY SUMMARY (AC-FT)

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	255.00	-1.00

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

HEC-1 Model: 100-Year Interim Condition

```
1*****************************************
*****************************************
 *                                       *
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *                                       *
 *                JUN   1998             *
 *                                       *
 *             VERSION 4.1               *
 *                                       *
 *                                       *
 *                                       *
 *  RUN DATE   14MAY14  TIME  08:45:10   *
 *                                       *
 *                                       *
 *****************************************
*****************************************
```


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


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

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

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


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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     INTERIM CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 100-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ INT100.H1
   10         ID     DATE ---------------- MAY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        0.00-0.49                  0.990
   16         ID        0.50-0.99                  0.975
   17         ID        1.00-1.99                  0.950
   18         ID        2.00-2.99                  0.925
   19         ID        3.00-3.99                  0.915
   20         ID        4.00-4.99                  0.908
   21         ID
   22         IT      5       0       0     300
   23         IO      5       0       0
   24         IN      5       0       0
   25         JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
              *
   26         KK    E140
   27         BA   .0675
   28         PB    2.77
   29         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   30         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   31         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   32         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   33         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   34         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   35         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   36         PC   0.998   0.999   1.000
   37         LS       0    81.9
   38         UD   0.599
              *
   39         KK    E360
   40         BA   .0095
   41         LS       0    85.6
   42         UD   0.159
              *
   43         KK     CP1
   44         KM   COMBINE E140 AND E360 AT MAGGIE AND MUSTANG
   45         HC       2
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

   46         KK    CP1S
   47         KM   CP1E IS THE FLOW DRAINING EAST IN MAGGIE
   48         KM   CP1S IS THE FLOW DRAINING SOUTH IN MUSTANG
   49         DT    CP1E
   50         DI      33      33      34      35      37      38
   51         DQ      15      15      15      16      17      17
              *
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52          KK    E160
53          BA   .0641
54          LS      0    83.1
55          UD   0.445
            *

56          KK   E160E
57          KM   E160E IS THE FLOW DRAINING EAST IN MAGGIE
58          KM   E160S IS THE FLOW DRAINING SOUTH IN TORREY PINES
59          KM   FLOW IN TORREY PINES IS BASED ON 1/2 STREET CAPACITY, 10 CFS
60          DT   E160S
61          DI     37      37      38      40      41      42
62          DQ     10      10      10      10      10      10
            *

63          KK    E340
64          BA   .0168
65          LS      0    85.8
66          UD   0.172
            *

67          KK     CP2
68          KM   COMBINE CP1S E160E AND E340 AT BRENT AND MUSTANG
69          HC       3
            *

70          KK    CP2S
71          KM   CP2E IS THE FLOW DRAINING EAST IN BRENT
72          KM   CP2S IS THE FLOW DRAINING SOUTH IN MUSTANG
73          DT    CP2E
74          DI     50      51      53      57      60      62
75          DQ     25      26      27      29      30      31
            *

76          KK    E180
77          BA   .2142
78          LS      0    80.7
79          UD   0.715
            *

80          KK   E160S
81          KM   RETRIEVE E160S
82          DR   E160S
            *
```


1 HEC-1 INPUT

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

83          KK    E320
84          BA   .0169
85          LS      0    85.7
86          UD   0.168
            *

87          KK     CP3
88          KM   COMBINE CP2S E180 E160S AND E320 AT GUY AND MUSTANG
89          HC       4
            *

90          KK    CP3S
91          KM   CP3E IS THE FLOW DRAINING EAST IN GUY
92          KM   CP3S IS THE FLOW DRAINING SOUTH IN MUSTANG
93          DT    CP3E
94          DI    110     112     115     122     128     131
95          DQ     53      53      54      58      61      62
            *

96          KK    E200
97          BA   .0059
98          LS      0    83.7
99          UD   0.183
            *

100         KK    E300
101         BA   .0132
102         LS      0    85.8
103         UD   0.168
            *

104         KK     CP4
105         KM   COMBINE CP3S E200 AND E300 AT HORSE AND MUSTANG
106         HC       3
            *

107         KK   SOUTH
108         KM   CP4E IS THE FLOW DRAINING EAST IN HORSE
109         KM   SOUTH IS THE FLOW DRAINING SOUTH IN MUSTANG
110         KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
111         DT    CP4E
112         DI     63      65      67      69      72      75
113         DQ     20      20      21      22      22      23
            *

114         KK    NONE
115         KM   NONE IS ZERO FLOW
116         KM   CP4S IS THE FLOW DRAINING SOUTH IN MUSTANG
117         DT    CP4S
118         DI     10     100
119         DQ     10     100
            *
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1 HEC-1 INPUT

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

120         KK    E080
121         BA   .0108
122         LS      0    83.5
123         UD   0.219
            *
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```
124          KK    CP1E
125          KM   RETRIEVE CP1E
126          DR    CP1E
             *

127          KK    E380
128          BA   .0195
129          LS      0    85.7
130          UD   0.203
             *

131          KK     CP5
132          KM   COMBINE E080 CP1E AND E380 AT BRENT AND MAVERICK
133          HC       3
             *

134          KK    CP5S
135          KM   CP5S IS THE FLOW DRAINING SOUTH IN MAVERICK
136          KM   CP5E IS THE FLOW DRAINING EAST IN BRENT
137          DT    CP5E
138          DI      42      42      43      44      45      46
139          DQ      22      22      23      24      24      25
             *

140          KK    E060
141          BA   .2588
142          LS      0    82.5
143          UD   0.679
             *

144          KK   E060S
145          KM   E060S IS THE FLOW DRAINING SOUTH IN JONES
146          KM   E060E IS THE FLOW DRAINING EAST IN SHELEHEDA
147          KM   EXISTING SD IN  JONES IS FOR NUISANCE FLOW
148          DT   E060E
149          DI     110     112     114     119     125     128
150          DQ      54      55      56      58      61      63
             *

151          KK  RE060S
152          KM   ROUTE TO CP6
153          RD    1345   .0066   0.016       0    TRAP       0      50
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

154          KK    E100
155          BA   .4698
156          LS      0    81.2
157          UD   0.956
             *

158          KK     CP6
159          KM   COMBINE E060S AND E100 AT IRON MOUNTAIN AND JONES
160          HC       2
             *

161          KK    CP6S
162          KM   CP6S IS THE FLOW DRAINING SOUTH IN JONES
163          KM   CP6E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
164          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
165          DT    CP6E
166          DI     196     200     204     215     226     232
167          DQ     121     123     125     131     136     139
             *

168          KK   RCP6S
169          KM   ROUTE TO CP7
170          RD    2000   .0050   0.016       0    TRAP       0      50
             *

171          KK    E420
172          BA   .0957
173          LS      0    85.4
174          UD   0.251
             *

175          KK    CP5E
176          KM   RETRIEVE CP5E
177          DR    CP5E
             *

178          KK   RCP5E
179          KM   ROUTE TO CP7
180          RD    2010   .0058   0.016       0    TRAP       0      50
             *

181          KK     CP7
182          KM   COMBINE CP6S E420 AND CP5E AT GUY AND JONES
183          HC       3
             *

184          KK    CP7S
185          KM   CP7S IS THE FLOW DRAINING SOUTH IN JONES
186          KM   CP7E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
187          KM   EXISTING SD IN JONES IS FOR NUISANCCE FLOW
188          KM   FLOW IN JONES IS BASED ON 1/2 STREET CAPACITY, 45 CFS
189          DT    CP7E
190          DI     109     111     114     120     126     130
191          DQ      64      66      69      75      81      85
             *
```



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

192          KK    CP2E
193          KM   RETRIEVE CP2E
194          DR    CP2E
```

```
                *
195             KK   RCP2E
196             KM   ROUTE TO CP8
197             RD    3370   .0055   0.016       0    TRAP       0      50
                *
198             KK    CP3E
199             KM   RETRIEVE CP3E
200             DR    CP3E
                *
201             KK   RCP3E
202             KM   ROUTE TO CP8
203             RD    2680   .0055   0.016       0    TRAP       0      50
                *
204             KK    CP4E
205             KM   RETRIEVE CP4E
206             DR    CP4E
                *
207             KK   RCP4E
208             KM   ROUTE TO CP8
209             RD    1955   .0048   0.016       0    TRAP       0      50
                *
210             KK   DUMMY
211             KM   COMBINE CP5S CP7S CP2E CP3E AND CP4E
212             HC       5
                *
213             KK    E400
214             BA   .0846
215             LS       0    85.2
216             UD   0.259
                *
217             KK     CP8
218             KM   COMBINE DUMMMY AND E400 AT HORSE AND JONES
219             HC       2
                *
220             KK    CP8E
221             KM   CP8S IS THE FLOW DRAINING SOUTH IN JONES
222             KM   CP8E IS THE FLOW DRAINING EAST IN HORSE
223             KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
224             DT    CP8S
225             DI     195     198     202     213     222     226
226             DQ     117     117     120     125     130     133
                *
1                                    HEC-1 INPUT                                    PAGE  7

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

227             KK   RCP8E
228             KM   ROUTE TO CP10
229             RD    2530   .0080   0.016       0    TRAP       0      50
                *
230             KK    E440
231             BA   .0523
232             LS       0    80.8
233             UD   0.290
                *
234             KK   E440S
235             KM   E440S IS THE FLOW DRAINING SOUTH IN BRADLEY
236             KM   E440E IS THE FLOW DRAINING EAST IN BRENT
237             DT   E440E
238             DI      33      33      34      35      37      38
239             DQ      18      18      18      19      20      20
                *
240             KK    E460
241             BA   .1140
242             LS       0    80.3
243             UD   0.355
                *
244             KK     CP9
245             KM   COMBINE E440S AND E460 IN BRADLEY BETWEEN BRENT AND HORSE
246             HC       2
                *
247             KK    CP9S
248             KM   CP9S IS THE FLOW DRAINING SOUTH IN BRADLEY
249             KM   CP9E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
250             KM   FLOW IN BRADELY IS BASED ON 1/2 STREET CAPACITY, 41 CFS
251             DT    CP9E
252             DI      75      77      79      83      87      90
253             DQ      34      36      38      42      46      49
                *
254             KK    CP7E
255             KM   RETRIEVE CP7E
256             DR    CP7E
                *
257             KK   RCP7E
258             KM   ROUTE TO CP10
259             RD    2690   .0080   0.016       0    TRAP       0      50
                *
1                                    HEC-1 INPUT                                    PAGE  8

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

260             KK    E480
261             BA   .0873
262             LS       0    81.5
```

```
263          UD   0.278
             *

264          KK    CP10
265          KM   COMBINE CP8E CP9S CP7E AND E480 AT HORSE AND BRADLEY
266          HC       4
             *

267          KK   CP10E
268          KM   CP10S IS THE FLOW DRAINING SOUTH IN BRADLEY
269          KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
270          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
271          DT   CP10S
272          DI     222     226     230     242     253     257
273          DQ     116     117     119     127     133     135
             *

274          KK    CP9E
275          KM   RETRIEVE CP9E
276          DR    CP9E
             *

277          KK    E520
278          BA   .0143
279          LS      0    85.0
280          UD   0.162
             *

281          KK    CP11
282          KM   COMBINE CP10E CP9E AND E520 AT HORSE AND UNICORN
283          HC       3
             *

284          KK   CP11E
285          KM   CP11S IS THE FLOW DRAINING SOUTH IN UNICORN
286          KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
287          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
288          DT   CP11S
289          DI     148     152     157     166     175     180
290          DQ      68      70      72      75      79      83
             *

291          KK  RCP11E
292          KM   ROUTE TO CP14
293          RD    1825   .0080   0.016       0    TRAP       0      50
             *
```


1 HEC-1 INPUT

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

294          KK   E060E
295          KM   RETRIEVE E060E
296          DR   E060E
             *

297          KK  RE060E
298          KM   ROUTE TO CP12
299          RD    5370   .0050   0.016       0    TRAP       0      50
             *

300          KK    CP6E
301          KM   RETRIEVE CP6E
302          DR    CP6E
             *

303          KK   RCP6E
304          KM   ROUTE TO CP12
305          RD    5145   .0050   0.016       0    TRAP       0      50
             *

306          KK    E040
307          BA   .3615
308          LS      0    82.1
309          UD   0.511
             *

310          KK    CP12
311          KM   COMBINE E060E CP6E AND E040 AT IRON MOUNTAIN AND DECATUR
312          HC       3
             *

313          KK   CP12S
314          KM   CP12S IS THE FLOW DRAINING SOUTH IN DECATUR
315          KM   CP12E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
316          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
317          DT   CP12E
318          DI     301     304     308     319     331     338
319          DQ     162     165     169     180     192     199
             *

320          KK  RCP12S
321          KM   ROUTE TO CP13
322          RD    1270   .0040   0.016       0    TRAP       0      50
             *

323          KK    E540
324          BA   .0506
325          LS      0    85.5
326          UD   0.171
             *
```


1 HEC-1 INPUT

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

327          KK    CP13
328          KM   COMBINE CP12S AND E540 AT BRENT AND DECATUR
329          HC       2
             *

330          KK   CP13S
```

```
331          KM   S9 IS THE FLOW DRAINING SOUTH IN DECATUR
332          KM   E9 IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
333          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
334          DT   CP13E
335          DI     143     143     145     146     149     149
336          DQ       4       4       6       7      10      10
             *

337          KK  RCP13S
338          KM   ROUTE TO CP14
339          RD    1290   .0040   0.016       0    TRAP       0      50
             *

340          KK   E440E
341          KM   RETRIEVE E440E
342          DR   E440E
             *

343          KK  RE440E
344          KM   ROUTE TO CP14
345          RD    3850   .0040   0.016       0    TRAP       0      50
             *

346          KK    E560
347          BA   .1763
348          LS       0    89.1
349          UD   0.370
             *

350          KK    CP14
351          KM   COMBINE CP11E CP13S E440E AND E560 AT HORSE AND DECATUR
352          HC       4
             *

353          KK   CP14E
354          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
355          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
356          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
357          KM   HIGH POINT IN DECATUR, ALL SURFACE FLOWS DRIAN EAST
358          DT   CP14S
359          DI     250     256     262     277     298     310
360          DQ      30      30      30      30      30      30
             *
```



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

361          KK  RCP14E
362          KM   ROUTE TO CP15
363          RD    2645   .0050   0.016       0    TRAP       0      50
             *

364          KK    E600
365          BA   .0862
366          LS       0    83.7
367          UD   0.285
             *

368          KK    CP15
369          KM   COMBINE CP14E AND E600 AT HORSE AND AVIARY
370          HC       2
             *

371          KK   CP15E
372          KM   CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
373          KM   CP15E IS THE FLOW DRAINING EAST IN HORSE
374          KM   EXISTING SD IN HORSE CONVEYS 206 CFS EAST
375          DT   CP15S
376          DI     250     256     262     278     312     324
377          DQ      19      21      24      32      49      54
             *

378          KK    E240
379          BA   .1327
380          LS       0    83.1
381          UD   0.472
             *

382          KK   E240S
383          KM   E240S IS THE FLOW DRAINING SOUTH IN TORREY PINES
384          KM   E240E IS THE FLOW DRAINING EAST IN MEISENHEIMER
385          DT   E240E
386          DI      73      74      76      79      83      85
387          DQ      38      39      40      42      43      45
             *

388          KK    E260
389          BA   .1379
390          LS       0    83.3
391          UD   0.441
             *

392          KK    CP16
393          KM   COMBINE E240S AND E260 AT RACEL AND TORREY PINES
394          HC       2
             *
```



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

395          KK   CP16S
396          KM   S9 IS THE FLOW DRAINING SOUTH IN TORREY PINES
397          KM   E9 IS THE FLOW DRAINING EAST IN RACEL
398          DT   CP16E
399          DI     115     116     118     123     130     133
400          DQ      57      58      59      61      65      66
             *

401          KK   DUMMY
402          HC       3
```

```
                *
403             KK   CP14S
404             KM   RETRIEVE CP14S
405             DR   CP14S
                *
406             KK  RCP14S
407             KM   ROUTE TO CP17
408             RD    2565   .0050   0.013       0    CIRC     2.5       0
                *
409             KK    E580
410             BA   .0980
411             LS       0    88.1
412             UD   0.296
                *
413             KK    CP17
414             KM   COMBINE CP14S AND E580 IN DECATUR BETWEEN HORSE AND GRAND TETON
415             HC       2
                *
416             KK   CP17S
417             KM   CP17S IS THE FLOW DRAINING SOUTH IN DECATUR
418             KM   CP17E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
419             KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
420             KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
421             DT   CP17E
422             DI     118      119      121      124      128      130
423             DQ       0        0        0        0        0        0
                *
424             KK    E220
425             BA   .0445
426             LS       0    83.5
427             UD   0.284
                *
```


1 HEC-1 INPUT

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

428             KK   RE220
429             KM   ROUTE TO CP18
430             RD    5085   .0050   0.016       0    TRAP      0       50
                *
431             KK   E240E
432             KM   RETRIEVE E240E
433             DR   E240E
                *
434             KK  RE240E
435             KM   ROUTE TO CP18
436             RD    4710   .0050   0.016       0    TRAP      0       50
                *
437             KK   CP16E
438             KM   RETRIEVE CP16E
439             DR   CP16E
                *
440             KK  RCP16E
441             KM   ROUTE TO CP18
442             RD    4030   .0050   0.016       0    TRAP      0       50
                *
443             KK    CP4S
444             KM   RETRIEVE CP4S
445             DR    CP4S
                *
446             KK   RCP4S
447             KM   ROUTE TO CP18
448             RD    4770   .0050   0.016       0    TRAP      0       50
                *
449             KK    CP8S
450             KM   RETRIEVE CP8S
451             DR    CP8S
                *
452             KK   RCP8S
453             KM   ROUTE TO CP18
454             RD    2755   .0050   0.016       0    TRAP      0       50
                *
455             KK   DUMMY
456             KM   COMBINE E220 E240E CP16E CP4S AND CP8S
457             HC       5
                *
```


1 HEC-1 INPUT

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

458             KK    E280
459             BA   .2782
460             LS       0    83.5
461             UD   0.399
                *
462             KK    CP18
463             KM   COMBINE DUMMY AND E280 AT GRAND TETON AND JONES
464             HC       2
                *
465             KK   RCP18
466             KM   ROUTE TO CP19
467             RD    4935   .0050   0.016       0    TRAP      0       50
                *
```

```
468          KK   CP10S
469          KM   RETRIEVE CP10S
470          DR   CP10S
             *

471          KK  RCP10S
472          KM   ROUTE TO CP19
473          RD    521S   .0050   0.016       0    TRAP       0      50
             *

474          KK   CP11S
475          KM   RETRIEVE CP11S
476          DR   CP11S
             *

477          KK  RCP11S
478          KM   ROUTE TO CP19
479          RD    4550   .0050   0.016       0    TRAP       0      50
             *

480          KK    E500
481          BA   .3881
482          LS      0    83.3
483          UD   0.510
             *

484          KK   CP18A
485          KM   COMBINE CP18 CP10S CP11S AND E500 IN GRAND TETON WEST OF DECATUR
486          HC       4
             *

487          KK    CP19
488          KM   COMBINE CP17S AND CP18A AT GRAND TETON AND DECATUR
489          HC       2
             *
```

1 HEC-1 INPUT PAGE 15

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

490          KK   CP17E
491          KM   RETRIEVE CP17E
492          DR   CP17E
             *

493          KK   E660
494          BA   .0140
495          LS      0    84.5
496          UD   0.165
             *

497          KK    CP20
498          KM   COMBINE CP19 CP17E AND E660 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
499          HC       3
             *

500          KK    E640
501          BA   .0700
502          LS      0    87.8
503          UD   0.263
             *

504          KK    CP21
505          KM   COMBINE CP20 AND E640 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
506          HC       2
             *

507          KK    E620
508          BA   .0472
509          LS      0    88.1
510          UD   0.246
             *

511          KK    CP22
512          KM   COMBINE CP21 AND E620 AT GRAND TETON AND SAN MATEO
513          HC       2
             *

514          KK   RCP22
515          KM   ROUTE TO CP24
516          RD    1230   .0050   0.016       0    TRAP       0      50
             *

517          KK   CP15S
518          KM   RETRIEVE CP15S
519          DR   CP15S
             *

520          KK  RCP15S
521          KM   ROUTE TO CP23
522          RD    2555   .0050   0.016       0    TRAP       0      50
             *
```

1 HEC-1 INPUT PAGE 16

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

523          KK    E680
524          BA   .1122
525          LS      0    88.0
526          UD   0.303
             *

527          KK    CP23
528          KM   COMBINE CP15S AND E680 IN AVIARY JUST NORTH OF GRAND TETON
529          HC       2
             *

530          KK    E760
531          BA   .0076
532          LS      0    88.3
```

```
533          UD   0.171
             *

534          KK   CPGTA
535          KM   COMBINE CP22 CP23 AND E760 AT GRAND TETON AND AVIARY
536          HC       3
             *

537          KK     2-3
538          BA  0.0327
539          LS       0    85.0
540          UD   0.172
             *

541          KK  CPGTA2
542          HC       2
             *

543          KK     2-1
544          BA  0.0367
545          LS       0    94.0
546          UD   0.187
             *

547          KK     2-2
548          BA  0.0742
549          LS       0    91.0
550          UD   0.215
             *

551          KK   2-14A
552          BA  0.0027
553          LS       0    85.0
554          UD   0.135
             *
```


1 HEC-1 INPUT

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

555          KK      2A
556          HC       3
             *

557          KK      2B
558          HC       2
             *

559          KK     DB1
560          KM   PARK HIGHLANDS WEST DETENTION BASIN
561          KO       2
562          RS       1   ELEV      -1
563          SV       0  0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
564          SE  2297.0 2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
565          SQ       0     72     110     138     161     199     215     231     252    1975
566          SE  2297.0 2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
567          KO       1
             *

568          KK     2-6
569          BA  0.0180
570          LS       0    94.0
571          UD   0.158
             *

572          KK      2C
573          HC       2
             *

574          KK     2-7
575          BA  0.0156
576          LS       0    85.0
577          UD   0.137
             *

578          KK      2D
579          HC       2
             *

580          KK     2-4
581          BA  0.0334
582          LS       0    94.0
583          UD   0.137
             *

584          KK   2-14B
585          BA  0.0025
586          LS       0    85.0
587          UD   0.126
             *
```


1 HEC-1 INPUT

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

588          KK      2E
589          HC       2
             *

590          KK     2-5
591          BA  0.0891
592          LS       0    91.0
593          UD   0.215
             *

594          KK    2-5W
595          DT    2-5E
596          DI       0     100
597          DQ       0      48
             *

598          KK     2-9
```

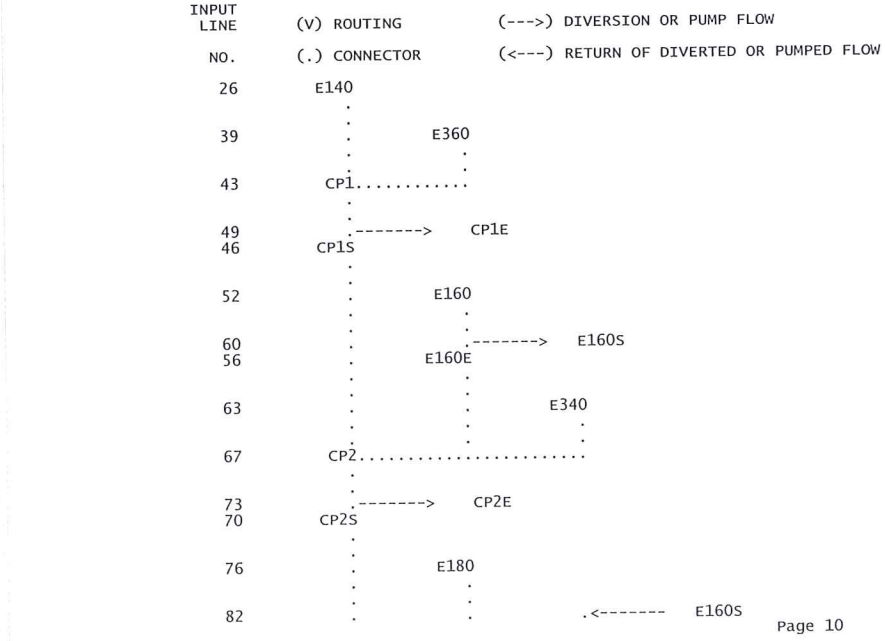
```
599            BA  0.0156
600            LS       0    91.0
601            UD   0.135
               *

602            KK      2F
603            HC       3
               *

604            KK    2-5E
605            DR    2-5E
               *

606            KK    2-10
607            BA  0.0163
608            LS       0    91.0
609            UD   0.132
               *

610            KK      2G
611            HC       3
               *

612            KK     2-8
613            BA  0.0286
614            LS       0    94.0
615            UD   0.144
               *

616            KK      2H
617            HC       2
               *
```

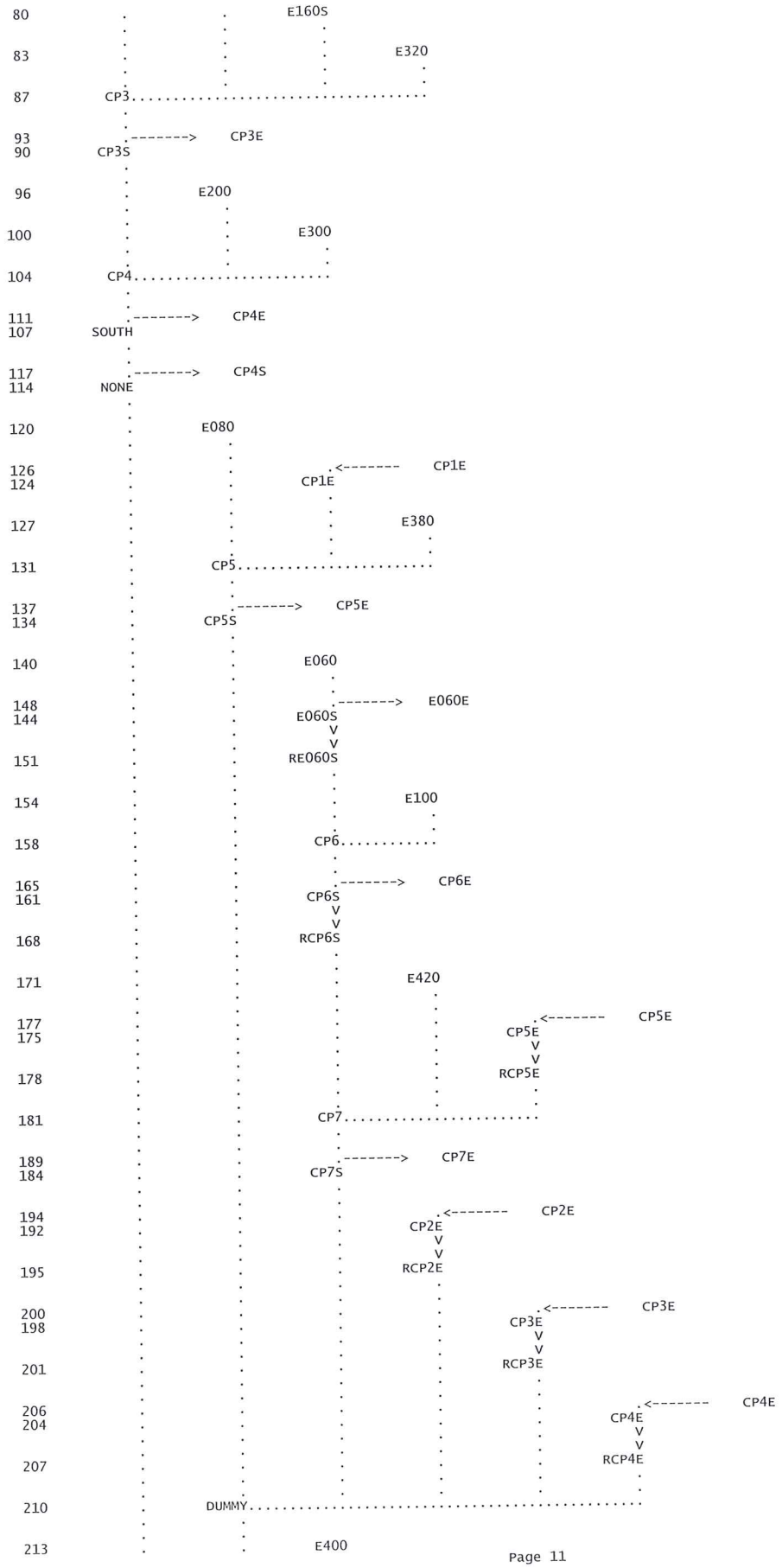


```
LINE           ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

618            KK      2I
619            HC       2
               *

620            KK    2-11
621            BA  0.0255
622            LS       0    94.0
623            UD   0.135
               *

624            KK    2-12
625            BA  0.0272
626            LS       0    90.0
627            UD   0.150
               *

628            KK      2J
629            HC       2
               *

630            KK   DUMMY
631            HC       2
               *

632            KK    2-13
633            BA  0.0273
634            LS       0    91.0
635            UD   0.176
               *

636            KK     PT2
637            HC       2
               *
638            ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

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E160S
83
E320
87
CP3
93
CP3E
90
CP3S
96
E200
100
E300
104
CP4
111
CP4E
107
SOUTH
117
CP4S
114
NONE
120
E080
126
CP1E
124
CP1E
127
E380
131
CP5
137
CP5E
134
CP5S
140
E060
148
E060E
144
E060S
151
RE060S
154
E100
158
CP6
165
CP6E
161
CP6S
168
RCP6S
171
E420
177
CP5E
175
CP5E
178
RCP5E
181
CP7
189
CP7E
184
CP7S
194
CP2E
192
CP2E
195
RCP2E
200
CP3E
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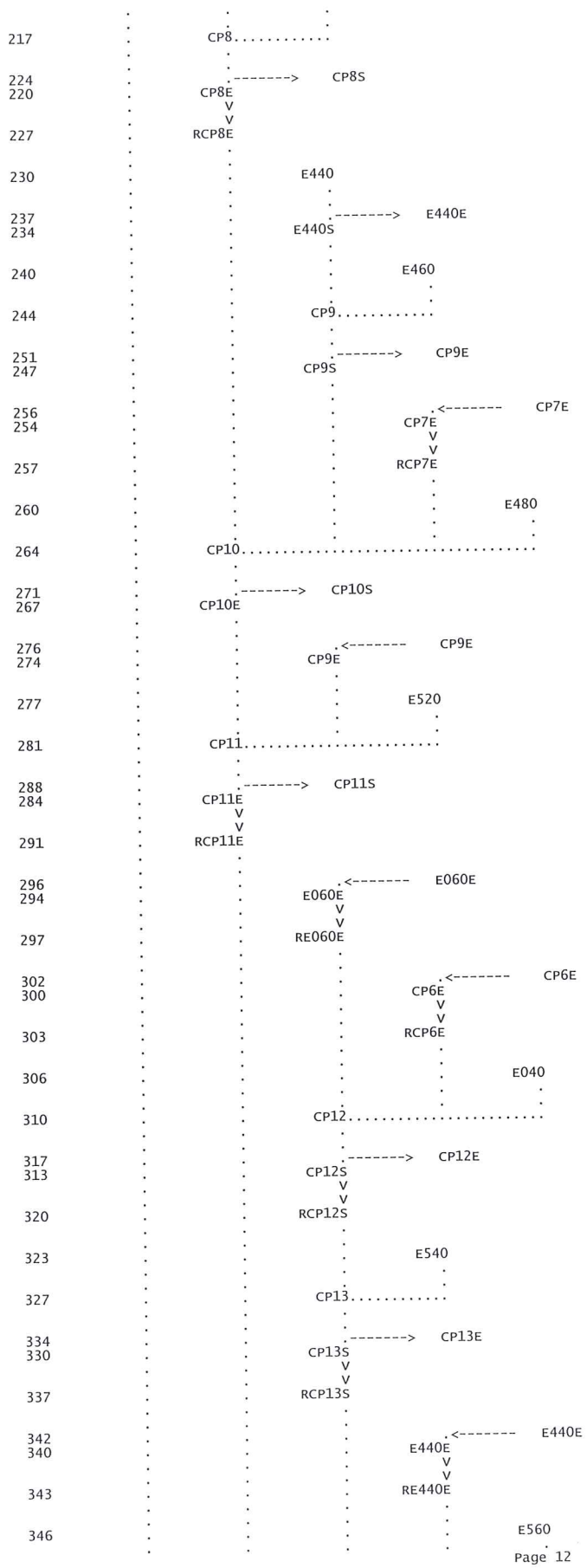
204
CP4E
207
RCP4E
210
DUMMY
213
E400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CP8
224
220
CP8E
227
RCP8E
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E440
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E440S
240
E460
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CP9
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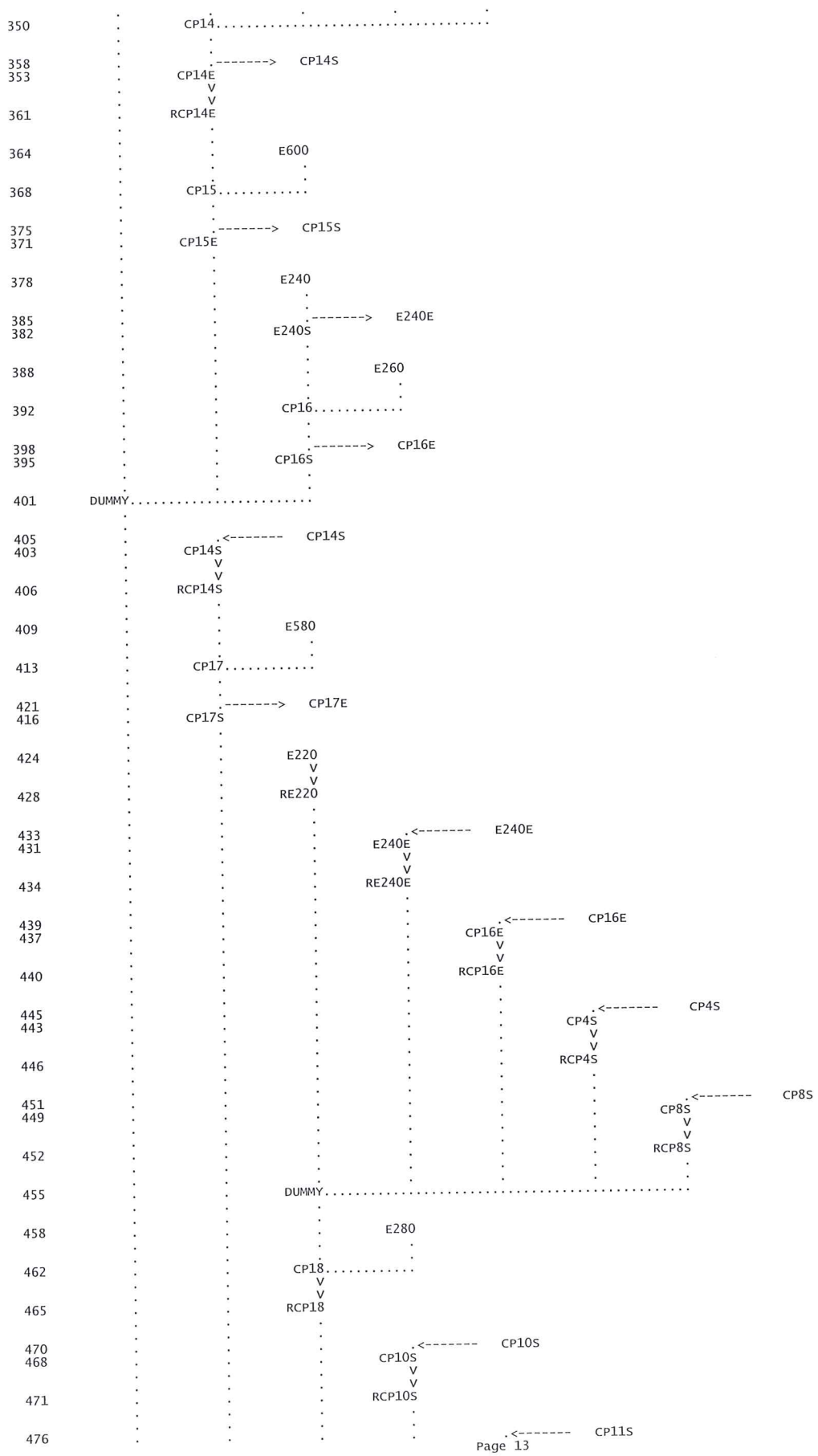
CP9S
256
254
CP7E
257
RCP7E
260
E480
264
CP10
271
267
CP10E
276
274
CP9E
277
E520
281
CP11
288
284
CP11E
291
RCP11E
296
294
E060E
297
RE060E
302
300
CP6E
303
RCP6E
306
E040
310
CP12
317
313
CP12S
320
RCP12S
323
E540
327
CP13
334
330
CP13S
337
RCP13S
342
340
E440E
343
RE440E
346
E560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E260
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CP16
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CP16S
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CP14S
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RE240E
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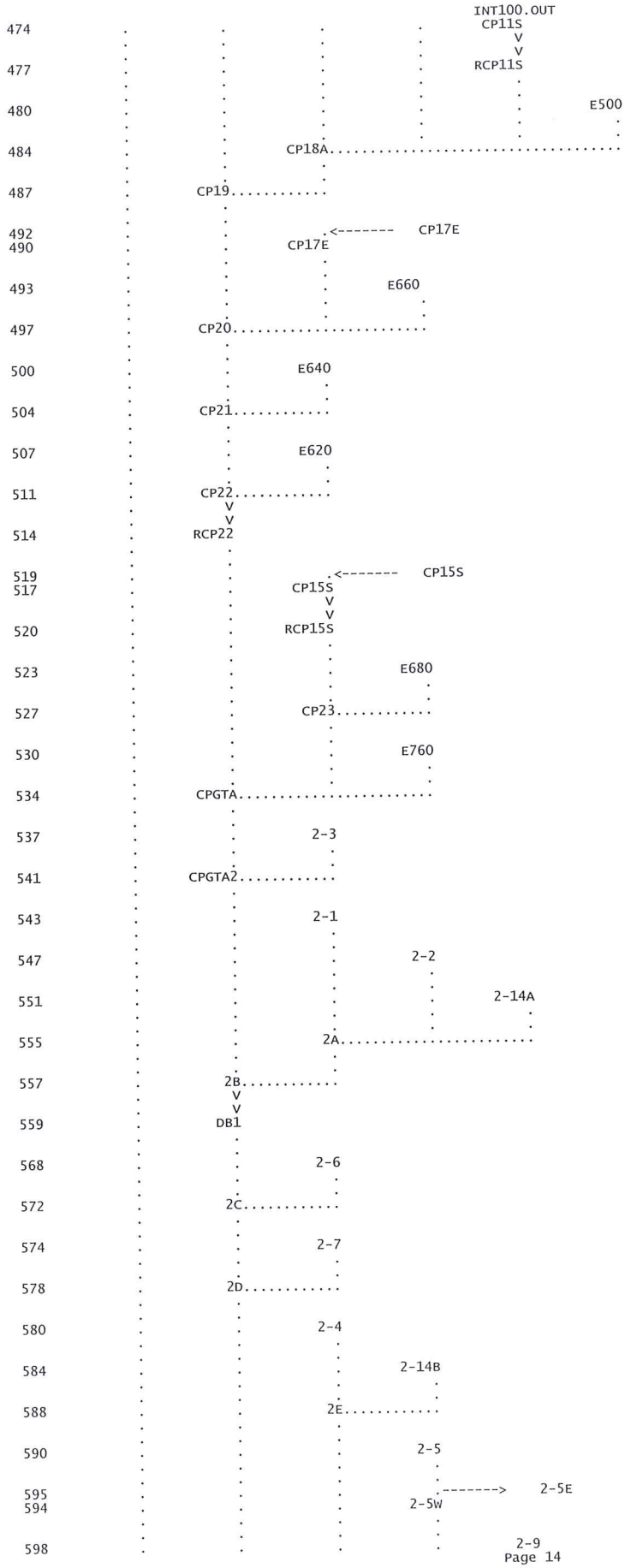
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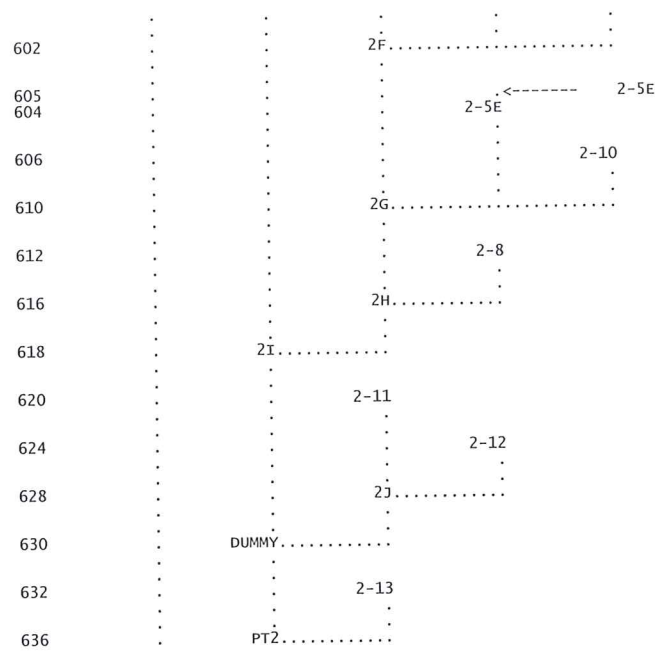

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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1*****************************************
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 *                                       *                                       *
 *                                       *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *    U.S. ARMY CORPS OF ENGINEERS       *
 *                                       *    HYDROLOGIC ENGINEERING CENTER      *
 *               JUN   1998              *          609 SECOND STREET            *
 *                                       *       DAVIS, CALIFORNIA 95616         *
 *            VERSION 4.1                *          (916) 756-1104               *
 *                                       *                                       *
 *                                       *                                       *
 *  RUN DATE   14MAY14  TIME  08:45:10   *                                       *
 *                                       *                                       *
 *****************************************
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SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
INTERIM CONDITION

RETURN PERIOD ------- 100-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ INT100.H1
DATE ---------------- MAY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	DARF
0.00-0.49	0.990
0.50-0.99	0.975
1.00-1.99	0.950
2.00-2.99	0.925
3.00-3.99	0.915
4.00-4.99	0.908

23 IO OUTPUT CONTROL VARIABLES

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

IT HYDROGRAPH TIME DATA

NMIN	5	MINUTES IN COMPUTATION INTERVAL
IDATE	1 0	STARTING DATE
ITIME	0000	STARTING TIME
NQ	300	NUMBER OF HYDROGRAPH ORDINATES
NDDATE	2 0	ENDING DATE
NDTIME	0055	ENDING TIME
ICENT	19	CENTURY MARK

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

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

```
    JP          MULTI-PLAN OPTION
                    NPLAN           1  NUMBER OF PLANS

    JR          MULTI-RATIO OPTION
                RATIOS OF PRECIPITATION
                 .99       .98       .95       .93       .92       .91

*** *** *** *
```

1	0130	19	8.	.0	2297.3	*	1	0950	119	181.	68.5	2304.0	*	1	1810	219	0.	.0	2297.0
1	0135	20	12.	.1	2297.5	*	1	0955	120	179.	67.3	2304.0	*	1	1815	220	0.	.0	2297.0
1	0140	21	16.	.1	2297.7	*	1	1000	121	178.	66.0	2303.9	*	1	1820	221	0.	.0	2297.0
1	0145	22	21.	.1	2297.9	*	1	1005	122	176.	64.8	2303.8	*	1	1825	222	0.	.0	2297.0
1	0150	23	24.	.1	2298.0	*	1	1010	123	175.	63.6	2303.7	*	1	1830	223	0.	.0	2297.0
1	0155	24	24.	.2	2298.0	*	1	1015	124	173.	62.4	2303.6	*	1	1835	224	0.	.0	2297.0
1	0200	25	25.	.2	2298.0	*	1	1020	125	172.	61.2	2303.6	*	1	1840	225	0.	.0	2297.0
1	0205	26	25.	.2	2298.0	*	1	1025	126	170.	60.0	2303.5	*	1	1845	226	0.	.0	2297.0
1	0210	27	25.	.2	2298.0	*	1	1030	127	169.	58.9	2303.4	*	1	1850	227	0.	.0	2297.0
1	0215	28	25.	.2	2298.0	*	1	1035	128	167.	57.7	2303.3	*	1	1855	228	0.	.0	2297.0
1	0220	29	25.	.3	2298.1	*	1	1040	129	166.	56.6	2303.3	*	1	1900	229	0.	.0	2297.0
1	0225	30	26.	.3	2298.1	*	1	1045	130	164.	55.4	2303.2	*	1	1905	230	0.	.0	2297.0
1	0230	31	28.	.5	2298.1	*	1	1050	131	163.	54.3	2303.1	*	1	1910	231	0.	.0	2297.0
1	0235	32	29.	.6	2298.2	*	1	1055	132	162.	53.2	2303.0	*	1	1915	232	0.	.0	2297.0
1	0240	33	31.	.8	2298.3	*	1	1100	133	160.	52.1	2303.0	*	1	1920	233	0.	.0	2297.0
1	0245	34	33.	1.0	2298.4	*	1	1105	134	158.	51.0	2302.9	*	1	1925	234	0.	.0	2297.0
1	0250	35	35.	1.2	2298.5	*	1	1110	135	157.	49.9	2302.8	*	1	1930	235	0.	.0	2297.0
1	0255	36	38.	1.4	2298.6	*	1	1115	136	155.	48.8	2302.7	*	1	1935	236	0.	.0	2297.0
1	0300	37	40.	1.6	2298.7	*	1	1120	137	153.	47.8	2302.7	*	1	1940	237	0.	.0	2297.0
1	0305	38	42.	1.9	2298.8	*	1	1125	138	152.	46.7	2302.6	*	1	1945	238	0.	.0	2297.0
1	0310	39	46.	2.2	2298.9	*	1	1130	139	150.	45.7	2302.5	*	1	1950	239	0.	.0	2297.0
1	0315	40	49.	2.7	2299.0	*	1	1135	140	148.	44.7	2302.4	*	1	1955	240	0.	.0	2297.0
1	0320	41	51.	3.5	2299.1	*	1	1140	141	147.	43.6	2302.4	*	1	2000	241	0.	.0	2297.0
1	0325	42	55.	4.9	2299.3	*	1	1145	142	145.	42.6	2302.3	*	1	2005	242	0.	.0	2297.0
1	0330	43	62.	7.3	2299.6	*	1	1150	143	143.	41.6	2302.2	*	1	2010	243	0.	.0	2297.0
1	0335	44	72.	10.6	2300.0	*	1	1155	144	142.	40.7	2302.2	*	1	2015	244	0.	.0	2297.0
1	0340	45	84.	14.9	2300.3	*	1	1200	145	140.	39.7	2302.1	*	1	2020	245	0.	.0	2297.0
1	0345	46	98.	19.7	2300.7	*	1	1205	146	139.	38.7	2302.0	*	1	2025	246	0.	.0	2297.0
1	0350	47	112.	24.8	2301.1	*	1	1210	147	137.	37.8	2302.0	*	1	2030	247	0.	.0	2297.0
1	0355	48	123.	30.5	2301.5	*	1	1215	148	135.	36.8	2301.9	*	1	2035	248	0.	.0	2297.0
1	0400	49	135.	36.7	2301.9	*	1	1220	149	133.	35.9	2301.8	*	1	2040	249	0.	.0	2297.0
1	0405	50	146.	43.4	2302.4	*	1	1225	150	132.	35.0	2301.8	*	1	2045	250	0.	.0	2297.0
1	0410	51	157.	50.0	2302.8	*	1	1230	151	130.	34.1	2301.7	*	1	2050	251	0.	.0	2297.0
1	0415	52	166.	56.4	2303.2	*	1	1235	152	128.	33.2	2301.6	*	1	2055	252	0.	.0	2297.0
1	0420	53	173.	62.5	2303.6	*	1	1240	153	126.	32.3	2301.6	*	1	2100	253	0.	.0	2297.0
1	0425	54	180.	68.1	2304.0	*	1	1245	154	125.	31.5	2301.5	*	1	2105	254	0.	.0	2297.0
1	0430	55	187.	73.2	2304.3	*	1	1250	155	123.	30.6	2301.5	*	1	2110	255	0.	.0	2297.0
1	0435	56	192.	77.9	2304.7	*	1	1255	156	121.	29.8	2301.4	*	1	2115	256	0.	.0	2297.0
1	0440	57	198.	82.3	2304.9	*	1	1300	157	120.	28.9	2301.3	*	1	2120	257	0.	.0	2297.0
1	0445	58	203.	86.5	2305.2	*	1	1305	158	118.	28.1	2301.3	*	1	2125	258	0.	.0	2297.0
1	0450	59	207.	90.5	2305.5	*	1	1310	159	117.	27.3	2301.2	*	1	2130	259	0.	.0	2297.0
1	0455	60	211.	94.5	2305.7	*	1	1315	160	115.	26.5	2301.2	*	1	2135	260	0.	.0	2297.0
1	0500	61	215.	98.2	2306.0	*	1	1320	161	113.	25.7	2301.1	*	1	2140	261	0.	.0	2297.0
1	0505	62	219.	101.7	2306.2	*	1	1325	162	112.	25.0	2301.1	*	1	2145	262	0.	.0	2297.0
1	0510	63	222.	105.0	2306.4	*	1	1330	163	110.	24.2	2301.0	*	1	2150	263	0.	.0	2297.0
1	0515	64	225.	108.1	2306.6	*	1	1335	164	108.	23.4	2301.0	*	1	2155	264	0.	.0	2297.0
1	0520	65	228.	110.8	2306.8	*	1	1340	165	106.	22.7	2300.9	*	1	2200	265	0.	.0	2297.0
1	0525	66	231.	113.3	2307.0	*	1	1345	166	104.	22.0	2300.8	*	1	2205	266	0.	.0	2297.0
1	0530	67	233.	115.5	2307.1	*	1	1350	167	102.	21.3	2300.8	*	1	2210	267	0.	.0	2297.0
1	0535	68	234.	117.3	2307.2	*	1	1355	168	100.	20.6	2300.7	*	1	2215	268	0.	.0	2297.0
1	0540	69	236.	118.8	2307.3	*	1	1400	169	98.	19.9	2300.7	*	1	2220	269	0.	.0	2297.0
1	0545	70	237.	120.0	2307.4	*	1	1405	170	96.	19.2	2300.6	*	1	2225	270	0.	.0	2297.0
1	0550	71	238.	120.9	2307.5	*	1	1410	171	95.	18.6	2300.6	*	1	2230	271	0.	.0	2297.0
1	0555	72	238.	121.6	2307.5	*	1	1415	172	93.	17.9	2300.5	*	1	2235	272	0.	.0	2297.0
1	0600	73	238.	122.0	2307.5	*	1	1420	173	91.	17.3	2300.5	*	1	2240	273	0.	.0	2297.0
1	0605	74	239.	122.2	2307.5	*	1	1425	174	89.	16.7	2300.5	*	1	2245	274	0.	.0	2297.0

1	0610	75	239.	122.3	2307.6	*	1	1430	175	88.	16.0	2300.4	*	1	2250	275	0.	.0	2297.0
1	0615	76	239.	122.1	2307.5	*	1	1435	176	86.	15.4	2300.4	*	1	2255	276	0.	.0	2297.0
1	0620	77	238.	121.8	2307.5	*	1	1440	177	84.	14.9	2300.3	*	1	2300	277	0.	.0	2297.0
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1	0635	80	236.	119.7	2307.4	*	1	1455	180	79.	13.2	2300.2	*	1	2315	280	0.	.0	2297.0
1	0640	81	236.	118.7	2307.3	*	1	1500	181	78.	12.6	2300.2	*	1	2320	281	0.	.0	2297.0
1	0645	82	235.	117.7	2307.3	*	1	1505	182	76.	12.1	2300.1	*	1	2325	282	0.	.0	2297.0
1	0650	83	234.	116.6	2307.2	*	1	1510	183	75.	11.6	2300.1	*	1	2330	283	0.	.0	2297.0
1	0655	84	233.	115.5	2307.1	*	1	1515	184	73.	11.1	2300.0	*	1	2335	284	0.	.0	2297.0
1	0700	85	232.	114.2	2307.0	*	1	1520	185	72.	10.6	2300.0	*	1	2340	285	0.	.0	2297.0
1	0705	86	231.	113.0	2307.0	*	1	1525	186	71.	10.1	2299.9	*	1	2345	286	0.	.0	2297.0
1	0710	87	229.	111.7	2306.9	*	1	1530	187	69.	9.6	2299.9	*	1	2350	287	0.	.0	2297.0
1	0715	88	228.	110.4	2306.8	*	1	1535	188	68.	9.1	2299.8	*	1	2355	288	0.	.0	2297.0
1	0720	89	226.	109.1	2306.7	*	1	1540	189	66.	8.7	2299.8	*	2	0000	289	0.	.0	2297.0
1	0725	90	225.	107.7	2306.6	*	1	1545	190	65.	8.2	2299.7	*	2	0005	290	0.	.0	2297.0
1	0730	91	224.	106.4	2306.5	*	1	1550	191	64.	7.8	2299.7	*	2	0010	291	0.	.0	2297.0
1	0735	92	222.	105.0	2306.4	*	1	1555	192	63.	7.3	2299.6	*	2	0015	292	0.	.0	2297.0
1	0740	93	221.	103.6	2306.4	*	1	1600	193	61.	6.9	2299.6	*	2	0020	293	0.	.0	2297.0
1	0745	94	219.	102.2	2306.3	*	1	1605	194	60.	6.5	2299.5	*	2	0025	294	0.	.0	2297.0
1	0750	95	218.	100.9	2306.2	*	1	1610	195	59.	6.1	2299.4	*	2	0030	295	0.	.0	2297.0
1	0755	96	216.	99.5	2306.1	*	1	1615	196	58.	5.7	2299.4	*	2	0035	296	0.	.0	2297.0
1	0800	97	215.	98.1	2306.0	*	1	1620	197	56.	5.3	2299.4	*	2	0040	297	0.	.0	2297.0
1	0805	98	213.	96.6	2305.9	*	1	1625	198	55.	4.9	2299.3	*	2	0045	298	0.	.0	2297.0
1	0810	99	212.	95.2	2305.8	*	1	1630	199	54.	4.5	2299.3	*	2	0050	299	0.	.0	2297.0
1	0815	100	210.	93.8	2305.7	*	1	1635	200	53.	4.1	2299.2	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
+ 239.	6.17	(CFS)	212.	91.	88.	88.
		(INCHES)	1.635	2.805	2.805	2.805
		(AC-FT)	105.	180.	180.	180.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
+ 122.	6.17	96.	33.	31.	31.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
+ 2307.55	6.17	2305.87	2300.67	2300.54	2300.54

CUMULATIVE AREA = 1.21 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .98

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
							*								*							
1	0000	1	0.	.0	2297.0	*	1	0820	101	205.	89.1	2305.4	*	1	1640	201	50.	3.0	2299.1			
1	0005	2	0.	.0	2297.0	*	1	0825	102	204.	87.7	2305.3	*	1	1645	202	49.	2.6	2299.0			
1	0010	3	0.	.0	2297.0	*	1	0830	103	202.	86.3	2305.2	*	1	1650	203	47.	2.3	2298.9			
1	0015	4	0.	.0	2297.0	*	1	0835	104	201.	85.0	2305.1	*	1	1655	204	43.	2.0	2298.8			
1	0020	5	0.	.0	2297.0	*	1	0840	105	200.	83.6	2305.0	*	1	1700	205	40.	1.7	2298.7			
1	0025	6	1.	.0	2297.0	*	1	0845	106	198.	82.3	2304.9	*	1	1705	206	38.	1.4	2298.6			
1	0030	7	2.	.0	2297.1	*	1	0850	107	196.	80.9	2304.9	*	1	1710	207	35.	1.2	2298.5			
1	0035	8	4.	.0	2297.2	*	1	0855	108	195.	79.6	2304.8	*	1	1715	208	33.	.9	2298.4			
1	0040	9	6.	.0	2297.2	*	1	0900	109	193.	78.3	2304.7	*	1	1720	209	30.	.7	2298.3			
1	0045	10	6.	.0	2297.3	*	1	0905	110	191.	77.0	2304.6	*	1	1725	210	28.	.5	2298.2			

1	0050	11	6.	.0	2297.2	*	1	0910	111	190.	75.6	2304.5	*	1	1730	211	26.	.3	2298.1
1	0055	12	5.	.0	2297.2	*	1	0915	112	188.	74.4	2304.4	*	1	1735	212	24.	.2	2298.0
1	0100	13	4.	.0	2297.2	*	1	0920	113	186.	73.1	2304.3	*	1	1740	213	9.	.0	2297.4
1	0105	14	4.	.0	2297.2	*	1	0925	114	185.	71.8	2304.3	*	1	1745	214	2.	.0	2297.1
1	0110	15	3.	.0	2297.1	*	1	0930	115	183.	70.5	2304.2	*	1	1750	215	0.	.0	2297.0
1	0115	16	4.	.0	2297.2	*	1	0935	116	182.	69.3	2304.1	*	1	1755	216	0.	.0	2297.0
1	0120	17	5.	.0	2297.2	*	1	0940	117	180.	68.0	2304.0	*	1	1800	217	0.	.0	2297.0
1	0125	18	6.	.0	2297.2	*	1	0945	118	179.	66.8	2303.9	*	1	1805	218	0.	.0	2297.0
1	0130	19	8.	.0	2297.3	*	1	0950	119	177.	65.6	2303.8	*	1	1810	219	0.	.0	2297.0
1	0135	20	11.	.1	2297.5	*	1	0955	120	176.	64.4	2303.8	*	1	1815	220	0.	.0	2297.0
1	0140	21	16.	.1	2297.7	*	1	1000	121	174.	63.2	2303.7	*	1	1820	221	0.	.0	2297.0
1	0145	22	20.	.1	2297.8	*	1	1005	122	173.	62.0	2303.6	*	1	1825	222	0.	.0	2297.0
1	0150	23	24.	.1	2298.0	*	1	1010	123	171.	60.8	2303.5	*	1	1830	223	0.	.0	2297.0
1	0155	24	24.	.1	2298.0	*	1	1015	124	170.	59.6	2303.5	*	1	1835	224	0.	.0	2297.0
1	0200	25	24.	.2	2298.0	*	1	1020	125	168.	58.5	2303.4	*	1	1840	225	0.	.0	2297.0
1	0205	26	25.	.2	2298.0	*	1	1025	126	167.	57.3	2303.3	*	1	1845	226	0.	.0	2297.0
1	0210	27	24.	.2	2298.0	*	1	1030	127	165.	56.2	2303.2	*	1	1850	227	0.	.0	2297.0
1	0215	28	25.	.2	2298.0	*	1	1035	128	164.	55.0	2303.2	*	1	1855	228	0.	.0	2297.0
1	0220	29	25.	.2	2298.0	*	1	1040	129	163.	53.9	2303.1	*	1	1900	229	0.	.0	2297.0
1	0225	30	26.	.3	2298.1	*	1	1045	130	161.	52.8	2303.0	*	1	1905	230	0.	.0	2297.0
1	0230	31	27.	.4	2298.1	*	1	1050	131	159.	51.7	2302.9	*	1	1910	231	0.	.0	2297.0
1	0235	32	28.	.5	2298.2	*	1	1055	132	158.	50.6	2302.9	*	1	1915	232	0.	.0	2297.0
1	0240	33	30.	.7	2298.3	*	1	1100	133	156.	49.5	2302.8	*	1	1920	233	0.	.0	2297.0
1	0245	34	32.	.9	2298.3	*	1	1105	134	154.	48.4	2302.7	*	1	1925	234	0.	.0	2297.0
1	0250	35	34.	1.1	2298.4	*	1	1110	135	153.	47.4	2302.6	*	1	1930	235	0.	.0	2297.0
1	0255	36	36.	1.3	2298.5	*	1	1115	136	151.	46.3	2302.6	*	1	1935	236	0.	.0	2297.0
1	0300	37	38.	1.5	2298.6	*	1	1120	137	149.	45.3	2302.5	*	1	1940	237	0.	.0	2297.0
1	0305	38	41.	1.7	2298.7	*	1	1125	138	148.	44.3	2302.4	*	1	1945	238	0.	.0	2297.0
1	0310	39	44.	2.0	2298.8	*	1	1130	139	146.	43.3	2302.4	*	1	1950	239	0.	.0	2297.0
1	0315	40	48.	2.5	2299.0	*	1	1135	140	144.	42.3	2302.3	*	1	1955	240	0.	.0	2297.0
1	0320	41	51.	3.3	2299.1	*	1	1140	141	143.	41.3	2302.2	*	1	2000	241	0.	.0	2297.0
1	0325	42	55.	4.7	2299.3	*	1	1145	142	141.	40.3	2302.1	*	1	2005	242	0.	.0	2297.0
1	0330	43	61.	6.9	2299.6	*	1	1150	143	140.	39.3	2302.1	*	1	2010	243	0.	.0	2297.0
1	0335	44	71.	10.2	2300.0	*	1	1155	144	138.	38.4	2302.0	*	1	2015	244	0.	.0	2297.0
1	0340	45	83.	14.3	2300.3	*	1	1200	145	136.	37.4	2301.9	*	1	2020	245	0.	.0	2297.0
1	0345	46	96.	19.0	2300.6	*	1	1205	146	135.	36.5	2301.9	*	1	2025	246	0.	.0	2297.0
1	0350	47	110.	24.0	2301.0	*	1	1210	147	133.	35.6	2301.8	*	1	2030	247	0.	.0	2297.0
1	0355	48	121.	29.4	2301.4	*	1	1215	148	131.	34.7	2301.8	*	1	2035	248	0.	.0	2297.0
1	0400	49	133.	35.5	2301.8	*	1	1220	149	129.	33.8	2301.7	*	1	2040	249	0.	.0	2297.0
1	0405	50	144.	42.0	2302.3	*	1	1225	150	128.	32.9	2301.6	*	1	2045	250	0.	.0	2297.0
1	0410	51	154.	48.4	2302.7	*	1	1230	151	126.	32.0	2301.6	*	1	2050	251	0.	.0	2297.0
1	0415	52	163.	54.6	2303.1	*	1	1235	152	124.	31.2	2301.5	*	1	2055	252	0.	.0	2297.0
1	0420	53	171.	60.5	2303.5	*	1	1240	153	122.	30.3	2301.4	*	1	2100	253	0.	.0	2297.0
1	0425	54	177.	65.9	2303.9	*	1	1245	154	121.	29.5	2301.4	*	1	2105	254	0.	.0	2297.0
1	0430	55	184.	70.7	2304.2	*	1	1250	155	119.	28.6	2301.3	*	1	2110	255	0.	.0	2297.0
1	0435	56	189.	75.3	2304.5	*	1	1255	156	118.	27.8	2301.3	*	1	2115	256	0.	.0	2297.0
1	0440	57	195.	79.6	2304.8	*	1	1300	157	116.	27.0	2301.2	*	1	2120	257	0.	.0	2297.0
1	0445	58	200.	83.7	2305.0	*	1	1305	158	114.	26.2	2301.2	*	1	2125	258	0.	.0	2297.0
1	0450	59	204.	87.6	2305.3	*	1	1310	159	113.	25.4	2301.1	*	1	2130	259	0.	.0	2297.0
1	0455	60	208.	91.5	2305.6	*	1	1315	160	111.	24.7	2301.0	*	1	2135	260	0.	.0	2297.0
1	0500	61	212.	95.2	2305.8	*	1	1320	161	110.	23.9	2301.0	*	1	2140	261	0.	.0	2297.0
1	0505	62	215.	98.6	2306.0	*	1	1325	162	108.	23.2	2300.9	*	1	2145	262	0.	.0	2297.0
1	0510	63	219.	101.8	2306.2	*	1	1330	163	106.	22.4	2300.9	*	1	2150	263	0.	.0	2297.0
1	0515	64	222.	104.8	2306.4	*	1	1335	164	104.	21.7	2300.8	*	1	2155	264	0.	.0	2297.0
1	0520	65	225.	107.5	2306.6	*	1	1340	165	102.	21.0	2300.8	*	1	2200	265	0.	.0	2297.0
1	0525	66	227.	109.9	2306.8	*	1	1345	166	100.	20.3	2300.7	*	1	2205	266	0.	.0	2297.0

1	0530	67	229.	112.0	2306.9	*	1	1350	167	98.	19.6	2300.7	*	1	2210	267	0.	.0	2297.0
1	0535	68	231.	113.8	2307.0	*	1	1355	168	96.	19.0	2300.6	*	1	2215	268	0.	.0	2297.0
1	0540	69	233.	115.2	2307.1	*	1	1400	169	94.	18.3	2300.6	*	1	2220	269	0.	.0	2297.0
1	0545	70	234.	116.3	2307.2	*	1	1405	170	92.	17.7	2300.5	*	1	2225	270	0.	.0	2297.0
1	0550	71	234.	117.2	2307.2	*	1	1410	171	90.	17.0	2300.5	*	1	2230	271	0.	.0	2297.0
1	0555	72	235.	117.9	2307.3	*	1	1415	172	89.	16.4	2300.4	*	1	2235	272	0.	.0	2297.0
1	0600	73	235.	118.3	2307.3	*	1	1420	173	87.	15.8	2300.4	*	1	2240	273	0.	.0	2297.0
1	0605	74	235.	118.5	2307.3	*	1	1425	174	85.	15.2	2300.3	*	1	2245	274	0.	.0	2297.0
1	0610	75	235.	118.5	2307.3	*	1	1430	175	84.	14.7	2300.3	*	1	2250	275	0.	.0	2297.0
1	0615	76	235.	118.3	2307.3	*	1	1435	176	82.	14.1	2300.3	*	1	2255	276	0.	.0	2297.0
1	0620	77	235.	118.0	2307.3	*	1	1440	177	80.	13.5	2300.2	*	1	2300	277	0.	.0	2297.0
1	0625	78	234.	117.4	2307.2	*	1	1445	178	79.	13.0	2300.2	*	1	2305	278	0.	.0	2297.0
1	0630	79	234.	116.7	2307.2	*	1	1450	179	77.	12.4	2300.1	*	1	2310	279	0.	.0	2297.0
1	0635	80	233.	115.9	2307.2	*	1	1455	180	76.	11.9	2300.1	*	1	2315	280	0.	.0	2297.0
1	0640	81	232.	114.9	2307.1	*	1	1500	181	74.	11.4	2300.1	*	1	2320	281	0.	.0	2297.0
1	0645	82	231.	113.9	2307.0	*	1	1505	182	73.	10.9	2300.0	*	1	2325	282	0.	.0	2297.0
1	0650	83	230.	112.8	2307.0	*	1	1510	183	72.	10.4	2300.0	*	1	2330	283	0.	.0	2297.0
1	0655	84	229.	111.7	2306.9	*	1	1515	184	70.	9.9	2299.9	*	1	2335	284	0.	.0	2297.0
1	0700	85	228.	110.5	2306.8	*	1	1520	185	69.	9.4	2299.9	*	1	2340	285	0.	.0	2297.0
1	0705	86	227.	109.3	2306.7	*	1	1525	186	67.	9.0	2299.8	*	1	2345	286	0.	.0	2297.0
1	0710	87	225.	108.0	2306.6	*	1	1530	187	66.	8.5	2299.7	*	1	2350	287	0.	.0	2297.0
1	0715	88	224.	106.7	2306.6	*	1	1535	188	65.	8.0	2299.7	*	1	2355	288	0.	.0	2297.0
1	0720	89	223.	105.4	2306.5	*	1	1540	189	63.	7.6	2299.6	*	2	0000	289	0.	.0	2297.0
1	0725	90	221.	104.1	2306.4	*	1	1545	190	62.	7.2	2299.6	*	2	0005	290	0.	.0	2297.0
1	0730	91	220.	102.8	2306.3	*	1	1550	191	61.	6.7	2299.5	*	2	0010	291	0.	.0	2297.0
1	0735	92	218.	101.4	2306.2	*	1	1555	192	60.	6.3	2299.5	*	2	0015	292	0.	.0	2297.0
1	0740	93	217.	100.1	2306.1	*	1	1600	193	58.	5.9	2299.4	*	2	0020	293	0.	.0	2297.0
1	0745	94	215.	98.7	2306.0	*	1	1605	194	57.	5.5	2299.4	*	2	0025	294	0.	.0	2297.0
1	0750	95	214.	97.3	2305.9	*	1	1610	195	56.	5.1	2299.3	*	2	0030	295	0.	.0	2297.0
1	0755	96	213.	96.0	2305.8	*	1	1615	196	55.	4.8	2299.3	*	2	0035	296	0.	.0	2297.0
1	0800	97	211.	94.6	2305.8	*	1	1620	197	54.	4.4	2299.2	*	2	0040	297	0.	.0	2297.0
1	0805	98	210.	93.2	2305.7	*	1	1625	198	53.	4.0	2299.2	*	2	0045	298	0.	.0	2297.0
1	0810	99	208.	91.8	2305.6	*	1	1630	199	52.	3.7	2299.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	207.	90.4	2305.5	*	1	1635	200	51.	3.3	2299.1	*	2	0055	300	0.	.0	2297.0

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1	0010	3	0.	.0	2297.0	*	1	0830	103	196.	80.9	2304.9	*	1	1650	203	35.	1.2	2298.5
1	0015	4	0.	.0	2297.0	*	1	0835	104	195.	79.6	2304.8	*	1	1655	204	33.	1.0	2298.4
1	0020	5	0.	.0	2297.0	*	1	0840	105	193.	78.3	2304.7	*	1	1700	205	30.	.7	2298.3
1	0025	6	1.	.0	2297.0	*	1	0845	106	191.	77.0	2304.6	*	1	1705	206	28.	.5	2298.2
1	0030	7	2.	.0	2297.1	*	1	0850	107	190.	75.7	2304.5	*	1	1710	207	26.	.4	2298.1
1	0035	8	4.	.0	2297.2	*	1	0855	108	188.	74.4	2304.4	*	1	1715	208	25.	.2	2298.0
1	0040	9	5.	.0	2297.2	*	1	0900	109	187.	73.1	2304.3	*	1	1720	209	11.	.1	2297.5
1	0045	10	6.	.0	2297.2	*	1	0905	110	185.	71.9	2304.3	*	1	1725	210	2.	.0	2297.1
1	0050	11	5.	.0	2297.2	*	1	0910	111	183.	70.6	2304.2	*	1	1730	211	0.	.0	2297.0
1	0055	12	4.	.0	2297.2	*	1	0915	112	182.	69.4	2304.1	*	1	1735	212	0.	.0	2297.0
1	0100	13	4.	.0	2297.1	*	1	0920	113	180.	68.1	2304.0	*	1	1740	213	0.	.0	2297.0
1	0105	14	3.	.0	2297.1	*	1	0925	114	179.	66.9	2303.9	*	1	1745	214	0.	.0	2297.0
1	0110	15	3.	.0	2297.1	*	1	0930	115	177.	65.7	2303.9	*	1	1750	215	0.	.0	2297.0
1	0115	16	3.	.0	2297.1	*	1	0935	116	176.	64.5	2303.8	*	1	1755	216	0.	.0	2297.0
1	0120	17	4.	.0	2297.2	*	1	0940	117	174.	63.3	2303.7	*	1	1800	217	0.	.0	2297.0
1	0125	18	5.	.0	2297.2	*	1	0945	118	173.	62.1	2303.6	*	1	1805	218	0.	.0	2297.0
1	0130	19	7.	.0	2297.3	*	1	0950	119	171.	60.9	2303.5	*	1	1810	219	0.	.0	2297.0
1	0135	20	10.	.1	2297.4	*	1	0955	120	170.	59.7	2303.5	*	1	1815	220	0.	.0	2297.0
1	0140	21	14.	.1	2297.6	*	1	1000	121	168.	58.5	2303.4	*	1	1820	221	0.	.0	2297.0
1	0145	22	19.	.1	2297.8	*	1	1005	122	167.	57.4	2303.3	*	1	1825	222	0.	.0	2297.0
1	0150	23	22.	.1	2297.9	*	1	1010	123	165.	56.2	2303.2	*	1	1830	223	0.	.0	2297.0
1	0155	24	24.	.1	2298.0	*	1	1015	124	164.	55.1	2303.2	*	1	1835	224	0.	.0	2297.0
1	0200	25	24.	.1	2298.0	*	1	1020	125	163.	54.0	2303.1	*	1	1840	225	0.	.0	2297.0
1	0205	26	24.	.1	2298.0	*	1	1025	126	161.	52.9	2303.0	*	1	1845	226	0.	.0	2297.0
1	0210	27	23.	.1	2298.0	*	1	1030	127	160.	51.8	2302.9	*	1	1850	227	0.	.0	2297.0
1	0215	28	23.	.1	2297.9	*	1	1035	128	158.	50.7	2302.9	*	1	1855	228	0.	.0	2297.0
1	0220	29	24.	.1	2298.0	*	1	1040	129	156.	49.6	2302.8	*	1	1900	229	0.	.0	2297.0
1	0225	30	25.	.2	2298.0	*	1	1045	130	154.	48.5	2302.7	*	1	1905	230	0.	.0	2297.0
1	0230	31	26.	.3	2298.1	*	1	1050	131	153.	47.5	2302.6	*	1	1910	231	0.	.0	2297.0
1	0235	32	27.	.4	2298.1	*	1	1055	132	151.	46.4	2302.6	*	1	1915	232	0.	.0	2297.0
1	0240	33	29.	.6	2298.2	*	1	1100	133	149.	45.4	2302.5	*	1	1920	233	0.	.0	2297.0
1	0245	34	30.	.7	2298.3	*	1	1105	134	148.	44.4	2302.4	*	1	1925	234	0.	.0	2297.0
1	0250	35	32.	.9	2298.3	*	1	1110	135	146.	43.4	2302.4	*	1	1930	235	0.	.0	2297.0
1	0255	36	34.	1.1	2298.4	*	1	1115	136	145.	42.4	2302.3	*	1	1935	236	0.	.0	2297.0
1	0300	37	36.	1.3	2298.5	*	1	1120	137	143.	41.4	2302.2	*	1	1940	237	0.	.0	2297.0
1	0305	38	38.	1.5	2298.6	*	1	1125	138	141.	40.4	2302.2	*	1	1945	238	0.	.0	2297.0
1	0310	39	41.	1.8	2298.7	*	1	1130	139	140.	39.4	2302.1	*	1	1950	239	0.	.0	2297.0
1	0315	40	46.	2.2	2298.9	*	1	1135	140	138.	38.5	2302.0	*	1	1955	240	0.	.0	2297.0
1	0320	41	49.	2.9	2299.1	*	1	1140	141	137.	37.5	2302.0	*	1	2000	241	0.	.0	2297.0
1	0325	42	53.	4.2	2299.2	*	1	1145	142	135.	36.6	2301.9	*	1	2005	242	0.	.0	2297.0
1	0330	43	60.	6.4	2299.5	*	1	1150	143	133.	35.7	2301.8	*	1	2010	243	0.	.0	2297.0
1	0335	44	69.	9.5	2299.9	*	1	1155	144	131.	34.7	2301.8	*	1	2015	244	0.	.0	2297.0
1	0340	45	80.	13.4	2300.2	*	1	1200	145	129.	33.8	2301.7	*	1	2020	245	0.	.0	2297.0
1	0345	46	93.	17.8	2300.5	*	1	1205	146	128.	33.0	2301.6	*	1	2025	246	0.	.0	2297.0
1	0350	47	106.	22.6	2300.9	*	1	1210	147	126.	32.1	2301.6	*	1	2030	247	0.	.0	2297.0
1	0355	48	117.	27.7	2301.3	*	1	1215	148	124.	31.2	2301.5	*	1	2035	248	0.	.0	2297.0
1	0400	49	129.	33.5	2301.7	*	1	1220	149	123.	30.4	2301.4	*	1	2040	249	0.	.0	2297.0
1	0405	50	140.	39.7	2302.1	*	1	1225	150	121.	29.5	2301.4	*	1	2045	250	0.	.0	2297.0
1	0410	51	150.	45.8	2302.5	*	1	1230	151	119.	28.7	2301.3	*	1	2050	251	0.	.0	2297.0
1	0415	52	159.	51.6	2302.9	*	1	1235	152	118.	27.9	2301.3	*	1	2055	252	0.	.0	2297.0
1	0420	53	167.	57.1	2303.3	*	1	1240	153	116.	27.1	2301.2	*	1	2100	253	0.	.0	2297.0
1	0425	54	173.	62.2	2303.6	*	1	1245	154	115.	26.3	2301.2	*	1	2105	254	0.	.0	2297.0
1	0430	55	179.	66.9	2303.9	*	1	1250	155	113.	25.5	2301.1	*	1	2110	255	0.	.0	2297.0
1	0435	56	184.	71.2	2304.2	*	1	1255	156	111.	24.7	2301.1	*	1	2115	256	0.	.0	2297.0
1	0440	57	189.	75.4	2304.5	*	1	1300	157	110.	24.0	2301.0	*	1	2120	257	0.	.0	2297.0
1	0445	58	194.	79.3	2304.7	*	1	1305	158	108.	23.2	2300.9	*	1	2125	258	0.	.0	2297.0

1	0450	59	199.	83.0	2305.0	*	1	1310	159	106.	22.5	2300.9	*	1	2130	259	0.	.0	2297.0
1	0455	60	203.	86.7	2305.2	*	1	1315	160	104.	21.8	2300.8	*	1	2135	260	0.	.0	2297.0
1	0500	61	207.	90.2	2305.5	*	1	1320	161	102.	21.1	2300.8	*	1	2140	261	0.	.0	2297.0
1	0505	62	210.	93.5	2305.7	*	1	1325	162	100.	20.4	2300.7	*	1	2145	262	0.	.0	2297.0
1	0510	63	213.	96.6	2305.9	*	1	1330	163	98.	19.7	2300.7	*	1	2150	263	0.	.0	2297.0
1	0515	64	216.	99.5	2306.1	*	1	1335	164	96.	19.0	2300.6	*	1	2155	264	0.	.0	2297.0
1	0520	65	219.	102.1	2306.2	*	1	1340	165	94.	18.4	2300.6	*	1	2200	265	0.	.0	2297.0
1	0525	66	221.	104.3	2306.4	*	1	1345	166	92.	17.7	2300.5	*	1	2205	266	0.	.0	2297.0
1	0530	67	223.	106.3	2306.5	*	1	1350	167	91.	17.1	2300.5	*	1	2210	267	0.	.0	2297.0
1	0535	68	225.	108.0	2306.6	*	1	1355	168	89.	16.5	2300.4	*	1	2215	268	0.	.0	2297.0
1	0540	69	227.	109.3	2306.7	*	1	1400	169	87.	15.9	2300.4	*	1	2220	269	0.	.0	2297.0
1	0545	70	228.	110.4	2306.8	*	1	1405	170	85.	15.3	2300.4	*	1	2225	270	0.	.0	2297.0
1	0550	71	229.	111.2	2306.9	*	1	1410	171	84.	14.7	2300.3	*	1	2230	271	0.	.0	2297.0
1	0555	72	229.	111.8	2306.9	*	1	1415	172	82.	14.1	2300.3	*	1	2235	272	0.	.0	2297.0
1	0600	73	230.	112.2	2306.9	*	1	1420	173	81.	13.6	2300.2	*	1	2240	273	0.	.0	2297.0
1	0605	74	230.	112.3	2306.9	*	1	1425	174	79.	13.0	2300.2	*	1	2245	274	0.	.0	2297.0
1	0610	75	230.	112.3	2306.9	*	1	1430	175	77.	12.5	2300.1	*	1	2250	275	0.	.0	2297.0
1	0615	76	230.	112.1	2306.9	*	1	1435	176	76.	12.0	2300.1	*	1	2255	276	0.	.0	2297.0
1	0620	77	229.	111.7	2306.9	*	1	1440	177	75.	11.4	2300.1	*	1	2300	277	0.	.0	2297.0
1	0625	78	229.	111.2	2306.9	*	1	1445	178	73.	10.9	2300.0	*	1	2305	278	0.	.0	2297.0
1	0630	79	228.	110.5	2306.8	*	1	1450	179	72.	10.4	2300.0	*	1	2310	279	0.	.0	2297.0
1	0635	80	227.	109.7	2306.7	*	1	1455	180	70.	9.9	2299.9	*	1	2315	280	0.	.0	2297.0
1	0640	81	226.	108.7	2306.7	*	1	1500	181	69.	9.5	2299.9	*	1	2320	281	0.	.0	2297.0
1	0645	82	225.	107.7	2306.6	*	1	1505	182	67.	9.0	2299.8	*	1	2325	282	0.	.0	2297.0
1	0650	83	224.	106.7	2306.6	*	1	1510	183	66.	8.5	2299.8	*	1	2330	283	0.	.0	2297.0
1	0655	84	223.	105.6	2306.5	*	1	1515	184	65.	8.1	2299.7	*	1	2335	284	0.	.0	2297.0
1	0700	85	221.	104.4	2306.4	*	1	1520	185	63.	7.6	2299.6	*	1	2340	285	0.	.0	2297.0
1	0705	86	220.	103.2	2306.3	*	1	1525	186	62.	7.2	2299.6	*	1	2345	286	0.	.0	2297.0
1	0710	87	219.	102.0	2306.2	*	1	1530	187	61.	6.8	2299.5	*	1	2350	287	0.	.0	2297.0
1	0715	88	218.	100.8	2306.2	*	1	1535	188	60.	6.4	2299.5	*	1	2355	288	0.	.0	2297.0
1	0720	89	216.	99.5	2306.1	*	1	1540	189	58.	6.0	2299.4	*	2	0000	289	0.	.0	2297.0
1	0725	90	215.	98.2	2306.0	*	1	1545	190	57.	5.6	2299.4	*	2	0005	290	0.	.0	2297.0
1	0730	91	214.	96.9	2305.9	*	1	1550	191	56.	5.2	2299.3	*	2	0010	291	0.	.0	2297.0
1	0735	92	212.	95.6	2305.8	*	1	1555	192	55.	4.8	2299.3	*	2	0015	292	0.	.0	2297.0
1	0740	93	211.	94.3	2305.7	*	1	1600	193	54.	4.4	2299.2	*	2	0020	293	0.	.0	2297.0
1	0745	94	209.	93.0	2305.7	*	1	1605	194	53.	4.0	2299.2	*	2	0025	294	0.	.0	2297.0
1	0750	95	208.	91.6	2305.6	*	1	1610	195	52.	3.7	2299.2	*	2	0030	295	0.	.0	2297.0
1	0755	96	207.	90.3	2305.5	*	1	1615	196	51.	3.3	2299.1	*	2	0035	296	0.	.0	2297.0
1	0800	97	205.	89.0	2305.4	*	1	1620	197	50.	3.0	2299.1	*	2	0040	297	0.	.0	2297.0
1	0805	98	204.	87.6	2305.3	*	1	1625	198	49.	2.6	2299.0	*	2	0045	298	0.	.0	2297.0
1	0810	99	202.	86.3	2305.2	*	1	1630	199	47.	2.3	2299.0	*	2	0050	299	0.	.0	2297.0
1	0815	100	201.	84.9	2305.1	*	1	1635	200	44.	2.0	2298.8	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 230.	6.08		203.	85.	81.	81.
		(INCHES)	1.563	2.607	2.607	2.607
		(AC-FT)	101.	168.	168.	168.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
112.	6.08	88.	29.	28.	28.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2306.93	6.08	2305.31	2300.37	2300.25	2300.25

CUMULATIVE AREA = 1.21 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .93

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	193.	78.6	2304.7	1		1640	201	31.	.8	2298.3
1		0005	2	0.	.0	2297.0	1		0825	102	192.	77.3	2304.6	1		1645	202	29.	.6	2298.2
1		0010	3	0.	.0	2297.0	1		0830	103	190.	76.0	2304.5	1		1650	203	27.	.4	2298.1
1		0015	4	0.	.0	2297.0	1		0835	104	189.	74.8	2304.5	1		1655	204	25.	.2	2298.0
1		0020	5	0.	.0	2297.0	1		0840	105	187.	73.5	2304.4	1		1700	205	17.	.1	2297.7
1		0025	6	1.	.0	2297.0	1		0845	106	185.	72.2	2304.3	1		1705	206	3.	.0	2297.1
1		0030	7	2.	.0	2297.1	1		0850	107	184.	71.0	2304.2	1		1710	207	1.	.0	2297.0
1		0035	8	4.	.0	2297.1	1		0855	108	182.	69.7	2304.1	1		1715	208	0.	.0	2297.0
1		0040	9	5.	.0	2297.2	1		0900	109	181.	68.5	2304.0	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	1		0905	110	179.	67.3	2304.0	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	1		0910	111	178.	66.0	2303.9	1		1730	211	0.	.0	2297.0
1		0055	12	4.	.0	2297.1	1		0915	112	176.	64.8	2303.8	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	1		0920	113	175.	63.6	2303.7	1		1740	213	0.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	173.	62.4	2303.6	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	172.	61.2	2303.6	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	1		0935	116	170.	60.1	2303.5	1		1755	216	0.	.0	2297.0
1		0120	17	4.	.0	2297.2	1		0940	117	169.	58.9	2303.4	1		1800	217	0.	.0	2297.0
1		0125	18	5.	.0	2297.2	1		0945	118	167.	57.7	2303.3	1		1805	218	0.	.0	2297.0
1		0130	19	6.	.0	2297.3	1		0950	119	166.	56.6	2303.3	1		1810	219	0.	.0	2297.0
1		0135	20	9.	.0	2297.4	1		0955	120	164.	55.5	2303.2	1		1815	220	0.	.0	2297.0
1		0140	21	13.	.1	2297.5	1		1000	121	163.	54.3	2303.1	1		1820	221	0.	.0	2297.0
1		0145	22	17.	.1	2297.7	1		1005	122	162.	53.2	2303.0	1		1825	222	0.	.0	2297.0
1		0150	23	20.	.1	2297.8	1		1010	123	160.	52.1	2303.0	1		1830	223	0.	.0	2297.0
1		0155	24	22.	.1	2297.9	1		1015	124	158.	51.0	2302.9	1		1835	224	0.	.0	2297.0
1		0200	25	23.	.1	2297.9	1		1020	125	157.	49.9	2302.8	1		1840	225	0.	.0	2297.0
1		0205	26	22.	.1	2297.9	1		1025	126	155.	48.9	2302.7	1		1845	226	0.	.0	2297.0
1		0210	27	20.	.1	2297.9	1		1030	127	153.	47.8	2302.7	1		1850	227	0.	.0	2297.0
1		0215	28	21.	.1	2297.9	1		1035	128	152.	46.8	2302.6	1		1855	228	0.	.0	2297.0
1		0220	29	24.	.1	2298.0	1		1040	129	150.	45.7	2302.5	1		1900	229	0.	.0	2297.0
1		0225	30	24.	.2	2298.0	1		1045	130	148.	44.7	2302.4	1		1905	230	0.	.0	2297.0
1		0230	31	25.	.3	2298.1	1		1050	131	147.	43.7	2302.4	1		1910	231	0.	.0	2297.0
1		0235	32	26.	.4	2298.1	1		1055	132	145.	42.7	2302.3	1		1915	232	0.	.0	2297.0
1		0240	33	28.	.5	2298.2	1		1100	133	144.	41.7	2302.2	1		1920	233	0.	.0	2297.0
1		0245	34	29.	.6	2298.2	1		1105	134	142.	40.7	2302.2	1		1925	234	0.	.0	2297.0
1		0250	35	31.	.8	2298.3	1		1110	135	140.	39.7	2302.1	1		1930	235	0.	.0	2297.0
1		0255	36	33.	.9	2298.4	1		1115	136	139.	38.8	2302.0	1		1935	236	0.	.0	2297.0
1		0300	37	34.	1.1	2298.4	1		1120	137	137.	37.8	2302.0	1		1940	237	0.	.0	2297.0
1		0305	38	36.	1.3	2298.5	1		1125	138	135.	36.9	2301.9	1		1945	238	0.	.0	2297.0
1		0310	39	39.	1.5	2298.6	1		1130	139	134.	35.9	2301.8	1		1950	239	0.	.0	2297.0
1		0315	40	43.	1.9	2298.8	1		1135	140	132.	35.0	2301.8	1		1955	240	0.	.0	2297.0
1		0320	41	49.	2.6	2299.0	1		1140	141	130.	34.1	2301.7	1		2000	241	0.	.0	2297.0
1		0325	42	52.	3.8	2299.2	1		1145	142	128.	33.2	2301.7	1		2005	242	0.	.0	2297.0
1		0330	43	58.	5.8	2299.4	1		1150	143	126.	32.4	2301.6	1		2010	243	0.	.0	2297.0
1		0335	44	67.	8.8	2299.8	1		1155	144	125.	31.5	2301.5	1		2015	244	0.	.0	2297.0
1		0340	45	78.	12.5	2300.1	1		1200	145	123.	30.6	2301.5	1		2020	245	0.	.0	2297.0
1		0345	46	90.	16.8	2300.5	1		1205	146	121.	29.8	2301.4	1		2025	246	0.	.0	2297.0
1		0350	47	102.	21.3	2300.8	1		1210	147	120.	29.0	2301.3	1		2030	247	0.	.0	2297.0
1		0355	48	114.	26.1	2301.2	1		1215	148	118.	28.2	2301.3	1		2035	248	0.	.0	2297.0
1		0400	49	125.	31.6	2301.5	1		1220	149	117.	27.3	2301.2	1		2040	249	0.	.0	2297.0
1		0405	50	137.	37.5	2301.9	1		1225	150	115.	26.5	2301.2	1		2045	250	0.	.0	2297.0

1	0410	51	146.	43.3	2302.4	*	1	1230	151	113.	25.8	2301.1	*	1	2050	251	0.	.0	2297.0
1	0415	52	155.	48.9	2302.7	*	1	1235	152	112.	25.0	2301.1	*	1	2055	252	0.	.0	2297.0
1	0420	53	163.	54.2	2303.1	*	1	1240	153	110.	24.2	2301.0	*	1	2100	253	0.	.0	2297.0
1	0425	54	169.	59.1	2303.4	*	1	1245	154	108.	23.5	2301.0	*	1	2105	254	0.	.0	2297.0
1	0430	55	175.	63.6	2303.7	*	1	1250	155	106.	22.7	2300.9	*	1	2110	255	0.	.0	2297.0
1	0435	56	180.	67.8	2304.0	*	1	1255	156	104.	22.0	2300.9	*	1	2115	256	0.	.0	2297.0
1	0440	57	185.	71.8	2304.3	*	1	1300	157	102.	21.3	2300.8	*	1	2120	257	0.	.0	2297.0
1	0445	58	189.	75.4	2304.5	*	1	1305	158	100.	20.6	2300.7	*	1	2125	258	0.	.0	2297.0
1	0450	59	194.	79.0	2304.7	*	1	1310	159	98.	19.9	2300.7	*	1	2130	259	0.	.0	2297.0
1	0455	60	198.	82.5	2305.0	*	1	1315	160	97.	19.2	2300.6	*	1	2135	260	0.	.0	2297.0
1	0500	61	202.	85.9	2305.2	*	1	1320	161	95.	18.6	2300.6	*	1	2140	261	0.	.0	2297.0
1	0505	62	205.	89.0	2305.4	*	1	1325	162	93.	17.9	2300.5	*	1	2145	262	0.	.0	2297.0
1	0510	63	208.	92.0	2305.6	*	1	1330	163	91.	17.3	2300.5	*	1	2150	263	0.	.0	2297.0
1	0515	64	211.	94.7	2305.8	*	1	1335	164	89.	16.7	2300.5	*	1	2155	264	0.	.0	2297.0
1	0520	65	214.	97.2	2305.9	*	1	1340	165	88.	16.1	2300.4	*	1	2200	265	0.	.0	2297.0
1	0525	66	216.	99.3	2306.1	*	1	1345	166	86.	15.5	2300.4	*	1	2205	266	0.	.0	2297.0
1	0530	67	218.	101.1	2306.2	*	1	1350	167	84.	14.9	2300.3	*	1	2210	267	0.	.0	2297.0
1	0535	68	220.	102.7	2306.3	*	1	1355	168	83.	14.3	2300.3	*	1	2215	268	0.	.0	2297.0
1	0540	69	221.	103.9	2306.4	*	1	1400	169	81.	13.7	2300.2	*	1	2220	269	0.	.0	2297.0
1	0545	70	222.	104.9	2306.4	*	1	1405	170	79.	13.2	2300.2	*	1	2225	270	0.	.0	2297.0
1	0550	71	223.	105.7	2306.5	*	1	1410	171	78.	12.6	2300.2	*	1	2230	271	0.	.0	2297.0
1	0555	72	223.	106.2	2306.5	*	1	1415	172	76.	12.1	2300.1	*	1	2235	272	0.	.0	2297.0
1	0600	73	224.	106.6	2306.5	*	1	1420	173	75.	11.6	2300.1	*	1	2240	273	0.	.0	2297.0
1	0605	74	224.	106.7	2306.6	*	1	1425	174	74.	11.1	2300.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	224.	106.7	2306.6	*	1	1430	175	72.	10.6	2300.0	*	1	2250	275	0.	.0	2297.0
1	0615	76	224.	106.5	2306.5	*	1	1435	176	71.	10.1	2299.9	*	1	2255	276	0.	.0	2297.0
1	0620	77	223.	106.1	2306.5	*	1	1440	177	69.	9.6	2299.9	*	1	2300	277	0.	.0	2297.0
1	0625	78	223.	105.5	2306.5	*	1	1445	178	68.	9.1	2299.8	*	1	2305	278	0.	.0	2297.0
1	0630	79	222.	104.8	2306.4	*	1	1450	179	66.	8.7	2299.8	*	1	2310	279	0.	.0	2297.0
1	0635	80	221.	104.0	2306.4	*	1	1455	180	65.	8.2	2299.7	*	1	2315	280	0.	.0	2297.0
1	0640	81	220.	103.1	2306.3	*	1	1500	181	64.	7.8	2299.7	*	1	2320	281	0.	.0	2297.0
1	0645	82	219.	102.1	2306.3	*	1	1505	182	63.	7.3	2299.6	*	1	2325	282	0.	.0	2297.0
1	0650	83	218.	101.1	2306.2	*	1	1510	183	61.	6.9	2299.6	*	1	2330	283	0.	.0	2297.0
1	0655	84	217.	100.0	2306.1	*	1	1515	184	60.	6.5	2299.5	*	1	2335	284	0.	.0	2297.0
1	0700	85	216.	98.9	2306.0	*	1	1520	185	59.	6.1	2299.5	*	1	2340	285	0.	.0	2297.0
1	0705	86	214.	97.7	2306.0	*	1	1525	186	58.	5.7	2299.4	*	1	2345	286	0.	.0	2297.0
1	0710	87	213.	96.5	2305.9	*	1	1530	187	56.	5.3	2299.4	*	1	2350	287	0.	.0	2297.0
1	0715	88	212.	95.3	2305.8	*	1	1535	188	55.	4.9	2299.3	*	1	2355	288	0.	.0	2297.0
1	0720	89	211.	94.1	2305.7	*	1	1540	189	54.	4.5	2299.3	*	2	0000	289	0.	.0	2297.0
1	0725	90	209.	92.8	2305.6	*	1	1545	190	53.	4.2	2299.2	*	2	0005	290	0.	.0	2297.0
1	0730	91	208.	91.6	2305.6	*	1	1550	191	52.	3.8	2299.2	*	2	0010	291	0.	.0	2297.0
1	0735	92	207.	90.3	2305.5	*	1	1555	192	51.	3.4	2299.1	*	2	0015	292	0.	.0	2297.0
1	0740	93	205.	89.0	2305.4	*	1	1600	193	50.	3.1	2299.1	*	2	0020	293	0.	.0	2297.0
1	0745	94	204.	87.7	2305.3	*	1	1605	194	49.	2.8	2299.0	*	2	0025	294	0.	.0	2297.0
1	0750	95	203.	86.4	2305.2	*	1	1610	195	48.	2.4	2299.0	*	2	0030	295	0.	.0	2297.0
1	0755	96	201.	85.1	2305.1	*	1	1615	196	45.	2.1	2298.9	*	2	0035	296	0.	.0	2297.0
1	0800	97	200.	83.8	2305.0	*	1	1620	197	42.	1.8	2298.7	*	2	0040	297	0.	.0	2297.0
1	0805	98	198.	82.5	2305.0	*	1	1625	198	39.	1.5	2298.6	*	2	0045	298	0.	.0	2297.0
1	0810	99	197.	81.2	2304.9	*	1	1630	199	36.	1.3	2298.5	*	2	0050	299	0.	.0	2297.0
1	0815	100	195.	79.9	2304.8	*	1	1635	200	33.	1.0	2298.4	*	2	0055	300	0.	.0	2297.0
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	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
				6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)				
+	224.	6.08		197.	81.	78.	78.
			(INCHES)	1.520	2.494	2.494	2.494
			(AC-FT)	98.	160.	160.	160.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT) 107.	(HR) 6.08	83.	27.	26.	26.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ (FEET) 2306.56	(HR) 6.08	2304.99	2300.21	2300.09	2300.09

CUMULATIVE AREA = 1.21 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .92

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000	1	0.	.0	2297.0	*	1	0820	101	191.	76.6	2304.6	*	1	1640	201	28.	.5	2298.2	
1	0005	2	0.	.0	2297.0	*	1	0825	102	189.	75.3	2304.5	*	1	1645	202	26.	.3	2298.1	
1	0010	3	0.	.0	2297.0	*	1	0830	103	188.	74.1	2304.4	*	1	1650	203	24.	.1	2298.0	
1	0015	4	0.	.0	2297.0	*	1	0835	104	186.	72.8	2304.3	*	1	1655	204	7.	.0	2297.3	
1	0020	5	0.	.0	2297.0	*	1	0840	105	185.	71.6	2304.2	*	1	1700	205	2.	.0	2297.1	
1	0025	6	1.	.0	2297.0	*	1	0845	106	183.	70.3	2304.2	*	1	1705	206	0.	.0	2297.0	
1	0030	7	2.	.0	2297.1	*	1	0850	107	181.	69.1	2304.1	*	1	1710	207	0.	.0	2297.0	
1	0035	8	3.	.0	2297.1	*	1	0855	108	180.	67.8	2304.0	*	1	1715	208	0.	.0	2297.0	
1	0040	9	5.	.0	2297.2	*	1	0900	109	178.	66.6	2303.9	*	1	1720	209	0.	.0	2297.0	
1	0045	10	5.	.0	2297.2	*	1	0905	110	177.	65.4	2303.8	*	1	1725	210	0.	.0	2297.0	
1	0050	11	4.	.0	2297.2	*	1	0910	111	175.	64.2	2303.8	*	1	1730	211	0.	.0	2297.0	
1	0055	12	3.	.0	2297.1	*	1	0915	112	174.	63.0	2303.7	*	1	1735	212	0.	.0	2297.0	
1	0100	13	3.	.0	2297.1	*	1	0920	113	172.	61.8	2303.6	*	1	1740	213	0.	.0	2297.0	
1	0105	14	2.	.0	2297.1	*	1	0925	114	171.	60.6	2303.5	*	1	1745	214	0.	.0	2297.0	
1	0110	15	2.	.0	2297.1	*	1	0930	115	169.	59.5	2303.4	*	1	1750	215	0.	.0	2297.0	
1	0115	16	3.	.0	2297.1	*	1	0935	116	168.	58.3	2303.4	*	1	1755	216	0.	.0	2297.0	
1	0120	17	3.	.0	2297.1	*	1	0940	117	167.	57.2	2303.3	*	1	1800	217	0.	.0	2297.0	
1	0125	18	4.	.0	2297.2	*	1	0945	118	165.	56.0	2303.2	*	1	1805	218	0.	.0	2297.0	
1	0130	19	6.	.0	2297.3	*	1	0950	119	164.	54.9	2303.1	*	1	1810	219	0.	.0	2297.0	
1	0135	20	9.	.0	2297.4	*	1	0955	120	162.	53.8	2303.1	*	1	1815	220	0.	.0	2297.0	
1	0140	21	13.	.1	2297.5	*	1	1000	121	161.	52.7	2303.0	*	1	1820	221	0.	.0	2297.0	
1	0145	22	16.	.1	2297.7	*	1	1005	122	159.	51.6	2302.9	*	1	1825	222	0.	.0	2297.0	
1	0150	23	19.	.1	2297.8	*	1	1010	123	157.	50.5	2302.8	*	1	1830	223	0.	.0	2297.0	
1	0155	24	21.	.1	2297.9	*	1	1015	124	156.	49.4	2302.8	*	1	1835	224	0.	.0	2297.0	
1	0200	25	22.	.1	2297.9	*	1	1020	125	154.	48.3	2302.7	*	1	1840	225	0.	.0	2297.0	
1	0205	26	21.	.1	2297.9	*	1	1025	126	152.	47.3	2302.6	*	1	1845	226	0.	.0	2297.0	
1	0210	27	20.	.1	2297.8	*	1	1030	127	151.	46.2	2302.6	*	1	1850	227	0.	.0	2297.0	
1	0215	28	20.	.1	2297.8	*	1	1035	128	149.	45.2	2302.5	*	1	1855	228	0.	.0	2297.0	
1	0220	29	23.	.1	2298.0	*	1	1040	129	147.	44.2	2302.4	*	1	1900	229	0.	.0	2297.0	
1	0225	30	24.	.2	2298.0	*	1	1045	130	146.	43.2	2302.3	*	1	1905	230	0.	.0	2297.0	
1	0230	31	25.	.2	2298.0	*	1	1050	131	144.	42.2	2302.3	*	1	1910	231	0.	.0	2297.0	
1	0235	32	26.	.3	2298.1	*	1	1055	132	143.	41.2	2302.2	*	1	1915	232	0.	.0	2297.0	
1	0240	33	27.	.4	2298.1	*	1	1100	133	141.	40.2	2302.1	*	1	1920	233	0.	.0	2297.0	
1	0245	34	29.	.6	2298.2	*	1	1105	134	140.	39.2	2302.1	*	1	1925	234	0.	.0	2297.0	
1	0250	35	30.	.7	2298.3	*	1	1110	135	138.	38.3	2302.0	*	1	1930	235	0.	.0	2297.0	
1	0255	36	32.	.9	2298.3	*	1	1115	136	136.	37.3	2301.9	*	1	1935	236	0.	.0	2297.0	
1	0300	37	34.	1.0	2298.4	*	1	1120	137	134.	36.4	2301.9	*	1	1940	237	0.	.0	2297.0	
1	0305	38	35.	1.2	2298.5	*	1	1125	138	133.	35.5	2301.8	*	1	1945	238	0.	.0	2297.0	
1	0310	39	38.	1.5	2298.6	*	1	1130	139	131.	34.6	2301.7	*	1	1950	239	0.	.0	2297.0	
1	0315	40	42.	1.8	2298.7	*	1	1135	140	129.	33.7	2301.7	*	1	1955	240	0.	.0	2297.0	
1	0320	41	48.	2.5	2299.0	*	1	1140	141	127.	32.8	2301.6	*	1	2000	241	0.	.0	2297.0	
1	0325	42	52.	3.7	2299.2	*	1	1145	142	126.	31.9	2301.6	*	1	2005	242	0.	.0	2297.0	

1	0330	43	58.	5.6	2299.4	*	1	1150	143	124.	31.1	2301.5	*	1	2010	243	0.	.0	2297.0
1	0335	44	66.	8.5	2299.8	*	1	1155	144	122.	30.2	2301.4	*	1	2015	244	0.	.0	2297.0
1	0340	45	77.	12.2	2300.1	*	1	1200	145	121.	29.4	2301.4	*	1	2020	245	0.	.0	2297.0
1	0345	46	88.	16.3	2300.4	*	1	1205	146	119.	28.6	2301.3	*	1	2025	246	0.	.0	2297.0
1	0350	47	101.	20.7	2300.8	*	1	1210	147	117.	27.7	2301.3	*	1	2030	247	0.	.0	2297.0
1	0355	48	113.	25.5	2301.1	*	1	1215	148	116.	26.9	2301.2	*	1	2035	248	0.	.0	2297.0
1	0400	49	123.	30.8	2301.5	*	1	1220	149	114.	26.1	2301.2	*	1	2040	249	0.	.0	2297.0
1	0405	50	135.	36.6	2301.9	*	1	1225	150	113.	25.4	2301.1	*	1	2045	250	0.	.0	2297.0
1	0410	51	145.	42.4	2302.3	*	1	1230	151	111.	24.6	2301.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	153.	47.9	2302.7	*	1	1235	152	109.	23.8	2301.0	*	1	2055	252	0.	.0	2297.0
1	0420	53	161.	53.0	2303.0	*	1	1240	153	107.	23.1	2300.9	*	1	2100	253	0.	.0	2297.0
1	0425	54	167.	57.8	2303.3	*	1	1245	154	105.	22.4	2300.9	*	1	2105	254	0.	.0	2297.0
1	0430	55	173.	62.3	2303.6	*	1	1250	155	103.	21.6	2300.8	*	1	2110	255	0.	.0	2297.0
1	0435	56	178.	66.4	2303.9	*	1	1255	156	101.	20.9	2300.8	*	1	2115	256	0.	.0	2297.0
1	0440	57	183.	70.3	2304.2	*	1	1300	157	99.	20.2	2300.7	*	1	2120	257	0.	.0	2297.0
1	0445	58	188.	73.9	2304.4	*	1	1305	158	97.	19.6	2300.7	*	1	2125	258	0.	.0	2297.0
1	0450	59	192.	77.4	2304.6	*	1	1310	159	96.	18.9	2300.6	*	1	2130	259	0.	.0	2297.0
1	0455	60	196.	80.8	2304.8	*	1	1315	160	94.	18.2	2300.6	*	1	2135	260	0.	.0	2297.0
1	0500	61	200.	84.1	2305.1	*	1	1320	161	92.	17.6	2300.5	*	1	2140	261	0.	.0	2297.0
1	0505	62	203.	87.2	2305.3	*	1	1325	162	90.	17.0	2300.5	*	1	2145	262	0.	.0	2297.0
1	0510	63	206.	90.1	2305.5	*	1	1330	163	88.	16.4	2300.4	*	1	2150	263	0.	.0	2297.0
1	0515	64	209.	92.8	2305.6	*	1	1335	164	87.	15.8	2300.4	*	1	2155	264	0.	.0	2297.0
1	0520	65	212.	95.2	2305.8	*	1	1340	165	85.	15.2	2300.3	*	1	2200	265	0.	.0	2297.0
1	0525	66	214.	97.3	2305.9	*	1	1345	166	83.	14.6	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	216.	99.0	2306.1	*	1	1350	167	82.	14.0	2300.3	*	1	2210	267	0.	.0	2297.0
1	0535	68	217.	100.5	2306.1	*	1	1355	168	80.	13.5	2300.2	*	1	2215	268	0.	.0	2297.0
1	0540	69	219.	101.8	2306.2	*	1	1400	169	79.	12.9	2300.2	*	1	2220	269	0.	.0	2297.0
1	0545	70	220.	102.7	2306.3	*	1	1405	170	77.	12.4	2300.1	*	1	2225	270	0.	.0	2297.0
1	0550	71	220.	103.5	2306.3	*	1	1410	171	76.	11.8	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	221.	104.0	2306.4	*	1	1415	172	74.	11.3	2300.1	*	1	2235	272	0.	.0	2297.0
1	0600	73	221.	104.3	2306.4	*	1	1420	173	73.	10.8	2300.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	222.	104.5	2306.4	*	1	1425	174	71.	10.3	2300.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	221.	104.4	2306.4	*	1	1430	175	70.	9.8	2299.9	*	1	2250	275	0.	.0	2297.0
1	0615	76	221.	104.2	2306.4	*	1	1435	176	69.	9.4	2299.9	*	1	2255	276	0.	.0	2297.0
1	0620	77	221.	103.8	2306.4	*	1	1440	177	67.	8.9	2299.8	*	1	2300	277	0.	.0	2297.0
1	0625	78	220.	103.2	2306.3	*	1	1445	178	66.	8.4	2299.7	*	1	2305	278	0.	.0	2297.0
1	0630	79	219.	102.5	2306.3	*	1	1450	179	64.	8.0	2299.7	*	1	2310	279	0.	.0	2297.0
1	0635	80	219.	101.7	2306.2	*	1	1455	180	63.	7.6	2299.6	*	1	2315	280	0.	.0	2297.0
1	0640	81	218.	100.8	2306.2	*	1	1500	181	62.	7.1	2299.6	*	1	2320	281	0.	.0	2297.0
1	0645	82	217.	99.8	2306.1	*	1	1505	182	61.	6.7	2299.5	*	1	2325	282	0.	.0	2297.0
1	0650	83	216.	98.8	2306.0	*	1	1510	183	59.	6.3	2299.5	*	1	2330	283	0.	.0	2297.0
1	0655	84	214.	97.7	2306.0	*	1	1515	184	58.	5.9	2299.4	*	1	2335	284	0.	.0	2297.0
1	0700	85	213.	96.6	2305.9	*	1	1520	185	57.	5.5	2299.4	*	1	2340	285	0.	.0	2297.0
1	0705	86	212.	95.5	2305.8	*	1	1525	186	56.	5.1	2299.3	*	1	2345	286	0.	.0	2297.0
1	0710	87	211.	94.3	2305.7	*	1	1530	187	55.	4.7	2299.3	*	1	2350	287	0.	.0	2297.0
1	0715	88	210.	93.1	2305.7	*	1	1535	188	54.	4.3	2299.2	*	1	2355	288	0.	.0	2297.0
1	0720	89	208.	91.9	2305.6	*	1	1540	189	53.	4.0	2299.2	*	2	0000	289	0.	.0	2297.0
1	0725	90	207.	90.6	2305.5	*	1	1545	190	52.	3.6	2299.1	*	2	0005	290	0.	.0	2297.0
1	0730	91	206.	89.4	2305.4	*	1	1550	191	50.	3.3	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	204.	88.1	2305.3	*	1	1555	192	49.	2.9	2299.1	*	2	0015	292	0.	.0	2297.0
1	0740	93	203.	86.9	2305.3	*	1	1600	193	48.	2.6	2299.0	*	2	0020	293	0.	.0	2297.0
1	0745	94	202.	85.6	2305.2	*	1	1605	194	46.	2.3	2298.9	*	2	0025	294	0.	.0	2297.0
1	0750	95	200.	84.3	2305.1	*	1	1610	195	43.	2.0	2298.8	*	2	0030	295	0.	.0	2297.0
1	0755	96	199.	83.0	2305.0	*	1	1615	196	40.	1.7	2298.7	*	2	0035	296	0.	.0	2297.0
1	0800	97	197.	81.8	2304.9	*	1	1620	197	37.	1.4	2298.6	*	2	0040	297	0.	.0	2297.0
1	0805	98	196.	80.5	2304.8	*	1	1625	198	35.	1.2	2298.4	*	2	0045	298	0.	.0	2297.0

1	0810	99	194.	79.2	2304.7	*	1	1630	199	32.	.9	2298.3	*	2	0050	299	0.	.0	2297.0
1	0815	100	193.	77.9	2304.7	*	1	1635	200	30.	.7	2298.3	*	2	0055	300	0.	.0	2297.0

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
222.	6.08		195.	79.	76.	76.
		(INCHES)	1.503	2.448	2.448	2.448
		(AC-FT)	97.	157.	157.	157.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
104.	6.08	81.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
2306.41	6.08	2304.86	2300.14	2300.03	2300.03

CUMULATIVE AREA = 1.21 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .91

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	*	1		0820	101	189.	75.2	2304.5	*	1		1640	201	26.	.3	2298.1
1		0005	2	0.	.0	2297.0	*	1		0825	102	188.	74.0	2304.4	*	1		1645	202	24.	.1	2298.0
1		0010	3	0.	.0	2297.0	*	1		0830	103	186.	72.7	2304.3	*	1		1650	203	6.	.0	2297.3
1		0015	4	0.	.0	2297.0	*	1		0835	104	184.	71.5	2304.2	*	1		1655	204	1.	.0	2297.1
1		0020	5	0.	.0	2297.0	*	1		0840	105	183.	70.2	2304.2	*	1		1700	205	0.	.0	2297.0
1		0025	6	1.	.0	2297.0	*	1		0845	106	181.	69.0	2304.1	*	1		1705	206	0.	.0	2297.0
1		0030	7	2.	.0	2297.1	*	1		0850	107	180.	67.8	2304.0	*	1		1710	207	0.	.0	2297.0
1		0035	8	3.	.0	2297.1	*	1		0855	108	178.	66.5	2303.9	*	1		1715	208	0.	.0	2297.0
1		0040	9	4.	.0	2297.2	*	1		0900	109	177.	65.3	2303.8	*	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	*	1		0905	110	175.	64.1	2303.8	*	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	*	1		0910	111	174.	62.9	2303.7	*	1		1730	211	0.	.0	2297.0
1		0055	12	3.	.0	2297.1	*	1		0915	112	172.	61.7	2303.6	*	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	*	1		0920	113	171.	60.6	2303.5	*	1		1740	213	0.	.0	2297.0
1		0105	14	2.	.0	2297.1	*	1		0925	114	169.	59.4	2303.4	*	1		1745	214	0.	.0	2297.0
1		0110	15	2.	.0	2297.1	*	1		0930	115	168.	58.2	2303.4	*	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	*	1		0935	116	167.	57.1	2303.3	*	1		1755	216	0.	.0	2297.0
1		0120	17	3.	.0	2297.1	*	1		0940	117	165.	56.0	2303.2	*	1		1800	217	0.	.0	2297.0
1		0125	18	4.	.0	2297.2	*	1		0945	118	164.	54.8	2303.1	*	1		1805	218	0.	.0	2297.0
1		0130	19	6.	.0	2297.2	*	1		0950	119	162.	53.7	2303.1	*	1		1810	219	0.	.0	2297.0
1		0135	20	9.	.0	2297.4	*	1		0955	120	161.	52.6	2303.0	*	1		1815	220	0.	.0	2297.0
1		0140	21	12.	.1	2297.5	*	1		1000	121	159.	51.5	2302.9	*	1		1820	221	0.	.0	2297.0
1		0145	22	16.	.1	2297.7	*	1		1005	122	157.	50.4	2302.8	*	1		1825	222	0.	.0	2297.0
1		0150	23	19.	.1	2297.8	*	1		1010	123	156.	49.3	2302.8	*	1		1830	223	0.	.0	2297.0
1		0155	24	21.	.1	2297.9	*	1		1015	124	154.	48.3	2302.7	*	1		1835	224	0.	.0	2297.0
1		0200	25	21.	.1	2297.9	*	1		1020	125	152.	47.2	2302.6	*	1		1840	225	0.	.0	2297.0
1		0205	26	20.	.1	2297.8	*	1		1025	126	151.	46.2	2302.6	*	1		1845	226	0.	.0	2297.0
1		0210	27	19.	.1	2297.8	*	1		1030	127	149.	45.1	2302.5	*	1		1850	227	0.	.0	2297.0
1		0215	28	19.	.1	2297.8	*	1		1035	128	147.	44.1	2302.4	*	1		1855	228	0.	.0	2297.0
1		0220	29	22.	.1	2297.9	*	1		1040	129	146.	43.1	2302.3	*	1		1900	229	0.	.0	2297.0
1		0225	30	24.	.2	2298.0	*	1		1045	130	144.	42.1	2302.3	*	1		1905	230	0.	.0	2297.0
1		0230	31	25.	.2	2298.0	*	1		1050	131	143.	41.1	2302.2	*	1		1910	231	0.	.0	2297.0
1		0235	32	26.	.3	2298.1	*	1		1055	132	141.	40.1	2302.1	*	1		1915	232	0.	.0	2297.0
1		0240	33	27.	.4	2298.1	*	1		1100	133	140.	39.2	2302.1	*	1		1920	233	0.	.0	2297.0
1		0245	34	28.	.5	2298.2	*	1		1105	134	138.	38.2	2302.0	*	1		1925	234	0.	.0	2297.0

1	0250	35	30.	.7	2298.2	*	1	1110	135	136.	37.3	2301.9	*	1	1930	235	0.	.0	2297.0
1	0255	36	31.	.8	2298.3	*	1	1115	136	134.	36.3	2301.9	*	1	1935	236	0.	.0	2297.0
1	0300	37	33.	1.0	2298.4	*	1	1120	137	133.	35.4	2301.8	*	1	1940	237	0.	.0	2297.0
1	0305	38	35.	1.2	2298.5	*	1	1125	138	131.	34.5	2301.7	*	1	1945	238	0.	.0	2297.0
1	0310	39	37.	1.4	2298.6	*	1	1130	139	129.	33.6	2301.7	*	1	1950	239	0.	.0	2297.0
1	0315	40	41.	1.8	2298.7	*	1	1135	140	127.	32.7	2301.6	*	1	1955	240	0.	.0	2297.0
1	0320	41	48.	2.4	2299.0	*	1	1140	141	126.	31.9	2301.6	*	1	2000	241	0.	.0	2297.0
1	0325	42	51.	3.6	2299.1	*	1	1145	142	124.	31.0	2301.5	*	1	2005	242	0.	.0	2297.0
1	0330	43	57.	5.5	2299.4	*	1	1150	143	122.	30.2	2301.4	*	1	2010	243	0.	.0	2297.0
1	0335	44	66.	8.4	2299.7	*	1	1155	144	121.	29.3	2301.4	*	1	2015	244	0.	.0	2297.0
1	0340	45	76.	12.0	2300.1	*	1	1200	145	119.	28.5	2301.3	*	1	2020	245	0.	.0	2297.0
1	0345	46	88.	16.1	2300.4	*	1	1205	146	117.	27.7	2301.3	*	1	2025	246	0.	.0	2297.0
1	0350	47	100.	20.4	2300.7	*	1	1210	147	116.	26.9	2301.2	*	1	2030	247	0.	.0	2297.0
1	0355	48	112.	25.1	2301.1	*	1	1215	148	114.	26.1	2301.1	*	1	2035	248	0.	.0	2297.0
1	0400	49	122.	30.3	2301.4	*	1	1220	149	113.	25.3	2301.1	*	1	2040	249	0.	.0	2297.0
1	0405	50	134.	36.0	2301.8	*	1	1225	150	111.	24.6	2301.0	*	1	2045	250	0.	.0	2297.0
1	0410	51	144.	41.8	2302.2	*	1	1230	151	109.	23.8	2301.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	152.	47.2	2302.6	*	1	1235	152	107.	23.0	2300.9	*	1	2055	252	0.	.0	2297.0
1	0420	53	160.	52.3	2303.0	*	1	1240	153	105.	22.3	2300.9	*	1	2100	253	0.	.0	2297.0
1	0425	54	166.	57.0	2303.3	*	1	1245	154	103.	21.6	2300.8	*	1	2105	254	0.	.0	2297.0
1	0430	55	172.	61.4	2303.6	*	1	1250	155	101.	20.9	2300.8	*	1	2110	255	0.	.0	2297.0
1	0435	56	177.	65.4	2303.8	*	1	1255	156	99.	20.2	2300.7	*	1	2115	256	0.	.0	2297.0
1	0440	57	182.	69.3	2304.1	*	1	1300	157	97.	19.5	2300.7	*	1	2120	257	0.	.0	2297.0
1	0445	58	186.	72.9	2304.3	*	1	1305	158	95.	18.9	2300.6	*	1	2125	258	0.	.0	2297.0
1	0450	59	190.	76.3	2304.6	*	1	1310	159	94.	18.2	2300.6	*	1	2130	259	0.	.0	2297.0
1	0455	60	195.	79.6	2304.8	*	1	1315	160	92.	17.6	2300.5	*	1	2135	260	0.	.0	2297.0
1	0500	61	199.	82.9	2305.0	*	1	1320	161	90.	16.9	2300.5	*	1	2140	261	0.	.0	2297.0
1	0505	62	202.	86.0	2305.2	*	1	1325	162	88.	16.3	2300.4	*	1	2145	262	0.	.0	2297.0
1	0510	63	205.	88.8	2305.4	*	1	1330	163	87.	15.7	2300.4	*	1	2150	263	0.	.0	2297.0
1	0515	64	208.	91.4	2305.6	*	1	1335	164	85.	15.1	2300.3	*	1	2155	264	0.	.0	2297.0
1	0520	65	210.	93.8	2305.7	*	1	1340	165	83.	14.6	2300.3	*	1	2200	265	0.	.0	2297.0
1	0525	66	212.	95.8	2305.8	*	1	1345	166	82.	14.0	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	214.	97.6	2306.0	*	1	1350	167	80.	13.4	2300.2	*	1	2210	267	0.	.0	2297.0
1	0535	68	216.	99.0	2306.1	*	1	1355	168	79.	12.9	2300.2	*	1	2215	268	0.	.0	2297.0
1	0540	69	217.	100.2	2306.1	*	1	1400	169	77.	12.3	2300.1	*	1	2220	269	0.	.0	2297.0
1	0545	70	218.	101.2	2306.2	*	1	1405	170	76.	11.8	2300.1	*	1	2225	270	0.	.0	2297.0
1	0550	71	219.	101.9	2306.2	*	1	1410	171	74.	11.3	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	219.	102.4	2306.3	*	1	1415	172	73.	10.8	2300.0	*	1	2235	272	0.	.0	2297.0
1	0600	73	220.	102.8	2306.3	*	1	1420	173	71.	10.3	2300.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	220.	102.9	2306.3	*	1	1425	174	70.	9.8	2299.9	*	1	2245	274	0.	.0	2297.0
1	0610	75	220.	102.8	2306.3	*	1	1430	175	68.	9.3	2299.9	*	1	2250	275	0.	.0	2297.0
1	0615	76	220.	102.6	2306.3	*	1	1435	176	67.	8.9	2299.8	*	1	2255	276	0.	.0	2297.0
1	0620	77	219.	102.2	2306.3	*	1	1440	177	66.	8.4	2299.7	*	1	2300	277	0.	.0	2297.0
1	0625	78	219.	101.6	2306.2	*	1	1445	178	64.	8.0	2299.7	*	1	2305	278	0.	.0	2297.0
1	0630	79	218.	100.9	2306.2	*	1	1450	179	63.	7.5	2299.6	*	1	2310	279	0.	.0	2297.0
1	0635	80	217.	100.1	2306.1	*	1	1455	180	62.	7.1	2299.6	*	1	2315	280	0.	.0	2297.0
1	0640	81	216.	99.2	2306.1	*	1	1500	181	61.	6.7	2299.5	*	1	2320	281	0.	.0	2297.0
1	0645	82	215.	98.3	2306.0	*	1	1505	182	59.	6.3	2299.5	*	1	2325	282	0.	.0	2297.0
1	0650	83	214.	97.2	2305.9	*	1	1510	183	58.	5.9	2299.4	*	1	2330	283	0.	.0	2297.0
1	0655	84	213.	96.2	2305.9	*	1	1515	184	57.	5.5	2299.4	*	1	2335	284	0.	.0	2297.0
1	0700	85	212.	95.1	2305.8	*	1	1520	185	56.	5.1	2299.3	*	1	2340	285	0.	.0	2297.0
1	0705	86	210.	93.9	2305.7	*	1	1525	186	55.	4.7	2299.3	*	1	2345	286	0.	.0	2297.0
1	0710	87	209.	92.8	2305.6	*	1	1530	187	54.	4.3	2299.2	*	1	2350	287	0.	.0	2297.0
1	0715	88	208.	91.6	2305.6	*	1	1535	188	53.	4.0	2299.2	*	1	2355	288	0.	.0	2297.0
1	0720	89	207.	90.4	2305.5	*	1	1540	189	51.	3.6	2299.1	*	2	0000	289	0.	.0	2297.0
1	0725	90	205.	89.2	2305.4	*	1	1545	190	50.	3.2	2299.1	*	2	0005	290	0.	.0	2297.0

1	0730	91	204.	87.9	2305.3	*	1	1550	191	49.	2.9	2299.1	*	2	0010	291	0.	.0	
2297.0																			
1	0735	92	203.	86.7	2305.2	*	1	1555	192	48.	2.6	2299.0	*	2	0015	292	0.	.0	
2297.0																			
1	0740	93	201.	85.4	2305.2	*	1	1600	193	46.	2.2	2298.9	*	2	0020	293	0.	.0	
2297.0																			
1	0745	94	200.	84.1	2305.1	*	1	1605	194	43.	1.9	2298.8	*	2	0025	294	0.	.0	
2297.0																			
1	0750	95	199.	82.9	2305.0	*	1	1610	195	40.	1.7	2298.7	*	2	0030	295	0.	.0	
2297.0																			
1	0755	96	197.	81.6	2304.9	*	1	1615	196	37.	1.4	2298.5	*	2	0035	296	0.	.0	
2297.0																			
1	0800	97	196.	80.3	2304.8	*	1	1620	197	35.	1.1	2298.4	*	2	0040	297	0.	.0	
2297.0																			
1	0805	98	194.	79.1	2304.7	*	1	1625	198	32.	.9	2298.3	*	2	0045	298	0.	.0	
2297.0																			
1	0810	99	192.	77.8	2304.7	*	1	1630	199	30.	.7	2298.2	*	2	0050	299	0.	.0	
2297.0																			
1	0815	100	191.	76.5	2304.6	*	1	1635	200	28.	.5	2298.2	*	2	0055	300	0.	.0	
2297.0						*							*						

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	PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
				6-HR	24-HR	72-HR	24.92-HR
+	(CFS)	(HR)	(CFS)				
+	220.	6.08		193.	78.	75.	75.
			(INCHES)	1.491	2.417	2.417	2.417
			(AC-FT)	96.	155.	155.	155.

	PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+	(AC-FT)	(HR)				
+	103.	6.08	80.	26.	25.	25.

	PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+	(FEET)	(HR)				
+	2306.30	6.08	2304.77	2300.09	2299.98	2299.98

CUMULATIVE AREA = 1.21 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .99	RATIO 2 .98	RATIO 3 .95	RATIO 4 .93	RATIO 5 .92	RATIO 6 .91
HYDROGRAPH AT										
+	E140	.07	1	FLOW	35.	34.	33.	31.	31.	30.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E360	.01	1	FLOW	11.	11.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CP1	.08	1	FLOW	38.	37.	35.	34.	33.	33.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08
DIVERSION TO										
+	CP1E	.08	1	FLOW	17.	17.	16.	15.	15.	15.
				TIME	4.00	4.00	4.00	3.50	3.50	3.50
HYDROGRAPH AT										
+	CP1S	.08	1	FLOW	21.	20.	19.	19.	18.	18.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT										
+	E160	.06	1	FLOW	42.	41.	40.	38.	37.	37.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO										
+	E160S	.06	1	FLOW	10.	10.	10.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT										
+	E160E	.06	1	FLOW	32.	31.	30.	28.	27.	27.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	E340	.02	1	FLOW	19.	19.	18.	18.	17.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP2	.16	1	FLOW	62.	60.	57.	53.	51.	50.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92
DIVERSION TO										
+	CP2E	.16	1	FLOW	31.	30.	29.	27.	26.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92
HYDROGRAPH AT										
+	CP2S	.16	1	FLOW	31.	30.	28.	26.	25.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	E180	.21	1	FLOW	93.	91.	86.	82.	80.	79.
				TIME	4.17	4.17	4.17	4.17	4.25	4.25
HYDROGRAPH AT										
+	E160S	.00	1	FLOW	10.	10.	10.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50

HYDROGRAPH AT	E320	.02	1	FLOW	20.	19.	19.	18.	17.	17.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT	CP3	.39	1	FLOW	131.	128.	122.	115.	112.	110.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
DIVERSION TO	CP3E	.39	1	FLOW	62.	61.	58.	54.	53.	53.
+				TIME	4.08	4.08	4.08	4.08	4.08	3.58
HYDROGRAPH AT	CP3S	.39	1	FLOW	69.	67.	64.	61.	59.	57.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	E200	.01	1	FLOW	6.	6.	6.	5.	5.	5.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	E300	.01	1	FLOW	15.	15.	15.	14.	14.	14.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	CP4	.41	1	FLOW	75.	72.	69.	67.	65.	63.
+				TIME	4.08	4.08	4.00	4.00	4.00	4.00
DIVERSION TO	CP4E	.41	1	FLOW	23.	22.	22.	21.	20.	20.
+				TIME	4.08	4.08	4.00	4.00	3.58	3.67
HYDROGRAPH AT	SOUTH	.41	1	FLOW	52.	50.	47.	46.	45.	43.
+				TIME	4.08	4.08	4.00	4.00	4.00	4.00
DIVERSION TO	CP4S	.41	1	FLOW	52.	50.	47.	46.	45.	43.
+				TIME	4.08	4.08	4.00	4.00	4.00	4.00
HYDROGRAPH AT	NONE	.41	1	FLOW	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	E080	.01	1	FLOW	10.	10.	9.	9.	9.	9.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	CP1E	.00	1	FLOW	17.	17.	16.	15.	15.	15.
+				TIME	4.00	4.00	4.00	3.50	3.50	3.50
HYDROGRAPH AT	E380	.02	1	FLOW	21.	20.	19.	19.	18.	18.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT	CP5	.03	1	FLOW	46.	45.	44.	43.	42.	42.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO	CP5E	.03	1	FLOW	25.	24.	24.	23.	22.	22.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.42
HYDROGRAPH AT	CP5S	.03	1	FLOW	21.	21.	20.	20.	20.	20.
+				TIME	3.58	3.67	3.58	3.67	3.67	3.67
HYDROGRAPH AT	E060	.26	1	FLOW	128.	125.	119.	114.	112.	110.
+				TIME	4.17	4.17	4.17	4.17	4.17	4.17
DIVERSION TO	E060E	.26	1	FLOW	63.	61.	58.	56.	55.	54.
+				TIME	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT	E060S	.26	1	FLOW	65.	64.	61.	58.	57.	56.
+				TIME	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO	RE060S	.26	1	FLOW	65.	64.	61.	58.	57.	56.
+				TIME	4.25	4.25	4.25	4.25	4.25	4.25
HYDROGRAPH AT	E100	.47	1	FLOW	172.	167.	159.	152.	149.	146.
+				TIME	4.50	4.50	4.50	4.50	4.50	4.50
2 COMBINED AT	CP6	.73	1	FLOW	232.	226.	215.	204.	200.	196.
+				TIME	4.42	4.42	4.42	4.33	4.33	4.33
DIVERSION TO	CP6E	.73	1	FLOW	139.	136.	131.	125.	123.	121.
+				TIME	4.42	4.42	4.42	4.33	4.33	4.33
HYDROGRAPH AT	CP6S	.73	1	FLOW	93.	90.	84.	79.	77.	75.
+				TIME	4.42	4.42	4.42	4.33	4.33	4.33
ROUTED TO	RCP6S	.73	1	FLOW	93.	90.	84.	79.	77.	75.
+				TIME	4.50	4.50	4.50	4.50	4.50	4.50
HYDROGRAPH AT	E420	.10	1	FLOW	94.	92.	88.	84.	83.	82.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	CP5E	.00	1	FLOW	25.	24.	24.	23.	22.	22.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.42

ROUTED TO	RCP5E	.00	1	FLOW	24.	24.	24.	24.	24.	24.
+				TIME	3.83	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT	CP7	.82	1	FLOW	130.	126.	120.	114.	111.	109.
+				TIME	4.58	4.58	4.58	4.42	4.50	4.50
DIVERSION TO	CP7E	.82	1	FLOW	85.	81.	75.	69.	66.	64.
+				TIME	4.58	4.58	4.58	4.42	4.50	3.50
HYDROGRAPH AT	CP7S	.82	1	FLOW	45.	45.	45.	45.	45.	45.
+				TIME	3.67	3.67	3.67	4.33	4.42	4.50
HYDROGRAPH AT	CP2E	.00	1	FLOW	31.	30.	29.	27.	26.	25.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.92
ROUTED TO	RCP2E	.00	1	FLOW	32.	32.	29.	27.	27.	27.
+				TIME	4.17	4.17	4.17	4.25	4.00	4.00
HYDROGRAPH AT	CP3E	.00	1	FLOW	62.	61.	58.	54.	53.	53.
+				TIME	4.08	4.08	4.08	4.08	4.08	3.58
ROUTED TO	RCP3E	.00	1	FLOW	62.	60.	57.	55.	56.	56.
+				TIME	4.25	4.25	4.33	3.83	3.83	3.83
HYDROGRAPH AT	CP4E	.00	1	FLOW	23.	22.	22.	21.	20.	20.
+				TIME	4.08	4.08	4.00	4.00	3.58	3.67
ROUTED TO	RCP4E	.00	1	FLOW	23.	22.	22.	21.	21.	21.
+				TIME	4.08	4.08	4.17	3.83	3.83	3.83
5 COMBINED AT	DUMMY	.85	1	FLOW	164.	156.	152.	145.	144.	143.
+				TIME	4.17	4.25	4.25	4.33	4.50	4.50
HYDROGRAPH AT	E400	.08	1	FLOW	81.	79.	76.	72.	71.	70.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT	CP8	.94	1	FLOW	226.	222.	213.	202.	198.	195.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO	CP8S	.94	1	FLOW	133.	130.	125.	120.	117.	117.
+				TIME	3.75	3.75	3.75	3.75	3.58	3.58
HYDROGRAPH AT	CP8E	.94	1	FLOW	93.	92.	88.	82.	81.	78.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RCP8E	.94	1	FLOW	93.	91.	87.	82.	80.	77.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT	E440	.05	1	FLOW	38.	37.	35.	34.	33.	33.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO	E440E	.05	1	FLOW	20.	20.	19.	18.	18.	18.
+				TIME	3.75	3.75	3.75	3.50	3.58	3.58
HYDROGRAPH AT	E440S	.05	1	FLOW	18.	17.	16.	16.	15.	15.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	E460	.11	1	FLOW	73.	71.	68.	65.	63.	62.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT	CP9	.17	1	FLOW	90.	87.	83.	79.	77.	75.
+				TIME	3.75	3.83	3.83	3.75	3.75	3.75
DIVERSION TO	CP9E	.17	1	FLOW	49.	46.	42.	38.	36.	34.
+				TIME	3.75	3.83	3.83	3.75	3.75	3.75
HYDROGRAPH AT	CP9S	.17	1	FLOW	41.	41.	41.	41.	41.	41.
+				TIME	3.67	3.67	3.75	3.75	3.75	3.75
HYDROGRAPH AT	CP7E	.00	1	FLOW	85.	81.	75.	69.	66.	64.
+				TIME	4.58	4.58	4.58	4.42	4.50	3.50
ROUTED TO	RCP7E	.00	1	FLOW	87.	83.	75.	70.	70.	70.
+				TIME	4.50	4.50	4.67	4.50	3.75	3.75
HYDROGRAPH AT	E480	.09	1	FLOW	67.	65.	62.	59.	58.	57.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
4 COMBINED AT	CP10	1.19	1	FLOW	257.	253.	242.	230.	226.	222.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO	CP10S	1.19	1	FLOW	135.	133.	127.	119.	117.	116.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.67

HYDROGRAPH AT	CP10E	1.19	1	FLOW	122.	120.	115.	111.	109.	106.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT	CP9E	.00	1	FLOW	49.	46.	42.	38.	36.	34.
+				TIME	3.75	3.83	3.83	3.75	3.75	3.75
HYDROGRAPH AT	E520	.01	1	FLOW	16.	16.	15.	15.	14.	14.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	CP11	1.21	1	FLOW	180.	175.	166.	157.	152.	148.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO	CP11S	1.21	1	FLOW	83.	81.	76.	72.	70.	68.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.67
HYDROGRAPH AT	CP11E	1.21	1	FLOW	97.	95.	90.	85.	82.	80.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO	RCP11E	1.21	1	FLOW	97.	93.	84.	81.	79.	75.
+				TIME	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT	E060E	.00	1	FLOW	63.	61.	58.	56.	55.	54.
+				TIME	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO	RE060E	.00	1	FLOW	63.	61.	58.	57.	57.	57.
+				TIME	4.50	4.50	4.50	4.17	4.17	4.17
HYDROGRAPH AT	CP6E	.00	1	FLOW	139.	136.	131.	125.	123.	121.
+				TIME	4.42	4.42	4.42	4.33	4.33	4.33
ROUTED TO	RCP6E	.00	1	FLOW	141.	138.	134.	128.	128.	128.
+				TIME	4.67	4.67	4.67	4.33	4.42	4.42
HYDROGRAPH AT	E040	.36	1	FLOW	210.	204.	195.	186.	182.	180.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
3 COMBINED AT	CP12	.36	1	FLOW	338.	331.	319.	308.	304.	301.
+				TIME	4.25	4.25	4.25	4.33	4.33	4.33
DIVERSION TO	CP12E	.36	1	FLOW	199.	192.	180.	169.	165.	162.
+				TIME	4.25	4.25	4.25	4.33	4.33	4.33
HYDROGRAPH AT	CP12S	.36	1	FLOW	139.	139.	139.	139.	139.	139.
+				TIME	4.08	4.08	4.17	4.25	4.33	4.33
ROUTED TO	RCP12S	.36	1	FLOW	139.	139.	139.	138.	137.	136.
+				TIME	4.33	4.33	4.33	4.33	4.42	4.42
HYDROGRAPH AT	E540	.05	1	FLOW	58.	57.	54.	52.	51.	51.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CP13	.41	1	FLOW	149.	149.	146.	145.	143.	143.
+				TIME	4.17	4.17	4.25	4.33	4.42	4.42
DIVERSION TO	CP13E	.41	1	FLOW	10.	10.	7.	6.	4.	4.
+				TIME	4.17	4.17	4.25	4.33	4.42	3.17
HYDROGRAPH AT	CP13S	.41	1	FLOW	139.	139.	139.	139.	139.	139.
+				TIME	4.17	4.17	4.25	4.33	4.42	4.42
ROUTED TO	RCP13S	.41	1	FLOW	139.	139.	139.	138.	137.	136.
+				TIME	4.33	4.42	4.42	4.42	4.50	4.50
HYDROGRAPH AT	E440E	.00	1	FLOW	20.	20.	19.	18.	18.	18.
+				TIME	3.75	3.75	3.75	3.50	3.58	3.58
ROUTED TO	RE440E	.00	1	FLOW	21.	21.	21.	21.	21.	21.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	E560	.18	1	FLOW	168.	165.	159.	153.	151.	149.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
4 COMBINED AT	CP14	1.80	1	FLOW	310.	298.	277.	262.	256.	250.
+				TIME	4.08	3.92	3.92	3.92	3.92	3.92
DIVERSION TO	CP14S	1.80	1	FLOW	30.	30.	30.	30.	30.	30.
+				TIME	3.33	3.33	3.33	3.33	3.33	3.42
HYDROGRAPH AT	CP14E	1.80	1	FLOW	280.	268.	247.	232.	226.	220.
+				TIME	4.08	3.92	3.92	3.92	3.92	3.92
ROUTED TO	RCP14E	1.80	1	FLOW	278.	267.	242.	228.	222.	218.
+				TIME	4.00	4.00	4.08	4.08	4.08	4.08

HYDROGRAPH AT	E600	.09	1	FLOW	73.	71.	68.	65.	64.	63.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CP15	1.88	1	FLOW	324.	312.	278.	262.	256.	250.
+				TIME	4.00	4.00	4.08	4.08	4.08	4.08
DIVERSION TO	CP15S	1.88	1	FLOW	54.	49.	32.	24.	21.	19.
+				TIME	4.00	4.00	4.08	4.08	4.08	4.08
HYDROGRAPH AT	CP15E	1.88	1	FLOW	270.	263.	246.	238.	235.	231.
+				TIME	4.00	4.00	4.08	4.08	4.08	4.08
HYDROGRAPH AT	E240	.13	1	FLOW	85.	83.	79.	76.	74.	73.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO	E240E	.13	1	FLOW	45.	43.	42.	40.	39.	38.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT	E240S	.13	1	FLOW	40.	40.	37.	36.	35.	35.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT	E260	.14	1	FLOW	93.	90.	86.	82.	81.	80.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT	CP16	.27	1	FLOW	133.	130.	123.	118.	116.	115.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO	CP16E	.27	1	FLOW	66.	65.	61.	59.	58.	57.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.67
HYDROGRAPH AT	CP16S	.27	1	FLOW	67.	65.	62.	59.	58.	58.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
3 COMBINED AT	DUMMY	2.56	1	FLOW	334.	326.	302.	286.	278.	272.
+				TIME	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT	CP14S	.00	1	FLOW	30.	30.	30.	30.	30.	30.
+				TIME	3.33	3.33	3.33	3.33	3.33	3.42
ROUTED TO	RCP14S	.00	1	FLOW	31.	31.	31.	32.	32.	32.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	E580	.10	1	FLOW	100.	98.	94.	91.	89.	88.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CP17	.10	1	FLOW	130.	128.	124.	121.	119.	118.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO	CP17E	.10	1	FLOW	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	CP17S	.10	1	FLOW	130.	128.	124.	121.	119.	118.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	E220	.04	1	FLOW	37.	37.	35.	33.	33.	32.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RE220	.04	1	FLOW	38.	37.	36.	34.	33.	33.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	E240E	.00	1	FLOW	45.	43.	42.	40.	39.	38.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO	RE240E	.00	1	FLOW	45.	44.	42.	42.	42.	42.
+				TIME	4.33	4.33	4.33	4.08	4.08	4.08
HYDROGRAPH AT	CP16E	.00	1	FLOW	66.	65.	61.	59.	58.	57.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.67
ROUTED TO	RCP16E	.00	1	FLOW	67.	65.	61.	60.	60.	60.
+				TIME	4.25	4.25	4.00	4.00	4.00	4.08
HYDROGRAPH AT	CP4S	.00	1	FLOW	52.	50.	47.	46.	45.	43.
+				TIME	4.08	4.08	4.00	4.00	4.00	4.00
ROUTED TO	RCP4S	.00	1	FLOW	52.	50.	47.	45.	44.	42.
+				TIME	4.33	4.33	4.33	4.33	4.42	4.42
HYDROGRAPH AT	CP8S	.00	1	FLOW	133.	130.	125.	120.	117.	117.
+				TIME	3.75	3.75	3.75	3.75	3.58	3.58
ROUTED TO	RCP8S	.00	1	FLOW	134.	130.	126.	127.	128.	129.
+				TIME	4.00	4.00	3.83	3.83	3.83	3.83

+ 5 COMBINED AT	DUMMY	.04	1	FLOW	313.	308.	296.	288.	283.	280.
				TIME	4.25	4.25	4.25	4.25	4.33	4.33
+ HYDROGRAPH AT	E280	.28	1	FLOW	199.	194.	186.	178.	174.	172.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
+ 2 COMBINED AT	CP18	.32	1	FLOW	464.	441.	417.	398.	391.	389.
				TIME	4.08	4.08	4.00	4.17	4.00	4.08
+ ROUTED TO	RCP18	.32	1	FLOW	457.	440.	414.	401.	393.	386.
				TIME	4.33	4.33	4.33	4.33	4.33	4.33
+ HYDROGRAPH AT	CP10S	.00	1	FLOW	135.	133.	127.	119.	117.	116.
				TIME	3.83	3.83	3.83	3.83	3.83	3.67
+ ROUTED TO	RCP10S	.00	1	FLOW	136.	134.	132.	128.	126.	125.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
+ HYDROGRAPH AT	CP11S	.00	1	FLOW	83.	81.	76.	72.	70.	68.
				TIME	3.83	3.83	3.83	3.83	3.83	3.67
+ ROUTED TO	RCP11S	.00	1	FLOW	82.	79.	75.	72.	71.	71.
				TIME	4.17	4.17	4.17	4.08	4.08	4.08
+ HYDROGRAPH AT	E500	.39	1	FLOW	239.	233.	223.	213.	209.	206.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
+ 4 COMBINED AT	CP18A	.71	1	FLOW	849.	824.	788.	763.	753.	746.
				TIME	4.25	4.25	4.08	4.08	4.08	4.08
+ 2 COMBINED AT	CP19	.81	1	FLOW	922.	897.	867.	840.	829.	822.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ HYDROGRAPH AT	CP17E	.00	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
+ HYDROGRAPH AT	E660	.01	1	FLOW	16.	15.	15.	14.	14.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 3 COMBINED AT	CP20	.82	1	FLOW	926.	901.	870.	843.	833.	826.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ HYDROGRAPH AT	E640	.07	1	FLOW	75.	73.	70.	67.	66.	66.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ 2 COMBINED AT	CP21	.89	1	FLOW	959.	933.	901.	873.	862.	855.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ HYDROGRAPH AT	E620	.05	1	FLOW	53.	51.	50.	48.	47.	46.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ 2 COMBINED AT	CP22	.94	1	FLOW	980.	953.	921.	892.	881.	874.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ ROUTED TO	RCP22	.94	1	FLOW	978.	949.	915.	880.	868.	858.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17
+ HYDROGRAPH AT	CP15S	.00	1	FLOW	54.	49.	32.	24.	21.	19.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
+ ROUTED TO	RCP15S	.00	1	FLOW	57.	49.	30.	21.	21.	21.
				TIME	4.25	4.25	4.33	4.42	3.75	3.75
+ HYDROGRAPH AT	E680	.11	1	FLOW	113.	111.	107.	102.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
+ 2 COMBINED AT	CP23	.11	1	FLOW	133.	131.	127.	123.	122.	120.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
+ HYDROGRAPH AT	E760	.01	1	FLOW	10.	10.	9.	9.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 3 COMBINED AT	CPGTA	1.06	1	FLOW	1066.	1034.	993.	956.	943.	933.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ HYDROGRAPH AT	2-3	.03	1	FLOW	37.	36.	34.	33.	32.	32.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	CPGTA2	1.09	1	FLOW	1075.	1043.	1003.	965.	951.	941.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ HYDROGRAPH AT	2-1	.04	1	FLOW	56.	55.	54.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

HYDROGRAPH AT	2-2	.07	1	FLOW	96.	94.	91.	88.	87.	86.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	2-14A	.00	1	FLOW	3.	3.	3.	3.	3.	3.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	2A	.11	1	FLOW	155.	152.	147.	142.	140.	138.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2B	1.21	1	FLOW	1122.	1089.	1047.	1008.	994.	983.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO	DB1	1.21	1	FLOW	239.	235.	230.	224.	222.	220.
+				TIME	6.17	6.17	6.08	6.08	6.08	6.08
			**	PEAK STAGES IN FEET **						
			1	STAGE	2307.55	2307.32	2306.93	2306.56	2306.41	2306.30
				TIME	6.17	6.17	6.08	6.08	6.08	6.08
HYDROGRAPH AT	2-6	.02	1	FLOW	29.	29.	28.	27.	27.	27.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2C	1.22	1	FLOW	239.	236.	230.	224.	222.	220.
+				TIME	6.08	6.08	6.08	6.08	6.08	6.08
HYDROGRAPH AT	2-7	.02	1	FLOW	19.	18.	18.	17.	17.	16.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2D	1.24	1	FLOW	239.	236.	230.	224.	222.	220.
+				TIME	6.08	6.08	6.08	6.08	6.08	6.08
HYDROGRAPH AT	2-4	.03	1	FLOW	56.	55.	53.	52.	51.	51.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	2-14B	.00	1	FLOW	3.	3.	3.	3.	3.	3.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2E	.04	1	FLOW	59.	58.	56.	54.	54.	53.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	2-5	.09	1	FLOW	115.	113.	109.	106.	104.	103.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO	2-5E	.09	1	FLOW	55.	54.	52.	51.	50.	49.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	2-5W	.09	1	FLOW	60.	59.	57.	55.	54.	54.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	2-9	.02	1	FLOW	24.	23.	23.	22.	22.	21.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	2F	.14	1	FLOW	142.	139.	135.	130.	129.	127.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	2-5E	.00	1	FLOW	55.	54.	52.	51.	50.	49.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT	2-10	.02	1	FLOW	25.	24.	24.	23.	23.	22.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	2G	.16	1	FLOW	222.	218.	210.	203.	200.	198.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	2-8	.03	1	FLOW	48.	47.	45.	44.	43.	43.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2H	.19	1	FLOW	269.	264.	256.	247.	244.	241.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2I	1.43	1	FLOW	390.	382.	370.	358.	353.	350.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	2-11	.03	1	FLOW	43.	42.	41.	40.	39.	39.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT	2-12	.03	1	FLOW	39.	39.	37.	36.	35.	35.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	2J	.05	1	FLOW	82.	81.	78.	75.	74.	74.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	DUMMY	1.48	1	FLOW	472.	463.	448.	433.	428.	424.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58

HYDROGRAPH AT	2-13	.03	1	FLOW	39.	38.	37.	36.	35.	35.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	PT2	1.51	1	FLOW	511.	501.	485.	469.	463.	458.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

						INTERPOLATED TO COMPUTATION INTERVAL			
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
	RE060S MANE	1.75	65.04	252.00	.34	5.00	64.93	255.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4711E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .1155E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RE060S MANE	1.75	63.79	253.75	.32	5.00	63.73	255.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4446E+01 EXCESS= .0000E+00 OUTFLOW= .4450E+01 BASIN STORAGE= .1002E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RE060S MANE	1.50	60.97	255.00	.29	5.00	60.97	255.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+01 EXCESS= .0000E+00 OUTFLOW= .4025E+01 BASIN STORAGE= .1131E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RE060S MANE	1.50	57.71	255.00	.26	5.00	57.71	255.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3585E+01 EXCESS= .0000E+00 OUTFLOW= .3587E+01 BASIN STORAGE= .8472E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RE060S MANE	1.50	56.59	252.00	.25	5.00	56.58	255.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3411E+01 EXCESS= .0000E+00 OUTFLOW= .3413E+01 BASIN STORAGE= .1237E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RE060S MANE	1.50	55.68	255.00	.24	5.00	55.68	255.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3285E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .1298E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.75	93.03	271.25	.17	5.00	93.00	270.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6722E+01 EXCESS= .0000E+00 OUTFLOW= .6729E+01 BASIN STORAGE= .2051E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.75	89.76	269.50	.16	5.00	89.76	270.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6194E+01 EXCESS= .0000E+00 OUTFLOW= .6202E+01 BASIN STORAGE= .1583E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.50	84.01	270.00	.14	5.00	84.01	270.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5349E+01 EXCESS= .0000E+00 OUTFLOW= .5357E+01 BASIN STORAGE= .1646E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.25	78.89	268.75	.12	5.00	78.87	270.00	.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4536E+01 EXCESS= .0000E+00 OUTFLOW= .4539E+01 BASIN STORAGE= .1666E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.25	76.60	268.75	.11	5.00	76.56	270.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4203E+01 EXCESS= .0000E+00 OUTFLOW= .4207E+01 BASIN STORAGE= .1480E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.25	74.66	268.75	.10	5.00	74.53	270.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3952E+01 EXCESS= .0000E+00 OUTFLOW= .3955E+01 BASIN STORAGE= .1894E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.19	230.00	-1.00	5.00	24.19	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.00	220.00	-1.00	5.00	24.00	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.04	220.00	-1.00	5.00	24.04	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.01	220.00	-1.00	5.00	24.01	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.07	220.00	-1.00	5.00	24.07	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.11	220.00	-1.00	5.00	24.11	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	32.48	250.00	-1.00	5.00	32.48	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	31.62	250.00	-1.00	5.00	31.62	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	29.45	250.00	-1.00	5.00	29.45	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	27.31	255.00	-1.00	5.00	27.31	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	27.01	240.00	-1.00	5.00	27.01	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	27.09	240.00	-1.00	5.00	27.09	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP3E	MANE	5.00	62.08	255.00	-1.00	5.00	62.08	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP3E	MANE	5.00	60.36	255.00	-1.00	5.00	60.36	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP3E MANE	5.00	57.37	260.00	-1.00	5.00	57.37	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP3E MANE	5.00	55.47	230.00	-1.00	5.00	55.47	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP3E MANE	5.00	55.58	230.00	-1.00	5.00	55.58	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP3E MANE	5.00	55.66	230.00	-1.00	5.00	55.66	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4E MANE	5.00	23.01	245.00	-1.00	5.00	23.01	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4E MANE	5.00	22.41	245.00	-1.00	5.00	22.41	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4E MANE	5.00	22.20	250.00	-1.00	5.00	22.20	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4E MANE	5.00	20.84	230.00	-1.00	5.00	20.84	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4E MANE	5.00	20.88	230.00	-1.00	5.00	20.88	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4E MANE	5.00	20.73	230.00	-1.00	5.00	20.73	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E MANE	.75	92.98	234.00	.14	5.00	92.79	235.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6768E+01 EXCESS= .0000E+00 OUTFLOW= .6777E+01 BASIN STORAGE= .1844E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	91.60	234.00	.13	5.00	91.09	235.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6313E+01 EXCESS= .0000E+00 OUTFLOW= .6322E+01 BASIN STORAGE= .1614E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	87.59	234.00	.11	5.00	87.06	235.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5412E+01 EXCESS= .0000E+00 OUTFLOW= .5419E+01 BASIN STORAGE= .1807E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	81.98	234.75	.09	5.00	81.87	235.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4534E+01 EXCESS= .0000E+00 OUTFLOW= .4539E+01 BASIN STORAGE= .1663E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	80.36	234.00	.08	5.00	80.11	235.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4185E+01 EXCESS= .0000E+00 OUTFLOW= .4190E+01 BASIN STORAGE= .2048E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	77.50	234.75	.08	5.00	77.33	235.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3902E+01 EXCESS= .0000E+00 OUTFLOW= .3907E+01 BASIN STORAGE= .1911E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	86.53	270.00	-1.00	5.00	86.53	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	82.62	270.00	-1.00	5.00	82.62	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	75.47	280.00	-1.00	5.00	75.47	280.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	69.74	270.00	-1.00	5.00	69.74	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	69.67	225.00	-1.00	5.00	69.67	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	69.90	225.00	-1.00	5.00	69.90	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	96.78	235.50	.05	5.00	96.74	235.00	.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3078E+01 EXCESS= .0000E+00 OUTFLOW= .3085E+01 BASIN STORAGE= .1111E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	93.70	236.25	.04	5.00	93.09	235.00	.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2819E+01 EXCESS= .0000E+00 OUTFLOW= .2823E+01 BASIN STORAGE= .1122E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	88.79	237.00	.04	5.00	84.26	240.00	.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2279E+01 EXCESS= .0000E+00 OUTFLOW= .2282E+01 BASIN STORAGE= .1020E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	84.45	237.00	.03	5.00	81.01	240.00	.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1960E+01 EXCESS= .0000E+00 OUTFLOW= .1962E+01 BASIN STORAGE= .1339E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	82.11	237.00	.03	5.00	78.59	240.00	.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1823E+01 EXCESS= .0000E+00 OUTFLOW= .1824E+01 BASIN STORAGE= .1183E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	79.02	237.00	.03	5.00	74.50	240.00	.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1701E+01 EXCESS= .0000E+00 OUTFLOW= .1701E+01 BASIN STORAGE= .1064E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	63.49	270.00	-1.00	5.00	63.49	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	61.34	270.00	-1.00	5.00	61.34	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	58.07	270.00	-1.00	5.00	58.07	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	57.30	250.00	-1.00	5.00	57.30	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	57.01	250.00	-1.00	5.00	57.01	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	56.79	250.00	-1.00	5.00	56.79	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	140.60	280.00	-1.00	5.00	140.60	280.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	138.20	280.00	-1.00	5.00	138.20	280.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	133.58	280.00	-1.00	5.00	133.58	280.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	127.65	260.00	-1.00	5.00	127.65	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	127.50	265.00	-1.00	5.00	127.50	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	128.05	265.00	-1.00	5.00	128.05	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	1.25	139.18	251.25	.86	5.00	139.00	265.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .1277E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	1.25	139.26	251.25	.82	5.00	139.00	265.00	.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1589E+02 BASIN STORAGE= .1183E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	1.50	139.17	256.50	.76	5.00	138.97	260.00	.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1463E+02 EXCESS= .0000E+00 OUTFLOW= .1463E+02 BASIN STORAGE= .1367E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	1.50	139.08	261.00	.69	5.00	138.34	260.00	.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+02 EXCESS= .0000E+00 OUTFLOW= .1337E+02 BASIN STORAGE= .9497E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	1.75	138.27	262.50	.67	5.00	136.76	265.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1287E+02 EXCESS= .0000E+00 OUTFLOW= .1287E+02 BASIN STORAGE= .1223E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	1.75	136.93	264.25	.65	5.00	136.24	265.00	.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1252E+02 EXCESS= .0000E+00 OUTFLOW= .1252E+02 BASIN STORAGE= .1090E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	2.50	139.44	257.50	.86	5.00	139.30	260.00	.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1891E+02 EXCESS= .0000E+00 OUTFLOW= .1891E+02 BASIN STORAGE= .1162E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	2.50	139.98	257.50	.83	5.00	139.30	265.00	.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1825E+02 EXCESS= .0000E+00 OUTFLOW= .1825E+02 BASIN STORAGE= .1064E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	2.50	139.27	265.00	.77	5.00	139.27	265.00	.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1692E+02 EXCESS= .0000E+00 OUTFLOW= .1693E+02 BASIN STORAGE= .1389E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	2.75	138.98	266.75	.71	5.00	138.37	265.00	.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1558E+02 EXCESS= .0000E+00 OUTFLOW= .1558E+02 BASIN STORAGE= .1479E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	2.75	138.81	266.75	.69	5.00	137.10	270.00	.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1506E+02 EXCESS= .0000E+00 OUTFLOW= .1506E+02 BASIN STORAGE= .1307E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	2.75	136.76	269.50	.67	5.00	136.16	270.00	.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1467E+02 EXCESS= .0000E+00 OUTFLOW= .1467E+02 BASIN STORAGE= .1140E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RE440E	MANE	5.00	20.89	240.00	-1.00	5.00	20.89	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RE440E	MANE	5.00	20.90	240.00	-1.00	5.00	20.90	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RE440E	MANE	5.00	20.74	240.00	-1.00	5.00	20.74	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RE440E	MANE	5.00	21.04	240.00	-1.00	5.00	21.04	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RE440E	MANE	5.00	20.96	240.00	-1.00	5.00	20.96	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RE440E	MANE	5.00	20.86	240.00	-1.00	5.00	20.86	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.25	280.78	240.75	.33	5.00	278.01	240.00	.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3129E+02 EXCESS= .0000E+00 OUTFLOW= .3130E+02 BASIN STORAGE= .2248E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	267.06	240.00	.31	5.00	267.06	240.00	.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3011E+02 EXCESS= .0000E+00 OUTFLOW= .3012E+02 BASIN STORAGE= .2310E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	243.41	244.00	.29	5.00	242.44	245.00	.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2779E+02 EXCESS= .0000E+00 OUTFLOW= .2780E+02 BASIN STORAGE= .2823E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	228.66	244.00	.27	5.00	227.99	245.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2567E+02 EXCESS= .0000E+00 OUTFLOW= .2569E+02 BASIN STORAGE= .2845E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	222.75	244.00	.26	5.00	222.36	245.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2485E+02 EXCESS= .0000E+00 OUTFLOW= .2486E+02 BASIN STORAGE= .2671E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	1.75	217.52	245.00	.25	5.00	217.52	245.00	.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2422E+02 EXCESS= .0000E+00 OUTFLOW= .2423E+02 BASIN STORAGE= .2572E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.04	210.00	-1.00	5.00	31.04	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.19	210.00	-1.00	5.00	31.19	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.43	210.00	-1.00	5.00	31.43	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.73	210.00	-1.00	5.00	31.73	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.82	210.00	-1.00	5.00	31.82	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.86	210.00	-1.00	5.00	31.86	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	38.46	245.00	1.28	5.00	38.46	245.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3024E+01 EXCESS= .0000E+00 OUTFLOW= .3032E+01 BASIN STORAGE= .4469E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	37.49	245.00	1.24	5.00	37.49	245.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2946E+01 EXCESS= .0000E+00 OUTFLOW= .2954E+01 BASIN STORAGE= .4423E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	35.83	245.00	1.19	5.00	35.83	245.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2818E+01 EXCESS= .0000E+00 OUTFLOW= .2826E+01 BASIN STORAGE= .4266E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	34.15	245.00	1.14	5.00	34.15	245.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2690E+01 EXCESS= .0000E+00 OUTFLOW= .2698E+01 BASIN STORAGE= .4159E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	33.46	245.00	1.12	5.00	33.46	245.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2639E+01 EXCESS= .0000E+00 OUTFLOW= .2648E+01 BASIN STORAGE= .4128E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	32.97	245.00	1.10	5.00	32.97	245.00	1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2604E+01 EXCESS= .0000E+00 OUTFLOW= .2612E+01 BASIN STORAGE= .4106E-02 PERCENT ERROR= -.5

FOR PLAN = 1	RATIO=	.00							
	RE240E	MANE	5.00	45.30	260.00	-1.00	5.00	45.30	260.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RE240E	MANE	5.00	43.80	260.00	-1.00	5.00	43.80	260.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RE240E	MANE	5.00	42.08	260.00	-1.00	5.00	42.08	260.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RE240E	MANE	5.00	41.67	245.00	-1.00	5.00	41.67	245.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RE240E	MANE	5.00	41.59	245.00	-1.00	5.00	41.59	245.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RE240E	MANE	5.00	41.52	245.00	-1.00	5.00	41.52	245.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RCP16E	MANE	5.00	67.04	255.00	-1.00	5.00	67.04	255.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RCP16E	MANE	5.00	65.26	255.00	-1.00	5.00	65.26	255.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RCP16E	MANE	5.00	60.95	240.00	-1.00	5.00	60.95	240.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RCP16E	MANE	5.00	59.90	240.00	-1.00	5.00	59.90	240.00	-1.00
FOR PLAN = 1	RATIO=	.00							
	RCP16E	MANE	5.00	59.72	240.00	-1.00	5.00	59.72	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	59.64	245.00	-1.00	5.00	59.64	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.75	51.83	255.50	-1.00	5.00	51.54	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.75	52.65	246.75	-1.00	5.00	50.05	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.50	47.45	261.00	-1.00	5.00	47.26	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.50	45.64	262.50	-1.00	5.00	45.35	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.50	44.33	264.00	-1.00	5.00	43.91	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.25	42.21	262.50	-1.00	5.00	41.81	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	133.83	240.00	-1.00	5.00	133.83	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	130.15	240.00	-1.00	5.00	130.15	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	126.15	230.00	-1.00	5.00	126.15	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	127.45	230.00	-1.00	5.00	127.45	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	127.85	230.00	-1.00	5.00	127.85	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	128.51	230.00	-1.00	5.00	128.51	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	456.52	260.00	3.78	5.00	456.52	260.00	3.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6497E+02 EXCESS= .0000E+00 OUTFLOW= .6499E+02 BASIN STORAGE= .3437E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	439.85	260.00	3.68	5.00	439.85	260.00	3.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6339E+02 EXCESS= .0000E+00 OUTFLOW= .6340E+02 BASIN STORAGE= .3397E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	414.22	260.00	3.54	5.00	414.22	260.00	3.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6086E+02 EXCESS= .0000E+00 OUTFLOW= .6088E+02 BASIN STORAGE= .3292E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	400.90	260.00	3.40	5.00	400.90	260.00	3.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5848E+02 EXCESS= .0000E+00 OUTFLOW= .5850E+02 BASIN STORAGE= .4234E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	393.21	260.00	3.34	5.00	393.21	260.00	3.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5743E+02 EXCESS= .0000E+00 OUTFLOW= .5744E+02 BASIN STORAGE= .4197E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	386.21	260.00	3.29	5.00	386.21	260.00	3.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5665E+02 EXCESS= .0000E+00 OUTFLOW= .5667E+02 BASIN STORAGE= .4134E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	135.63	240.00	-1.00	5.00	135.63	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	133.58	240.00	-1.00	5.00	133.58	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	132.14	240.00	-1.00	5.00	132.14	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	127.99	240.00	-1.00	5.00	127.99	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	126.33	240.00	-1.00	5.00	126.33	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	125.17	240.00	-1.00	5.00	125.17	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	82.01	250.00	-1.00	5.00	82.01	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	78.64	250.00	-1.00	5.00	78.64	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	74.52	250.00	-1.00	5.00	74.52	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	71.75	245.00	-1.00	5.00	71.75	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	71.46	245.00	-1.00	5.00	71.46	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	71.14	245.00	-1.00	5.00	71.14	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP22	MANE	2.99	978.25	244.90	3.00	5.00	978.25	245.00	3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1503E+03 EXCESS= .0000E+00 OUTFLOW= .1503E+03 BASIN STORAGE= .8292E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.01	954.96	246.62	2.92	5.00	949.42	245.00	2.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1464E+03 EXCESS= .0000E+00 OUTFLOW= .1464E+03 BASIN STORAGE= .9349E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.03	919.72	245.70	2.79	5.00	914.95	245.00	2.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1400E+03 EXCESS= .0000E+00 OUTFLOW= .1399E+03 BASIN STORAGE= .9374E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.06	888.77	247.66	2.67	5.00	880.30	245.00	2.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1338E+03 EXCESS= .0000E+00 OUTFLOW= .1338E+03 BASIN STORAGE= .8739E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.07	873.58	248.45	2.62	5.00	867.62	245.00	2.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1312E+03 EXCESS= .0000E+00 OUTFLOW= .1312E+03 BASIN STORAGE= .9542E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.07	866.57	245.90	2.58	5.00	858.17	250.00	2.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+03 EXCESS= .0000E+00 OUTFLOW= .1295E+03 BASIN STORAGE= .8315E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	56.61	255.00	-1.00	5.00	56.61	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	49.12	255.00	-1.00	5.00	49.12	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	30.49	260.00	-1.00	5.00	30.49	260.00	-1.00

FOR PLAN = 1 RATIO= .00								
RCP15S MANE	5.00	21.31	265.00	-1.00	5.00	21.31	265.00	-1.00
FOR PLAN = 1 RATIO= .00								
RCP15S MANE	5.00	20.72	225.00	-1.00	5.00	20.72	225.00	-1.00
FOR PLAN = 1 RATIO= .00								
RCP15S MANE	5.00	20.78	225.00	-1.00	5.00	20.78	225.00	-1.00

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

HEC-1 Model: 10-Year Ultimate Condition

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1*****************************************
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 *                                       *
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *                                       *
 *                JUN   1998             *
 *                                       *
 *             VERSION 4.1               *
 *                                       *
 *                                       *
 *                                       *
 *  RUN DATE   14MAY14  TIME  08:45:21   *
 *                                       *
 *                                       *
 *****************************************
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*                                       *
*   U.S. ARMY CORPS OF ENGINEERS        *
*   HYDROLOGIC ENGINEERING CENTER       *
*        609 SECOND STREET              *
*      DAVIS, CALIFORNIA 95616          *
*          (916) 756-1104               *
*                                       *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     ULTIMATE CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 10-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ ULT10.H1
   10         ID     DATE ---------------- MAY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        10-YR EVENT               0.570
   16         ID
   17         IT       5       0       0     300
   18         IO       5       0       0
   19         IN       5       0       0
   20         JR    PREC   0.570
              *
   21         KK    U190
   22         BA   .3684
   23         PB    2.77
   24         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   25         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   26         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   27         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   28         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   29         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   30         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   31         PC   0.998   0.999   1.000
   32         LS       0    80.7
   33         UD   0.522
              *
   34         KK    U170
   35         BA   .2521
   36         LS       0    83.0
   37         UD   0.521
              *
   38         KK     CP1
   39         KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
   40         HC       2
              *
   41         KK    CP1E
   42         KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
   43         KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   44         DT    CP1S
   45         DI     109
   46         DQ      49
              *
```

1 HEC-1 INPUT PAGE 2

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

   47         KK   RCP1E
   48         KM   ROUTE TO CP2
   49         RD    2480   .0050   0.016       0    TRAP       0      50
              *
```

```
 50          KK    U150
 51          BA   .1336
 52          LS      0    83.0
 53          UD   0.322
             *

 54          KK   U150S
 55          KM   U150S IS THE FLOW DRAINING SOUTH IN JONES
 56          KM   U150E IS THE FLOW DRAINING EAST IN SHELEHEDA
 57          KM   EXISTING SD IN JONES IS FOR NUISANCE FLOW
 58          DT   U150E
 59          DI     35
 60          DQ     20
             *

 61          KK   RU150S
 62          KM   ROUTE TO CP2
 63          RD    1345   .0050   0.016       0    TRAP       0      50
             *

 64          KK   U155
 65          BA   .1294
 66          LS      0    83.4
 67          UD   0.314
             *

 68          KK     CP2
 69          KM   COMBINE CP1 U150S AND U155 AT IRON MOUNTAIN AND JONES
 70          HC       3
             *

 71          KK    CP2S
 72          KM   CP2S IS THE FLOW DRAINING SOUTH IN JONES
 73          KM   CP2E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
 74          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
 75          DT    CP2E
 76          DI      92
 77          DQ      69
             *

 78          KK   RCP2S
 79          KM   ROUTE TO CP10
 80          RD    2695   .0050   0.016       0    TRAP       0      50
             *
1                                        HEC-1 INPUT                                                    PAGE  3

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

 81          KK    CP1S
 82          KM   RETRIEVE CP1S
 83          DR    CP1S
             *

 84          KK    U210
 85          BA   .0727
 86          LS      0    83.1
 87          UD   0.289
             *

 88          KK     CP3
 89          KM   COMBINE CP1S AND U210 AT MAGGIE AND TORREY PINES
 90          HC       2
             *

 91          KK    CP3S
 92          KM   CP3S IS THE FLOW DRAINING SOUTH IN TORREY PINES
 93          KM   CP3E IS THE FLOW DRAINING EAST IN MAGGIE
 94          DT    CP3E
 95          DI      64
 96          DQ      29
             *

 97          KK    U250
 98          BA   .0698
 99          LS      0    83.1
100          UD   0.289
             *

101          KK     CP4
102          KM   COMBINE CP3S AND U250 AT BRENT AND TORREY PINES
103          HC       2
             *

104          KK    CP4S
105          KM   CP4S IS THE FLOW DRAINING SOUTH IN TORREY PINES
106          KM   CP4E IS THE FLOW DRAINING EAST IN BRENT
107          DT    CP4E
108          DI      52
109          DQ      25
             *

110          KK   RCP4S
111          KM   ROUTE TO CP5
112          RD    1380   .0050   0.016       0    TRAP       0      50
             *

113          KK    U230
114          BA   .1390
115          LS      0    83.4
116          UD   0.328
             *
1                                        HEC-1 INPUT                                                    PAGE  4

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

117          KK    U330
118          BA   .0142
119          LS      0    85.0
120          UD   0.188
```

```
                *
121             KK     CP5
122             KM   COMBINE CP4S U230 AND U330 AT HORSE AND TORREY PINES
123             HC       3
                *
124             KK    CP3E
125             KM   RETRIEVE CP3E
126             DR    CP3E
                *
127             KK    U370
128             BA   .0159
129             LS       0    86.2
130             UD   0.185
                *
131             KK     CP6
132             KM   COMBINE CP3E AND U370 AT MAGGIE AND MUSTANG
133             HC       2
                *
134             KK    CP6S
135             KM   CP6S IS THE FLOW DRAINING SOUTH IN MUSTANG
136             KM   CP6E IS THE FLOW DRAINING EAST IN MAGGIE
137             DT    CP6E
138             DI      32
139             DQ      14
                *
140             KK    CP4E
141             KM   RETRIEVE CP4E
142             DR    CP4E
                *
143             KK    U350
144             BA   .0163
145             LS       0    86.3
146             UD   0.186
                *
147             KK     CP7
148             KM   COMBINE CP6S CP4E AND U350 AT BRENT AND MUSTANG
149             HC       3
                *
1                                        HEC-1 INPUT                                        PAGE  5

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

150             KK    CP7S
151             KM   CP7S IS THE FLOW DRAINING SOUTH IN MUSTANG
152             KM   CP7E IS THE FLOW DRAINING EAST IN BRENT
153             DT    CP7E
154             DI      48
155             DQ      24
                *
156             KK    U305
157             BA   .0093
158             LS       0    86.7
159             UD   0.171
                *
160             KK     CP8
161             KM   COMBINE CP7S AND U305 AT GUY AND MUSTANG
162             HC       2
                *
163             KK    CP8S
164             KM   CP8S IS THE FLOW DRAINING SOUTH IN MUSTANG
165             KM   CP8E IS THE FLOW DRAINING EAST IN GUY
166             DT    CP8E
167             DI      27
168             DQ      13
                *
169             KK    U310
170             BA   .0102
171             LS       0    87.1
172             UD   0.171
                *
173             KK     CP9
174             KM   COMBINE CP5 CP8S AND U310 AT HORSE AND MUSTANG
175             HC       3
                *
176             KK    CP9E
177             KM   CP9S IS THE FLOW DRAINING SOUTH IN MUSTANG
178             KM   CP9E IS THE FLOW DRAINING EAST IN HORSE
179             KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
180             DT    CP9S
181             DI      82
182             DQ      56
                *
183             KK   RCP9E
184             KM   ROUTE TO CP10
185             RD    1950   .0050   0.016       0    TRAP       0      50
                *
1                                        HEC-1 INPUT                                        PAGE  6

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

186             KK    CP6E
187             KM   RETRIEVE CP6E
188             DR    CP6E
                *
```

```
189          KK   RCP6E
190          KM   ROUTE TO CP10
191          RD    4010   .0050   0.016       0    TRAP       0      50
             *

192          KK    CP7E
193          KM   RETRIEVE CP7E
194          DR    CP7E
             *

195          KK   RCP7E
196          KM   ROUTE TO CP10
197          RD    3370   .0050   0.016       0    TRAP       0      50
             *

198          KK    CP8E
199          KM   RETRIEVE CP8E
200          DR    CP8E
             *

201          KK   RCP8E
202          KM   ROUTE TO CP10
203          RD    2680    0050   0.016       0    TRAP       0      50
             *

204          KK   DUMMY
205          KM   COMBINE CP2S CP9E CP6E CP7E AND CP8E
206          HC       5
             *

207          KK    U410
208          BA   .2013
209          LS       0    85.7
210          UD   0.354
             *

211          KK    CP10
212          KM   COMBINE DUMMY AND U410 AT HORSE AND JONES
213          HC       2
             *

214          KK   CP10E
215          KM   CP10S IS THE FLOW DRAINING SOUTH IN JONES
216          KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
217          KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
218          DT   CP10S
219          DI     134
220          DQ      83
             *
```



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

221          KK  RCP10E
222          KM   ROUTE TO CP11
223          RD    2530   .0050   0.016       0    TRAP       0      50
             *

224          KK    U440
225          BA   .0523
226          LS       0    80.9
227          UD   0.290
             *

228          KK   U440S
229          KM   U440S IS THE FLOW DRAINING SOUTH IN BRADLEY
230          KM   U440E IS THE FLOW DRAINING EAST IN BRENT
231          DT   U440E
232          DI      12
233          DQ       7
             *

234          KK  RU440S
235          KM   ROUTE TO CP11
236          RD    1345   .0050   0.016       0    TRAP       0      50
             *

237          KK    U470
238          BA   .2012
239          LS       0    80.7
240          UD   0.356
             *

241          KK    CP11
242          KM   COMBINE CP10E U440S AND U470 AT HORSE AND BRADLEY
243          HC       3
             *

244          KK   CP11E
245          KM   CP11S IS THE FLOW DRAINING SOUTH IN BRADLEY
246          KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
247          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
248          DT   CP11S
249          DI      79
250          DQ      33
             *

251          KK    U530
252          BA   .0131
253          LS       0    84.0
254          UD   0.148
             *
```



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

255          KK    CP12
256          KM   COMBINE CP11E AND U530 AT HORSE AND UNICORN
257          HC       2
             *
```

```
258          KK   CP12E
259          KM   CP12S IS THE FLOW DRAINING SOUTH IN UNICORN
260          KM   CP12E IS THE FLOW DRAINING EAST IN HORSE
261          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
262          DT   CP12S
263          DI      48
264          DQ      21
             *

265          KK  RCP12E
266          KM   ROUTE TO CP14
267          RD    1825   .0050   0.016       0    TRAP       0      50
             *

268          KK    U130
269          BA   .0556
270          LS       0    83.9
271          UD   0.203
             *

272          KK   U130S
273          KM   U130S IS THE FLOW DRAINING SOUTH IN DECATUR
274          KM   U130E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
275          DT   U130E
276          DI      19
277          DQ      10
             *

278          KK  RU130S
279          KM   ROUTE TO CP13
280          RD    1270   .0050   0.016       0    TRAP       0      50
             *

281          KK    U550
282          BA   .0534
283          LS       0    85.4
284          UD   0.225
             *

285          KK    CP13
286          KM   COMBINE U130S AND U550 AT BRENT AND DECATUR
287          HC       2
             *
```



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

288          KK   CP13S
289          KM   CP13S IS THE FLOW DRAINING SOUTH IN DECATUR
290          KM   CP13E IS THE FLOW DRAINING EAST IN BRENT
291          DT   CP13E
292          DI      28
293          DQ      17
             *

294          KK  RCP13S
295          KM   ROUTE TO CP14
296          RD    1290   .0040   0.016       0    TRAP       0      50
             *

297          KK   U440E
298          KM   RETRIEVE U440E
299          DR   U440E
             *

300          KK  RU440E
301          KM   ROUTE TO CP14
302          RD    3850   .0040   0.016       0    TRAP       0      50
             *

303          KK    U570
304          BA   .1791
305          LS       0    89.0
306          UD   0.370
             *

307          KK    CP14
308          KM   COMBINE CP12E CP13S U440E AND U570 AT HORSE AND DECATUR
309          HC       4
             *

310          KK   CP14E
311          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
312          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
313          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
314          DT   CP14S
315          DI      98
316          DQ      30
             *

317          KK  RCP14E
318          KM   ROUTE TO CP15
319          RD    2645   .0050   0.016       0    TRAP       0      50
             *

320          KK    U610
321          BA   .0479
322          LS       0    84.2
323          UD   0.311
             *
```



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

324          KK    CP15
325          KM   COMBINE CP14E AND U610 AT HORSE AND AVIARY
326          HC       2
             *
```

```
327          KK   CP15E
328          KM   CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
329          KM   CP15E IS THE FLOW DRAINING EAST IN HORSE
330          KM   ULTIMATE SD IN HORSE CONVEYS 321 CFS EAST
331          DT   CP15S
332          DI      77
333          DQ       0
             *

334          KK    CP9S
335          KM   RETRIEVE CP9S
336          DR    CP9S
             *

337          KK   RCP9S
338          KM   ROUTE TO CP16
339          RD    4770   .0050   0.016       0    TRAP       0      50
             *

340          KK   CP10S
341          KM   RETRIEVE CP10S
342          DR   CP10S
             *

343          KK  RCP10S
344          KM   ROUTE TO CP16
345          RD    2755   .0050   0.016       0    TRAP       0      50
             *

346          KK    U280
347          BA   .2688
348          LS       0    83.3
349          UD   0.375
             *

350          KK    CP16
351          KM   COMBINE CP9S CP10S AND U280 AT GRAND TETON AND JONES
352          HC       3
             *

353          KK   RCP16
354          KM   ROUTE TO CP17
355          RD    4900   .0050   0.016       0    TRAP       0      50
             *
1                                        HEC-1 INPUT                                        PAGE 11

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

356          KK   CP11S
357          KM   RETRIEVE CP11S
358          DR   CP11S
             *

359          KK  RCP11S
360          KM   ROUTE TO CP17
361          RD    5215   .0050   0.016       0    TRAP       0      50
             *

362          KK   CP12S
363          KM   RETRIEVE CP12S
364          DR   CP12S
             *

365          KK  RCP12S
366          KM   ROUTE TO CP17
367          RD    4550   .0050   0.016       0    TRAP       0      50
             *

368          KK   CP14S
369          KM   RETRIEVE CP14S
370          DR   CP14S
             *

371          KK  RCP14S
372          KM   ROUTE TO CP17
373          RD    2565   .0050   0.013       0    CIRC     2.5       0
             *

374          KK    U510
375          BA   .4885
376          LS       0    84.8
377          UD   0.510
             *

378          KK    CP17
379          KM   COMBINE CP16 CP11S CP12S CP14S AND U510 AT GRAND TETON AND DECATUR
380          HC       5
             *

381          KK    U650
382          BA   .0085
383          LS       0    89.3
384          UD   0.106
             *

385          KK    CP18
386          KM   COMBINE CP17 AND U650 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
387          HC       2
             *
1                                        HEC-1 INPUT                                        PAGE 12

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

388          KK    U630
389          BA   .0735
390          LS       0    88.0
391          UD   0.246
             *

392          KK    CP19
```

```
393          KM   COMBINE CP18 AND U630 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
394          HC        2
             *

395          KK    U620
396          BA   .0472
397          LS        0    88.1
398          UD   0.246
             *

399          KK    CP20
400          KM   COMBINE CP19 AND U620 AT GRAND TETON AND SAN MATEO
401          HC        2
             *

402          KK   RCP20
403          KM   ROUTE TO CP22
404          RD    1230   .0050   0.016       0    TRAP       0      50
             *

405          KK   CP15S
406          KM   RETRIEVE CP15S
407          DR   CP15S
             *

408          KK  RCP15S
409          KM   ROUTE TO CP20
410          RD    2555   .0050   0.016       0    TRAP       0      50
             *

411          KK    U680
412          BA   .1122
413          LS        0    88.0
414          UD   0.303
             *

415          KK    CP21
416          KM   COMBINE CP15S AND U680 IN AVIARY JUST NORTH OF GRAND TETON
417          HC        2
             *

418          KK    U760
419          BA   .0076
420          LS        0    88.3
421          UD   0.147
             *
```



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

422          KK   CPGTA
423          KM   COMBINE CP20 CP21 AND U760 AT GRAND TETON AND AVIARY
424          HC        3
             *

425          KK     2-3
426          BA  0.0327
427          LS        0    85.0
428          UD   0.172
             *

429          KK  CPGTA2
430          HC        2
             *

431          KK     2-1
432          BA  0.0367
433          LS        0    94.0
434          UD   0.187
             *

435          KK     2-2
436          BA  0.0742
437          LS        0    91.0
438          UD   0.215
             *

439          KK   2-14A
440          BA  0.0027
441          LS        0    85.0
442          UD   0.135
             *

443          KK      2A
444          HC        3
             *

445          KK      2B
446          KO        2
447          HC        2
             *

448          KK     DB1
449          KM   PARK HIGHLANDS WEST DETENTION BASIN
450          KO        2
451          RS        1    ELEV      -1
452          SV        0   0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
453          SE   2297.0  2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
454          SQ        0      72     110     138     161     199     215     231     252    1975
455          SE   2297.0  2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
456          KO        1
             *
```



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

457          KK     2-6
458          BA  0.0180
459          LS        0    94.0
460          UD   0.158
```

```
                *

 461            KK       2C
 462            HC        2
                *

 463            KK      2-7
 464            BA   0.0156
 465            LS        0     85.0
 466            UD    0.137
                *

 467            KK       2D
 468            HC        2
                *

 469            KK      2-4
 470            BA   0.0334
 471            LS        0     94.0
 472            UD    0.137
                *

 473            KK    2-14B
 474            BA   0.0025
 475            LS        0     85.0
 476            UD    0.126
                *

 477            KK       2E
 478            HC        2
                *

 479            KK      2-5
 480            BA   0.0891
 481            LS        0     91.0
 482            UD    0.215
                *

 483            KK     2-5W
 484            DT     2-5E
 485            DI        0      100
 486            DQ        0       48
                *

 487            KK      2-9
 488            BA   0.0156
 489            LS        0     91.0
 490            UD    0.135
                *
```



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

 491            KK       2F
 492            HC        3
                *

 493            KK     2-5E
 494            DR     2-5E
                *

 495            KK     2-10
 496            BA   0.0163
 497            LS        0     91.0
 498            UD    0.132
                *

 499            KK       2G
 500            HC        3
                *

 501            KK      2-8
 502            BA   0.0286
 503            LS        0     94.0
 504            UD    0.144
                *

 505            KK       2H
 506            HC        2
                *

 507            KK       2I
 508            HC        2
                *

 509            KK     2-11
 510            BA   0.0255
 511            LS        0     94.0
 512            UD    0.135
                *

 513            KK     2-12
 514            BA   0.0272
 515            LS        0     90.0
 516            UD    0.150
                *

 517            KK       2J
 518            HC        2
                *

 519            KK    DUMMY
 520            HC        2
                *
```



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

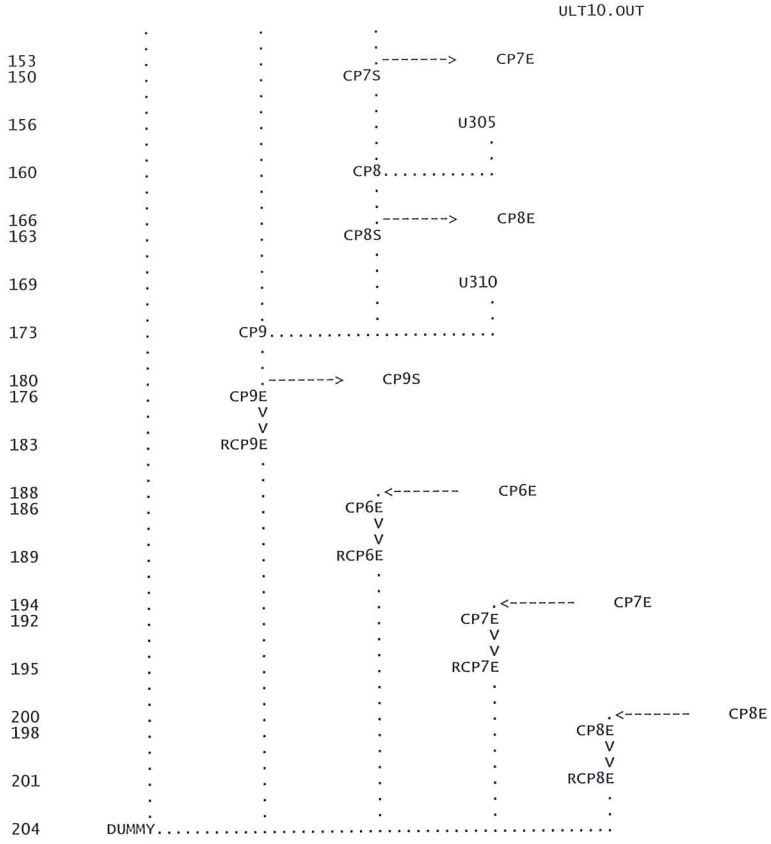
 521            KK     2-13
 522            BA   0.0273
```

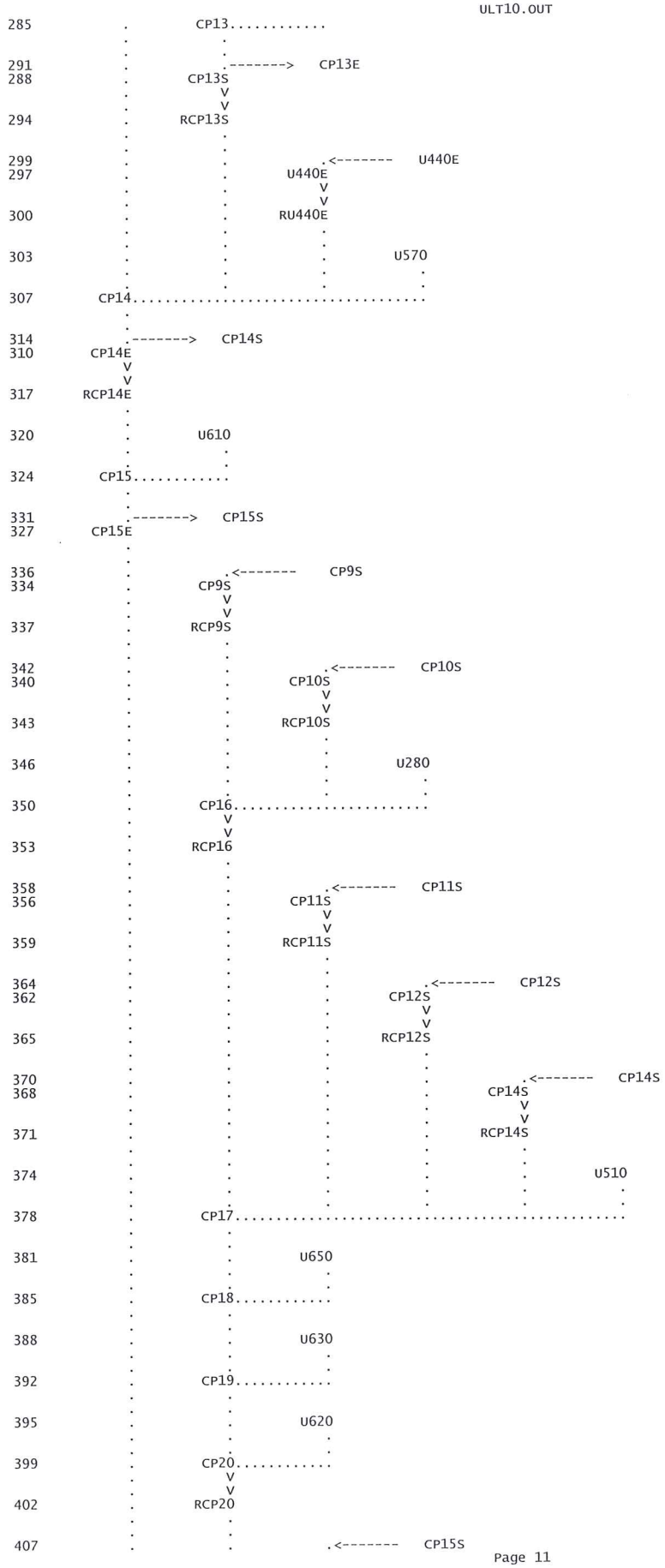
```
          523           LS       0    91.0
          524           UD   0.176
                        *

          525           KK     PT2
          526           HC       2
                        *
          527           ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    21        U190
                .
                .
    34          .        U170
                .          .
                .          .
    38         CP1.........
                .
                .
    44          .------->    CP1S
    41        CP1E
                V
                V
    47       RCP1E
                .
                .
    50          .        U150
                .          .
                .          .
    58          .          .-------->   U150E
    54          .       U150S
                .          V
                .          V
    61          .       RU150
                .          .
                .          .
    64          .          .       U155
                .          .         .
                .          .         .
    68         CP2.......................
                .
                .
    75          .------->    CP2E
    71        CP2S
                V
                V
    78       RCP2S
                .
                .
    83          .          .<-------    CP1S
    81          .        CP1S
                .          .
                .          .
    84          .          .        U210
                .          .          .
                .          .          .
    88          .         CP3.........
                .          .
                .          .
    94          .          .-------->    CP3E
    91          .        CP3S
                .          .
                .          .
    97          .          .        U250
                .          .          .
                .          .          .
   101          .         CP4.........
                .          .
                .          .
   107          .          .-------->    CP4E
   104          .        CP4S
                .          V
                .          V
   110          .       RCP4S
                .          .
                .          .
   113          .          .        U230
                .          .          .
                .          .          .
   117          .          .          .        U330
                .          .          .          .
                .          .          .          .
   121          .         CP5.......................
                .          .
                .          .
   126          .          .          .<-------    CP3E
   124          .          .        CP3E
                .          .          .
                .          .          .
   127          .          .          .        U370
                .          .          .          .
                .          .          .          .
   131          .          .         CP6.........
                .          .          .
                .          .          .
   137          .          .          .------->    CP6E
   134          .          .        CP6S
                .          .          .
                .          .          .
   142          .          .          .          .<-------    CP4E
   140          .          .          .        CP4E
                .          .          .          .
                .          .          .          .
   143          .          .          .          .        U350
                .          .          .          .          .
                .          .          .          .          .
   147          .          .         CP7.......................
```


153
150
CP7S
CP7E
156
U305
160
CP8
166
163
CP8S
CP8E
169
U310
173
CP9
180
176
CP9E
CP9S
183
RCP9E
188
186
CP6E
CP6E
189
RCP6E
194
192
CP7E
CP7E
195
RCP7E
200
198
CP8E
CP8E
201
RCP8E
204
DUMMY
207
U410
211
CP10
218
214
CP10E
CP10S
221
RCP10E
224
U440
231
228
U440S
U440E
234
RU440S
237
U470
241
CP11
248
244
CP11E
CP11S
251
U530
255
CP12
262
258
CP12E
CP12S
265
RCP12E
268
U130
275
272
U130S
U130E
278
RU130S
281
U550


285
CP13
291
288
CP13E
CP13S
294
RCP13S
299
U440E
297
U440E
300
RU440E
303
U570
307
CP14
314
CP14S
310
CP14E
317
RCP14E
320
U610
324
CP15
331
CP15S
327
CP15E
336
CP9S
334
CP9S
337
RCP9S
342
CP10S
340
CP10S
343
RCP10S
346
U280
350
CP16
353
RCP16
358
CP11S
356
CP11S
359
RCP11S
364
CP12S
362
CP12S
365
RCP12S
370
CP14S
368
CP14S
371
RCP14S
374
U510
378
CP17
381
U650
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CP18
388
U630
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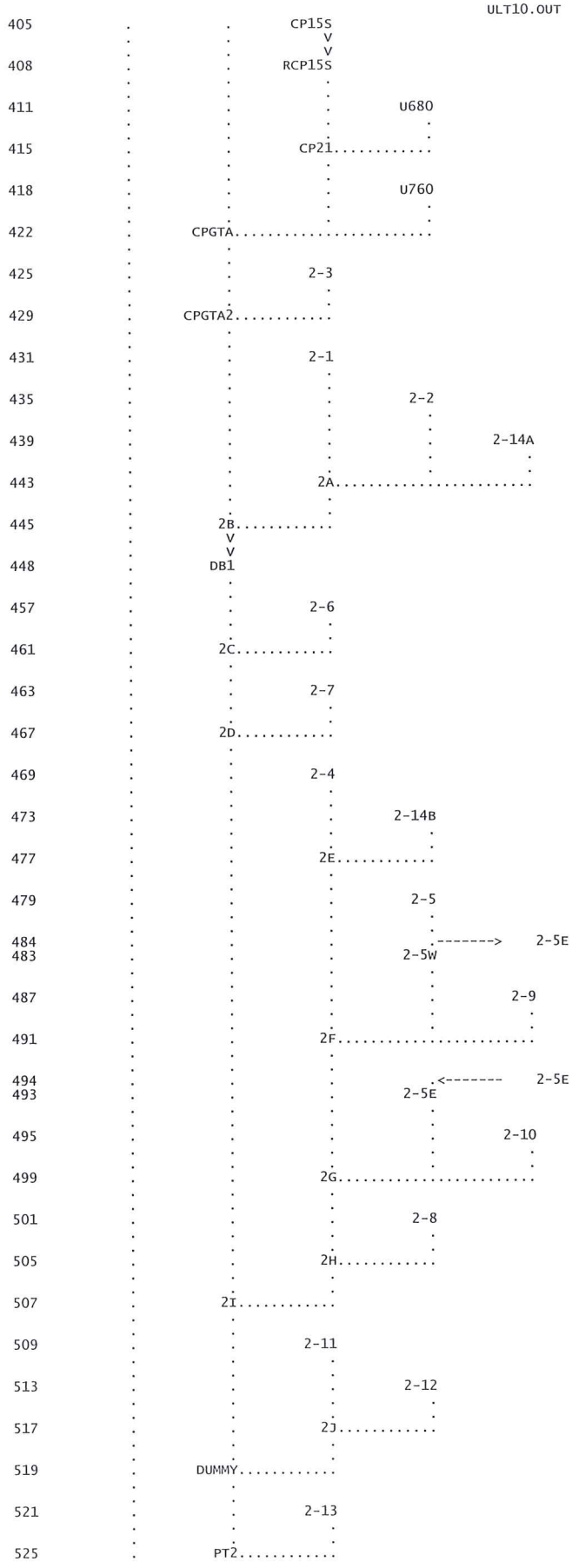
CP19
395
U620
399
CP20
402
RCP20
407
CP15S


405 CP15S
V
V
408 RCP15S
411 U680
415 CP21
418 U760
422 CPGTA
425 2-3
429 CPGTA2
431 2-1
435 2-2
439 2-14A
443 2A
445 2B
V
V
448 DB1
457 2-6
461 2C
463 2-7
467 2D
469 2-4
473 2-14B
477 2E
479 2-5
484 2-5E
483 2-5W
487 2-9
491 2F
494 2-5E
493 2-5E
495 2-10
499 2G
501 2-8
505 2H
507 2I
509 2-11
513 2-12
517 2J
519 DUMMY
521 2-13
525 PT2

```
 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
******************************************
 *                                    *                                    *
*                                     *                                    *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                    *    U.S. ARMY CORPS OF ENGINEERS
*                                     *                                    *
 *               JUN   1998           *                                    *    HYDROLOGIC ENGINEERING CENTER
*                                     *                                    *
 *            VERSION 4.1             *                                    *         609 SECOND STREET
*                                     *                                    *
 *                                    *                                    *       DAVIS, CALIFORNIA 95616
*                                     *                                    *
 *  RUN DATE   14MAY14  TIME  08:45:21   *                                    *          (916) 756-1104
*                                     *                                    *
 *                                    *                                    *
*                                     *
 *************************************
******************************************
```

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
ULTIMATE CONDITION

RETURN PERIOD ------- 10-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ ULT10.H1
DATE ---------------- MAY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MI^2) DARF
10-YR EVENT   0.570

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

    IT           HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1    0  STARTING DATE
                     ITIME         0000  STARTING TIME
                        NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      2    0  ENDING DATE
                    NDTIME         0055  ENDING TIME
                     ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL      .08 HOURS
                       TOTAL TIME BASE    24.92 HOURS

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

    JP           MULTI-PLAN OPTION
                     NPLAN          1  NUMBER OF PLANS

    JR           MULTI-RATIO OPTION
                    RATIOS OF PRECIPITATION
                    .57


 *** *** ***
```

1	0010	3	0.	*	1	0625	78	62.	*	1	1240	153	0.	*	1	1855	228	0.
1	0015	4	0.	*	1	0630	79	55.	*	1	1245	154	0.	*	1	1900	229	0.
1	0020	5	0.	*	1	0635	80	49.	*	1	1250	155	0.	*	1	1905	230	0.
1	0025	6	0.	*	1	0640	81	44.	*	1	1255	156	0.	*	1	1910	231	0.
1	0030	7	0.	*	1	0645	82	39.	*	1	1300	157	0.	*	1	1915	232	0.
1	0035	8	0.	*	1	0650	83	34.	*	1	1305	158	0.	*	1	1920	233	0.
1	0040	9	1.	*	1	0655	84	31.	*	1	1310	159	0.	*	1	1925	234	0.
1	0045	10	0.	*	1	0700	85	27.	*	1	1315	160	0.	*	1	1930	235	0.
1	0050	11	0.	*	1	0705	86	24.	*	1	1320	161	0.	*	1	1935	236	0.
1	0055	12	0.	*	1	0710	87	22.	*	1	1325	162	0.	*	1	1940	237	0.
1	0100	13	0.	*	1	0715	88	19.	*	1	1330	163	0.	*	1	1945	238	0.
1	0105	14	0.	*	1	0720	89	17.	*	1	1335	164	0.	*	1	1950	239	0.
1	0110	15	0.	*	1	0725	90	16.	*	1	1340	165	0.	*	1	1955	240	0.
1	0115	16	0.	*	1	0730	91	14.	*	1	1345	166	0.	*	1	2000	241	0.
1	0120	17	0.	*	1	0735	92	13.	*	1	1350	167	0.	*	1	2005	242	0.
1	0125	18	1.	*	1	0740	93	11.	*	1	1355	168	0.	*	1	2010	243	0.
1	0130	19	1.	*	1	0745	94	10.	*	1	1400	169	0.	*	1	2015	244	0.
1	0135	20	2.	*	1	0750	95	9.	*	1	1405	170	0.	*	1	2020	245	0.
1	0140	21	2.	*	1	0755	96	8.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	3.	*	1	0800	97	7.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	3.	*	1	0805	98	6.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	2.	*	1	0810	99	6.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	2.	*	1	0815	100	5.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	2.	*	1	0820	101	4.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	2.	*	1	0825	102	4.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	3.	*	1	0830	103	3.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	4.	*	1	0835	104	3.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	6.	*	1	0840	105	2.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	7.	*	1	0845	106	2.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	7.	*	1	0850	107	2.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	7.	*	1	0855	108	1.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	8.	*	1	0900	109	1.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	9.	*	1	0905	110	1.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	9.	*	1	0910	111	1.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	9.	*	1	0915	112	1.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	11.	*	1	0920	113	1.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	16.	*	1	0925	114	1.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	27.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	47.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	83.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	138.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	199.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	244.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	267.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	274.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	272.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	278.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	298.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	316.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	342.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	366.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	370.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	361.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	346.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	332.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	315.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	297.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	283.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	268.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	252.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	236.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	220.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	205.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	192.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	179.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	167.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	155.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	143.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	131.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	120.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	108.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	98.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	88.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

```
**********************************************************************************************************************************************************
*
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR          24-HR          72-HR       24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     370.      4.42          122.           31.            30.            30.
                     (INCHES)  .984           .990           .990           .990
                      (AC-FT)   60.           61.            61.            61.

                     CUMULATIVE AREA =    1.15 SQ MI


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


            ***************
            *             *
  448 KK    *       DB1   *
            *             *
            ***************

  450 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          2  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

  456 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          1  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA
```

```
 451 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       ELEV  TYPE OF INITIAL CONDITION
                     RSVRIC      -1.00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 452 SV            STORAGE         .0        .1       2.4      10.5      24.0      38.2      52.7     113.5     137.4     170.6

 453 SE            ELEVATION  2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2307.00   2308.50   2310.50

 454 SQ            DISCHARGE       0.       72.      110.      138.      161.      199.      215.      231.      252.     1975.

 455 SE            ELEVATION  2297.00   2300.00   2301.00   2302.00   2303.00   2305.00   2306.00   2307.00   2308.50   2310.50

                                                          ***

                                    COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE         .00       .13      2.43     10.54     24.01     38.19     52.70     83.07     98.26    113.45
          OUTFLOW         .00     24.00     48.00     72.00    110.00    138.00    161.00    199.00    215.00    231.00
        ELEVATION     2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2305.00   2306.00   2307.00

          STORAGE      137.41    170.56
          OUTFLOW      252.00   1975.00
        ELEVATION     2308.50   2310.50

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

                                                HYDROGRAPH AT STATION      DB1
                                                  PLAN 1,   RATIO =   .57

**********************************************************************************************************************************************
*
                                                    *                                                    *
  DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE * DA MON HRMN ORD  OUTFLOW  STORAGE   STAGE * DA MON HRMN ORD  OUTFLOW  STORAGE
STAGE                                               *                                                    *
   1     0000   1        0.       .0  2297.0 *  1     0820 101       91.      17.3  2300.5 *  1     1640 201        0.       .0
2297.0
   1     0005   2        0.       .0  2297.0 *  1     0825 102       89.      16.7  2300.5 *  1     1645 202        0.       .0
2297.0
   1     0010   3        0.       .0  2297.0 *  1     0830 103       88.      16.1  2300.4 *  1     1650 203        0.       .0
2297.0
   1     0015   4        0.       .0  2297.0 *  1     0835 104       86.      15.5  2300.4 *  1     1655 204        0.       .0
2297.0
   1     0020   5        0.       .0  2297.0 *  1     0840 105       84.      14.9  2300.3 *  1     1700 205        0.       .0
2297.0
   1     0025   6        0.       .0  2297.0 *  1     0845 106       83.      14.4  2300.3 *  1     1705 206        0.       .0
2297.0
   1     0030   7        0.       .0  2297.0 *  1     0850 107       81.      13.8  2300.2 *  1     1710 207        0.       .0
2297.0
   1     0035   8        0.       .0  2297.0 *  1     0855 108       80.      13.3  2300.2 *  1     1715 208        0.       .0
2297.0
   1     0040   9        0.       .0  2297.0 *  1     0900 109       78.      12.8  2300.2 *  1     1720 209        0.       .0
2297.0
   1     0045  10        1.       .0  2297.0 *  1     0905 110       77.      12.2  2300.1 *  1     1725 210        0.       .0
2297.0
   1     0050  11        0.       .0  2297.0 *  1     0910 111       75.      11.7  2300.1 *  1     1730 211        0.       .0
2297.0
   1     0055  12        0.       .0  2297.0 *  1     0915 112       74.      11.2  2300.0 *  1     1735 212        0.       .0
2297.0
   1     0100  13        0.       .0  2297.0 *  1     0920 113       72.      10.7  2300.0 *  1     1740 213        0.       .0
2297.0
   1     0105  14        0.       .0  2297.0 *  1     0925 114       71.      10.2  2300.0 *  1     1745 214        0.       .0
2297.0
   1     0110  15        0.       .0  2297.0 *  1     0930 115       70.       9.7  2299.9 *  1     1750 215        0.       .0
2297.0
   1     0115  16        0.       .0  2297.0 *  1     0935 116       68.       9.3  2299.8 *  1     1755 216        0.       .0
2297.0
   1     0120  17        0.       .0  2297.0 *  1     0940 117       67.       8.8  2299.8 *  1     1800 217        0.       .0
2297.0
   1     0125  18        1.       .0  2297.0 *  1     0945 118       66.       8.3  2299.7 *  1     1805 218        0.       .0
2297.0
   1     0130  19        1.       .0  2297.0 *  1     0950 119       64.       7.9  2299.7 *  1     1810 219        0.       .0
2297.0
   1     0135  20        1.       .0  2297.1 *  1     0955 120       63.       7.5  2299.6 *  1     1815 220        0.       .0
2297.0
   1     0140  21        2.       .0  2297.1 *  1     1000 121       62.       7.0  2299.6 *  1     1820 221        0.       .0
2297.0
   1     0145  22        2.       .0  2297.1 *  1     1005 122       60.       6.6  2299.5 *  1     1825 222        0.       .0
2297.0
   1     0150  23        3.       .0  2297.1 *  1     1010 123       59.       6.2  2299.5 *  1     1830 223        0.       .0
2297.0
   1     0155  24        2.       .0  2297.1 *  1     1015 124       58.       5.8  2299.4 *  1     1835 224        0.       .0
2297.0
   1     0200  25        2.       .0  2297.1 *  1     1020 125       57.       5.4  2299.4 *  1     1840 225        0.       .0
2297.0
   1     0205  26        2.       .0  2297.1 *  1     1025 126       56.       5.0  2299.3 *  1     1845 226        0.       .0
2297.0
   1     0210  27        2.       .0  2297.1 *  1     1030 127       55.       4.6  2299.3 *  1     1850 227        0.       .0
2297.0
   1     0215  28        2.       .0  2297.1 *  1     1035 128       53.       4.3  2299.2 *  1     1855 228        0.       .0
2297.0
   1     0220  29        3.       .0  2297.1 *  1     1040 129       52.       3.9  2299.2 *  1     1900 229        0.       .0
2297.0
   1     0225  30        5.       .0  2297.2 *  1     1045 130       51.       3.5  2299.1 *  1     1905 230        0.       .0
2297.0
   1     0230  31        6.       .0  2297.3 *  1     1050 131       50.       3.2  2299.1 *  1     1910 231        0.       .0
2297.0
   1     0235  32        7.       .0  2297.3 *  1     1055 132       49.       2.9  2299.1 *  1     1915 232        0.       .0
2297.0
   1     0240  33        7.       .0  2297.3 *  1     1100 133       48.       2.5  2299.0 *  1     1920 233        0.       .0
2297.0
   1     0245  34        7.       .0  2297.3 *  1     1105 134       46.       2.2  2298.9 *  1     1925 234        0.       .0
```

2297.0 1	0250	35	8.	.0	2297.3	*	1	1110	135	42.	1.9	2298.8	*	1	1930	235	0.	.0
2297.0 1	0255	36	9.	.0	2297.4	*	1	1115	136	39.	1.6	2298.6	*	1	1935	236	0.	.0
2297.0 1	0300	37	9.	.0	2297.4	*	1	1120	137	37.	1.3	2298.5	*	1	1940	237	0.	.0
2297.0 1	0305	38	10.	.1	2297.4	*	1	1125	138	34.	1.1	2298.4	*	1	1945	238	0.	.0
2297.0 1	0310	39	13.	.1	2297.5	*	1	1130	139	32.	.9	2298.3	*	1	1950	239	0.	.0
2297.0 1	0315	40	20.	.1	2297.8	*	1	1135	140	30.	.7	2298.2	*	1	1955	240	0.	.0
2297.0 1	0320	41	25.	.2	2298.0	*	1	1140	141	28.	.5	2298.1	*	1	2000	241	0.	.0
2297.0 1	0325	42	28.	.5	2298.1	*	1	1145	142	26.	.3	2298.1	*	1	2005	242	0.	.0
2297.0 1	0330	43	33.	1.0	2298.4	*	1	1150	143	23.	.1	2297.9	*	1	2010	243	0.	.0
2297.0 1	0335	44	43.	1.9	2298.8	*	1	1155	144	5.	.0	2297.2	*	1	2015	244	0.	.0
2297.0 1	0340	45	50.	3.1	2299.1	*	1	1200	145	1.	.0	2297.0	*	1	2020	245	0.	.0
2297.0 1	0345	46	54.	4.5	2299.3	*	1	1205	146	0.	.0	2297.0	*	1	2025	246	0.	.0
2297.0 1	0350	47	59.	6.0	2299.4	*	1	1210	147	0.	.0	2297.0	*	1	2030	247	0.	.0
2297.0 1	0355	48	63.	7.5	2299.6	*	1	1215	148	0.	.0	2297.0	*	1	2035	248	0.	.0
2297.0 1	0400	49	67.	8.9	2299.8	*	1	1220	149	0.	.0	2297.0	*	1	2040	249	0.	.0
2297.0 1	0405	50	72.	10.4	2300.0	*	1	1225	150	0.	.0	2297.0	*	1	2045	250	0.	.0
2297.0 1	0410	51	76.	12.0	2300.1	*	1	1230	151	0.	.0	2297.0	*	1	2050	251	0.	.0
2297.0 1	0415	52	81.	13.7	2300.2	*	1	1235	152	0.	.0	2297.0	*	1	2055	252	0.	.0
2297.0 1	0420	53	86.	15.6	2300.4	*	1	1240	153	0.	.0	2297.0	*	1	2100	253	0.	.0
2297.0 1	0425	54	92.	17.5	2300.5	*	1	1245	154	0.	.0	2297.0	*	1	2105	254	0.	.0
2297.0 1	0430	55	97.	19.4	2300.7	*	1	1250	155	0.	.0	2297.0	*	1	2110	255	0.	.0
2297.0 1	0435	56	102.	21.1	2300.8	*	1	1255	156	0.	.0	2297.0	*	1	2115	256	0.	.0
2297.0 1	0440	57	106.	22.8	2300.9	*	1	1300	157	0.	.0	2297.0	*	1	2120	257	0.	.0
2297.0 1	0445	58	110.	24.2	2301.0	*	1	1305	158	0.	.0	2297.0	*	1	2125	258	0.	.0
2297.0 1	0450	59	113.	25.6	2301.1	*	1	1310	159	0.	.0	2297.0	*	1	2130	259	0.	.0
2297.0 1	0455	60	115.	26.8	2301.2	*	1	1315	160	0.	.0	2297.0	*	1	2135	260	0.	.0
2297.0 1	0500	61	118.	27.9	2301.3	*	1	1320	161	0.	.0	2297.0	*	1	2140	261	0.	.0
2297.0 1	0505	62	120.	28.8	2301.3	*	1	1325	162	0.	.0	2297.0	*	1	2145	262	0.	.0
2297.0 1	0510	63	121.	29.7	2301.4	*	1	1330	163	0.	.0	2297.0	*	1	2150	263	0.	.0
2297.0 1	0515	64	123.	30.4	2301.5	*	1	1335	164	0.	.0	2297.0	*	1	2155	264	0.	.0
2297.0 1	0520	65	124.	31.0	2301.5	*	1	1340	165	0.	.0	2297.0	*	1	2200	265	0.	.0
2297.0 1	0525	66	125.	31.6	2301.5	*	1	1345	166	0.	.0	2297.0	*	1	2205	266	0.	.0
2297.0 1	0530	67	126.	32.0	2301.6	*	1	1350	167	0.	.0	2297.0	*	1	2210	267	0.	.0
2297.0 1	0535	68	126.	32.3	2301.6	*	1	1355	168	0.	.0	2297.0	*	1	2215	268	0.	.0
2297.0 1	0540	69	127.	32.5	2301.6	*	1	1400	169	0.	.0	2297.0	*	1	2220	269	0.	.0
2297.0 1	0545	70	127.	32.7	2301.6	*	1	1405	170	0.	.0	2297.0	*	1	2225	270	0.	.0
2297.0 1	0550	71	127.	32.7	2301.6	*	1	1410	171	0.	.0	2297.0	*	1	2230	271	0.	.0
2297.0 1	0555	72	127.	32.7	2301.6	*	1	1415	172	0.	.0	2297.0	*	1	2235	272	0.	.0
2297.0 1	0600	73	127.	32.6	2301.6	*	1	1420	173	0.	.0	2297.0	*	1	2240	273	0.	.0
2297.0 1	0605	74	127.	32.5	2301.6	*	1	1425	174	0.	.0	2297.0	*	1	2245	274	0.	.0
2297.0 1	0610	75	126.	32.2	2301.6	*	1	1430	175	0.	.0	2297.0	*	1	2250	275	0.	.0
2297.0 1	0615	76	126.	31.9	2301.6	*	1	1435	176	0.	.0	2297.0	*	1	2255	276	0.	.0
2297.0 1	0620	77	125.	31.6	2301.5	*	1	1440	177	0.	.0	2297.0	*	1	2300	277	0.	.0
2297.0 1	0625	78	124.	31.2	2301.5	*	1	1445	178	0.	.0	2297.0	*	1	2305	278	0.	.0
2297.0 1	0630	79	123.	30.7	2301.5	*	1	1450	179	0.	.0	2297.0	*	1	2310	279	0.	.0
2297.0 1	0635	80	122.	30.2	2301.4	*	1	1455	180	0.	.0	2297.0	*	1	2315	280	0.	.0
2297.0 1	0640	81	121.	29.7	2301.4	*	1	1500	181	0.	.0	2297.0	*	1	2320	281	0.	.0
2297.0 1	0645	82	120.	29.2	2301.4	*	1	1505	182	0.	.0	2297.0	*	1	2325	282	0.	.0
2297.0 1	0650	83	119.	28.6	2301.3	*	1	1510	183	0.	.0	2297.0	*	1	2330	283	0.	.0
2297.0 1	0655	84	118.	28.0	2301.3	*	1	1515	184	0.	.0	2297.0	*	1	2335	284	0.	.0
2297.0 1	0700	85	117.	27.4	2301.2	*	1	1520	185	0.	.0	2297.0	*	1	2340	285	0.	.0
2297.0 1	0705	86	115.	26.8	2301.2	*	1	1525	186	0.	.0	2297.0	*	1	2345	286	0.	.0
2297.0 1	0710	87	114.	26.2	2301.2	*	1	1530	187	0.	.0	2297.0	*	1	2350	287	0.	.0
2297.0 1	0715	88	113.	25.5	2301.1	*	1	1535	188	0.	.0	2297.0	*	1	2355	288	0.	.0
2297.0 1	0720	89	112.	24.9	2301.1	*	1	1540	189	0.	.0	2297.0	*	2	0000	289	0.	.0
2297.0 1	0725	90	110.	24.2	2301.0	*	1	1545	190	0.	.0	2297.0	*	2	0005	290	0.	.0

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2297.0
   1     0730  91     109.     23.6  2301.0 *  1     1550 191        0.        .0  2297.0 *  2     0010 291        0.        .0
2297.0
   1     0735  92     107.     22.9  2300.9 *  1     1555 192        0.        .0  2297.0 *  2     0015 292        0.        .0
2297.0
   1     0740  93     105.     22.3  2300.9 *  1     1600 193        0.        .0  2297.0 *  2     0020 293        0.        .0
2297.0
   1     0745  94     103.     21.6  2300.8 *  1     1605 194        0.        .0  2297.0 *  2     0025 294        0.        .0
2297.0
   1     0750  95     101.     21.0  2300.8 *  1     1610 195        0.        .0  2297.0 *  2     0030 295        0.        .0
2297.0
   1     0755  96     100.     20.3  2300.7 *  1     1615 196        0.        .0  2297.0 *  2     0035 296        0.        .0
2297.0
   1     0800  97      98.     19.7  2300.7 *  1     1620 197        0.        .0  2297.0 *  2     0040 297        0.        .0
2297.0
   1     0805  98      96.     19.1  2300.6 *  1     1625 198        0.        .0  2297.0 *  2     0045 298        0.        .0
2297.0
   1     0810  99      94.     18.5  2300.6 *  1     1630 199        0.        .0  2297.0 *  2     0050 299        0.        .0
2297.0
   1     0815 100      93.     17.9  2300.5 *  1     1635 200        0.        .0  2297.0 *  2     0055 300        0.        .0
2297.0
                                      *                                              *
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 127.	5.83		101.	31.	30.	30.
		(INCHES)	.818	.990	.990	.990
		(AC-FT)	50.	61.	61.	61.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
33.	5.83	22.	6.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2301.62	5.83	2300.81	2298.17	2298.13	2298.13

CUMULATIVE AREA = 1.15 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .57
HYDROGRAPH AT					
+	U190	.37	1	FLOW	59.
				TIME	4.08
HYDROGRAPH AT					
+	U170	.25	1	FLOW	51.
				TIME	4.00
2 COMBINED AT					
+	CP1	.62	1	FLOW	109.
				TIME	4.00
DIVERSION TO					
+	CP1S	.62	1	FLOW	49.
				TIME	4.00
HYDROGRAPH AT					
+	CP1E	.62	1	FLOW	60.
				TIME	4.00
ROUTED TO					
+	RCP1E	.62	1	FLOW	60.
				TIME	4.25
HYDROGRAPH AT					
+	U150	.13	1	FLOW	35.
				TIME	3.83
DIVERSION TO					
+	U150E	.13	1	FLOW	20.
				TIME	3.83
HYDROGRAPH AT					
+	U150S	.13	1	FLOW	15.
				TIME	3.83
ROUTED TO					
+	RU150	.13	1	FLOW	15.
				TIME	3.92
HYDROGRAPH AT					
+	U155	.13	1	FLOW	35.
				TIME	3.75
3 COMBINED AT					
+	CP2	.88	1	FLOW	92.
				TIME	4.08
DIVERSION TO					
+	CP2E	.88	1	FLOW	69.
				TIME	4.08
HYDROGRAPH AT					
+	CP2S	.88	1	FLOW	23.
				TIME	4.08

ROUTED TO					
+	RCP2S	.88	1	FLOW	23.
				TIME	4.33
HYDROGRAPH AT					
+	CP1S	.00	1	FLOW	49.
				TIME	4.00
HYDROGRAPH AT					
+	U210	.07	1	FLOW	20.
				TIME	3.75
2 COMBINED AT					
+	CP3	.07	1	FLOW	64.
				TIME	3.92
DIVERSION TO					
+	CP3E	.07	1	FLOW	29.
				TIME	3.92
HYDROGRAPH AT					
+	CP3S	.07	1	FLOW	35.
				TIME	3.92
HYDROGRAPH AT					
+	U250	.07	1	FLOW	19.
				TIME	3.75
2 COMBINED AT					
+	CP4	.14	1	FLOW	52.
				TIME	3.83
DIVERSION TO					
+	CP4E	.14	1	FLOW	25.
				TIME	3.83
HYDROGRAPH AT					
+	CP4S	.14	1	FLOW	27.
				TIME	3.83
ROUTED TO					
+	RCP4S	.14	1	FLOW	27.
				TIME	4.00
HYDROGRAPH AT					
+	U230	.14	1	FLOW	37.
				TIME	3.83
HYDROGRAPH AT					
+	U330	.01	1	FLOW	6.
				TIME	3.67
3 COMBINED AT					
+	CP5	.30	1	FLOW	65.
				TIME	3.83
HYDROGRAPH AT					
+	CP3E	.00	1	FLOW	29.
				TIME	3.92
HYDROGRAPH AT					
+	U370	.02	1	FLOW	7.
				TIME	3.58
2 COMBINED AT					
+	CP6	.02	1	FLOW	32.
				TIME	3.92
DIVERSION TO					
+	CP6E	.02	1	FLOW	14.
				TIME	3.92
HYDROGRAPH AT					
+	CP6S	.02	1	FLOW	18.
				TIME	3.92
HYDROGRAPH AT					
+	CP4E	.00	1	FLOW	25.
				TIME	3.83
HYDROGRAPH AT					
+	U350	.02	1	FLOW	7.
				TIME	3.58
3 COMBINED AT					
+	CP7	.03	1	FLOW	48.
				TIME	3.83
DIVERSION TO					
+	CP7E	.03	1	FLOW	24.
				TIME	3.83
HYDROGRAPH AT					
+	CP7S	.03	1	FLOW	24.
				TIME	3.83
HYDROGRAPH AT					
+	U305	.01	1	FLOW	4.
				TIME	3.58
2 COMBINED AT					
+	CP8	.04	1	FLOW	27.
				TIME	3.75
DIVERSION TO					
+	CP8E	.04	1	FLOW	13.
				TIME	3.75
HYDROGRAPH AT					
+	CP8S	.04	1	FLOW	14.
				TIME	3.75

HYDROGRAPH AT					
+	U310	.01	1	FLOW	5.
				TIME	3.58
3 COMBINED AT					
+	CP9	.35	1	FLOW	82.
				TIME	3.83
DIVERSION TO					
+	CP9S	.35	1	FLOW	56.
				TIME	3.83
HYDROGRAPH AT					
+	CP9E	.35	1	FLOW	26.
				TIME	3.83
ROUTED TO					
+	RCP9E	.35	1	FLOW	26.
				TIME	4.00
HYDROGRAPH AT					
+	CP6E	.00	1	FLOW	14.
				TIME	3.92
ROUTED TO					
+	RCP6E	.00	1	FLOW	14.
				TIME	4.33
HYDROGRAPH AT					
+	CP7E	.00	1	FLOW	24.
				TIME	3.83
ROUTED TO					
+	RCP7E	.00	1	FLOW	24.
				TIME	4.08
HYDROGRAPH AT					
+	CP8E	.00	1	FLOW	13.
				TIME	3.75
ROUTED TO					
+	RCP8E	.00	1	FLOW	13.
				TIME	3.83
5 COMBINED AT					
+	DUMMY	1.23	1	FLOW	91.
				TIME	4.17
HYDROGRAPH AT					
+	U410	.20	1	FLOW	64.
				TIME	3.83
2 COMBINED AT					
+	CP10	1.43	1	FLOW	134.
				TIME	4.08
DIVERSION TO					
+	CP10S	1.43	1	FLOW	83.
				TIME	4.08
HYDROGRAPH AT					
+	CP10E	1.43	1	FLOW	51.
				TIME	4.08
ROUTED TO					
+	RCP10E	1.43	1	FLOW	51.
				TIME	4.25
HYDROGRAPH AT					
+	U440	.05	1	FLOW	12.
				TIME	3.75
DIVERSION TO					
+	U440E	.05	1	FLOW	7.
				TIME	3.75
HYDROGRAPH AT					
+	U440S	.05	1	FLOW	5.
				TIME	3.75
ROUTED TO					
+	RU440S	.05	1	FLOW	5.
				TIME	3.92
HYDROGRAPH AT					
+	U470	.20	1	FLOW	40.
				TIME	3.83
3 COMBINED AT					
+	CP11	1.69	1	FLOW	79.
				TIME	4.08
DIVERSION TO					
+	CP11S	1.69	1	FLOW	33.
				TIME	4.08
HYDROGRAPH AT					
+	CP11E	1.69	1	FLOW	46.
				TIME	4.08
HYDROGRAPH AT					
+	U530	.01	1	FLOW	5.
				TIME	3.58
2 COMBINED AT					
+	CP12	1.70	1	FLOW	48.
				TIME	4.08
DIVERSION TO					
+	CP12S	1.70	1	FLOW	21.
				TIME	4.08

HYDROGRAPH AT					
+	CP12E	1.70	1	FLOW	27.
				TIME	4.08
ROUTED TO					
+	RCP12E	1.70	1	FLOW	27.
				TIME	4.25
HYDROGRAPH AT					
+	U130	.06	1	FLOW	19.
				TIME	3.67
DIVERSION TO					
+	U130E	.06	1	FLOW	10.
				TIME	3.67
HYDROGRAPH AT					
+	U130S	.06	1	FLOW	9.
				TIME	3.67
ROUTED TO					
+	RU130S	.06	1	FLOW	9.
				TIME	3.83
HYDROGRAPH AT					
+	U550	.05	1	FLOW	20.
				TIME	3.67
2 COMBINED AT					
+	CP13	.11	1	FLOW	28.
				TIME	3.75
DIVERSION TO					
+	CP13E	.11	1	FLOW	17.
				TIME	3.75
HYDROGRAPH AT					
+	CP13S	.11	1	FLOW	11.
				TIME	3.75
ROUTED TO					
+	RCP13S	.11	1	FLOW	11.
				TIME	3.92
HYDROGRAPH AT					
+	U440E	.00	1	FLOW	7.
				TIME	3.75
ROUTED TO					
+	RU440E	.00	1	FLOW	7.
				TIME	4.33
HYDROGRAPH AT					
+	U570	.18	1	FLOW	73.
				TIME	3.83
4 COMBINED AT					
+	CP14	1.99	1	FLOW	98.
				TIME	3.92
DIVERSION TO					
+	CP14S	1.99	1	FLOW	30.
				TIME	3.92
HYDROGRAPH AT					
+	CP14E	1.99	1	FLOW	68.
				TIME	3.92
ROUTED TO					
+	RCP14E	1.99	1	FLOW	69.
				TIME	4.08
HYDROGRAPH AT					
+	U610	.05	1	FLOW	14.
				TIME	3.75
2 COMBINED AT					
+	CP15	2.03	1	FLOW	77.
				TIME	4.08
DIVERSION TO					
+	CP15S	2.03	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP15E	2.03	1	FLOW	77.
				TIME	4.08
HYDROGRAPH AT					
+	CP9S	.00	1	FLOW	56.
				TIME	3.83
ROUTED TO					
+	RCP9S	.00	1	FLOW	56.
				TIME	4.17
HYDROGRAPH AT					
+	CP10S	.00	1	FLOW	83.
				TIME	4.08
ROUTED TO					
+	RCP10S	.00	1	FLOW	83.
				TIME	4.25
HYDROGRAPH AT					
+	U280	.27	1	FLOW	67.
				TIME	3.83
3 COMBINED AT					
+	CP16	.27	1	FLOW	181.
				TIME	4.17

ROUTED TO					
+	RCP16	.27	1	FLOW	185.
				TIME	4.42
HYDROGRAPH AT					
+	CP11S	.00	1	FLOW	33.
				TIME	4.08
ROUTED TO					
+	RCP11S	.00	1	FLOW	34.
				TIME	4.50
HYDROGRAPH AT					
+	CP12S	.00	1	FLOW	21.
				TIME	4.08
ROUTED TO					
+	RCP12S	.00	1	FLOW	22.
				TIME	4.42
HYDROGRAPH AT					
+	CP14S	.00	1	FLOW	30.
				TIME	3.92
ROUTED TO					
+	RCP14S	.00	1	FLOW	30.
				TIME	4.00
HYDROGRAPH AT					
+	U510	.49	1	FLOW	118.
				TIME	4.00
5 COMBINED AT					
+	CP17	.76	1	FLOW	336.
				TIME	4.33
HYDROGRAPH AT					
+	U650	.01	1	FLOW	5.
				TIME	3.58
2 COMBINED AT					
+	CP18	.77	1	FLOW	337.
				TIME	4.33
HYDROGRAPH AT					
+	U630	.07	1	FLOW	33.
				TIME	3.67
2 COMBINED AT					
+	CP19	.84	1	FLOW	344.
				TIME	4.33
HYDROGRAPH AT					
+	U620	.05	1	FLOW	22.
				TIME	3.67
2 COMBINED AT					
+	CP20	.89	1	FLOW	349.
				TIME	4.33
ROUTED TO					
+	RCP20	.89	1	FLOW	346.
				TIME	4.42
HYDROGRAPH AT					
+	CP15S	.00	1	FLOW	0.
				TIME	.00
ROUTED TO					
+	RCP15S	.00	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	U680	.11	1	FLOW	46.
				TIME	3.75
2 COMBINED AT					
+	CP21	.11	1	FLOW	46.
				TIME	3.75
HYDROGRAPH AT					
+	U760	.01	1	FLOW	4.
				TIME	3.58
3 COMBINED AT					
+	CPGTA	1.01	1	FLOW	358.
				TIME	4.42
HYDROGRAPH AT					
+	2-3	.03	1	FLOW	13.
				TIME	3.58
2 COMBINED AT					
+	CPGTA2	1.04	1	FLOW	360.
				TIME	4.42
HYDROGRAPH AT					
+	2-1	.04	1	FLOW	28.
				TIME	3.58
HYDROGRAPH AT					
+	2-2	.07	1	FLOW	44.
				TIME	3.67
HYDROGRAPH AT					
+	2-14A	.00	1	FLOW	1.
				TIME	3.58
3 COMBINED AT					
+	2A	.11	1	FLOW	72.
				TIME	3.58

2 COMBINED AT					
+	2B	1.15	1	FLOW	370.
				TIME	4.42
ROUTED TO					
+	DB1	1.15	1	FLOW	127.
				TIME	5.83
			** PEAK STAGES IN FEET **		
			1	STAGE	2301.62
				TIME	5.83
HYDROGRAPH AT					
+	2-6	.02	1	FLOW	15.
				TIME	3.58
2 COMBINED AT					
+	2C	1.17	1	FLOW	128.
				TIME	5.83
HYDROGRAPH AT					
+	2-7	.02	1	FLOW	7.
				TIME	3.58
2 COMBINED AT					
+	2D	1.19	1	FLOW	128.
				TIME	5.83
HYDROGRAPH AT					
+	2-4	.03	1	FLOW	28.
				TIME	3.58
HYDROGRAPH AT					
+	2-14B	.00	1	FLOW	1.
				TIME	3.58
2 COMBINED AT					
+	2E	.04	1	FLOW	29.
				TIME	3.58
HYDROGRAPH AT					
+	2-5	.09	1	FLOW	53.
				TIME	3.67
DIVERSION TO					
+	2-5E	.09	1	FLOW	25.
				TIME	3.67
HYDROGRAPH AT					
+	2-5W	.09	1	FLOW	28.
				TIME	3.67
HYDROGRAPH AT					
+	2-9	.02	1	FLOW	11.
				TIME	3.58
3 COMBINED AT					
+	2F	.14	1	FLOW	67.
				TIME	3.58
HYDROGRAPH AT					
+	2-5E	.00	1	FLOW	25.
				TIME	3.67
HYDROGRAPH AT					
+	2-10	.02	1	FLOW	12.
				TIME	3.58
3 COMBINED AT					
+	2G	.16	1	FLOW	103.
				TIME	3.58
HYDROGRAPH AT					
+	2-8	.03	1	FLOW	24.
				TIME	3.58
2 COMBINED AT					
+	2H	.19	1	FLOW	127.
				TIME	3.58
2 COMBINED AT					
+	2I	1.37	1	FLOW	192.
				TIME	3.58
HYDROGRAPH AT					
+	2-11	.03	1	FLOW	22.
				TIME	3.58
HYDROGRAPH AT					
+	2-12	.03	1	FLOW	17.
				TIME	3.58
2 COMBINED AT					
+	2J	.05	1	FLOW	39.
				TIME	3.58
2 COMBINED AT					
+	DUMMY	1.42	1	FLOW	231.
				TIME	3.58
HYDROGRAPH AT					
+	2-13	.03	1	FLOW	18.
				TIME	3.58
2 COMBINED AT					
+	PT2	1.45	1	FLOW	248.
				TIME	3.58

1

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
	RCP1E MANE	4.25	59.77	250.75	.21	5.00	59.69	255.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6897E+01 EXCESS= .0000E+00 OUTFLOW= .6901E+01 BASIN STORAGE= .1911E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RU15O MANE	3.75	15.01	236.25	.18	5.00	14.88	235.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1298E+01 EXCESS= .0000E+00 OUTFLOW= .1298E+01 BASIN STORAGE= .9878E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RCP2S MANE	4.75	22.74	256.50	.06	5.00	22.69	260.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2805E+01 EXCESS= .0000E+00 OUTFLOW= .2808E+01 BASIN STORAGE= .2198E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00									
	RCP4S MANE	3.75	26.75	236.25	.38	5.00	26.72	240.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2899E+01 EXCESS= .0000E+00 OUTFLOW= .2900E+01 BASIN STORAGE= .1067E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RCP9E MANE	5.00	25.88	240.00	.14	5.00	25.88	240.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2658E+01 EXCESS= .0000E+00 OUTFLOW= .2661E+01 BASIN STORAGE= .1455E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RCP6E MANE	5.00	14.47	260.00	-1.00	5.00	14.47	260.00	-1.00
FOR PLAN = 1 RATIO= .00									
	RCP7E MANE	5.00	23.86	245.00	-1.00	5.00	23.86	245.00	-1.00
FOR PLAN = 1 RATIO= .00									
	RCP8E MANE	.61	12.86	226.23	-1.00	5.00	12.85	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	5.00	50.74	255.00	.08	5.00	50.74	255.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6434E+01 EXCESS= .0000E+00 OUTFLOW= .6437E+01 BASIN STORAGE= .2038E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU440S	MANE	2.25	4.85	236.25	.15	5.00	4.80	235.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4105E+00 EXCESS= .0000E+00 OUTFLOW= .4107E+00 BASIN STORAGE= .9404E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	5.00	26.82	255.00	.04	5.00	26.82	255.00	.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3644E+01 EXCESS= .0000E+00 OUTFLOW= .3646E+01 BASIN STORAGE= .1454E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU130S	MANE	4.00	9.18	228.00	.22	5.00	8.97	230.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6444E+00 EXCESS= .0000E+00 OUTFLOW= .6449E+00 BASIN STORAGE= .9329E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	4.50	10.95	234.00	.14	5.00	10.76	235.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8358E+00 EXCESS= .0000E+00 OUTFLOW= .8364E+00 BASIN STORAGE= .1028E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU440E	MANE	2.25	7.71	252.00	-1.00	5.00	6.74	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	5.00	68.52	245.00	.08	5.00	68.52	245.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8089E+01 EXCESS= .0000E+00 OUTFLOW= .8092E+01 BASIN STORAGE= .1759E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	55.85	250.00	-1.00	5.00	55.85	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	82.51	255.00	-1.00	5.00	82.51	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16 MANE	5.00	184.88	265.00	1.57	5.00	184.88	265.00	1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2247E+02 EXCESS= .0000E+00 OUTFLOW= .2249E+02 BASIN STORAGE= .4033E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP11S MANE	5.00	33.98	270.00	-1.00	5.00	33.98	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S MANE	5.00	21.81	265.00	-1.00	5.00	21.81	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S MANE	5.00	29.98	240.00	-1.00	5.00	29.98	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP20 MANE	3.87	347.89	262.96	1.07	5.00	345.75	265.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5066E+02 EXCESS= .0000E+00 OUTFLOW= .5066E+02 BASIN STORAGE= .1005E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP15S MANE	5.00	.00	.00	-1.00	5.00	.00	265.00	-1.00

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

HEC-1 Model: 100-Year Ultimate Condition

```
1*****************************************
*****************************************
 *                                       *
 *                                       *
 *    FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *                                       *
 *                 JUN   1998            *
 *                                       *
 *              VERSION 4.1              *
 *                                       *
 *                                       *
 *                                       *
 *   RUN DATE   14MAY14  TIME  08:45:31  *
 *                                       *
 *                                       *
 *                                       *
 *****************************************
*****************************************
```


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


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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     ULTIMATE CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 100-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ ULT100.H1
   10         ID     DATE ---------------- MAY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        0.00-0.49                  0.990
   16         ID        0.50-0.99                  0.975
   17         ID        1.00-1.99                  0.950
   18         ID        2.00-2.99                  0.925
   19         ID        3.00-3.99                  0.915
   20         ID        4.00-4.99                  0.908
   21         ID
   22         IT      5       0       0     300
   23         IO      5       0       0
   24         IN      5       0       0
   25         JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
              *
   26         KK    U190
   27         BA   .3684
   28         PB    2.77
   29         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   30         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   31         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   32         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   33         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   34         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   35         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   36         PC   0.998   0.999   1.000
   37         LS       0    80.7
   38         UD   0.522
              *
   39         KK    U170
   40         BA   .2521
   41         LS       0    83.0
   42         UD   0.521
              *
   43         KK     CP1
   44         KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
   45         HC       2
              *
```

1 HEC-1 INPUT PAGE 2

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

   46         KK    CP1E
   47         KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
   48         KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   49         DT    CP1S
   50         DI     297     302     308     323     339     348
   51         DQ     125     127     129     136     143     148
              *
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```
52          KK   RCP1E
53          KM   ROUTE TO CP2
54          RD    2480   .0050   0.016       0    TRAP       0      50
            *

55          KK    U150
56          BA   .1336
57          LS      0    83.0
58          UD   0.322
            *

59          KK   U150S
60          KM   U150S IS THE FLOW DRAINING SOUTH IN JONES
61          KM   U150E IS THE FLOW DRAINING EAST IN SHELEHEDA
62          KM   EXISTING SD IN JONES IS FOR NUISANCE FLOW
63          DT   U150E
64          DI     90      91      93      97     102     104
65          DQ     52      52      53      56      59      60
            *

66          KK   RU150S
67          KM   ROUTE TO CP2
68          RD    1345   .0050   0.016       0    TRAP       0      50
            *

69          KK   U155
70          BA   .1294
71          LS      0    83.4
72          UD   0.314
            *

73          KK     CP2
74          KM   COMBINE CP1 U150S AND U155 AT IRON MOUNTAIN AND JONES
75          HC       3
            *

76          KK    CP2S
77          KM   CP2S IS THE FLOW DRAINING SOUTH IN JONES
78          KM   CP2E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
79          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
80          DT    CP2E
81          DI     244     250     258     277     294     302
82          DQ     145     148     152     161     170     174
            *
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LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

83          KK   RCP2S
84          KM   ROUTE TO CP10
85          RD    2695   .0050   0.016       0    TRAP       0      50
            *

86          KK    CP1S
87          KM   RETRIEVE CP1S
88          DR    CP1S
            *

89          KK    U210
90          BA   .0727
91          LS      0    83.1
92          UD   0.289
            *

93          KK     CP3
94          KM   COMBINE CP1S AND U210 AT MAGGIE AND TORREY PINES
95          HC       2
            *

96          KK    CP3S
97          KM   CP3S IS THE FLOW DRAINING SOUTH IN TORREY PINES
98          KM   CP3E IS THE FLOW DRAINING EAST IN MAGGIE
99          DT    CP3E
100         DI     177     177     178     181     186     192
101         DQ      81      81      82      83      85      89
            *

102         KK    U250
103         BA   .0698
104         LS      0    83.1
105         UD   0.289
            *

106         KK     CP4
107         KM   COMBINE CP3S AND U250 AT BRENT AND TORREY PINES
108         HC       2
            *

109         KK    CP4S
110         KM   CP4S IS THE FLOW DRAINING SOUTH IN TORREY PINES
111         KM   CP4E IS THE FLOW DRAINING EAST IN BRENT
112         DT    CP4E
113         DI     145     146     147     151     155     158
114         DQ      72      73      73      75      77      79
            *

115         KK   RCP4S
116         KM   ROUTE TO CP5
117         RD    1380   .0050   0.016       0    TRAP       0      50
            *
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LINE        ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

118         KK    U230
119         BA   .1390
120         LS      0    83.4
121         UD   0.328
            *
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122          KK    U330
123          BA   .0142
124          LS      0    85.0
125          UD   0.188
             *

126          KK     CP5
127          KM   COMBINE CP4S U230 AND U330 AT HORSE AND TORREY PINES
128          HC       3
             *

129          KK    CP3E
130          KM   RETRIEVE CP3E
131          DR    CP3E
             *

132          KK    U370
133          BA   .0159
134          LS      0    86.2
135          UD   0.185
             *

136          KK     CP6
137          KM   COMBINE CP3E AND U370 AT MAGGIE AND MUSTANG
138          HC       2
             *

139          KK    CP6S
140          KM   CP6S IS THE FLOW DRAINING SOUTH IN MUSTANG
141          KM   CP6E IS THE FLOW DRAINING EAST IN MAGGIE
142          DT    CP6E
143          DI      97      97      97      99     100     101
144          DQ      44      44      44      45      45      46
             *

145          KK    CP4E
146          KM   RETRIEVE CP4E
147          DR    CP4E
             *

148          KK    U350
149          BA   .0163
150          LS      0    86.3
151          UD   0.186
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

152          KK     CP7
153          KM   COMBINE CP6S CP4E AND U350 AT BRENT AND MUSTANG
154          HC       3
             *

155          KK    CP7S
156          KM   CP7S IS THE FLOW DRAINING SOUTH IN MUSTANG
157          KM   CP7E IS THE FLOW DRAINING EAST IN BRENT
158          DT    CP7E
159          DI     141     141     142     144     148     150
160          DQ      70      70      71      72      74      75
             *

161          KK    U305
162          BA   .0093
163          LS      0    86.7
164          UD   0.171
             *

165          KK     CP8
166          KM   COMBINE CP7S AND U305 AT GUY AND MUSTANG
167          HC       2
             *

168          KK    CP8S
169          KM   CP8S IS THE FLOW DRAINING SOUTH IN MUSTANG
170          KM   CP8E IS THE FLOW DRAINING EAST IN GUY
171          DT    CP8E
172          DI      81      81      81      82      84      85
173          DQ      38      38      38      39      39      40
             *

174          KK    U310
175          BA   .0102
176          LS      0    87.1
177          UD   0.171
             *

178          KK     CP9
179          KM   COMBINE CP5 CP8S AND U310 AT HORSE AND MUSTANG
180          HC       3
             *

181          KK    CP9E
182          KM   CP9S IS THE FLOW DRAINING SOUTH IN MUSTANG
183          KM   CP9E IS THE FLOW DRAINING EAST IN HORSE
184          KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
185          DT    CP9S
186          DI     215     219     225     236     246     251
187          DQ     139     141     145     152     157     160
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

188          KK   RCP9E
189          KM   ROUTE TO CP10
190          RD    1950   .0050   0.016       0    TRAP       0      50
             *
```

```
191          KK    CP6E
192          KM   RETRIEVE CP6E
193          DR    CP6E
             *

194          KK   RCP6E
195          KM   ROUTE TO CP10
196          RD    4010   .0050   0.016       0    TRAP       0      50
             *

197          KK    CP7E
198          KM   RETRIEVE CP7E
199          DR    CP7E
             *

200          KK   RCP7E
201          KM   ROUTE TO CP10
202          RD    3370   .0050   0.016       0    TRAP       0      50
             *

203          KK    CP8E
204          KM   RETRIEVE CP8E
205          DR    CP8E
             *

206          KK   RCP8E
207          KM   ROUTE TO CP10
208          RD    2680    0050   0.016       0    TRAP       0      50
             *

209          KK   DUMMY
210          KM   COMBINE CP2S CP9E CP6E CP7E AND CP8E
211          HC       5
             *

212          KK    U410
213          BA   .2013
214          LS       0    85.7
215          UD   0.354
             *

216          KK    CP10
217          KM   COMBINE DUMMY AND U410 AT HORSE AND JONES
218          HC       2
             *
```



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

219          KK   CP10E
220          KM   CP10S IS THE FLOW DRAINING SOUTH IN JONES
221          KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
222          KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
223          DT   CP10S
224          DI     351     359     365     410     437     452
225          DQ     202     206     209     234     248     257
             *

226          KK  RCP10E
227          KM   ROUTE TO CP11
228          RD    2530   .0050   0.016       0    TRAP       0      50
             *

229          KK    U440
230          BA   .0523
231          LS       0    80.9
232          UD   0.290
             *

233          KK   U440S
234          KM   U440S IS THE FLOW DRAINING SOUTH IN BRADLEY
235          KM   U440E IS THE FLOW DRAINING EAST IN BRENT
236          DT   U440E
237          DI      33      33      34      36      37      38
238          DQ      18      18      18      19      20      21
             *

239          KK  RU440S
240          KM   ROUTE TO CP11
241          RD    1345   .0050   0.016       0    TRAP       0      50
             *

242          KK    U470
243          BA   .2012
244          LS       0    80.7
245          UD   0.356
             *

246          KK    CP11
247          KM   COMBINE CP10E U440S AND U470 AT HORSE AND BRADLEY
248          HC       3
             *

249          KK   CP11E
250          KM   CP11S IS THE FLOW DRAINING SOUTH IN BRADLEY
251          KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
252          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
253          DT   CP11S
254          DI     252     259     265     278     292     298
255          DQ     108     112     114     118     125     127
             *
```



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

256          KK    U530
257          BA   .0131
258          LS       0    84.0
259          UD   0.148
             *
```

```
260          KK    CP12
261          KM   COMBINE CP11E AND U530 AT HORSE AND UNICORN
262          HC       2
             *

263          KK   CP12E
264          KM   CP12S IS THE FLOW DRAINING SOUTH IN UNICORN
265          KM   CP12E IS THE FLOW DRAINING EAST IN HORSE
266          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
267          DT   CP12S
268          DI     148     151     154     164     171     175
269          DQ      68      70      71      75      78      80
             *

270          KK  RCP12E
271          KM   ROUTE TO CP14
272          RD    1825   .0050   0.016       0    TRAP       0      50
             *

273          KK    U130
274          BA   .0556
275          LS       0    83.9
276          UD   0.203
             *

277          KK   U130S
278          KM   U130S IS THE FLOW DRAINING SOUTH IN DECATUR
279          KM   U130E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
280          DT   U130E
281          DI      47      48      49      51      53      54
282          DQ      26      26      26      27      28      29
             *

283          KK  RU130S
284          KM   ROUTE TO CP13
285          RD    1270   .0050   0.016       0    TRAP       0      50
             *

286          KK    U550
287          BA   .0534
288          LS       0    85.4
289          UD   0.225
             *
```



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

290          KK    CP13
291          KM   COMBINE U130S AND U550 AT BRENT AND DECATUR
292          HC       2
             *

293          KK   CP13S
294          KM   CP13S IS THE FLOW DRAINING SOUTH IN DECATUR
295          KM   CP13E IS THE FLOW DRAINING EAST IN BRENT
296          DT   CP13E
297          DI      64      65      67      70      74      76
298          DQ      37      37      38      41      43      44
             *

299          KK  RCP13S
300          KM   ROUTE TO CP14
301          RD    1290   .0040   0.016       0    TRAP       0      50
             *

302          KK   U440E
303          KM   RETRIEVE U440E
304          DR   U440E
             *

305          KK  RU440E
306          KM   ROUTE TO CP14
307          RD    3850   .0040   0.016       0    TRAP       0      50
             *

308          KK    U570
309          BA   .1791
310          LS       0    89.0
311          UD   0.370
             *

312          KK    CP14
313          KM   COMBINE CP12E CP13S U440E AND U570 AT HORSE AND DECATUR
314          HC       4
             *

315          KK   CP14E
316          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
317          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
318          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
319          DT   CP14S
320          DI     202     207     213     224     250     269
321          DQ      30      30      30      30      30      30
             *

322          KK  RCP14E
323          KM   ROUTE TO CP15
324          RD    2645   .0050   0.016       0    TRAP       0      50
             *
```



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

325          KK    U610
326          BA   .0479
327          LS       0    84.2
328          UD   0.311
             *
```

```
329          KK    CP15
330          KM    COMBINE CP14E AND U610 AT HORSE AND AVIARY
331          HC       2
             *

332          KK    CP15E
333          KM    CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
334          KM    CP15E IS THE FLOW DRAINING EAST IN HORSE
335          KM    ULTIMATE SD IN HORSE CONVEYS 321 CFS EAST
336          DT    CP15S
337          DI      177     181     186     198     235     250
338          DQ        0       0       0       0       0       0
             *

339          KK    CP9S
340          KM    RETRIEVE CP9S
341          DR    CP9S
             *

342          KK    RCP9S
343          KM    ROUTE TO CP16
344          RD     4770   .0050   0.016       0    TRAP       0      50
             *

345          KK    CP10S
346          KM    RETRIEVE CP10S
347          DR    CP10S
             *

348          KK   RCP10S
349          KM    ROUTE TO CP16
350          RD     2755   .0050   0.016       0    TRAP       0      50
             *

351          KK    U280
352          BA   .2688
353          LS       0    83.3
354          UD   0.375
             *

355          KK    CP16
356          KM    COMBINE CP9S CP10S AND U280 AT GRAND TETON AND JONES
357          HC       3
             *
```

1 HEC-1 INPUT PAGE 11

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

358          KK    RCP16
359          KM    ROUTE TO CP17
360          RD     4900   .0050   0.016       0    TRAP       0      50
             *

361          KK    CP11S
362          KM    RETRIEVE CP11S
363          DR    CP11S
             *

364          KK   RCP11S
365          KM    ROUTE TO CP17
366          RD     5215   .0050   0.016       0    TRAP       0      50
             *

367          KK    CP12S
368          KM    RETRIEVE CP12S
369          DR    CP12S
             *

370          KK   RCP12S
371          KM    ROUTE TO CP17
372          RD     4550   .0050   0.016       0    TRAP       0      50
             *

373          KK    CP14S
374          KM    RETRIEVE CP14S
375          DR    CP14S
             *

376          KK   RCP14S
377          KM    ROUTE TO CP17
378          RD     2565   .0050   0.013       0    CIRC     2.5       0
             *

379          KK    U510
380          BA   .4885
381          LS       0    84.8
382          UD   0.510
             *

383          KK    CP17
384          KM    COMBINE CP16 CP11S CP12S CP14S AND U510 AT GRAND TETON AND DECATUR
385          HC       5
             *

386          KK    U650
387          BA   .0085
388          LS       0    89.3
389          UD   0.106
             *
```

1 HEC-1 INPUT PAGE 12

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

390          KK    CP18
391          KM    COMBINE CP17 AND U650 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
392          HC       2
             *

393          KK    U630
394          BA   .0735
```

```
395          LS       0    88.0
396          UD   0.246
             *

397          KK    CP19
398          KM   COMBINE CP18 AND U630 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
399          HC       2
             *

400          KK    U620
401          BA   .0472
402          LS       0    88.1
403          UD   0.246
             *

404          KK    CP20
405          KM   COMBINE CP19 AND U620 AT GRAND TETON AND SAN MATEO
406          HC       2
             *

407          KK   RCP20
408          KM   ROUTE TO CP22
409          RD    1230   .0050   0.016       0    TRAP       0      50
             *

410          KK   CP15S
411          KM   RETRIEVE CP15S
412          DR   CP15S
             *

413          KK  RCP15S
414          KM   ROUTE TO CP20
415          RD    2555   .0050   0.016       0    TRAP       0      50
             *

416          KK    U680
417          BA   .1122
418          LS       0    88.0
419          UD   0.303
             *

420          KK    CP21
421          KM   COMBINE CP15S AND U680 IN AVIARY JUST NORTH OF GRAND TETON
422          HC       2
             *
```



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

423          KK    U760
424          BA   .0076
425          LS       0    88.3
426          UD   0.147
             *

427          KK   CPGTA
428          KM   COMBINE CP20 CP21 AND U760 AT GRAND TETON AND AVIARY
429          HC       3
             *

430          KK     2-3
431          BA  0.0327
432          LS       0    85.0
433          UD   0.172
             *

434          KK  CPGTA2
435          HC       2
             *

436          KK     2-1
437          BA  0.0367
438          LS       0    94.0
439          UD   0.187
             *

440          KK     2-2
441          BA  0.0742
442          LS       0    91.0
443          UD   0.215
             *

444          KK   2-14A
445          BA  0.0027
446          LS       0    85.0
447          UD   0.135
             *

448          KK      2A
449          HC       3
             *

450          KK      2B
451          KO       2
452          HC       2
             *

453          KK     DB1
454          KM   PARK HIGHLANDS WEST DETENTION BASIN
455          KO       2
456          RS       1   ELEV      -1
457          SV       0  0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
458          SE  2297.0  2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
```



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

459          SQ       0      72     110     138     161     199     215     231     252    1975
460          SE  2297.0  2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
461          KO       1
             *
```

```
462          KK     2-6
463          BA  0.0180
464          LS       0     94.0
465          UD   0.158
             *

466          KK      2C
467          HC       2
             *

468          KK     2-7
469          BA  0.0156
470          LS       0     85.0
471          UD   0.137
             *

472          KK      2D
473          HC       2
             *

474          KK     2-4
475          BA  0.0334
476          LS       0     94.0
477          UD   0.137
             *

478          KK   2-14B
479          BA  0.0025
480          LS       0     85.0
481          UD   0.126
             *

482          KK      2E
483          HC       2
             *

484          KK     2-5
485          BA  0.0891
486          LS       0     91.0
487          UD   0.215
             *

488          KK    2-5W
489          DT    2-5E
490          DI       0      100
491          DQ       0       48
             *
```



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

492          KK     2-9
493          BA  0.0156
494          LS       0     91.0
495          UD   0.135
             *

496          KK      2F
497          HC       3
             *

498          KK    2-5E
499          DR    2-5E
             *

500          KK    2-10
501          BA  0.0163
502          LS       0     91.0
503          UD   0.132
             *

504          KK      2G
505          HC       3
             *

506          KK     2-8
507          BA  0.0286
508          LS       0     94.0
509          UD   0.144
             *

510          KK      2H
511          HC       2
             *

512          KK      2I
513          HC       2
             *

514          KK    2-11
515          BA  0.0255
516          LS       0     94.0
517          UD   0.135
             *

518          KK    2-12
519          BA  0.0272
520          LS       0     90.0
521          UD   0.150
             *
```



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

522          KK      2J
523          HC       2
             *

524          KK   DUMMY
```

```
525           HC       2
              *
526           KK    2-13
527           BA  0.0273
528           LS       0    91.0
529           UD   0.176
              *
530           KK     PT2
531           HC       2
              *
532           ZZ
```

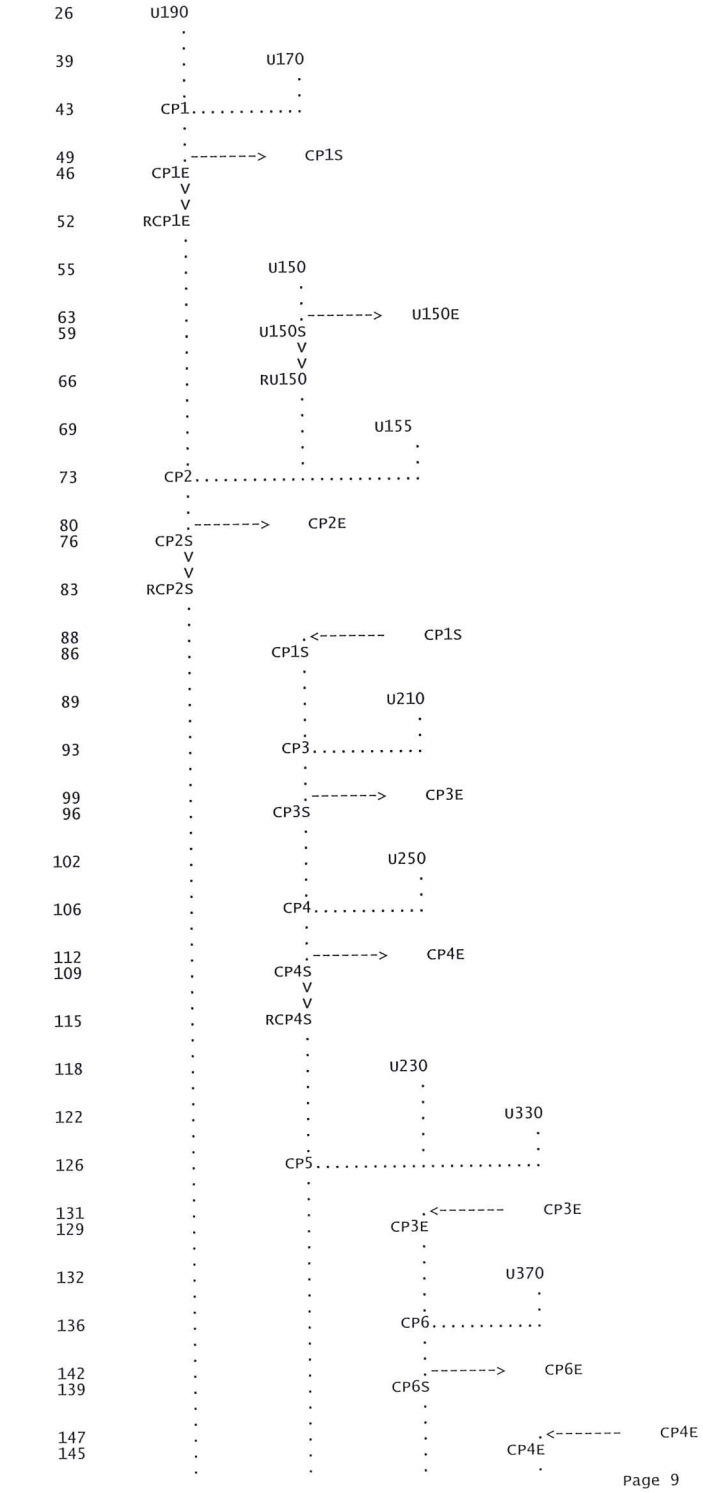
1

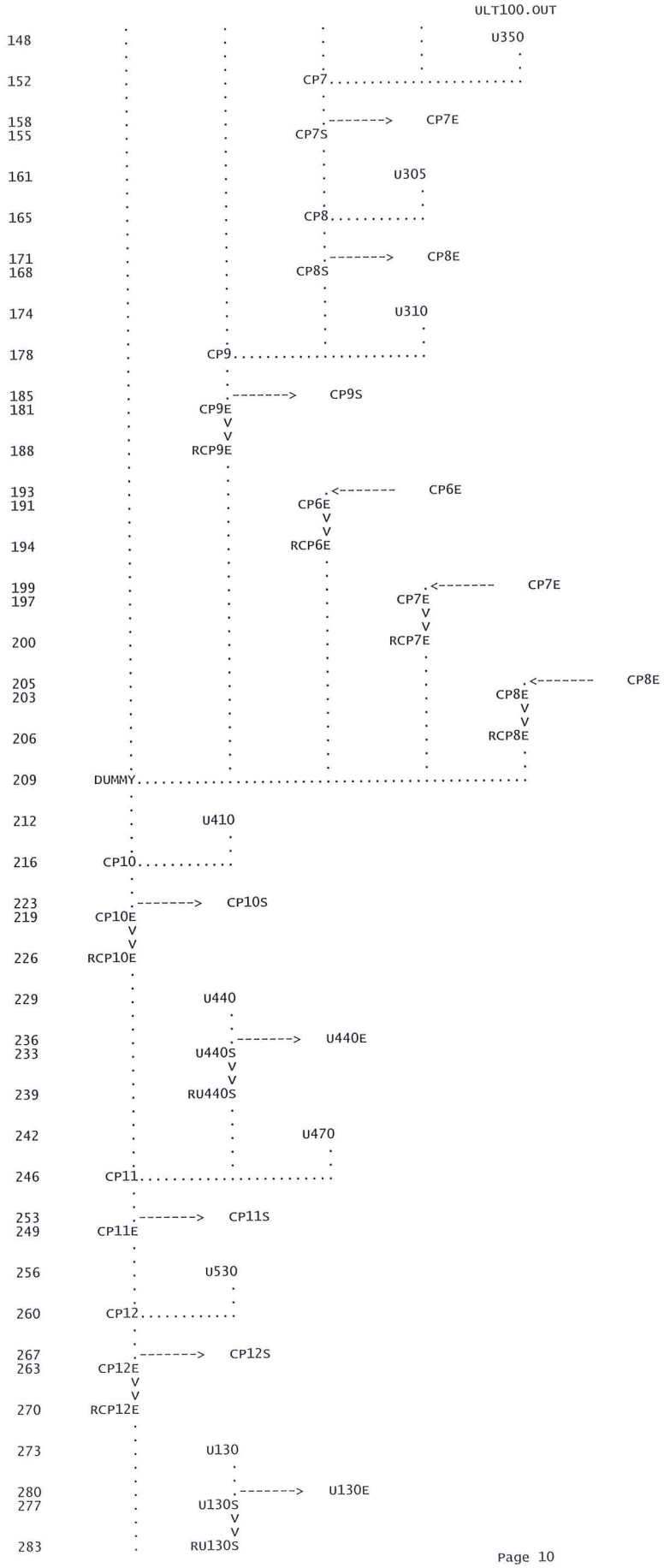
SCHEMATIC DIAGRAM OF STREAM NETWORK

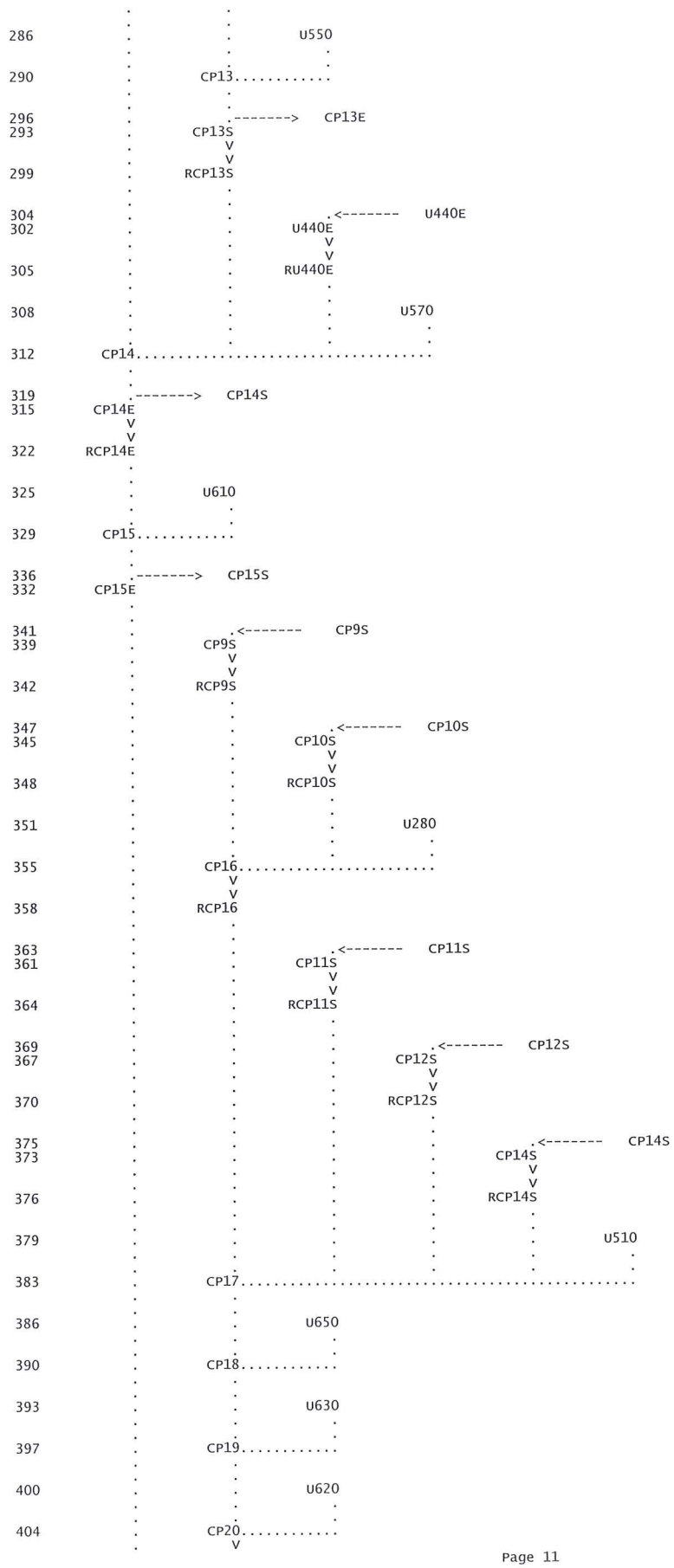
INPUT LINE NO.

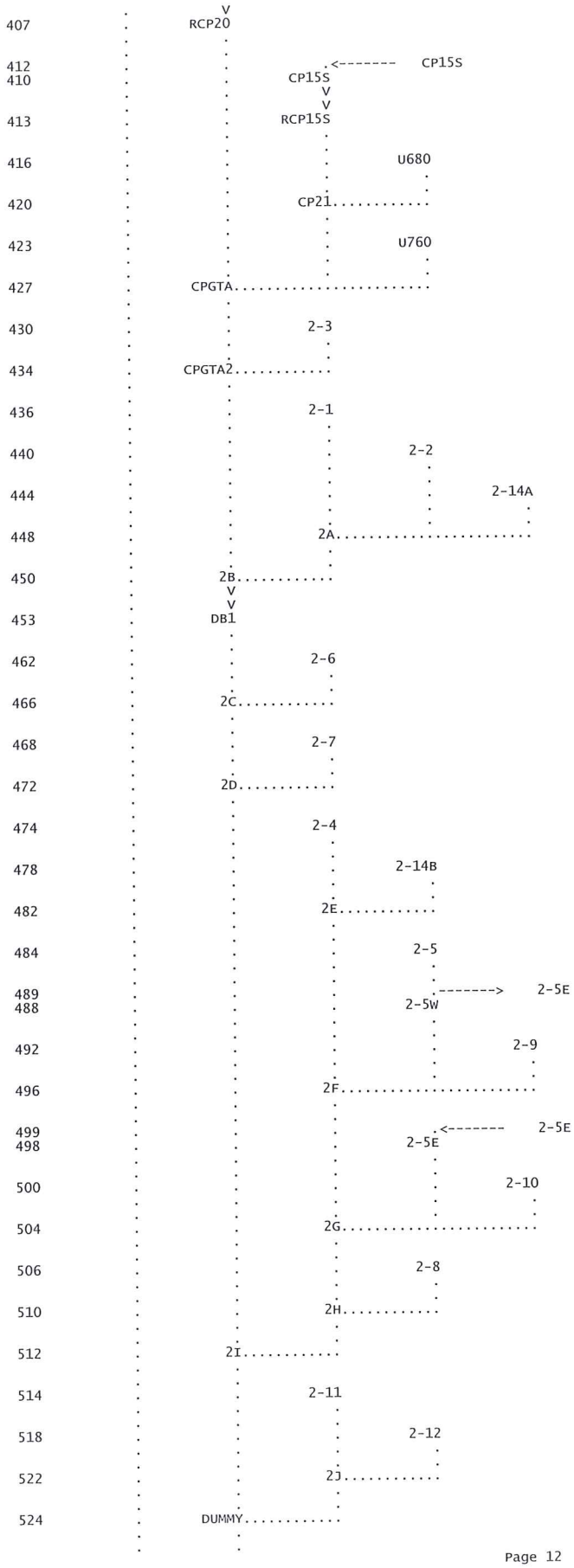
(V) ROUTING (---->) DIVERSION OR PUMP FLOW

(.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW




148
U350
152
CP7
158
CP7E
155
CP7S
161
U305
165
CP8
171
CP8E
168
CP8S
174
U310
178
CP9
185
CP9S
181
CP9E
188
RCP9E
193
CP6E
191
CP6E
194
RCP6E
199
CP7E
197
CP7E
200
RCP7E
205
CP8E
203
CP8E
206
RCP8E
209
DUMMY
212
U410
216
CP10
223
CP10S
219
CP10E
226
RCP10E
229
U440
236
U440E
233
U440S
239
RU440S
242
U470
246
CP11
253
CP11S
249
CP11E
256
U530
260
CP12
267
CP12S
263
CP12E
270
RCP12E
273
U130
280
U130E
277
U130S
283
RU130S


286
U550
290
CP13
296
CP13E
293
CP13S
299
RCP13S
304
U440E
302
U440E
305
RU440E
308
U570
312
CP14
319
CP14S
315
CP14E
322
RCP14E
325
U610
329
CP15
336
CP15S
332
CP15E
341
CP9S
339
CP9S
342
RCP9S
347
CP10S
345
CP10S
348
RCP10S
351
U280
355
CP16
358
RCP16
363
CP11S
361
CP11S
364
RCP11S
369
CP12S
367
CP12S
370
RCP12S
375
CP14S
373
CP14S
376
RCP14S
379
U510
383
CP17
386
U650
390
CP18
393
U630
397
CP19
400
U620
404
CP20


407
RCP20
412
410
CP15S
CP15S
413
RCP15S
416
U680
420
CP21
423
U760
427
CPGTA
430
2-3
434
CPGTA2
436
2-1
440
2-2
444
2-14A
448
2A
450
2B
453
DB1
462
2-6
466
2C
468
2-7
472
2D
474
2-4
478
2-14B
482
2E
484
2-5
489
2-5E
488
2-5W
492
2-9
496
2F
499
2-5E
498
2-5E
500
2-10
504
2G
506
2-8
510
2H
512
2I
514
2-11
518
2-12
522
2J
524
DUMMY

```
  526          .           .        2-13
               .           .          .
               .           .          .
  530          .         PT2.....
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
****************************************
 *                                      *                                      *
 *                                      *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                      *    U.S. ARMY CORPS OF ENGINEERS
 *                                      *                                      *
 *               JUN   1998             *                                      *    HYDROLOGIC ENGINEERING CENTER
 *                                      *                                      *
 *            VERSION 4.1               *                                      *         609 SECOND STREET
 *                                      *                                      *
 *                                      *                                      *       DAVIS, CALIFORNIA 95616
 *                                      *                                      *
 *  RUN DATE   14MAY14  TIME  08:45:31  *                                      *          (916) 756-1104
 *                                      *                                      *
 *                                      *                                      *
 ****************************************
****************************************
```

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
ULTIMATE CONDITION

RETURN PERIOD ------- 100-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ ULT100.H1
DATE ---------------- MAY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	DARF
0.00-0.49	0.990
0.50-0.99	0.975
1.00-1.99	0.950
2.00-2.99	0.925
3.00-3.99	0.915
4.00-4.99	0.908

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

     IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      2    0  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                   COMPUTATION INTERVAL      .08 HOURS
                        TOTAL TIME BASE    24.92 HOURS

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

     JP          MULTI-PLAN OPTION
                       NPLAN          1  NUMBER OF PLANS

     JR          MULTI-RATIO OPTION
                     RATIOS OF PRECIPITATION
                     .99       .98       .95       .93       .92       .91
```

*** *** *** *

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	175.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	153.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	133.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	117.	1		1245	154	0.	1		1900	229	0.
1		0020	5	1.	1		0635	80	103.	1		1250	155	0.	1		1905	230	0.
1		0025	6	2.	1		0640	81	92.	1		1255	156	0.	1		1910	231	0.
1		0030	7	4.	1		0645	82	81.	1		1300	157	0.	1		1915	232	0.
1		0035	8	6.	1		0650	83	71.	1		1305	158	0.	1		1920	233	0.
1		0040	9	7.	1		0655	84	62.	1		1310	159	0.	1		1925	234	0.
1		0045	10	6.	1		0700	85	54.	1		1315	160	0.	1		1930	235	0.
1		0050	11	5.	1		0705	86	46.	1		1320	161	0.	1		1935	236	0.
1		0055	12	4.	1		0710	87	40.	1		1325	162	0.	1		1940	237	0.
1		0100	13	4.	1		0715	88	36.	1		1330	163	0.	1		1945	238	0.
1		0105	14	3.	1		0720	89	31.	1		1335	164	0.	1		1950	239	0.
1		0110	15	4.	1		0725	90	27.	1		1340	165	0.	1		1955	240	0.
1		0115	16	4.	1		0730	91	23.	1		1345	166	0.	1		2000	241	0.
1		0120	17	5.	1		0735	92	20.	1		1350	167	0.	1		2005	242	0.
1		0125	18	7.	1		0740	93	17.	1		1355	168	0.	1		2010	243	0.
1		0130	19	10.	1		0745	94	14.	1		1400	169	0.	1		2015	244	0.
1		0135	20	15.	1		0750	95	12.	1		1405	170	0.	1		2020	245	0.
1		0140	21	20.	1		0755	96	10.	1		1410	171	0.	1		2025	246	0.
1		0145	22	24.	1		0800	97	9.	1		1415	172	0.	1		2030	247	0.
1		0150	23	27.	1		0805	98	8.	1		1420	173	0.	1		2035	248	0.
1		0155	24	28.	1		0810	99	6.	1		1425	174	0.	1		2040	249	0.
1		0200	25	27.	1		0815	100	5.	1		1430	175	0.	1		2045	250	0.
1		0205	26	26.	1		0820	101	5.	1		1435	176	0.	1		2050	251	0.
1		0210	27	26.	1		0825	102	4.	1		1440	177	0.	1		2055	252	0.
1		0215	28	29.	1		0830	103	3.	1		1445	178	0.	1		2100	253	0.
1		0220	29	35.	1		0835	104	3.	1		1450	179	0.	1		2105	254	0.
1		0225	30	43.	1		0840	105	2.	1		1455	180	0.	1		2110	255	0.
1		0230	31	49.	1		0845	106	2.	1		1500	181	0.	1		2115	256	0.
1		0235	32	53.	1		0850	107	2.	1		1505	182	0.	1		2120	257	0.
1		0240	33	57.	1		0855	108	1.	1		1510	183	0.	1		2125	258	0.
1		0245	34	63.	1		0900	109	1.	1		1515	184	0.	1		2130	259	0.
1		0250	35	68.	1		0905	110	1.	1		1520	185	0.	1		2135	260	0.
1		0255	36	71.	1		0910	111	1.	1		1525	186	0.	1		2140	261	0.
1		0300	37	72.	1		0915	112	1.	1		1530	187	0.	1		2145	262	0.
1		0305	38	79.	1		0920	113	1.	1		1535	188	0.	1		2150	263	0.
1		0310	39	99.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	136.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	203.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	311.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	456.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	604.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	708.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	782.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	871.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	1001.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	1135.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	1201.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	1190.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	1146.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	1083.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	1008.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	943.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	894.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	850.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	805.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	765.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	733.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	693.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	648.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	608.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	569.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	537.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	509.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	478.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	442.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	401.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	356.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	310.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	271.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	240.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	218.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	197.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
1201.	4.08		354.	89.	86.	86.
		(INCHES)	2.853	2.875	2.875	2.875
		(AC-FT)	175.	177.	177.	177.

CUMULATIVE AREA = 1.15 SQ MI

HYDROGRAPH AT STATION 2B
SUM OF 2 HYDROGRAPHS
PLAN 1, RATIO = .98

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	172.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	150.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	131.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	115.	1		1245	154	0.	1		1900	229	0.
1		0020	5	1.	1		0635	80	102.	1		1250	155	0.	1		1905	230	0.
1		0025	6	2.	1		0640	81	91.	1		1255	156	0.	1		1910	231	0.
1		0030	7	4.	1		0645	82	80.	1		1300	157	0.	1		1915	232	0.
1		0035	8	6.	1		0650	83	70.	1		1305	158	0.	1		1920	233	0.
1		0040	9	7.	1		0655	84	61.	1		1310	159	0.	1		1925	234	0.
1		0045	10	6.	1		0700	85	53.	1		1315	160	0.	1		1930	235	0.
1		0050	11	5.	1		0705	86	46.	1		1320	161	0.	1		1935	236	0.
1		0055	12	4.	1		0710	87	40.	1		1325	162	0.	1		1940	237	0.
1		0100	13	3.	1		0715	88	35.	1		1330	163	0.	1		1945	238	0.
1		0105	14	3.	1		0720	89	31.	1		1335	164	0.	1		1950	239	0.
1		0110	15	3.	1		0725	90	27.	1		1340	165	0.	1		1955	240	0.
1		0115	16	4.	1		0730	91	23.	1		1345	166	0.	1		2000	241	0.
1		0120	17	5.	1		0735	92	20.	1		1350	167	0.	1		2005	242	0.
1		0125	18	7.	1		0740	93	17.	1		1355	168	0.	1		2010	243	0.
1		0130	19	9.	1		0745	94	14.	1		1400	169	0.	1		2015	244	0.
1		0135	20	14.	1		0750	95	12.	1		1405	170	0.	1		2020	245	0.
1		0140	21	19.	1		0755	96	10.	1		1410	171	0.	1		2025	246	0.
1		0145	22	23.	1		0800	97	9.	1		1415	172	0.	1		2030	247	0.
1		0150	23	26.	1		0805	98	7.	1		1420	173	0.	1		2035	248	0.
1		0155	24	27.	1		0810	99	6.	1		1425	174	0.	1		2040	249	0.
1		0200	25	26.	1		0815	100	5.	1		1430	175	0.	1		2045	250	0.
1		0205	26	25.	1		0820	101	5.	1		1435	176	0.	1		2050	251	0.
1		0210	27	24.	1		0825	102	4.	1		1440	177	0.	1		2055	252	0.
1		0215	28	27.	1		0830	103	3.	1		1445	178	0.	1		2100	253	0.
1		0220	29	34.	1		0835	104	3.	1		1450	179	0.	1		2105	254	0.
1		0225	30	41.	1		0840	105	2.	1		1455	180	0.	1		2110	255	0.
1		0230	31	47.	1		0845	106	2.	1		1500	181	0.	1		2115	256	0.
1		0235	32	50.	1		0850	107	2.	1		1505	182	0.	1		2120	257	0.
1		0240	33	54.	1		0855	108	1.	1		1510	183	0.	1		2125	258	0.
1		0245	34	60.	1		0900	109	1.	1		1515	184	0.	1		2130	259	0.
1		0250	35	65.	1		0905	110	1.	1		1520	185	0.	1		2135	260	0.
1		0255	36	68.	1		0910	111	1.	1		1525	186	0.	1		2140	261	0.
1		0300	37	69.	1		0915	112	1.	1		1530	187	0.	1		2145	262	0.
1		0305	38	76.	1		0920	113	1.	1		1535	188	0.	1		2150	263	0.
1		0310	39	95.	1		0925	114	0.	1		1540	189	0.	1		2155	264	0.
1		0315	40	130.	1		0930	115	0.	1		1545	190	0.	1		2200	265	0.
1		0320	41	196.	1		0935	116	0.	1		1550	191	0.	1		2205	266	0.
1		0325	42	303.	1		0940	117	0.	1		1555	192	0.	1		2210	267	0.
1		0330	43	443.	1		0945	118	0.	1		1600	193	0.	1		2215	268	0.
1		0335	44	587.	1		0950	119	0.	1		1605	194	0.	1		2220	269	0.
1		0340	45	689.	1		0955	120	0.	1		1610	195	0.	1		2225	270	0.
1		0345	46	760.	1		1000	121	0.	1		1615	196	0.	1		2230	271	0.
1		0350	47	841.	1		1005	122	0.	1		1620	197	0.	1		2235	272	0.
1		0355	48	968.	1		1010	123	0.	1		1625	198	0.	1		2240	273	0.
1		0400	49	1106.	1		1015	124	0.	1		1630	199	0.	1		2245	274	0.
1		0405	50	1180.	1		1020	125	0.	1		1635	200	0.	1		2250	275	0.
1		0410	51	1169.	1		1025	126	0.	1		1640	201	0.	1		2255	276	0.
1		0415	52	1119.	1		1030	127	0.	1		1645	202	0.	1		2300	277	0.
1		0420	53	1055.	1		1035	128	0.	1		1650	203	0.	1		2305	278	0.
1		0425	54	979.	1		1040	129	0.	1		1655	204	0.	1		2310	279	0.
1		0430	55	917.	1		1045	130	0.	1		1700	205	0.	1		2315	280	0.
1		0435	56	877.	1		1050	131	0.	1		1705	206	0.	1		2320	281	0.
1		0440	57	839.	1		1055	132	0.	1		1710	207	0.	1		2325	282	0.
1		0445	58	795.	1		1100	133	0.	1		1715	208	0.	1		2330	283	0.
1		0450	59	754.	1		1105	134	0.	1		1720	209	0.	1		2335	284	0.
1		0455	60	720.	1		1110	135	0.	1		1725	210	0.	1		2340	285	0.
1		0500	61	680.	1		1115	136	0.	1		1730	211	0.	1		2345	286	0.
1		0505	62	635.	1		1120	137	0.	1		1735	212	0.	1		2350	287	0.
1		0510	63	596.	1		1125	138	0.	1		1740	213	0.	1		2355	288	0.
1		0515	64	559.	1		1130	139	0.	1		1745	214	0.	2		0000	289	0.
1		0520	65	528.	1		1135	140	0.	1		1750	215	0.	2		0005	290	0.
1		0525	66	501.	1		1140	141	0.	1		1755	216	0.	2		0010	291	0.
1		0530	67	469.	1		1145	142	0.	1		1800	217	0.	2		0015	292	0.
1		0535	68	435.	1		1150	143	0.	1		1805	218	0.	2		0020	293	0.
1		0540	69	394.	1		1155	144	0.	1		1810	219	0.	2		0025	294	0.
1		0545	70	349.	1		1200	145	0.	1		1815	220	0.	2		0030	295	0.
1		0550	71	305.	1		1205	146	0.	1		1820	221	0.	2		0035	296	0.
1		0555	72	266.	1		1210	147	0.	1		1825	222	0.	2		0040	297	0.
1		0600	73	237.	1		1215	148	0.	1		1830	223	0.	2		0045	298	0.
1		0605	74	216.	1		1220	149	0.	1		1835	224	0.	2		0050	299	0.
1		0610	75	195.	1		1225	150	0.	1		1840	225	0.	2		0055	300	0.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)	(CFS)				
1180.	4.08		346.	87.	84.	84.
		(INCHES)	2.789	2.810	2.810	2.810
		(AC-FT)	171.	173.	173.	173.

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION 2B
SUM OF 2 HYDROGRAPHS
PLAN 1, RATIO = .95

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	168.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	146.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	128.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	113.	1		1245	154	0.	1		1900	229	0.
1		0020	5	1.	1		0635	80	100.	1		1250	155	0.	1		1905	230	0.
1		0025	6	2.	1		0640	81	88.	1		1255	156	0.	1		1910	231	0.

1	0030	7	3.	*	1	0645	82	78.	*	1	1300	157	0.	*	1	1915	232	0.
1	0035	8	5.	*	1	0650	83	68.	*	1	1305	158	0.	*	1	1920	233	0.
1	0040	9	6.	*	1	0655	84	59.	*	1	1310	159	0.	*	1	1925	234	0.
1	0045	10	5.	*	1	0700	85	51.	*	1	1315	160	0.	*	1	1930	235	0.
1	0050	11	4.	*	1	0705	86	44.	*	1	1320	161	0.	*	1	1935	236	0.
1	0055	12	3.	*	1	0710	87	39.	*	1	1325	162	0.	*	1	1940	237	0.
1	0100	13	3.	*	1	0715	88	34.	*	1	1330	163	0.	*	1	1945	238	0.
1	0105	14	2.	*	1	0720	89	30.	*	1	1335	164	0.	*	1	1950	239	0.
1	0110	15	3.	*	1	0725	90	26.	*	1	1340	165	0.	*	1	1955	240	0.
1	0115	16	4.	*	1	0730	91	23.	*	1	1345	166	0.	*	1	2000	241	0.
1	0120	17	5.	*	1	0735	92	19.	*	1	1350	167	0.	*	1	2005	242	0.
1	0125	18	6.	*	1	0740	93	16.	*	1	1355	168	0.	*	1	2010	243	0.
1	0130	19	9.	*	1	0745	94	14.	*	1	1400	169	0.	*	1	2015	244	0.
1	0135	20	13.	*	1	0750	95	12.	*	1	1405	170	0.	*	1	2020	245	0.
1	0140	21	17.	*	1	0755	96	10.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	21.	*	1	0800	97	9.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	23.	*	1	0805	98	7.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	24.	*	1	0810	99	6.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	24.	*	1	0815	100	5.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	22.	*	1	0820	101	4.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	22.	*	1	0825	102	4.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	25.	*	1	0830	103	3.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	31.	*	1	0835	104	3.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	38.	*	1	0840	105	2.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	43.	*	1	0845	106	2.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	46.	*	1	0850	107	2.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	50.	*	1	0855	108	1.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	56.	*	1	0900	109	1.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	61.	*	1	0905	110	1.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	63.	*	1	0910	111	1.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	64.	*	1	0915	112	1.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	70.	*	1	0920	113	1.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	88.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	122.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	185.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	286.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	422.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	561.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	658.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	723.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	799.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	917.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	1055.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	1135.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	1128.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	1081.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	1017.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	941.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	888.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	857.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	821.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	777.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	735.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	699.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	660.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	614.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	574.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	539.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	512.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	489.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	457.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	423.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	383.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	337.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	296.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	259.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	233.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	212.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	190.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1135.	4.08		333.	84.	81.	81.
		(INCHES)	2.687	2.708	2.708	2.708
		(AC-FT)	165.	166.	166.	166.

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION 2B
SUM OF 2 HYDROGRAPHS
PLAN 1, RATIO = .93

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	163.	*	1		1230	151	0.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	142.	*	1		1235	152	0.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	124.	*	1		1240	153	0.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	110.	*	1		1245	154	0.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	98.	*	1		1250	155	0.	*	1		1905	230	0.
1		0025	6	1.	*	1		0640	81	86.	*	1		1255	156	0.	*	1		1910	231	0.
1		0030	7	3.	*	1		0645	82	76.	*	1		1300	157	0.	*	1		1915	232	0.
1		0035	8	5.	*	1		0650	83	66.	*	1		1305	158	0.	*	1		1920	233	0.
1		0040	9	5.	*	1		0655	84	58.	*	1		1310	159	0.	*	1		1925	234	0.
1		0045	10	5.	*	1		0700	85	50.	*	1		1315	160	0.	*	1		1930	235	0.
1		0050	11	3.	*	1		0705	86	43.	*	1		1320	161	0.	*	1		1935	236	0.
1		0055	12	3.	*	1		0710	87	38.	*	1		1325	162	0.	*	1		1940	237	0.
1		0100	13	2.	*	1		0715	88	34.	*	1		1330	163	0.	*	1		1945	238	0.

1	0105	14	2.	*	1	0720	89	29.	*	1	1335	164	0.	*	1	1950	239	0.
1	0110	15	2.	*	1	0725	90	26.	*	1	1340	165	0.	*	1	1955	240	0.
1	0115	16	3.	*	1	0730	91	22.	*	1	1345	166	0.	*	1	2000	241	0.
1	0120	17	4.	*	1	0735	92	19.	*	1	1350	167	0.	*	1	2005	242	0.
1	0125	18	5.	*	1	0740	93	16.	*	1	1355	168	0.	*	1	2010	243	0.
1	0130	19	8.	*	1	0745	94	14.	*	1	1400	169	0.	*	1	2015	244	0.
1	0135	20	12.	*	1	0750	95	12.	*	1	1405	170	0.	*	1	2020	245	0.
1	0140	21	16.	*	1	0755	96	10.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	19.	*	1	0800	97	8.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	21.	*	1	0805	98	7.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	22.	*	1	0810	99	6.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	21.	*	1	0815	100	5.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	20.	*	1	0820	101	4.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	20.	*	1	0825	102	4.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	23.	*	1	0830	103	3.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	28.	*	1	0835	104	3.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	35.	*	1	0840	105	2.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	40.	*	1	0845	106	2.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	43.	*	1	0850	107	2.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	46.	*	1	0855	108	1.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	51.	*	1	0900	109	1.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	56.	*	1	0905	110	1.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	58.	*	1	0910	111	1.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	59.	*	1	0915	112	1.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	65.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	82.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	113.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	174.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	271.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	402.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	535.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	626.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	687.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	755.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	866.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	1002.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	1087.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	1081.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	1029.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	974.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	913.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	860.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	827.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	797.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	758.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	713.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	675.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	638.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	593.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	553.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	522.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	497.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	474.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	446.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	410.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	369.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	325.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	285.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	252.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	229.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	208.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	186.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1087.	4.08		320.	81.	78.	78.
		(INCHES)	2.581	2.600	2.600	2.600
		(AC-FT)	159.	160.	160.	160.

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION 2B
SUM OF 2 HYDROGRAPHS
PLAN 1, RATIO = .92

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
					*						*						*					
1		0000	1	0.	*	1		0615	76	161.	*	1		1230	151	0.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	140.	*	1		1235	152	0.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	123.	*	1		1240	153	0.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	108.	*	1		1245	154	0.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	97.	*	1		1250	155	0.	*	1		1905	230	0.
1		0025	6	1.	*	1		0640	81	85.	*	1		1255	156	0.	*	1		1910	231	0.
1		0030	7	3.	*	1		0645	82	75.	*	1		1300	157	0.	*	1		1915	232	0.
1		0035	8	5.	*	1		0650	83	65.	*	1		1305	158	0.	*	1		1920	233	0.
1		0040	9	5.	*	1		0655	84	57.	*	1		1310	159	0.	*	1		1925	234	0.
1		0045	10	4.	*	1		0700	85	49.	*	1		1315	160	0.	*	1		1930	235	0.
1		0050	11	3.	*	1		0705	86	43.	*	1		1320	161	0.	*	1		1935	236	0.
1		0055	12	2.	*	1		0710	87	38.	*	1		1325	162	0.	*	1		1940	237	0.
1		0100	13	2.	*	1		0715	88	33.	*	1		1330	163	0.	*	1		1945	238	0.
1		0105	14	2.	*	1		0720	89	29.	*	1		1335	164	0.	*	1		1950	239	0.
1		0110	15	2.	*	1		0725	90	25.	*	1		1340	165	0.	*	1		1955	240	0.
1		0115	16	3.	*	1		0730	91	22.	*	1		1345	166	0.	*	1		2000	241	0.
1		0120	17	4.	*	1		0735	92	19.	*	1		1350	167	0.	*	1		2005	242	0.
1		0125	18	5.	*	1		0740	93	16.	*	1		1355	168	0.	*	1		2010	243	0.
1		0130	19	8.	*	1		0745	94	13.	*	1		1400	169	0.	*	1		2015	244	0.
1		0135	20	11.	*	1		0750	95	11.	*	1		1405	170	0.	*	1		2020	245	0.

1	0140	21	15.	*	1	0755	96	10.	*	1	1410	171	0.	*	1	2025	246	0.
1	0145	22	18.	*	1	0800	97	8.	*	1	1415	172	0.	*	1	2030	247	0.
1	0150	23	21.	*	1	0805	98	7.	*	1	1420	173	0.	*	1	2035	248	0.
1	0155	24	21.	*	1	0810	99	6.	*	1	1425	174	0.	*	1	2040	249	0.
1	0200	25	21.	*	1	0815	100	5.	*	1	1430	175	0.	*	1	2045	250	0.
1	0205	26	20.	*	1	0820	101	4.	*	1	1435	176	0.	*	1	2050	251	0.
1	0210	27	19.	*	1	0825	102	4.	*	1	1440	177	0.	*	1	2055	252	0.
1	0215	28	22.	*	1	0830	103	3.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	27.	*	1	0835	104	3.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	34.	*	1	0840	105	2.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	38.	*	1	0845	106	2.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	41.	*	1	0850	107	2.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	44.	*	1	0855	108	1.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	50.	*	1	0900	109	1.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	54.	*	1	0905	110	1.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	56.	*	1	0910	111	1.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	57.	*	1	0915	112	1.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	63.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	79.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	111.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	169.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	264.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	394.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	525.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	614.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	674.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	738.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	844.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	978.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	1066.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	1065.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	1012.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	958.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	905.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	853.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	816.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	784.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	747.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	705.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	667.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	627.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	582.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	545.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	515.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	491.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	468.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	441.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	405.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	362.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	319.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	280.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	250.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	227.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	206.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	184.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1066.	4.08		315.	79.	76.	76.
		(INCHES)	2.539	2.557	2.557	2.557
		(AC-FT)	156.	157.	157.	157.

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION 2B
SUM OF 2 HYDROGRAPHS
PLAN 1, RATIO = .91

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	1		0615	76	159.	1		1230	151	0.	1		1845	226	0.
1		0005	2	0.	1		0620	77	139.	1		1235	152	0.	1		1850	227	0.
1		0010	3	0.	1		0625	78	122.	1		1240	153	0.	1		1855	228	0.
1		0015	4	0.	1		0630	79	108.	1		1245	154	0.	1		1900	229	0.
1		0020	5	0.	1		0635	80	96.	1		1250	155	0.	1		1905	230	0.
1		0025	6	1.	1		0640	81	85.	1		1255	156	0.	1		1910	231	0.
1		0030	7	3.	1		0645	82	74.	1		1300	157	0.	1		1915	232	0.
1		0035	8	4.	1		0650	83	65.	1		1305	158	0.	1		1920	233	0.
1		0040	9	5.	1		0655	84	56.	1		1310	159	0.	1		1925	234	0.
1		0045	10	4.	1		0700	85	49.	1		1315	160	0.	1		1930	235	0.
1		0050	11	3.	1		0705	86	42.	1		1320	161	0.	1		1935	236	0.
1		0055	12	2.	1		0710	87	37.	1		1325	162	0.	1		1940	237	0.
1		0100	13	2.	1		0715	88	33.	1		1330	163	0.	1		1945	238	0.
1		0105	14	2.	1		0720	89	29.	1		1335	164	0.	1		1950	239	0.
1		0110	15	2.	1		0725	90	25.	1		1340	165	0.	1		1955	240	0.
1		0115	16	3.	1		0730	91	22.	1		1345	166	0.	1		2000	241	0.
1		0120	17	4.	1		0735	92	19.	1		1350	167	0.	1		2005	242	0.
1		0125	18	5.	1		0740	93	16.	1		1355	168	0.	1		2010	243	0.
1		0130	19	7.	1		0745	94	13.	1		1400	169	0.	1		2015	244	0.
1		0135	20	11.	1		0750	95	11.	1		1405	170	0.	1		2020	245	0.
1		0140	21	15.	1		0755	96	10.	1		1410	171	0.	1		2025	246	0.
1		0145	22	18.	1		0800	97	8.	1		1415	172	0.	1		2030	247	0.
1		0150	23	20.	1		0805	98	7.	1		1420	173	0.	1		2035	248	0.
1		0155	24	21.	1		0810	99	6.	1		1425	174	0.	1		2040	249	0.
1		0200	25	20.	1		0815	100	5.	1		1430	175	0.	1		2045	250	0.
1		0205	26	19.	1		0820	101	4.	1		1435	176	0.	1		2050	251	0.
1		0210	27	19.	1		0825	102	4.	1		1440	177	0.	1		2055	252	0.

1	0215	28	21.	*	1	0830	103	3.	*	1	1445	178	0.	*	1	2100	253	0.
1	0220	29	27.	*	1	0835	104	3.	*	1	1450	179	0.	*	1	2105	254	0.
1	0225	30	33.	*	1	0840	105	2.	*	1	1455	180	0.	*	1	2110	255	0.
1	0230	31	37.	*	1	0845	106	2.	*	1	1500	181	0.	*	1	2115	256	0.
1	0235	32	40.	*	1	0850	107	2.	*	1	1505	182	0.	*	1	2120	257	0.
1	0240	33	43.	*	1	0855	108	1.	*	1	1510	183	0.	*	1	2125	258	0.
1	0245	34	49.	*	1	0900	109	1.	*	1	1515	184	0.	*	1	2130	259	0.
1	0250	35	53.	*	1	0905	110	1.	*	1	1520	185	0.	*	1	2135	260	0.
1	0255	36	55.	*	1	0910	111	1.	*	1	1525	186	0.	*	1	2140	261	0.
1	0300	37	56.	*	1	0915	112	1.	*	1	1530	187	0.	*	1	2145	262	0.
1	0305	38	62.	*	1	0920	113	0.	*	1	1535	188	0.	*	1	2150	263	0.
1	0310	39	78.	*	1	0925	114	0.	*	1	1540	189	0.	*	1	2155	264	0.
1	0315	40	109.	*	1	0930	115	0.	*	1	1545	190	0.	*	1	2200	265	0.
1	0320	41	165.	*	1	0935	116	0.	*	1	1550	191	0.	*	1	2205	266	0.
1	0325	42	260.	*	1	0940	117	0.	*	1	1555	192	0.	*	1	2210	267	0.
1	0330	43	389.	*	1	0945	118	0.	*	1	1600	193	0.	*	1	2215	268	0.
1	0335	44	517.	*	1	0950	119	0.	*	1	1605	194	0.	*	1	2220	269	0.
1	0340	45	605.	*	1	0955	120	0.	*	1	1610	195	0.	*	1	2225	270	0.
1	0345	46	664.	*	1	1000	121	0.	*	1	1615	196	0.	*	1	2230	271	0.
1	0350	47	725.	*	1	1005	122	0.	*	1	1620	197	0.	*	1	2235	272	0.
1	0355	48	829.	*	1	1010	123	0.	*	1	1625	198	0.	*	1	2240	273	0.
1	0400	49	963.	*	1	1015	124	0.	*	1	1630	199	0.	*	1	2245	274	0.
1	0405	50	1056.	*	1	1020	125	0.	*	1	1635	200	0.	*	1	2250	275	0.
1	0410	51	1054.	*	1	1025	126	0.	*	1	1640	201	0.	*	1	2255	276	0.
1	0415	52	1000.	*	1	1030	127	0.	*	1	1645	202	0.	*	1	2300	277	0.
1	0420	53	947.	*	1	1035	128	0.	*	1	1650	203	0.	*	1	2305	278	0.
1	0425	54	898.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	848.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	810.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	776.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	739.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	699.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	662.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	620.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	574.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	539.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	510.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	487.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	464.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	436.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	400.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	357.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	315.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	278.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	248.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	225.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	205.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	183.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 1056.	4.08		311.	78.	75.	75.
		(INCHES)	2.510	2.528	2.528	2.528
		(AC-FT)	154.	155.	155.	155.

CUMULATIVE AREA = 1.15 SQ MI

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ELEVATION	2297.00	2298.00	2299.00	2300.00	2301.00	2302.00	2303.00	2305.00	2306.00	2307.00
STORAGE	137.41	170.56								
OUTFLOW	252.00	1975.00								
ELEVATION	2308.50	2310.50								

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .99

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	*	1		0820	101	206.	89.4	2305.4	*	1		1640	201	50.	3.0	2299.1
1		0005	2	0.	.0	2297.0	*	1		0825	102	204.	88.0	2305.3	*	1		1645	202	49.	2.7	2299.0
1		0010	3	0.	.0	2297.0	*	1		0830	103	203.	86.6	2305.2	*	1		1650	203	47.	2.4	2299.0
1		0015	4	0.	.0	2297.0	*	1		0835	104	201.	85.3	2305.1	*	1		1655	204	44.	2.0	2298.8
1		0020	5	0.	.0	2297.0	*	1		0840	105	200.	83.9	2305.1	*	1		1700	205	41.	1.7	2298.7
1		0025	6	1.	.0	2297.0	*	1		0845	106	198.	82.5	2305.0	*	1		1705	206	38.	1.5	2298.6
1		0030	7	3.	.0	2297.1	*	1		0850	107	197.	81.2	2304.9	*	1		1710	207	35.	1.2	2298.5
1		0035	8	5.	.0	2297.2	*	1		0855	108	195.	79.9	2304.8	*	1		1715	208	33.	1.0	2298.4
1		0040	9	6.	.0	2297.3	*	1		0900	109	193.	78.5	2304.7	*	1		1720	209	31.	.8	2298.3
1		0045	10	7.	.0	2297.3	*	1		0905	110	192.	77.2	2304.6	*	1		1725	210	29.	.6	2298.2
1		0050	11	6.	.0	2297.2	*	1		0910	111	190.	75.9	2304.5	*	1		1730	211	27.	.4	2298.1
1		0055	12	5.	.0	2297.2	*	1		0915	112	188.	74.6	2304.4	*	1		1735	212	25.	.2	2298.0
1		0100	13	4.	.0	2297.2	*	1		0920	113	187.	73.3	2304.4	*	1		1740	213	13.	.1	2297.5
1		0105	14	3.	.0	2297.1	*	1		0925	114	185.	72.0	2304.3	*	1		1745	214	3.	.0	2297.1
1		0110	15	3.	.0	2297.1	*	1		0930	115	184.	70.8	2304.2	*	1		1750	215	1.	.0	2297.0
1		0115	16	4.	.0	2297.2	*	1		0935	116	182.	69.5	2304.1	*	1		1755	216	0.	.0	2297.0
1		0120	17	5.	.0	2297.2	*	1		0940	117	180.	68.3	2304.0	*	1		1800	217	0.	.0	2297.0
1		0125	18	6.	.0	2297.2	*	1		0945	118	179.	67.0	2303.9	*	1		1805	218	0.	.0	2297.0
1		0130	19	8.	.0	2297.3	*	1		0950	119	177.	65.8	2303.9	*	1		1810	219	0.	.0	2297.0
1		0135	20	11.	.1	2297.5	*	1		0955	120	176.	64.6	2303.8	*	1		1815	220	0.	.0	2297.0
1		0140	21	16.	.1	2297.7	*	1		1000	121	174.	63.4	2303.7	*	1		1820	221	0.	.0	2297.0
1		0145	22	21.	.1	2297.9	*	1		1005	122	173.	62.2	2303.6	*	1		1825	222	0.	.0	2297.0
1		0150	23	24.	.1	2298.0	*	1		1010	123	171.	61.0	2303.5	*	1		1830	223	0.	.0	2297.0
1		0155	24	24.	.2	2298.0	*	1		1015	124	170.	59.8	2303.5	*	1		1835	224	0.	.0	2297.0
1		0200	25	25.	.2	2298.0	*	1		1020	125	168.	58.7	2303.4	*	1		1840	225	0.	.0	2297.0
1		0205	26	25.	.2	2298.0	*	1		1025	126	167.	57.5	2303.3	*	1		1845	226	0.	.0	2297.0
1		0210	27	25.	.2	2298.0	*	1		1030	127	166.	56.4	2303.2	*	1		1850	227	0.	.0	2297.0
1		0215	28	25.	.2	2298.0	*	1		1035	128	164.	55.2	2303.2	*	1		1855	228	0.	.0	2297.0
1		0220	29	25.	.3	2298.1	*	1		1040	129	163.	54.1	2303.1	*	1		1900	229	0.	.0	2297.0
1		0225	30	26.	.4	2298.1	*	1		1045	130	161.	53.0	2303.0	*	1		1905	230	0.	.0	2297.0
1		0230	31	28.	.5	2298.2	*	1		1050	131	160.	51.9	2302.9	*	1		1910	231	0.	.0	2297.0
1		0235	32	29.	.6	2298.2	*	1		1055	132	158.	50.8	2302.9	*	1		1915	232	0.	.0	2297.0
1		0240	33	31.	.8	2298.3	*	1		1100	133	156.	49.7	2302.8	*	1		1920	233	0.	.0	2297.0
1		0245	34	33.	1.0	2298.4	*	1		1105	134	155.	48.6	2302.7	*	1		1925	234	0.	.0	2297.0
1		0250	35	35.	1.2	2298.5	*	1		1110	135	153.	47.6	2302.6	*	1		1930	235	0.	.0	2297.0
1		0255	36	38.	1.4	2298.6	*	1		1115	136	151.	46.5	2302.6	*	1		1935	236	0.	.0	2297.0
1		0300	37	40.	1.7	2298.7	*	1		1120	137	150.	45.5	2302.5	*	1		1940	237	0.	.0	2297.0
1		0305	38	42.	1.9	2298.8	*	1		1125	138	148.	44.5	2302.4	*	1		1945	238	0.	.0	2297.0
1		0310	39	46.	2.2	2298.9	*	1		1130	139	146.	43.5	2302.4	*	1		1950	239	0.	.0	2297.0
1		0315	40	49.	2.7	2299.0	*	1		1135	140	145.	42.5	2302.3	*	1		1955	240	0.	.0	2297.0
1		0320	41	51.	3.5	2299.1	*	1		1140	141	143.	41.5	2302.2	*	1		2000	241	0.	.0	2297.0
1		0325	42	55.	4.9	2299.3	*	1		1145	142	142.	40.5	2302.2	*	1		2005	242	0.	.0	2297.0
1		0330	43	62.	7.2	2299.6	*	1		1150	143	140.	39.5	2302.1	*	1		2010	243	0.	.0	2297.0
1		0335	44	71.	10.3	2300.0	*	1		1155	144	139.	38.6	2302.0	*	1		2015	244	0.	.0	2297.0
1		0340	45	83.	14.3	2300.3	*	1		1200	145	137.	37.6	2302.0	*	1		2020	245	0.	.0	2297.0
1		0345	46	95.	18.9	2300.6	*	1		1205	146	135.	36.7	2301.9	*	1		2025	246	0.	.0	2297.0

1	0350	47	110.	23.8	2301.0	*	1	1210	147	133.	35.7	2301.8	*	1	2030	247	0.	.0	2297.0
1	0355	48	121.	29.5	2301.4	*	1	1215	148	131.	34.8	2301.8	*	1	2035	248	0.	.0	2297.0
1	0400	49	134.	36.0	2301.8	*	1	1220	149	130.	33.9	2301.7	*	1	2040	249	0.	.0	2297.0
1	0405	50	146.	43.1	2302.3	*	1	1225	150	128.	33.1	2301.6	*	1	2045	250	0.	.0	2297.0
1	0410	51	157.	50.3	2302.8	*	1	1230	151	126.	32.2	2301.6	*	1	2050	251	0.	.0	2297.0
1	0415	52	167.	57.2	2303.3	*	1	1235	152	124.	31.3	2301.5	*	1	2055	252	0.	.0	2297.0
1	0420	53	175.	63.7	2303.7	*	1	1240	153	123.	30.5	2301.5	*	1	2100	253	0.	.0	2297.0
1	0425	54	182.	69.6	2304.1	*	1	1245	154	121.	29.6	2301.4	*	1	2105	254	0.	.0	2297.0
1	0430	55	189.	75.1	2304.5	*	1	1250	155	119.	28.8	2301.3	*	1	2110	255	0.	.0	2297.0
1	0435	56	195.	80.1	2304.8	*	1	1255	156	118.	28.0	2301.3	*	1	2115	256	0.	.0	2297.0
1	0440	57	201.	84.7	2305.1	*	1	1300	157	116.	27.2	2301.2	*	1	2120	257	0.	.0	2297.0
1	0445	58	205.	89.0	2305.4	*	1	1305	158	115.	26.4	2301.2	*	1	2125	258	0.	.0	2297.0
1	0450	59	209.	93.0	2305.7	*	1	1310	159	113.	25.6	2301.1	*	1	2130	259	0.	.0	2297.0
1	0455	60	213.	96.7	2305.9	*	1	1315	160	112.	24.8	2301.1	*	1	2135	260	0.	.0	2297.0
1	0500	61	217.	100.2	2306.1	*	1	1320	161	110.	24.1	2301.0	*	1	2140	261	0.	.0	2297.0
1	0505	62	220.	103.3	2306.3	*	1	1325	162	108.	23.3	2300.9	*	1	2145	262	0.	.0	2297.0
1	0510	63	223.	106.1	2306.5	*	1	1330	163	106.	22.6	2300.9	*	1	2150	263	0.	.0	2297.0
1	0515	64	226.	108.6	2306.7	*	1	1335	164	104.	21.8	2300.8	*	1	2155	264	0.	.0	2297.0
1	0520	65	228.	110.8	2306.8	*	1	1340	165	102.	21.1	2300.8	*	1	2200	265	0.	.0	2297.0
1	0525	66	230.	112.8	2307.0	*	1	1345	166	100.	20.4	2300.7	*	1	2205	266	0.	.0	2297.0
1	0530	67	232.	114.6	2307.1	*	1	1350	167	98.	19.8	2300.7	*	1	2210	267	0.	.0	2297.0
1	0535	68	233.	116.2	2307.2	*	1	1355	168	96.	19.1	2300.6	*	1	2215	268	0.	.0	2297.0
1	0540	69	235.	117.5	2307.3	*	1	1400	169	94.	18.4	2300.6	*	1	2220	269	0.	.0	2297.0
1	0545	70	235.	118.5	2307.3	*	1	1405	170	92.	17.8	2300.5	*	1	2225	270	0.	.0	2297.0
1	0550	71	236.	119.2	2307.4	*	1	1410	171	91.	17.2	2300.5	*	1	2230	271	0.	.0	2297.0
1	0555	72	236.	119.5	2307.4	*	1	1415	172	89.	16.5	2300.4	*	1	2235	272	0.	.0	2297.0
1	0600	73	236.	119.7	2307.4	*	1	1420	173	87.	15.9	2300.4	*	1	2240	273	0.	.0	2297.0
1	0605	74	236.	119.6	2307.4	*	1	1425	174	86.	15.3	2300.4	*	1	2245	274	0.	.0	2297.0
1	0610	75	236.	119.4	2307.4	*	1	1430	175	84.	14.8	2300.3	*	1	2250	275	0.	.0	2297.0
1	0615	76	236.	119.1	2307.4	*	1	1435	176	82.	14.2	2300.3	*	1	2255	276	0.	.0	2297.0
1	0620	77	235.	118.6	2307.3	*	1	1440	177	81.	13.6	2300.2	*	1	2300	277	0.	.0	2297.0
1	0625	78	235.	117.9	2307.3	*	1	1445	178	79.	13.1	2300.2	*	1	2305	278	0.	.0	2297.0
1	0630	79	234.	117.2	2307.2	*	1	1450	179	78.	12.5	2300.1	*	1	2310	279	0.	.0	2297.0
1	0635	80	234.	116.3	2307.2	*	1	1455	180	76.	12.0	2300.1	*	1	2315	280	0.	.0	2297.0
1	0640	81	233.	115.4	2307.1	*	1	1500	181	75.	11.5	2300.1	*	1	2320	281	0.	.0	2297.0
1	0645	82	232.	114.4	2307.1	*	1	1505	182	73.	11.0	2300.0	*	1	2325	282	0.	.0	2297.0
1	0650	83	231.	113.3	2307.0	*	1	1510	183	72.	10.5	2300.0	*	1	2330	283	0.	.0	2297.0
1	0655	84	230.	112.2	2306.9	*	1	1515	184	70.	10.0	2299.9	*	1	2335	284	0.	.0	2297.0
1	0700	85	228.	111.0	2306.8	*	1	1520	185	69.	9.5	2299.9	*	1	2340	285	0.	.0	2297.0
1	0705	86	227.	109.8	2306.8	*	1	1525	186	68.	9.0	2299.8	*	1	2345	286	0.	.0	2297.0
1	0710	87	226.	108.5	2306.7	*	1	1530	187	66.	8.6	2299.8	*	1	2350	287	0.	.0	2297.0
1	0715	88	224.	107.3	2306.6	*	1	1535	188	65.	8.1	2299.7	*	1	2355	288	0.	.0	2297.0
1	0720	89	223.	105.9	2306.5	*	1	1540	189	64.	7.7	2299.6	*	2	0000	289	0.	.0	2297.0
1	0725	90	222.	104.6	2306.4	*	1	1545	190	62.	7.3	2299.6	*	2	0005	290	0.	.0	2297.0
1	0730	91	220.	103.3	2306.3	*	1	1550	191	61.	6.8	2299.5	*	2	0010	291	0.	.0	2297.0
1	0735	92	219.	101.9	2306.2	*	1	1555	192	60.	6.4	2299.5	*	2	0015	292	0.	.0	2297.0
1	0740	93	217.	100.5	2306.1	*	1	1600	193	59.	6.0	2299.4	*	2	0020	293	0.	.0	2297.0
1	0745	94	216.	99.1	2306.1	*	1	1605	194	57.	5.6	2299.4	*	2	0025	294	0.	.0	2297.0
1	0750	95	214.	97.8	2306.0	*	1	1610	195	56.	5.2	2299.3	*	2	0030	295	0.	.0	2297.0
1	0755	96	213.	96.4	2305.9	*	1	1615	196	55.	4.8	2299.3	*	2	0035	296	0.	.0	2297.0
1	0800	97	212.	95.0	2305.8	*	1	1620	197	54.	4.5	2299.2	*	2	0040	297	0.	.0	2297.0
1	0805	98	210.	93.6	2305.7	*	1	1625	198	53.	4.1	2299.2	*	2	0045	298	0.	.0	2297.0
1	0810	99	209.	92.2	2305.6	*	1	1630	199	52.	3.7	2299.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	207.	90.8	2305.5	*	1	1635	200	51.	3.4	2299.1	*	2	0055	300	0.	.0	2297.0

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 236.	6.00		210.	89.	86.	86.
		(INCHES)	1.694	2.875	2.875	2.875
		(AC-FT)	104.	177.	177.	177.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
120.	6.00		94.	32.	30.	30.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2307.39	6.00		2305.75	2300.59	2300.46	2300.46

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .98

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	203.	86.7	2305.2	1		1640	201	47.	2.4	2299.0
1		0005	2	0.	.0	2297.0	1		0825	102	201.	85.3	2305.1	1		1645	202	44.	2.1	2298.8
1		0010	3	0.	.0	2297.0	1		0830	103	200.	83.9	2305.1	1		1650	203	41.	1.8	2298.7
1		0015	4	0.	.0	2297.0	1		0835	104	198.	82.6	2305.0	1		1655	204	38.	1.5	2298.6
1		0020	5	0.	.0	2297.0	1		0840	105	197.	81.3	2304.9	1		1700	205	36.	1.2	2298.5
1		0025	6	1.	.0	2297.0	1		0845	106	195.	79.9	2304.8	1		1705	206	33.	1.0	2298.4
1		0030	7	2.	.0	2297.1	1		0850	107	193.	78.6	2304.7	1		1710	207	31.	.8	2298.3
1		0035	8	4.	.0	2297.2	1		0855	108	192.	77.3	2304.6	1		1715	208	29.	.6	2298.2
1		0040	9	6.	.0	2297.2	1		0900	109	190.	76.0	2304.5	1		1720	209	27.	.4	2298.1
1		0045	10	6.	.0	2297.3	1		0905	110	188.	74.7	2304.4	1		1725	210	25.	.2	2298.0
1		0050	11	5.	.0	2297.2	1		0910	111	187.	73.4	2304.4	1		1730	211	14.	.1	2297.6
1		0055	12	4.	.0	2297.2	1		0915	112	185.	72.1	2304.3	1		1735	212	3.	.0	2297.1
1		0100	13	4.	.0	2297.2	1		0920	113	184.	70.8	2304.2	1		1740	213	1.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	182.	69.6	2304.1	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	181.	68.3	2304.0	1		1750	215	0.	.0	2297.0
1		0115	16	4.	.0	2297.1	1		0935	116	179.	67.1	2303.9	1		1755	216	0.	.0	2297.0
1		0120	17	4.	.0	2297.2	1		0940	117	177.	65.9	2303.9	1		1800	217	0.	.0	2297.0
1		0125	18	6.	.0	2297.2	1		0945	118	176.	64.7	2303.8	1		1805	218	0.	.0	2297.0
1		0130	19	7.	.0	2297.3	1		0950	119	174.	63.5	2303.7	1		1810	219	0.	.0	2297.0
1		0135	20	11.	.1	2297.5	1		0955	120	173.	62.3	2303.6	1		1815	220	0.	.0	2297.0
1		0140	21	15.	.1	2297.6	1		1000	121	171.	61.1	2303.6	1		1820	221	0.	.0	2297.0
1		0145	22	20.	.1	2297.8	1		1005	122	170.	59.9	2303.5	1		1825	222	0.	.0	2297.0
1		0150	23	23.	.1	2298.0	1		1010	123	169.	58.7	2303.4	1		1830	223	0.	.0	2297.0
1		0155	24	24.	.1	2298.0	1		1015	124	167.	57.6	2303.3	1		1835	224	0.	.0	2297.0
1		0200	25	24.	.2	2298.0	1		1020	125	166.	56.4	2303.2	1		1840	225	0.	.0	2297.0
1		0205	26	24.	.2	2298.0	1		1025	126	164.	55.3	2303.2	1		1845	226	0.	.0	2297.0
1		0210	27	24.	.2	2298.0	1		1030	127	163.	54.2	2303.1	1		1850	227	0.	.0	2297.0
1		0215	28	24.	.2	2298.0	1		1035	128	161.	53.1	2303.0	1		1855	228	0.	.0	2297.0
1		0220	29	25.	.2	2298.0	1		1040	129	160.	52.0	2302.9	1		1900	229	0.	.0	2297.0
1		0225	30	26.	.3	2298.1	1		1045	130	158.	50.9	2302.9	1		1905	230	0.	.0	2297.0
1		0230	31	27.	.4	2298.1	1		1050	131	156.	49.8	2302.8	1		1910	231	0.	.0	2297.0
1		0235	32	28.	.6	2298.2	1		1055	132	155.	48.7	2302.7	1		1915	232	0.	.0	2297.0
1		0240	33	30.	.7	2298.3	1		1100	133	153.	47.6	2302.7	1		1920	233	0.	.0	2297.0
1		0245	34	32.	.9	2298.3	1		1105	134	151.	46.6	2302.6	1		1925	234	0.	.0	2297.0
1		0250	35	34.	1.1	2298.4	1		1110	135	150.	45.6	2302.5	1		1930	235	0.	.0	2297.0
1		0255	36	36.	1.3	2298.5	1		1115	136	148.	44.5	2302.4	1		1935	236	0.	.0	2297.0
1		0300	37	39.	1.5	2298.6	1		1120	137	146.	43.5	2302.4	1		1940	237	0.	.0	2297.0
1		0305	38	41.	1.7	2298.7	1		1125	138	145.	42.5	2302.3	1		1945	238	0.	.0	2297.0

1	0310	39	44.	2.0	2298.8	*	1	1130	139	143.	41.5	2302.2	*	1	1950	239	0.	.0	2297.0
1	0315	40	48.	2.5	2299.0	*	1	1135	140	142.	40.5	2302.2	*	1	1955	240	0.	.0	2297.0
1	0320	41	51.	3.3	2299.1	*	1	1140	141	140.	39.6	2302.1	*	1	2000	241	0.	.0	2297.0
1	0325	42	55.	4.6	2299.3	*	1	1145	142	139.	38.6	2302.0	*	1	2005	242	0.	.0	2297.0
1	0330	43	61.	6.8	2299.5	*	1	1150	143	137.	37.7	2302.0	*	1	2010	243	0.	.0	2297.0
1	0335	44	70.	9.9	2299.9	*	1	1155	144	135.	36.7	2301.9	*	1	2015	244	0.	.0	2297.0
1	0340	45	81.	13.8	2300.2	*	1	1200	145	133.	35.8	2301.8	*	1	2020	245	0.	.0	2297.0
1	0345	46	94.	18.2	2300.6	*	1	1205	146	131.	34.9	2301.8	*	1	2025	246	0.	.0	2297.0
1	0350	47	107.	23.0	2300.9	*	1	1210	147	130.	34.0	2301.7	*	1	2030	247	0.	.0	2297.0
1	0355	48	119.	28.4	2301.3	*	1	1215	148	128.	33.1	2301.6	*	1	2035	248	0.	.0	2297.0
1	0400	49	131.	34.7	2301.8	*	1	1220	149	126.	32.2	2301.6	*	1	2040	249	0.	.0	2297.0
1	0405	50	143.	41.6	2302.2	*	1	1225	150	125.	31.4	2301.5	*	1	2045	250	0.	.0	2297.0
1	0410	51	155.	48.7	2302.7	*	1	1230	151	123.	30.5	2301.5	*	1	2050	251	0.	.0	2297.0
1	0415	52	164.	55.5	2303.2	*	1	1235	152	121.	29.7	2301.4	*	1	2055	252	0.	.0	2297.0
1	0420	53	172.	61.8	2303.6	*	1	1240	153	120.	28.8	2301.3	*	1	2100	253	0.	.0	2297.0
1	0425	54	180.	67.6	2304.0	*	1	1245	154	118.	28.0	2301.3	*	1	2105	254	0.	.0	2297.0
1	0430	55	186.	72.9	2304.3	*	1	1250	155	116.	27.2	2301.2	*	1	2110	255	0.	.0	2297.0
1	0435	56	192.	77.7	2304.6	*	1	1255	156	115.	26.4	2301.2	*	1	2115	256	0.	.0	2297.0
1	0440	57	198.	82.3	2304.9	*	1	1300	157	113.	25.6	2301.1	*	1	2120	257	0.	.0	2297.0
1	0445	58	203.	86.6	2305.2	*	1	1305	158	112.	24.9	2301.1	*	1	2125	258	0.	.0	2297.0
1	0450	59	207.	90.5	2305.5	*	1	1310	159	110.	24.1	2301.0	*	1	2130	259	0.	.0	2297.0
1	0455	60	211.	94.1	2305.7	*	1	1315	160	108.	23.4	2301.0	*	1	2135	260	0.	.0	2297.0
1	0500	61	214.	97.5	2305.9	*	1	1320	161	106.	22.6	2300.9	*	1	2140	261	0.	.0	2297.0
1	0505	62	217.	100.5	2306.1	*	1	1325	162	104.	21.9	2300.8	*	1	2145	262	0.	.0	2297.0
1	0510	63	220.	103.3	2306.3	*	1	1330	163	102.	21.2	2300.8	*	1	2150	263	0.	.0	2297.0
1	0515	64	223.	105.7	2306.5	*	1	1335	164	100.	20.5	2300.7	*	1	2155	264	0.	.0	2297.0
1	0520	65	225.	107.9	2306.6	*	1	1340	165	98.	19.8	2300.7	*	1	2200	265	0.	.0	2297.0
1	0525	66	227.	109.9	2306.8	*	1	1345	166	96.	19.1	2300.6	*	1	2205	266	0.	.0	2297.0
1	0530	67	229.	111.7	2306.9	*	1	1350	167	94.	18.5	2300.6	*	1	2210	267	0.	.0	2297.0
1	0535	68	231.	113.2	2307.0	*	1	1355	168	93.	17.8	2300.5	*	1	2215	268	0.	.0	2297.0
1	0540	69	232.	114.5	2307.1	*	1	1400	169	91.	17.2	2300.5	*	1	2220	269	0.	.0	2297.0
1	0545	70	233.	115.4	2307.1	*	1	1405	170	89.	16.6	2300.4	*	1	2225	270	0.	.0	2297.0
1	0550	71	233.	116.1	2307.2	*	1	1410	171	87.	16.0	2300.4	*	1	2230	271	0.	.0	2297.0
1	0555	72	234.	116.4	2307.2	*	1	1415	172	86.	15.4	2300.4	*	1	2235	272	0.	.0	2297.0
1	0600	73	234.	116.6	2307.2	*	1	1420	173	84.	14.8	2300.3	*	1	2240	273	0.	.0	2297.0
1	0605	74	234.	116.5	2307.2	*	1	1425	174	82.	14.2	2300.3	*	1	2245	274	0.	.0	2297.0
1	0610	75	233.	116.3	2307.2	*	1	1430	175	81.	13.7	2300.2	*	1	2250	275	0.	.0	2297.0
1	0615	76	233.	116.0	2307.2	*	1	1435	176	79.	13.1	2300.2	*	1	2255	276	0.	.0	2297.0
1	0620	77	233.	115.5	2307.1	*	1	1440	177	78.	12.6	2300.2	*	1	2300	277	0.	.0	2297.0
1	0625	78	232.	114.8	2307.1	*	1	1445	178	76.	12.0	2300.1	*	1	2305	278	0.	.0	2297.0
1	0630	79	232.	114.1	2307.0	*	1	1450	179	75.	11.5	2300.1	*	1	2310	279	0.	.0	2297.0
1	0635	80	231.	113.2	2307.0	*	1	1455	180	73.	11.0	2300.0	*	1	2315	280	0.	.0	2297.0
1	0640	81	230.	112.3	2306.9	*	1	1500	181	72.	10.5	2300.0	*	1	2320	281	0.	.0	2297.0
1	0645	82	229.	111.3	2306.9	*	1	1505	182	70.	10.0	2299.9	*	1	2325	282	0.	.0	2297.0
1	0650	83	228.	110.3	2306.8	*	1	1510	183	69.	9.5	2299.9	*	1	2330	283	0.	.0	2297.0
1	0655	84	226.	109.2	2306.7	*	1	1515	184	68.	9.1	2299.8	*	1	2335	284	0.	.0	2297.0
1	0700	85	225.	108.0	2306.6	*	1	1520	185	66.	8.6	2299.8	*	1	2340	285	0.	.0	2297.0
1	0705	86	224.	106.8	2306.6	*	1	1525	186	65.	8.2	2299.7	*	1	2345	286	0.	.0	2297.0
1	0710	87	223.	105.5	2306.5	*	1	1530	187	64.	7.7	2299.7	*	1	2350	287	0.	.0	2297.0
1	0715	88	221.	104.3	2306.4	*	1	1535	188	62.	7.3	2299.6	*	1	2355	288	0.	.0	2297.0
1	0720	89	220.	103.0	2306.3	*	1	1540	189	61.	6.9	2299.5	*	2	0000	289	0.	.0	2297.0
1	0725	90	219.	101.7	2306.2	*	1	1545	190	60.	6.4	2299.5	*	2	0005	290	0.	.0	2297.0
1	0730	91	217.	100.3	2306.1	*	1	1550	191	59.	6.0	2299.4	*	2	0010	291	0.	.0	2297.0
1	0735	92	216.	99.0	2306.0	*	1	1555	192	57.	5.6	2299.4	*	2	0015	292	0.	.0	2297.0
1	0740	93	214.	97.6	2306.0	*	1	1600	193	56.	5.2	2299.3	*	2	0020	293	0.	.0	2297.0
1	0745	94	213.	96.3	2305.9	*	1	1605	194	55.	4.9	2299.3	*	2	0025	294	0.	.0	2297.0

1	0750	95	211.	94.9	2305.8	*	1	1610	195	54.	4.5	2299.3	*	2	0030	295	0.	.0
2297.0																		
1	0755	96	210.	93.5	2305.7	*	1	1615	196	53.	4.1	2299.2	*	2	0035	296	0.	.0
2297.0																		
1	0800	97	209.	92.2	2305.6	*	1	1620	197	52.	3.7	2299.2	*	2	0040	297	0.	.0
2297.0																		
1	0805	98	207.	90.8	2305.5	*	1	1625	198	51.	3.4	2299.1	*	2	0045	298	0.	.0
2297.0																		
1	0810	99	206.	89.4	2305.4	*	1	1630	199	50.	3.0	2299.1	*	2	0050	299	0.	.0
2297.0																		
1	0815	100	204.	88.0	2305.3	*	1	1635	200	49.	2.7	2299.0	*	2	0055	300	0.	.0
2297.0						*							*					

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 234.	6.00		207.	87.	84.	84.
		(INCHES)	1.671	2.810	2.810	2.810
		(AC-FT)	103.	173.	173.	173.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
+ 117.	6.00	92.	30.	29.	29.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
+ 2307.19	6.00	2305.57	2300.49	2300.37	2300.37

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .95

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	198.	82.4	2305.0	1		1640	201	38.	1.5	2298.6
1		0005	2	0.	.0	2297.0	1		0825	102	196.	81.1	2304.9	1		1645	202	35.	1.2	2298.5
1		0010	3	0.	.0	2297.0	1		0830	103	195.	79.8	2304.8	1		1650	203	33.	1.0	2298.4
1		0015	4	0.	.0	2297.0	1		0835	104	193.	78.4	2304.7	1		1655	204	31.	.8	2298.3
1		0020	5	0.	.0	2297.0	1		0840	105	192.	77.1	2304.6	1		1700	205	29.	.6	2298.2
1		0025	6	1.	.0	2297.0	1		0845	106	190.	75.8	2304.5	1		1705	206	27.	.4	2298.1
1		0030	7	2.	.0	2297.1	1		0850	107	188.	74.5	2304.4	1		1710	207	25.	.2	2298.0
1		0035	8	4.	.0	2297.2	1		0855	108	187.	73.3	2304.4	1		1715	208	12.	.1	2297.5
1		0040	9	5.	.0	2297.2	1		0900	109	185.	72.0	2304.3	1		1720	209	3.	.0	2297.1
1		0045	10	6.	.0	2297.2	1		0905	110	184.	70.7	2304.2	1		1725	210	1.	.0	2297.0
1		0050	11	5.	.0	2297.2	1		0910	111	182.	69.5	2304.1	1		1730	211	0.	.0	2297.0
1		0055	12	4.	.0	2297.2	1		0915	112	180.	68.2	2304.0	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	1		0920	113	179.	67.0	2303.9	1		1740	213	0.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	177.	65.8	2303.9	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	176.	64.6	2303.8	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	1		0935	116	174.	63.4	2303.7	1		1755	216	0.	.0	2297.0
1		0120	17	4.	.0	2297.2	1		0940	117	173.	62.2	2303.6	1		1800	217	0.	.0	2297.0
1		0125	18	5.	.0	2297.2	1		0945	118	171.	61.0	2303.5	1		1805	218	0.	.0	2297.0
1		0130	19	7.	.0	2297.3	1		0950	119	170.	59.8	2303.5	1		1810	219	0.	.0	2297.0
1		0135	20	10.	.1	2297.4	1		0955	120	168.	58.6	2303.4	1		1815	220	0.	.0	2297.0
1		0140	21	14.	.1	2297.6	1		1000	121	167.	57.5	2303.3	1		1820	221	0.	.0	2297.0
1		0145	22	18.	.1	2297.7	1		1005	122	166.	56.3	2303.2	1		1825	222	0.	.0	2297.0
1		0150	23	21.	.1	2297.9	1		1010	123	164.	55.2	2303.2	1		1830	223	0.	.0	2297.0
1		0155	24	23.	.1	2298.0	1		1015	124	163.	54.1	2303.1	1		1835	224	0.	.0	2297.0
1		0200	25	24.	.1	2298.0	1		1020	125	161.	53.0	2303.0	1		1840	225	0.	.0	2297.0
1		0205	26	23.	.1	2298.0	1		1025	126	160.	51.9	2302.9	1		1845	226	0.	.0	2297.0
1		0210	27	22.	.1	2297.9	1		1030	127	158.	50.8	2302.9	1		1850	227	0.	.0	2297.0
1		0215	28	23.	.1	2298.0	1		1035	128	156.	49.7	2302.8	1		1855	228	0.	.0	2297.0
1		0220	29	24.	.1	2298.0	1		1040	129	155.	48.6	2302.7	1		1900	229	0.	.0	2297.0
1		0225	30	25.	.2	2298.0	1		1045	130	153.	47.6	2302.6	1		1905	230	0.	.0	2297.0

1	0230	31	26.	.3	2298.1	*	1	1050	131	151.	46.5	2302.6	*	1	1910	231	0.	.0	
2297.0																			
1	0235	32	27.	.4	2298.1	*	1	1055	132	150.	45.5	2302.5	*	1	1915	232	0.	.0	
2297.0																			
1	0240	33	29.	.6	2298.2	*	1	1100	133	148.	44.4	2302.4	*	1	1920	233	0.	.0	
2297.0																			
1	0245	34	30.	.7	2298.3	*	1	1105	134	146.	43.4	2302.4	*	1	1925	234	0.	.0	
2297.0																			
1	0250	35	32.	.9	2298.3	*	1	1110	135	145.	42.4	2302.3	*	1	1930	235	0.	.0	
2297.0																			
1	0255	36	34.	1.1	2298.4	*	1	1115	136	143.	41.4	2302.2	*	1	1935	236	0.	.0	
2297.0																			
1	0300	37	36.	1.3	2298.5	*	1	1120	137	142.	40.5	2302.2	*	1	1940	237	0.	.0	
2297.0																			
1	0305	38	39.	1.5	2298.6	*	1	1125	138	140.	39.5	2302.1	*	1	1945	238	0.	.0	
2297.0																			
1	0310	39	41.	1.8	2298.7	*	1	1130	139	139.	38.5	2302.0	*	1	1950	239	0.	.0	
2297.0																			
1	0315	40	46.	2.2	2298.9	*	1	1135	140	137.	37.6	2302.0	*	1	1955	240	0.	.0	
2297.0																			
1	0320	41	50.	2.9	2299.1	*	1	1140	141	135.	36.6	2301.9	*	1	2000	241	0.	.0	
2297.0																			
1	0325	42	53.	4.2	2299.2	*	1	1145	142	133.	35.7	2301.8	*	1	2005	242	0.	.0	
2297.0																			
1	0330	43	59.	6.3	2299.5	*	1	1150	143	131.	34.8	2301.8	*	1	2010	243	0.	.0	
2297.0																			
1	0335	44	68.	9.2	2299.8	*	1	1155	144	130.	33.9	2301.7	*	1	2015	244	0.	.0	
2297.0																			
1	0340	45	79.	12.9	2300.2	*	1	1200	145	128.	33.0	2301.6	*	1	2020	245	0.	.0	
2297.0																			
1	0345	46	90.	17.1	2300.5	*	1	1205	146	126.	32.2	2301.6	*	1	2025	246	0.	.0	
2297.0																			
1	0350	47	103.	21.6	2300.8	*	1	1210	147	124.	31.3	2301.5	*	1	2030	247	0.	.0	
2297.0																			
1	0355	48	116.	26.8	2301.2	*	1	1215	148	123.	30.4	2301.5	*	1	2035	248	0.	.0	
2297.0																			
1	0400	49	127.	32.8	2301.6	*	1	1220	149	121.	29.6	2301.4	*	1	2040	249	0.	.0	
2297.0																			
1	0405	50	140.	39.4	2302.1	*	1	1225	150	119.	28.8	2301.3	*	1	2045	250	0.	.0	
2297.0																			
1	0410	51	151.	46.2	2302.6	*	1	1230	151	118.	28.0	2301.3	*	1	2050	251	0.	.0	
2297.0																			
1	0415	52	161.	52.7	2303.0	*	1	1235	152	116.	27.2	2301.2	*	1	2055	252	0.	.0	
2297.0																			
1	0420	53	169.	58.8	2303.4	*	1	1240	153	115.	26.4	2301.2	*	1	2100	253	0.	.0	
2297.0																			
1	0425	54	176.	64.4	2303.8	*	1	1245	154	113.	25.6	2301.1	*	1	2105	254	0.	.0	
2297.0																			
1	0430	55	182.	69.4	2304.1	*	1	1250	155	112.	24.8	2301.1	*	1	2110	255	0.	.0	
2297.0																			
1	0435	56	188.	74.2	2304.4	*	1	1255	156	110.	24.0	2301.0	*	1	2115	256	0.	.0	
2297.0																			
1	0440	57	193.	78.6	2304.7	*	1	1300	157	108.	23.3	2300.9	*	1	2120	257	0.	.0	
2297.0																			
1	0445	58	199.	82.8	2305.0	*	1	1305	158	106.	22.5	2300.9	*	1	2125	258	0.	.0	
2297.0																			
1	0450	59	203.	86.6	2305.2	*	1	1310	159	104.	21.8	2300.8	*	1	2130	259	0.	.0	
2297.0																			
1	0455	60	206.	90.1	2305.5	*	1	1315	160	102.	21.1	2300.8	*	1	2135	260	0.	.0	
2297.0																			
1	0500	61	210.	93.4	2305.7	*	1	1320	161	100.	20.4	2300.7	*	1	2140	261	0.	.0	
2297.0																			
1	0505	62	213.	96.3	2305.9	*	1	1325	162	98.	19.7	2300.7	*	1	2145	262	0.	.0	
2297.0																			
1	0510	63	216.	98.9	2306.0	*	1	1330	163	96.	19.1	2300.6	*	1	2150	263	0.	.0	
2297.0																			
1	0515	64	218.	101.3	2306.2	*	1	1335	164	94.	18.4	2300.6	*	1	2155	264	0.	.0	
2297.0																			
1	0520	65	220.	103.4	2306.3	*	1	1340	165	92.	17.8	2300.5	*	1	2200	265	0.	.0	
2297.0																			
1	0525	66	222.	105.3	2306.5	*	1	1345	166	91.	17.1	2300.5	*	1	2205	266	0.	.0	
2297.0																			
1	0530	67	224.	107.0	2306.6	*	1	1350	167	89.	16.5	2300.4	*	1	2210	267	0.	.0	
2297.0																			
1	0535	68	226.	108.5	2306.7	*	1	1355	168	87.	15.9	2300.4	*	1	2215	268	0.	.0	
2297.0																			
1	0540	69	227.	109.7	2306.8	*	1	1400	169	86.	15.3	2300.4	*	1	2220	269	0.	.0	
2297.0																			
1	0545	70	228.	110.6	2306.8	*	1	1405	170	84.	14.7	2300.3	*	1	2225	270	0.	.0	
2297.0																			
1	0550	71	229.	111.2	2306.9	*	1	1410	171	82.	14.2	2300.3	*	1	2230	271	0.	.0	
2297.0																			
1	0555	72	229.	111.6	2306.9	*	1	1415	172	81.	13.6	2300.2	*	1	2235	272	0.	.0	
2297.0																			
1	0600	73	229.	111.7	2306.9	*	1	1420	173	79.	13.1	2300.2	*	1	2240	273	0.	.0	
2297.0																			
1	0605	74	229.	111.6	2306.9	*	1	1425	174	78.	12.5	2300.1	*	1	2245	274	0.	.0	
2297.0																			
1	0610	75	229.	111.4	2306.9	*	1	1430	175	76.	12.0	2300.1	*	1	2250	275	0.	.0	
2297.0																			
1	0615	76	229.	111.1	2306.8	*	1	1435	176	75.	11.5	2300.1	*	1	2255	276	0.	.0	
2297.0																			
1	0620	77	228.	110.6	2306.8	*	1	1440	177	73.	11.0	2300.0	*	1	2300	277	0.	.0	
2297.0																			
1	0625	78	227.	110.0	2306.8	*	1	1445	178	72.	10.5	2300.0	*	1	2305	278	0.	.0	
2297.0																			
1	0630	79	227.	109.2	2306.7	*	1	1450	179	70.	10.0	2299.9	*	1	2310	279	0.	.0	
2297.0																			
1	0635	80	226.	108.4	2306.7	*	1	1455	180	69.	9.5	2299.9	*	1	2315	280	0.	.0	
2297.0																			
1	0640	81	225.	107.5	2306.6	*	1	1500	181	68.	9.0	2299.8	*	1	2320	281	0.	.0	
2297.0																			
1	0645	82	224.	106.5	2306.5	*	1	1505	182	66.	8.6	2299.8	*	1	2325	282	0.	.0	
2297.0																			
1	0650	83	223.	105.5	2306.5	*	1	1510	183	65.	8.1	2299.7	*	1	2330	283	0.	.0	
2297.0																			
1	0655	84	221.	104.4	2306.4	*	1	1515	184	64.	7.7	2299.6	*	1	2335	284	0.	.0	
2297.0																			
1	0700	85	220.	103.3	2306.3	*	1	1520	185	62.	7.2	2299.6	*	1	2340	285	0.	.0	
2297.0																			
1	0705	86	219.	102.1	2306.3	*	1	1525	186	61.	6.8	2299.5	*	1	2345	286	0.	.0	
2297.0																			

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0710	87	218.	100.9	2306.2	*	1	1530	187	60.	6.4	2299.5	*	1	2350	287	0.	.0	2297.0			
1	0715	88	216.	99.6	2306.1	*	1	1535	188	59.	6.0	2299.4	*	1	2355	288	0.	.0	2297.0			
1	0720	89	215.	98.4	2306.0	*	1	1540	189	57.	5.6	2299.4	*	2	0000	289	0.	.0	2297.0			
1	0725	90	214.	97.1	2305.9	*	1	1545	190	56.	5.2	2299.3	*	2	0005	290	0.	.0	2297.0			
1	0730	91	212.	95.8	2305.8	*	1	1550	191	55.	4.8	2299.3	*	2	0010	291	0.	.0	2297.0			
1	0735	92	211.	94.5	2305.7	*	1	1555	192	54.	4.4	2299.2	*	2	0015	292	0.	.0	2297.0			
1	0740	93	210.	93.1	2305.7	*	1	1600	193	53.	4.1	2299.2	*	2	0020	293	0.	.0	2297.0			
1	0745	94	208.	91.8	2305.6	*	1	1605	194	52.	3.7	2299.2	*	2	0025	294	0.	.0	2297.0			
1	0750	95	207.	90.5	2305.5	*	1	1610	195	51.	3.4	2299.1	*	2	0030	295	0.	.0	2297.0			
1	0755	96	205.	89.1	2305.4	*	1	1615	196	50.	3.0	2299.1	*	2	0035	296	0.	.0	2297.0			
1	0800	97	204.	87.8	2305.3	*	1	1620	197	49.	2.7	2299.0	*	2	0040	297	0.	.0	2297.0			
1	0805	98	203.	86.4	2305.2	*	1	1625	198	47.	2.3	2299.0	*	2	0045	298	0.	.0	2297.0			
1	0810	99	201.	85.1	2305.1	*	1	1630	199	44.	2.0	2298.8	*	2	0050	299	0.	.0	2297.0			
1	0815	100	200.	83.7	2305.0	*	1	1635	200	41.	1.7	2298.7	*	2	0055	300	0.	.0	2297.0			

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)					
		(CFS)				
229.	6.00		202.	84.	81.	81.
		(INCHES)	1.633	2.708	2.708	2.708
		(AC-FT)	100.	166.	166.	166.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
112.	6.00	87.	29.	28.	28.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
2306.88	6.00	2305.29	2300.35	2300.23	2300.23

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .93

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000		1	0.	.0	2297.0	*	1	0820		101	193.	78.0	2304.7	*	1	1640		201	30.	.7	2298.3
1	0005		2	0.	.0	2297.0	*	1	0825		102	191.	76.7	2304.6	*	1	1645		202	28.	.5	2298.2
1	0010		3	0.	.0	2297.0	*	1	0830		103	189.	75.4	2304.5	*	1	1650		203	26.	.3	2298.1
1	0015		4	0.	.0	2297.0	*	1	0835		104	188.	74.1	2304.4	*	1	1655		204	24.	.1	2298.0
1	0020		5	0.	.0	2297.0	*	1	0840		105	186.	72.9	2304.3	*	1	1700		205	7.	.0	2297.3
1	0025		6	1.	.0	2297.0	*	1	0845		106	185.	71.6	2304.2	*	1	1705		206	1.	.0	2297.1
1	0030		7	2.	.0	2297.1	*	1	0850		107	183.	70.3	2304.2	*	1	1710		207	0.	.0	2297.0
1	0035		8	4.	.0	2297.1	*	1	0855		108	182.	69.1	2304.1	*	1	1715		208	0.	.0	2297.0
1	0040		9	5.	.0	2297.2	*	1	0900		109	180.	67.9	2304.0	*	1	1720		209	0.	.0	2297.0
1	0045		10	5.	.0	2297.2	*	1	0905		110	178.	66.6	2303.9	*	1	1725		210	0.	.0	2297.0
1	0050		11	4.	.0	2297.2	*	1	0910		111	177.	65.4	2303.8	*	1	1730		211	0.	.0	2297.0
1	0055		12	3.	.0	2297.1	*	1	0915		112	175.	64.2	2303.8	*	1	1735		212	0.	.0	2297.0
1	0100		13	3.	.0	2297.1	*	1	0920		113	174.	63.0	2303.7	*	1	1740		213	0.	.0	2297.0
1	0105		14	2.	.0	2297.1	*	1	0925		114	172.	61.8	2303.6	*	1	1745		214	0.	.0	2297.0
1	0110		15	2.	.0	2297.1	*	1	0930		115	171.	60.6	2303.5	*	1	1750		215	0.	.0	2297.0
1	0115		16	3.	.0	2297.1	*	1	0935		116	169.	59.5	2303.4	*	1	1755		216	0.	.0	2297.0
1	0120		17	4.	.0	2297.1	*	1	0940		117	168.	58.3	2303.4	*	1	1800		217	0.	.0	2297.0
1	0125		18	4.	.0	2297.2	*	1	0945		118	167.	57.2	2303.3	*	1	1805		218	0.	.0	2297.0
1	0130		19	6.	.0	2297.3	*	1	0950		119	165.	56.0	2303.2	*	1	1810		219	0.	.0	2297.0
1	0135		20	9.	.0	2297.4	*	1	0955		120	164.	54.9	2303.1	*	1	1815		220	0.	.0	2297.0
1	0140		21	13.	.1	2297.5	*	1	1000		121	162.	53.8	2303.1	*	1	1820		221	0.	.0	2297.0
1	0145		22	16.	.1	2297.7	*	1	1005		122	161.	52.6	2303.0	*	1	1825		222	0.	.0	2297.0

1	0150	23	19.	.1	2297.8	*	1	1010	123	159.	51.5	2302.9	*	1	1830	223	0.	.0
2297.0																		
1	0155	24	21.	.1	2297.9	*	1	1015	124	157.	50.5	2302.8	*	1	1835	224	0.	.0
2297.0																		
1	0200	25	22.	.1	2297.9	*	1	1020	125	156.	49.4	2302.8	*	1	1840	225	0.	.0
2297.0																		
1	0205	26	21.	.1	2297.9	*	1	1025	126	154.	48.3	2302.7	*	1	1845	226	0.	.0
2297.0																		
1	0210	27	20.	.1	2297.8	*	1	1030	127	152.	47.3	2302.6	*	1	1850	227	0.	.0
2297.0																		
1	0215	28	21.	.1	2297.9	*	1	1035	128	151.	46.2	2302.6	*	1	1855	228	0.	.0
2297.0																		
1	0220	29	24.	.1	2298.0	*	1	1040	129	149.	45.2	2302.5	*	1	1900	229	0.	.0
2297.0																		
1	0225	30	25.	.2	2298.0	*	1	1045	130	147.	44.2	2302.4	*	1	1905	230	0.	.0
2297.0																		
1	0230	31	25.	.3	2298.1	*	1	1050	131	146.	43.2	2302.3	*	1	1910	231	0.	.0
2297.0																		
1	0235	32	27.	.4	2298.1	*	1	1055	132	144.	42.2	2302.3	*	1	1915	232	0.	.0
2297.0																		
1	0240	33	28.	.5	2298.2	*	1	1100	133	143.	41.2	2302.2	*	1	1920	233	0.	.0
2297.0																		
1	0245	34	29.	.6	2298.2	*	1	1105	134	141.	40.2	2302.1	*	1	1925	234	0.	.0
2297.0																		
1	0250	35	31.	.8	2298.3	*	1	1110	135	140.	39.2	2302.1	*	1	1930	235	0.	.0
2297.0																		
1	0255	36	33.	1.0	2298.4	*	1	1115	136	138.	38.3	2302.0	*	1	1935	236	0.	.0
2297.0																		
1	0300	37	35.	1.1	2298.4	*	1	1120	137	136.	37.3	2301.9	*	1	1940	237	0.	.0
2297.0																		
1	0305	38	36.	1.3	2298.5	*	1	1125	138	134.	36.4	2301.9	*	1	1945	238	0.	.0
2297.0																		
1	0310	39	39.	1.6	2298.6	*	1	1130	139	133.	35.5	2301.8	*	1	1950	239	0.	.0
2297.0																		
1	0315	40	43.	2.0	2298.8	*	1	1135	140	131.	34.6	2301.7	*	1	1955	240	0.	.0
2297.0																		
1	0320	41	49.	2.6	2299.0	*	1	1140	141	129.	33.7	2301.7	*	1	2000	241	0.	.0
2297.0																		
1	0325	42	52.	3.8	2299.2	*	1	1145	142	127.	32.8	2301.6	*	1	2005	242	0.	.0
2297.0																		
1	0330	43	58.	5.8	2299.4	*	1	1150	143	126.	31.9	2301.6	*	1	2010	243	0.	.0
2297.0																		
1	0335	44	66.	8.5	2299.8	*	1	1155	144	124.	31.1	2301.5	*	1	2015	244	0.	.0
2297.0																		
1	0340	45	76.	12.1	2300.1	*	1	1200	145	122.	30.2	2301.4	*	1	2020	245	0.	.0
2297.0																		
1	0345	46	87.	16.0	2300.4	*	1	1205	146	121.	29.4	2301.4	*	1	2025	246	0.	.0
2297.0																		
1	0350	47	100.	20.3	2300.7	*	1	1210	147	119.	28.5	2301.3	*	1	2030	247	0.	.0
2297.0																		
1	0355	48	112.	25.2	2301.1	*	1	1215	148	117.	27.7	2301.3	*	1	2035	248	0.	.0
2297.0																		
1	0400	49	123.	30.8	2301.5	*	1	1220	149	116.	26.9	2301.2	*	1	2040	249	0.	.0
2297.0																		
1	0405	50	136.	37.1	2301.9	*	1	1225	150	114.	26.1	2301.1	*	1	2045	250	0.	.0
2297.0																		
1	0410	51	147.	43.6	2302.4	*	1	1230	151	113.	25.4	2301.1	*	1	2050	251	0.	.0
2297.0																		
1	0415	52	156.	49.8	2302.8	*	1	1235	152	111.	24.6	2301.0	*	1	2055	252	0.	.0
2297.0																		
1	0420	53	165.	55.6	2303.2	*	1	1240	153	109.	23.8	2301.0	*	1	2100	253	0.	.0
2297.0																		
1	0425	54	171.	61.0	2303.5	*	1	1245	154	107.	23.1	2300.9	*	1	2105	254	0.	.0
2297.0																		
1	0430	55	177.	65.9	2303.9	*	1	1250	155	105.	22.3	2300.9	*	1	2110	255	0.	.0
2297.0																		
1	0435	56	183.	70.4	2304.2	*	1	1255	156	103.	21.6	2300.8	*	1	2115	256	0.	.0
2297.0																		
1	0440	57	189.	74.7	2304.5	*	1	1300	157	101.	20.9	2300.8	*	1	2120	257	0.	.0
2297.0																		
1	0445	58	194.	78.8	2304.7	*	1	1305	158	99.	20.2	2300.7	*	1	2125	258	0.	.0
2297.0																		
1	0450	59	198.	82.5	2305.0	*	1	1310	159	97.	19.6	2300.7	*	1	2130	259	0.	.0
2297.0																		
1	0455	60	202.	85.9	2305.2	*	1	1315	160	96.	18.9	2300.6	*	1	2135	260	0.	.0
2297.0																		
1	0500	61	205.	89.0	2305.4	*	1	1320	161	94.	18.2	2300.6	*	1	2140	261	0.	.0
2297.0																		
1	0505	62	208.	91.8	2305.6	*	1	1325	162	92.	17.6	2300.5	*	1	2145	262	0.	.0
2297.0																		
1	0510	63	211.	94.3	2305.7	*	1	1330	163	90.	17.0	2300.5	*	1	2150	263	0.	.0
2297.0																		
1	0515	64	213.	96.6	2305.9	*	1	1335	164	88.	16.4	2300.4	*	1	2155	264	0.	.0
2297.0																		
1	0520	65	215.	98.6	2306.0	*	1	1340	165	87.	15.8	2300.4	*	1	2200	265	0.	.0
2297.0																		
1	0525	66	217.	100.5	2306.1	*	1	1345	166	85.	15.2	2300.3	*	1	2205	266	0.	.0
2297.0																		
1	0530	67	219.	102.1	2306.3	*	1	1350	167	83.	14.6	2300.3	*	1	2210	267	0.	.0
2297.0																		
1	0535	68	221.	103.6	2306.3	*	1	1355	168	82.	14.0	2300.3	*	1	2215	268	0.	.0
2297.0																		
1	0540	69	222.	104.7	2306.4	*	1	1400	169	80.	13.5	2300.2	*	1	2220	269	0.	.0
2297.0																		
1	0545	70	223.	105.6	2306.5	*	1	1405	170	79.	12.9	2300.2	*	1	2225	270	0.	.0
2297.0																		
1	0550	71	223.	106.1	2306.5	*	1	1410	171	77.	12.4	2300.1	*	1	2230	271	0.	.0
2297.0																		
1	0555	72	224.	106.4	2306.5	*	1	1415	172	76.	11.8	2300.1	*	1	2235	272	0.	.0
2297.0																		
1	0600	73	224.	106.6	2306.5	*	1	1420	173	74.	11.3	2300.1	*	1	2240	273	0.	.0
2297.0																		
1	0605	74	224.	106.5	2306.5	*	1	1425	174	73.	10.8	2300.0	*	1	2245	274	0.	.0
2297.0																		
1	0610	75	224.	106.3	2306.5	*	1	1430	175	71.	10.3	2300.0	*	1	2250	275	0.	.0
2297.0																		
1	0615	76	223.	106.0	2306.5	*	1	1435	176	70.	9.8	2299.9	*	1	2255	276	0.	.0
2297.0																		
1	0620	77	223.	105.5	2306.5	*	1	1440	177	69.	9.4	2299.9	*	1	2300	277	0.	.0
2297.0																		
1	0625	78	222.	104.9	2306.4	*	1	1445	178	67.	8.9	2299.8	*	1	2305	278	0.	.0
2297.0																		

1	0630	79	221.	104.2	2306.4	*	1	1450	179	66.	8.4	2299.7	*	1	2310	279	0.	.0	2297.0
1	0635	80	220.	103.4	2306.3	*	1	1455	180	64.	8.0	2299.7	*	1	2315	280	0.	.0	2297.0
1	0640	81	219.	102.5	2306.3	*	1	1500	181	63.	7.5	2299.6	*	1	2320	281	0.	.0	2297.0
1	0645	82	218.	101.5	2306.2	*	1	1505	182	62.	7.1	2299.6	*	1	2325	282	0.	.0	2297.0
1	0650	83	217.	100.5	2306.1	*	1	1510	183	61.	6.7	2299.5	*	1	2330	283	0.	.0	2297.0
1	0655	84	216.	99.5	2306.1	*	1	1515	184	59.	6.3	2299.5	*	1	2335	284	0.	.0	2297.0
1	0700	85	215.	98.3	2306.0	*	1	1520	185	58.	5.9	2299.4	*	1	2340	285	0.	.0	2297.0
1	0705	86	214.	97.2	2305.9	*	1	1525	186	57.	5.5	2299.4	*	1	2345	286	0.	.0	2297.0
1	0710	87	213.	96.0	2305.9	*	1	1530	187	56.	5.1	2299.3	*	1	2350	287	0.	.0	2297.0
1	0715	88	211.	94.8	2305.8	*	1	1535	188	55.	4.7	2299.3	*	1	2355	288	0.	.0	2297.0
1	0720	89	210.	93.5	2305.7	*	1	1540	189	54.	4.3	2299.2	*	2	0000	289	0.	.0	2297.0
1	0725	90	209.	92.3	2305.6	*	1	1545	190	53.	4.0	2299.2	*	2	0005	290	0.	.0	2297.0
1	0730	91	207.	91.0	2305.5	*	1	1550	191	52.	3.6	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	206.	89.7	2305.4	*	1	1555	192	50.	3.3	2299.1	*	2	0015	292	0.	.0	2297.0
1	0740	93	205.	88.5	2305.4	*	1	1600	193	49.	2.9	2299.1	*	2	0020	293	0.	.0	2297.0
1	0745	94	203.	87.1	2305.3	*	1	1605	194	48.	2.6	2299.0	*	2	0025	294	0.	.0	2297.0
1	0750	95	202.	85.8	2305.2	*	1	1610	195	46.	2.3	2298.9	*	2	0030	295	0.	.0	2297.0
1	0755	96	201.	84.5	2305.1	*	1	1615	196	43.	1.9	2298.8	*	2	0035	296	0.	.0	2297.0
1	0800	97	199.	83.2	2305.0	*	1	1620	197	40.	1.7	2298.7	*	2	0040	297	0.	.0	2297.0
1	0805	98	198.	81.9	2304.9	*	1	1625	198	37.	1.4	2298.6	*	2	0045	298	0.	.0	2297.0
1	0810	99	196.	80.6	2304.8	*	1	1630	199	35.	1.1	2298.4	*	2	0050	299	0.	.0	2297.0
1	0815	100	194.	79.3	2304.8	*	1	1635	200	32.	.9	2298.3	*	2	0055	300	0.	.0	2297.0

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1	0110	15	2.	.0	2297.1	*	1	0930	115	169.	59.1	2303.4	*	1	1750	215	0.	.0	
2297.0																			
1	0115	16	3.	.0	2297.1	*	1	0935	116	168.	57.9	2303.3	*	1	1755	216	0.	.0	
2297.0																			
1	0120	17	3.	.0	2297.1	*	1	0940	117	166.	56.8	2303.3	*	1	1800	217	0.	.0	
2297.0																			
1	0125	18	4.	.0	2297.2	*	1	0945	118	165.	55.6	2303.2	*	1	1805	218	0.	.0	
2297.0																			
1	0130	19	6.	.0	2297.2	*	1	0950	119	163.	54.5	2303.1	*	1	1810	219	0.	.0	
2297.0																			
1	0135	20	9.	.0	2297.4	*	1	0955	120	162.	53.4	2303.0	*	1	1815	220	0.	.0	
2297.0																			
1	0140	21	12.	.1	2297.5	*	1	1000	121	160.	52.3	2303.0	*	1	1820	221	0.	.0	
2297.0																			
1	0145	22	16.	.1	2297.7	*	1	1005	122	159.	51.2	2302.9	*	1	1825	222	0.	.0	
2297.0																			
1	0150	23	19.	.1	2297.8	*	1	1010	123	157.	50.1	2302.8	*	1	1830	223	0.	.0	
2297.0																			
1	0155	24	21.	.1	2297.9	*	1	1015	124	155.	49.0	2302.7	*	1	1835	224	0.	.0	
2297.0																			
1	0200	25	21.	.1	2297.9	*	1	1020	125	153.	48.0	2302.7	*	1	1840	225	0.	.0	
2297.0																			
1	0205	26	20.	.1	2297.8	*	1	1025	126	152.	46.9	2302.6	*	1	1845	226	0.	.0	
2297.0																			
1	0210	27	20.	.1	2297.8	*	1	1030	127	150.	45.9	2302.5	*	1	1850	227	0.	.0	
2297.0																			
1	0215	28	20.	.1	2297.8	*	1	1035	128	149.	44.8	2302.5	*	1	1855	228	0.	.0	
2297.0																			
1	0220	29	24.	.1	2298.0	*	1	1040	129	147.	43.8	2302.4	*	1	1900	229	0.	.0	
2297.0																			
1	0225	30	24.	.2	2298.0	*	1	1045	130	145.	42.8	2302.3	*	1	1905	230	0.	.0	
2297.0																			
1	0230	31	25.	.2	2298.1	*	1	1050	131	144.	41.8	2302.3	*	1	1910	231	0.	.0	
2297.0																			
1	0235	32	26.	.3	2298.1	*	1	1055	132	142.	40.8	2302.2	*	1	1915	232	0.	.0	
2297.0																			
1	0240	33	27.	.5	2298.1	*	1	1100	133	141.	39.9	2302.1	*	1	1920	233	0.	.0	
2297.0																			
1	0245	34	29.	.6	2298.2	*	1	1105	134	139.	38.9	2302.0	*	1	1925	234	0.	.0	
2297.0																			
1	0250	35	30.	.7	2298.3	*	1	1110	135	138.	38.0	2302.0	*	1	1930	235	0.	.0	
2297.0																			
1	0255	36	32.	.9	2298.3	*	1	1115	136	136.	37.0	2301.9	*	1	1935	236	0.	.0	
2297.0																			
1	0300	37	34.	1.1	2298.4	*	1	1120	137	134.	36.1	2301.9	*	1	1940	237	0.	.0	
2297.0																			
1	0305	38	36.	1.2	2298.5	*	1	1125	138	132.	35.2	2301.8	*	1	1945	238	0.	.0	
2297.0																			
1	0310	39	38.	1.5	2298.6	*	1	1130	139	130.	34.3	2301.7	*	1	1950	239	0.	.0	
2297.0																			
1	0315	40	42.	1.9	2298.8	*	1	1135	140	128.	33.4	2301.7	*	1	1955	240	0.	.0	
2297.0																			
1	0320	41	48.	2.5	2299.0	*	1	1140	141	127.	32.5	2301.6	*	1	2000	241	0.	.0	
2297.0																			
1	0325	42	52.	3.7	2299.2	*	1	1145	142	125.	31.6	2301.5	*	1	2005	242	0.	.0	
2297.0																			
1	0330	43	57.	5.6	2299.4	*	1	1150	143	123.	30.8	2301.5	*	1	2010	243	0.	.0	
2297.0																			
1	0335	44	65.	8.3	2299.7	*	1	1155	144	122.	29.9	2301.4	*	1	2015	244	0.	.0	
2297.0																			
1	0340	45	75.	11.7	2300.1	*	1	1200	145	120.	29.1	2301.4	*	1	2020	245	0.	.0	
2297.0																			
1	0345	46	86.	15.6	2300.4	*	1	1205	146	118.	28.3	2301.3	*	1	2025	246	0.	.0	
2297.0																			
1	0350	47	98.	19.8	2300.7	*	1	1210	147	117.	27.5	2301.2	*	1	2030	247	0.	.0	
2297.0																			
1	0355	48	111.	24.6	2301.0	*	1	1215	148	115.	26.7	2301.2	*	1	2035	248	0.	.0	
2297.0																			
1	0400	49	122.	30.0	2301.4	*	1	1220	149	114.	25.9	2301.1	*	1	2040	249	0.	.0	
2297.0																			
1	0405	50	134.	36.2	2301.9	*	1	1225	150	112.	25.1	2301.1	*	1	2045	250	0.	.0	
2297.0																			
1	0410	51	145.	42.6	2302.3	*	1	1230	151	111.	24.3	2301.0	*	1	2050	251	0.	.0	
2297.0																			
1	0415	52	155.	48.7	2302.7	*	1	1235	152	109.	23.6	2301.0	*	1	2055	252	0.	.0	
2297.0																			
1	0420	53	163.	54.4	2303.1	*	1	1240	153	107.	22.8	2300.9	*	1	2100	253	0.	.0	
2297.0																			
1	0425	54	170.	59.6	2303.5	*	1	1245	154	105.	22.1	2300.9	*	1	2105	254	0.	.0	
2297.0																			
1	0430	55	176.	64.5	2303.8	*	1	1250	155	103.	21.4	2300.8	*	1	2110	255	0.	.0	
2297.0																			
1	0435	56	181.	69.0	2304.1	*	1	1255	156	101.	20.7	2300.8	*	1	2115	256	0.	.0	
2297.0																			
1	0440	57	187.	73.3	2304.4	*	1	1300	157	99.	20.0	2300.7	*	1	2120	257	0.	.0	
2297.0																			
1	0445	58	192.	77.2	2304.6	*	1	1305	158	97.	19.3	2300.7	*	1	2125	258	0.	.0	
2297.0																			
1	0450	59	196.	80.9	2304.9	*	1	1310	159	95.	18.7	2300.6	*	1	2130	259	0.	.0	
2297.0																			
1	0455	60	200.	84.3	2305.1	*	1	1315	160	93.	18.0	2300.6	*	1	2135	260	0.	.0	
2297.0																			
1	0500	61	203.	87.3	2305.3	*	1	1320	161	91.	17.4	2300.5	*	1	2140	261	0.	.0	
2297.0																			
1	0505	62	206.	90.1	2305.5	*	1	1325	162	90.	16.8	2300.5	*	1	2145	262	0.	.0	
2297.0																			
1	0510	63	209.	92.5	2305.6	*	1	1330	163	88.	16.2	2300.4	*	1	2150	263	0.	.0	
2297.0																			
1	0515	64	211.	94.7	2305.8	*	1	1335	164	86.	15.6	2300.4	*	1	2155	264	0.	.0	
2297.0																			
1	0520	65	213.	96.7	2305.9	*	1	1340	165	85.	15.0	2300.3	*	1	2200	265	0.	.0	
2297.0																			
1	0525	66	215.	98.6	2306.0	*	1	1345	166	83.	14.4	2300.3	*	1	2205	266	0.	.0	
2297.0																			
1	0530	67	217.	100.2	2306.1	*	1	1350	167	81.	13.8	2300.2	*	1	2210	267	0.	.0	
2297.0																			
1	0535	68	219.	101.6	2306.2	*	1	1355	168	80.	13.3	2300.2	*	1	2215	268	0.	.0	
2297.0																			
1	0540	69	220.	102.8	2306.3	*	1	1400	169	78.	12.7	2300.2	*	1	2220	269	0.	.0	
2297.0																			
1	0545	70	221.	103.6	2306.3	*	1	1405	170	77.	12.2	2300.1	*	1	2225	270	0.	.0	
2297.0																			

1	0550	71	221.	104.1	2306.4	*	1	1410	171	75.	11.7	2300.1	*	1	2230	271	0.	.0	
2297.0																			
1	0555	72	221.	104.4	2306.4	*	1	1415	172	74.	11.2	2300.0	*	1	2235	272	0.	.0	
2297.0																			
1	0600	73	222.	104.5	2306.4	*	1	1420	173	72.	10.7	2300.0	*	1	2240	273	0.	.0	
2297.0																			
1	0605	74	222.	104.5	2306.4	*	1	1425	174	71.	10.2	2300.0	*	1	2245	274	0.	.0	
2297.0																			
1	0610	75	221.	104.3	2306.4	*	1	1430	175	69.	9.7	2299.9	*	1	2250	275	0.	.0	
2297.0																			
1	0615	76	221.	104.0	2306.4	*	1	1435	176	68.	9.2	2299.8	*	1	2255	276	0.	.0	
2297.0																			
1	0620	77	221.	103.5	2306.3	*	1	1440	177	67.	8.7	2299.8	*	1	2300	277	0.	.0	
2297.0																			
1	0625	78	220.	102.9	2306.3	*	1	1445	178	65.	8.3	2299.7	*	1	2305	278	0.	.0	
2297.0																			
1	0630	79	219.	102.2	2306.3	*	1	1450	179	64.	7.8	2299.7	*	1	2310	279	0.	.0	
2297.0																			
1	0635	80	218.	101.4	2306.2	*	1	1455	180	63.	7.4	2299.6	*	1	2315	280	0.	.0	
2297.0																			
1	0640	81	217.	100.5	2306.1	*	1	1500	181	61.	7.0	2299.6	*	1	2320	281	0.	.0	
2297.0																			
1	0645	82	216.	99.6	2306.1	*	1	1505	182	60.	6.6	2299.5	*	1	2325	282	0.	.0	
2297.0																			
1	0650	83	215.	98.5	2306.0	*	1	1510	183	59.	6.1	2299.5	*	1	2330	283	0.	.0	
2297.0																			
1	0655	84	214.	97.5	2305.9	*	1	1515	184	58.	5.7	2299.4	*	1	2335	284	0.	.0	
2297.0																			
1	0700	85	213.	96.4	2305.9	*	1	1520	185	57.	5.4	2299.4	*	1	2340	285	0.	.0	
2297.0																			
1	0705	86	212.	95.2	2305.8	*	1	1525	186	56.	5.0	2299.3	*	1	2345	286	0.	.0	
2297.0																			
1	0710	87	211.	94.1	2305.7	*	1	1530	187	54.	4.6	2299.3	*	1	2350	287	0.	.0	
2297.0																			
1	0715	88	209.	92.9	2305.6	*	1	1535	188	53.	4.2	2299.2	*	1	2355	288	0.	.0	
2297.0																			
1	0720	89	208.	91.6	2305.6	*	1	1540	189	52.	3.9	2299.2	*	2	0000	289	0.	.0	
2297.0																			
1	0725	90	207.	90.4	2305.5	*	1	1545	190	51.	3.5	2299.1	*	2	0005	290	0.	.0	
2297.0																			
1	0730	91	205.	89.1	2305.4	*	1	1550	191	50.	3.1	2299.1	*	2	0010	291	0.	.0	
2297.0																			
1	0735	92	204.	87.9	2305.3	*	1	1555	192	49.	2.8	2299.0	*	2	0015	292	0.	.0	
2297.0																			
1	0740	93	203.	86.6	2305.2	*	1	1600	193	48.	2.5	2299.0	*	2	0020	293	0.	.0	
2297.0																			
1	0745	94	201.	85.3	2305.1	*	1	1605	194	45.	2.2	2298.9	*	2	0025	294	0.	.0	
2297.0																			
1	0750	95	200.	84.0	2305.1	*	1	1610	195	42.	1.9	2298.7	*	2	0030	295	0.	.0	
2297.0																			
1	0755	96	199.	82.7	2305.0	*	1	1615	196	39.	1.6	2298.6	*	2	0035	296	0.	.0	
2297.0																			
1	0800	97	197.	81.4	2304.9	*	1	1620	197	36.	1.3	2298.5	*	2	0040	297	0.	.0	
2297.0																			
1	0805	98	195.	80.1	2304.8	*	1	1625	198	34.	1.1	2298.4	*	2	0045	298	0.	.0	
2297.0																			
1	0810	99	194.	78.8	2304.7	*	1	1630	199	31.	.8	2298.3	*	2	0050	299	0.	.0	
2297.0																			
1	0815	100	192.	77.5	2304.6	*	1	1635	200	29.	.6	2298.2	*	2	0055	300	0.	.0	
2297.0						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 222.	6.00		195.	79.	76.	76.
		(INCHES)	1.576	2.557	2.557	2.557
		(AC-FT)	97.	157.	157.	157.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
105.	6.00	81.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2306.41	6.00	2304.88	2300.14	2300.02	2300.02

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .91

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	*	1		0820	101	189.	75.0	2304.5	*	1		1640	201	26.	.3	
2298.1																						
1		0005	2	0.	.0	2297.0	*	1		0825	102	187.	73.8	2304.4	*	1		1645	202	21.	.1	
2297.9																						
1		0010	3	0.	.0	2297.0	*	1		0830	103	186.	72.5	2304.3	*	1		1650	203	4.	.0	
2297.2																						
1		0015	4	0.	.0	2297.0	*	1		0835	104	184.	71.2	2304.2	*	1		1655	204	1.	.0	
2297.0																						
1		0020	5	0.	.0	2297.0	*	1		0840	105	183.	70.0	2304.1	*	1		1700	205	0.	.0	
2297.0																						
1		0025	6	1.	.0	2297.0	*	1		0845	106	181.	68.8	2304.1	*	1		1705	206	0.	.0	
2297.0																						

1	0030	7	2.	.0	2297.1	*	1	0850	107	180.	67.5	2304.0	*	1	1710	207	0.	.0	2297.0
1	0035	8	3.	.0	2297.1	*	1	0855	108	178.	66.3	2303.9	*	1	1715	208	0.	.0	2297.0
1	0040	9	4.	.0	2297.2	*	1	0900	109	177.	65.1	2303.8	*	1	1720	209	0.	.0	2297.0
1	0045	10	5.	.0	2297.2	*	1	0905	110	175.	63.9	2303.7	*	1	1725	210	0.	.0	2297.0
1	0050	11	4.	.0	2297.2	*	1	0910	111	174.	62.7	2303.7	*	1	1730	211	0.	.0	2297.0
1	0055	12	3.	.0	2297.1	*	1	0915	112	172.	61.5	2303.6	*	1	1735	212	0.	.0	2297.0
1	0100	13	2.	.0	2297.1	*	1	0920	113	171.	60.3	2303.5	*	1	1740	213	0.	.0	2297.0
1	0105	14	2.	.0	2297.1	*	1	0925	114	169.	59.2	2303.4	*	1	1745	214	0.	.0	2297.0
1	0110	15	2.	.0	2297.1	*	1	0930	115	168.	58.0	2303.4	*	1	1750	215	0.	.0	2297.0
1	0115	16	2.	.0	2297.1	*	1	0935	116	166.	56.9	2303.3	*	1	1755	216	0.	.0	2297.0
1	0120	17	3.	.0	2297.1	*	1	0940	117	165.	55.7	2303.2	*	1	1800	217	0.	.0	2297.0
1	0125	18	4.	.0	2297.2	*	1	0945	118	163.	54.6	2303.1	*	1	1805	218	0.	.0	2297.0
1	0130	19	6.	.0	2297.2	*	1	0950	119	162.	53.5	2303.1	*	1	1810	219	0.	.0	2297.0
1	0135	20	8.	.0	2297.4	*	1	0955	120	160.	52.4	2303.0	*	1	1815	220	0.	.0	2297.0
1	0140	21	12.	.1	2297.5	*	1	1000	121	159.	51.3	2302.9	*	1	1820	221	0.	.0	2297.0
1	0145	22	15.	.1	2297.6	*	1	1005	122	157.	50.2	2302.8	*	1	1825	222	0.	.0	2297.0
1	0150	23	18.	.1	2297.8	*	1	1010	123	155.	49.1	2302.8	*	1	1830	223	0.	.0	2297.0
1	0155	24	20.	.1	2297.8	*	1	1015	124	154.	48.0	2302.7	*	1	1835	224	0.	.0	2297.0
1	0200	25	20.	.1	2297.8	*	1	1020	125	152.	47.0	2302.6	*	1	1840	225	0.	.0	2297.0
1	0205	26	20.	.1	2297.8	*	1	1025	126	150.	46.0	2302.5	*	1	1845	226	0.	.0	2297.0
1	0210	27	19.	.1	2297.8	*	1	1030	127	149.	44.9	2302.5	*	1	1850	227	0.	.0	2297.0
1	0215	28	20.	.1	2297.8	*	1	1035	128	147.	43.9	2302.4	*	1	1855	228	0.	.0	2297.0
1	0220	29	23.	.1	2298.0	*	1	1040	129	145.	42.9	2302.3	*	1	1900	229	0.	.0	2297.0
1	0225	30	24.	.2	2298.0	*	1	1045	130	144.	41.9	2302.3	*	1	1905	230	0.	.0	2297.0
1	0230	31	25.	.2	2298.0	*	1	1050	131	142.	40.9	2302.2	*	1	1910	231	0.	.0	2297.0
1	0235	32	26.	.3	2298.1	*	1	1055	132	141.	39.9	2302.1	*	1	1915	232	0.	.0	2297.0
1	0240	33	27.	.4	2298.1	*	1	1100	133	139.	39.0	2302.1	*	1	1920	233	0.	.0	2297.0
1	0245	34	28.	.6	2298.2	*	1	1105	134	138.	38.0	2302.0	*	1	1925	234	0.	.0	2297.0
1	0250	35	30.	.7	2298.3	*	1	1110	135	136.	37.1	2301.9	*	1	1930	235	0.	.0	2297.0
1	0255	36	32.	.9	2298.3	*	1	1115	136	134.	36.2	2301.9	*	1	1935	236	0.	.0	2297.0
1	0300	37	33.	1.0	2298.4	*	1	1120	137	132.	35.2	2301.8	*	1	1940	237	0.	.0	2297.0
1	0305	38	35.	1.2	2298.5	*	1	1125	138	130.	34.3	2301.7	*	1	1945	238	0.	.0	2297.0
1	0310	39	38.	1.4	2298.6	*	1	1130	139	129.	33.4	2301.7	*	1	1950	239	0.	.0	2297.0
1	0315	40	41.	1.8	2298.7	*	1	1135	140	127.	32.6	2301.6	*	1	1955	240	0.	.0	2297.0
1	0320	41	48.	2.4	2299.0	*	1	1140	141	125.	31.7	2301.5	*	1	2000	241	0.	.0	2297.0
1	0325	42	51.	3.6	2299.1	*	1	1145	142	123.	30.8	2301.5	*	1	2005	242	0.	.0	2297.0
1	0330	43	57.	5.4	2299.4	*	1	1150	143	122.	30.0	2301.4	*	1	2010	243	0.	.0	2297.0
1	0335	44	65.	8.1	2299.7	*	1	1155	144	120.	29.2	2301.4	*	1	2015	244	0.	.0	2297.0
1	0340	45	75.	11.5	2300.1	*	1	1200	145	119.	28.3	2301.3	*	1	2020	245	0.	.0	2297.0
1	0345	46	85.	15.3	2300.4	*	1	1205	146	117.	27.5	2301.2	*	1	2025	246	0.	.0	2297.0
1	0350	47	97.	19.5	2300.7	*	1	1210	147	115.	26.7	2301.2	*	1	2030	247	0.	.0	2297.0
1	0355	48	110.	24.1	2301.0	*	1	1215	148	114.	25.9	2301.1	*	1	2035	248	0.	.0	2297.0
1	0400	49	121.	29.5	2301.4	*	1	1220	149	112.	25.2	2301.1	*	1	2040	249	0.	.0	2297.0
1	0405	50	133.	35.6	2301.8	*	1	1225	150	111.	24.4	2301.0	*	1	2045	250	0.	.0	2297.0
1	0410	51	144.	41.9	2302.3	*	1	1230	151	109.	23.6	2301.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	153.	47.9	2302.7	*	1	1235	152	107.	22.9	2300.9	*	1	2055	252	0.	.0	2297.0
1	0420	53	162.	53.5	2303.1	*	1	1240	153	105.	22.2	2300.9	*	1	2100	253	0.	.0	2297.0
1	0425	54	169.	58.8	2303.4	*	1	1245	154	103.	21.4	2300.8	*	1	2105	254	0.	.0	2297.0
1	0430	55	175.	63.6	2303.7	*	1	1250	155	101.	20.7	2300.8	*	1	2110	255	0.	.0	2297.0
1	0435	56	180.	68.1	2304.0	*	1	1255	156	99.	20.1	2300.7	*	1	2115	256	0.	.0	2297.0
1	0440	57	186.	72.3	2304.3	*	1	1300	157	97.	19.4	2300.7	*	1	2120	257	0.	.0	2297.0
1	0445	58	190.	76.2	2304.5	*	1	1305	158	95.	18.7	2300.6	*	1	2125	258	0.	.0	2297.0
1	0450	59	195.	79.8	2304.8	*	1	1310	159	93.	18.1	2300.6	*	1	2130	259	0.	.0	2297.0
1	0455	60	199.	83.2	2305.0	*	1	1315	160	91.	17.4	2300.5	*	1	2135	260	0.	.0	2297.0
1	0500	61	202.	86.2	2305.2	*	1	1320	161	90.	16.8	2300.5	*	1	2140	261	0.	.0	2297.0
1	0505	62	205.	88.9	2305.4	*	1	1325	162	88.	16.2	2300.4	*	1	2145	262	0.	.0	2297.0

1	0510	63	208.	91.3	2305.5	*	1	1330	163	86.	15.6	2300.4	*	1	2150	263	0.	.0	2297.0
1	0515	64	210.	93.5	2305.7	*	1	1335	164	85.	15.0	2300.3	*	1	2155	264	0.	.0	2297.0
1	0520	65	212.	95.5	2305.8	*	1	1340	165	83.	14.4	2300.3	*	1	2200	265	0.	.0	2297.0
1	0525	66	214.	97.3	2305.9	*	1	1345	166	81.	13.9	2300.2	*	1	2205	266	0.	.0	2297.0
1	0530	67	216.	98.9	2306.0	*	1	1350	167	80.	13.3	2300.2	*	1	2210	267	0.	.0	2297.0
1	0535	68	217.	100.3	2306.1	*	1	1355	168	78.	12.8	2300.2	*	1	2215	268	0.	.0	2297.0
1	0540	69	218.	101.4	2306.2	*	1	1400	169	77.	12.2	2300.1	*	1	2220	269	0.	.0	2297.0
1	0545	70	219.	102.2	2306.3	*	1	1405	170	75.	11.7	2300.1	*	1	2225	270	0.	.0	2297.0
1	0550	71	220.	102.7	2306.3	*	1	1410	171	74.	11.2	2300.0	*	1	2230	271	0.	.0	2297.0
1	0555	72	220.	103.0	2306.3	*	1	1415	172	72.	10.7	2300.0	*	1	2235	272	0.	.0	2297.0
1	0600	73	220.	103.1	2306.3	*	1	1420	173	71.	10.2	2300.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	220.	103.1	2306.3	*	1	1425	174	70.	9.7	2299.9	*	1	2245	274	0.	.0	2297.0
1	0610	75	220.	102.9	2306.3	*	1	1430	175	68.	9.2	2299.8	*	1	2250	275	0.	.0	2297.0
1	0615	76	220.	102.6	2306.3	*	1	1435	176	67.	8.8	2299.8	*	1	2255	276	0.	.0	2297.0
1	0620	77	219.	102.1	2306.3	*	1	1440	177	65.	8.3	2299.7	*	1	2300	277	0.	.0	2297.0
1	0625	78	218.	101.5	2306.2	*	1	1445	178	64.	7.9	2299.7	*	1	2305	278	0.	.0	2297.0
1	0630	79	218.	100.8	2306.2	*	1	1450	179	63.	7.4	2299.6	*	1	2310	279	0.	.0	2297.0
1	0635	80	217.	100.0	2306.1	*	1	1455	180	62.	7.0	2299.6	*	1	2315	280	0.	.0	2297.0
1	0640	81	216.	99.1	2306.1	*	1	1500	181	60.	6.6	2299.5	*	1	2320	281	0.	.0	2297.0
1	0645	82	215.	98.2	2306.0	*	1	1505	182	59.	6.2	2299.5	*	1	2325	282	0.	.0	2297.0
1	0650	83	214.	97.2	2305.9	*	1	1510	183	58.	5.8	2299.4	*	1	2330	283	0.	.0	2297.0
1	0655	84	213.	96.1	2305.9	*	1	1515	184	57.	5.4	2299.4	*	1	2335	284	0.	.0	2297.0
1	0700	85	212.	95.0	2305.8	*	1	1520	185	56.	5.0	2299.3	*	1	2340	285	0.	.0	2297.0
1	0705	86	210.	93.9	2305.7	*	1	1525	186	54.	4.6	2299.3	*	1	2345	286	0.	.0	2297.0
1	0710	87	209.	92.7	2305.6	*	1	1530	187	53.	4.2	2299.2	*	1	2350	287	0.	.0	2297.0
1	0715	88	208.	91.5	2305.6	*	1	1535	188	52.	3.9	2299.2	*	1	2355	288	0.	.0	2297.0
1	0720	89	207.	90.3	2305.5	*	1	1540	189	51.	3.5	2299.1	*	2	0000	289	0.	.0	2297.0
1	0725	90	205.	89.1	2305.4	*	1	1545	190	50.	3.2	2299.1	*	2	0005	290	0.	.0	2297.0
1	0730	91	204.	87.8	2305.3	*	1	1550	191	49.	2.8	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	203.	86.6	2305.2	*	1	1555	192	48.	2.5	2299.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	201.	85.3	2305.1	*	1	1600	193	45.	2.2	2298.9	*	2	0020	293	0.	.0	2297.0
1	0745	94	200.	84.0	2305.1	*	1	1605	194	42.	1.9	2298.8	*	2	0025	294	0.	.0	2297.0
1	0750	95	199.	82.7	2305.0	*	1	1610	195	39.	1.6	2298.6	*	2	0030	295	0.	.0	2297.0
1	0755	96	197.	81.4	2304.9	*	1	1615	196	37.	1.3	2298.5	*	2	0035	296	0.	.0	2297.0
1	0800	97	195.	80.2	2304.8	*	1	1620	197	34.	1.1	2298.4	*	2	0040	297	0.	.0	2297.0
1	0805	98	194.	78.9	2304.7	*	1	1625	198	32.	.9	2298.3	*	2	0045	298	0.	.0	2297.0
1	0810	99	192.	77.6	2304.6	*	1	1630	199	29.	.7	2298.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	191.	76.3	2304.6	*	1	1635	200	27.	.5	2298.1	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)	(CFS)				
+ 220.	6.00		194.	78.	75.	75.
		(INCHES)	1.565	2.528	2.528	2.528
		(AC-FT)	96.	155.	155.	155.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
103.	6.00	80.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2306.32	6.00	2304.80	2300.10	2299.98	2299.98

CUMULATIVE AREA = 1.15 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO PRECIPITATION					
				RATIO 1	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6
				.99	.98	.95	.93	.92	.91

HYDROGRAPH AT	U190	.37	1	FLOW	196.	191.	182.	173.	170.	167.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	U170	.25	1	FLOW	152.	148.	141.	135.	132.	130.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
2 COMBINED AT	CP1	.62	1	FLOW	348.	339.	323.	308.	302.	297.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO	CP1S	.62	1	FLOW	148.	143.	136.	129.	127.	125.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	CP1E	.62	1	FLOW	200.	196.	187.	179.	175.	172.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO	RCP1E	.62	1	FLOW	199.	194.	185.	177.	172.	169.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.17
HYDROGRAPH AT	U150	.13	1	FLOW	104.	102.	97.	93.	91.	90.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO	U150E	.13	1	FLOW	60.	59.	56.	53.	52.	52.
+				TIME	3.75	3.75	3.75	3.75	3.58	3.58
HYDROGRAPH AT	U150S	.13	1	FLOW	44.	43.	41.	40.	39.	38.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RU150	.13	1	FLOW	43.	42.	40.	38.	37.	36.
+				TIME	3.83	3.83	3.92	3.92	3.83	3.92
HYDROGRAPH AT	U155	.13	1	FLOW	104.	102.	97.	93.	91.	90.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT	CP2	.88	1	FLOW	302.	294.	277.	258.	250.	244.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO	CP2E	.88	1	FLOW	174.	170.	161.	152.	148.	145.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	CP2S	.88	1	FLOW	128.	124.	116.	106.	102.	99.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO	RCP2S	.88	1	FLOW	126.	122.	115.	105.	100.	97.
+				TIME	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT	CP1S	.00	1	FLOW	148.	143.	136.	129.	127.	125.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	U210	.07	1	FLOW	60.	58.	56.	53.	52.	52.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CP3	.07	1	FLOW	192.	186.	181.	178.	177.	177.
+				TIME	3.92	3.92	3.75	3.75	3.75	3.75
DIVERSION TO	CP3E	.07	1	FLOW	89.	85.	83.	82.	81.	81.
+				TIME	3.92	3.92	3.75	3.75	3.75	3.50
HYDROGRAPH AT	CP3S	.07	1	FLOW	103.	101.	98.	96.	96.	96.
+				TIME	3.92	3.92	3.75	3.75	3.75	3.75
HYDROGRAPH AT	U250	.07	1	FLOW	57.	56.	53.	51.	50.	49.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CP4	.14	1	FLOW	158.	155.	151.	147.	146.	145.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO	CP4E	.14	1	FLOW	79.	77.	75.	73.	73.	72.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.58
HYDROGRAPH AT	CP4S	.14	1	FLOW	79.	78.	76.	74.	73.	73.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RCP4S	.14	1	FLOW	79.	78.	76.	74.	73.	72.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT	U230	.14	1	FLOW	110.	107.	102.	98.	96.	94.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	U330	.01	1	FLOW	15.	15.	14.	14.	13.	13.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT	CP5	.30	1	FLOW	199.	194.	187.	179.	175.	173.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.83

HYDROGRAPH AT										
+	CP3E	.00	1	FLOW	89.	85.	83.	82.	81.	81.
				TIME	3.92	3.92	3.75	3.75	3.75	3.50
HYDROGRAPH AT										
+	U370	.02	1	FLOW	18.	18.	17.	16.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CP6	.02	1	FLOW	101.	100.	99.	97.	97.	97.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
DIVERSION TO										
+	CP6E	.02	1	FLOW	46.	45.	45.	44.	44.	44.
				TIME	3.67	3.67	3.67	3.58	3.58	3.33
HYDROGRAPH AT										
+	CP6S	.02	1	FLOW	55.	55.	54.	53.	53.	53.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
HYDROGRAPH AT										
+	CP4E	.00	1	FLOW	79.	77.	75.	73.	73.	72.
				TIME	3.75	3.75	3.75	3.75	3.75	3.58
HYDROGRAPH AT										
+	U350	.02	1	FLOW	19.	18.	17.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP7	.03	1	FLOW	150.	148.	144.	142.	141.	141.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
DIVERSION TO										
+	CP7E	.03	1	FLOW	75.	74.	72.	71.	70.	70.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
HYDROGRAPH AT										
+	CP7S	.03	1	FLOW	75.	74.	72.	71.	71.	71.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
HYDROGRAPH AT										
+	U305	.01	1	FLOW	11.	11.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CP8	.04	1	FLOW	85.	84.	82.	81.	81.	81.
				TIME	3.67	3.67	3.58	3.58	3.58	3.58
DIVERSION TO										
+	CP8E	.04	1	FLOW	40.	39.	39.	38.	38.	38.
				TIME	3.67	3.67	3.58	3.58	3.50	3.50
HYDROGRAPH AT										
+	CP8S	.04	1	FLOW	45.	45.	43.	43.	43.	43.
				TIME	3.67	3.67	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	U310	.01	1	FLOW	13.	12.	12.	11.	11.	11.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP9	.35	1	FLOW	251.	246.	236.	225.	219.	215.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	CP9S	.35	1	FLOW	160.	157.	152.	145.	141.	139.
				TIME	3.75	3.75	3.75	3.75	3.75	3.67
HYDROGRAPH AT										
+	CP9E	.35	1	FLOW	91.	89.	84.	80.	78.	76.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	RCP9E	.35	1	FLOW	89.	86.	81.	76.	74.	72.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	CP6E	.00	1	FLOW	46.	45.	45.	44.	44.	44.
				TIME	3.67	3.67	3.67	3.58	3.58	3.33
ROUTED TO										
+	RCP6E	.00	1	FLOW	47.	47.	48.	48.	49.	49.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	CP7E	.00	1	FLOW	75.	74.	72.	71.	70.	70.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
ROUTED TO										
+	RCP7E	.00	1	FLOW	85.	85.	85.	81.	80.	78.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	CP8E	.00	1	FLOW	40.	39.	39.	38.	38.	38.
				TIME	3.67	3.67	3.58	3.58	3.50	3.50
ROUTED TO										
+	RCP8E	.00	1	FLOW	40.	39.	39.	38.	38.	38.
				TIME	3.67	3.67	3.58	3.58	3.58	3.58
5 COMBINED AT										
+	DUMMY	1.23	1	FLOW	340.	326.	304.	275.	267.	262.
				TIME	4.08	4.08	4.08	4.17	4.17	4.17
HYDROGRAPH AT										
+	U410	.20	1	FLOW	169.	165.	158.	152.	149.	147.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT										
+	CP10	1.43	1	FLOW	452.	437.	410.	366.	359.	351.
				TIME	4.08	4.08	4.08	3.83	3.83	3.92

DIVERSION TO	CP10S	1.43	1	FLOW	257.	248.	234.	210.	206.	202.
+				TIME	4.08	4.08	4.08	3.83	3.83	3.92
HYDROGRAPH AT	CP10E	1.43	1	FLOW	195.	189.	176.	157.	153.	149.
+				TIME	4.08	4.08	4.08	3.83	3.83	3.92
ROUTED TO	RCP10E	1.43	1	FLOW	188.	182.	171.	155.	152.	147.
+				TIME	4.25	4.25	4.25	4.00	4.00	4.00
HYDROGRAPH AT	U440	.05	1	FLOW	38.	37.	36.	34.	33.	33.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO	U440E	.05	1	FLOW	21.	20.	19.	18.	18.	18.
+				TIME	3.75	3.75	3.75	3.50	3.58	3.58
HYDROGRAPH AT	U440S	.05	1	FLOW	17.	17.	17.	16.	15.	15.
+				TIME	3.67	3.75	3.75	3.75	3.75	3.75
ROUTED TO	RU440S	.05	1	FLOW	17.	17.	17.	15.	14.	14.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.92
HYDROGRAPH AT	U470	.20	1	FLOW	132.	129.	123.	117.	114.	113.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT	CP11	1.69	1	FLOW	298.	292.	278.	265.	259.	252.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO	CP11S	1.69	1	FLOW	127.	125.	118.	114.	112.	108.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	CP11E	1.69	1	FLOW	171.	167.	160.	151.	147.	144.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	U530	.01	1	FLOW	15.	14.	14.	13.	13.	13.
+				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT	CP12	1.70	1	FLOW	175.	171.	164.	154.	151.	148.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO	CP12S	1.70	1	FLOW	80.	78.	75.	71.	70.	68.
+				TIME	4.00	4.00	4.00	4.00	4.00	3.92
HYDROGRAPH AT	CP12E	1.70	1	FLOW	95.	93.	89.	83.	81.	80.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO	RCP12E	1.70	1	FLOW	95.	92.	88.	82.	78.	74.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	U130	.06	1	FLOW	54.	53.	51.	49.	48.	47.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO	U130E	.06	1	FLOW	29.	28.	27.	26.	26.	26.
+				TIME	3.67	3.67	3.67	3.50	3.50	3.50
HYDROGRAPH AT	U130S	.06	1	FLOW	25.	25.	24.	23.	22.	21.
+				TIME	3.58	3.67	3.67	3.67	3.67	3.67
ROUTED TO	RU130S	.06	1	FLOW	25.	25.	24.	22.	21.	21.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT	U550	.05	1	FLOW	55.	53.	51.	49.	48.	48.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT	CP13	.11	1	FLOW	76.	74.	70.	67.	65.	64.
+				TIME	3.67	3.67	3.75	3.75	3.75	3.75
DIVERSION TO	CP13E	.11	1	FLOW	44.	43.	41.	38.	37.	37.
+				TIME	3.67	3.67	3.75	3.75	3.75	3.58
HYDROGRAPH AT	CP13S	.11	1	FLOW	32.	31.	29.	29.	28.	27.
+				TIME	3.67	3.67	3.75	3.75	3.75	3.75
ROUTED TO	RCP13S	.11	1	FLOW	32.	31.	29.	29.	28.	26.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT	U440E	.00	1	FLOW	21.	20.	19.	18.	18.	18.
+				TIME	3.75	3.75	3.75	3.50	3.58	3.58
ROUTED TO	RU440E	.00	1	FLOW	21.	21.	21.	21.	21.	21.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT	U570	.18	1	FLOW	170.	167.	161.	155.	152.	151.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83

4 COMBINED AT	CP14	1.99	1	FLOW	269.	250.	224.	213.	207.	202.
+				TIME	4.00	4.00	4.08	4.08	4.08	4.08
DIVERSION TO	CP14S	1.99	1	FLOW	30.	30.	30.	30.	30.	30.
+				TIME	3.33	3.33	3.33	3.33	3.42	3.42
HYDROGRAPH AT	CP14E	1.99	1	FLOW	239.	220.	194.	183.	177.	172.
+				TIME	4.00	4.00	4.08	4.08	4.08	4.08
ROUTED TO	RCP14E	1.99	1	FLOW	232.	217.	184.	172.	168.	164.
+				TIME	4.17	4.17	4.25	4.25	4.25	4.25
HYDROGRAPH AT	U610	.05	1	FLOW	40.	39.	38.	36.	35.	35.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT	CP15	2.03	1	FLOW	250.	235.	198.	186.	181.	177.
+				TIME	4.17	4.17	4.25	4.25	4.25	4.25
DIVERSION TO	CP15S	2.03	1	FLOW	0.	0.	0.	0.	0.	0.
+				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT	CP15E	2.03	1	FLOW	250.	235.	198.	186.	181.	177.
+				TIME	4.17	4.17	4.25	4.25	4.25	4.25
HYDROGRAPH AT	CP9S	.00	1	FLOW	160.	157.	152.	145.	141.	139.
+				TIME	3.75	3.75	3.75	3.75	3.75	3.67
ROUTED TO	RCP9S	.00	1	FLOW	164.	162.	159.	155.	152.	150.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT	CP10S	.00	1	FLOW	257.	248.	234.	210.	206.	202.
+				TIME	4.08	4.08	4.08	3.83	3.83	3.92
ROUTED TO	RCP10S	.00	1	FLOW	248.	236.	223.	209.	208.	207.
+				TIME	4.25	4.25	4.33	4.00	3.83	3.83
HYDROGRAPH AT	U280	.27	1	FLOW	197.	192.	184.	176.	173.	170.
+				TIME	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT	CP16	.27	1	FLOW	558.	549.	536.	525.	519.	514.
+				TIME	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO	RCP16	.27	1	FLOW	563.	555.	541.	522.	514.	510.
+				TIME	4.08	4.08	4.08	4.08	4.17	4.17
HYDROGRAPH AT	CP11S	.00	1	FLOW	127.	125.	118.	114.	112.	108.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO	RCP11S	.00	1	FLOW	127.	123.	116.	112.	111.	111.
+				TIME	4.33	4.33	4.33	4.08	4.08	4.17
HYDROGRAPH AT	CP12S	.00	1	FLOW	80.	78.	75.	71.	70.	68.
+				TIME	4.00	4.00	4.00	4.00	4.00	3.92
ROUTED TO	RCP12S	.00	1	FLOW	89.	88.	86.	79.	80.	80.
+				TIME	4.25	4.25	4.25	4.33	4.33	4.33
HYDROGRAPH AT	CP14S	.00	1	FLOW	30.	30.	30.	30.	30.	30.
+				TIME	3.33	3.33	3.33	3.33	3.42	3.42
ROUTED TO	RCP14S	.00	1	FLOW	31.	31.	31.	32.	32.	32.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT	U510	.49	1	FLOW	324.	316.	303.	290.	285.	281.
+				TIME	4.00	4.00	4.00	4.00	4.00	4.00
5 COMBINED AT	CP17	.76	1	FLOW	1049.	1030.	997.	957.	942.	931.
+				TIME	4.17	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	U650	.01	1	FLOW	13.	12.	12.	11.	11.	11.
+				TIME	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT	CP18	.77	1	FLOW	1051.	1032.	999.	959.	943.	933.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	U630	.07	1	FLOW	82.	80.	77.	74.	73.	72.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT	CP19	.84	1	FLOW	1083.	1064.	1030.	989.	973.	961.
+				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT	U620	.05	1	FLOW	53.	51.	50.	48.	47.	46.
+				TIME	3.67	3.67	3.67	3.67	3.67	3.67

+ 2 COMBINED AT	CP20	.89	1	FLOW	1104.	1084.	1050.	1008.	991.	980.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ ROUTED TO	RCP20	.89	1	FLOW	1097.	1077.	1039.	995.	980.	971.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
+ HYDROGRAPH AT	CP15S	.00	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
+ ROUTED TO	RCP15S	.00	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
+ HYDROGRAPH AT	U680	.11	1	FLOW	113.	111.	107.	102.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
+ 2 COMBINED AT	CP21	.11	1	FLOW	113.	111.	107.	102.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
+ HYDROGRAPH AT	U760	.01	1	FLOW	10.	10.	10.	9.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 3 COMBINED AT	CPGTA	1.01	1	FLOW	1147.	1126.	1087.	1041.	1026.	1015.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
+ HYDROGRAPH AT	2-3	.03	1	FLOW	37.	36.	34.	33.	32.	32.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	CPGTA2	1.04	1	FLOW	1155.	1134.	1094.	1047.	1032.	1022.
				TIME	4.08	4.08	4.17	4.17	4.17	4.17
+ HYDROGRAPH AT	2-1	.04	1	FLOW	56.	55.	54.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-2	.07	1	FLOW	96.	94.	91.	88.	87.	86.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ HYDROGRAPH AT	2-14A	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 3 COMBINED AT	2A	.11	1	FLOW	155.	152.	147.	142.	140.	138.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2B	1.15	1	FLOW	1201.	1180.	1135.	1087.	1066.	1056.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
+ ROUTED TO	DB1	1.15	1	FLOW	236.	234.	229.	224.	222.	220.
				TIME	6.00	6.00	6.00	6.00	6.00	6.00
			**	PEAK STAGES IN FEET	**					
			1	STAGE	2307.39	2307.19	2306.88	2306.55	2306.41	2306.32
				TIME	6.00	6.00	6.00	6.00	6.00	6.00
+ HYDROGRAPH AT	2-6	.02	1	FLOW	29.	29.	28.	27.	27.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2C	1.17	1	FLOW	237.	234.	229.	224.	222.	220.
				TIME	6.00	6.00	6.00	6.00	6.00	6.00
+ HYDROGRAPH AT	2-7	.02	1	FLOW	19.	18.	18.	17.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2D	1.19	1	FLOW	237.	234.	230.	224.	222.	221.
				TIME	5.92	5.92	5.92	5.92	5.92	5.92
+ HYDROGRAPH AT	2-4	.03	1	FLOW	56.	55.	53.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-14B	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2E	.04	1	FLOW	59.	58.	56.	54.	54.	53.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-5	.09	1	FLOW	115.	113.	109.	106.	104.	103.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ DIVERSION TO	2-5E	.09	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ HYDROGRAPH AT	2-5W	.09	1	FLOW	60.	59.	57.	55.	54.	54.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ HYDROGRAPH AT	2-9	.02	1	FLOW	24.	23.	23.	22.	22.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

+ 3 COMBINED AT	2F	.14	1	FLOW	142.	139.	135.	130.	129.	127.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-5E	.00	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
+ HYDROGRAPH AT	2-10	.02	1	FLOW	25.	24.	24.	23.	23.	22.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 3 COMBINED AT	2G	.16	1	FLOW	222.	218.	210.	203.	200.	198.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-8	.03	1	FLOW	48.	47.	45.	44.	43.	43.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2H	.19	1	FLOW	269.	264.	256.	247.	244.	241.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2I	1.37	1	FLOW	389.	382.	369.	357.	352.	349.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-11	.03	1	FLOW	43.	42.	41.	40.	39.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-12	.03	1	FLOW	39.	39.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	2J	.05	1	FLOW	82.	81.	78.	75.	74.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	DUMMY	1.42	1	FLOW	471.	462.	447.	433.	427.	423.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ HYDROGRAPH AT	2-13	.03	1	FLOW	39.	38.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
+ 2 COMBINED AT	PT2	1.45	1	FLOW	510.	500.	484.	468.	462.	457.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING

(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

						INTERPOLATED TO COMPUTATION INTERVAL			
ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
	RCP1E MANE	1.50	199.16	246.00	.37	5.00	198.58	245.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1218E+02 EXCESS= .0000E+00 OUTFLOW= .1219E+02 BASIN STORAGE= .2040E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RCP1E MANE	1.50	194.72	247.50	.35	5.00	193.91	245.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1154E+02 EXCESS= .0000E+00 OUTFLOW= .1155E+02 BASIN STORAGE= .2543E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
	RCP1E MANE	1.50	186.12	247.50	.32	5.00	185.27	245.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1044E+02 EXCESS= .0000E+00 OUTFLOW= .1045E+02 BASIN STORAGE= .2185E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP1E	MANE	1.50	177.74	247.50	.28	5.00	176.54	245.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9349E+01 EXCESS= .0000E+00 OUTFLOW= .9357E+01 BASIN STORAGE= .1968E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP1E	MANE	1.50	173.54	247.50	.27	5.00	172.20	245.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8932E+01 EXCESS= .0000E+00 OUTFLOW= .8942E+01 BASIN STORAGE= .2479E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP1E	MANE	1.25	170.56	247.50	.26	5.00	168.89	250.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8647E+01 EXCESS= .0000E+00 OUTFLOW= .8653E+01 BASIN STORAGE= .1793E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU150	MANE	1.00	43.78	232.00	.22	5.00	43.29	230.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1563E+01 EXCESS= .0000E+00 OUTFLOW= .1564E+01 BASIN STORAGE= .1132E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU150	MANE	1.00	42.55	232.00	.21	5.00	42.13	230.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1479E+01 EXCESS= .0000E+00 OUTFLOW= .1481E+01 BASIN STORAGE= .1107E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU150	MANE	.75	40.81	232.50	.19	5.00	40.27	235.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1351E+01 EXCESS= .0000E+00 OUTFLOW= .1351E+01 BASIN STORAGE= .9748E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU150	MANE	.75	39.33	231.75	.17	5.00	38.25	235.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1210E+01 EXCESS= .0000E+00 OUTFLOW= .1210E+01 BASIN STORAGE= .1274E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU150	MANE	.75	38.23	231.75	.16	5.00	36.88	230.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1145E+01 EXCESS= .0000E+00 OUTFLOW= .1146E+01 BASIN STORAGE= .1158E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU150	MANE	.75	37.00	231.75	.15	5.00	35.66	235.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1096E+01 EXCESS= .0000E+00 OUTFLOW= .1097E+01 BASIN STORAGE= .1046E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP2S	MANE	.75	126.72	249.00	.11	5.00	126.37	250.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5163E+01 EXCESS= .0000E+00 OUTFLOW= .5166E+01 BASIN STORAGE= .2604E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP2S	MANE	.75	122.35	249.00	.10	5.00	122.19	250.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4816E+01 EXCESS= .0000E+00 OUTFLOW= .4818E+01 BASIN STORAGE= .2263E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP2S	MANE	.75	114.62	249.75	.09	5.00	114.57	250.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4149E+01 EXCESS= .0000E+00 OUTFLOW= .4149E+01 BASIN STORAGE= .2452E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP2S	MANE	.75	105.06	250.50	.07	5.00	104.78	250.00	.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3365E+01 EXCESS= .0000E+00 OUTFLOW= .3367E+01 BASIN STORAGE= .2223E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP2S	MANE	.50	101.08	251.50	.07	5.00	100.31	250.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3070E+01 EXCESS= .0000E+00 OUTFLOW= .3063E+01 BASIN STORAGE= .2389E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP2S	MANE	.50	97.74	251.50	.06	5.00	96.82	250.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2903E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .2400E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.00	78.69	231.00	.51	5.00	78.69	230.00	.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3886E+01 EXCESS= .0000E+00 OUTFLOW= .3887E+01 BASIN STORAGE= .1135E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.00	77.77	230.00	.48	5.00	77.77	230.00	.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3656E+01 EXCESS= .0000E+00 OUTFLOW= .3659E+01 BASIN STORAGE= .9282E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	.75	75.79	230.25	.43	5.00	75.79	230.00	.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3286E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .1029E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	.75	73.73	229.50	.39	5.00	73.66	230.00	.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2941E+01 EXCESS= .0000E+00 OUTFLOW= .2942E+01 BASIN STORAGE= .1030E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	.75	72.53	229.50	.37	5.00	72.51	230.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2810E+01 EXCESS= .0000E+00 OUTFLOW= .2810E+01 BASIN STORAGE= .1298E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	.75	72.16	230.25	.36	5.00	72.14	230.00	.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2735E+01 EXCESS= .0000E+00 OUTFLOW= .2736E+01 BASIN STORAGE= .1137E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP9E	MANE	.75	89.87	233.25	.15	5.00	88.74	235.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2859E+01 EXCESS= .0000E+00 OUTFLOW= .2858E+01 BASIN STORAGE= .1397E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP9E	MANE	.75	87.47	232.50	.14	5.00	85.80	235.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2635E+01 EXCESS= .0000E+00 OUTFLOW= .2634E+01 BASIN STORAGE= .1815E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP9E	MANE	.75	82.19	234.00	.12	5.00	81.18	235.00	.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2149E+01 EXCESS= .0000E+00 OUTFLOW= .2148E+01 BASIN STORAGE= .1680E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP9E MANE	.50	77.41	234.00	.10	5.00	76.47	235.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1810E+01 EXCESS= .0000E+00 OUTFLOW= .1804E+01 BASIN STORAGE= .1918E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP9E MANE	.50	75.00	233.50	.09	5.00	73.86	235.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1678E+01 EXCESS= .0000E+00 OUTFLOW= .1674E+01 BASIN STORAGE= .1712E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP9E MANE	.50	72.58	234.00	.08	5.00	71.65	235.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1571E+01 EXCESS= .0000E+00 OUTFLOW= .1566E+01 BASIN STORAGE= .1511E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP6E MANE	5.00	46.73	225.00	-1.00	5.00	46.73	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E MANE	5.00	47.09	225.00	-1.00	5.00	47.09	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E MANE	5.00	47.71	225.00	-1.00	5.00	47.71	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E MANE	5.00	48.32	225.00	-1.00	5.00	48.32	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E MANE	5.00	48.57	225.00	-1.00	5.00	48.57	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E MANE	5.00	48.75	225.00	-1.00	5.00	48.75	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E MANE	5.00	84.98	225.00	-1.00	5.00	84.98	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	85.39	225.00	-1.00	5.00	85.39	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	84.52	225.00	-1.00	5.00	84.52	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	81.15	225.00	-1.00	5.00	81.15	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	79.59	225.00	-1.00	5.00	79.59	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	78.39	225.00	-1.00	5.00	78.39	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	40.20	220.35	-1.00	5.00	40.14	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	39.19	220.39	-1.00	5.00	39.19	220.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	39.00	215.63	-1.00	5.00	38.92	215.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	38.32	210.80	-1.00	5.00	38.14	215.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	38.31	211.00	-1.00	5.00	38.00	215.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	38.31	211.00	-1.00	5.00	38.00	215.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	1.25	190.67	253.75	.15	5.00	187.65	255.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+02 EXCESS= .0000E+00 OUTFLOW= .1125E+02 BASIN STORAGE= .1720E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	1.25	184.52	253.75	.14	5.00	182.13	255.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1064E+02 EXCESS= .0000E+00 OUTFLOW= .1065E+02 BASIN STORAGE= .2096E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	1.00	172.26	254.00	.13	5.00	170.77	255.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9735E+01 EXCESS= .0000E+00 OUTFLOW= .9740E+01 BASIN STORAGE= .1706E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	.75	155.36	240.00	.11	5.00	155.36	240.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8705E+01 EXCESS= .0000E+00 OUTFLOW= .8704E+01 BASIN STORAGE= .2380E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	.75	152.00	240.75	.10	5.00	151.98	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7939E+01 EXCESS= .0000E+00 OUTFLOW= .7937E+01 BASIN STORAGE= .2259E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP10E	MANE	1.00	148.02	241.00	.10	5.00	147.39	240.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7606E+01 EXCESS= .0000E+00 OUTFLOW= .7610E+01 BASIN STORAGE= .1871E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RU440S	MANE	.75	17.02	229.50	.22	5.00	17.02	230.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6137E+00 EXCESS= .0000E+00 OUTFLOW= .6138E+00 BASIN STORAGE= .1134E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU440S	MANE	1.00	17.06	230.00	.21	5.00	17.06	230.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5859E+00 EXCESS= .0000E+00 OUTFLOW= .5864E+00 BASIN STORAGE= .1110E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RU440S	MANE	1.00	16.60	232.00	.19	5.00	16.52	230.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5308E+00 EXCESS= .0000E+00 OUTFLOW= .5315E+00 BASIN STORAGE= .9713E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RU440S	MANE	1.00	15.58	233.00	.17	5.00	15.18	230.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4626E+00 EXCESS= .0000E+00 OUTFLOW= .4636E+00 BASIN STORAGE= .1004E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RU440S	MANE	.75	14.92	232.50	.16	5.00	14.39	230.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4343E+00 EXCESS= .0000E+00 OUTFLOW= .4348E+00 BASIN STORAGE= .1191E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RU440S	MANE	.75	14.44	232.50	.15	5.00	13.95	235.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4166E+00 EXCESS= .0000E+00 OUTFLOW= .4172E+00 BASIN STORAGE= .9607E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.75	94.54	245.25	.04	5.00	94.50	245.00	.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4033E+01 EXCESS= .0000E+00 OUTFLOW= .4035E+01 BASIN STORAGE= .1251E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.75	92.32	245.25	.04	5.00	92.30	245.00	.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3624E+01 EXCESS= .0000E+00 OUTFLOW= .3624E+01 BASIN STORAGE= .1717E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.75	87.83	246.00	.03	5.00	87.67	245.00	.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2866E+01 EXCESS= .0000E+00 OUTFLOW= .2866E+01 BASIN STORAGE= .1779E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.50	82.11	245.50	.02	5.00	81.96	245.00	.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2245E+01 EXCESS= .0000E+00 OUTFLOW= .2241E+01 BASIN STORAGE= .1754E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.50	78.60	246.50	.02	5.00	77.57	245.00	.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1699E+01 EXCESS= .0000E+00 OUTFLOW= .1694E+01 BASIN STORAGE= .1478E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.50	76.61	246.50	.02	5.00	74.23	245.00	.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1560E+01 EXCESS= .0000E+00 OUTFLOW= .1556E+01 BASIN STORAGE= .1816E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RU130S	MANE	.75	25.04	223.50	.24	5.00	24.95	225.00	.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7186E+00 EXCESS= .0000E+00 OUTFLOW= .7188E+00 BASIN STORAGE= .1182E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU130S	MANE	1.00	24.91	224.00	.23	5.00	24.81	225.00	.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6842E+00 EXCESS= .0000E+00 OUTFLOW= .6852E+00 BASIN STORAGE= .9951E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RU130S	MANE	.75	23.72	224.25	.21	5.00	23.71	225.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6210E+00 EXCESS= .0000E+00 OUTFLOW= .6214E+00 BASIN STORAGE= .9174E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU130S	MANE	.75	22.25	225.00	.19	5.00	22.25	225.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5565E+00 EXCESS= .0000E+00 OUTFLOW= .5568E+00 BASIN STORAGE= .1173E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RU130S	MANE	.75	21.36	225.75	.18	5.00	21.36	225.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5270E+00 EXCESS= .0000E+00 OUTFLOW= .5274E+00 BASIN STORAGE= .9167E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU130S	MANE	.75	20.75	225.75	.17	5.00	20.74	225.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5080E+00 EXCESS= .0000E+00 OUTFLOW= .5084E+00 BASIN STORAGE= .1166E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	31.70	228.75	.14	5.00	31.56	230.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8183E+00 EXCESS= .0000E+00 OUTFLOW= .8170E+00 BASIN STORAGE= .1035E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	30.84	229.50	.13	5.00	30.77	230.00	.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7689E+00 EXCESS= .0000E+00 OUTFLOW= .7675E+00 BASIN STORAGE= .9829E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	29.14	229.50	.12	5.00	29.10	230.00	.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6835E+00 EXCESS= .0000E+00 OUTFLOW= .6824E+00 BASIN STORAGE= .1407E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	28.68	229.50	.11	5.00	28.68	230.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6247E+00 EXCESS= .0000E+00 OUTFLOW= .6230E+00 BASIN STORAGE= .1239E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	27.60	230.25	.10	5.00	27.56	230.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5867E+00 EXCESS= .0000E+00 OUTFLOW= .5853E+00 BASIN STORAGE= .1141E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	26.49	231.00	.10	5.00	26.42	230.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5556E+00 EXCESS= .0000E+00 OUTFLOW= .5546E+00 BASIN STORAGE= .1065E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RU440E	MANE	5.00	20.99	240.00	-1.00	5.00	20.99	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RU440E	MANE	5.00	20.79	240.00	-1.00	5.00	20.79	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RU440E	MANE	5.00	20.69	240.00	-1.00	5.00	20.69	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RU440E	MANE	5.00	21.00	240.00	-1.00	5.00	21.00	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RU440E	MANE	5.00	20.99	240.00	-1.00	5.00	20.99	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RU440E	MANE	5.00	20.90	240.00	-1.00	5.00	20.90	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	231.61	250.00	.14	5.00	231.61	250.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1506E+02 EXCESS= .0000E+00 OUTFLOW= .1507E+02 BASIN STORAGE= .2454E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	217.18	250.00	.14	5.00	217.18	250.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1438E+02 EXCESS= .0000E+00 OUTFLOW= .1439E+02 BASIN STORAGE= .2351E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	185.35	254.00	.12	5.00	184.14	255.00	.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1283E+02 EXCESS= .0000E+00 OUTFLOW= .1283E+02 BASIN STORAGE= .2146E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	2.00	173.53	254.00	.11	5.00	172.33	255.00	.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1168E+02 EXCESS= .0000E+00 OUTFLOW= .1169E+02 BASIN STORAGE= .1766E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	1.75	168.78	253.75	.10	5.00	167.96	255.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+02 EXCESS= .0000E+00 OUTFLOW= .1091E+02 BASIN STORAGE= .1839E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	1.75	164.28	253.75	.10	5.00	163.75	255.00	.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1063E+02 EXCESS= .0000E+00 OUTFLOW= .1063E+02 BASIN STORAGE= .2540E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	164.07	235.00	-1.00	5.00	164.07	235.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	161.57	235.00	-1.00	5.00	161.57	235.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	158.96	235.00	-1.00	5.00	158.96	235.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	154.89	235.00	-1.00	5.00	154.89	235.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	151.97	235.00	-1.00	5.00	151.97	235.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP9S	MANE	5.00	149.83	235.00	-1.00	5.00	149.83	235.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	248.04	255.00	-1.00	5.00	248.04	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	235.83	255.00	-1.00	5.00	235.83	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	223.19	260.00	-1.00	5.00	223.19	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	208.91	240.00	-1.00	5.00	208.91	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	207.70	230.00	-1.00	5.00	207.70	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	207.03	230.00	-1.00	5.00	207.03	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	562.50	245.00	5.39	5.00	562.50	245.00	5.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7727E+02 EXCESS= .0000E+00 OUTFLOW= .7729E+02 BASIN STORAGE= .3886E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	555.42	245.00	5.28	5.00	555.42	245.00	5.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7567E+02 EXCESS= .0000E+00 OUTFLOW= .7569E+02 BASIN STORAGE= .3825E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	541.32	245.00	5.10	5.00	541.32	245.00	5.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7315E+02 EXCESS= .0000E+00 OUTFLOW= .7317E+02 BASIN STORAGE= .3760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	522.35	245.00	4.92	5.00	522.35	245.00	4.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7050E+02 EXCESS= .0000E+00 OUTFLOW= .7052E+02 BASIN STORAGE= .3694E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	514.24	250.00	4.85	5.00	514.24	250.00	4.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6951E+02 EXCESS= .0000E+00 OUTFLOW= .6952E+02 BASIN STORAGE= .3668E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	509.94	250.00	4.80	5.00	509.94	250.00	4.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6883E+02 EXCESS= .0000E+00 OUTFLOW= .6885E+02 BASIN STORAGE= .3635E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	127.19	260.00	-1.00	5.00	127.19	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	123.34	260.00	-1.00	5.00	123.34	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	115.97	260.00	-1.00	5.00	115.97	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	111.56	245.00	-1.00	5.00	111.56	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	110.87	245.00	-1.00	5.00	110.87	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	110.53	250.00	-1.00	5.00	110.53	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	88.78	255.00	-1.00	5.00	88.78	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	88.19	255.00	-1.00	5.00	88.19	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	86.17	255.00	-1.00	5.00	86.17	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	79.16	260.00	-1.00	5.00	79.16	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	79.61	260.00	-1.00	5.00	79.61	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	79.53	260.00	-1.00	5.00	79.53	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	30.99	210.00	-1.00	5.00	30.99	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.14	210.00	-1.00	5.00	31.14	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.40	210.00	-1.00	5.00	31.40	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.69	210.00	-1.00	5.00	31.69	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.75	210.00	-1.00	5.00	31.75	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.64	210.00	-1.00	5.00	31.64	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP20	MANE	2.90	1097.83	249.30	3.23	5.00	1096.67	250.00	3.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1526E+03 EXCESS= .0000E+00 OUTFLOW= .1526E+03 BASIN STORAGE= .8746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP20	MANE	2.91	1079.36	247.54	3.15	5.00	1076.73	250.00	3.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+03 EXCESS= .0000E+00 OUTFLOW= .1492E+03 BASIN STORAGE= .8611E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP20	MANE	2.94	1041.01	249.54	3.04	5.00	1039.50	250.00	3.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1437E+03 EXCESS= .0000E+00 OUTFLOW= .1437E+03 BASIN STORAGE= .8985E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP20	MANE	2.97	997.46	249.12	2.92	5.00	994.80	250.00	2.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1380E+03 EXCESS= .0000E+00 OUTFLOW= .1380E+03 BASIN STORAGE= .8491E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP20	MANE	2.98	982.29	247.18	2.87	5.00	980.39	250.00	2.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1357E+03 EXCESS= .0000E+00 OUTFLOW= .1357E+03 BASIN STORAGE= .8654E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP20	MANE	2.99	974.62	247.89	2.84	5.00	970.69	250.00	2.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1341E+03 EXCESS= .0000E+00 OUTFLOW= .1341E+03 BASIN STORAGE= .9700E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	250.00	-1.00

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

APPENDIX D

Hydraulic Analyses

Detention Basin Stage-Storage Computation

Volume Computations				Discharge Computations				
Elevation	Change in Elev. (ft)	Surface Area (ac)	Cumulative Volume (ac-ft)	Q Orifice #1 (cfs)	Q Orifice #2 (cfs)	Q Orifice #3 (cfs)	Q Spillway#1 (cfs)	Q Total (cfs)
2295.5	0.0	0.00	0.000	0	0	0	0	0
2297.0	1.5	0.00	0.000	0	0	0	0	0
2298.0	1.0	0.67	0.126	0	0	0	0	0
2299.0	1.0	4.68	2.426	0	0	0	0	0
2300.0	1.0	12.31	10.537	72	0	0	0	72
2301.0	1.0	13.97	24.009	110	0	0	0	110
2302.0	1.0	14.36	38.194	138	0	0	0	138
2303.0	1.0	14.65	52.696	161	0	0	0	161
2304.0	1.0	14.92	67.474	181	0	0	0	181
2305.0	1.0	15.20	82.527	199	0	0	0	199
2306.0	1.0	15.47	97.855	215	0	0	0	215
2307.0	1.0	15.76	113.453	231	0	0	0	231
2308.0	1.0	16.05	129.354	245	0	0	0	245
2308.5	0.5	16.20	137.411	252	0	0	0	252
2309.0	0.5	16.35	145.542	259	0	0	212	471
2310.0	1.0	16.68	162.099	272	0	0	1102	1374
2310.5	0.5	16.87	170.558	278	0	0	1697	1975

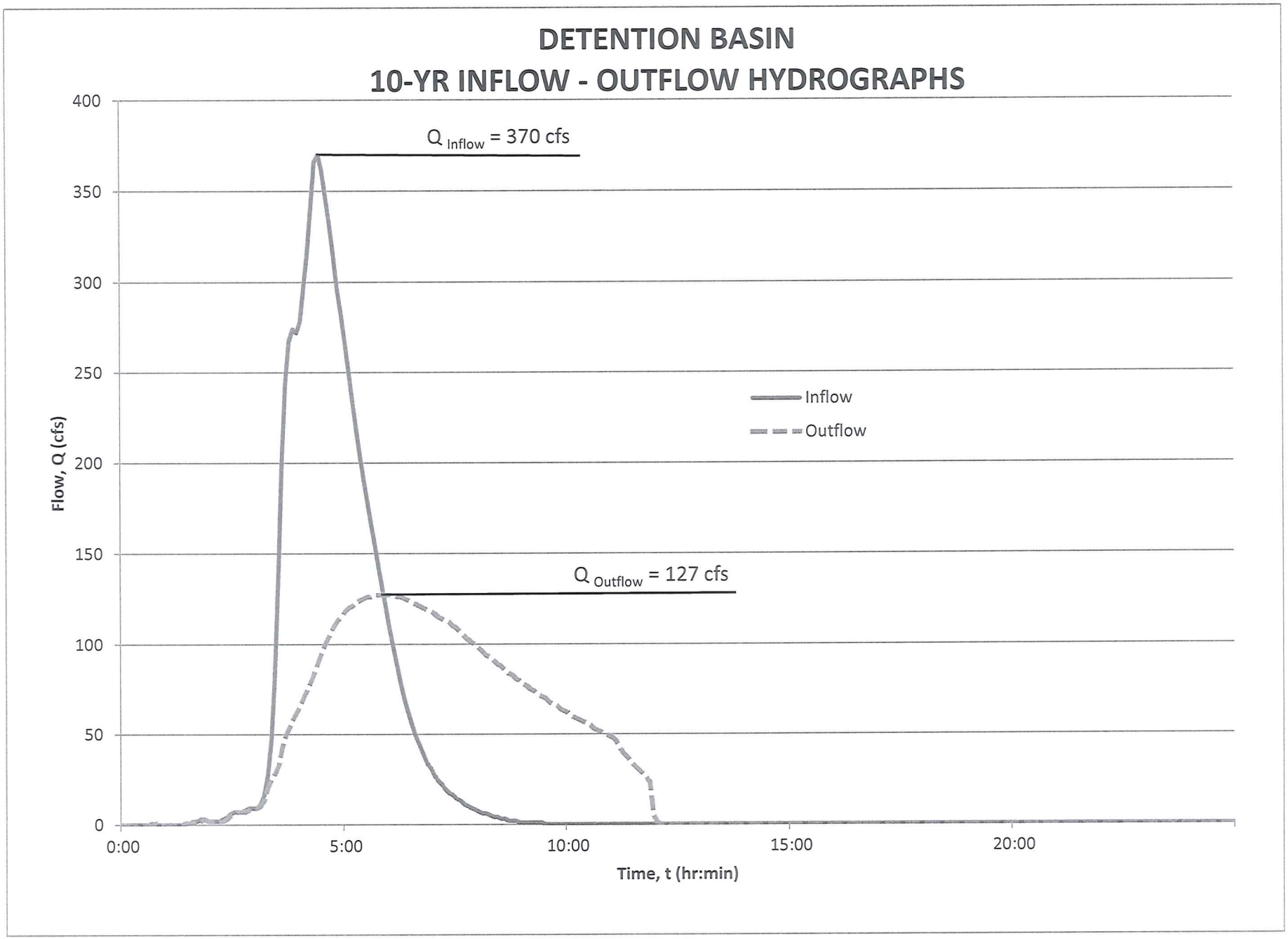
Orifice ID	Orifice Diameter (in)	Orifice Diameter (ft)	Orifice Area (ft^2)	Orfice Invert (ft)
1	54	4.5	15.896	2297.0
2		0.0	0.000	
3		0.0	0.000	

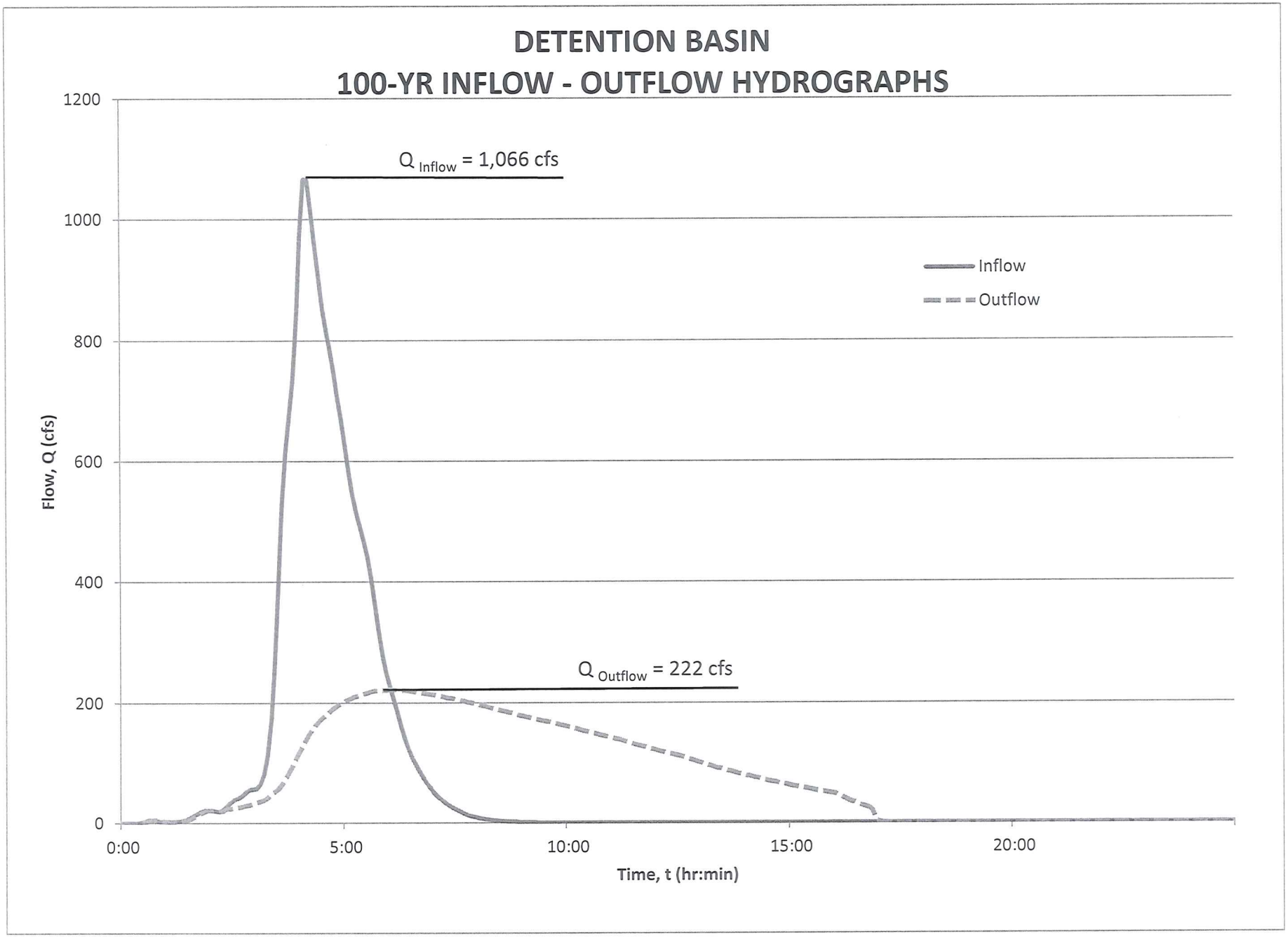
H = Basin Elevation - (Orifice Invert + 1/2(Orifice Diameter))
Q = 0.65*A*SQRT(2gH)

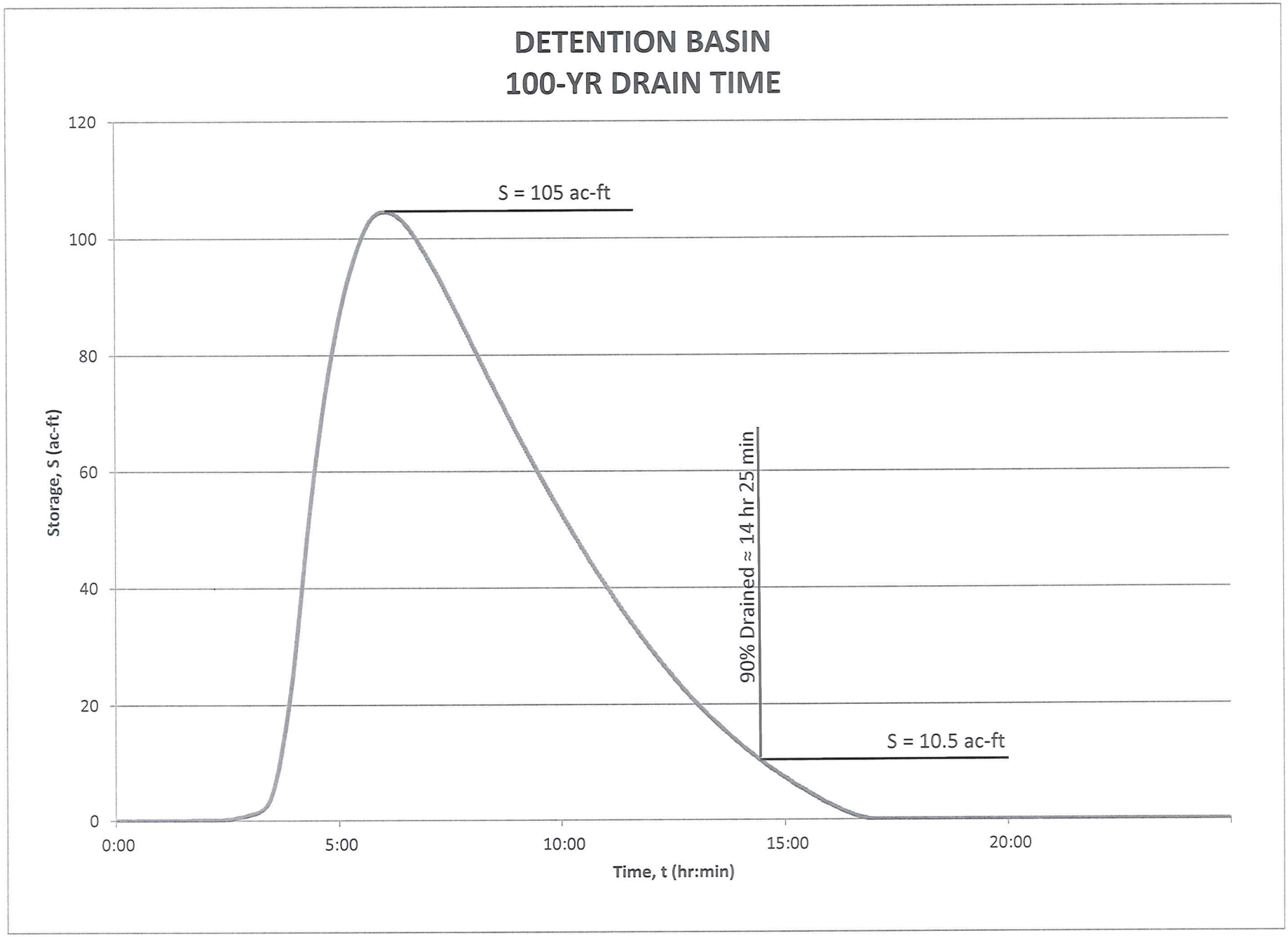
Spillway ID	Crest Length (ft)	Crest Elevation (ft)
1	200	2308.5

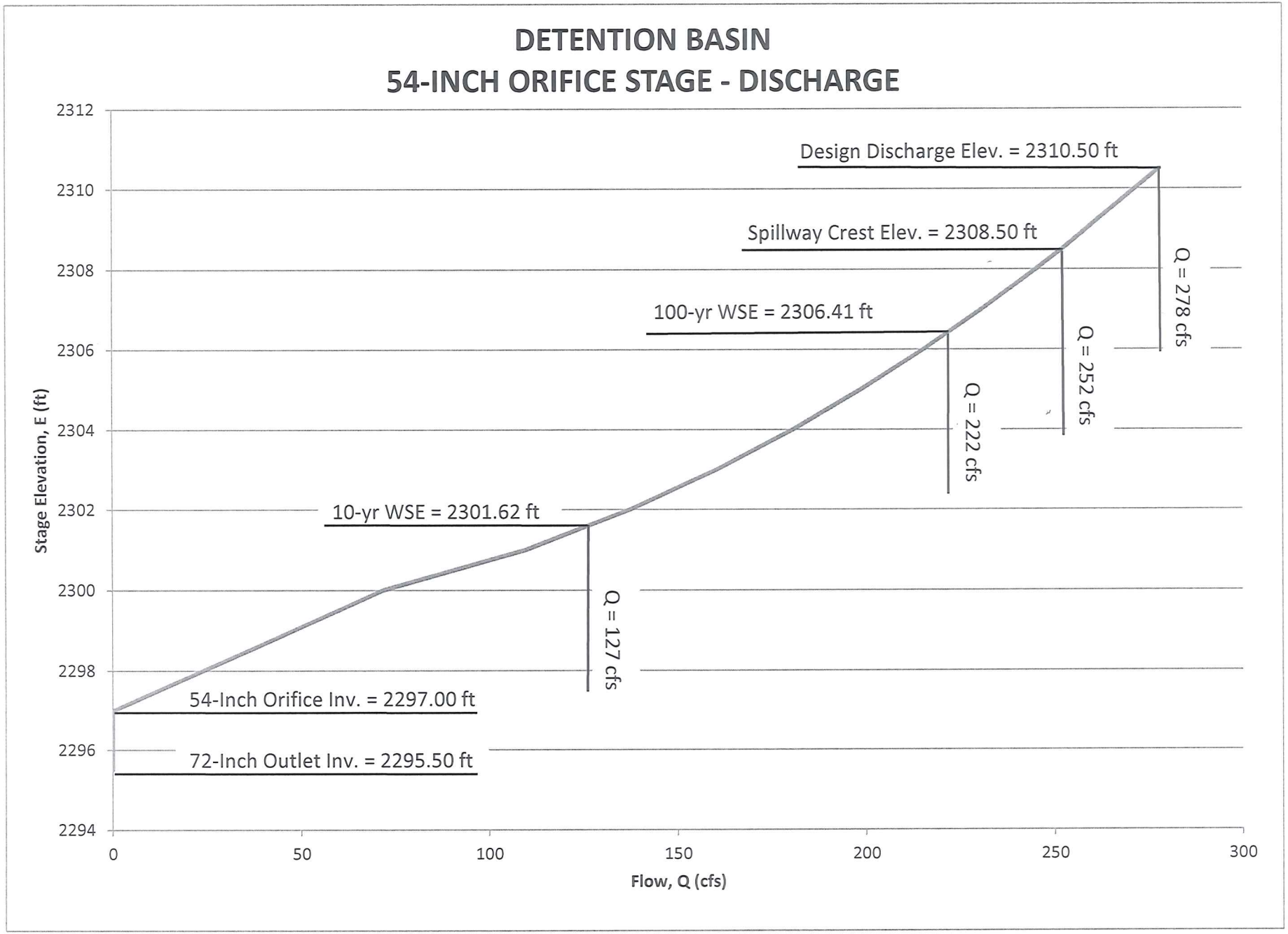
H = Basin Elevation - Crest Elevation
Q = 3.0*L*H^1.5

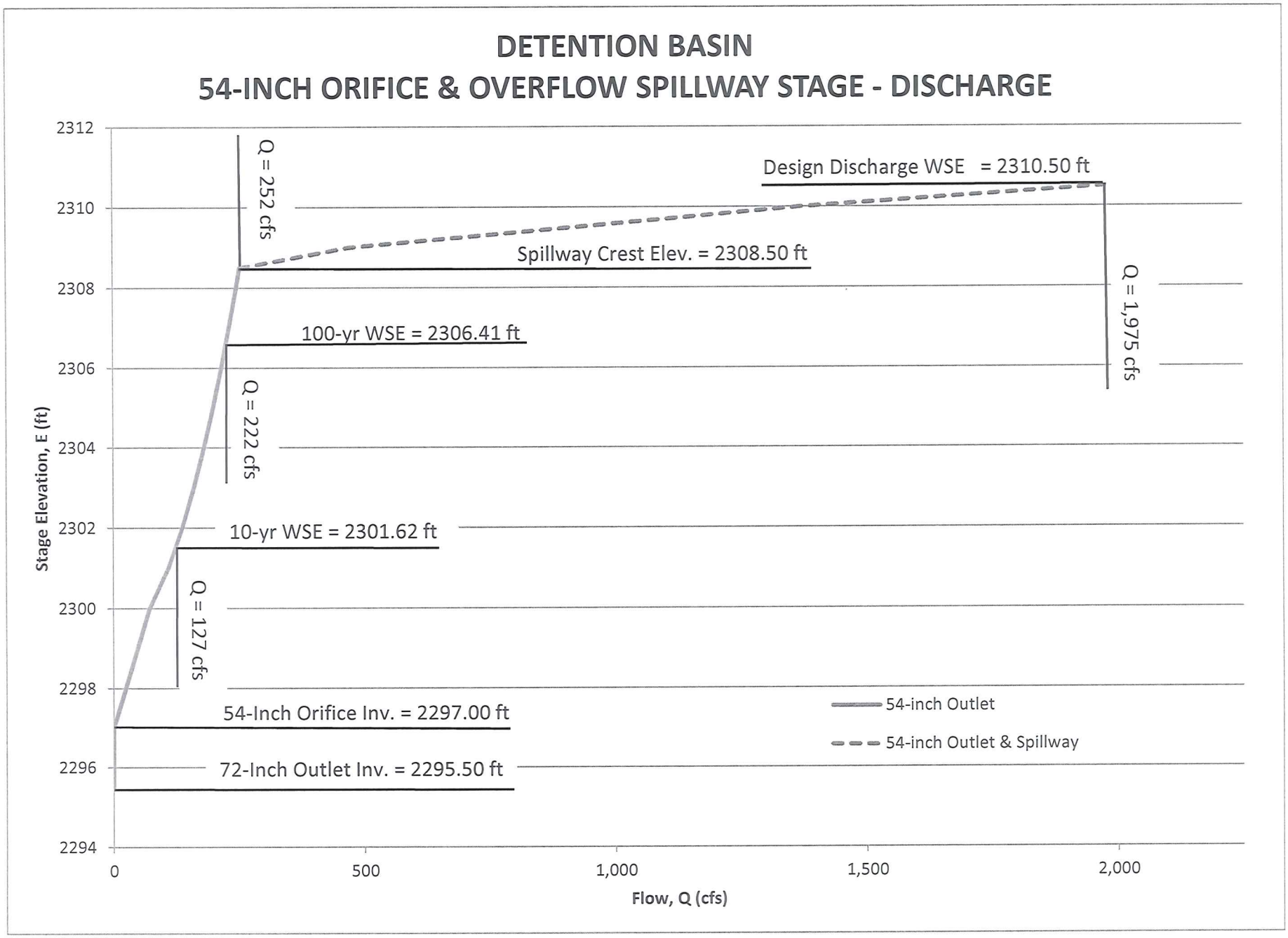
Detention Basin Performance Curves

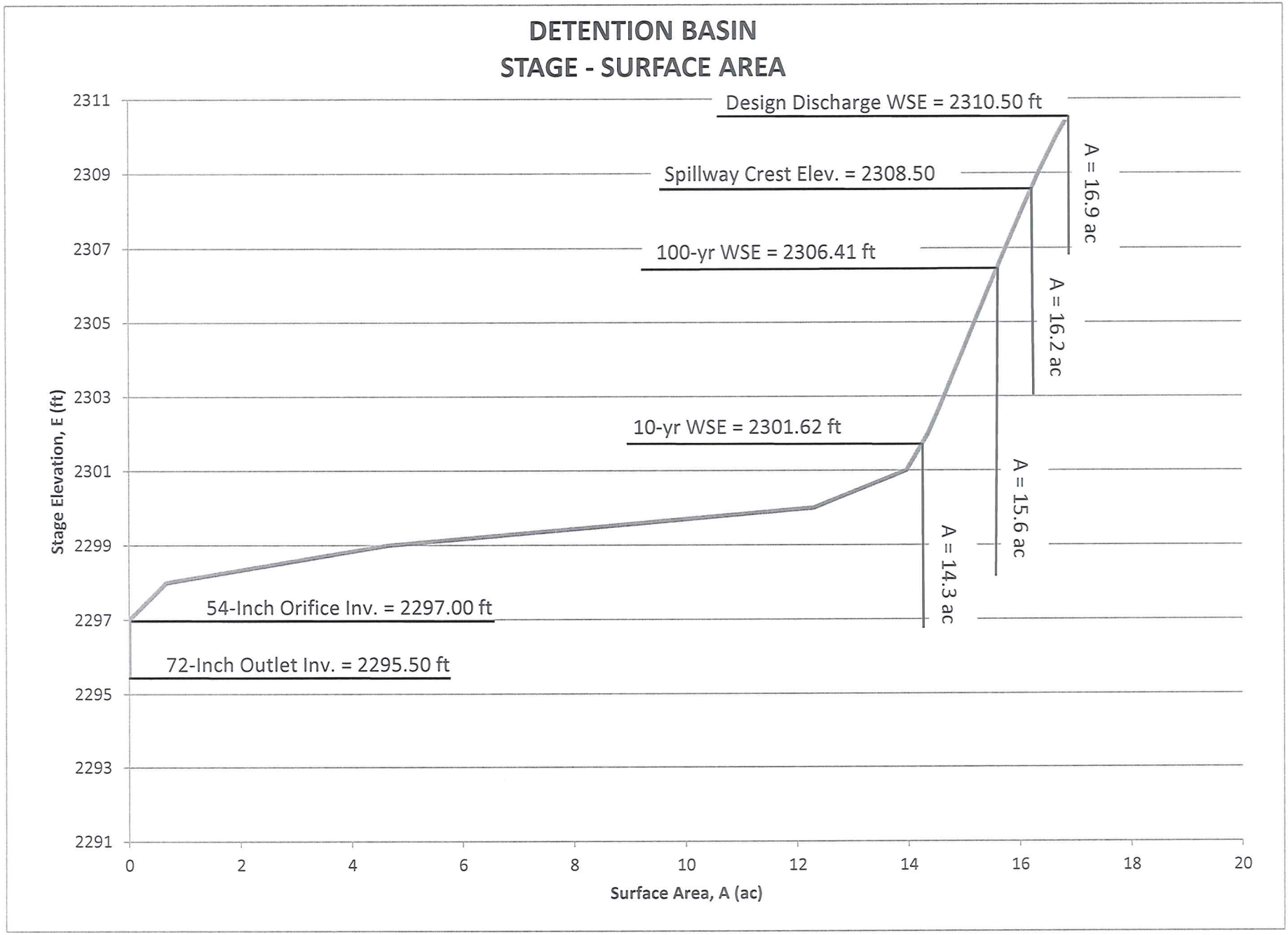

DETENTION BASIN
10-YR INFLOW - OUTFLOW HYDROGRAPHS
Q Inflow = 370 cfs
Q Outflow = 127 cfs
Inflow
Outflow
Flow, Q (cfs)
Time, t (hr:min)
400
350
300
250
200
150
100
50
0
0:00
5:00
10:00
15:00
20:00

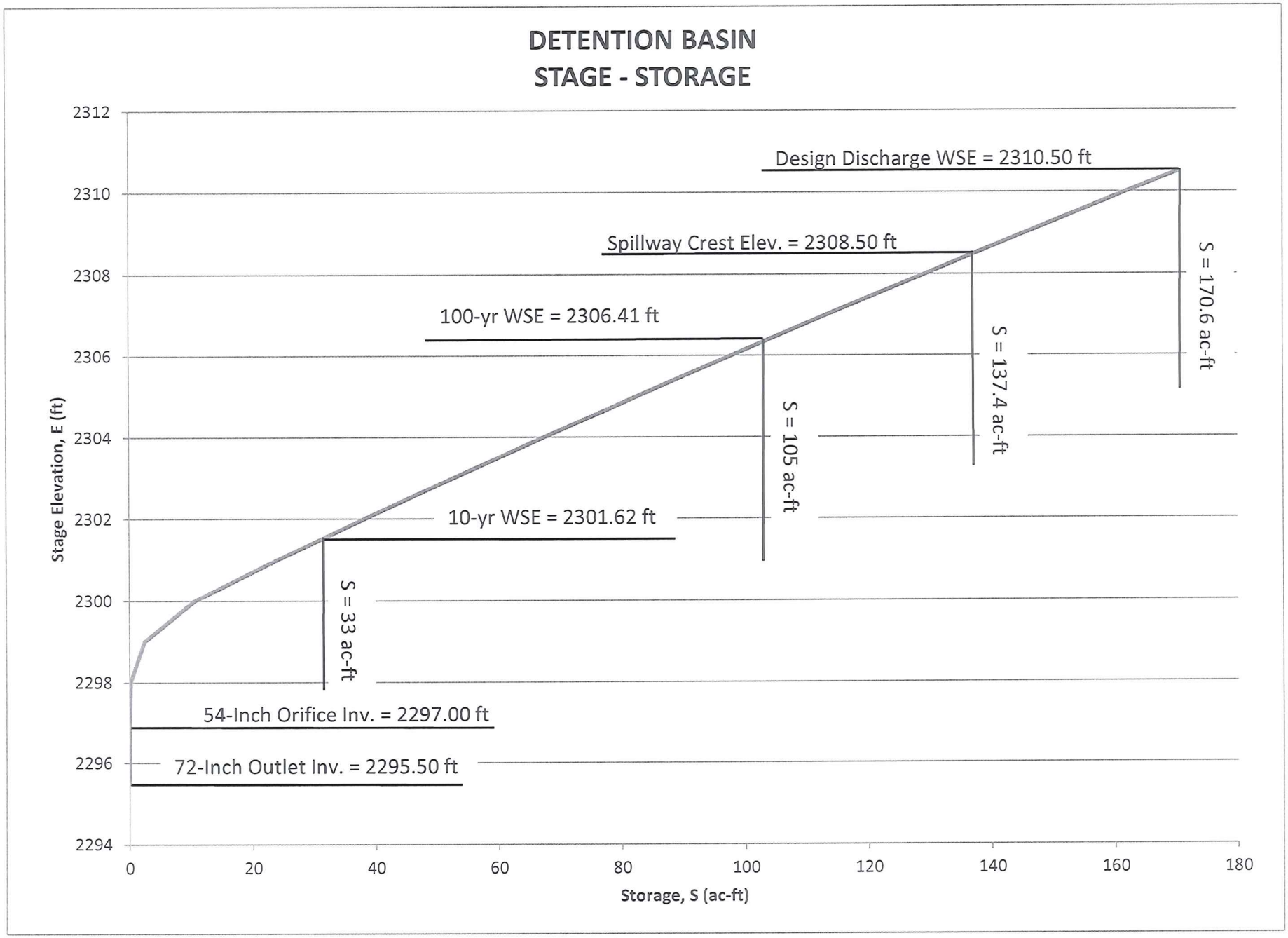

DETENTION BASIN
100-YR INFLOW - OUTFLOW HYDROGRAPHS
1200
1000
800
600
400
200
0
Flow, Q (cfs)
Q Inflow = 1,066 cfs
Q Outflow = 222 cfs
Inflow
Outflow
0:00
5:00
10:00
15:00
20:00
Time, t (hr:min)


DETENTION BASIN
100-YR DRAIN TIME
120
100
80
60
40
20
0
Storage, S (ac-ft)
S = 105 ac-ft
90% Drained ≈ 14 hr 25 min
S = 10.5 ac-ft
0:00
5:00
10:00
15:00
20:00
Time, t (hr:min)


DETENTION BASIN
54-INCH ORIFICE STAGE - DISCHARGE
Stage Elevation, E (ft)
Flow, Q (cfs)
2312
2310
2308
2306
2304
2302
2300
2298
2296
2294
0
50
100
150
200
250
300
Design Discharge Elev. = 2310.50 ft
Spillway Crest Elev. = 2308.50 ft
100-yr WSE = 2306.41 ft
10-yr WSE = 2301.62 ft
54-Inch Orifice Inv. = 2297.00 ft
72-Inch Outlet Inv. = 2295.50 ft
Q = 278 cfs
Q = 252 cfs
Q = 222 cfs
Q = 127 cfs


DETENTION BASIN
54-INCH ORIFICE & OVERFLOW SPILLWAY STAGE - DISCHARGE
Stage Elevation, E (ft)
2312
2310
2308
2306
2304
2302
2300
2298
2296
2294
Q = 252 cfs
Design Discharge WSE = 2310.50 ft
Spillway Crest Elev. = 2308.50 ft
Q = 1,975 cfs
100-yr WSE = 2306.41 ft
Q = 222 cfs
10-yr WSE = 2301.62 ft
Q = 127 cfs
54-Inch Orifice Inv. = 2297.00 ft
72-Inch Outlet Inv. = 2295.50 ft
54-inch Outlet
54-inch Outlet & Spillway
0
500
1,000
1,500
2,000
Flow, Q (cfs)


DETENTION BASIN
STAGE - SURFACE AREA
Design Discharge WSE = 2310.50 ft
Spillway Crest Elev. = 2308.50
100-yr WSE = 2306.41 ft
10-yr WSE = 2301.62 ft
54-Inch Orifice Inv. = 2297.00 ft
72-Inch Outlet Inv. = 2295.50 ft
A = 16.9 ac
A = 16.2 ac
A = 15.6 ac
A = 14.3 ac
Stage Elevation, E (ft)
Surface Area, A (ac)
2311
2309
2307
2305
2303
2301
2299
2297
2295
2293
2291
0
2
4
6
8
10
12
14
16
18
20


DETENTION BASIN
STAGE - STORAGE
Design Discharge WSE = 2310.50 ft
Spillway Crest Elev. = 2308.50 ft
100-yr WSE = 2306.41 ft
10-yr WSE = 2301.62 ft
54-Inch Orifice Inv. = 2297.00 ft
72-Inch Outlet Inv. = 2295.50 ft
S = 170.6 ac-ft
S = 137.4 ac-ft
S = 105 ac-ft
S = 33 ac-ft
Stage Elevation, E (ft)
Storage, S (ac-ft)
2312
2310
2308
2306
2304
2302
2300
2298
2296
2294
0
20
40
60
80
100
120
140
160
180

APPENDIX E

Plans, Profiles and Details

APPENDIX F

Electronic Files

GENERAL STRUCTURAL NOTES

GENERAL REQUIREMENTS

DRAWINGS
THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE STRUCTURAL ENGINEERS IN THIS OR SIMILAR LOCALITIES. THEY NECESSARILY ASSUME THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKERS WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, IT IS UNDERSTOOD THAT THE CONTRACTOR WILL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR ALL MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

MISCELLANEOUS ITEMS
CALCULATION AND DESIGN OF MISCELLANEOUS NON-STRUCTURAL ITEMS, SUCH AS, RAILINGS, NON-STRUCTURAL WALLS AND PREFABRICATED STRUCTURAL ITEMS ARE NOT INCLUDED AND ARE TO BE PROVIDED BY OTHERS UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS.

CONSTRUCTION MEANS AND METHODS
THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, FORM-WORK, ETC... AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY (INCLUDING UTILITIES) DURING CONSTRUCTION. CONSTRUCTION MATERIALS SHALL BE PLACED ON THE STRUCTURE SUCH THAT THE DESIGN LOADS AS STATED HEREIN ARE NOT EXCEEDED.

DIMENSIONS, INSERTS AND OPENINGS
THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, CONDITIONS AND ELEVATIONS WITH CIVIL DRAWINGS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE CIVIL ENGINEER IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS. ANY SUCH DISCREPANCY, OMISSION, OR VARIATION NOT REPORTED BEFORE START OF CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. WHERE DISCREPANCIES OCCUR IN THESE DRAWINGS, NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.

CONTRACTOR SHALL ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

STANDARDS
WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE EDITION REFERENCED IN THE GOVERNING BUILDING CODE.

TYPICAL DETAILS AND NOTES
TYPICAL DETAILS AND NOTES SHALL APPLY, THOUGH NOT NECESSARILY INDICATED AT A SPECIFIC LOCATION ON PLANS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. DETAILS MAY SHOW ONLY ONE SIDE OF CONNECTION OR MAY OMIT INFORMATION FOR CLARITY.

SHOP DRAWINGS
SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS. SHOP DRAWINGS ARE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS. REVIEW DOES NOT INDICATE THAT THE SHOP DRAWINGS ARE CORRECT OR COMPLETE. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DRAWINGS SHALL BE CLOUDED. ANY OF THE AFOREMENTIONED SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW UNLESS SPECIFICALLY NOTED ACCORDINGLY. THE SHOP DRAWINGS DO NOT SUPERSEDE OR REPLACE THE ORIGINAL CONTRACT DRAWINGS. ANY ENGINEERING PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN APPROPRIATELY REGISTERED ENGINEER. ENGINEERING SYSTEM SOLUTIONS SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF ENGINEERING DESIGNS PERFORMED BY OTHERS. FIVE WORKING DAYS SHALL BE ALLOWED FOR THE ENGINEER'S REVIEW. CONTRACTOR SHALL PROVIDE A COPY OF EACH SUBMITTAL FOR ENGINEERING SYSTEM SOLUTIONS RECORDS.

MOLD
MOLD CONCERNS AND PREVENTION IS OUT OF ENGINEERING SYSTEM SOLUTIONS SCOPE OF SERVICES. ENGINEERING SYSTEM SOLUTIONS SHALL BE HELD HARMLESS, TO THE EXTENT OF THE LAW, FOR ALL MOLD PREVENTION AND MOLD RELATED CONCERNS.

BASIS FOR DESIGN

CODE: . . . . . 2009 IBC (W/ SOUTHERN NEVADA AMENDMENTS) 2008 AASHTO

DEAD LOAD:
- STRUCTURE SELF WEIGHT CONCRETE . . . . . 150 PCF
- VARYING COVER WITH A SOIL BACKFILL DENSITY . . . . . 130 PCF

SOILS
- SOIL BEARING PRESSURE (D+L) . . . . . 2000 PSF
- SOIL BEARING PRESSURE (+W or +E) . . . . . 2667 PSF
- MINIMUM FOOTING EMBEDMENT DEPTH . . . . . 18 INCHES
- ACTIVE EARTH PRESSURE-LEVEL BACKFILL . . . . . 35 PCF
- AT REST EARTH PRESSURE-LEVEL BACKFILL . . . . . 56 PCF
- PASSIVE EARTH PRESSURE . . . . . 250 PCF
- COEFFICIENT OF FRICTION FOR LATERAL SLIDING RESISTANCE 0.30

SEISMIC DESIGN
- SITE CLASS . . . . . D
- S_{DS} (SHORT PERIOD) 0.486
- LATERAL FORCE W/ LEVEL BACKFILL . . . . . $9.5H^2$
- LATERAL FORCE APPLICATION HEIGHT 0.6H

WIND DESIGN
- BASIC WIND SPEED . . . . . 90 MPH
- EXPOSURE C
- Iw 1.0

GEOTECHNICAL REPORT

1. THE FOUNDATIONS FOR THE ABOVE REFERENCED PROJECT ARE DESIGNED WITH RECOMMENDATIONS FROM:

   FIRM: OWENS GEOTECHNICAL, INC. REPORT # E-06-022 DATED APRIL 26, 2006, (REVISED JULY 14, 2006) W/ ADDENDUMS DATED JULY 29, 2010, FEB 22, 2011, DEC 5, 2011, MARCH 6, 2012 (BY NOVA GEOTECHNICAL AND INSPECTION SERVICES) AND UPDATE LETTER DATED APRIL 3, 2013

   ALL RECOMMENDATIONS LISTED WITHIN THIS REPORT REGARDING SITE PREPARATION, GRADING, COMPACTION TESTS, INSPECTIONS ETC. SHALL BE FOLLOWED WITH STRICT ADHERENCE AND SHALL BE COMPLETED PRIOR TO CONSTRUCTION.

STRUCTURAL STEEL

GENERAL
DESIGN, FABRICATION AND ERECTION OF STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AS CONTAINED IN THE "AISC MANUAL OF STEEL CONSTRUCTION".

MEMBERS
STRUCTURAL STEEL SHALL CONFORM WITH THE FOLLOWING ASTM STANDARDS AND MATERIAL PROPERTIES, U.N.O.

MEMBER	DESIGNATION	GRADE (Fy)
W SHAPE AND STRUCTURAL TEE	ASTM A992 GRADE 50	50 KSI
CHANNELS, TEES AND ANGLES	ASTM A36	36 KSI
BARS AND PLATES	ASTM A36	36 KSI
HSS (SQ. TUBE)	ASTM A500 (GRADE B)	46 KSI
HEADED STUDS	ASTM A108 (TYPE B)	--
OTHER STRUCTURAL STEEL	ASTM A36	36 KSI

FABRICATION
SHOP DRAWINGS SHALL SHOW MEMBER LAYOUT, SIZE, LENGTH, BOLT HOLE SIZES AND LOCATIONS, CONNECTION DETAILS, GRADE AND ERECTION PROCEDURES CONFORMING TO AISC SPECIFICATIONS.

FABRICATORS SHALL BE PRE-QUALIFIED, APPROVED AND RECOGNIZED BY THE BUILDING OFFICIAL AND CONTRACTOR AS COMPETENT TO COMPLETE REQUIRED FABRICATED ITEMS.

WELDING
WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS. ALL WELDING SHALL USE E70XX LOW HYDROGEN ELECTRODES UNO. SHOP WELDS MAY USE 70KSI WELDABLE WIRE. ALL WELDS INVOLVING REINFORCING BARS SHALL USE E7018 ELECTRODES. ALL WELDING SHALL CONFORM W/ THE LATEST AMERICAN WELDING SOCIETY STANDARDS. NO TACK WELDING OF ASTM A325 OR ASTM A490 BOLTS. ALL WELDS INDICATE SHOP WELDS. DURING CONSTRUCTION SEQUENCING CONTRACTOR TO DETERMINE APPLICABILITY OF FIELD WELDING AT HIS DISCRETION, PROVIDED THAT WELDS MEET DRAWING SPECIFICATIONS AND ARE PERFORMED IN ACCORDANCE W/ APPROVED BUILDING CODES.

WELDING PROCEDURES, ELECTRODES AND WELDER QUALIFICATIONS SHALL CONFORM TO THE "CODE FOR WELDING IN BUILDING CONSTRUCTION", AMERICAN WELDING SOCIETY (AWS) AND THE AISC "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS".

ALL WELDS SHALL USE A FILLER MATERIAL OF 70KSI

ALL WELDS INVOLVING REINFORCING BARS SHALL FOLLOW AISC SPECIFICATIONS.

ALL CJP WELDS USED SHALL BE MADE WITH A FILLER METAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT MINUS 20'F, AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION. USING 7018 ROD FULFILLS THIS REQUIREMENT.

FOR ALL WELDS REQUIRING CONTINUOUS INSPECTION FABRICATOR OR ERECTOR SHALL SUBMIT A WELDING PROCEDURE TO THE ENGINEER.

CONCRETE

MATERIAL
MIN 28 DAY STRENGTH:
- STRUCTURES . . . . . 4500 PSI
- MAX WATER CEMENT RATIO 0.45
- CONCRETE SLUMP . . . . . 4 - 6 INCHES
- CEMENT TYPE V

ALL CONCRETE SHALL BE REGULAR WEIGHT OF 145 POUNDS PER CUBIC FOOT UNO, USING HARD ROCK AGGREGATES CONFORMING TO ASTM C33.

BATCHING, MIXING, AND TRANSPORTING
CONCRETE MIXES SHALL BE DESIGNED BY A CERTIFIED LABORATORY AND APPROVED BY THE ENGINEER.

PORTLAND CEMENT SHALL CONFORM TO ACI 318, CHAPTER 3.2.

NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT, UNLESS APPROVED BY THE ENGINEER OR AUTHORIZED TESTING AGENCY.

BATCHING, MIXING, AND TRANSPORTING CONCRETE SHALL BE PER ACI 304R.

WATER SHALL NOT BE ADDED AT THE JOB SITE SUCH THAT THE MAXIMUM W/C RATIO IS EXCEEDED.

ONLY ADMIXTURES PERMITTED BY THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY SHALL BE ALLOWED.

FORM WORK
FORM WORK SHALL BE PER ACI 347R.

PLACING
PLACING OF CONCRETE SHALL BE PER ACI 304R.

PLACING OF CONCRETE BY MEANS OF PUMPING SHALL BE PER ACI 304.2R.

REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE CLEAN AND FREE FROM FOREIGN DEBRIS.

REINFORCING AND OTHER EMBEDDED ITEMS SHALL BE TIED IN PLACE AND CARE SHALL BE TAKEN TO ENSURE THAT EMBEDDED ITEMS ARE NOT DISPLACED WHILE PLACING CONCRETE.

CONTRACTOR SHALL ENSURE THAT PROPER COVER IS MAINTAINED AT ALL REINFORCING DURING PLACEMENT.

CONSOLIDATION
CONSOLIDATION OF FOOTINGS, WALLS, SLABS ON GRADE, BEAMS, COLUMNS, AND ELEVATED SLABS SHALL BE PER ACI 309R.

UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FEET. WHERE THE CONGESTION OF REINFORCING RESTRICTS THE USE OF A STANDARD HOSE NOZZLE, A REDUCED HOSE NOZZLE MAY BE USED OR AT THE CONTRACTOR'S OPTION PORTS MAY BE BORED INTO THE SIDES OF THE WALL FORMS.

EMBEDDED ITEMS
EMBEDDED ITEMS SHALL BE PLACED PER ACI 318 SECTION 6.3.

CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.

EMBEDDED CONDUITS, PIPES, AND SLEEVES SHALL NOT BE LARGER IN DIAMETER THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, BEAM, OR WALL IN WHICH THEY ARE EMBEDDED AND SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR ELEMENT WIDTHS ON CENTER.

NO ALUMINUM EMBEDS SHALL BE IN DIRECT CONTACT WITH CONCRETE

CONCRETE cont.

WEATHER PROTECTION
PROTECT CONCRETE FROM DAMAGE OR REDUCED STRENGTH DUE TO COLD OR HOT WEATHER IN ACCORDANCE W/ ACI 306 AND 305, RESPECTIVELY.

COLD WEATHER CONDITIONS EXIST AS DEFINED BY ACI 306.

WHEN COLD WEATHER EXISTS, FOLLOW ALL COLD WEATHER SPECIFICATIONS AS DEFINED BY ACI 306 AND NOTED BELOW.

STEEL EMBEDDED IN CONCRETE HAVING A CROSS-SECTIONAL AREA GREATER THAN 1 IN^2 INCLUDING REINFORCING SHALL BE HEATED TO 10'F. THE HEATING PROCESS SHALL NOT ALTER THE MECHANICAL OR METALLURGICAL PROPERTIES OF THE METAL. THE CONTRACTOR SHALL SUBMIT THE PLAN FOR HEATING TO THE ENGINEER OF RECORD FOR APPROVAL.

ENSURE THAT ALL EMBEDDED ITEMS ARE FREE OF FROST OR SNOW.

FROZEN SUBGRADE SHALL BE THAWED TO THE MINIMUM FROST DEPTH AS SPECIFIED IN THE BASIS FOR DESIGN.

CONCRETE MIX TEMPERATURE WHILE PLACING SHALL BE 55' F TO 75' F AND MAINTAINED OVER THE NEXT 72 HOURS. THE MAXIMUM ALLOWABLE TEMPERATURE DROP OVER THE NEXT 24 HOURS IS 50'F. CONCRETE TEMPERATURES SHALL BE CHECKED AT LEAST 2 TIMES PER DAY AND NOT CLOSER THAN 8 HOUR INCREMENTS.

WHEN CONCRETE IS PLACED IN COLD WEATHER CONDITIONS, ACCELERATOR ADMIXTURES MAY BE USED WHEN CONCRETE STRENGTH IS INCREASED BY BY 25% (750 PSI MIN) AS SPECIFIED IN CONCRETE SECTION. PRIOR TO REMOVAL OF FORMS AND SHORING, CONCRETE STRENGTH SHALL REACH 1000 PSI COMPRESSIVE STRENGTH UNLESS NOTED OTHERWISE.

A DETAILED REPORT SHALL BE SUBMITTED WITH THE CONCRETE MIX DESIGN AND PROTECTION PROCEDURES PRIOR TO PLACEMENT OF CONCRETE TO THE ENGINEER.

INVERTS AND SLABS
1-1/2" MAX AGGREGATE SIZE.

CONTRACTOR SHALL FOLLOW ACI 302 AGGREGATE SPECIFICATION USING MIN OF #8 AND #4 AGGREGATES TO PROVIDE A WELL GRADED AGGREGATE MIX.

CONCRETE SHALL BE FINISHED ACCORDING TO THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY. INVERT EXPOSED SURFACE SHALL BE ORDINARY BROOM FINISH.

ARCH CULVERT SHOTCRETE

SHOTCRETE PROPORTIONS SHALL BE SELECTED THAT ALLOW SUITABLE PLACEMENT PROCEDURES USING THE DELIVERY EQUIPMENT SELECTED AND SHALL RESULT IN FINISHED IN-PLACE HARDENED SHOTCRETE MEETING THE STRENGTH REQUIREMENTS STATED HERE-IN. COARSE AGGREGATE, IF USED, SHALL NOT EXCEED 3/8 INCH. ANY REBOUND OR ACCUMULATED LOOSE AGGREGATE SHALL BE REMOVED FROM THE SURFACES TO BE COVERED PRIOR TO PLACING THE INITIAL OR ANY SUCCEEDING LAYERS OF SHOTCRETE. REBOUND SHALL NOT BE REUSED AS AGGREGATE.

SHOTCRETE PLACEMENT SHALL BE PLACED ACCORDING TO ACI 506R-90. PRE-CONSTRUCTION TESTING OF SHOTCRETE IS NOT REQUIRED PROVIDED THE CONTRACTOR DEMONSTRATES TO THE BUILDING OFFICIAL, BY MEANS APPROVED BY THE BUILDING OFFICIAL, ACCEPTED SHOTCRETE WORK USING SIMILAR EQUIPMENT UNDER SIMILAR CIRCUMSTANCES WITH THE SAME PERSONNEL.

FINISHING:
ACCORDING TO THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY, ONLY SURFACES EXPOSED TO VIEW AFTER BACKFILL IS PLACED REQUIRE FINISHING (EITHER ORDINARY OR FINE). HOWEVER, IT IS REQUIRED THAT THE EXTERIOR SHOTCRETE SURFACE IS MADE SMOOTH WITH A STEEL TROWEL OR FRESNO TO FACILITATE THE APPLICATION OF WATERPROOFING. THIS FINISH SHALL HAVE NO REQUIREMENTS FOR FLATNESS. HOWEVER, THE SURFACE SHALL BE FREE FROM STONE POCKETS, DEPRESSIONS OR PROJECTIONS IN EXCESS OF 1/4 INCH BEYOND THE SURFACE. INVERT EXPOSED SURFACE SHALL BE INDUSTRY-STANDARD BROOM FINISH.

ADMIXTURES:
ONLY ADMIXTURES PERMITTED BY THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY SHALL BE ALLOWED.

CURING:
CURING ON THE OUTSIDE SURFACE AND INSIDE SURFACE AFTER FORM REMOVAL SHALL BE BY MEANS OF LIQUID MEMBRANE-FORMING COMPOUND MEETING THE REQUIREMENTS OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY. A BULKHEAD SHALL BE PLACED AT THE END OF THE CULVERT TO STOP WIND MOVEMENT THROUGH THE CULVERT IMMEDIATELY AFTER ARCH FORM REMOVAL.

MISC:
COMPLETED SHOTCRETE WORK SHALL BE CHECKED VISUALLY DURING CONSTRUCTION AND PRIOR TO FINAL APPROVAL OF SHOTCRETE FOR REINFORCING BAR EMBEDMENT, VOIDS, ROCK POCKETS, SAND STREAKS AND SIMILAR DEFICIENCIES. THE SPECIAL INSPECTOR SHALL EXAMINE.

SURFACES OF STEEL FORMS SHALL BE COATED W/ AN ICC APPROVED FORM RELEASE.

SHOTCRETE NOZZLEMAN SHALL BE CERTIFIED PER ACI 506.3R-91.

SHOTCRETE MAY BE USED IN LIEU OF POURED IN PLACE CONCRETE ON ALL ARCHES, WALLS, MANHOLE BASES (ATTACHED DIRECTLY TO ARCH).

SLABS SHALL BE POURED IN PLACE.

AT CONTRACTORS OPTION CUT OFF WALLS MAY UTILIZE A 3/8" MINUS AGGREGATE IN MIX DESIGN.

REINFORCING STEEL

USE OF EPOXY-COATED BARS IS NOT PERMITTED.

GRADE

TYPE	GRADE	ASTM STD
ALL WELDED BARS	60	A706
#4 OR LARGER	60	A615
#3 OR SMALLER	40	A615
WELDED WIRE FABRIC	60	A185

CLEAR COVER
ALL DIMENSIONS NOT NOTED AS "CLR" ARE TO THE CENTER OF THE BAR.
MIN COVER FOR NON-PRESTRESSED STEEL (UNO):

STRUCTURAL ELEMENT	COVER	TOLERANCE
FOOTINGS AND SLAB ON GRADE	3"	3/8"
WALLS (#5 OR SMALLER) .	1 1/2"	3/8"
WALLS (#6 OR LARGER)	2"	1/2"
ELEVATED SLABS, BEAMS AND COLUMNS	1 1/2"	3/8"

LAP SPLICES
LENGTHS SHALL BE PROVIDED PER THE FOLLOWING TABLE. (UNO TACK WELDING OF REINFORCING BARS NOT ALLOWED).

BAR	REBAR LAP SCHEDULE			
	TOP REINFORCING[a]		BOT REINFORCING	
	LAP	LAP/1.3[b]	LAP	LAP/1.3[b]
#3	18"	14"	14"	11"
#4	24"	19"	19"	14"
#5	30"	23"	23"	18"
#6	37"	28"	28"	22"
#7	53"	41"	41"	32"
#8	61"	47"	47"	36"
#9	69"	53"	53"	41"
#10	77"	59"	59"	46"
#11	86"	66"	66"	51"

(a) TOP REINFORCING IS DEFINED AS HORIZONTAL REINFORCING PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST BELOW.

(b) WHERE HALF OR MORE OF BAR SPLICES ARE STAGGERED AT LEAST ONE LAP LENGTH USE THESE LAP LENGTHS.

MECHANICAL SPLICE COUPLERS
MECHANICAL SPLICE COUPLERS SHALL HAVE CURRENT ICC APPROVAL AND SHALL BE CAPABLE OF DEVELOPING 125% OF THE STRENGTH OF THE BAR.

WELDING
WELDING OF REINFORCING BARS, METAL INSERTS, AND CONNECTIONS SHALL CONFORM TO AWS D1.4. ONLY A706 BAR SHALL BE WELDED.

BENDING
BENDING SHALL BE MADE ONLY AT LOCATIONS SHOWN ON PLANS OR DETAILS. ALL REINFORCING SHALL BE BENT COLD. BARS SHALL NOT BE UN-BENT AND RE-BENT. #6 BAR AND SMALLER MAY BE COLD FIELD BENT. #7 BAR AND LARGER SHALL NOT BE FIELD BENT WITHOUT PRIOR APPROVAL FROM ENGINEER.

PLACE AND DETAIL
ALL BARS SHALL BE DETAILED AND PLACED PER CRSI SPECIFICATIONS AND HANDBOOK. DOWEL ALL VERT REINFORCING TO FOUNDATION. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE.

DEFERRED SUBMITTALS

DEFERRED ITEMS
PREFABRICATED OR SPECIALTY ITEMS, AND THEIR COMPONENTS, WHICH ARE INDICATED BY THE STRUCTURAL DRAWINGS TO BE DESIGNED BY OTHERS, SHALL BE SUBMITTED TO THE ARCHITECT AND/OR ENGINEER OF RECORD FOR REVIEW AS A DEFERRED SUBMITTAL, PROVIDED THAT SUCH SUBMITTAL IS AUTHORIZED BY THE BUILDING DEPARTMENT. DEFERRED SUBMITTALS REQUIRED TO BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- CONCRETE MIX DESIGN
- STRUCTURAL STEEL SHOP DWGS

DOCUMENTATION
ALL DEFERRED SUBMITTALS SHALL INCLUDE CALCULATIONS AND DRAWINGS PREPARED IN ACCORDANCE W/ ALL APPLICABLE BUILDING CODES AND STAMPED BY AN APPROPRIATELY LICENSED PROFESSIONAL ENGINEER. SUBMITTALS SHALL SHOW LOCATION AND MAGNITUDE OF LOADS, SIZE AND CONFIGURATION OF MEMBERS AND COMPATIBILITY W/ THE PRIMARY STRUCTURAL SYSTEM.

REVIEW
DEFERRED SUBMITTAL ITEMS SHALL BE REVIEWED IN ACCORDANCE W/ STANDARD SHOP DRAWING REVIEW PROCEDURES, AS DESCRIBED IN THE GENERAL REQUIREMENT SECTION OF THE GENERAL STRUCTURAL NOTES.

WATER PROOFING

THE EXTERIOR SURFACE OF THE CONCRETE WALLS SHALL BE WATERPROOFED W/ AN APPROVED WATER PROOFING MATERIAL AS PER CLARK COUNTY UNIFORM STANDARD SPECIFICATIONS SECTION 646. INSTALLATION SHALL BE IN ACCORDANCE W/ MANUFACTURE RECOMMENDATIONS AND SPECIFICATIONS.

POST-INSTALLED ANCHORAGE

INSTALLATION
INSTALL THE ITEMS BELOW PER THE CURRENT ICC REPORT (ESR) AND MFR'S RECOMMENDATIONS

ALTERNATE
ALTERNATE ANCHOR SYSTEMS WITH CURRENT ICC APPROVAL MAY BE USED WITH PRIOR WRITTEN APPROVAL BY ENGINEER

EPOXY-ADHESIVE ANCHORS
EPOXY-ANCHORED BOLTS, THREADED ROD AND REBAR SHALL BE INSTALLED USING ONE OF THE FOLLOWING EPOXY ADHESIVES:

CONCRETE:
- HILTI HIT-RE 500-SD ADHESIVE ANCHOR SYSTEM (ESR-2322)
- SIMPSON SET-XP ADHESIVE ANCHOR SYSTEM (ESR-2508)

SPECIAL INSPECTIONS

SPECIAL INSPECTION INDEPENDENT OF THE CONTRACTOR, ARCHITECT, OR ENGINEER OF RECORD SHALL BE PROVIDED BY OWNER ACCORDING TO IBC/CBC CHAPTER 17. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE W/ THE CONTRACT DOCUMENTS, NOT THE SHOP DWGS. THE SPECIAL INSPECTOR SHALL SEND REPORTS TO THE OWNER, THE BUILDING OFFICIAL, THE ARCHITECT, THE ENGINEER, AND CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE SPECIAL INSPECTION WORK WAS, TO THE BEST OF HIS KNOWLEDGE, IN OR NOT IN CONFORMANCE W/ THE PLANS, SPECIFICATIONS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC/CBC.

CONT OR PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING WORK:

VERIFICATION AND INSPECTION	CONT	PERIODIC
CONCRETE		
INSPECTION OF REINFORCING STEEL, AND/OR PRE STRESS TENDONS AND PLACEMENT		■
INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT	■	
VERIFYING USE OF REQUIRED DESIGN MIX		■
SAMPLING FRESH CONCRETE AND PERFORMING SLUMP, AIR CONTENT AND DETERMINING THE TEMPERATURE OF FRESH CONCRETE AT THE TIME OF MAKING SPECIMENS FOR STRENGTH TESTS PER ACI 318	■	
WELDING OF REINFORCING STEEL: VERIFICATION OF WELDABILITY OF REINF STEEL OTHER THAN ASTM A 706		■
SHEAR REINFORCEMENT	■	
OTHER REINFORCING STEEL		■
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		■
VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		■
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		■
STEEL		
INSPECTION OF WELDING: STRUCTURAL STEEL: COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	■	
SINGLE-PASS FILLET WELDS ≤ 5/16"		■
WELDED STUDS AT STEEL BEAMS		■
POST-INSTALLED ANCHORS (EPOXY, EXPANSION, SCREW)		
AS APPLICABLE THE INSPECTION PROGRAM SHALL VERIFY: ANCHOR TYPE, EMBEDMENT, TIGHTENING TORQUE, DIMENSIONS, HOLE DEPTH, DIA. AND CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CURRENT ICC REPORT (ESR)	DURATION OF INSPECTION SHALL BE IN ACCORDANCE W/ ICC REPORT (ESR)	
ARCH CULVERT BACK FILL		
BACKFILL AROUND THE ARCH CULVERT SHALL BE PROVIDED AT A FREQUENCY AS NECESSARY TO ENSURE THAT PROPER FILL AND COMPACTION IS ACHIEVED	COMPACTION TESTS FOR EACH LIFT SHALL BE TAKEN PER EVERY 2500 SQUARE FEET PLACED AS A MINIMUM	

SHEET INDEX

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S3.1	CULVERT SECTIONS
S3.2	ARCH AT MANHOLE SECTIONS
S3.3	ARCH AT RCP LATERAL

STANDARD ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ALT	ALTERNATE
APA	AMERICAN PLYWOOD ASSOCIATION
ARCH	ARCHITECTURAL
ASD	ALLOWABLE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BLDG	BUILDING
BLKG	BLOCKING
BN	BOUNDARY NAILING OR FASTENERS
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STEEL
BOT	BOTTOM
CBC	CALIFORNIA BUILDING CODE
℄	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEMO	DEMOLITION
DIA OR ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
(E)	EXISTING
E

KEYNOTES:

1. JOINT SPACING PER SCHEDULE
2. PROVIDE (2) #4x48 MID-HEIGHT SLAB BARS ADJACENT TO ALL DISCONTINUOUS JOINT LOCATIONS
3. ALIGN CONTROL JOINTS W/ COLUMN (WHERE OCCURS)
4. WHERE CONTROL JOINT SECTIONS ARE RECTANGULAR, THE LENGTH "L" SHALL NOT EXCEED 1.5 TIMES THE WIDTH "W"
5. SAWCUT JOINT DEPTH EQUAL TO 1/4 SLAB THICKNESS
6. 2x4 CONTINUOUS TAPERED KEY
7. 1/2"Øx12" SMOOTH DOWEL AT 24" O.C. WRAP TO PREVENT BOND TO CONCRETE (CENTER IN SLAB THICKNESS AT JOINT)
8. CONSTRUCTION JOINT
9. COMPACTED SUBGRADE PER GSN
10. SLAB THICKNESS "T" PER TYP SLAB ON GRADE DETAIL

NOTES:

A. C.J. DENOTES CONTROL JOINT
B. USE DOWELED OR KEYED JOINT AT SLOPE TRANSITIONS IN RAMPS AT CONCRETE SLAB ON GRADE OR CONSTRUCTION JOINTS
C. SAWCUTS SHALL BE MADE SOON ENOUGH TO PREVENT SHRINKAGE CRACKING, BUT NOT SO SOON AS TO CAUSE SPALLING
D. ZIP STRIP OR TOOLED JOINT MAY BE USED IN LIEU OF SAW CUT
E. CONTROL JOINTS TO BE SEALED TO PREVENT STANDING WATER IN JOINT

OPTION A - SAWCUT JOINTS

OPTION B - KEYED JOINT

OPTION C - DOWELED JOINT

JOINT SPACING SCHEDULE	
SLAB THICKNESS	MAX SPACING
4"	10'
5"	12.5'
6"	15'
7"	17.5'
8"	18'

19 TYPICAL CONTROL JOINT IN CONCRETE SLAB ON GRADE
NO SCALE TD10039

KEYNOTES:

1. SLAB ON GRADE W/ #4 AT 18" O.C. EA. WAY, CENTERED IN SLAB THICKNESS
2. #4 HOOKED DOWEL AT 12" O.C.

3. #4 HORIZ AT 12" O.C.
4. FINISHED GRADE PER CIVIL
5. COMPACTED SUBGRADE PER TYPICAL DETAIL
6. (2) #4 AT THICKENED SLAB EDGE

NOTES:

A. PROVIDE CONTROL JOINTS PER TYPICAL DETAIL
B. CUT OFF WALL WHERE REQ'D BY CIVIL PLANS. THICKENED SLAB EDGE TYP WHERE CUT OFF WALL NOT REQ'D.

20 TYPICAL SLAB ON GRADE DETAIL
NO SCALE

SEAL: STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — GREGORY A. MILLER — No. 12,781 — CIVIL/STRUCTURAL — MAY 19 2014

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PROJECT:
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
DRAINAGE STRUCTURES
NORTH LAS VEGAS, NV

SHEET TITLE:
TYPICAL DETAILS

REV.	DESCRIPTION	DATE
	CCRFCD COMMENTS	05/19/14
	CCRFCD COMMENTS	11/11/13

DRAWN: GTC
CHECKED: SG/GAM

DATE: JULY 22, 2013
PROJECT NUMBER: STR13.6007
SHEET NUMBER: **S0.4**

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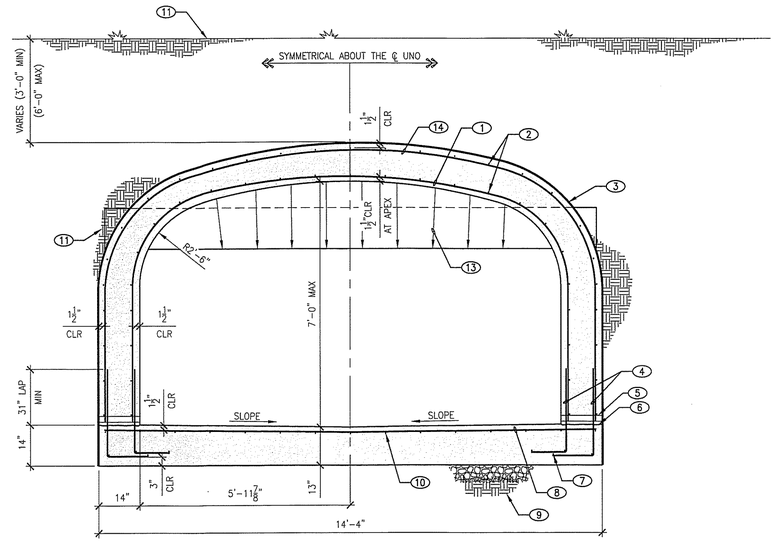
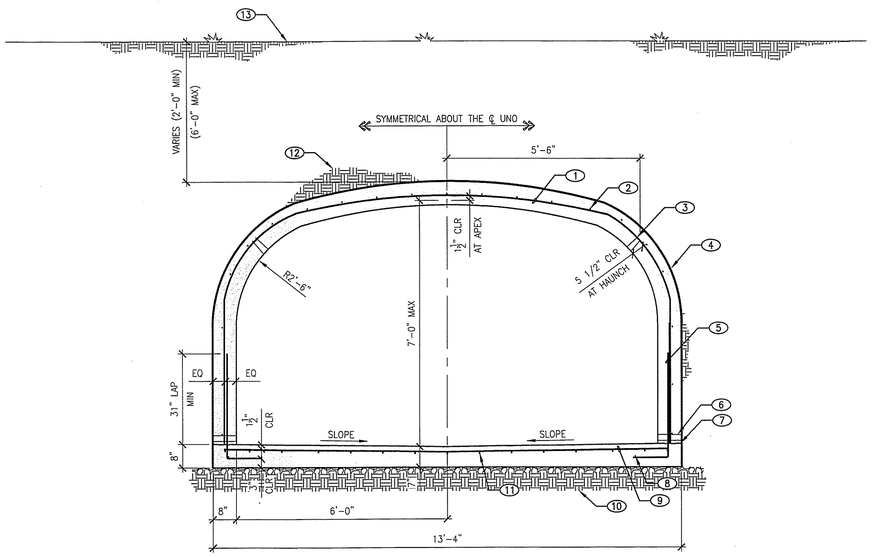


KEYNOTES:

1. #5 AT 5" O.C. TRANSVERSE INSIDE
2. #4 AT 12" O.C. LONGITUDINAL LAP 18" MIN
3. WATER PROOF MEMBRANE COVER ARCH AND WALL ONLY
4. #5 DOWEL AT 10" O.C. W/ 12" HOOK AT BASE
5. WEEP HOLE PER PLAN
6. ROUGHEN CONSTRUCTION JOINT PER GSN
7. (2) #5 CONT LONGITUDINAL LAP 18" MIN
8. #5 AT 5" O.C. TRANSVERSE
9. BEDDING PER GSN
10. #5 AT 10" O.C. LONGITUDINAL CONT LAP 18" MIN
11. BACKFILL PER GSN
12. FINAL GRADE
13. WARP CONCRETE ARCH GEOMETRY THROUGH TRANSITION TO ALIGN W/ BOX GEOMETRY
14. #5 TRANSVERSE AT 10" O.C.

3 S3.1 SECTION AT FLOODWALL
NO SCALE

1 S3.1 ARCH TO RCB TRANSITION STRUCTURE SECTION
NO SCALE



KEYNOTES:

1. #4 AT 6" O.C. TRANSVERSE
2. #4 AT 12" O.C. LONGITUDINAL LAP 18" MIN
3. REBAR CHAIR POINT
4. WATER PROOF MEMBRANE COVER ARCH AND WALL ONLY
5. #4 DOWEL AT 12" O.C. W/ 12" HOOK AT BASE
6. WEEP HOLE PER PLAN
7. ROUGHEN CONSTRUCTION JOINT, PER GSN
8. (2) #5 CONT LONGITUDINAL LAP 18" MIN
9. #5 AT 6" O.C. TRANSVERSE
10. BEDDING BELOW ARCH CULVERT SHALL CONSIST OF A 2" THICK LAYER OF CRUSHED ROCK UNDERLAIN BY A 6" LAYER OF TYPE II MATERIAL. BEDDING SHALL EXTEND 6" MIN BEYOND EDGE OF ARCH
11. #5 AT 10" O.C. CONT LONGITUDINAL LAP 18" MIN
12. BACKFILL PER GSN
13. FINAL GRADE

2 S3.1 12'x7' STORM DRAIN SECTION
NO SCALE

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SEAL: REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA GREGORY T. MEYER No. 9870 CIVIL STRUCTURAL
MAY 19 2014

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PROJECT:
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
DRAINAGE STRUCTURES
NORTH LAS VEGAS, NV

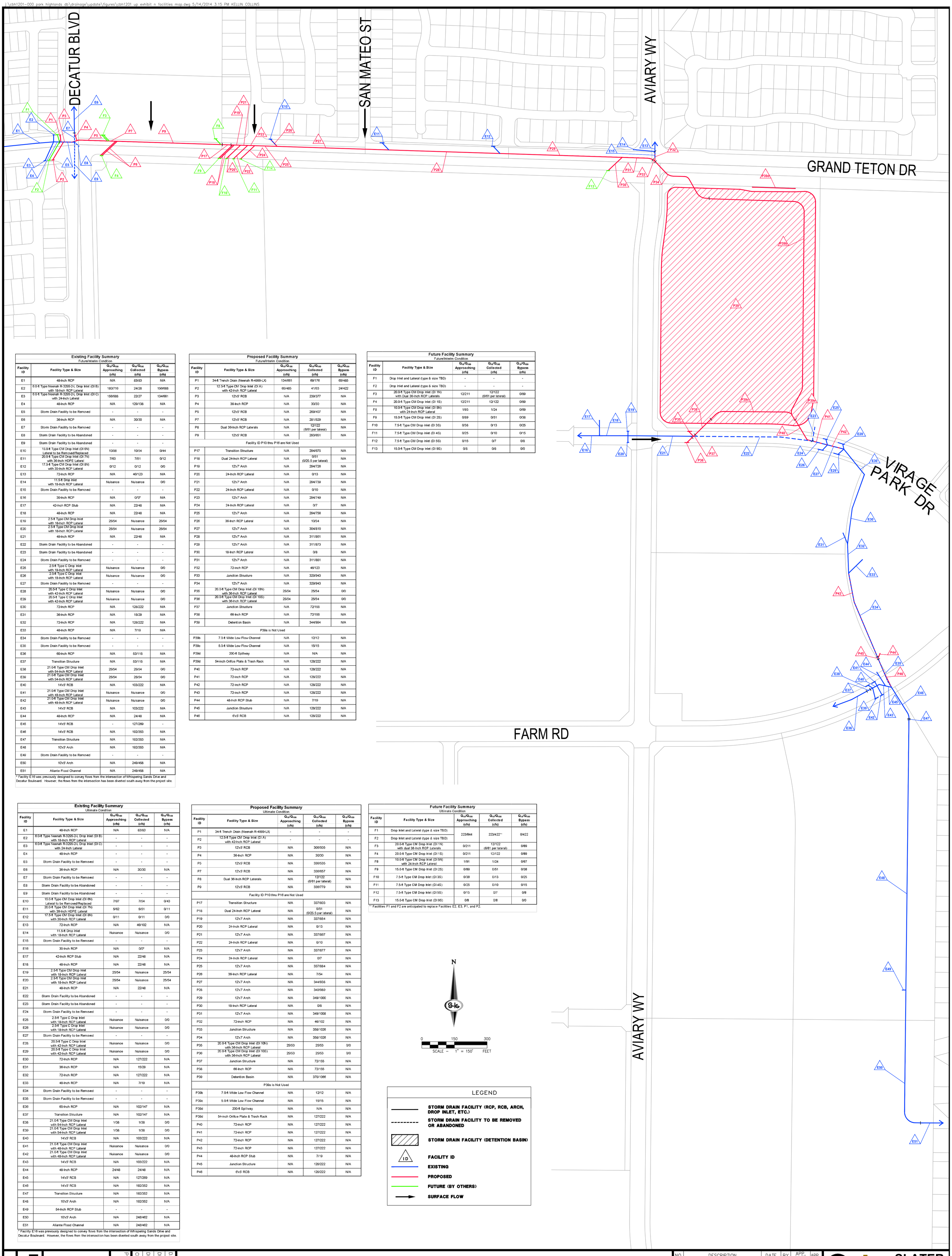
SHEET TITLE:
CULVERT SECTIONS

REV.	DESCRIPTION	DATE
	CCRFCD COMMENTS	05/19/14
	CCRFCD COMMENTS	11/11/13

DRAWN: GTC
CHECKED: SG/GAM

DATE: JULY 22, 2013
PROJECT NUMBER: STR13.6007
SHEET NUMBER: S3.1

J:\cbh1201-000 park highlands db\drainage\update\figures\cbh1201 up exhibit n facilities map.dwg 5/14/2014 3:15 PM KELLIN COLLINS



Existing Facility Summary
Future/Interim Condition

Facility ID	Facility Type & Size	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
E1	48-Inch RCP	N/A	83/83	N/A
E2	6.0-ft Type Neenah R-3295-2-L Drop Inlet (DI B) with 18-Inch RCP Lateral	180/716	24/28	156/688
E3	8.0-ft Type Neenah R-3295-2-L Drop Inlet (DI C) with 24-Inch Lateral	156/688	22/27	134/661
E4	48-Inch RCP	N/A	129/138	N/A
E5	Storm Drain Facility to be Removed	-	-	-
E6	36-Inch RCP	N/A	30/30	N/A
E7	Storm Drain Facility to be Removed	-	-	-
E8	Storm Drain Facility to be Abandoned	-	-	-
E9	Storm Drain Facility to be Abandoned	-	-	-
E10	15.0-ft Type CM Drop Inlet (DI 6N) Lateral to be Removed/Replaced	10/98	10/54	0/44
E11	20.0-ft Type CM Drop Inlet (DI 7N) with 36-Inch HDPE Lateral	7/63	7/51	0/12
E12	17.5-ft Type CM Drop Inlet (DI 8N) with 30-Inch RCP Lateral	0/12	0/12	0/0
E13	72-Inch RCP	N/A	46/123	N/A
E14	11.5-ft Drop Inlet with 18-Inch RCP Lateral	Nuisance	Nuisance	0/0
E15	Storm Drain Facility to be Removed	-	-	-
E16	30-Inch RCP	N/A	0/0*	N/A
E17	42-Inch RCP Stub	N/A	22/48	N/A
E18	48-Inch RCP	N/A	22/48	N/A
E19	2.5-ft Type CM Drop Inlet with 18-Inch RCP Lateral	25/54	Nuisance	25/54
E20	2.5-ft Type CM Drop Inlet with 18-Inch RCP Lateral	25/54	Nuisance	25/54
E21	48-Inch RCP	N/A	22/48	N/A
E22	Storm Drain Facility to be Abandoned	-	-	-
E23	Storm Drain Facility to be Abandoned	-	-	-
E24	Storm Drain Facility to be Removed	-	-	-
E25	2.5-ft Type C Drop Inlet with 18-Inch RCP Lateral	Nuisance	Nuisance	0/0
E26	2.5-ft Type C Drop Inlet with 18-Inch RCP Lateral	Nuisance	Nuisance	0/0
E27	Storm Drain Facility to be Removed	-	-	-
E28	20.5-ft Type C Drop Inlet with 42-Inch RCP Lateral	Nuisance	Nuisance	0/0
E29	20.5-ft Type C Drop Inlet with 42-Inch RCP Lateral	Nuisance	Nuisance	0/0
E30	72-Inch RCP	N/A	128/222	N/A
E31	36-Inch RCP	N/A	15/29	N/A
E32	72-Inch RCP	N/A	128/222	N/A
E33	48-Inch RCP	N/A	7/19	N/A
E34	Storm Drain Facility to be Removed	-	-	-
E35	Storm Drain Facility to be Removed	-	-	-
E36	60-Inch RCP	N/A	53/115	N/A
E37	Transition Structure	N/A	53/115	N/A
E38	21.0-ft Type CM Drop Inlet with 54-Inch RCP Lateral	25/54	25/54	0/0
E39	21.0-ft Type CM Drop Inlet with 54-Inch RCP Lateral	25/54	25/54	0/0
E40	14'x5' RCB	N/A	103/222	N/A
E41	21.0-ft Type CM Drop Inlet with 48-Inch RCP Lateral	Nuisance	Nuisance	0/0
E42	21.0-ft Type CM Drop Inlet with 48-Inch RCP Lateral	Nuisance	Nuisance	0/0
E43	14'x5' RCB	N/A	103/222	N/A
E44	48-Inch RCP	N/A	24/48	N/A
E45	14'x5' RCB	-	127/269	-
E46	14'x5' RCB	N/A	192/353	N/A
E47	Transition Structure	N/A	192/353	N/A
E48	10'x5' Arch	N/A	192/353	N/A
E49	Storm Drain Facility to be Removed	-	-	-
E50	10'x5' Arch	N/A	249/458	N/A
E51	Allante Flood Channel	N/A	249/458	N/A

* Facility E16 was previously designed to convey flows from the intersection of Whispering Sands Drive and Decatur Boulevard. However, the flows from the intersection has been diverted south away from the project site.

Proposed Facility Summary
Future/Interim Condition

Facility ID	Facility Type & Size	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
P1	34-ft Trench Drain (Neenah R-4999-LX)	134/661	69/176	65/485
P2	12.5-ft Type CM Drop Inlet (DI A) with 42-Inch RCP Lateral	65/485	41/63	24/422
P3	12'x5' RCB	N/A	239/377	N/A
P4	36-Inch RCP	N/A	30/30	N/A
P5	12'x5' RCB	N/A	269/407	N/A
P7	12'x5' RCB	N/A	281/529	N/A
P8	Dual 36-Inch RCP Laterals	N/A	12/122 (6/61 per lateral)	N/A
P9	12'x5' RCB	N/A	293/651	N/A
Facility ID P10 thru P16 are Not Used				
P17	Transition Structure	N/A	294/675	N/A
P18	Dual 24-Inch RCP Lateral	N/A	0/51 (0/25.5 per lateral)	N/A
P19	12'x7' Arch	N/A	294/726	N/A
P20	24-Inch RCP Lateral	N/A	0/13	N/A
P21	12'x7' Arch	N/A	294/739	N/A
P22	24-Inch RCP Lateral	N/A	0/10	N/A
P23	12'x7' Arch	N/A	294/749	N/A
P24	24-Inch RCP Lateral	N/A	0/7	N/A
P25	12'x7' Arch	N/A	294/756	N/A
P26	36-Inch RCP Lateral	N/A	10/54	N/A
P27	12'x7' Arch	N/A	304/810	N/A
P28	12'x7' Arch	N/A	311/861	N/A
P29	12'x7' Arch	N/A	311/873	N/A
P30	18-Inch RCP Lateral	N/A	0/8	N/A
P31	12'x7' Arch	N/A	311/881	N/A
P32	72-inch RCP	N/A	46/123	N/A
P33	Junction Structure	N/A	329/943	N/A
P34	12'x7' Arch	N/A	329/943	N/A
P35	20.0-ft Type CM Drop Inlet (DI 10N) with 36-Inch RCP Lateral	25/54	25/54	0/0
P36	20.0-ft Type CM Drop Inlet (DI 10S) with 36-Inch RCP Lateral	25/54	25/54	0/0
P37	Junction Structure	N/A	72/155	N/A
P38	66-Inch RCP	N/A	72/155	N/A
P39	Detention Basin	N/A	344/994	N/A
P39a is Not Used				
P39b	7.0-ft Wide Low Flow Channel	N/A	12/12	N/A
P39c	5.0-ft Wide Low Flow Channel	N/A	15/15	N/A
P39d	200-ft Spillway	N/A	N/A	N/A
P39d	54-inch Orifice Plate & Trash Rack	N/A	128/222	N/A
P40	72-inch RCP	N/A	128/222	N/A
P41	72-inch RCP	N/A	128/222	N/A
P42	72-inch RCP	N/A	128/222	N/A
P43	72-inch RCP	N/A	128/222	N/A
P44	48-Inch RCP Stub	N/A	7/19	N/A
P45	Junction Structure	N/A	128/222	N/A
P46	6'x5' RCB	N/A	128/222	N/A

Future Facility Summary
Future/Interim Condition

Facility ID	Facility Type & Size	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
F1	Drop Inlet and Lateral (type & size TBD)	-	-	-
F2	Drop Inlet and Lateral (type & size TBD)	-	-	-
F3	20.0-ft Type CM Drop Inlet (DI 1N) with Dual 36-Inch RCP Laterals	12/211	12/122 (6/61 per lateral)	0/89
F4	20.0-ft Type CM Drop Inlet (DI 1S)	12/211	12/122	0/89
F8	10.0-ft Type CM Drop Inlet (DI 5N) with 24-Inch RCP Lateral	1/93	1/24	0/69
F9	15.0-ft Type CM Drop Inlet (DI 2S)	0/89	0/51	0/38
F10	7.5-ft Type CM Drop Inlet (DI 3S)	0/38	0/13	0/25
F11	7.5-ft Type CM Drop Inlet (DI 4S)	0/25	0/10	0/15
F12	7.5-ft Type CM Drop Inlet (DI 5S)	0/15	0/7	0/8
F13	15.0-ft Type CM Drop Inlet (DI 9S)	0/8	0/8	0/0

Existing Facility Summary
Ultimate Condition

Facility ID	Facility Type & Size	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
E1	48-Inch RCP	N/A	83/83	N/A
E2	6.0-ft Type Neenah R-3295-2-L Drop Inlet (DI B) with 18-Inch RCP Lateral	-	-	-
E3	6.0-ft Type Neenah R-3295-2-L Drop Inlet (DI C) with 24-Inch Lateral	-	-	-
E4	48-Inch RCP	-	-	-
E5	Storm Drain Facility to be Removed	-	-	-
E6	36-Inch RCP	N/A	30/30	N/A
E7	Storm Drain Facility to be Removed	-	-	-
E8	Storm Drain Facility to be Abandoned	-	-	-
E9	Storm Drain Facility to be Abandoned	-	-	-
E10	15.0-ft Type CM Drop Inlet (DI 6N) Lateral to be Removed/Replaced	7/97	7/54	0/43
E11	20.0-ft Type CM Drop Inlet (DI 7N) with 36-Inch HDPE Lateral	5/62	5/51	0/11
E12	17.5-ft Type CM Drop Inlet (DI 8N) with 30-Inch RCP Lateral	0/11	0/11	0/0
E13	72-Inch RCP	N/A	46/102	N/A
E14	11.5-ft Drop Inlet with 18-Inch RCP Lateral	Nuisance	Nuisance	0/0
E15	Storm Drain Facility to be Removed	-	-	-
E16	30-Inch RCP	N/A	0/0*	N/A
E17	42-Inch RCP Stub	N/A	22/48	N/A
E18	48-Inch RCP	N/A	22/48	N/A
E19	2.5-ft Type CM Drop Inlet with 18-Inch RCP Lateral	25/54	Nuisance	25/54
E20	2.5-ft Type CM Drop Inlet with 18-Inch RCP Lateral	25/54	Nuisance	25/54
E21	48-Inch RCP	N/A	22/48	N/A
E22	Storm Drain Facility to be Abandoned	-	-	-
E23	Storm Drain Facility to be Abandoned	-	-	-
E24	Storm Drain Facility to be Removed	-	-	-
E25	2.5-ft Type C Drop Inlet with 18-Inch RCP Lateral	Nuisance	Nuisance	0/0
E26	2.5-ft Type C Drop Inlet with 18-Inch RCP Lateral	Nuisance	Nuisance	0/0
E27	Storm Drain Facility to be Removed	-	-	-
E28	20.5-ft Type C Drop Inlet with 42-Inch RCP Lateral	Nuisance	Nuisance	0/0
E29	20.5-ft Type C Drop Inlet with 42-Inch RCP Lateral	Nuisance	Nuisance	0/0
E30	72-Inch RCP	N/A	127/222	N/A
E31	36-Inch RCP	N/A	15/29	N/A
E32	72-Inch RCP	N/A	127/222	N/A
E33	48-Inch RCP	N/A	7/19	N/A
E34	Storm Drain Facility to be Removed	-	-	-
E35	Storm Drain Facility to be Removed	-	-	-
E36	60-Inch RCP	N/A	102/147	N/A
E37	Transition Structure	N/A	102/147	N/A
E38	21.0-ft Type CM Drop Inlet with 54-Inch RCP Lateral	1/38	1/38	0/0
E39	21.0-ft Type CM Drop Inlet with 54-Inch RCP Lateral	1/38	1/38	0/0
E40	14'x5' RCB	N/A	103/222	N/A
E41	21.0-ft Type CM Drop Inlet with 48-Inch RCP Lateral	Nuisance	Nuisance	0/0
E42	21.0-ft Type CM Drop Inlet with 48-Inch RCP Lateral	Nuisance	Nuisance	0/0
E43	14'x5' RCB	N/A	103/222	N/A
E44	48-Inch RCP	24/48	24/48	N/A
E45	14'x5' RCB	N/A	127/269	N/A
E46	14'x5' RCB	N/A	192/352	N/A
E47	Transition Structure	N/A	192/352	N/A
E48	10'x5' Arch	N/A	192/352	N/A
E49	54-Inch RCP Stub	-	-	-
E50	10'x5' Arch	N/A	248/462	N/A
E51	Allante Flood Channel	N/A	248/462	N/A

* Facility E16 was previously designed to convey flows from the intersection of Whispering Sands Drive and Decatur Boulevard. However, the flows from the intersection has been diverted south away from the project site.

Proposed Facility Summary
Ultimate Condition

Facility ID	Facility Type & Size	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
P1	34-ft Trench Drain (Neenah R-4999-LX)	-	-	-
P2	12.5-ft Type CM Drop Inlet (DI A) with 42-Inch RCP Lateral	-	-	-
P3	12'x5' RCB	N/A	306/505	N/A
P4	36-Inch RCP	N/A	30/30	N/A
P5	12'x5' RCB	N/A	336/535	N/A
P7	12'x5' RCB	N/A	336/657	N/A
P8	Dual 36-Inch RCP Laterals	N/A	12/122 (6/61 per lateral)	N/A
P9	12'x5' RCB	N/A	336/779	N/A
Facility ID P10 thru P16 are Not Used				
P17	Transition Structure	N/A	337/803	N/A
P18	Dual 24-Inch RCP Lateral	N/A	0/51 (0/25.5 per lateral)	N/A
P19	12'x7' Arch	N/A	337/854	N/A
P20	24-Inch RCP Lateral	N/A	0/13	N/A
P21	12'x7' Arch	N/A	337/867	N/A
P22	24-Inch RCP Lateral	N/A	0/10	N/A
P23	12'x7' Arch	N/A	337/877	N/A
P24	24-Inch RCP Lateral	N/A	0/7	N/A
P25	12'x7' Arch	N/A	337/884	N/A
P26	36-Inch RCP Lateral	N/A	7/54	N/A
P27	12'x7' Arch	N/A	344/936	N/A
P28	12'x7' Arch	N/A	349/969	N/A
P29	12'x7' Arch	N/A	349/1000	N/A
P30	18-Inch RCP Lateral	N/A	0/8	N/A
P31	12'x7' Arch	N/A	349/1008	N/A
P32	72-inch RCP	N/A	46/102	N/A
P33	Junction Structure	N/A	358/1026	N/A
P34	12'x7' Arch	N/A	358/1026	N/A
P35	20.0-ft Type CM Drop Inlet (DI 10N) with 36-Inch RCP Lateral	25/53	25/53	0/0
P36	20.0-ft Type CM Drop Inlet (DI 10S) with 36-Inch RCP Lateral	25/53	25/53	0/0
P37	Junction Structure	N/A	72/155	N/A
P38	66-Inch RCP	N/A	72/155	N/A
P39	Detention Basin	N/A	370/1066	N/A
P39a is Not Used				
P39b	7.0-ft Wide Low Flow Channel	N/A	12/12	N/A
P39c	5.0-ft Wide Low Flow Channel	N/A	15/15	N/A
P39d	200-ft Spillway	N/A	N/A	N/A
P39d	54-inch Orifice Plate & Trash Rack	N/A	127/222	N/A
P40	72-inch RCP	N/A	127/222	N/A
P41	72-inch RCP	N/A	127/222	N/A
P42	72-inch RCP	N/A	127/222	N/A
P43	72-inch RCP	N/A	127/222	N/A
P44	48-Inch RCP Stub	N/A	7/19	N/A
P45	Junction Structure	N/A	128/222	N/A
P46	6'x5' RCB	N/A	128/222	N/A

Future Facility Summary
Ultimate Condition

Facility ID	Facility Type & Size	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
F1	Drop Inlet and Lateral (type & size TBD)	223/844	223/422**	0/422
F2	Drop Inlet and Lateral (type & size TBD)			
F3	20.0-ft Type CM Drop Inlet (DI 1N) with dual 36-Inch RCP Laterals	0/211	12/122 (6/61 per lateral)	0/89
F4	20.0-ft Type CM Drop Inlet (DI 1S)	0/211	12/122	0/89
F8	10.0-ft Type CM Drop Inlet (DI 5N) with 24-Inch RCP Lateral	1/91	1/24	0/67
F9	15.0-ft Type CM Drop Inlet (DI 2S)	0/89	0/51	0/38
F10	7.5-ft Type CM Drop Inlet (DI 3S)	0/38	0/13	0/25
F11	7.5-ft Type CM Drop Inlet (DI 4S)	0/25	0/10	0/15
F12	7.5-ft Type CM Drop Inlet (DI 5S)	0/15	0/7	0/8
F13	15.0-ft Type CM Drop Inlet (DI 9S)	0/8	0/8	0/0

** Facilities F1 and F2 are anticipated to replace Facilities E2, E3, P1, and P2.

LEGEND

- STORM DRAIN FACILITY (RCP, RCB, ARCH, DROP INLET, ETC.)
- STORM DRAIN FACILITY TO BE REMOVED OR ABANDONED
- STORM DRAIN FACILITY (DETENTION BASIN)
- ID — FACILITY ID
- EXISTING
- PROPOSED
- FUTURE (BY OTHERS)
- SURFACE FLOW

EXHIBIT N
SHEET 1 OF 1

PROJECT NO. CBH1201-000
CHECKED: MJF
DESIGNER: KC
DRAFTER: KC
DATE: MAY 2014

CRESCENT BAY HOLDINGS

PARK HIGHLANDS
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
FACILITIES MAP

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

SLATER HANIFAN GROUP
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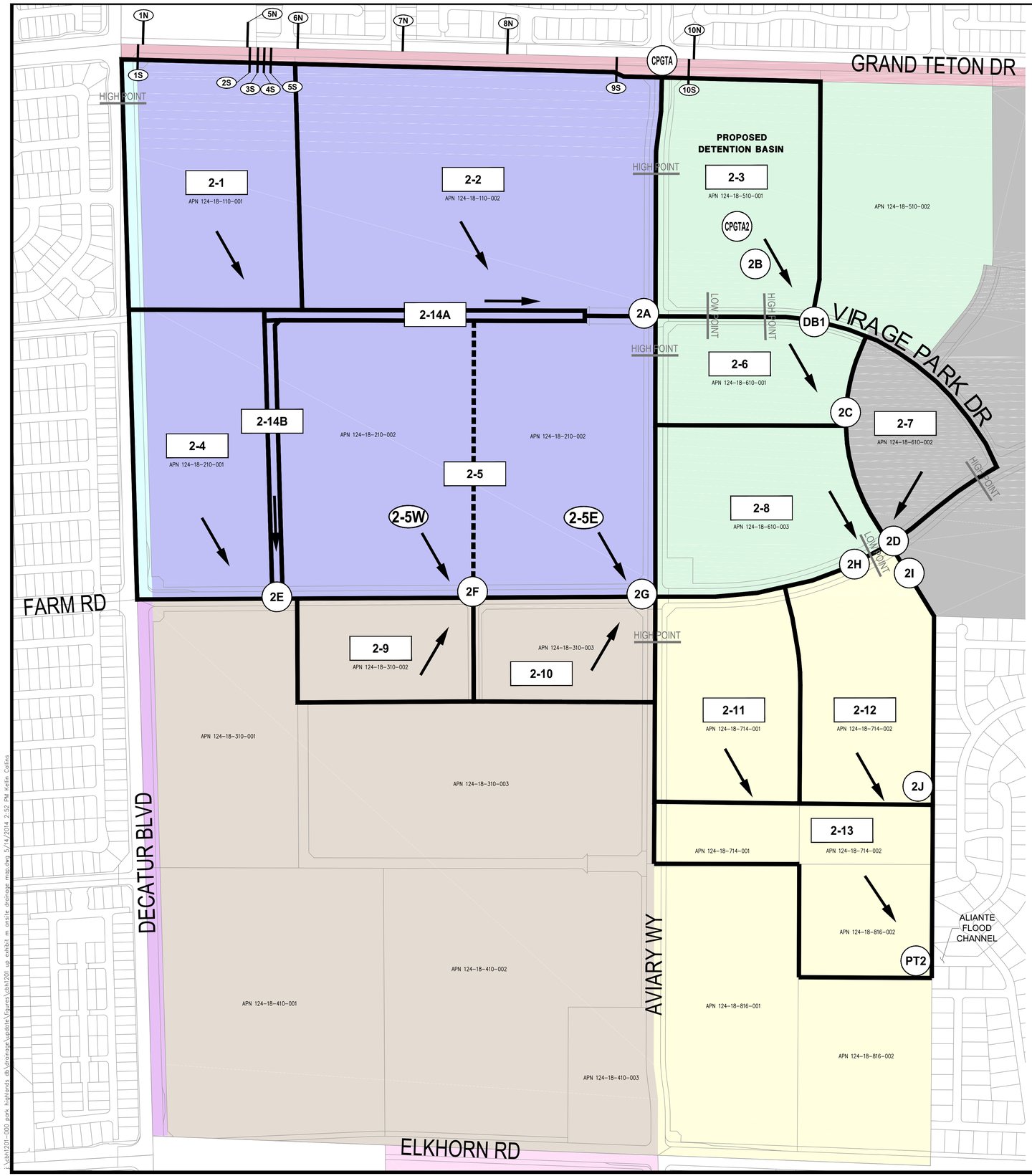


Onsite Basin Flow Summary
Ultimate Condition

Basin ID	Area (ac)	Q_{100} (cfs)	Q_{10} (cfs)
2-3	20.9	37	13
2-1	23.5	56	28
2-2	47.5	96	44
2-14A	1.7	3	1
2-6	11.5	29	15
2-7	10.0	19	7
2-4	21.4	56	28
2-14B	1.6	3	1
2-5	57.0	115	53
2-5E	27.5	55	25
2-5W	29.5	60	28
2-9	10.0	24	11
2-10	10.4	25	12
2-8	18.3	48	24
2-11	16.3	43	22
2-12	17.4	39	17
2-13	17.5	39	18

LEGEND
- BASIN BOUNDARY
- ID — BASIN ID
- FLOW DIRECTION
- (ID) — CONCENTRATION POINT
- CROSS SECTION
- (ID) — CROSS SECTION ID
- SUBBASIN BOUNDARY
- ID — SUBBASIN ID

AREA LEGEND
- AREA 1
- AREA 2
- AREA 3
- AREA 4
- AREA 5
- AREA 6
- AREA 7
- AREA 8
- AREA 9

N

SHEET 16

0 250 500
SCALE – 1" = 250' FEET

Onsite Concentration Point Flow Summary
Future/Interim Condition

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)	Q_{10} (cfs)
CPGTA CP22 + CP23 + E760	3.62	0.915	943	329
CPGTA2 CPGTA + 2-3	3.65	0.915	951	331
2A 2-1 + 2-2 + 2-14A	0.11	0.990	155	72
2B CPGTA2 + 2A	3.77	0.915	994	344
DB1 DB1 outlet	3.77	0.915	222	128
2C DB1 + 2-6	3.78	0.915	222	128
2D 2C + 2-7	3.80	0.915	222	128
2E 2-4 + 2-14B	0.04	0.990	59	29
2F 2E + 2-5W + 2-9	0.14	0.990	142	67
2G 2F + 2-5E + 2-10	0.16	0.990	222	103
2H 2G + 2-8	0.19	0.990	269	127
2I 2D + 2H	3.99	0.915	353	192
2J 2-11 + 2-12	0.05	0.990	82	39
PT2 2I + 2J + 2-13	4.07	0.908	458	249

Onsite Concentration Point Flow Summary
Ultimate Condition

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)	Q_{10} (cfs)
CPGTA CP20 + CP21 + U760	3.04	0.915	1,026	358
CPGTA2 CPGTA + 2-3	3.07	0.915	1,032	360
2A 2-1 + 2-2 + 2-14A	0.11	0.990	155	72
2B CPGTA2 + 2A	3.19	0.915	1,066	370
DB1 DB1 outlet	3.19	0.915	222	127
2C DB1 + 2-6	3.21	0.915	222	128
2D 2C + 2-7	3.22	0.915	222	128
2E 2-4 + 2-14B	0.04	0.990	59	29
2F 2E + 2-5W + 2-9	0.14	0.990	142	67
2G 2F + 2-5E + 2-10	0.16	0.990	222	103
2H 2G + 2-8	0.19	0.990	269	127
2I 2D + 2H	3.41	0.915	352	192
2J 2-11 + 2-12	0.05	0.990	82	39
PT2 2I + 2J + 2-13	3.49	0.915	462	248

10-Yr Event Cross Section Summary
Future/Interim Condition (Proposed Facilities w/ Interim Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	12	0.54	2.34	1.3	≥19.0
1S	0.50	12	0.54	2.34	1.3	≥19.0
2S	0.50	1	0.24	2.52	0.6	≥19.0
3S	0.50	-	-	-	-	≥19.0
4S	0.50	-	-	-	-	≥19.0
5N	2.47	-	-	-	-	≥19.0
5S	0.50	-	-	-	-	≥19.0
6N	0.50	10	0.51	2.24	1.1	≥19.0
7N	0.50	8	0.48	2.19	1.1	≥19.0
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Future/Interim Condition (Proposed Facilities w/ Interim Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	211	1.33	5.92	7.9
1S	0.50	211	1.33	5.92	7.9
2S	0.50	89	0.97	4.22	4.1
3S	0.50	38	0.76	3.07	2.3
4S	0.50	25	0.67	2.78	1.9
5N	2.47	93	0.78	7.01	5.5
5S	0.50	15	0.58	2.46	1.4
6N	0.50	98	1.01	4.38	4.4
7N	0.50	63	0.88	3.69	3.2
8N	0.50	12	0.54	2.34	1.3
9S	0.50	8	0.48	2.19	1.1
10N	0.50	-	-	-	-
10S	0.50	-	-	-	-

10-Yr Event Cross Section Summary
Future Condition (Proposed Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	33.5	0.73	2.98	2.2	10.2
1S	0.50	33.5	0.73	2.98	2.2	10.2
2S	0.50	3.5	0.38	1.88	0.7	32.6
3S	0.50	0.5	0.24	1.15	0.3	41.5
4S	0.50	-	-	-	-	≥19.0
5N	2.47	4.5	0.34	3.53	1.2	35.1
5S	0.50	-	-	-	-	≥19.0
6N	0.50	7.5	0.47	2.16	1.0	26.8
7N	0.50	5.5	0.43	2.04	0.9	29.4
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Future Condition (Proposed Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	275	1.47	6.47	9.5
1S	0.50	275	1.47	6.47	9.5
2S	0.50	153	1.18	5.21	6.1
3S	0.50	102	1.02	4.45	4.5
4S	0.50	89	0.97	4.22	4.1
5N	2.47	155	0.90	8.53	7.7
5S	0.50	79	0.94	4.03	3.8
6N	0.50	161	1.20	5.32	6.4
7N	0.50	126	1.10	4.83	5.3
8N	0.50	75	0.92	3.95	3.6
9S	0.50	72	0.91	3.88	3.5
10N	0.50	64	0.88	3.71	3.3
10S	0.50	64	0.88	3.71	3.3

10-Yr Event Cross Section Summary
Ultimate Condition (Ultimate Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	-	-	-	-	≥19.0
1S	0.50	-	-	-	-	≥19.0
2S	0.50	-	-	-	-	≥19.0
3S	0.50	-	-	-	-	≥19.0
4S	0.50	-	-	-	-	≥19.0
5N	2.47	1	0.24	2.52	0.6	≥19.0
5S	0.50	-	-	-	-	≥19.0
6N	0.50	7	0.46	2.13	1.0	≥19.0
7N	0.50	5	0.42	2.00	0.8	≥19.0
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Ultimate Condition (Ultimate Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	211	1.33	5.92	7.9
1S	0.50	211	1.33	5.92	7.9
2S	0.50	89	0.97	4.22	4.1
3S	0.50	38	0.76	3.07	2.3
4S	0.50	25	0.67	2.78	1.9
5N	2.47	91	0.78	6.95	5.4
5S	0.50	15	0.58	2.46	1.4
6N	0.50	97	1.00	4.36	4.4
7N	0.50	62	0.87	3.67	3.2
8N	0.50	11	0.53	2.29	1.2
9S	0.50	8	0.48	2.19	1.1
10N	0.50	-	-	-	-
10S	0.50	-	-	-	-

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CRESCENT BAY HOLDINGS

PARK HIGHLANDS REGIONAL FLOOD CONTROL FACILITY
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
FUTURE/INTERIM & ULTIMATE CONDITION ONSITE DRAINAGE MAP

DATE: MAY 2014
DRAFTER: KC
DESIGNER: KC
CHECKED: MJF
PROJECT NO.
CBH1201-000

EXHIBIT M
SHEET 1 OF 1

J:\cbh1201-000 park highlands db\drainage\update\figures\cbh1201 up exhibit m onsite drainage mod.dwg 5/14/2014 2:52 PM Kellie Collins

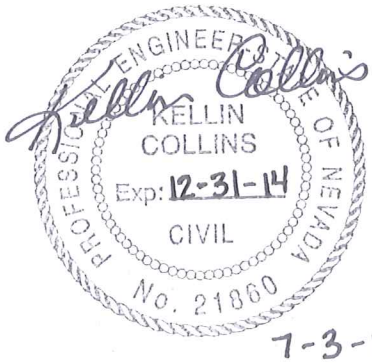
TECHNICAL DRAINAGE STUDY
UPDATE NO. 1
SUPPLEMENT NO. 1
Park Highlands Grand Teton
Regional Flood Control Facility

City of North Las Vegas, Nevada

Job No.: CBH1201.000
Date: July 2014

Prepared By:
Slater Hanifan Group, Inc.
5740 S. Arville Street, Suite 216
Las Vegas, Nevada 89118
Phone: 702-284-5300 ▪ Fax: 702-284-5399

Prepared For:
Crescent Bay Holdings
7144 East Stetson Drive, Suite 410
Scottsdale, AZ 85251
Phone: 404-584-6997



7-3-14

Kellin Collins, P.E.
NV Professional Engineer No. 21860

HYDROLOGIC CRITERIA AND DRAINAGE DESIGN MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Park Highlands Grand Teton Regional Flood Control Facility (Update No. 1 Supp No. 1) Date: July 2014

Location of Development: a) Descriptive (Cross Streets): North/South: Decatur Boulevard

East/West: Grand Teton Drive

b) Section: 18 Township: 19S Range: 61E

c) APN: 124-07-499-001 thru 004; 124-18-110-003, 005; 124-18-199-001; 124-18-510-001, 005, 008; 124-18-610-002, 006; 124-18-699-001; 125-12-899-002; 125-13-599-010

Name of Owner: Crescent Bay Holdings

Telephone No.: 480-584-6997 Fax No.: n/a E-mail Address: developaz@gmail.com

Address: 7144 East Stetson Drive, Suite 410, Scottsdale AZ 85251

Contact Person – Name: Kellin Collins, P.E. Telephone No.: 702-284-5300

*E-mail Address: kcollins@shg-inc.com Fax No.: 702-284-5399

Firm: Slater Hanifan Group

Address: 5740 Arville St. #216

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivison Map	☐	Clearing and grading Only
☐	Parcel Map	☐	Planned Unit Development	☒	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit		Storm drain and detention basin improvements

1. Total Owned Land Area: At Site: ±600 Acres Being Developed/Disturbed: +/-25 acres

2. Is a portion or all of the subject property located in a FEMA Flood Hazard Area? ☐ Yes** ☒ No

3. Is the property bordered or crossed by an existing or proposed Clark County Regional Flood Control District Master Planned Facility? ☒ Yes** ☐ No

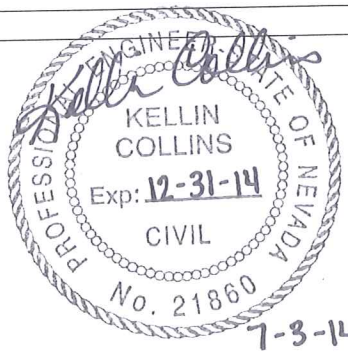
4. Proposed type of development (Residential, Commercial, Etc.): Flood Control Facilities

5. Approximate upstream land area which drains to the subject site: ≈ 3.04 square miles

6. Has the site drainage been evaluated in the past? ☒ Yes** ☐ No If yes, please identify documentation: TDS for Park Highlands Grand Teton RFC Facility (CNLV No.45326) UP No.1 North Las Vegas 600-Arce Site Area 3 (CNLV 41331); North Las Vegas 600 Acre Site (CNLV 24576); TDS for North Las Vegas 600-Acre Site Area 4 (CNLV 27769), Grand Teton Storm Drain & Area1 Road Improvement (CNLV 4189)

7. If known, please briefly identify the proposed discharge point(s) of runoff from the site: Flood channel within the Club Alliante

8. Briefly describe your proposed schedule for the subject project: ASAP



Engineer's Seal

Submit this form as part of the required drainage study to the local entity which has jurisdiction over The subject property. This form may provide sufficient information to serve as the Conceptual Drainage Study.

*Newly Required Field

**Review and concurrence of the Clark County Regional Flood Control District is required

Local Entity File No.

Revision	Date

REFERENCE:

STANDARD FORM 1

Updated 05/01/2008

DEPARTMENT OF PUBLIC WORKS

CITY OF NORTH LAS VEGAS
Your Community of Choice

Drainage Study Submittal Application

- City of North Las Vegas Use Only -	Project name: Park Highlands Grand Teton Regional Flood Control Facility
Project #:_____ Received :____/____/____ ☐ Fee paid $_____ ☐ Engineer's seal ☐ Drainage Study Checklist	☐ Initial drainage study ☐ Concurrence ☐ CLOMR/LOMR ☐ Addendum #____ ☐ Amendment ☑ Supplement ☐ Update to *(original study name)*: Park Highlands Grand Teton Regional Flood Control Facility Study review process desired: ☑ In-house ☐ Outsourced

Project location (incl. cross streets): Grand Teton Drive and Decatur Boulevard

Assessor parcel number(s): 124-07-499-001 thru 004; 124-18-110-003, 005; 124-18-199-001; 124-18-510-001, 005, 008;124-18-610-002, 006; 124-18-699-001; 125-12-899-002; 125-13-599-010

Acreage: +/- 25 acres	Number of lots: n/a	Section/Township/Range: 18/19S/61E

Type of development:
☐ Residential subdivision ☐ Commercial subdivision ☐ Commercial
☐ Multi-family ☑ Other (please specify): Storm Drain & Detention Basin

Drainage Study Review Fee Schedule

A pre-submittal meeting must be arranged prior to Initial and Update Study submittals (702/633-1932)

Initial drainage studies:		**Other submittals:**	
☐ ≤6 gross acres	$ 500	☐ Addendum	$ 0
☐ >6 to 41 gross acres	$1000	☐ Addendum 2 or greater	(see DFC Fee Schedule)
☐ >41 to 321 gross acres	$ 2000	☐ Update	$400
☐ >321 to 2,561 gross acres	$ 4000	☐ Amendment	$400
☐ >2,561 gross acres	$ 6000	☐ CLOMR/LOMR	$0
☐ Concurrence	$250		

Additional outsourced review fees: Drainage study $4,200 Update $2,500

3 copies of the study must be supplied for outsourced review.

Engineering firm: Slater Hanifan Group	Contact person: Kellin Collins, P.E.
Address: 5740 S. Arville Street, Suite 216	Phone: 702-284-5300
	Fax: 702-284-5399
City: Las Vegas State./Zip NV/89118	E-mail: kcollins@shg-inc.com
Owner/developer: Crescent Bay Holdings	Contact person: Philip Miller
Address: 7144 East Stetson Drive, Suite 410	Phone: 480-584-6997
	Fax: n/a
City: Scottsdale State/Zip AZ/85251	E-Mail: developaz@gmail.com

Owner/developer wishes to be copied on all review correspondence: ☑ Yes ☐ No

Projects on the North Las Vegas municipal boundaries must be submitted to the adjacent jurisdiction for their review and/or approval. Projects that will impact the State's highway system must be submitted to the Nevada Department of Transportation District Office for review and approval.

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS

CBH1201.000

July 3, 2013

Dan Le, P.E., CFM – Senior Engineer
Development and Flood Control Division
City of North Las Vegas Public Works
2266 Civic Center Drive, Suite 225
North Las Vegas, Nevada 89030-6307

Subject: Supplement No. 1 to the Update No. 1 to the Technical Drainage Study for Park Highlands Grand Teton Regional Flood Control Facility (CNLV No. 45326, CLV No. 4577 and RFCD No. 13-9177)

Dear Mr. Le:

This letter is intended to serve as Supplement No. 1 to the *Update No. 1 to the Technical Drainage Study for Park Highlands Grand Teton Regional Flood Control Facility,* to address an e-mail comment/concern by the City of North Las Vegas (CNLV) on June 10, 2014. A copy of the CNLV e-mail comment/concern has been provided in Appendix A. Note that several meetings, phone conversations, and e-mail correspondences has been conducted in preparation of this Supplement. Per the CNLV e-mail comment/concern, an additional hydrologic methodology assessment is being required by this project (hereafter referred to as Method B) and some minor additions to Exhibit M are requested. The following hydrologic and hydraulic analyses discussion will address the impacts of the Method B assessment and the necessary changes to the drainage exhibits.

Hydrologic Analyses: The hydrologic methodology previously provided in the *Technical Drainage Study for Park Highlands Grand Teton Regional Flood Control Facility* and in the recent Update No. 1 initial submittal (hereafter referred to as Method A) is compared to Method B. The Method B assessment and comparison to Method A only impacts the concentration points located downstream of the proposed Park Highlands West detention basin (PHW DB) that include the discharge from the proposed PHW DB: Concentration Points DB1, 2C, 2D, 2I, 2K and PT2. The higher flow rate from the two methodologies has been reported for those concentration points. Per coordination meeting held on June 30, 2014 with CNLV, the following is considered acceptable and should be noted for the Method A and Method B flow rate comparison:

- Method B is not applied to the interim condition because previous analyses have determined that the ultimate condition generates higher flow rates and controls for design.
- Method B is not applied to the 10-year storm event because the 100-year storm event controls the design of the storm drain infrastructure located downstream of the PHW DB.
- Concentration Point 2K is a new concentration point being identified in this Supplement that was previously called out as a 'dummy' concentration point in the HEC-1 models.

Although interim condition does not control, both the interim and ultimate condition HEC-1 models were re-ran with the 'dummy' concentration point renamed as '2K'.

- Excerpts from the HEC-1 models identifying Concentration Point '2K' are provided in Appendix C while the full HEC-1 outputs are provided on the CD in Appendix I.

The following discussion presents the definition of Method A and Method B as well as the resulting flow rates from applying the described methodology.

- **Method A:** This method is defined as a storm centering over the entire watershed, upstream and downstream of the proposed PHW DB. From the ultimate condition 100-year HEC-1 model, the flow rate of the concentration points located downstream of the PHW DB are selected based on DARF that is inclusive of the drainage area to the PHW DB and the drainage area downstream of the PHW DB that drains to the specific concentration point. Table 1 summarizes the contributing area to the concentration points that are located downstream of the PHW DB and the associated DARF and ultimate condition 100-year flow rate.

Table 1: Summary of Method A Flow Rates

Location	Contributing Area (sq mi)	DARF	100-Year Ultimate Condition Flow Rate (cfs)
DB1	3.19	0.915	222
2C	3.21	0.915	222
2D	3.22	0.915	222
2I	3.41	0.915	352
2K	3.46	0.915	427
PT2	3.49	0.915	462

- **Method B:** This methodology is defined as a localized peak storm centering in which there is an algebraic summation of the peak runoff of drainage basins located downstream of the PHW DB plus the discharge out of the PHW DB at the peak time of the drainage basins located downstream of the PHW DB. The peak of the individual drainage basins downstream of the PHW DB occurs at approximately 3hr 35min. Excerpt from the ultimate condition 100-year HEC-1 model has been provided in Appendix D showing the PHW DB outlet hydrograph with the discharge at 3hr 35min highlighted. Please refer to the Method B Drainage Exhibit in Appendix D for notes on the local peak of the individual basins and concentration points. Table 2 summarizes the contributing area to the concentration points that are located downstream of the PHW DB, the associated DARF, how the flow rate is determined and the ultimate condition 100-year flow rate.

Table 2: Summary of Method B Flow Rates				
Location	**Contributing Area (sq mi)**	**DARF**	**Notes**	**100-Year Ultimate Condition Flow Rate (cfs)**
DB1	3.19	0.915	65 cfs is the discharge from the PHW DB1 at 3hr 35min from a DARF of 0.915	65
2C	0.02	0.990	65 cfs from DB1 + 29 cfs from Basin 2-6	94
2D	0.03	0.990	65 cfs from DB1 + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7	113
2I	0.22	0.990	65 cfs from DB1 + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7 + 269 cfs from CP 2H	382
2K	0.27	0.99	65 cfs from DB1 + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7 + 269 cfs from CP 2H + 82 cfs from CP 2J	464
PT2	0.30	0.990	65 cfs from DB1 + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7 + 269 cfs from CP 2H + 82 cfs from CP 2J + 39 cfs from Basin 2-13	503

Table 3 summarizes the resulting concentration point flow rates from Method A and Method B and as to which flow rate is reported.

Table 3: Comparison Table – Method A vs. Method B			
Location	**Method A 100-Year Ultimate Condition Flow Rate (cfs)**	**Method B 100-Year Ultimate Condition Flow Rate (cfs)**	**Reported Flow Rate for the Concentration Point (cfs)**
DB1	222	65	222
2C	222	94	222
2D	222	113	222
2I	352	382	382
2K	427	464	464
PT2	462	503	503

Table 4 summarizes the previously approved allowable discharge to the Aliante Flood Channel and compares it to the discharge presented in this Supplement. Table 4 demonstrates that the discharge to the Aliante Flood Channel was originally designed for 512 cfs and there have been subsequent studies that have increased flows and then decreased flows. The proposed flow rate in this Supplement is less than the 512 cfs established by the *Update to the Conceptual Drainage Study for North Las Vegas 1905 Acres (Aliante)*. Therefore there are no adverse impacts to the downstream drainage infrastructure or properties.

Approval letters and drainage maps from the referenced approved drainage studies have been included in Appendix G. Note that the reference material has been reviewed and considered acceptable for use.

Table 4: Comparison Table – Previously Approved Allowable Discharge vs. This Supplement

Previously Approved					This Supplement	
Project	Study Description	Date of Study & Engineer	Concentration Point	100-Year Flow Rate (cfs)	Concentration Point	100-Year Flow Rate (cfs)
North Las Vegas 1905 Acres (Aliante)	Update to Conceptual Study	Sept-2003 GC Wallace	IN6	512	PT2	503
North Las Vegas 600 Acre Site (Park Highlands West)	Response to Comments No. 2 for Update No. 2	Feb-2007 GC Wallace	PT2	531		
Park Highlands West Area 3	Response to Comments No. 2 for Technical Drainage Study	Sept-2007 GC Wallace	PT2	542		
Park Highlands West Area 3	Addendum No. 3 for Update No. 1	Oct-2010 Slater Hanifan Group	PT2	448		
Park Highlands Grand Teton Regional Flood Control Facility	Addendum No. 2 for Technical Drainage Study	Nov-2013 Slater Hanifan Group	PT2	464		

As a result of the hydrologic changes, the Future/Interim & Ultimate Condition Onsite Drainage Map (Exhibit M) has been updated as follows:

- The interim and ultimate condition onsite concentration point flow summary tables have been updated with Concentration Point '2K' and the associated area, DARF, and flow rate.
- An ultimate condition onsite concentration point flow summary table for Method B has been added to the exhibit.
- Concentration Point '2K' has been labeled on the exhibit.

Hydraulic Analyses: There are two storm drain systems impacted by the additional hydrologic analyses and are defined as follows:

- Farm Road (FARM) – In Farm Road, just east of Decatur Boulevard and extends east and south to the Aliante Flood Channel
- Virage Park Drive East (VPDE) – From the outlet structure of the PHW DB to the Farm Road storm drain system

Note that the FARM system sets the starting water surface elevation (WSE) for the VPDE system. Given that the two hydrologic methodologies could not overlap as a single storm event, the hydraulic analyses of existing and proposed storm drain facilities are still report as Method A and Method B as follows:

- **Method A:** In the initial submittal of Update No. 1 to this project it was discussed how the removal of the bench from the PHW DB increased the capacity of the detention basin. The resulting increased detention basin capacity reduced the discharge out of the PHW DB by 9 cfs and decreased the discharge to the Aliante Flood Channel by 2 cfs from what was previously approved. Since a reduction in flow rate will only have potential to produce a lower HGL in the storm drain system, there is no adverse impacts to the downstream storm drain system. For posterity sake, the hydraulic analyses for Method A has been provided for the FARM and VPDE systems identified as FARM-A.OUT and VPDE-A.OUT and provided in Appendix E.
- **Method B:** Utilizing the Method B flow rates, the flow rate has increased in the Farm Road system but has substantially decreased in the Virage Park Drive East system. The hydraulic analyses for Method B has been provided for the FARM and VPDE systems identified as FARM-B.OUT and VPDE-B.OUT and provided in Appendix F.

Since the resulting flow rates and hydraulic grade line (HGL) varies, the flow rate and HGLs for both Method A and Method B has been identified on the improvement plans. The resulting HGL and velocity in both Method A and Method B meet CCRFCD Manual criteria for a minimum of 1-ft below finished grade and velocity not exceeding 25 fps, respectively. The revised improvement plans has been provided in Appendix H. As a result of the hydrologic and hydraulic changes, the Facilities Map (Exhibit N) has been updated as follows:

- Facilities E49, P47, and P74 have been depicted on the exhibit as requested in the CNLV e-mailed comment/concern.
- The existing storm drain in Farm Road has been depicted further west.
- The drainage basins, basin IDs, and concentration points has been brought into the background of the exhibit.
- A 'Flow Breakdown/Notes' column has been added to the facility summary tables to denote the source of the flows for the facility.

Conclusions: The result of Method A and Method B hydrology and hydraulics analyses demonstrates that there are no adverse impacts to the existing and proposed onsite storm drain infrastructure. Nor are there any adverse impacts to the adjacent or downstream drainage facilities or properties. The revised improvement plans included in Appendix H of this study support the drainage patterns, conclusions and/or recommendations detailed in this Supplement. The electronic files for this Supplement are provided in Appendix I. If you have any questions or require additional information, please do not hesitate to contact us at 284-5300.

Respectfully Submitted,
SLATER HANIFAN GROUP

Kellin Collins

Kellin Collins, P.E.
Flood Control Division

pc: Mark J. Failla, SHG; Jerry Slater, SHG; Michael Lopez, SHG

LIST OF APPENDICES

Appendix A CNLV E-mail Comment/Concern

Appendix B Drainage Exhibits
- Exhibit M – Future/Interim & Ultimate Condition Onsite Drainage Map
- Exhibit N – Facilities Map

Appendix C Method A Hydrologic Analyses
- HEC-1 Model Excerpt: 10-Year Interim Condition
- HEC-1 Model Excerpt: 100-Year Interim Condition
- HEC-1 Model Excerpt: 10-Year Ultimate Condition
- HEC-1 Model Excerpt: 100-Year Ultimate Condition

Appendix D Method B Hydrologic Analyses
- HEC-1 Model Excerpt: 100-Year Ultimate Condition
- Method B Drainage Exhibit

Appendix E Method A Hydraulic Analyses
- Farm Road (FARM-A) WSPG Model
- Virage Park Drive East (VPDE-A) WSPG Model

Appendix F Method B Hydraulic Analyses
- Farm Road (FARM-B) WSPG Model
- Virage Park Drive East (VPDE-B) WSPG Model

Appendix G Reference Material
- Update to the Conceptual Drainage Study for North Las Vegas 1905 Acres (Aliante)
- 2nd Response to Comments on the 2nd Update to the Conceptual Drainage Study for the North Las Vegas 600-Acre Site (Park Highlands West)
- 2nd Response to Comments on the Technical Drainage Study for North Las Vegas 600-Acre Site Area 3
- Technical Drainage Study Update No. 1 Addendum No. 3 for North Las Vegas 600-Acre Site Area 3
- Technical Drainage Study Addendum No. 2 for Park Highlands Grand Teton Regional Flood Control Facility

Appendix H Plans, Profiles and Details

Appendix I Electronic Files

APPENDIX A

CNLV E-mail Comment/Concern

Kellin Collins

From:	Dan Le <led@cityofnorthlasvegas.com>
Sent:	Tuesday, June 10, 2014 2:22 PM
To:	Mark Failla
Cc:	Jerry Slater; Kellin Collins; Phillip Miller (miller@crescentbayholdings.com); Quang Phan
Subject:	Re: Park Highlands Grand Teton Regional Flood Control Facility - TDS Update
Follow Up Flag:	Follow up
Flag Status:	Completed

Hi Mark,

Thanks for the email. CNLV staff believes that the hydrologic analyses and the HEC-1 runs are accurate. However, it appears that flows from the HEC-1 concentration points were selected based on the DARF for the entire offsite drainage basins in lieu of the DARF for the localized (onsite area within Park Highland West) drainage basins. The result of selecting flows from the incorrect DARF will reduce 100-year flow rates within the storm drain system down stream of the proposed detention basin.

This appears to be a simple mistake and could be rectified rather easily since SHG has already performed hydraulic analyses of all storm drain systems. The correct flow values must be reported in the master drainage study and the Grand Teton study since it will be reviewed and referenced by all future developments. I concur that a supplemental study could be submitted to show the accurate flow rates. However, all hydraulic analyses and drainage exhibits must also be revised to reflect the accurate flow values. The approved drawings for the constructed storm drains don't need to be revised but a discussion regarding "why" should be included in the supplemental study.

In addition, Exhibit M must also be revised to depict the removal of existing facility E49 and the addition of proposed stubs P47 and P74.

Lastly, please feel free to involve RFCD and CLV staff to chime in on the discussion regarding the validity of the flow rates downstream of the detention basin since they will also be reviewing the supplemental study. Let me know if a meeting is necessary to complete this task.

Thanks

On Mon, Jun 9, 2014 at 11:31 AM, Mark Failla <mfailla@shg-inc.com> wrote:

Dan,

Per our meeting last Thursday and your discussion today with Kellin regarding clarification of storm drain design flows downstream of the Detention Basin, it appears your intention is to issue a review letter requesting revisions to analysis, plans and report based on CNLV's "worst case" flow assessment you are concerned with.

As discussed, please note the following:

- Flow rates have been previously accepted by CNLV, CLV and CCRFCD.
- The affected downstream storm drain based on "worst case" flow is already constructed.
- The minor update was submitted to remove the dog park grading from the detention basin resulting in an increase of storage volume in the basin and a reduction in discharge from the basin and to downstream storm drain compared to the previously accepted flows.
- SHG believes that the previously accepted hydrologic analysis and resulting facility design flows are accurate, consistent and coordinated. It should not be necessary to revise all affected analysis, design and plans based on a potential "worst case" flow condition.

I would like to present the following approach for your consideration to address your concerns:

- Since SHG does not believe that the "worst case" flow condition more accurately represents a more accurate flow rate (only a different consideration), we would like to provide the requested "worst case" flow analysis as a supplemental analysis. The supplemental analysis would include a discussion and breakdown of how the "worst case" flow scenario is developed and a WSPG analysis with the "worst case" flow. The WSPG analysis would be reviewed based on capacity of the storm drain to convey the "worst case" flow. **We do not believe that reporting the "worst case" flow condition on plans, exhibits, etc. is necessary, more accurate or the best thing to do since it will not coordinate with the hydrologic models that have been prepared and accepted over the past 2+ years.** Since your concern is whether the facility will function with the "worst case" flow condition, it seems that a simple assessment of the condition should adequately address your concern.
- This approach maintains consistency amongst previously accepted analyses throughout all studies submitted and addresses your concern of function for the "worst case" flow condition. Based on your review, we know that the "worst case" flow condition results in a flow increase in the downstream facility that we all feel will not impede the facility from functioning and the resulting flow is still less than the downstream property designed for.
- Due to CNLV current review times, please give some consideration to allowing submittal of a supplemental analysis addressing your concerns in lieu of issuing a formal comment letter that would potentially result in another 2+ months of review time for what is considered a very minor update to the existing project approval.

Let me know what you think.

Thanks,

Mark

Mark Failla, P.E., CFM

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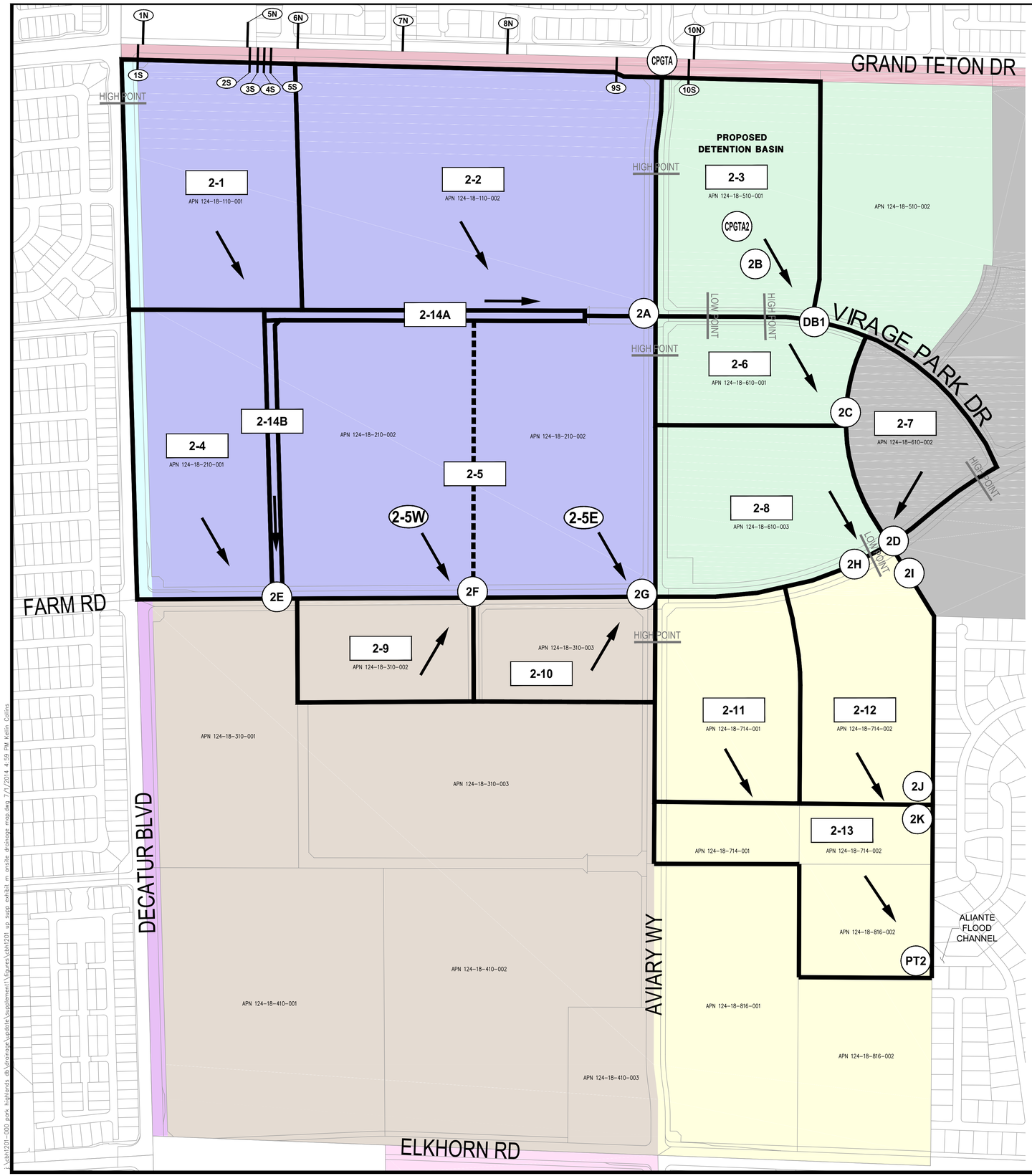
Any files contained within are to be used for information ONLY. Accuracy and/or design information to be verified from approved original plans. Use of electronic media is at the sole risk of the user.

APPENDIX B

Drainage Exhibits



Onsite Basin Flow Summary
Ultimate Condition

Basin ID	Area (ac)	Q_{100} (cfs)	Q_{10} (cfs)
2-3	20.9	37	13
2-1	23.5	56	28
2-2	47.5	96	44
2-14A	1.7	3	1
2-6	11.5	29	15
2-7	10.0	19	7
2-4	21.4	56	28
2-14B	1.6	3	1
2-5	57.0	115	53
2-5E	27.5	55	25
2-5W	29.5	60	28
2-9	10.0	24	11
2-10	10.4	25	12
2-8	18.3	48	24
2-11	16.3	43	22
2-12	17.4	39	17
2-13	17.5	39	18

LEGEND
- BASIN BOUNDARY
- ID — BASIN ID
- FLOW DIRECTION
- (ID) — CONCENTRATION POINT
- CROSS SECTION
- (ID) — CROSS SECTION ID
- SUBBASIN BOUNDARY
- ID — SUBBASIN ID

AREA LEGEND
- AREA 1
- AREA 2
- AREA 3
- AREA 4
- AREA 5
- AREA 6
- AREA 7
- AREA 8
- AREA 9

N

SCALE – 1" = 250' FEET (0, 250, 500)

Onsite Concentration Point Flow Summary
Future/Interim Condition

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)	Q_{10} (cfs)
CPGTA CP22 + CP23 + E760	3.62	0.915	943	329
CPGTA2 CPGTA + 2-3	3.65	0.915	951	331
2A 2-1 + 2-2 + 2-14A	0.11	0.990	155	72
2B CPGTA2 + 2A	3.77	0.915	994	344
DB1 DB1 outlet	3.77	0.915	222	128
2C DB1 + 2-6	3.78	0.915	222	128
2D 2C + 2-7	3.80	0.915	222	128
2E 2-4 + 2-14B	0.04	0.990	59	29
2F 2E + 2-5W + 2-9	0.14	0.990	142	67
2G 2F + 2-5E + 2-10	0.16	0.990	222	103
2H 2G + 2-8	0.19	0.990	269	127
2I 2D + 2H	3.99	0.915	353	192
2J 2-11 + 2-12	0.05	0.990	82	39
2K 2I + 2J	4.04	0.908	424	231
PT2 2K + 2-13	4.07	0.908	458	249

Onsite Concentration Point Flow Summary
Ultimate Condition

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)	Q_{10} (cfs)
CPGTA CP20 + CP21 + U760	3.04	0.915	1,026	358
CPGTA2 CPGTA + 2-3	3.07	0.915	1,032	360
2A 2-1 + 2-2 + 2-14A	0.11	0.990	155	72
2B CPGTA2 + 2A	3.19	0.915	1,066	370
DB1 DB1 outlet	3.19	0.915	222	127
2C DB1 + 2-6	3.21	0.915	222	128
2D 2C + 2-7	3.22	0.915	222	128
2E 2-4 + 2-14B	0.04	0.990	59	29
2F 2E + 2-5W + 2-9	0.14	0.990	142	67
2G 2F + 2-5E + 2-10	0.16	0.990	222	103
2H 2G + 2-8	0.19	0.990	269	127
2I 2D + 2H	3.41	0.915	352	192
2J 2-11 + 2-12	0.05	0.990	82	39
2K 2I + 2J	3.46	0.915	427	231
PT2 2K + 2-13	3.49	0.915	462	248

Onsite Concentration Point Flow Summary
Ultimate Condition (Method B)

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)
DB1 DB1 outlet at 3hr 35min	3.19	0.915	65
2C DB1 + 2-6	0.02	0.990	94
2D 2C + 2-7	0.04	0.990	113
2E 2-4 + 2-14B	0.04	0.990	59
2F 2E + 2-5W + 2-9	0.14	0.990	142
2G 2F + 2-5E + 2-10	0.16	0.990	222
2H 2G + 2-8	0.19	0.990	269
2I 2D + 2H	0.22	0.990	382
2J 2-11 + 2-12	0.05	0.990	82
2K 2I + 2J	0.27	0.990	464
PT2 2K + 2-13	0.30	0.990	503

10-Yr Event Cross Section Summary
Future/Interim Condition (Proposed Facilities w/ Interim Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	12	0.54	2.34	1.3	≥19.0
1S	0.50	12	0.54	2.34	1.3	≥19.0
2S	0.50	1	0.24	2.52	0.6	≥19.0
3S	0.50	-	-	-	-	≥19.0
4S	0.50	-	-	-	-	≥19.0
5N	2.47	-	-	-	-	≥19.0
5S	0.50	-	-	-	-	≥19.0
6N	0.50	10	0.51	2.24	1.1	≥19.0
7N	0.50	8	0.48	2.19	1.1	≥19.0
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Future/Interim Condition (Proposed Facilities w/ Interim Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	211	1.33	5.92	7.9
1S	0.50	211	1.33	5.92	7.9
2S	0.50	89	0.97	4.22	4.1
3S	0.50	38	0.76	3.07	2.3
4S	0.50	25	0.67	2.78	1.9
5N	2.47	93	0.78	7.01	5.5
5S	0.50	15	0.58	2.46	1.4
6N	0.50	98	1.01	4.38	4.4
7N	0.50	63	0.88	3.69	3.2
8N	0.50	12	0.54	2.34	1.3
9S	0.50	8	0.48	2.19	1.1
10N	0.50	-	-	-	-
10S	0.50	-	-	-	-

10-Yr Event Cross Section Summary
Future Condition (Proposed Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	33.5	0.73	2.98	2.2	10.2
1S	0.50	33.5	0.73	2.98	2.2	10.2
2S	0.50	3.5	0.38	1.88	0.7	32.6
3S	0.50	0.5	0.24	1.15	0.3	41.5
4S	0.50	-	-	-	-	≥19.0
5N	2.47	4.5	0.34	3.53	1.2	35.1
5S	0.50	-	-	-	-	≥19.0
6N	0.50	7.5	0.47	2.16	1.0	26.8
7N	0.50	5.5	0.43	2.04	0.9	29.4
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Future Condition (Proposed Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	275	1.47	6.47	9.5
1S	0.50	275	1.47	6.47	9.5
2S	0.50	153	1.18	5.21	6.1
3S	0.50	102	1.02	4.45	4.5
4S	0.50	89	0.97	4.22	4.1
5N	2.47	155	0.90	8.53	7.7
5S	0.50	79	0.94	4.03	3.8
6N	0.50	161	1.20	5.32	6.4
7N	0.50	126	1.10	4.83	5.3
8N	0.50	75	0.92	3.95	3.6
9S	0.50	72	0.91	3.88	3.5
10N	0.50	64	0.88	3.71	3.3
10S	0.50	64	0.88	3.71	3.3

10-Yr Event Cross Section Summary
Ultimate Condition (Ultimate Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	-	-	-	-	≥19.0
1S	0.50	-	-	-	-	≥19.0
2S	0.50	-	-	-	-	≥19.0
3S	0.50	-	-	-	-	≥19.0
4S	0.50	-	-	-	-	≥19.0
5N	2.47	1	0.24	2.52	0.6	≥19.0
5S	0.50	-	-	-	-	≥19.0
6N	0.50	7	0.46	2.13	1.0	≥19.0
7N	0.50	5	0.42	2.00	0.8	≥19.0
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Ultimate Condition (Ultimate Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	211	1.33	5.92	7.9
1S	0.50	211	1.33	5.92	7.9
2S	0.50	89	0.97	4.22	4.1
3S	0.50	38	0.76	3.07	2.3
4S	0.50	25	0.67	2.78	1.9
5N	2.47	91	0.78	6.95	5.4
5S	0.50	15	0.58	2.46	1.4
6N	0.50	97	1.00	4.36	4.4
7N	0.50	62	0.87	3.67	3.2
8N	0.50	11	0.53	2.29	1.2
9S	0.50	8	0.48	2.19	1.1
10N	0.50	-	-	-	-
10S	0.50	-	-	-	-

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

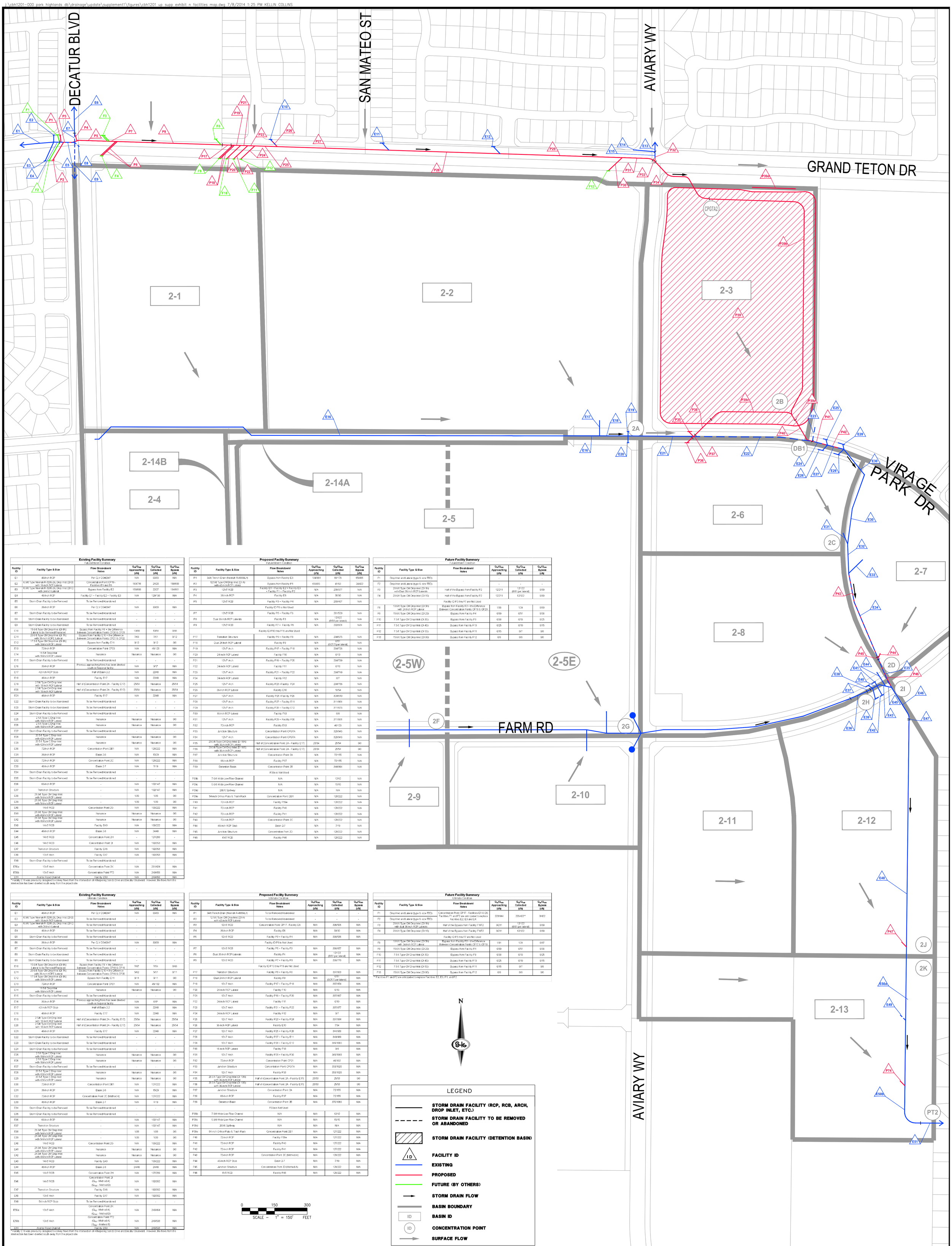
CRESCENT BAY HOLDINGS

PARK HIGHLANDS REGIONAL FLOOD CONTROL FACILITY
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
FUTURE/INTERIM & ULTIMATE CONDITION ONSITE DRAINAGE MAP

DATE: JULY 2014
DRAFTER: KC
DESIGNER: KC
CHECKED: MJF
PROJECT NO.
CBH1201-000

EXHIBIT M
SHEET 1 OF 1

J:\cbh1201-000 park highlands db\drainage\update\supplement1\figures\cbh1201 up_supp exhibit m onsite drainage map.dwg 7/1/2014 4:59 PM Kelin Collins



Existing Facility Summary
Future/Interim Condition

Facility ID	Facility Type & Size	Flow Breakdown/ Notes	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
E1	48inch RCP	Per CLV DS#2847	N/A	83/93	N/A
E2	6.0ft Type Nenah R-3295-2L Drop Inlet (DI B) with 18inch RCP Lateral	Concentration Point CP19 - Facilities E1 and E6	180/216	24/28	156/188
E3	6.0ft Type Nenah R-3295-2L Drop Inlet (DI C) with 24inch Lateral	Bypass from Facility E2	156/188	23/27	134/161
E4	48inch RCP	Facility E1 + Facility E2 + Facility E3	N/A	129/138	N/A
E5	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E6	36inch RCP	Per CLV DS#2847	N/A	30/30	N/A
E7	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E8	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E9	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E10	15.0-ft Type CM Drop Inlet (DI 9N) Lateral to be Removed/Replaced	Bypass from Facility P8 + the Difference between Concentration Points CP20 & CP21	19/98	19/54	0/44
E11	20.0-ft Type CM Drop Inlet (DI 7N) with 36inch HDPE Lateral	Bypass from Facility E10 + the Difference between Concentration Points CP21 & CP22	7/63	7/51	0/12
E12	17.5-ft Type CM Drop Inlet (DI 8N) with 30inch RCP Lateral	Bypass from Facility E11	0/12	0/12	0/0
E13	72inch RCP	Concentration Point CP23	N/A	46/123	N/A
E14	11.5-ft Drop Inlet with 18inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E15	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E16	36inch RCP	Previous approaching flows has been diverted south in Regional facility	N/A	0/0*	N/A
E17	42inch RCP Stub	Half of Basin 2-2	N/A	23/48	N/A
E18	48inch RCP	Facility E17	N/A	23/48	N/A
E19	2.5-ft Type CM Drop Inlet with 18inch RCP Lateral	Half of (Concentration Point 2A - Facility E17)	25/54	Nuisance	25/54
E20	2.5-ft Type CM Drop Inlet with 18inch RCP Lateral	Half of (Concentration Point 2A - Facility E17)	25/54	Nuisance	25/54
E21	48inch RCP	Facility E17	N/A	23/48	N/A
E22	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E23	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E24	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E25	2.5-ft Type C Drop Inlet with 18inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E26	2.5-ft Type C Drop Inlet with 18inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E27	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E28	20.5-ft Type C Drop Inlet with 42inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E29	20.5-ft Type C Drop Inlet with 42inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E30	72inch RCP	Concentration Point DB1	N/A	129/222	N/A
E31	36inch RCP	Basin 2-6	N/A	15/29	N/A
E32	72inch RCP	Concentration Point 2C	N/A	129/222	N/A
E33	48inch RCP	Basin 2-7	N/A	7/19	N/A
E34	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E35	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E36	60inch RCP	-	N/A	100/147	N/A
E37	Transition Structure	-	N/A	100/147	N/A
E38	21.0ft Type CM Drop Inlet with 54inch RCP Lateral	-	9/38	9/38	0/0
E39	21.0ft Type CM Drop Inlet with 54inch RCP Lateral	-	9/38	9/38	0/0
E40	14x5 RCB	Concentration Point 2G	N/A	100/222	N/A
E41	21.0ft Type CM Drop Inlet with 48inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E42	21.0ft Type CM Drop Inlet with 48inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E43	14x5 RCB	Facility E40	N/A	100/222	N/A
E44	48inch RCP	Basin 2-8	N/A	24/48	N/A
E45	14x5 RCB	Concentration Point 2H	-	129/299	-
E46	14x5 RCB	Concentration Point 2I	N/A	190/353	N/A
E47	Transition Structure	Facility E46	N/A	190/353	N/A
E48	10x5 Arch	Facility E47	N/A	190/353	N/A
E49	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E50a	10x5 Arch	Concentration Point 2K	N/A	233/424	N/A
E50b	10x5 Arch	Concentration Point PT2	N/A	249/458	N/A
E51	Prairie Flood Channel	Facility E50	N/A	249/458	N/A

* Facility E16 was previously designed to convey flows from the intersection of Whispering Sands Drive and Decatur Boulevard. However, the flows from this intersection has been diverted south away from the project site.

Proposed Facility Summary
Future/Interim Condition

Facility ID	Facility Type & Size	Flow Breakdown/ Notes	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
IP1	34-ft Trench Drain (Neenah R-4999-LX)	Bypass from Facility E3	134/961	69/175	65/495
IP2	12.5-ft Type CM Drop Inlet (DI A) with 42-inch RCP Lateral	Bypass from Facility P1	65/495	41/53	24/422
IP3	12x5 RCB	Facility E1 + Facility E2 + Facility E3 + Facility P1 + Facility P2	N/A	236/377	N/A
IP4	36-inch RCP	Facility E5	N/A	30/30	N/A
IP5	12x5 RCB	Facility P3 + Facility P4	N/A	269/407	N/A
		Facility ID P6 is Not Used			
IP7	12x5 RCB	Facility P5 + Facility P3	N/A	281/529	N/A
IP8	Dual 36-inch RCP Laterals	Facility P3	N/A	131/22 (65/51 per lateral)	N/A
IP9	12x5 RCB	Facility P7 + Facility P8	N/A	293/551	N/A
		Facility ID P10 thru P16 are Not Used			
P17	Transition Structure	Facility P9 + Facility P8	N/A	294/975	N/A
P18	Dual 24-inch RCP Lateral	Facility P9	N/A	1/51 (0/25.5 per lateral)	N/A
P19	12x7 Arch	Facility P17 + Facility P18	N/A	294/726	N/A
P20	24-inch RCP Lateral	Facility P16	N/A	0/13	N/A
P21	12x7 Arch	Facility P16 + Facility P20	N/A	294/739	N/A
P22	24-inch RCP Lateral	Facility P11	N/A	0/10	N/A
P23	12x7 Arch	Facility P21 + Facility P22	N/A	294/749	N/A
P24	24-inch RCP Lateral	Facility P12	N/A	0/7	N/A
P25	12x7 Arch	Facility P23 +Facility P24	N/A	294/756	N/A
P26	36-inch RCP Lateral	Facility E10	N/A	10/54	N/A
P27	12x7 Arch	Facility P25 +Facility P26	N/A	304/810	N/A
P28	12x7 Arch	Facility P27 + Facility E11	N/A	311/861	N/A
P29	12x7 Arch	Facility P28 + Facility E12	N/A	311/873	N/A
P30	18-inch RCP Lateral	Facility E13	N/A	0/8	N/A
P31	12x7 Arch	Facility P29 + Facility P30	N/A	311/881	N/A
P32	72-inch RCP	Facility E13	N/A	46/123	N/A
P33	Junction Structure	Concentration Point CPGTA	N/A	329/943	N/A
P34	12x7 Arch	Concentration Point CPGTA	N/A	329/943	N/A
P35	20.0-ft Type CM Drop Inlet (DI 10N) with 30-inch RCP Lateral	Half of (Concentration Point 2A - Facility E17)	25/54	25/54	0/0
P36	20.0-ft Type CM Drop Inlet (DI 10S) with 36-inch RCP Lateral	Half of (Concentration Point 2A - Facility E17)	25/54	25/54	0/0
P37	Junction Structure	Concentration Point 2A	N/A	721/55	N/A
P38	66-inch RCP	Facility P37	N/A	721/55	N/A
P39	Detention Basin	Concentration Point 2B	N/A	344/994	N/A
		P39a is Not Used			
P39b	7.0-ft Wide Low Flow Channel	N/A	N/A	12/12	N/A
P39c	5.0-ft Wide Low Flow Channel	N/A	N/A	15/15	N/A
P39d	200-ft Spillway	N/A	N/A	N/A	N/A
P39e	54-inch Orifice Plate & Trash Rack	Concentration Point DB1	N/A	129/222	N/A
P40	72-inch RCP	Facility P39e	N/A	129/222	N/A
P41	72-inch RCP	Facility P40	N/A	129/222	N/A
P42	72-inch RCP	Facility P41	N/A	129/222	N/A
P43	72-inch RCP	Concentration Point 2C	N/A	129/222	N/A
P44	48-inch RCP Stub	Basin 2-7	N/A	7/19	N/A
P45	Junction Structure	Concentration Point 2D	N/A	129/222	N/A
P46	6'x5' RCB	Facility P46	N/A	129/222	N/A

Future Facility Summary
Future/Interim Condition

Facility ID	Facility Type & Size	Flow Breakdown/ Notes	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
F1	Drop Inlet and Lateral (type & size TBD)	-	-	-	-
F2	Drop Inlet and Lateral (type & size TBD)		-	-	-
F3	20.0-ft Type CM Drop Inlet (DI 1N) with Dual 36-inch RCP Laterals	Half of the Bypass from Facility P2	12/211	12/122 (6/61 per lateral)	0/89
F4	20.0-ft Type CM Drop Inlet (DI 1S)	Half of the Bypass from Facility P2	12/211	12/122	0/89
		Facility ID F5 thru F7 are Not Used			
F8	10.0-ft Type CM Drop Inlet (DI 5N) with 24-inch RCP Lateral	Bypass from Facility F3 + the Difference Between Concentration Points CP19 & CP20	1/88	1/24	0/69
F9	15.0-ft Type CM Drop Inlet (DI 2S)	Bypass from Facility F4	0/89	0/51	0/38
F10	7.5-ft Type CM Drop Inlet (DI 3S)	Bypass from Facility F9	0/38	0/13	0/25
F11	7.5-ft Type CM Drop Inlet (DI 4S)	Bypass from Facility F10	0/25	0/10	0/15
F12	7.5-ft Type CM Drop Inlet (DI 5S)	Bypass from Facility F11	0/15	0/7	0/8
F13	15.0-ft Type CM Drop Inlet (DI 9S)	Bypass from Facility F12	0/8	0/8	0/0

Existing Facility Summary
Ultimate Condition

Facility ID	Facility Type & Size	Flow Breakdown/ Notes	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
E1	48inch RCP	Per CLV DS#2847	N/A	83/93	N/A
E2	6.0ft Type Nenah R-3295-2L Drop Inlet (DI B) with 18inch RCP Lateral	To be Removed/Abandoned	-	-	-
E3	6.0ft Type Nenah R-3295-2L Drop Inlet (DI C) with 24inch Lateral	To be Removed/Abandoned	-	-	-
E4	48inch RCP	To be Removed/Abandoned	-	-	-
E5	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E6	36inch RCP	Per CLV DS#2847	N/A	30/30	N/A
E7	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E8	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E9	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E10	15.0-ft Type CM Drop Inlet (DI 9N) Lateral to be Removed/Replaced	Bypass from Facility P8 + the Difference between Concentration Points CP18 & CP19	7/67	7/54	0/43
E11	20.0-ft Type CM Drop Inlet (DI 7N) with 36-inch HDPE Lateral	Bypass from Facility E10 + the Difference between Concentration Points CP18 & CP20	5/62	5/51	0/11
E12	17.5-ft Type CM Drop Inlet (DI 8N) with 30inch RCP Lateral	Bypass from Facility E11	0/11	0/11	0/0
E13	72inch RCP	Concentration Point CP21	N/A	46/102	N/A
E14	11.5-ft Drop Inlet with 18inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E15	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E16	36inch RCP	Previous approaching flows has been diverted south in Regional facility	N/A	0/0*	N/A
E17	42inch RCP Stub	Half of Basin 2-2	N/A	23/48	N/A
E18	48inch RCP	Facility E17	N/A	23/48	N/A
E19	2.5-ft Type CM Drop Inlet with 18inch RCP Lateral	Half of (Concentration Point 2A + Facility E17)	25/54	Nuisance	25/54
E20	2.5-ft Type CM Drop Inlet with 18inch RCP Lateral	Half of (Concentration Point 2A + Facility E17)	25/54	Nuisance	25/54
E21	48inch RCP	Facility E17	N/A	23/48	N/A
E22	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E23	Storm Drain Facility to be Abandoned	To be Removed/Abandoned	-	-	-
E24	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E25	2.5-ft Type C Drop Inlet with 18inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E26	2.5-ft Type C Drop Inlet with 18inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E27	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E28	20.5-ft Type C Drop Inlet with 42inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E29	20.5-ft Type C Drop Inlet with 42inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E30	72inch RCP	Concentration Point DB1	N/A	129/222	N/A
E31	36inch RCP	Basin 2-6	N/A	15/29	N/A
E32	72inch RCP	Concentration Point 2C (Method A)	N/A	129/222	N/A
E33	48inch RCP	Basin 2-7	N/A	7/19	N/A
E34	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E35	Storm Drain Facility to be Removed	To be Removed/Abandoned	-	-	-
E36	60inch RCP	-	N/A	100/147	N/A
E37	Transition Structure	-	N/A	100/147	N/A
E38	21.0ft Type CM Drop Inlet with 54inch RCP Lateral	-	9/38	9/38	0/0
E39	21.0ft Type CM Drop Inlet with 54inch RCP Lateral	-	9/38	9/38	0/0
E40	14x5 RCB	Concentration Point 2G	N/A	100/222	N/A
E41	21.0ft Type CM Drop Inlet with 48inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E42	21.0ft Type CM Drop Inlet with 48inch RCP Lateral	Nuisance	Nuisance	Nuisance	0/0
E43	14x5 RCB	Facility E40	N/A	100/222	N/A
E44	48inch RCP	Basin 2-8	24/48	24/48	N/A
E45	14x5 RCB	Concentration Point 2H	N/A	129/299	N/A
E46	14x5 RCB	Concentration Point 2I (Q_{10} - Method A) (Q_{100} - Method B)	N/A	190/382	N/A
E47	Transition Structure	Facility E46	N/A	190/382	N/A
E48	10x5 Arch	Facility E47	N/A	190/382	N/A
E49	54-inch RCP Stub	To be Removed/Abandoned	-	-	-
E50a	10x5 Arch	Concentration Point 2K (Q_{10} - Method A) (Q_{100} - Method B)	N/A	249/464	N/A
E50b	10x5 Arch	Concentration Point PT2 (Q_{10} - Method A) (Q_{100} - Method B)	N/A	249/503	N/A
E51	Prairie Flood Channel	Facility E50	N/A	249/503	N/A

* Facility E16 was previously designed to convey flows from the intersection of Whispering Sands Drive and Decatur Boulevard. However, the flows from this intersection has been diverted south away from the project site.

Proposed Facility Summary
Ultimate Condition

Facility ID	Facility Type & Size	Flow Breakdown/ Notes	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
IP1	34-ft Trench Drain (Neenah R-4999-LX)	To be Removed/Abandoned	-	-	-
IP2	12.5-ft Type CM Drop Inlet (DI A) with 42inch RCP Lateral	To be Removed/Abandoned	-	-	-
IP3	12x5 RCB	Concentration Point CP17 - Facility E6	N/A	306/505	N/A
IP4	36-inch RCP	Facility E6	N/A	30/30	N/A
IP5	12x5 RCB	Facility P3 + Facility P4	N/A	339/535	N/A
		Facility ID P6 is Not Used			
IP7	12x5 RCB	Facility P5 + Facility P3	N/A	336/657	N/A
IP8	Dual 36-inch RCP Laterals	Facility P4	N/A	131/22 (65/51 per lateral)	N/A
IP9	12x5 RCB	Facility P7 + Facility P8	N/A	339/779	N/A
		Facility ID P10 thru P16 are Not Used			
P17	Transition Structure	Facility P9 + Facility P8	N/A	337/933	N/A
P18	Dual 24-inch RCP Lateral	Facility P9	N/A	1/51 (0/25.5 per lateral)	N/A
P19	12x7 Arch	Facility P17 + Facility P18	N/A	337/854	N/A
P20	24-inch RCP Lateral	Facility P10	N/A	0/13	N/A
P21	12x7 Arch	Facility P16 + Facility P20	N/A	337/867	N/A
P22	24-inch RCP Lateral	Facility P11	N/A	0/10	N/A
P23	12x7 Arch	Facility P21 + Facility P22	N/A	337/877	N/A
P24	24-inch RCP Lateral	Facility P12	N/A	0/7	N/A
P25	12x7 Arch	Facility P23 + Facility P24	N/A	337/884	N/A
P26	36-inch RCP Lateral	Facility E10	N/A	7/54	N/A
P27	12x7 Arch	Facility P25 + Facility P26	N/A	344/938	N/A
P28	12x7 Arch	Facility P27 + Facility E11	N/A	349/989	N/A
P29	12x7 Arch	Facility P28 + Facility E12	N/A	349/1000	N/A
P30	18-inch RCP Lateral	Facility E13	N/A	0/8	N/A
P31	12x7 Arch	Facility P29 + Facility P30	N/A	349/1008	N/A
P32	72-inch RCP	Concentration Point CP21	N/A	46/102	N/A
P33	Junction Structure	Concentration Point CPGTA	N/A	358/1026	N/A
P34	12x7 Arch	Facility P33	N/A	358/1026	N/A
P35	20.0-ft Type CM Drop Inlet (DI 10N) with 30-inch RCP Lateral	Half of (Concentration Point 2A + Facility E17)	25/53	25/53	0/0
P36	20.0-ft Type CM Drop Inlet (DI 10S) with 36-inch RCP Lateral	Half of (Concentration Point 2A + Facility E17)	25/53	25/53	0/0
P37	Junction Structure	Concentration Point 2A	N/A	721/55	N/A
P38	66-inch RCP	Facility P37	N/A	721/55	N/A
P39	Detention Basin	Concentration Point 2B	N/A	370/1066	N/A
		P39a is Not Used			
P39b	7.0-ft Wide Low Flow Channel	N/A	N/A	12/12	N/A
P39c	5.0-ft Wide Low Flow Channel	N/A	N/A	15/15	N/A
P39d	200-ft Spillway	N/A	N/A	N/A	N/A
P39e	54-inch Orifice Plate & Trash Rack	Concentration Point DB1	N/A	127/222	N/A
P40	72-inch RCP	Facility P39e	N/A	127/222	N/A
P41	72-inch RCP	Facility P40	N/A	127/222	N/A
P42	72-inch RCP	Facility P41	N/A	127/222	N/A
P43	72-inch RCP	Concentration Point 2C (Method A)	N/A	129/222	N/A
P44	48-inch RCP Stub	Basin 2-7	N/A	7/19	N/A
P45	Junction Structure	Concentration Point 2D (Method A)	N/A	129/222	N/A
P46	6'x5' RCB	Facility P46	N/A	129/222	N/A

Future Facility Summary
Ultimate Condition

Facility ID	Facility Type & Size	Flow Breakdown/ Notes	Q_{10}/Q_{100} Approaching (cfs)	Q_{10}/Q_{100} Collected (cfs)	Q_{10}/Q_{100} Bypass (cfs)
F1	Drop Inlet and Lateral (type & size TBD)	Concentration Point CP17 - Facilities E1 & E6. Facilities F1 and F2 are anticipated to replace Facilities E2, E3 and E4	228/844	228/422**	0/422
F2	Drop Inlet and Lateral (type & size TBD)				
F3	20.0-ft Type CM Drop Inlet (DI 1N) with Dual 36-inch RCP Laterals	Half of the Bypass from Facility F1/F2	0/211	12/122 (6/61 per lateral)	0/89
F4	20.0-ft Type CM Drop Inlet (DI 1S)	Half of the Bypass from Facility F1/F2	0/211	12/122	0/89
		Facility ID F5 thru F7 are Not Used			
F8	10.0-ft Type CM Drop Inlet (DI 5N) with 24-inch RCP Lateral	Bypass from Facility F3 + the Difference Between Concentration Points CP17 & CP18	1/91	1/24	0/67
F9	15.0-ft Type CM Drop Inlet (DI 2S)	Bypass from Facility F4	0/89	0/51	0/38
F10	7.5-ft Type CM Drop Inlet (DI 3S)	Bypass from Facility F9	0/38	0/13	0/25
F11	7.5-ft Type CM Drop Inlet (DI 4S)	Bypass from Facility F10	0/25	0/10	0/15
F12	7.5-ft Type CM Drop Inlet (DI 5S)	Bypass from Facility F11	0/15	0/7	0/8
F13	15.0-ft Type CM Drop Inlet (DI 9S)	Bypass from Facility F12	0/8	0/8	0/0

** Facilities F1 and F2 are anticipated to replace Facilities E2, E3, P1, and P2

0 150 300
SCALE – 1" = 150' FEET

LEGEND

- STORM DRAIN FACILITY (RCP, RCB, ARCH, DROP INLET, ETC.)
- STORM DRAIN FACILITY TO BE REMOVED OR ABANDONED
- STORM DRAIN FACILITY (DETENTION BASIN)
- ID — FACILITY ID
- EXISTING
- PROPOSED
- FUTURE (BY OTHERS)
- STORM DRAIN FLOW
- BASIN BOUNDARY
- ID — BASIN ID
- ID — CONCENTRATION POINT
- SURFACE FLOW

EXHIBIT N
SHEET 1 OF 1

PROJECT NO. CBH1201-000
CHECKED: MJF
DESIGNER: KC
DRAFTER: KC
DATE: JULY 2014

CRESCENT BAY HOLDINGS

PARK HIGHLANDS
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
FACILITIES MAP

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

APPENDIX C

Method A Hydrologic Analyses

HEC-1 Model Excerpt: 10-Year Interim Condition

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN  1998                 *
 *           VERSION 4.1                 *
 *                                       *
 *  RUN DATE   27JUN14  TIME  14:27:31   *
 *                                       *
 *****************************************
```

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

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

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

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     SUPPLEMENT NO. 1 UPDATE. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     INTERIM CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 10-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ INT10.H1
   10         ID     DATE ---------------- JULY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        10-YR EVENT               0.570
   16         ID
   17         IT       5       0       0     300
   18         IO       5       0       0
   19         IN       5       0       0
   20         JR    PREC   0.570
              *

   21         KK    E140
   22         BA   .0675
   23         PB    2.77
   24         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   25         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   26         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   27         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   28         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   29         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   30         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   31         PC   0.998   0.999   1.000
   32         LS       0    81.9
   33         UD   0.599
              *

   34         KK    E360
   35         BA   .0095
   36         LS       0    85.6
   37         UD   0.159
              *

   38         KK     CP1
   39         KM   COMBINE E140 AND E360 AT MAGGIE AND MUSTANG
   40         HC       2
              *

   41         KK    CP1S
   42         KM   CP1E IS THE FLOW DRAINING EAST IN MAGGIE
   43         KM   CP1S IS THE FLOW DRAINING SOUTH IN MUSTANG
   44         DT    CP1E
   45         DI      12
   46         DQ       5
              *
```

1 HEC-1 INPUT PAGE 2

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

   47         KK    E160
   48         BA   .0641
   49         LS       0    83.1
   50         UD   0.445
              *

   51         KK   E160E
```

```
572          UD   0.137
             *

573          KK      2D
574          HC       2
             *

575          KK     2-4
576          BA  0.0334
577          LS       0    94.0
578          UD   0.137
             *

579          KK   2-14B
580          BA  0.0025
581          LS       0    85.0
582          UD   0.126
             *
```



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

583          KK      2E
584          HC       2
             *

585          KK     2-5
586          BA  0.0891
587          LS       0    91.0
588          UD   0.215
             *

589          KK    2-5W
590          DT    2-5E
591          DI       0     100
592          DQ       0      48
             *

593          KK     2-9
594          BA  0.0156
595          LS       0    91.0
596          UD   0.135
             *

597          KK      2F
598          HC       3
             *

599          KK    2-5E
600          DR    2-5E
             *

601          KK    2-10
602          BA  0.0163
603          LS       0    91.0
604          UD   0.132
             *

605          KK      2G
606          HC       3
             *

607          KK     2-8
608          BA  0.0286
609          LS       0    94.0
610          UD   0.144
             *

611          KK      2H
612          HC       2
             *
```



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

613          KK      2I
614          HC       2
             *

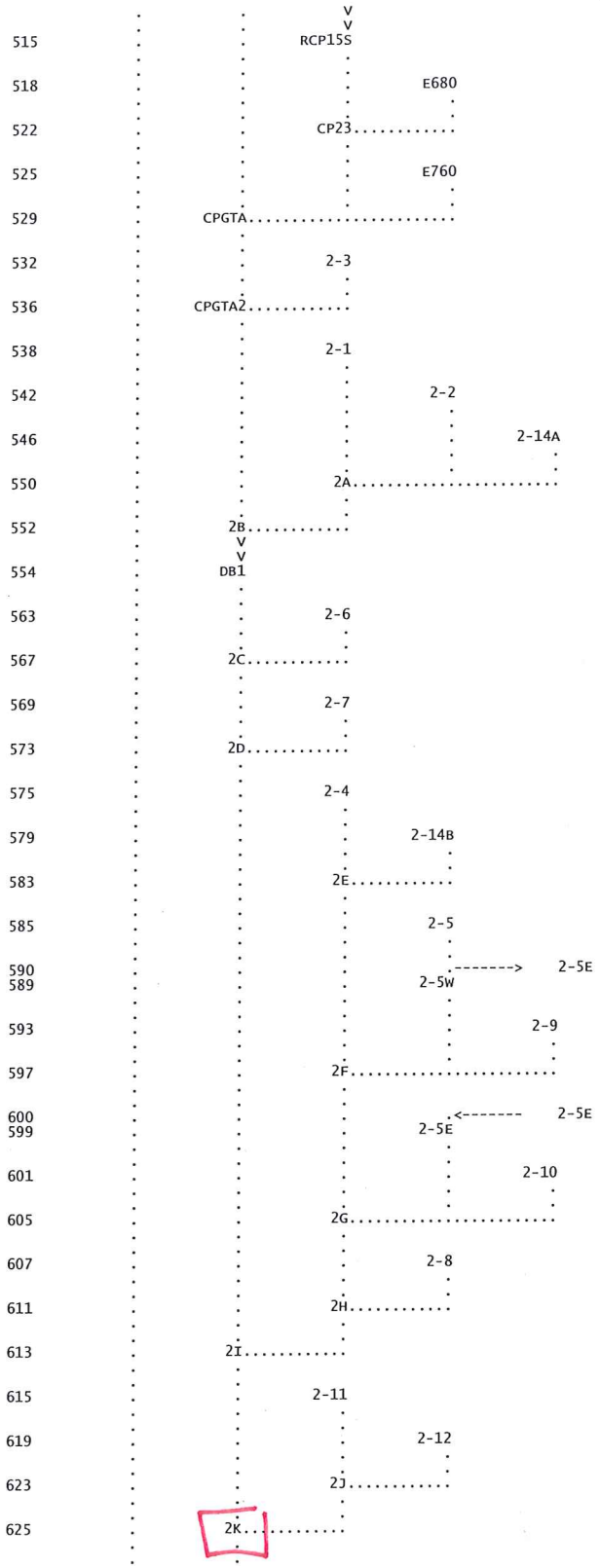
615          KK    2-11
616          BA  0.0255
617          LS       0    94.0
618          UD   0.135
             *

619          KK    2-12
620          BA  0.0272
621          LS       0    90.0
622          UD   0.150
             *

623          KK      2J
624          HC       2
             *

625          KK      2K
626          HC       2
             *

627          KK    2-13
628          BA  0.0273
629          LS       0    91.0
630          UD   0.176
             *
```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518 E680
522 CP23
525 E760
529 CPGTA
532 2-3
536 CPGTA2
538 2-1
542 2-2
546 2-14A
550 2A
552 2B
554 DB1
563 2-6
567 2C
569 2-7
573 2D
575 2-4
579 2-14B
583 2E
585 2-5
590 2-5E
589 2-5W
593 2-9
597 2F
600 2-5E
599 2-5E
601 2-10
605 2G
607 2-8
611 2H
613 2I
615 2-11
619 2-12
623 2J
625 2K

HYDROGRAPH AT					
+	2-5E	.00	1	FLOW	25.
				TIME	3.67
HYDROGRAPH AT					
+	2-10	.02	1	FLOW	12.
				TIME	3.58
3 COMBINED AT					
+	2G	.16	1	FLOW	103.
				TIME	3.58
HYDROGRAPH AT					
+	2-8	.03	1	FLOW	24.
				TIME	3.58
2 COMBINED AT					
+	2H	.19	1	FLOW	127.
				TIME	3.58
2 COMBINED AT					
+	2I	1.43	1	FLOW	192.
				TIME	3.58
HYDROGRAPH AT					
+	2-11	.03	1	FLOW	22.
				TIME	3.58
HYDROGRAPH AT					
+	2-12	.03	1	FLOW	17.
				TIME	3.58
2 COMBINED AT					
+	2J	.05	1	FLOW	39.
				TIME	3.58
2 COMBINED AT					
+	2K	1.48	1	FLOW	231.
				TIME	3.58
HYDROGRAPH AT					
+	2-13	.03	1	FLOW	18.
				TIME	3.58
2 COMBINED AT					
+	PT2	1.51	1	FLOW	249.
				TIME	3.58

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RE060S	MANE	4.75	22.80	256.50	.22	5.00	22.79	260.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3074E+01 EXCESS= .0000E+00 OUTFLOW= .3076E+01 BASIN STORAGE= .8120E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP6S	MANE	5.00	14.02	280.00	.06	5.00	14.02	280.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2302E+01 EXCESS= .0000E+00 OUTFLOW= .2303E+01 BASIN STORAGE= .1545E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP5E	MANE	4.25	7.96	233.75	-1.00	5.00	7.89	235.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP2E	MANE	4.50	7.94	243.00	-1.00	5.00	7.94	245.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP3E	MANE	5.00	20.08	260.00	-1.00	5.00	20.08	260.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP4E	MANE	5.00	6.85	255.00	-1.00	5.00	6.85	255.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP8E	MANE	5.00	29.00	245.00	.09	5.00	29.00	245.00	.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4699E+01 EXCESS= .0000E+00 OUTFLOW= .4702E+01 BASIN STORAGE= .1574E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP7E	MANE	5.00	.00	.00	-1.00	5.00	.00	245.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP11E	MANE	5.00	23.78	240.00	.05	5.00	23.78	240.00	.05

HEC-1 Model Excerpt: 100-Year Interim Condition

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN  1998                *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   27JUN14  TIME  14:27:39  *
*                                      *
****************************************
```

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

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

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

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     INTERIM CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 100-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ INT100.H1
   10         ID     DATE ---------------- JULY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        0.00-0.49                  0.990
   16         ID        0.50-0.99                  0.975
   17         ID        1.00-1.99                  0.950
   18         ID        2.00-2.99                  0.925
   19         ID        3.00-3.99                  0.915
   20         ID        4.00-4.99                  0.908
   21         ID
   22         IT      5       0       0     300
   23         IO      5       0       0
   24         IN      5       0       0
   25         JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
              *
   26         KK    E140
   27         BA   .0675
   28         PB    2.77
   29         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   30         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   31         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   32         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   33         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   34         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   35         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   36         PC   0.998   0.999   1.000
   37         LS       0    81.9
   38         UD   0.599
              *
   39         KK    E360
   40         BA   .0095
   41         LS       0    85.6
   42         UD   0.159
              *
   43         KK     CP1
   44         KM   COMBINE E140 AND E360 AT MAGGIE AND MUSTANG
   45         HC       2
              *
```

1 HEC-1 INPUT PAGE 2

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

   46         KK    CP1S
   47         KM   CP1E IS THE FLOW DRAINING EAST IN MAGGIE
   48         KM   CP1S IS THE FLOW DRAINING SOUTH IN MUSTANG
   49         DT    CP1E
   50         DI      33      33      34      35      37      38
   51         DQ      15      15      15      16      17      17
              *
   52         KK    E160
   53         BA   .0641
```

```
                *
  574           KK     2-7
  575           BA  0.0156
  576           LS       0    85.0
  577           UD   0.137
                *

  578           KK      2D
  579           HC       2
                *

  580           KK     2-4
  581           BA  0.0334
  582           LS       0    94.0
  583           UD   0.137
                *

  584           KK   2-14B
  585           BA  0.0025
  586           LS       0    85.0
  587           UD   0.126
                *
1                                        HEC-1 INPUT                                    PAGE 18

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

  588           KK      2E
  589           HC       2
                *

  590           KK     2-5
  591           BA  0.0891
  592           LS       0    91.0
  593           UD   0.215
                *

  594           KK    2-5W
  595           DT    2-5E
  596           DI       0     100
  597           DQ       0      48
                *

  598           KK     2-9
  599           BA  0.0156
  600           LS       0    91.0
  601           UD   0.135
                *

  602           KK      2F
  603           HC       3
                *

  604           KK    2-5E
  605           DR    2-5E
                *

  606           KK    2-10
  607           BA  0.0163
  608           LS       0    91.0
  609           UD   0.132
                *

  610           KK      2G
  611           HC       3
                *

  612           KK     2-8
  613           BA  0.0286
  614           LS       0    94.0
  615           UD   0.144
                *

  616           KK      2H
  617           HC       2
                *
1                                        HEC-1 INPUT                                    PAGE 19

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

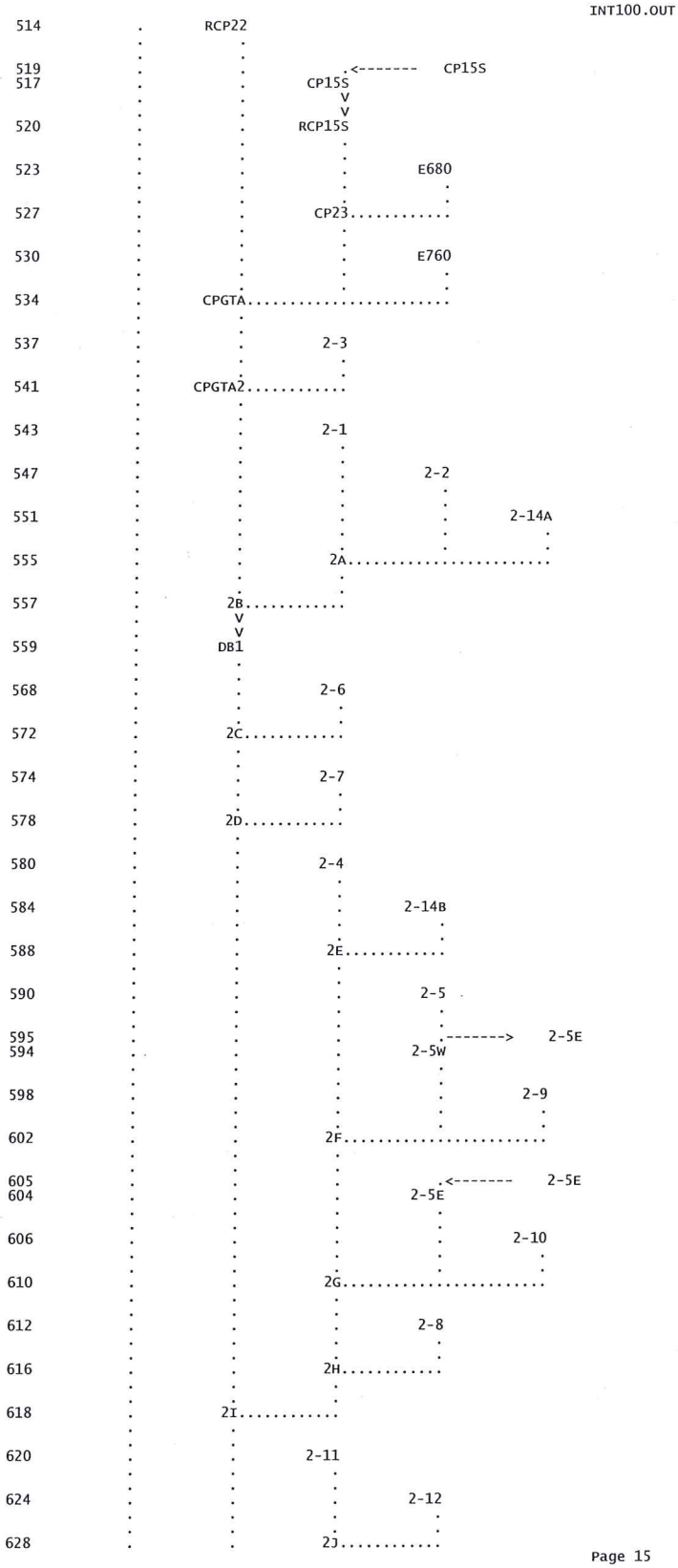
  618           KK      2I
  619           HC       2
                *

  620           KK    2-11
  621           BA  0.0255
  622           LS       0    94.0
  623           UD   0.135
                *

  624           KK    2-12
  625           BA  0.0272
  626           LS       0    90.0
  627           UD   0.150
                *

  628           KK      2J
  629           HC       2
                *

  630           KK      2K
  631           HC       2
                *
```


514 RCP22
519 .<------- CP15S
517 CP15S
V
V
520 RCP15S
523 E680
527 CP23
530 E760
534 CPGTA
537 2-3
541 CPGTA2
543 2-1
547 2-2
551 2-14A
555 2A
557 2B
V
V
559 DB1
568 2-6
572 2C
574 2-7
578 2D
580 2-4
584 2-14B
588 2E
590 2-5
595 .-------> 2-5E
594 2-5W
598 2-9
602 2F
605 .<------- 2-5E
604 2-5E
606 2-10
610 2G
612 2-8
616 2H
618 2I
620 2-11
624 2-12
628 2J

```
                .          .          .
                .          .          .
  630           .        2K..........
                .          .
                .          .
  632           .          .        2-13
                .          .          .
                .          .          .
  636           .        PT2...........

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*          VERSION 4.1                  *
*                                       *
*  RUN DATE   27JUN14  TIME  14:27:39   *
*                                       *
*****************************************

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

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
INTERIM CONDITION

RETURN PERIOD ------- 100-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ INT100.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	DARF
0.00-0.49	0.990
0.50-0.99	0.975
1.00-1.99	0.950
2.00-2.99	0.925
3.00-3.99	0.915
4.00-4.99	0.908

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      2    0  ENDING DATE
                     NDTIME        0055  ENDING TIME
                     ICENT          19  CENTURY MARK

                   COMPUTATION INTERVAL      .08 HOURS
                      TOTAL TIME BASE   24.92 HOURS

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

    JP          MULTI-PLAN OPTION
                      NPLAN           1  NUMBER OF PLANS

    JR          MULTI-RATIO OPTION
                    RATIOS OF PRECIPITATION
                   .99       .98       .95       .93       .92       .91

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

           ***************
           *             *
 559 KK    *       DB1   *
           *             *
           ***************

 561 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           2  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 567 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           1  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

             HYDROGRAPH ROUTING DATA

 562 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        ELEV  TYPE OF INITIAL CONDITION
```

+	2-7	.02	1	FLOW	19.	18.	18.	17.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2D	1.24	1	FLOW	239.	236.	230.	224.	222.	220.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08
HYDROGRAPH AT										
+	2-4	.03	1	FLOW	56.	55.	53.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-14B	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2E	.04	1	FLOW	59.	58.	56.	54.	54.	53.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-5	.09	1	FLOW	115.	113.	109.	106.	104.	103.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO										
+	2-5E	.09	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-5W	.09	1	FLOW	60.	59.	57.	55.	54.	54.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-9	.02	1	FLOW	24.	23.	23.	22.	22.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	2F	.14	1	FLOW	142.	139.	135.	130.	129.	127.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-5E	.00	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-10	.02	1	FLOW	25.	24.	24.	23.	23.	22.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	2G	.16	1	FLOW	222.	218.	210.	203.	200.	198.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-8	.03	1	FLOW	48.	47.	45.	44.	43.	43.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2H	.19	1	FLOW	269.	264.	256.	247.	244.	241.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2I	1.43	1	FLOW	390.	382.	370.	358.	353.	350.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-11	.03	1	FLOW	43.	42.	41.	40.	39.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-12	.03	1	FLOW	39.	39.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2J	.05	1	FLOW	82.	81.	78.	75.	74.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2K	1.48	1	FLOW	472.	463.	448.	433.	428.	424.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-13	.03	1	FLOW	39.	38.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	PT2	1.51	1	FLOW	511.	501.	485.	469.	463.	458.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RE060S	MANE	1.75	65.04	252.00	.34	5.00	64.93	255.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4711E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .1155E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RE060S	MANE	1.75	63.79	253.75	.32	5.00	63.73	255.00	.32

HEC-1 Model Excerpt: 10-Year Ultimate Condition

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *             JUN  1998                *
 *          VERSION 4.1                 *
 *                                      *
 *  RUN DATE   27JUN14  TIME  14:27:50  *
 *                                      *
 ****************************************
```

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

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

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

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     ULTIMATE CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 10-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ ULT10.H1
   10         ID     DATE ---------------- JULY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        10-YR EVENT               0.570
   16         ID
   17         IT       5       0       0     300
   18         IO       5       0       0
   19         IN       5       0       0
   20         JR    PREC   0.570
              *
   21         KK    U190
   22         BA   .3684
   23         PB    2.77
   24         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   25         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   26         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   27         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   28         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   29         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   30         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   31         PC   0.998   0.999   1.000
   32         LS       0    80.7
   33         UD   0.522
              *
   34         KK    U170
   35         BA   .2521
   36         LS       0    83.0
   37         UD   0.521
              *
   38         KK     CP1
   39         KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
   40         HC       2
              *
   41         KK    CP1E
   42         KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
   43         KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   44         DT    CP1S
   45         DI     109
   46         DQ      49
              *
```

1 HEC-1 INPUT PAGE 2

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

   47         KK   RCP1E
   48         KM   ROUTE TO CP2
   49         RD    2480   .0050   0.016       0    TRAP       0      50
              *
   50         KK    U150
   51         BA   .1336
```

```
 502          BA  0.0286
 503          LS       0    94.0
 504          UD   0.144
              *

 505          KK      2H
 506          HC       2
              *

 507          KK      2I
 508          HC       2
              *

 509          KK    2-11
 510          BA  0.0255
 511          LS       0    94.0
 512          UD   0.135
              *

 513          KK    2-12
 514          BA  0.0272
 515          LS       0    90.0
 516          UD   0.150
              *

 517          KK      2J
 518          HC       2
              *

 519          KK      2K
 520          HC       2
              *
```

1 HEC-1 INPUT PAGE 16

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

 521          KK    2-13
 522          BA  0.0273
 523          LS       0    91.0
 524          UD   0.176
              *

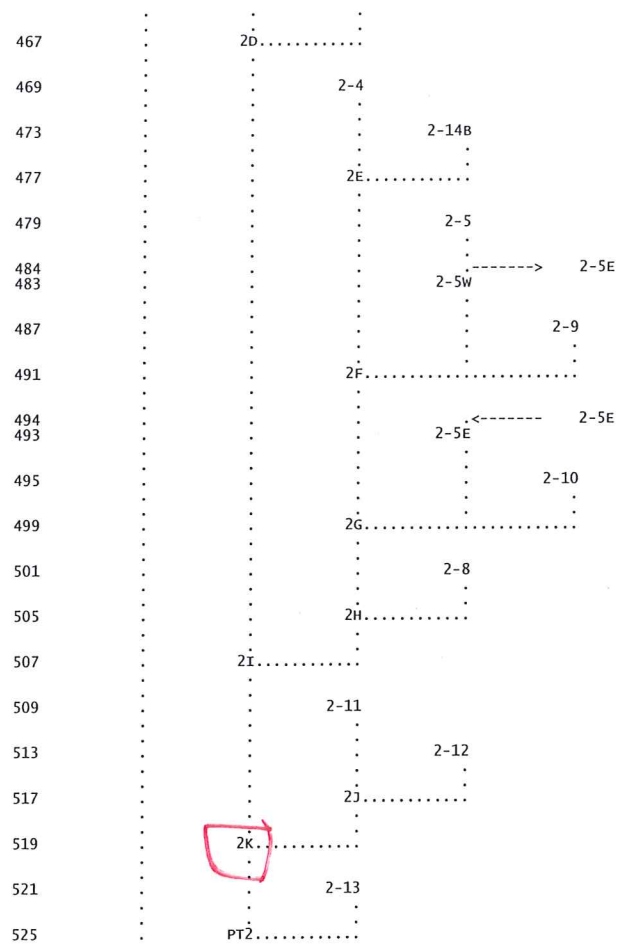
 525          KK     PT2
 526          HC       2
              *
 527          ZZ
```

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   21        U190
             .
             .
   34        .        U170
             .           .
             .           .
   38         CP1.........
             .
             .
   44        .------->    CP1S
   41      CP1E
             V
             V
   47      RCP1E
             .
             .
   50        .        U150
             .           .
             .           .
   58        .           .-------->   U150E
   54        .      U150S
             .           V
             .           V
   61        .      RU150
             .           .
             .           .
   64        .           .       U155
             .           .          .
             .           .          .
   68         CP2.........................
             .
             .
   75        .------->    CP2E
   71      CP2S
             V
             V
   78      RCP2S
             .
             .
   83        .          .<-------    CP1S
   81        .        CP1S
             .           .
             .           .
   84        .           .        U210
             .           .          .
             .           .          .
   88        .         CP3.............
             .           .
             .           .
   94        .           .-------->    CP3E
   91        .        CP3S
             .           .
```



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN  1998                *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   27JUN14  TIME  14:27:50   *
*                                       *
*****************************************
```

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

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
ULTIMATE CONDITION

RETURN PERIOD ------- 10-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ ULT10.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MI^2) DARF
10-YR EVENT   0.570

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

   IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1   0  STARTING DATE
                     ITIME       0000  STARTING TIME
                       NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      2   0  ENDING DATE
```

				TIME	5.83
			** PEAK STAGES IN FEET **		
			1	STAGE	2301.62
				TIME	5.83
HYDROGRAPH AT					
+	2-6	.02	1	FLOW	15.
				TIME	3.58
2 COMBINED AT					
+	2C	1.17	1	FLOW	128.
				TIME	5.83
HYDROGRAPH AT					
+	2-7	.02	1	FLOW	7.
				TIME	3.58
2 COMBINED AT					
+	2D	1.19	1	FLOW	128.
				TIME	5.83
HYDROGRAPH AT					
+	2-4	.03	1	FLOW	28.
				TIME	3.58
HYDROGRAPH AT					
+	2-14B	.00	1	FLOW	1.
				TIME	3.58
2 COMBINED AT					
+	2E	.04	1	FLOW	29.
				TIME	3.58
HYDROGRAPH AT					
+	2-5	.09	1	FLOW	53.
				TIME	3.67
DIVERSION TO					
+	2-5E	.09	1	FLOW	25.
				TIME	3.67
HYDROGRAPH AT					
+	2-5W	.09	1	FLOW	28.
				TIME	3.67
HYDROGRAPH AT					
+	2-9	.02	1	FLOW	11.
				TIME	3.58
3 COMBINED AT					
+	2F	.14	1	FLOW	67.
				TIME	3.58
HYDROGRAPH AT					
+	2-5E	.00	1	FLOW	25.
				TIME	3.67
HYDROGRAPH AT					
+	2-10	.02	1	FLOW	12.
				TIME	3.58
3 COMBINED AT					
+	2G	.16	1	FLOW	103.
				TIME	3.58
HYDROGRAPH AT					
+	2-8	.03	1	FLOW	24.
				TIME	3.58
2 COMBINED AT					
+	2H	.19	1	FLOW	127.
				TIME	3.58
2 COMBINED AT					
+	2I	1.37	1	FLOW	192.
				TIME	3.58
HYDROGRAPH AT					
+	2-11	.03	1	FLOW	22.
				TIME	3.58
HYDROGRAPH AT					
+	2-12	.03	1	FLOW	17.
				TIME	3.58
2 COMBINED AT					
+	2J	.05	1	FLOW	39.
				TIME	3.58
2 COMBINED AT					
+	2K	1.42	1	FLOW	231.
				TIME	3.58
HYDROGRAPH AT					
+	2-13	.03	1	FLOW	18.
				TIME	3.58
2 COMBINED AT					
+	PT2	1.45	1	FLOW	248.
				TIME	3.58

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
INTERPOLATED TO
COMPUTATION INTERVAL

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN  1998                *
*          VERSION 4.1                 *
*                                      *
*  RUN DATE   27JUN14  TIME  14:27:58  *
*                                      *
****************************************
```

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

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

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

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     ULTIMATE CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 100-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ ULT100.H1
   10         ID     DATE ---------------- JULY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        0.00-0.49                  0.990
   16         ID        0.50-0.99                  0.975
   17         ID        1.00-1.99                  0.950
   18         ID        2.00-2.99                  0.925
   19         ID        3.00-3.99                  0.915
   20         ID        4.00-4.99                  0.908
   21         ID
   22         IT      5       0       0     300
   23         IO      5       0       0
   24         IN      5       0       0
   25         JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
              *
   26         KK    U190
   27         BA   .3684
   28         PB    2.77
   29         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   30         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   31         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   32         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   33         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   34         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   35         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   36         PC   0.998   0.999   1.000
   37         LS       0    80.7
   38         UD   0.522
              *
   39         KK    U170
   40         BA   .2521
   41         LS       0    83.0
   42         UD   0.521
              *
   43         KK     CP1
   44         KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
   45         HC       2
              *
```

1 HEC-1 INPUT PAGE 2

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

   46         KK    CP1E
   47         KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
   48         KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   49         DT    CP1S
   50         DI     297     302     308     323     339     348
   51         DQ     125     127     129     136     143     148
              *
   52         KK   RCP1E
   53         KM   ROUTE TO CP2
```

```
 504          HC       3
              *

 505          KK     2-8
 506          BA  0.0286
 507          LS       0    94.0
 508          UD   0.144
              *

 509          KK      2H
 510          HC       2
              *

 511          KK      2I
 512          HC       2
              *

 513          KK    2-11
 514          BA  0.0255
 515          LS       0    94.0
 516          UD   0.135
              *

 517          KK    2-12
 518          BA  0.0272
 519          LS       0    90.0
 520          UD   0.150
              *
```

1 HEC-1 INPUT PAGE 16

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

 521          KK      2J
 522          HC       2
              *

 523          KK      2K
 524          HC       2
              *

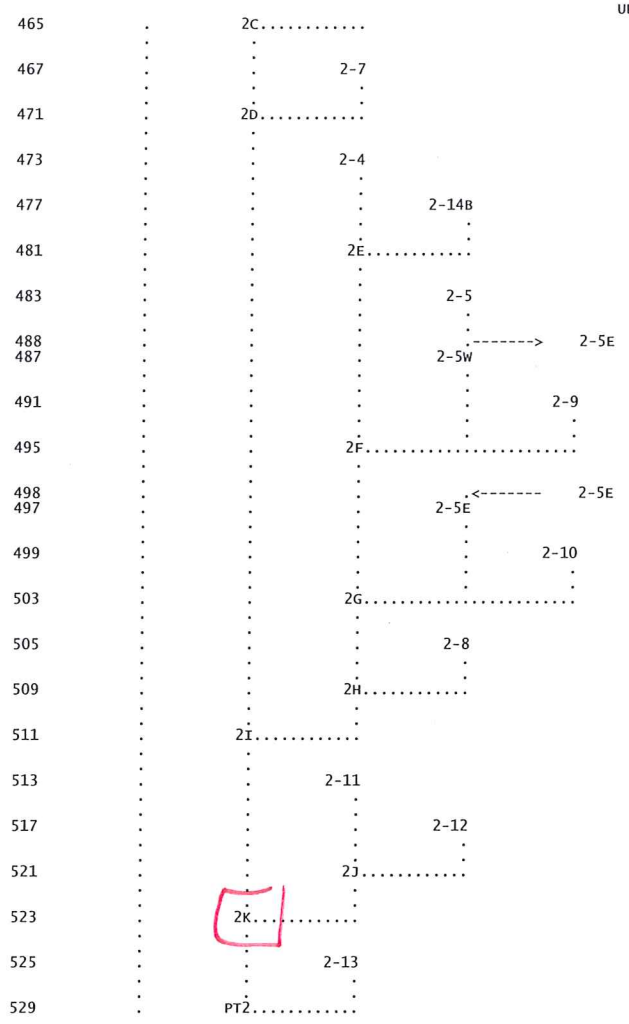
 525          KK    2-13
 526          BA  0.0273
 527          LS       0    91.0
 528          UD   0.176
              *

 529          KK     PT2
 530          HC       2
              *
 531          ZZ
```

1 SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (---->) DIVERSION OR PUMP FLOW
  NO.      (.) CONNECTOR        (<----) RETURN OF DIVERTED OR PUMPED FLOW

   26        U190
               .
               .
   39          .        U170
               .          .
               .          .
   43        CP1.............
               .
               .
   49          .------->    CP1S
   46       CP1E
              V
              V
   52      RCP1E
               .
               .
   55          .        U150
               .          .
               .          .
   63          .          .-------->   U150E
   59          .       U150S
               .          V
               .          V
   66          .       RU150
               .          .
               .          .
   69          .          .       U155
               .          .         .
               .          .         .
   73        CP2.........................
               .
               .
   80          .------->    CP2E
   76       CP2S
              V
              V
   83      RCP2S
               .
               .
   88          .          .<-------    CP1S
   86          .        CP1S
               .          .
               .          .
   89          .          .        U210
               .          .          .
               .          .          .
   93          .         CP3.............
               .          .
```



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*    FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998               *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   27JUN14  TIME  14:27:58   *
*                                       *
*****************************************
```

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

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
ULTIMATE CONDITION

RETURN PERIOD ------- 100-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ ULT100.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	DARF
0.00-0.49	0.990
0.50-0.99	0.975
1.00-1.99	0.950
2.00-2.99	0.925
3.00-3.99	0.915
4.00-4.99	0.908

23 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL

HYDROGRAPH AT											
+	2-12	.03	1	FLOW	39.	39.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2J	.05	1	FLOW	82.	81.	78.	75.	74.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2K	1.42	1	FLOW	471.	462.	447.	433.	427.	423.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-13	.03	1	FLOW	39.	38.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	PT2	1.45	1	FLOW	510.	500.	484.	468.	462.	457.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

1

SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	1.50	199.16	246.00	.37	5.00	198.58	245.00	.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1218E+02 EXCESS= .0000E+00 OUTFLOW= .1219E+02 BASIN STORAGE= .2040E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	1.50	194.72	247.50	.35	5.00	193.91	245.00	.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1154E+02 EXCESS= .0000E+00 OUTFLOW= .1155E+02 BASIN STORAGE= .2543E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	1.50	186.12	247.50	.32	5.00	185.27	245.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1044E+02 EXCESS= .0000E+00 OUTFLOW= .1045E+02 BASIN STORAGE= .2185E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	1.50	177.74	247.50	.28	5.00	176.54	245.00	.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9349E+01 EXCESS= .0000E+00 OUTFLOW= .9357E+01 BASIN STORAGE= .1968E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	1.50	173.54	247.50	.27	5.00	172.20	245.00	.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8932E+01 EXCESS= .0000E+00 OUTFLOW= .8942E+01 BASIN STORAGE= .2479E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	1.25	170.56	247.50	.26	5.00	168.89	250.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8647E+01 EXCESS= .0000E+00 OUTFLOW= .8653E+01 BASIN STORAGE= .1793E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU150	MANE	1.00	43.78	232.00	.22	5.00	43.29	230.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1563E+01 EXCESS= .0000E+00 OUTFLOW= .1564E+01 BASIN STORAGE= .1132E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU150	MANE	1.00	42.55	232.00	.21	5.00	42.13	230.00	.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1479E+01 EXCESS= .0000E+00 OUTFLOW= .1481E+01 BASIN STORAGE= .1107E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00									
RU150	MANE	.75	40.81	232.50	.19	5.00	40.27	235.00	.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1351E+01 EXCESS= .0000E+00 OUTFLOW= .1351E+01 BASIN STORAGE= .9748E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU150	MANE	.75	39.33	231.75	.17	5.00	38.25	235.00	.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1210E+01 EXCESS= .0000E+00 OUTFLOW= .1210E+01 BASIN STORAGE= .1274E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU150	MANE	.75	38.23	231.75	.16	5.00	36.88	230.00	.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1145E+01 EXCESS= .0000E+00 OUTFLOW= .1146E+01 BASIN STORAGE= .1158E-02 PERCENT ERROR= -.1

HEC-1 Model Excerpt: 100-Year Ultimate Condition

APPENDIX D

Method A Hydrologic Analyses

HEC-1 Model Excerpt: 100-Year Ultimate Condition

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             JUN  1998                 *
*           VERSION 4.1                 *
*                                       *
*  RUN DATE   27JUN14  TIME  14:27:58   *
*                                       *
*****************************************
```

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

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

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

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

1 HEC-1 INPUT PAGE 1

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

              *DIAGRAM
    1         ID     SLATER HANIFAN GROUP, INC.
    2         ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
    3         ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
    4         ID     ULTIMATE CONDITION
    5         ID
    6         ID     RETURN PERIOD ------- 100-YEAR
    7         ID     DISTRIBUTION -------- 6-HOUR SDN3
    8         ID     PROJECT NO. --------- CBH1201.000
    9         ID     FILENAME ------------ ULT100.H1
   10         ID     DATE ---------------- JULY 2014
   11         ID     MODELED BY ---------- KC
   12         ID
   13         ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
   14         ID        DRAINAGE AREA (MI^2)       DARF
   15         ID        0.00-0.49                  0.990
   16         ID        0.50-0.99                  0.975
   17         ID        1.00-1.99                  0.950
   18         ID        2.00-2.99                  0.925
   19         ID        3.00-3.99                  0.915
   20         ID        4.00-4.99                  0.908
   21         ID
   22         IT       5       0       0     300
   23         IO       5       0       0
   24         IN       5       0       0
   25         JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
              *
   26         KK    U190
   27         BA   .3684
   28         PB    2.77
   29         PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
   30         PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
   31         PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
   32         PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
   33         PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
   34         PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
   35         PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
   36         PC   0.998   0.999   1.000
   37         LS       0    80.7
   38         UD   0.522
              *
   39         KK    U170
   40         BA   .2521
   41         LS       0    83.0
   42         UD   0.521
              *
   43         KK     CP1
   44         KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
   45         HC       2
              *
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1 HEC-1 INPUT PAGE 2

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

   46         KK    CP1E
   47         KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
   48         KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   49         DT    CP1S
   50         DI     297     302     308     323     339     348
   51         DQ     125     127     129     136     143     148
              *
   52         KK   RCP1E
   53         KM   ROUTE TO CP2
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1	0310	39	39.	1.6	2298.6	*	1	1130	139	133.	35.5	2301.8	*	1	1950	239	0.	.0	2297.0
1	0315	40	43.	2.0	2298.8	*	1	1135	140	131.	34.6	2301.7	*	1	1955	240	0.	.0	2297.0
1	0320	41	49.	2.6	2299.0	*	1	1140	141	129.	33.7	2301.7	*	1	2000	241	0.	.0	2297.0
1	0325	42	52.	3.8	2299.2	*	1	1145	142	127.	32.8	2301.6	*	1	2005	242	0.	.0	2297.0
1	0330	43	58.	5.8	2299.4	*	1	1150	143	126.	31.9	2301.6	*	1	2010	243	0.	.0	2297.0
1	0335	44	66.	8.5	2299.8	*	1	1155	144	124.	31.1	2301.5	*	1	2015	244	0.	.0	2297.0
1	0340	45	76.	12.1	2300.1	*	1	1200	145	122.	30.2	2301.4	*	1	2020	245	0.	.0	2297.0
1	0345	46	87.	16.0	2300.4	*	1	1205	146	121.	29.4	2301.4	*	1	2025	246	0.	.0	2297.0
1	0350	47	100.	20.3	2300.7	*	1	1210	147	119.	28.5	2301.3	*	1	2030	247	0.	.0	2297.0
1	0355	48	112.	25.2	2301.1	*	1	1215	148	117.	27.7	2301.3	*	1	2035	248	0.	.0	2297.0
1	0400	49	123.	30.8	2301.5	*	1	1220	149	116.	26.9	2301.2	*	1	2040	249	0.	.0	2297.0
1	0405	50	136.	37.1	2301.9	*	1	1225	150	114.	26.1	2301.1	*	1	2045	250	0.	.0	2297.0
1	0410	51	147.	43.6	2302.4	*	1	1230	151	113.	25.4	2301.1	*	1	2050	251	0.	.0	2297.0
1	0415	52	156.	49.8	2302.8	*	1	1235	152	111.	24.6	2301.0	*	1	2055	252	0.	.0	2297.0
1	0420	53	165.	55.6	2303.2	*	1	1240	153	109.	23.8	2301.0	*	1	2100	253	0.	.0	2297.0
1	0425	54	171.	61.0	2303.5	*	1	1245	154	107.	23.1	2300.9	*	1	2105	254	0.	.0	2297.0
1	0430	55	177.	65.9	2303.9	*	1	1250	155	105.	22.3	2300.9	*	1	2110	255	0.	.0	2297.0
1	0435	56	183.	70.4	2304.2	*	1	1255	156	103.	21.6	2300.8	*	1	2115	256	0.	.0	2297.0
1	0440	57	189.	74.7	2304.5	*	1	1300	157	101.	20.9	2300.8	*	1	2120	257	0.	.0	2297.0
1	0445	58	194.	78.8	2304.7	*	1	1305	158	99.	20.2	2300.7	*	1	2125	258	0.	.0	2297.0
1	0450	59	198.	82.5	2305.0	*	1	1310	159	97.	19.6	2300.7	*	1	2130	259	0.	.0	2297.0
1	0455	60	202.	85.9	2305.2	*	1	1315	160	96.	18.9	2300.6	*	1	2135	260	0.	.0	2297.0
1	0500	61	205.	89.0	2305.4	*	1	1320	161	94.	18.2	2300.6	*	1	2140	261	0.	.0	2297.0
1	0505	62	208.	91.8	2305.6	*	1	1325	162	92.	17.6	2300.5	*	1	2145	262	0.	.0	2297.0
1	0510	63	211.	94.3	2305.7	*	1	1330	163	90.	17.0	2300.5	*	1	2150	263	0.	.0	2297.0
1	0515	64	213.	96.6	2305.9	*	1	1335	164	88.	16.4	2300.4	*	1	2155	264	0.	.0	2297.0
1	0520	65	215.	98.6	2306.0	*	1	1340	165	87.	15.8	2300.4	*	1	2200	265	0.	.0	2297.0
1	0525	66	217.	100.5	2306.1	*	1	1345	166	85.	15.2	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	219.	102.1	2306.3	*	1	1350	167	83.	14.6	2300.3	*	1	2210	267	0.	.0	2297.0
1	0535	68	221.	103.6	2306.3	*	1	1355	168	82.	14.0	2300.3	*	1	2215	268	0.	.0	2297.0
1	0540	69	222.	104.7	2306.4	*	1	1400	169	80.	13.5	2300.2	*	1	2220	269	0.	.0	2297.0
1	0545	70	223.	105.6	2306.5	*	1	1405	170	79.	12.9	2300.2	*	1	2225	270	0.	.0	2297.0
1	0550	71	223.	106.1	2306.5	*	1	1410	171	77.	12.4	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	224.	106.4	2306.5	*	1	1415	172	76.	11.8	2300.1	*	1	2235	272	0.	.0	2297.0
1	0600	73	224.	106.6	2306.5	*	1	1420	173	74.	11.3	2300.1	*	1	2240	273	0.	.0	2297.0
1	0605	74	224.	106.5	2306.5	*	1	1425	174	73.	10.8	2300.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	224.	106.3	2306.5	*	1	1430	175	71.	10.3	2300.0	*	1	2250	275	0.	.0	2297.0
1	0615	76	223.	106.0	2306.5	*	1	1435	176	70.	9.8	2299.9	*	1	2255	276	0.	.0	2297.0
1	0620	77	223.	105.5	2306.5	*	1	1440	177	69.	9.4	2299.9	*	1	2300	277	0.	.0	2297.0
1	0625	78	222.	104.9	2306.4	*	1	1445	178	67.	8.9	2299.8	*	1	2305	278	0.	.0	2297.0
1	0630	79	221.	104.2	2306.4	*	1	1450	179	66.	8.4	2299.7	*	1	2310	279	0.	.0	2297.0
1	0635	80	220.	103.4	2306.3	*	1	1455	180	64.	8.0	2299.7	*	1	2315	280	0.	.0	2297.0
1	0640	81	219.	102.5	2306.3	*	1	1500	181	63.	7.5	2299.6	*	1	2320	281	0.	.0	2297.0
1	0645	82	218.	101.5	2306.2	*	1	1505	182	62.	7.1	2299.6	*	1	2325	282	0.	.0	2297.0
1	0650	83	217.	100.5	2306.1	*	1	1510	183	61.	6.7	2299.5	*	1	2330	283	0.	.0	2297.0
1	0655	84	216.	99.5	2306.1	*	1	1515	184	59.	6.3	2299.5	*	1	2335	284	0.	.0	2297.0
1	0700	85	215.	98.3	2306.0	*	1	1520	185	58.	5.9	2299.4	*	1	2340	285	0.	.0	2297.0
1	0705	86	214.	97.2	2305.9	*	1	1525	186	57.	5.5	2299.4	*	1	2345	286	0.	.0	2297.0
1	0710	87	213.	96.0	2305.9	*	1	1530	187	56.	5.1	2299.3	*	1	2350	287	0.	.0	2297.0
1	0715	88	211.	94.8	2305.8	*	1	1535	188	55.	4.7	2299.3	*	1	2355	288	0.	.0	2297.0
1	0720	89	210.	93.5	2305.7	*	1	1540	189	54.	4.3	2299.2	*	2	0000	289	0.	.0	2297.0
1	0725	90	209.	92.3	2305.6	*	1	1545	190	53.	4.0	2299.2	*	2	0005	290	0.	.0	2297.0
1	0730	91	207.	91.0	2305.5	*	1	1550	191	52.	3.6	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	206.	89.7	2305.4	*	1	1555	192	50.	3.3	2299.1	*	2	0015	292	0.	.0	2297.0
1	0740	93	205.	88.5	2305.4	*	1	1600	193	49.	2.9	2299.1	*	2	0020	293	0.	.0	2297.0
1	0745	94	203.	87.1	2305.3	*	1	1605	194	48.	2.6	2299.0	*	2	0025	294	0.	.0	2297.0
1	0750	95	202.	85.8	2305.2	*	1	1610	195	46.	2.3	2298.9	*	2	0030	295	0.	.0	2297.0
1	0755	96	201.	84.5	2305.1	*	1	1615	196	43.	1.9	2298.8	*	2	0035	296	0.	.0	2297.0
1	0800	97	199.	83.2	2305.0	*	1	1620	197	40.	1.7	2298.7	*	2	0040	297	0.	.0	2297.0
1	0805	98	198.	81.9	2304.9	*	1	1625	198	37.	1.4	2298.6	*	2	0045	298	0.	.0	2297.0
1	0810	99	196.	80.6	2304.8	*	1	1630	199	35.	1.1	2298.4	*	2	0050	299	0.	.0	2297.0
1	0815	100	194.	79.3	2304.8	*	1	1635	200	32.	.9	2298.3	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 224.	6.00		197.	81.	78.	78.
		(INCHES)	1.592	2.600	2.600	2.600
		(AC-FT)	98.	160.	160.	160.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
107.	6.00		83.	27.	26.	26.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2306.55	6.00		2305.00	2300.20	2300.08	2300.08

CUMULATIVE AREA = 1.15 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .92

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	*	1		0820	101	190.	76.2	2304.5	*	1		1640	201	27.	.4	2298.1
1		0005	2	0.	.0	2297.0	*	1		0825	102	189.	75.0	2304.5	*	1		1645	202	25.	.3	2298.1
1		0010	3	0.	.0	2297.0	*	1		0830	103	187.	73.7	2304.4	*	1		1650	203	20.	.1	2297.8
1		0015	4	0.	.0	2297.0	*	1		0835	104	186.	72.4	2304.3	*	1		1655	204	4.	.0	2297.2
1		0020	5	0.	.0	2297.0	*	1		0840	105	184.	71.2	2304.2	*	1		1700	205	1.	.0	2297.0
1		0025	6	1.	.0	2297.0	*	1		0845	106	183.	69.9	2304.1	*	1		1705	206	0.	.0	2297.0
1		0030	7	2.	.0	2297.1	*	1		0850	107	181.	68.7	2304.1	*	1		1710	207	0.	.0	2297.0
1		0035	8	3.	.0	2297.1	*	1		0855	108	179.	67.4	2304.0	*	1		1715	208	0.	.0	2297.0
1		0040	9	5.	.0	2297.2	*	1		0900	109	178.	66.2	2303.9	*	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	*	1		0905	110	176.	65.0	2303.8	*	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	*	1		0910	111	175.	63.8	2303.7	*	1		1730	211	0.	.0	2297.0

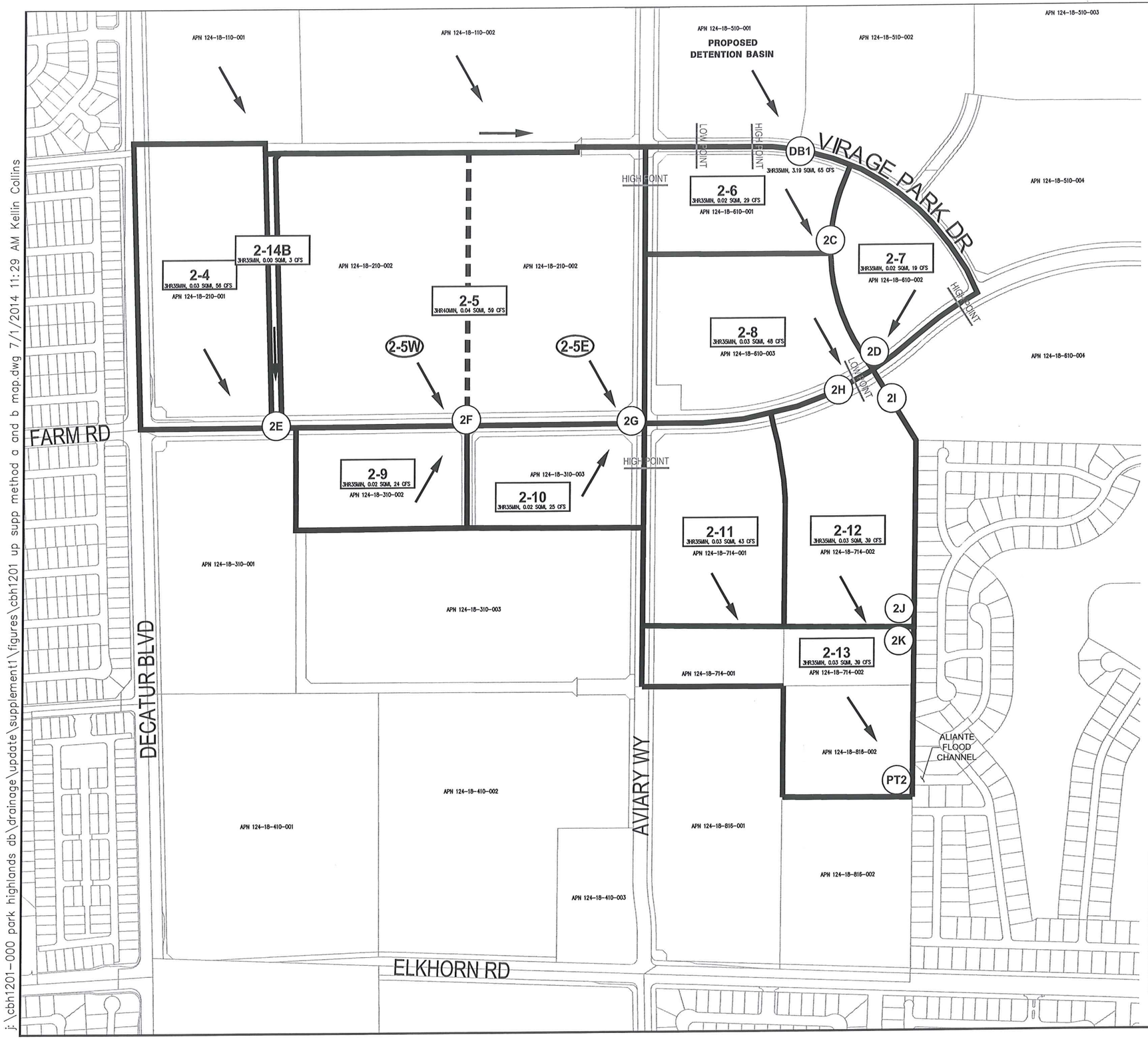
1	0055	12	3.	.0	2297.1	*	1	0915	112	173.	62.6	2303.7	*	1	1735	212	0.	.0	2297.0
1	0100	13	2.	.0	2297.1	*	1	0920	113	172.	61.4	2303.6	*	1	1740	213	0.	.0	2297.0
1	0105	14	2.	.0	2297.1	*	1	0925	114	170.	60.2	2303.5	*	1	1745	214	0.	.0	2297.0
1	0110	15	2.	.0	2297.1	*	1	0930	115	169.	59.1	2303.4	*	1	1750	215	0.	.0	2297.0
1	0115	16	3.	.0	2297.1	*	1	0935	116	168.	57.9	2303.3	*	1	1755	216	0.	.0	2297.0
1	0120	17	3.	.0	2297.1	*	1	0940	117	166.	56.8	2303.3	*	1	1800	217	0.	.0	2297.0
1	0125	18	4.	.0	2297.2	*	1	0945	118	165.	55.6	2303.2	*	1	1805	218	0.	.0	2297.0
1	0130	19	6.	.0	2297.2	*	1	0950	119	163.	54.5	2303.1	*	1	1810	219	0.	.0	2297.0
1	0135	20	9.	.0	2297.4	*	1	0955	120	162.	53.4	2303.0	*	1	1815	220	0.	.0	2297.0
1	0140	21	12.	.1	2297.5	*	1	1000	121	160.	52.3	2303.0	*	1	1820	221	0.	.0	2297.0
1	0145	22	16.	.1	2297.7	*	1	1005	122	159.	51.2	2302.9	*	1	1825	222	0.	.0	2297.0
1	0150	23	19.	.1	2297.8	*	1	1010	123	157.	50.1	2302.8	*	1	1830	223	0.	.0	2297.0
1	0155	24	21.	.1	2297.9	*	1	1015	124	155.	49.0	2302.7	*	1	1835	224	0.	.0	2297.0
1	0200	25	21.	.1	2297.9	*	1	1020	125	153.	48.0	2302.7	*	1	1840	225	0.	.0	2297.0
1	0205	26	20.	.1	2297.8	*	1	1025	126	152.	46.9	2302.6	*	1	1845	226	0.	.0	2297.0
1	0210	27	20.	.1	2297.8	*	1	1030	127	150.	45.9	2302.5	*	1	1850	227	0.	.0	2297.0
1	0215	28	20.	.1	2297.8	*	1	1035	128	149.	44.8	2302.5	*	1	1855	228	0.	.0	2297.0
1	0220	29	24.	.1	2298.0	*	1	1040	129	147.	43.8	2302.4	*	1	1900	229	0.	.0	2297.0
1	0225	30	24.	.2	2298.0	*	1	1045	130	145.	42.8	2302.3	*	1	1905	230	0.	.0	2297.0
1	0230	31	25.	.2	2298.1	*	1	1050	131	144.	41.8	2302.3	*	1	1910	231	0.	.0	2297.0
1	0235	32	26.	.3	2298.1	*	1	1055	132	142.	40.8	2302.2	*	1	1915	232	0.	.0	2297.0
1	0240	33	27.	.5	2298.1	*	1	1100	133	141.	39.9	2302.1	*	1	1920	233	0.	.0	2297.0
1	0245	34	29.	.6	2298.2	*	1	1105	134	139.	38.9	2302.0	*	1	1925	234	0.	.0	2297.0
1	0250	35	30.	.7	2298.3	*	1	1110	135	138.	38.0	2302.0	*	1	1930	235	0.	.0	2297.0
1	0255	36	32.	.9	2298.3	*	1	1115	136	136.	37.0	2301.9	*	1	1935	236	0.	.0	2297.0
1	0300	37	34.	1.1	2298.4	*	1	1120	137	134.	36.1	2301.9	*	1	1940	237	0.	.0	2297.0
1	0305	38	36.	1.2	2298.5	*	1	1125	138	132.	35.2	2301.8	*	1	1945	238	0.	.0	2297.0
1	0310	39	38.	1.5	2298.6	*	1	1130	139	130.	34.3	2301.7	*	1	1950	239	0.	.0	2297.0
1	0315	40	42.	1.9	2298.8	*	1	1135	140	128.	33.4	2301.7	*	1	1955	240	0.	.0	2297.0
1	0320	41	48.	2.5	2299.0	*	1	1140	141	127.	32.5	2301.6	*	1	2000	241	0.	.0	2297.0
1	0325	42	52.	3.7	2299.2	*	1	1145	142	125.	31.6	2301.5	*	1	2005	242	0.	.0	2297.0
1	0330	43	57.	5.6	2299.4	*	1	1150	143	123.	30.8	2301.5	*	1	2010	243	0.	.0	2297.0
1	0335	44	65.	8.3	2299.7	*	1	1155	144	122.	29.9	2301.4	*	1	2015	244	0.	.0	2297.0
1	0340	45	75.	11.7	2300.1	*	1	1200	145	120.	29.1	2301.4	*	1	2020	245	0.	.0	2297.0
1	0345	46	86.	15.6	2300.4	*	1	1205	146	118.	28.3	2301.3	*	1	2025	246	0.	.0	2297.0
1	0350	47	98.	19.8	2300.7	*	1	1210	147	117.	27.5	2301.2	*	1	2030	247	0.	.0	2297.0
1	0355	48	111.	24.6	2301.0	*	1	1215	148	115.	26.7	2301.2	*	1	2035	248	0.	.0	2297.0
1	0400	49	122.	30.0	2301.4	*	1	1220	149	114.	25.9	2301.1	*	1	2040	249	0.	.0	2297.0
1	0405	50	134.	36.2	2301.9	*	1	1225	150	112.	25.1	2301.1	*	1	2045	250	0.	.0	2297.0
1	0410	51	145.	42.6	2302.3	*	1	1230	151	111.	24.3	2301.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	155.	48.7	2302.7	*	1	1235	152	109.	23.6	2301.0	*	1	2055	252	0.	.0	2297.0
1	0420	53	163.	54.4	2303.1	*	1	1240	153	107.	22.8	2300.9	*	1	2100	253	0.	.0	2297.0
1	0425	54	170.	59.6	2303.5	*	1	1245	154	105.	22.1	2300.9	*	1	2105	254	0.	.0	2297.0
1	0430	55	176.	64.5	2303.8	*	1	1250	155	103.	21.4	2300.8	*	1	2110	255	0.	.0	2297.0
1	0435	56	181.	69.0	2304.1	*	1	1255	156	101.	20.7	2300.8	*	1	2115	256	0.	.0	2297.0
1	0440	57	187.	73.3	2304.4	*	1	1300	157	99.	20.0	2300.7	*	1	2120	257	0.	.0	2297.0
1	0445	58	192.	77.2	2304.6	*	1	1305	158	97.	19.3	2300.7	*	1	2125	258	0.	.0	2297.0
1	0450	59	196.	80.9	2304.9	*	1	1310	159	95.	18.7	2300.6	*	1	2130	259	0.	.0	2297.0
1	0455	60	200.	84.3	2305.1	*	1	1315	160	93.	18.0	2300.6	*	1	2135	260	0.	.0	2297.0
1	0500	61	203.	87.3	2305.3	*	1	1320	161	91.	17.4	2300.5	*	1	2140	261	0.	.0	2297.0
1	0505	62	206.	90.1	2305.5	*	1	1325	162	90.	16.8	2300.5	*	1	2145	262	0.	.0	2297.0
1	0510	63	209.	92.5	2305.6	*	1	1330	163	88.	16.2	2300.4	*	1	2150	263	0.	.0	2297.0
1	0515	64	211.	94.7	2305.8	*	1	1335	164	86.	15.6	2300.4	*	1	2155	264	0.	.0	2297.0
1	0520	65	213.	96.7	2305.9	*	1	1340	165	85.	15.0	2300.3	*	1	2200	265	0.	.0	2297.0
1	0525	66	215.	98.6	2306.0	*	1	1345	166	83.	14.4	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	217.	100.2	2306.1	*	1	1350	167	81.	13.8	2300.2	*	1	2210	267	0.	.0	2297.0
1	0535	68	219.	101.6	2306.2	*	1	1355	168	80.	13.3	2300.2	*	1	2215	268	0.	.0	2297.0
1	0540	69	220.	102.8	2306.3	*	1	1400	169	78.	12.7	2300.2	*	1	2220	269	0.	.0	2297.0
1	0545	70	221.	103.6	2306.3	*	1	1405	170	77.	12.2	2300.1	*	1	2225	270	0.	.0	2297.0
1	0550	71	221.	104.1	2306.4	*	1	1410	171	75.	11.7	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	221.	104.4	2306.4	*	1	1415	172	74.	11.2	2300.0	*	1	2235	272	0.	.0	2297.0
1	0600	73	222.	104.5	2306.4	*	1	1420	173	72.	10.7	2300.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	222.	104.5	2306.4	*	1	1425	174	71.	10.2	2300.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	221.	104.3	2306.4	*	1	1430	175	69.	9.7	2299.9	*	1	2250	275	0.	.0	2297.0
1	0615	76	221.	104.0	2306.4	*	1	1435	176	68.	9.2	2299.8	*	1	2255	276	0.	.0	2297.0
1	0620	77	221.	103.5	2306.3	*	1	1440	177	67.	8.7	2299.8	*	1	2300	277	0.	.0	2297.0
1	0625	78	220.	102.9	2306.3	*	1	1445	178	65.	8.3	2299.7	*	1	2305	278	0.	.0	2297.0
1	0630	79	219.	102.2	2306.3	*	1	1450	179	64.	7.8	2299.7	*	1	2310	279	0.	.0	2297.0
1	0635	80	218.	101.4	2306.2	*	1	1455	180	63.	7.4	2299.6	*	1	2315	280	0.	.0	2297.0
1	0640	81	217.	100.5	2306.1	*	1	1500	181	61.	7.0	2299.6	*	1	2320	281	0.	.0	2297.0
1	0645	82	216.	99.6	2306.1	*	1	1505	182	60.	6.6	2299.5	*	1	2325	282	0.	.0	2297.0
1	0650	83	215.	98.5	2306.0	*	1	1510	183	59.	6.1	2299.5	*	1	2330	283	0.	.0	2297.0
1	0655	84	214.	97.5	2305.9	*	1	1515	184	58.	5.7	2299.4	*	1	2335	284	0.	.0	2297.0
1	0700	85	213.	96.4	2305.9	*	1	1520	185	57.	5.4	2299.4	*	1	2340	285	0.	.0	2297.0
1	0705	86	212.	95.2	2305.8	*	1	1525	186	56.	5.0	2299.3	*	1	2345	286	0.	.0	2297.0
1	0710	87	211.	94.1	2305.7	*	1	1530	187	54.	4.6	2299.3	*	1	2350	287	0.	.0	2297.0
1	0715	88	209.	92.9	2305.6	*	1	1535	188	53.	4.2	2299.2	*	1	2355	288	0.	.0	2297.0
1	0720	89	208.	91.6	2305.6	*	1	1540	189	52.	3.9	2299.2	*	2	0000	289	0.	.0	2297.0
1	0725	90	207.	90.4	2305.5	*	1	1545	190	51.	3.5	2299.1	*	2	0005	290	0.	.0	2297.0
1	0730	91	205.	89.1	2305.4	*	1	1550	191	50.	3.1	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	204.	87.9	2305.3	*	1	1555	192	49.	2.8	2299.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	203.	86.6	2305.2	*	1	1600	193	48.	2.5	2299.0	*	2	0020	293	0.	.0	2297.0
1	0745	94	201.	85.3	2305.1	*	1	1605	194	45.	2.2	2298.9	*	2	0025	294	0.	.0	2297.0
1	0750	95	200.	84.0	2305.1	*	1	1610	195	42.	1.9	2298.7	*	2	0030	295	0.	.0	2297.0
1	0755	96	199.	82.7	2305.0	*	1	1615	196	39.	1.6	2298.6	*	2	0035	296	0.	.0	2297.0
1	0800	97	197.	81.4	2304.9	*	1	1620	197	36.	1.3	2298.5	*	2	0040	297	0.	.0	2297.0
1	0805	98	195.	80.1	2304.8	*	1	1625	198	34.	1.1	2298.4	*	2	0045	298	0.	.0	2297.0
1	0810	99	194.	78.8	2304.7	*	1	1630	199	31.	.8	2298.3	*	2	0050	299	0.	.0	2297.0
1	0815	100	192.	77.5	2304.6	*	1	1635	200	29.	.6	2298.2	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 222.	6.00		195.	79.	76.	76.
		(INCHES)	1.576	2.557	2.557	2.557
		(AC-FT)	97.	157.	157.	157.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
105.	6.00	81.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE

Method B Drainage Exhibit



LEGEND

- BASIN BOUNDARY
- ID — BASIN ID
- FLOW DIRECTION
- ID — CONCENTRATION POINT
- SUBBASIN BOUNDARY
- ID — SUBBASIN ID

N

0 500 1000

SCALE – 1" = 500' FEET

Method B Concentration Point Flow Summary
Ultimate Condition

Concentration Point ID	Area (sq mi)	DARF	Notes	Algebraic Summation Description	Q_{100} (cfs)
DB1 DB1 outlet	3.19	0.915	From HEC-1	65 cfs is the discharge from the PHW DB at 3hr 35min from a DARF of 0.915	65
2C DB1 + 2-6	0.02	0.990	Algebraic Summation	65 cfs from DB1 + 29 cfs from Basin 2-6	94
2D 2C + 2-7	0.03	0.990	Algebraic Summation	65 cfs from DB + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7	113
2E 2-4 + 2-14B	0.04	0.990	From HEC-1	-	59
2F 2E + 2-5W + 2-9	0.14	0.990	From HEC-1	-	142
2G 2F + 2-5E + 2-10	0.16	0.990	From HEC-1	-	222
2H 2G + 2-8	0.19	0.990	From HEC-1	-	269
2I 2D + 2H	0.22	0.990	Algebraic Summation	65 cfs from DB + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7 + 269 cfs from CP 2H	382
2J 2-11 + 2-12	0.05	0.990	From HEC-1	-	82
2K 2I + 2J	0.27	0.990	Algebraic Summation	65 cfs from DB + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7 + 269 cfs from CP 2H + 82 cfs from CP 2J	464
PT2 2K + 2-13	0.30	0.990	Algebraic Summation	65 cfs from DB + 29 cfs from Basin 2-6 + 19 cfs from Basin 2-7 + 269 cfs from CP 2H + 82 cfs from CP 2J + 30 cfs from Basin 2-13	503

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CRESCENT BAY HOLDINGS

PARK HIGHLANDS
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
METHOD B DRAINAGE MAP

DATE: JULY 2014
DRAFTER: KC
DESIGNER: KC
CHECKED: MF
PROJECT NO. CBH1201.000

j:\cbh1201-000 park highlands db\drainage\update\supplement1\figures\cbh1201 up supp method a and b map.dwg 7/1/2014 11:29 AM Kellin Collins

APPENDIX E

Method A Hydraulic Analyses

Farm Road (FARM-A) WSPG Model

Ultimate Condition WSPG Summary
FARM-A Storm Drain System

WSPG Station	Equivalent Roadway Station	Storm Drain Width/Dia. (ft)	Storm Drain Height (ft)	Q_{100} (cfs)	Invert Elevation (ft)	WSE (ft)	Velocity (ft/s)	FG Elevation	Description	HGL Check[1]
0.01	21+98.00	10.0	5.0	464.0	2284.21	2288.54	11.79	2292.71	end of arch	OK
24.01	21+74.00	10.0	5.0	464.0	2284.28	2288.81	11.27	2293.28	end curve	OK
102.54	20+95.47	10.0	5.0	464.0	2284.52	2289.12	11.09	2293.52	begin curve	OK
202.54	19+95.47	10.0	5.0	429.0	2284.82	2290.11	9.49	2293.82	junction for flow	OK
780.59	14+17.42	10.0	5.0	355.0	2286.55	2292.89	7.85	2295.85	junction for flow	OK
1909.04	2+88.97	10.0	5.0	355.0	2289.94	2295.73	7.85	2298.94	end curve	OK
1937.58	2+60.43	10.0	5.0	355.0	2290.02	2295.92	7.85	2299.02	end transition/begin curve	OK
1943.53	2+54.48	14.0	5.0	355.0	2290.04	2296.53	5.09	2299.04	begin transition	OK
1950.20	2+47.81	14.0	5.0	355.0	2290.06	2296.54	5.09	2299.06	mics.	OK
2074.47	47+03.70	14.0	5.0	355.0	2290.68	2296.71	5.09	2300.50	angle point	OK
2074.48	47+03.70	14.0	5.0	269.0	2290.68	2296.87	3.86	2300.40	junction for flow (starting WSE for VPDE-A)	OK
2103.18	46+80.80	14.0	5.0	222.0	2290.79	2296.97	3.19	2300.35	junction for flow	OK
2132.18	46+58.99	14.0	5.0	222.0	2290.86	2297.00	3.19	2300.30	angle point	OK
2144.08	46+47.72	14.0	5.0	222.0	2290.89	2297.01	3.18	2300.20	junction for flow	OK
2166.58	46+25.00	14.0	5.0	147.0	2290.96	2297.16	2.11	2300.20	junction for flow	OK
2179.28	46+13.15	14.0	5.0	147.0	2291.00	2297.16	2.11	2300.25	end transition	OK
2197.28	45+93.98	5.0	-	147.0	2291.14	2296.55	7.49	2300.30	begin transition	OK
2275.51	45+12.87	5.0	-	147.0	2291.78	2296.87	7.49	2300.89	angle point	OK
2280.51	45+06.77	4.5	-	147.0	2292.28	2296.79	9.24	2300.95	misc.	OK
2508.82	42+77.11	4.5	-	147.0	2294.04	2297.26	12.06	2302.95	angle point	OK
2734.82	40+49.25	4.5	-	147.0	2295.74	2298.97	12.03	2305.44	angle point	OK
2918.12	38+64.41	4.5	-	147.0	2297.11	2300.33	12.06	2306.59	angle point	OK
3155.02	36+27.10	4.5	-	147.0	2298.89	2302.14	11.95	2307.83	angle point	OK
3258.62	35+24.72	4.5	-	147.0	2299.67	2303.23	10.89	2308.63	angle point	OK
3417.62	33+65.71	4.5	-	92.0	2300.24	2306.18	5.78	2309.49	junction for flow	OK
3508.70	32+74.63	4.5	-	67.0	2301.54	2306.87	4.21	2309.70	junction for flow	OK
3780.30	30+03.09	4.5	-	67.0	2302.63	2307.20	4.21	2311.10	manhole	OK
4051.80	27+31.55	4.5	-	67.0	2303.72	2307.41	4.80	2312.50	manhole	OK
4320.80	24+60.00	4.5	-	28.0	2304.81	2308.53	1.99	2314.00	junction for flow	OK
4325.80	24+65.00	3.0	-	28.0	2306.31	2308.35	5.47	2314.05	mics.	OK
4608.30	21+77.49	3.0	-	28.0	2307.44	2309.23	6.39	2315.40	manhole	OK
4890.80	18+94.97	3.0	-	28.0	2308.56	2310.35	6.37	2317.00	manhole	OK
5173.30	16+12.45	3.0	-	28.0	2309.70	2311.48	6.41	2318.50	angle point	OK
5238.50	-	3.0	-	28.0	2310.03	2311.74	6.72	2317.00	start of pipe	OK

1 - 'HGL Check' reflects the minimum 1-ft below finished grade.

Area 3 plans
Area 2 plans
Area 4 plans
Area 7 plans

Aliante Channel - Method A Flow
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	Aliante Channel - Method
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

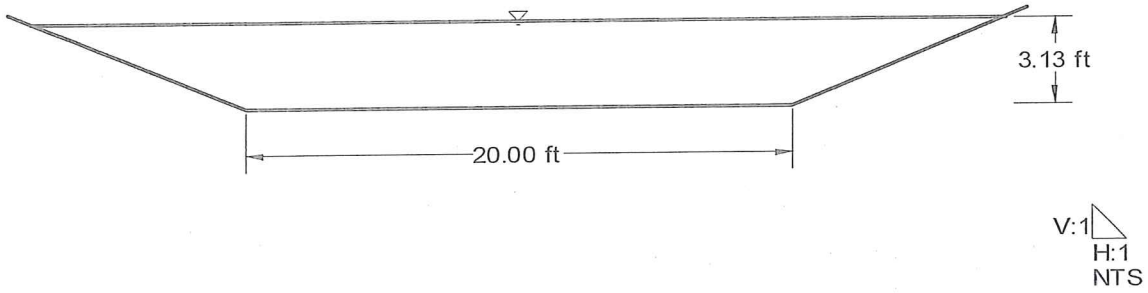
Input Data		
Mannings Coeffic	0.035	
Channel Slope	005000	ft/ft
Left Side Slope	2.50	H : V
Right Side Slope	2.50	H : V
Bottom Width	20.00	ft
Discharge	464.00	cfs

Results		
Depth	3.13	ft
Flow Area	87.1	ft²
Wetted Perim	36.86	ft
Top Width	35.65	ft
Critical Depth	2.31	ft
Critical Slope	0.014991	ft/ft
Velocity	5.33	ft/s
Velocity Head	0.44	ft
Specific Ener	3.57	ft
Froude Numb	0.60	
Flow Type	Subcritical	

Aliante Channel - Method A Flow
Cross Section for Trapezoidal Channel

Project Description	
Worksheet	Aliante Channel - Method
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coeffic	0.035	
Channel Slope	005000	ft/ft
Depth	3.13	ft
Left Side Slope	2.50	H : V
Right Side Slope	2.50	H : V
Bottom Width	20.00	ft
Discharge	464.00	cfs



DATE: 7/ 1/2014
TIME: 10:19

F0515P
WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	3	0	0.00	5.00	9.10	0.00	0.00	0.00										
CD	2	3	0	0.00	5.00	14.00	0.00	0.00	0.00										
CD	3	4			5.00														
CD	4	4			4.50														
CD	5	4			4.00														
CD	6	4			3.50														
CD	7	4			3.00														
CD	8	4			2.00														

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY

HEADING LINE NO 2 IS -

EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL

HEADING LINE NO 3 IS -

ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	0.01	2284.21	1	2287.34

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	24.01	2284.28	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	102.54	2284.52	1	0.013	50.00	90.00	0.00	0

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	202.54	2284.82	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 5 IS A JUNCTION * * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	202.54	2284.82	1	7	0	0.013	35.0	0.0	2284.82	0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	780.59	2286.55	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 7 IS A JUNCTION * * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	780.59	2286.55	1	5	0	0.013	74.0	0.0	2286.03	0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1909.04	2289.94	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1937.58	2290.02	1	0.013	50.00	33.00	0.00	0

ELEMENT NO 10 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1943.53	2290.04	2	0.013

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 11 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	1950.20	2290.06	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 12 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2074.47	2290.68	2	0.013	0.00	0.00	45.00	0

ELEMENT NO 13 IS A JUNCTION

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	2074.48	2290.68	2	5	0	0.013	86.0	0.0	2290.68		0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 14 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2103.18	2290.79	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 15 IS A JUNCTION

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	2103.18	2290.79	2	5	0	0.013	47.0	0.0	2291.24		0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 16 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2132.18	2290.86	2	0.013	0.00	0.00	42.00	0

ELEMENT NO 17 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2144.08	2290.89	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 18 IS A JUNCTION

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	2144.08	2290.89	2	5	5	0.013	0.1	0.1	2291.34	2291.34	90.00	90.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 19 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2166.58	2290.96	2	0.013	0.00	0.00	0.00	0

F 0 5 1 5 P

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 20 IS A JUNCTION

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	2166.58	2290.96	2	4	4	0.013	37.5	37.5	2291.16	2291.16	60.00	60.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 21 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2179.28	2291.00	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 22 IS A TRANSITION

	STATION	INVERT	SECT	N
U/S DATA	2197.28	2291.14	3	0.013

ELEMENT NO 23 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2275.51	2291.78	3	0.013	0.00	0.00	10.00	1

ELEMENT NO 24 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2280.51	2292.28	3	0.013	0.00	0.00	0.00	0

WARNING - ADJACENT SECTIONS ARE NOT IDENTICAL - SEE SECTION NUMBERS AND CHANNEL DEFINITIONS

ELEMENT NO 25 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2508.82	2294.04	4	0.013	0.00	0.00	10.00	1

ELEMENT NO 26 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2734.82	2295.74	4	0.013	0.00	0.00	10.00	1

ELEMENT NO 27 IS A REACH

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2918.12	2297.11	4	0.013	0.00	0.00	4.00	1

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 ELEMENT NO  28 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             3155.02 2298.89    4             0.013                                   0.00   0.00   10.00      1

 ELEMENT NO  29 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             3258.62 2299.67    4             0.013                                   0.00   0.00   10.00      1

 ELEMENT NO  30 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             3417.62 2300.24    4             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  31 IS A JUNCTION           *         *     *     *                *                 *                 *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3       Q4    INVERT-3 INVERT-4  PHI 3   PHI 4
                             3417.62 2300.24    4     6     0  0.013     55.0      0.0  2301.25     0.00  90.00    0.00
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING ♀
                                        F 0 5 1 5 P                                                          PAGE NO   5

                        WATER SURFACE PROFILE - ELEMENT CARD LISTING

 ELEMENT NO  32 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             3508.70 2301.54    4             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  33 IS A JUNCTION           *         *     *     *                *                 *                 *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3       Q4    INVERT-3 INVERT-4  PHI 3   PHI 4
                             3508.70 2301.54    4     0     7  0.013      0.0     25.0      0.00  2303.04   0.00   90.00
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

 ELEMENT NO  34 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             3780.30 2302.63    4             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  35 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             4051.80 2303.72    4             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  36 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             4320.80 2304.81    4             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  37 IS A JUNCTION           *         *     *     *                *                 *                 *
                U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3       Q4    INVERT-3 INVERT-4  PHI 3   PHI 4
                             4320.80 2304.81    4     7     8  0.013     28.0     11.0  2306.32  2307.31  90.00   90.00
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

 ELEMENT NO  38 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             4325.80 2306.31    4             0.013                                   0.00   0.00    0.00      0
WARNING - ADJACENT SECTIONS ARE NOT IDENTICAL - SEE SECTION NUMBERS AND CHANNEL DEFINITIONS

 ELEMENT NO  39 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             4608.30 2307.44    7             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  40 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             4890.80 2308.56    7             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  41 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             5173.30 2309.70    7             0.013                                   0.00   0.00   90.00     1♀
                                        F 0 5 1 5 P                                                          PAGE NO   6

                        WATER SURFACE PROFILE - ELEMENT CARD LISTING

 ELEMENT NO  42 IS A REACH              *         *     *
                U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                             5238.50 2310.03    7             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  43 IS A SYSTEM HEADWORKS                 *                    *
                U/S DATA   STATION    INVERT  SECT                                              W S ELEV
                             5238.50 2310.03    7                                                   0.00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC ♀
LICENSEE: SLATER HANIFAN GROUP                          F0515P                                                    PAGE    1
                                                WATER SURFACE PROFILE LISTING
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PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0.01	2284.21	4.325	2288.535	464.2	11.79	2.160	2290.695	0.00	4.325		5.00	9.10	0.00	0	0.00
24.00	0.00292					.003472	0.08			4.719			0.00		
24.01	2284.28	4.526	2288.806	464.2	11.27	1.973	2290.779	0.00	4.325		5.00	9.10	0.00	0	0.00
78.53	0.00306					.003194	0.25			4.637			0.00		
102.54	2284.52	4.598	2289.118	464.2	11.09	1.911	2291.029	0.00	4.325		5.00	9.10	0.00	0	0.00
100.00	0.00300					.003084	0.31			4.670			0.00		
202.54	2284.82	4.645	2289.465	464.2	10.98	1.873	2291.338	0.00	4.325		5.00	9.10	0.00	0	0.00
JUNCT STR	0.00000					.003354	0.00						0.00		
202.54	2284.82	5.287	2290.107	429.2	9.49	1.397	2291.504	0.00	4.104		5.00	9.10	0.00	0	0.00
578.05	0.00299					.003665	2.12			4.407			0.00		
780.59	2286.55	5.675	2292.225	429.2	9.49	1.397	2293.622	0.00	4.104		5.00	9.10	0.00	0	0.00
JUNCT STR	0.00000					.003087	0.00						0.00		
780.59	2286.55	6.344	2292.894	355.2	7.85	0.957	2293.851	0.00	3.618		5.00	9.10	0.00	0	0.00
1128.45	0.00300					.002510	2.83			3.825			0.00		
1909.04	2289.94	5.787	2295.727	355.2	7.85	0.957	2296.684	0.00	3.618		5.00	9.10	0.00	0	0.00
28.54	0.00280					.002510	0.07			3.924			0.00		
1937.58	2290.02	5.895	2295.915	355.2	7.85	0.957	2296.872	0.00	3.618		5.00	9.10	0.00	0	0.00
TRANS STR	0.00336					.001697	0.01						0.00		
1943.53	2290.04	6.494	2296.534	355.2	5.09	0.403	2296.937	0.00	2.715		5.00	14.00	0.00	0	0.00
6.67	0.00300					.000883	0.01			2.631			0.00		
1950.20	2290.06	6.480	2296.540	355.2	5.09	0.403	2296.943	0.00	2.715		5.00	14.00	0.00	0	0.00
124.27	0.00499					.000883	0.11			2.219			0.00		

WATER SURFACE PROFILE LISTING

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
2074.47	2290.68	6.030	2296.710	355.2	5.09	0.403	2297.113	0.00	2.715		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000695	0.00						0.00		
2074.48	2290.68	6.187	2296.867	269.2	3.86	0.231	2297.098	0.00	2.257		5.00	14.00	0.00	0	0.00
28.70	0.00383					.000507	0.01			2.016			0.00		
2103.18	2290.79	6.092	2296.882	269.2	3.86	0.231	2297.113	0.00	2.257		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000427	0.00						0.00		
2103.18	2290.79	6.184	2296.974	222.2	3.19	0.158	2297.132	0.00	1.986		5.00	14.00	0.00	0	0.00
29.00	0.00241					.000346	0.01			2.069			0.00		

2132.18	2290.86	6.146	2297.006	222.2	3.19	0.158	2297.164	0.00	1.986		5.00	14.00	0.00	0	0.00
11.90	0.00252					.000346	0.00			2.039			0.00		
JUNCT STR	0.00000					.000345	0.00						0.00		
2144.08	2290.89	6.120	2297.010	222.0	3.18	0.157	2297.167	0.00	1.984		5.00	14.00	0.00	0	0.00
22.50	0.00311					.000345	0.01			1.902			0.00		
2166.58	2290.96	6.058	2297.018	222.0	3.18	0.157	2297.175	0.00	1.984		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000248	0.00						0.00		
2166.58	2290.96	6.195	2297.155	147.0	2.11	0.069	2297.224	0.00	1.508		5.00	14.00	0.00	0	0.00
12.70	0.00315					.000151	0.00			1.449			0.00		
2179.28	2291.00	6.157	2297.157	147.0	2.11	0.069	2297.226	0.00	1.508		5.00	14.00	0.00	0	0.00
TRANS STR	0.00778					.001669	0.03						0.00		
2197.28	2291.14	5.406	2296.546	147.0	7.49	0.870	2297.416	0.00	3.476		5.00	0.00	0.00	0	0.00
78.23	0.00818					.003186	0.25			2.861			0.00		
2275.51	2291.78	5.088	2296.868	147.0	7.49	0.870	2297.738	0.00	3.476		5.00	0.00	0.00	0	0.00*

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0.91	0.10000					.003167	0.00			1.430			0.00		
2276.42	2291.87	5.000	2296.871	147.0	7.49	0.870	2297.741	0.00	3.476		5.00	0.00	0.00	0	0.00
3.87	0.10000					.002968	0.01			1.430			0.00		
2280.29	2292.26	4.536	2296.794	147.0	7.85	0.957	2297.751	0.00	3.476		5.00	0.00	0.00	0	0.00
0.22	0.10000					.002795	0.00			1.430			0.00		
2280.51	2292.28	4.505	2296.785	147.0	9.24	1.327	2298.112	0.00	3.560		4.50	0.00	0.00	0	0.00
26.90	0.00771					.005553	0.15			3.191			0.00		
2307.41	2292.49	4.500	2296.987	147.0	9.24	1.327	2298.314	0.00	3.560		4.50	0.00	0.00	0	0.00
113.40	0.00771					.005203	0.59			3.191			0.00		
2420.81	2293.36	4.082	2297.444	147.0	9.69	1.459	2298.903	0.00	3.560		4.50	0.00	0.00	0	0.00
24.56	0.00771					.004975	0.12			3.191			0.00		
2445.37	2293.55	3.937	2297.488	147.0	9.96	1.541	2299.029	0.00	3.560		4.50	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
2445.37	2293.55	3.213	2296.764	147.0	12.10	2.274	2299.038	0.00	3.560		4.50	0.00	0.00	0	0.00
63.45	0.00771					.007550	0.48			3.191			0.00		
2508.82	2294.04	3.222	2297.262	147.0	12.06	2.260	2299.522	0.00	3.560		4.50	0.00	0.00	0	0.00
58.55	0.00752					.007522	0.44			3.222			0.00		
2567.37	2294.48	3.222	2297.702	147.0	12.06	2.260	2299.962	0.00	3.560		4.50	0.00	0.00	0	0.00
167.45	0.00752					.007498	1.26			3.222			0.00		
2734.82	2295.74	3.230	2298.970	147.0	12.03	2.248	2301.218	0.00	3.560		4.50	0.00	0.00	0	0.00
19.88	0.00747					.007475	0.15			3.230			0.00		

2754.70	2295.89	3.230	2299.119	147.0	12.03	2.248	2301.367	0.00	3.560		4.50	0.00	0.00	0	0.00
						.001161	0.32			2.350			0.00		
3780.30	2302.63	4.567	2307.197	67.0	4.21	0.276	2307.473	0.00	2.385		4.50	0.00	0.00	0	0.00
24.01	0.00402					.001154	0.03			2.350			0.00		
3804.31	2302.73	4.500	2307.226	67.0	4.21	0.276	2307.502	0.00	2.385		4.50	0.00	0.00	0	0.00
132.69	0.00402					.001081	0.14			2.350			0.00		
3937.00	2303.26	4.082	2307.341	67.0	4.42	0.303	2307.644	0.00	2.385		4.50	0.00	0.00	0	0.00
71.41	0.00402					.001050	0.08			2.350			0.00		

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WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
163.42	0.00747					.007496	1.22			3.230			0.00		
2918.12	2297.11	3.223	2300.333	147.0	12.06	2.258	2302.591	0.00	3.560		4.50	0.00	0.00	0	0.00
67.34	0.00751					.007516	0.51			3.223			0.00		
2985.46	2297.62	3.223	2300.839	147.0	12.06	2.258	2303.097	0.00	3.560		4.50	0.00	0.00	0	0.00
169.56	0.00751					.007436	1.26			3.223			0.00		
3155.02	2298.89	3.251	2302.141	147.0	11.95	2.217	2304.358	0.00	3.560		4.50	0.00	0.00	0	0.00
89.26	0.00753					.006998	0.62			3.220			0.00		
3244.28	2299.56	3.392	2302.954	147.0	11.43	2.028	2304.982	0.00	3.560		4.50	0.00	0.00	0	0.00
14.34	0.00753					.006310	0.09			3.220			0.00		
3258.62	2299.67	3.560	2303.230	147.0	10.89	1.842	2305.072	0.00	3.560		4.50	0.00	0.00	0	0.00
9.23	0.00359					.005708	0.05			4.500			0.00		
3267.85	2299.70	3.747	2303.450	147.0	10.39	1.675	2305.125	0.00	3.560		4.50	0.00	0.00	0	0.00
41.25	0.00359					.005227	0.22			4.500			0.00		
3309.10	2299.85	3.967	2303.818	147.0	9.90	1.523	2305.341	0.00	3.560		4.50	0.00	0.00	0	0.00
108.52	0.00359					.004925	0.53			4.500			0.00		
3417.62	2300.24	4.248	2304.488	147.0	9.45	1.387	2305.875	0.00	3.560		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.003511	0.00						0.00		
3417.62	2300.24	5.941	2306.181	92.0	5.78	0.520	2306.701	0.00	2.814		4.50	0.00	0.00	0	0.00
91.08	0.01427					.002189	0.20			1.956			0.00		
3508.70	2301.54	4.840	2306.380	92.0	5.78	0.520	2306.900	0.00	2.814		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001675	0.00						0.00		
3508.70	2301.54	5.328	2306.868	67.0	4.21	0.276	2307.144	0.00	2.385		4.50	0.00	0.00	0	0.00

LICENSEE: SLATER HANIFAN GROUP F0515P PAGE 5

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		

4008.41	2303.55	3.840	2307.386	67.0	4.63	0.333	2307.719	0.00	2.385		4.50	0.00	0.00	0	0.00
43.39	0.00402					.001123	0.05			2.350			0.00		
4051.80	2303.72	3.691	2307.411	67.0	4.80	0.358	2307.769	0.00	2.385		4.50	0.00	0.00	0	0.00
51.42	0.00405					.001220	0.06			2.343			0.00		
4103.22	2303.93	3.509	2307.437	67.0	5.03	0.393	2307.830	0.00	2.385		4.50	0.00	0.00	0	0.00
45.03	0.00405					.001351	0.06			2.343			0.00		
4148.25	2304.11	3.348	2307.459	67.0	5.28	0.433	2307.892	0.00	2.385		4.50	0.00	0.00	0	0.00
41.12	0.00405					.001505	0.06			2.343			0.00		
4189.37	2304.28	3.200	2307.477	67.0	5.54	0.476	2307.953	0.00	2.385		4.50	0.00	0.00	0	0.00
37.34	0.00405					.001685	0.06			2.343			0.00		
4226.71	2304.43	3.064	2307.493	67.0	5.81	0.524	2308.017	0.00	2.385		4.50	0.00	0.00	0	0.00
34.09	0.00405					.001892	0.06			2.343			0.00		
4260.80	2304.57	2.938	2307.505	67.0	6.09	0.576	2308.081	0.00	2.385		4.50	0.00	0.00	0	0.00
31.94	0.00405					.002130	0.07			2.343			0.00		
4292.74	2304.70	2.819	2307.515	67.0	6.39	0.634	2308.149	0.00	2.385		4.50	0.00	0.00	0	0.00*

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
28.06	0.00405					.002397	0.07			2.343			0.00		
4320.80	2304.81	2.712	2307.522	67.0	6.69	0.695	2308.217	0.00	2.385		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001368	0.00						0.00		
4320.80	2304.81	3.724	2308.534	28.0	1.99	0.061	2308.595	0.00	1.513		4.50	0.00	0.00	0	0.00
0.60	0.30000					.000209	0.00			0.500			0.00		
4321.40	2304.99	3.539	2308.528	28.0	2.09	0.068	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.52	0.30000					.000232	0.00			0.500			0.00		
4321.92	2305.15	3.374	2308.521	28.0	2.19	0.074	2308.595	0.00	1.513		4.50	0.00	0.00	0	0.00
0.48	0.30000					.000258	0.00			0.500			0.00		
4322.40	2305.29	3.225	2308.514	28.0	2.30	0.082	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.43	0.30000					.000289	0.00			0.500			0.00		
4322.83	2305.42	3.087	2308.506	28.0	2.41	0.090	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.40	0.30000					.000324	0.00			0.500			0.00		
4323.23	2305.54	2.959	2308.497	28.0	2.53	0.099	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.36	0.30000					.000365	0.00			0.500			0.00		
4323.59	2305.65	2.839	2308.487	28.0	2.65	0.109	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.34	0.30000					.000411	0.00			0.500			0.00		
4323.93	2305.75	2.726	2308.476	28.0	2.78	0.120	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.32	0.30000					.000464	0.00			0.500			0.00		
4324.25	2305.84	2.620	2308.464	28.0	2.91	0.132	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00

0.29	0.30000					.000525	0.00			0.500			0.00			
4324.54	2305.93	2.520	2308.451	28.0	3.06	0.145	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00	

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0.27	0.30000					.000595	0.00			0.500			0.00		
4324.81	2306.01	2.424	2308.437	28.0	3.20	0.159	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.25	0.30000					.000674	0.00			0.500			0.00		
4325.06	2306.09	2.334	2308.421	28.0	3.36	0.175	2308.596	0.00	1.513		4.50	0.00	0.00	0	0.00
0.23	0.30000					.000764	0.00			0.500			0.00		
4325.29	2306.16	2.248	2308.404	28.0	3.52	0.193	2308.597	0.00	1.513		4.50	0.00	0.00	0	0.00
0.21	0.30000					.000868	0.00			0.500			0.00		
4325.50	2306.22	2.165	2308.385	28.0	3.70	0.212	2308.597	0.00	1.513		4.50	0.00	0.00	0	0.00
0.19	0.30000					.000986	0.00			0.500			0.00		
4325.69	2306.28	2.087	2308.364	28.0	3.88	0.233	2308.597	0.00	1.513		4.50	0.00	0.00	0	0.00
0.11	0.30000					.001095	0.00			0.500			0.00		
4325.80	2306.31	2.039	2308.349	28.0	5.47	0.465	2308.814	0.00	1.712		3.00	0.00	0.00	0	0.00
34.02	0.00400					.002887	0.10			1.785			0.00		
4359.82	2306.45	1.955	2308.401	28.0	5.74	0.511	2308.912	0.00	1.712		3.00	0.00	0.00	0	0.00
37.13	0.00400					.003250	0.12			1.785			0.00		
4396.95	2306.59	1.876	2308.471	28.0	6.02	0.563	2309.034	0.00	1.712		3.00	0.00	0.00	0	0.00
53.07	0.00400					.003666	0.19			1.785			0.00		
4450.02	2306.81	1.802	2308.609	28.0	6.31	0.619	2309.228	0.00	1.712		3.00	0.00	0.00	0	0.00
47.02	0.00400					.003946	0.19			1.785			0.00		
4497.04	2306.99	1.785	2308.780	28.0	6.39	0.633	2309.413	0.00	1.712		3.00	0.00	0.00	0	0.00
111.26	0.00400					.004004	0.45			1.785			0.00		
4608.30	2307.44	1.785	2309.225	28.0	6.39	0.633	2309.858	0.00	1.712		3.00	0.00	0.00	0	0.00

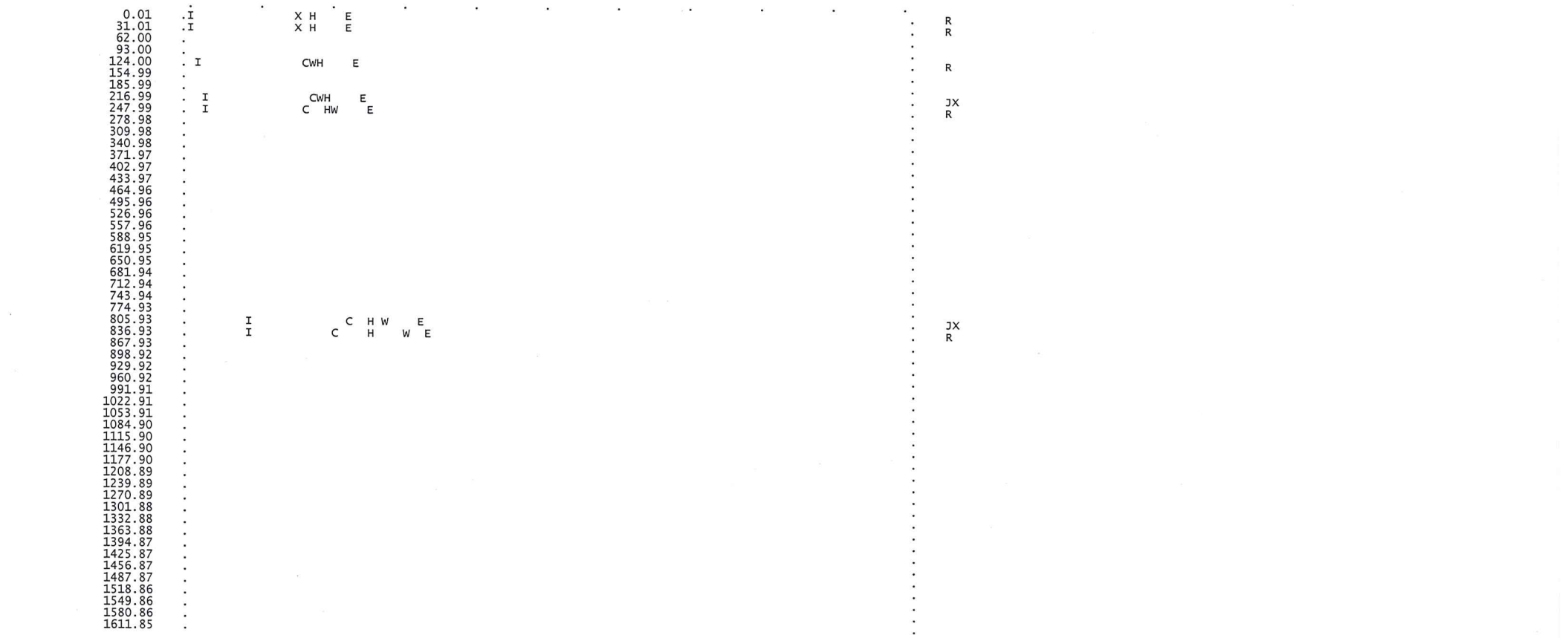
WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
33.60	0.00396					.003988	0.13			1.790			0.00		
4641.90	2307.57	1.790	2309.363	28.0	6.37	0.629	2309.992	0.00	1.712		3.00	0.00	0.00	0	0.00
248.90	0.00396					.003970	0.99			1.790			0.00		
4890.80	2308.56	1.790	2310.350	28.0	6.37	0.629	2310.979	0.00	1.712		3.00	0.00	0.00	0	0.00
50.02	0.00404					.004006	0.20			1.780			0.00		

FARM-A.OUT

4940.82	2308.76	1.780	2310.542	28.0	6.41	0.638	2311.180	0.00	1.712		3.00	0.00	0.00	0	0.00
232.48	0.00404					.004039	0.94			1.780			0.00		
5173.30	2309.70	1.780	2311.480	28.0	6.41	0.638	2312.118	0.00	1.712		3.00	0.00	0.00	0	0.00
2.17	0.00506					.004303	0.01			1.657			0.00		
5175.47	2309.71	1.712	2311.423	28.0	6.72	0.701	2312.124	0.00	1.712		3.00	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
5175.47	2309.71	1.657	2311.368	28.0	6.99	0.759	2312.127	0.00	1.712		3.00	0.00	0.00	0	0.00
48.61	0.00506					.005067	0.25			1.657			0.00		
5224.08	2309.96	1.657	2311.614	28.0	6.99	0.759	2312.373	0.00	1.712		3.00	0.00	0.00	0	0.00
14.42	0.00506					.004816	0.07			1.657			0.00		
5238.50	2310.03	1.712	2311.742	28.0	6.72	0.701	2312.443	0.00	1.712		3.00	0.00	0.00	0	0.00

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014



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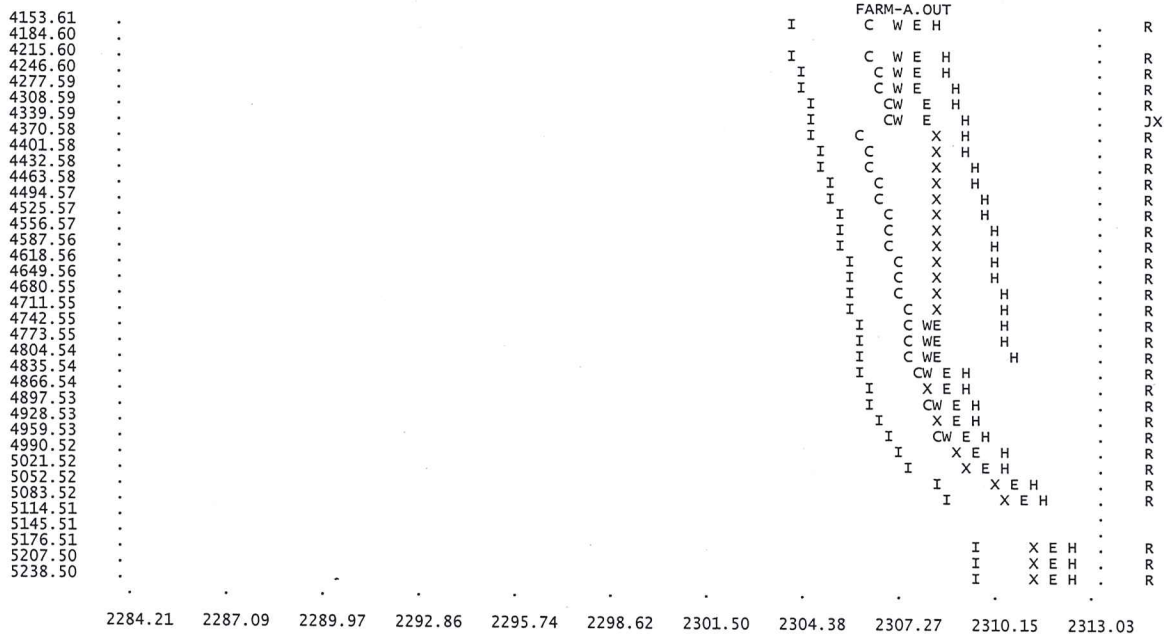

N O T E S
1. GLOSSARY
   I = INVERT ELEVATION
   C = CRITICAL DEPTH
   W = WATER SURFACE ELEVATION
   H = HEIGHT OF CHANNEL
   E = ENERGY GRADE LINE
   X = CURVES CROSSING OVER
   B = BRIDGE ENTRANCE OR EXIT
   Y = WALL ENTRANCE OR EXIT
2. STATIONS FOR POINTS AT A JUMP MAY NOT BE PLOTTED EXACTLY♀

Virage Park Drive East (VPDE-A) WSPG Model

Ultimate Condition WSPG Summary
VPDE-A Storm Drain System

WSPG Station	Equivalent Roadway Station	Storm Drain Width/Dia. (ft)	Storm Drain Height (ft)	Q_{100} (cfs)	Invert Elevation (ft)	WSE (ft)	Velocity (ft/s)	FG Elevation	Description	HGL Check[1]
-6970.33	-	6.0	5.0	222.0	2290.68	2296.87	7.40	2300.00	end of box	OK
-6950.82	-	6.0	5.0	222.0	2290.74	2296.92	7.40	2300.10	end curve	OK
-6887.33	-	6.0	5.0	222.0	2290.95	2297.15	7.40	2300.50	begin curve	OK
-6833.81	-	6.0	5.0	222.0	2291.12	2297.30	7.40	2301.00	mics.	OK
-6821.62	-	6.0	-	222.0	2291.16	2297.23	7.85	2301.00	junction of flow	OK
-6547.97	-	6.0	-	222.0	2292.02	2298.02	7.85	2301.81	angle point	OK
-6413.44	-	6.0	-	222.0	2292.45	2298.36	7.88	2302.33	junction of flow	OK
-6278.91	-	6.0	-	222.0	2292.90	2298.67	7.95	2302.90	junction of flow	OK
-6114.13	-	6.0	-	222.0	2293.40	2299.04	8.05	2303.70	angle point	OK
-5949.71	-	6.0	-	222.0	2294.00	2299.37	8.32	2303.50	angle point	OK
-5799.30	-	6.0	-	222.0	2294.61	2299.62	8.80	2307.29	junction of flow	OK
-5721.60	-	6.0	-	222.0	2294.84	2299.81	8.86	2308.95	junction of flow	OK
-5625.00	-	6.0	-	222.0	2295.13	2300.05	8.94	2310.39	angle point	OK
-5518.00	-	6.0	-	222.0	2295.50	2300.29	9.17	2306.00	start of pipe	OK

1 - 'HGL Check' reflects the minimum 1-ft below finished grade.

```
T1  PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY                0
T2  VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD
T3  ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014
SO  -6970.3302290.680 11      .013                2296.87
R   -6950.8222290.742 11      .013
R   -6887.3362290.946 11      .013                     400.000   9.000    .000
R   -6833.8112291.117 11      .013
JX  -6821.6252291.156 10  6   .013    0.001         2292.020         45.0
R   -6547.9702292.020 10      .013                                        12.000
R   -6413.4402292.450 10      .013                                         9.000
JX  -6413.4402292.450 10  6   .013    0.001         2292.600         57.0
R   -6278.9102292.900 10      .013                                        10.000
JX  -6278.9102292.900 10  4   .013    0.001         2295.900        -20.0
R   -6114.1302293.400 10      .013                                        12.000
R   -5949.7102294.000 10      .013                                       -59.000
R   -5799.3002294.610 10      .013                                       -37.000
JX  -5799.3002294.610 10  5  5.013    0.001  0.001  2297.1002297.100 27.0-90.0
R   -5721.6002294.840 10      .013
JX  -5721.6002294.840 10  1  1.013    0.001  0.001  2299.4002299.400 45.0-45.0
R   -5625.0002295.130 10      .013                                        52.000
R   -5518.0002295.500 10      .013
SH  -5518.0002295.500 10      .013                2307.020
CD   1  4   1    .000   1.500     .000  .000  .000   .00
CD   2  4   1    .000   2.000     .000  .000  .000   .00
CD   3  4   1    .000   2.500     .000  .000  .000   .00
CD   4  4   1    .000   3.000     .000  .000  .000   .00
CD   5  4   1    .000   3.500     .000  .000  .000   .00
CD   6  4   1    .000   4.000     .000  .000  .000   .00
CD   7  4   1    .000   4.500     .000  .000  .000   .00
CD   8  4   1    .000   5.000     .000  .000  .000   .00
CD   9  4   1    .000   5.500     .000  .000  .000   .00
CD  10  4   1    .000   6.000     .000  .000  .000   .00
CD  11  3   0    .000   5.000    6.000  .000  .000   .00
Q           222.000   .0
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CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4	1		1.500														
CD	2	4	1		2.000														
CD	3	4	1		2.500														
CD	4	4	1		3.000														
CD	5	4	1		3.500														
CD	6	4	1		4.000														
CD	7	4	1		4.500														
CD	8	4	1		5.000														
CD	9	4	1		5.500														
CD	10	4	1		6.000														
CD	11	3	0	.000	5.000	6.000	.000	.000	.00										

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY

HEADING LINE NO 2 IS -

VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD

HEADING LINE NO 3 IS -

ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	-6970.330	2290.680	11	2296.870

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6950.822	2290.742	11	.013	.000	.000	.000	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6887.336	2290.946	11	.013	404.163	9.000	.000	0

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6833.811	2291.117	11	.013	.000	.000	.000	0

ELEMENT NO 5 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	-6821.625	2291.156	10	6	0	.013	.001	.000	2292.020	.000	45.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6547.970	2292.020	10	.013	.000	.000	12.000	0

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6413.440	2292.450	10	.013	.000	.000	9.000	0

ELEMENT NO 8 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	-6413.440	2292.450	10	6	0	.013	.001	.000	2292.600	.000	57.000	.000

RADIUS	ANGLE
.000	.000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6278.910	2292.900	10	.013	.000	.000	10.000	0

ELEMENT NO 10 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	-6278.910	2292.900	10	4	0	.013	.001	.000	2295.900	.000	-20.000	.000

RADIUS	ANGLE
.000	.000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 11 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-6114.130	2293.400	10	.013	.000	.000	12.000	0

ELEMENT NO 12 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-5949.710	2294.000	10	.013	.000	.000	-59.000	0

ELEMENT NO 13 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	-5799.300	2294.610	10	.013	.000	.000	-37.000	0

ELEMENT NO 14 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	-5799.300	2294.610	10	5	5	.013	.001	.001	2297.100	2297.100	27.000	-90.000

RADIUS	ANGLE

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                                                                                                    .000     .000
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
 ELEMENT NO  15 IS A REACH                *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                              -5721.600 2294.840   10              .013                           .000     .000       .000     0
 ELEMENT NO  16 IS A JUNCTION             *         *     *     *                 *                  *                  *
                    U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3        Q4     INVERT-3 INVERT-4  PHI 3   PHI 4
                              -5721.600 2294.840   10     1     1   .013      .001      .001  2299.400 2299.400  45.000  -45.000
                                                                                                 RADIUS    ANGLE
                                                                                                    .000     .000
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
 ELEMENT NO  17 IS A REACH                *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                              -5625.000 2295.130   10              .013                           .000     .000    52.000     0
 ELEMENT NO  18 IS A REACH                *         *     *
                    U/S DATA   STATION    INVERT  SECT              N                          RADIUS    ANGLE     ANG PT  MAN H
                              -5518.000 2295.500   10              .013                           .000     .000       .000     0
 ELEMENT NO  19 IS A SYSTEM HEADWORKS                  *                       *
                    U/S DATA   STATION    INVERT  SECT                                      W S ELEV
                              -5518.000 2295.500   10                                     2307.020
                                                W S P G W                                                    PAGE NO   4
                         WATER SURFACE PROFILE - ELEMENT CARD LISTING
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WATER SURFACE PROFILE LISTING Date: 7- 1-2014 Time:10:22:12

PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
-6970.330	2290.680	6.190	2296.870	222.01	7.40	.85	2297.72	.00	3.49	6.00	5.000	6.000	.00	0 .0
19.508	.0032					.0028	.05	6.19	.58	4.01	.013	.00	.00	BOX
-6950.822	2290.742	6.182	2296.924	222.01	7.40	.85	2297.77	.00	3.49	6.00	5.000	6.000	.00	0 .0
63.486	.0032					.0028	.18	.00	.58	3.99	.013	.00	.00	BOX
-6887.336	2290.946	6.208	2297.154	222.01	7.40	.85	2298.00	.00	3.49	6.00	5.000	6.000	.00	0 .0
53.525	.0032					.0028	.15	6.21	.58	4.00	.013	.00	.00	BOX
-6833.811	2291.117	6.185	2297.302	222.01	7.40	.85	2298.15	.00	3.49	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0032					.0028	.03	6.19	.58		.013	.00	.00	BOX
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
-6821.625	2291.156	6.073	2297.229	222.01	7.85	.96	2298.19	.00	4.08	.00	6.000	.000	.00	1 .0
270.746	.0032					.0027	.74	6.07	.00	4.59	.013	.00	.00	PIPE
-6550.879	2292.011	6.000	2298.011	222.01	7.85	.96	2298.97	.00	4.08	.00	6.000	.000	.00	1 .0
2.909	.0032					.0027	.01	6.00	.00	4.59	.013	.00	.00	PIPE
-6547.970	2292.020	5.998	2298.018	222.01	7.85	.96	2298.98	.00	4.08	.23	6.000	.000	.00	1 .0
134.530	.0032					.0026	.35	6.00	.13	4.57	.013	.00	.00	PIPE
JUNCT STR	.0000					.0025	.00	5.91	.31		.013	.00	.00	PIPE

WATER SURFACE PROFILE LISTING Date: 7- 1-2014 Time:10:22:12

PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
-6413.440	2292.450	5.911	2298.361	222.01	7.88	.96	2299.32	.00	4.08	1.45	6.000	.000	.00	1 .0
134.530	.0033					.0024	.33	5.91	.31	4.48	.013	.00	.00	PIPE
JUNCT STR	.0000					.0024	.00	5.77	.40		.013	.00	.00	PIPE
-6278.910	2292.900	5.772	2298.672	222.00	7.95	.98	2299.65	.00	4.08	2.29	6.000	.000	.00	1 .0
164.780	.0030					.0024	.39	5.77	.40	4.68	.013	.00	.00	PIPE
-6114.130	2293.400	5.641	2299.041	222.00	8.05	1.01	2300.05	.00	4.08	2.85	6.000	.000	.00	1 .0
164.420	.0036					.0024	.40	5.64	.46	4.32	.013	.00	.00	PIPE
-5949.710	2294.000	5.367	2299.367	222.00	8.32	1.07	2300.44	.00	4.08	3.69	6.000	.000	.00	1 .0
130.538	.0041					.0025	.33	5.37	.54	4.15	.013	.00	.00	PIPE
-5819.172	2294.530	5.060	2299.589	222.00	8.73	1.18	2300.77	.00	4.08	4.36	6.000	.000	.00	1 .0
19.872	.0041					.0026	.05	5.06	.64	4.15	.013	.00	.00	PIPE
JUNCT STR	.0000					.0027	.00	5.01	.65		.013	.00	.00	PIPE
-5799.300	2294.610	5.012	2299.623	222.00	8.80	1.20	2300.82	.00	4.08	4.45	6.000	.000	.00	1 .0
77.700	.0030					.0027	.21	5.01	.65	4.73	.013	.00	.00	PIPE
JUNCT STR	.0000					.0027	.00	4.97	.66		.013	.00	.00	PIPE

WATER SURFACE PROFILE LISTING Date: 7- 1-2014 Time:10:22:12
PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD
ULTIMATE CONDITION 100-YEAR WITH METHOD A FLOWS - JULY 2014

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/ Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
-5721.600	2294.840	4.974	2299.814	222.00	8.86	1.22	2301.03	.00	4.08	4.52	6.000	.000	.00	1 .0
96.600	.0030					.0027	.26	4.97	.66	4.70	.013	.00	.00	PIPE
-5625.000	2295.130	4.924	2300.054	222.00	8.94	1.24	2301.30	.00	4.08	4.60	6.000	.000	.00	1 .0
107.000	.0035					.0028	.30	4.92	.68	4.41	.013	.00	.00	PIPE
-5518.000	2295.500	4.790	2300.290	222.00	9.17	1.31	2301.60	.00	4.08	4.82	6.000	.000	.00	1 .0

♀

APPENDIX F

Method B Hydraulic Analyses

Farm Road (FARM-B) WSPG Model

Ultimate Condition WSPG Summary
FARM-B Storm Drain System

WSPG Station	Equivalent Roadway Station	Storm Drain Width/Dia. (ft)	Storm Drain Height (ft)	Q_{100} (cfs)	Invert Elevation (ft)	WSE (ft)	Velocity (ft/s)	FG Elevation	Description	HGL Check[1]
0.01	21+98.00	10.0	5.0	503.0	2284.21	2288.77	12.12	2292.71	end of arch	OK
24.01	21+74.00	10.0	5.0	503.0	2284.28	2289.06	11.57	2293.28	end curve	OK
102.54	20+95.47	10.0	5.0	503.0	2284.52	2289.39	11.35	2293.52	begin curve	OK
202.54	19+95.47	10.0	5.0	464.0	2284.82	2290.25	10.26	2293.82	junction for flow	OK
780.59	14+17.42	10.0	5.0	382.0	2286.55	2293.52	8.45	2295.85	junction for flow	OK
1909.04	2+88.97	10.0	5.0	382.0	2289.94	2296.80	8.45	2298.94	end curve	OK
1937.58	2+60.43	10.0	5.0	382.0	2290.02	2297.02	8.45	2299.02	end transition/begin curve	OK
1943.53	2+54.48	14.0	5.0	382.0	2290.04	2297.74	5.48	2299.04	begin transition	OK
1950.20	2+47.81	14.0	5.0	382.0	2290.06	2297.75	5.48	2299.06	mics.	OK
2074.47	47+03.70	14.0	5.0	382.0	2290.68	2297.94	5.48	2300.50	angle point	OK
2074.48	47+03.70	14.0	5.0	269.0	2290.68	2298.18	3.86	2300.40	junction for flow (starting WSE for VPDE-B)	OK
2103.18	46+80.80	14.0	5.0	222.0	2290.79	2298.28	3.19	2300.35	junction for flow	OK
2132.18	46+58.99	14.0	5.0	222.0	2290.86	2298.32	3.19	2300.30	angle point	OK
2144.08	46+47.72	14.0	5.0	222.0	2290.89	2298.32	3.18	2300.20	junction for flow	OK
2166.58	46+25.00	14.0	5.0	147.0	2290.96	2298.47	2.11	2300.20	junction for flow	OK
2179.28	46+13.15	14.0	5.0	147.0	2291.00	2298.47	2.11	2300.25	end transition	OK
2197.28	45+93.98	5.0	-	147.0	2291.14	2297.86	7.49	2300.30	begin transition	OK
2275.51	45+12.87	5.0	-	147.0	2291.78	2298.18	7.49	2300.89	angle point	OK
2280.51	45+06.77	4.5	-	147.0	2292.28	2298.19	9.24	2300.95	misc.	OK
2508.82	42+77.11	4.5	-	147.0	2294.04	2299.58	9.24	2302.95	angle point	OK
2734.82	40+49.25	4.5	-	147.0	2295.74	2300.95	9.24	2305.44	angle point	OK
2918.12	38+64.41	4.5	-	147.0	2297.11	2302.06	9.24	2306.59	angle point	OK
3155.02	36+27.10	4.5	-	147.0	2298.89	2303.49	9.24	2307.83	angle point	OK
3258.62	35+24.72	4.5	-	147.0	2299.67	2304.18	9.24	2308.63	angle point	OK
3417.62	33+65.71	4.5	-	92.0	2300.24	2306.69	5.78	2309.49	junction for flow	OK
3508.70	32+74.63	4.5	-	67.0	2301.54	2307.37	4.21	2309.70	junction for flow	OK
3780.30	30+03.09	4.5	-	67.0	2302.63	2307.70	4.21	2311.10	manhole	OK
4051.80	27+31.55	4.5	-	67.0	2303.72	2308.01	4.28	2312.50	manhole	OK
4320.80	24+60.00	4.5	-	28.0	2304.81	2308.84	1.86	2314.00	junction for flow	OK
4325.80	24+65.00	3.0	-	28.0	2306.31	2308.74	4.57	2314.05	mics.	OK
4608.30	21+77.49	3.0	-	28.0	2307.44	2309.23	6.37	2315.40	manhole	OK
4890.80	18+94.97	3.0	-	28.0	2308.56	2310.35	6.37	2317.00	manhole	OK
5173.30	16+12.45	3.0	-	28.0	2309.70	2311.48	6.41	2318.50	angle point	OK
5238.50	-	3.0	-	28.0	2310.03	2311.74	6.72	2317.00	start of pipe	OK

1 - 'HGL Check' reflects the minimum 1-ft below finished grade.

Area 3 plans
Area 2 plans
Area 4 plans
Area 7 plans

Aliante Channel - Method B Flow
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	Aliante Channel - Method
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

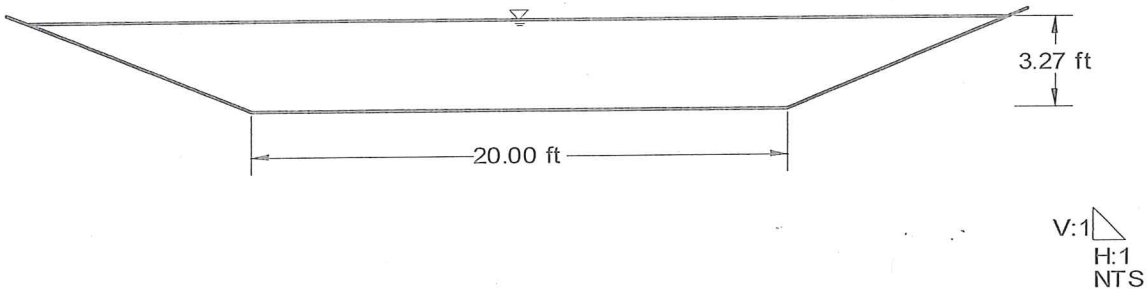
Input Data		
Mannings Coeffic	0.035	
Channel Slope	005000	ft/ft
Left Side Slope	2.50	H : V
Right Side Slope	2.50	H : V
Bottom Width	20.00	ft
Discharge	503.00	cfs

Results		
Depth	3.27	ft
Flow Area	92.2	ft²
Wetted Perim	37.62	ft
Top Width	36.36	ft
Critical Depth	2.43	ft
Critical Slope	0.014801	ft/ft
Velocity	5.46	ft/s
Velocity Head	0.46	ft
Specific Energ	3.73	ft
Froude Numb	0.60	
Flow Type	Subcritical	

Aliante Channel - Method B Flow
Cross Section for Trapezoidal Channel

Project Description	
Worksheet	Aliante Channel - Method
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coeffic	0.035	
Channel Slope	005000	ft/ft
Depth	3.27	ft
Left Side Slope	2.50	H : V
Right Side Slope	2.50	H : V
Bottom Width	20.00	ft
Discharge	503.00	cfs



WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 11 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1950.20	2290.06	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 12 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2074.47	2290.68	2	0.013	0.00	0.00	45.00	0

ELEMENT NO 13 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2074.48	2290.68	2	5	0	0.013	113.0	0.0	2290.68		0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 14 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2103.18	2290.79	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 15 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2103.18	2290.79	2	5	0	0.013	47.0	0.0	2291.24		0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 16 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2132.18	2290.86	2	0.013	0.00	0.00	42.00	0

ELEMENT NO 17 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2144.08	2290.89	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 18 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2144.08	2290.89	2	5	5	0.013	0.1	0.1	2291.34	2291.34	90.00	90.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 19 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2166.58	2290.96	2	0.013	0.00	0.00	0.00	0

F 0 5 1 5 P

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 20 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2166.58	2290.96	2	4	4	0.013	37.5	37.5	2291.16	2291.16	60.00	60.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 21 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2179.28	2291.00	2	0.013	0.00	0.00	0.00	0

ELEMENT NO 22 IS A TRANSITION

U/S DATA	STATION	INVERT	SECT	N
	2197.28	2291.14	3	0.013

ELEMENT NO 23 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2275.51	2291.78	3	0.013	0.00	0.00	10.00	1

ELEMENT NO 24 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2280.51	2292.28	3	0.013	0.00	0.00	0.00	0

WARNING - ADJACENT SECTIONS ARE NOT IDENTICAL - SEE SECTION NUMBERS AND CHANNEL DEFINITIONS

ELEMENT NO 25 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2508.82	2294.04	4	0.013	0.00	0.00	10.00	1

ELEMENT NO 26 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2734.82	2295.74	4	0.013	0.00	0.00	10.00	1

ELEMENT NO 27 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2918.12	2297.11	4	0.013	0.00	0.00	4.00	1

DATE: 7/ 1/2014
TIME: 9:42

F0515P
WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	3	0	0.00	5.00	9.10	0.00	0.00	0.00										
CD	2	3	0	0.00	5.00	14.00	0.00	0.00	0.00										
CD	3	4			5.00														
CD	4	4			4.50														
CD	5	4			4.00														
CD	6	4			3.50														
CD	7	4			3.00														
CD	8	4			2.00														

F 0 5 1 5 P PAGE NO 3

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY

HEADING LINE NO 2 IS -

EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL

HEADING LINE NO 3 IS -

ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014
F 0 5 1 5 P PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	0.01	2284.21	1	2287.48

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	24.01	2284.28	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	102.54	2284.52	1	0.013	50.00	90.00	0.00	0

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	202.54	2284.82	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 5 IS A JUNCTION * * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	202.54	2284.82	1	7	0	0.013	39.0	0.0	2284.82	0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	780.59	2286.55	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 7 IS A JUNCTION * * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	780.59	2286.55	1	5	0	0.013	82.0	0.0	2286.03	0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1909.04	2289.94	1	0.013	0.00	0.00	0.00	0

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1937.58	2290.02	1	0.013	50.00	33.00	0.00	0

ELEMENT NO 10 IS A TRANSITION * * *

U/S DATA	STATION	INVERT	SECT	N
	1943.53	2290.04	2	0.013

F 0 5 1 5 P PAGE NO 3

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 ELEMENT NO  28 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               3155.02 2298.89    4             0.013                                   0.00   0.00   10.00      1

 ELEMENT NO  29 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               3258.62 2299.67    4             0.013                                   0.00   0.00   10.00      1

 ELEMENT NO  30 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               3417.62 2300.24    4             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  31 IS A JUNCTION           *         *     *     *                 *                 *                 *
                  U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3       Q4    INVERT-3 INVERT-4  PHI 3   PHI 4
                               3417.62 2300.24    4     6     0  0.013     55.0      0.0  2301.25     0.00  90.00    0.00
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING ‡
                                        F 0 5 1 5 P                                                                PAGE NO   5

                        WATER SURFACE PROFILE - ELEMENT CARD LISTING

 ELEMENT NO  32 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               3508.70 2301.54    4             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  33 IS A JUNCTION           *         *     *     *                 *                 *                 *
                  U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3       Q4    INVERT-3 INVERT-4  PHI 3   PHI 4
                               3508.70 2301.54    4     0     7  0.013      0.0     25.0      0.00  2303.04   0.00   90.00
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

 ELEMENT NO  34 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               3780.30 2302.63    4             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  35 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               4051.80 2303.72    4             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  36 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               4320.80 2304.81    4             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  37 IS A JUNCTION           *         *     *     *                 *                 *                 *
                  U/S DATA   STATION    INVERT  SECT LAT-1 LAT-2   N      Q3       Q4    INVERT-3 INVERT-4  PHI 3   PHI 4
                               4320.80 2304.81    4     7     8  0.013     28.0     11.0  2306.32  2307.31  90.00   90.00
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

 ELEMENT NO  38 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               4325.80 2306.31    4             0.013                                   0.00   0.00    0.00      0
WARNING - ADJACENT SECTIONS ARE NOT IDENTICAL - SEE SECTION NUMBERS AND CHANNEL DEFINITIONS

 ELEMENT NO  39 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               4608.30 2307.44    7             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  40 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               4890.80 2308.56    7             0.013                                   0.00   0.00    0.00      1

 ELEMENT NO  41 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               5173.30 2309.70    7             0.013                                   0.00   0.00   90.00     1‡
                                        F 0 5 1 5 P                                                                PAGE NO   6

                        WATER SURFACE PROFILE - ELEMENT CARD LISTING

 ELEMENT NO  42 IS A REACH              *         *     *
                  U/S DATA   STATION    INVERT  SECT              N                                  RADIUS  ANGLE  ANG PT  MAN H
                               5238.50 2310.03    7             0.013                                   0.00   0.00    0.00      0

 ELEMENT NO  43 IS A SYSTEM HEADWORKS                 *                 *
                  U/S DATA   STATION    INVERT  SECT                                          W S ELEV
                               5238.50 2310.03    7                                             0.00
NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC ‡
LICENSEE: SLATER HANIFAN GROUP                          F0515P                                                          PAGE    1
                                                WATER SURFACE PROFILE LISTING
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PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
0.01	2284.21	4.563	2288.773	503.2	12.12	2.280	2291.053	0.00	4.563		5.00	9.10	0.00	0	0.00
24.00	0.00292					.003530	0.08			5.000			0.00		
24.01	2284.28	4.781	2289.061	503.2	11.57	2.077	2291.138	0.00	4.563		5.00	9.10	0.00	0	0.00
78.53	0.00306					.003233	0.25			4.928			0.00		
102.54	2284.52	4.871	2289.391	503.2	11.35	2.002	2291.393	0.00	4.563		5.00	9.10	0.00	0	0.00
100.00	0.00300					.003106	0.31			4.963			0.00		
202.54	2284.82	4.927	2289.747	503.2	11.22	1.956	2291.703	0.00	4.563		5.00	9.10	0.00	0	0.00
JUNCT STR	0.00000					.003673	0.00						0.00		
202.54	2284.82	5.433	2290.253	464.2	10.26	1.634	2291.887	0.00	4.325		5.00	9.10	0.00	0	0.00
578.05	0.00299					.004287	2.48			4.674			0.00		
780.59	2286.55	6.181	2292.731	464.2	10.26	1.634	2294.365	0.00	4.325		5.00	9.10	0.00	0	0.00
JUNCT STR	0.00000					.003596	0.00						0.00		
780.59	2286.55	6.974	2293.524	382.2	8.45	1.108	2294.632	0.00	3.799		5.00	9.10	0.00	0	0.00
1128.45	0.00300					.002906	3.28			4.038			0.00		
1909.04	2289.94	6.864	2296.804	382.2	8.45	1.108	2297.912	0.00	3.799		5.00	9.10	0.00	0	0.00
28.54	0.00280					.002906	0.08			4.142			0.00		
1937.58	2290.02	7.001	2297.021	382.2	8.45	1.108	2298.129	0.00	3.799		5.00	9.10	0.00	0	0.00
TRANS STR	0.00336					.001964	0.01						0.00		
1943.53	2290.04	7.698	2297.738	382.2	5.48	0.466	2298.204	0.00	2.851		5.00	14.00	0.00	0	0.00
6.67	0.00300					.001022	0.01			2.764			0.00		
1950.20	2290.06	7.685	2297.745	382.2	5.48	0.466	2298.211	0.00	2.851		5.00	14.00	0.00	0	0.00
124.27	0.00499					.001022	0.13			2.330			0.00		

WATER SURFACE PROFILE LISTING

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
2074.47	2290.68	7.261	2297.941	382.2	5.48	0.466	2298.407	0.00	2.851		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000764	0.00						0.00		
2074.48	2290.68	7.496	2298.176	269.2	3.86	0.231	2298.407	0.00	2.257		5.00	14.00	0.00	0	0.00
28.70	0.00383					.000507	0.01			2.016			0.00		
2103.18	2290.79	7.401	2298.191	269.2	3.86	0.231	2298.422	0.00	2.257		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000427	0.00						0.00		
2103.18	2290.79	7.493	2298.283	222.2	3.19	0.158	2298.441	0.00	1.986		5.00	14.00	0.00	0	0.00
29.00	0.00241					.000346	0.01			2.069			0.00		

2132.18	2290.86	7.455	2298.315	222.2	3.19	0.158	2298.473	0.00	1.986		5.00	14.00	0.00	0	0.00
11.90	0.00252					.000346	0.00			2.039			0.00		
2144.08	2290.89	7.429	2298.319	222.2	3.19	0.158	2298.477	0.00	1.986		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000345	0.00						0.00		
2144.08	2290.89	7.430	2298.320	222.0	3.18	0.157	2298.477	0.00	1.984		5.00	14.00	0.00	0	0.00
22.50	0.00311					.000345	0.01			1.902			0.00		
2166.58	2290.96	7.367	2298.327	222.0	3.18	0.157	2298.484	0.00	1.984		5.00	14.00	0.00	0	0.00
JUNCT STR	0.00000					.000248	0.00						0.00		
2166.58	2290.96	7.505	2298.465	147.0	2.11	0.069	2298.534	0.00	1.508		5.00	14.00	0.00	0	0.00
12.70	0.00315					.000151	0.00			1.449			0.00		
2179.28	2291.00	7.467	2298.467	147.0	2.11	0.069	2298.536	0.00	1.508		5.00	14.00	0.00	0	0.00
TRANS STR	0.00778					.001669	0.03						0.00		
2197.28	2291.14	6.715	2297.855	147.0	7.49	0.870	2298.725	0.00	3.476		5.00	0.00	0.00	0	0.00
78.23	0.00818					.003186	0.25			2.861			0.00		

WATER SURFACE PROFILE LISTING

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
2275.51	2291.78	6.397	2298.177	147.0	7.49	0.870	2299.047	0.00	3.476		5.00	0.00	0.00	0	0.00
5.00	0.10000					.003186	0.02			1.430			0.00		
2280.51	2292.28	5.913	2298.193	147.0	9.24	1.327	2299.520	0.00	3.560		4.50	0.00	0.00	0	0.00
228.31	0.00771					.005588	1.28			3.191			0.00		
2508.82	2294.04	5.539	2299.579	147.0	9.24	1.327	2300.906	0.00	3.560		4.50	0.00	0.00	0	0.00
226.00	0.00752					.005588	1.26			3.222			0.00		
2734.82	2295.74	5.212	2300.952	147.0	9.24	1.327	2302.279	0.00	3.560		4.50	0.00	0.00	0	0.00
183.30	0.00747					.005588	1.02			3.230			0.00		
2918.12	2297.11	4.950	2302.060	147.0	9.24	1.327	2303.387	0.00	3.560		4.50	0.00	0.00	0	0.00
236.90	0.00751					.005588	1.32			3.223			0.00		
3155.02	2298.89	4.604	2303.494	147.0	9.24	1.327	2304.821	0.00	3.560		4.50	0.00	0.00	0	0.00
103.60	0.00753					.005588	0.58			3.220			0.00		
3258.62	2299.67	4.513	2304.183	147.0	9.24	1.327	2305.510	0.00	3.560		4.50	0.00	0.00	0	0.00
159.00	0.00359					.005588	0.89			4.500			0.00		
3417.62	2300.24	4.831	2305.071	147.0	9.24	1.327	2306.398	0.00	3.560		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.003889	0.00						0.00		
3417.62	2300.24	6.445	2306.685	92.0	5.78	0.520	2307.205	0.00	2.814		4.50	0.00	0.00	0	0.00
91.08	0.01427					.002189	0.20			1.956			0.00		
3508.70	2301.54	5.344	2306.884	92.0	5.78	0.520	2307.404	0.00	2.814		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001675	0.00						0.00		
3508.70	2301.54	5.832	2307.372	67.0	4.21	0.276	2307.648	0.00	2.385		4.50	0.00	0.00	0	0.00

271.60 0.00401 .001161 0.32 2.350 0.00

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
3780.30	2302.63	5.072	2307.702	67.0	4.21	0.276	2307.978	0.00	2.385		4.50	0.00	0.00	0	0.00
203.87	0.00402					.001154	0.24			2.350			0.00		
3984.17	2303.45	4.500	2307.949	67.0	4.21	0.276	2308.225	0.00	2.385		4.50	0.00	0.00	0	0.00
67.63	0.00402					.001077	0.07			2.350			0.00		
4051.80	2303.72	4.291	2308.011	67.0	4.28	0.285	2308.296	0.00	2.385		4.50	0.00	0.00	0	0.00
89.88	0.00405					.001022	0.09			2.343			0.00		
4141.68	2304.08	3.990	2308.074	67.0	4.49	0.314	2308.388	0.00	2.385		4.50	0.00	0.00	0	0.00
64.78	0.00405					.001078	0.07			2.343			0.00		
4206.46	2304.35	3.766	2308.113	67.0	4.71	0.345	2308.458	0.00	2.385		4.50	0.00	0.00	0	0.00
54.06	0.00405					.001175	0.06			2.343			0.00		
4260.52	2304.57	3.576	2308.142	67.0	4.94	0.379	2308.521	0.00	2.385		4.50	0.00	0.00	0	0.00
47.22	0.00405					.001298	0.06			2.343			0.00		
4307.74	2304.76	3.408	2308.165	67.0	5.18	0.417	2308.582	0.00	2.385		4.50	0.00	0.00	0	0.00
13.06	0.00405					.001387	0.02			2.343			0.00		
4320.80	2304.81	3.361	2308.171	67.0	5.26	0.429	2308.600	0.00	2.385		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000794	0.00						0.00		
4320.80	2304.81	4.033	2308.843	28.0	1.86	0.054	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00
0.76	0.30000					.000186	0.00			0.500			0.00		
4321.56	2305.04	3.800	2308.837	28.0	1.95	0.059	2308.896	0.00	1.513		4.50	0.00	0.00	0	0.00
0.62	0.30000					.000202	0.00			0.500			0.00		
4322.18	2305.22	3.606	2308.831	28.0	2.05	0.065	2308.896	0.00	1.513		4.50	0.00	0.00	0	0.00
0.55	0.30000					.000222	0.00			0.500			0.00		

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4322.73	2305.39	3.435	2308.825	28.0	2.15	0.072	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00
0.50	0.30000					.000247	0.00			0.500			0.00		
4323.23	2305.54	3.280	2308.818	28.0	2.25	0.079	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00
0.44	0.30000					.000276	0.00			0.500			0.00		
4323.67	2305.67	3.138	2308.810	28.0	2.36	0.087	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00
0.42	0.30000					.000310	0.00			0.500			0.00		
4324.09	2305.80	3.006	2308.802	28.0	2.48	0.095	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00

0.37	0.30000					.000349	0.00			0.500			0.00			
4324.46	2305.91	2.883	2308.792	28.0	2.60	0.105	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00	
0.35	0.30000					.000392	0.00			0.500			0.00			
4324.81	2306.01	2.768	2308.782	28.0	2.73	0.116	2308.898	0.00	1.513		4.50	0.00	0.00	0	0.00	
0.32	0.30000					.000443	0.00			0.500			0.00			
4325.13	2306.11	2.660	2308.770	28.0	2.86	0.127	2308.897	0.00	1.513		4.50	0.00	0.00	0	0.00	
0.31	0.30000					.000501	0.00			0.500			0.00			
4325.44	2306.20	2.557	2308.758	28.0	3.00	0.140	2308.898	0.00	1.513		4.50	0.00	0.00	0	0.00	
0.27	0.30000					.000567	0.00			0.500			0.00			
4325.71	2306.28	2.460	2308.744	28.0	3.15	0.154	2308.898	0.00	1.513		4.50	0.00	0.00	0	0.00	
0.09	0.30000					.000615	0.00			0.500			0.00			
4325.80	2306.31	2.430	2308.740	28.0	4.57	0.324	2309.064	0.00	1.712		3.00	0.00	0.00	0	0.00	
40.56	0.00400					.001896	0.08			1.785			0.00			
4366.36	2306.47	2.312	2308.784	28.0	4.79	0.356	2309.140	0.00	1.712		3.00	0.00	0.00	0	0.00	
36.60	0.00400					.002104	0.08			1.785			0.00			

WATER SURFACE PROFILE LISTING
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4402.96	2306.62	2.207	2308.826	28.0	5.02	0.392	2309.218	0.00	1.712		3.00	0.00	0.00	0	0.00
34.40	0.00400					.002348	0.08			1.785			0.00		
4437.36	2306.76	2.111	2308.867	28.0	5.27	0.431	2309.298	0.00	1.712		3.00	0.00	0.00	0	0.00
33.53	0.00400					.002631	0.09			1.785			0.00		
4470.89	2306.89	2.022	2308.912	28.0	5.52	0.474	2309.386	0.00	1.712		3.00	0.00	0.00	0	0.00
34.10	0.00400					.002956	0.10			1.785			0.00		
4504.99	2307.03	1.939	2308.966	28.0	5.79	0.521	2309.487	0.00	1.712		3.00	0.00	0.00	0	0.00
38.55	0.00400					.003329	0.13			1.785			0.00		
4543.54	2307.18	1.861	2309.042	28.0	6.08	0.573	2309.615	0.00	1.712		3.00	0.00	0.00	0	0.00
64.20	0.00400					.003756	0.24			1.785			0.00		
4607.74	2307.44	1.788	2309.226	28.0	6.37	0.631	2309.857	0.00	1.712		3.00	0.00	0.00	0	0.00
0.56	0.00400					.003985	0.00			1.785			0.00		
4608.30	2307.44	1.788	2309.228	28.0	6.37	0.631	2309.859	0.00	1.712		3.00	0.00	0.00	0	0.00
24.39	0.00396					.003978	0.10			1.790			0.00		
4632.69	2307.54	1.790	2309.327	28.0	6.37	0.629	2309.956	0.00	1.712		3.00	0.00	0.00	0	0.00
258.11	0.00396					.003970	1.02			1.790			0.00		
4890.80	2308.56	1.790	2310.350	28.0	6.37	0.629	2310.979	0.00	1.712		3.00	0.00	0.00	0	0.00
50.02	0.00404					.004006	0.20			1.780			0.00		
4940.82	2308.76	1.780	2310.542	28.0	6.41	0.638	2311.180	0.00	1.712		3.00	0.00	0.00	0	0.00
232.48	0.00404					.004039	0.94			1.780			0.00		

5173.30	2309.70	1.780	2311.480	28.0	6.41	0.638	2312.118	0.00	1.712	3.00	0.00	0.00	0	0.00
2.17	0.00506					.004303	0.01		1.657			0.00		

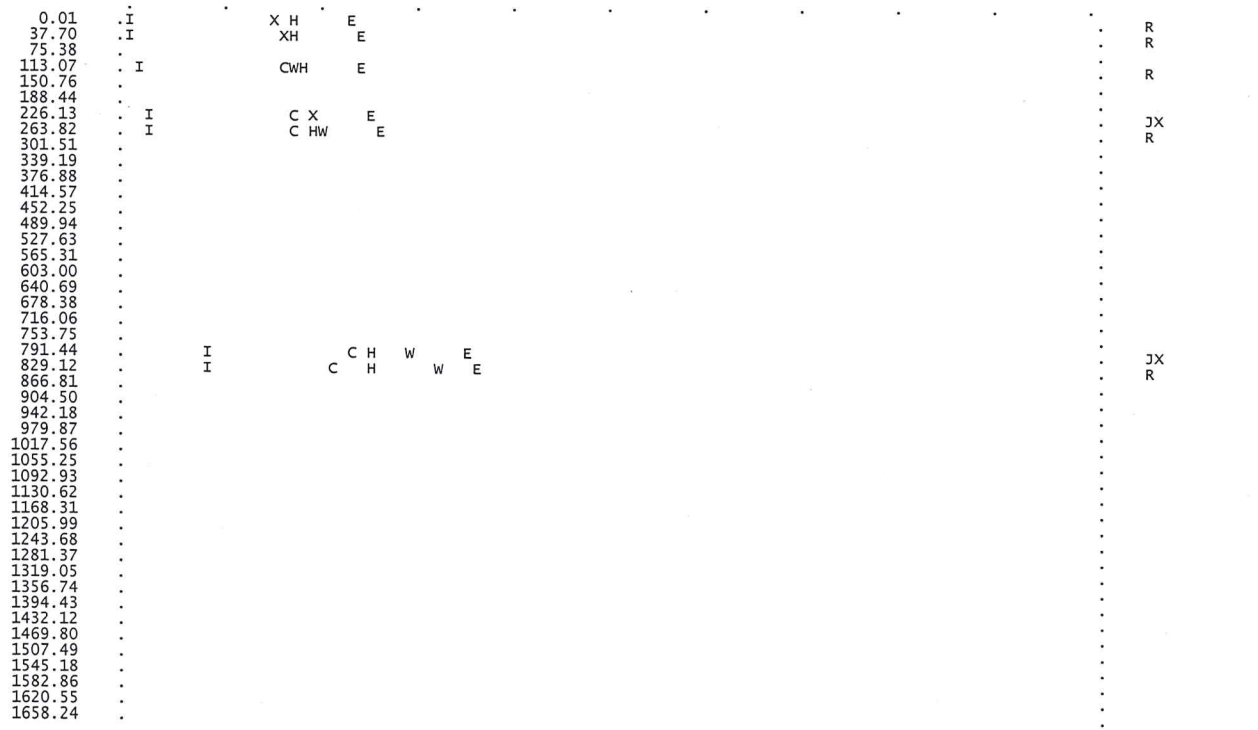
LICENSEE: SLATER HANIFAN GROUP F0515P

WATER SURFACE PROFILE LISTING

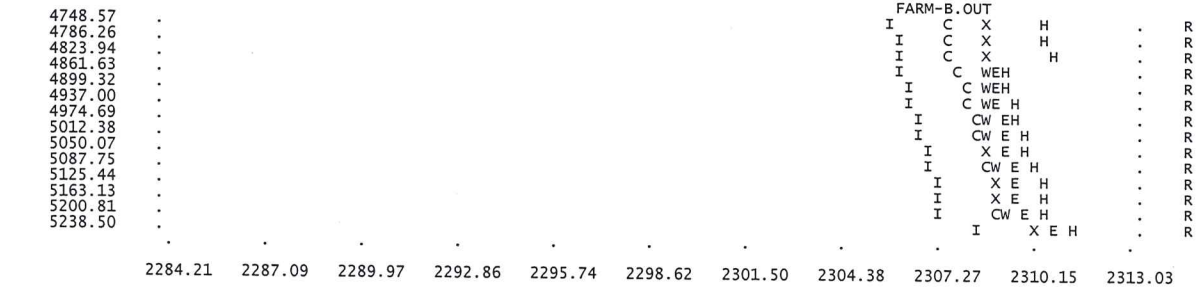
PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
5175.47	2309.71	1.712	2311.423	28.0	6.72	0.701	2312.124	0.00	1.712	3.00	0.00	0.00	0	0.00
HYDRAULIC JUMP												0.00		
5175.47	2309.71	1.657	2311.368	28.0	6.99	0.759	2312.127	0.00	1.712	3.00	0.00	0.00	0	0.00
48.61	0.00506					.005067	0.25		1.657			0.00		
5224.08	2309.96	1.657	2311.614	28.0	6.99	0.759	2312.373	0.00	1.712	3.00	0.00	0.00	0	0.00
14.42	0.00506					.004816	0.07		1.657			0.00		
5238.50	2310.03	1.712	2311.742	28.0	6.72	0.701	2312.443	0.00	1.712	3.00	0.00	0.00	0	0.00

PARK HIGHLANDS WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
EXISTING STORM DRAIN - FARM RD TO ALAINTE FLOOD CHANNEL
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014



Page 9



N O T E S
1. GLOSSARY
   I = INVERT ELEVATION
   C = CRITICAL DEPTH
   W = WATER SURFACE ELEVATION
   H = HEIGHT OF CHANNEL
   E = ENERGY GRADE LINE
   X = CURVES CROSSING OVER
   B = BRIDGE ENTRANCE OR EXIT
   Y = WALL ENTRANCE OR EXIT
2. STATIONS FOR POINTS AT A JUMP MAY NOT BE PLOTTED EXACTLY†

Virage Park Drive East (VPDE-B) WSPG Model

Ultimate Condition WSPG Summary
VPDE-B Storm Drain System

WSPG Station	Equivalent Roadway Station	Storm Drain Width/Dia. (ft)	Storm Drain Height (ft)	Q_{100} (cfs)	Invert Elevation (ft)	WSE (ft)	Velocity (ft/s)	FG Elevation	Description	HGL Check[1]
-6970.33	-	6.0	5.0	113.0	2290.68	2298.18	3.77	2300.00	end of box	OK
-6950.82	-	6.0	5.0	113.0	2290.74	2298.19	3.77	2300.10	end curve	OK
-6887.33	-	6.0	5.0	113.0	2290.95	2298.25	3.77	2300.50	begin curve	OK
-6833.81	-	6.0	5.0	113.0	2291.12	2298.29	3.77	2301.00	mics.	OK
-6821.62	-	6.0	-	113.0	2291.16	2298.27	4.00	2301.00	junction of flow	OK
-6547.97	-	6.0	-	113.0	2292.02	2298.48	4.00	2301.81	angle point	OK
-6413.44	-	6.0	-	94.0	2292.45	2298.72	3.32	2302.33	junction of flow	OK
-6278.91	-	6.0	-	65.0	2292.90	2298.84	2.30	2302.90	junction of flow	OK
-6114.13	-	6.0	-	65.0	2293.40	2298.87	2.40	2303.70	angle point	OK
-5949.71	-	6.0	-	65.0	2294.00	2298.89	2.64	2303.50	angle point	OK
-5799.30	-	6.0	-	65.0	2294.61	2298.90	3.01	2307.29	junction of flow	OK
-5721.60	-	6.0	-	65.0	2294.84	2298.91	3.19	2308.95	junction of flow	OK
-5625.00	-	6.0	-	65.0	2295.13	2298.92	3.46	2310.39	angle point	OK
-5518.00	-	6.0	-	65.0	2295.50	2298.92	3.90	2306.00	start of pipe	OK

1 - 'HGL Check' reflects the minimum 1-ft below finished grade.

```
T1  PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY           0
T2  VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD
T3  ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014
SO  -6970.3302290.680 11      .013                2298.18
R   -6950.8222290.742 11      .013
R   -6887.3362290.946 11      .013                      400.000   9.000    .000
R   -6833.8112291.117 11      .013
JX  -6821.6252291.156 10  6   .013    0.001         2292.020         45.0
R   -6547.9702292.020 10      .013                                        12.000
R   -6413.4402292.450 10      .013                                         9.000
JX  -6413.4402292.450 10  6   .013   19.000         2292.600         57.0
R   -6278.9102292.900 10      .013                                        10.000
JX  -6278.9102292.900 10  4   .013   29.000         2295.900        -20.0
R   -6114.1302293.400 10      .013                                        12.000
R   -5949.7102294.000 10      .013                                       -59.000
R   -5799.3002294.610 10      .013                                       -37.000
JX  -5799.3002294.610 10  5  5.013    0.001  0.001  2297.1002297.100 27.0-90.0
R   -5721.6002294.840 10      .013
JX  -5721.6002294.840 10  1  1.013    0.001  0.001  2299.4002299.400 45.0-45.0
R   -5625.0002295.130 10      .013                                        52.000
R   -5518.0002295.500 10      .013
SH  -5518.0002295.500 10      .013                2307.020
CD   1  4   1    .000   1.500     .000  .000  .000   .00
CD   2  4   1    .000   2.000     .000  .000  .000   .00
CD   3  4   1    .000   2.500     .000  .000  .000   .00
CD   4  4   1    .000   3.000     .000  .000  .000   .00
CD   5  4   1    .000   3.500     .000  .000  .000   .00
CD   6  4   1    .000   4.000     .000  .000  .000   .00
CD   7  4   1    .000   4.500     .000  .000  .000   .00
CD   8  4   1    .000   5.000     .000  .000  .000   .00
CD   9  4   1    .000   5.500     .000  .000  .000   .00
CD  10  4   1    .000   6.000     .000  .000  .000   .00
CD  11  3   0    .000   5.000    6.000  .000  .000   .00
Q           65.000   .0
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FILE: vpde-b.WSW W S P G W - EDIT LISTING - Version 14.07 Date: 7- 1-2014 Time:10:12:44

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING PAGE 1

CARD CODE	SECT NO	CHN TYPE	NO OF PIER/PIP	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4	1		1.500														
CD	2	4	1		2.000														
CD	3	4	1		2.500														
CD	4	4	1		3.000														
CD	5	4	1		3.500														
CD	6	4	1		4.000														
CD	7	4	1		4.500														
CD	8	4	1		5.000														
CD	9	4	1		5.500														
CD	10	4	1		6.000														
CD	11	3	0	.000	5.000	6.000	.000	.000	.00										

W S P G W PAGE NO 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY

HEADING LINE NO 2 IS -

VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD

HEADING LINE NO 3 IS -

ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

W S P G W PAGE NO 2

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

	STATION	INVERT	SECT	W S ELEV
U/S DATA	-6970.330	2290.680	11	2298.180

ELEMENT NO 2 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6950.822	2290.742	11	.013	.000	.000	.000	0

ELEMENT NO 3 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6887.336	2290.946	11	.013	404.163	9.000	.000	0

ELEMENT NO 4 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6833.811	2291.117	11	.013	.000	.000	.000	0

ELEMENT NO 5 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	-6821.625	2291.156	10	6	0	.013	.001	.000	2292.020	.000	45.000	.000

RADIUS	ANGLE
.000	.000

ELEMENT NO 6 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6547.970	2292.020	10	.013	.000	.000	12.000	0

ELEMENT NO 7 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6413.440	2292.450	10	.013	.000	.000	9.000	0

ELEMENT NO 8 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	-6413.440	2292.450	10	6	0	.013	19.000	.000	2292.600	.000	57.000	.000

RADIUS	ANGLE
.000	.000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 9 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6278.910	2292.900	10	.013	.000	.000	10.000	0

ELEMENT NO 10 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	-6278.910	2292.900	10	4	0	.013	29.000	.000	2295.900	.000	-20.000	.000

RADIUS	ANGLE
.000	.000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

W S P G W PAGE NO 3

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 11 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-6114.130	2293.400	10	.013	.000	.000	12.000	0

ELEMENT NO 12 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-5949.710	2294.000	10	.013	.000	.000	-59.000	0

ELEMENT NO 13 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	-5799.300	2294.610	10	.013	.000	.000	-37.000	0

ELEMENT NO 14 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	-5799.300	2294.610	10	5	5	.013	.001	.001	2297.100	2297.100	27.000	-90.000

RADIUS	ANGLE

.000 .000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 15 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
	-5721.600	2294.840	10		.013			.000	.000	.000	0

ELEMENT NO 16 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	-5721.600	2294.840	10	1	1	.013	.001	.001	2299.400	2299.400	45.000	-45.000

									RADIUS	ANGLE
									.000	.000

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 17 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
	-5625.000	2295.130	10		.013			.000	.000	52.000	0

ELEMENT NO 18 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT		N			RADIUS	ANGLE	ANG PT	MAN H
	-5518.000	2295.500	10		.013			.000	.000	.000	0

ELEMENT NO 19 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	-5518.000	2295.500	10	2307.020

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / Water Elev	Q (CFS) / Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT or I.D. / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
-6970.330	2290.680	7.500	2298.180	113.00	3.77	.22	2298.40	.00	2.23	6.00	5.000	6.000	.00	0 .0
19.508	.0032				.0007	.01	7.50	.30	2.41	.013	.00	.00	BOX
-6950.822	2290.742	7.452	2298.194	113.00	3.77	.22	2298.41	.00	2.23	6.00	5.000	6.000	.00	0 .0
63.486	.0032				.0007	.05	.00	.30	2.40	.013	.00	.00	BOX
-6887.336	2290.946	7.307	2298.253	113.00	3.77	.22	2298.47	.00	2.23	6.00	5.000	6.000	.00	0 .0
53.525	.0032				.0007	.04	7.31	.30	2.41	.013	.00	.00	BOX
-6833.811	2291.117	7.175	2298.292	113.00	3.77	.22	2298.51	.00	2.23	6.00	5.000	6.000	.00	0 .0
JUNCT STR	.0032				.0007	.01	7.17	.30		.013	.00	.00	BOX
---------- WARNING - Junction Analysis - Change in Channel Type ----------														
-6821.625	2291.156	7.117	2298.273	113.00	4.00	.25	2298.52	.00	2.87	.00	6.000	.000	.00	1 .0
273.655	.0032				.0007	.19	7.12	.00	2.91	.013	.00	.00	PIPE
-6547.970	2292.020	6.458	2298.478	113.00	4.00	.25	2298.73	.00	2.87	.00	6.000	.000	.00	1 .0
134.530	.0032				.0007	.10	6.46	.00	2.90	.013	.00	.00	PIPE
-6413.440	2292.450	6.131	2298.581	113.00	4.00	.25	2298.83	.00	2.87	.00	6.000	.000	.00	1 .0
JUNCT STR	.0000				.0006	.00	6.13	.00		.013	.00	.00	PIPE
-6413.440	2292.450	6.266	2298.716	94.00	3.32	.17	2298.89	.00	2.61	.00	6.000	.000	.00	1 .0
95.376	.0033				.0005	.05	6.27	.00	2.58	.013	.00	.00	PIPE

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT) / Water Elev	Q (CFS) / Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT or I.D. / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
-6318.064	2292.769	6.000	2298.769	94.00	3.32	.17	2298.94	.00	2.61	.00	6.000	.000	.00	1 .0
39.154	.0033				.0005	.02	6.00	.00	2.58	.013	.00	.00	PIPE
-6278.910	2292.900	5.885	2298.785	94.00	3.34	.17	2298.96	.00	2.61	1.65	6.000	.000	.00	1 .0
JUNCT STR	.0000				.0003	.00	5.88	.14		.013	.00	.00	PIPE
-6278.910	2292.900	5.941	2298.841	65.00	2.30	.08	2298.92	.00	2.15	1.18	6.000	.000	.00	1 .0
164.780	.0030				.0002	.03	5.94	.08	2.17	.013	.00	.00	PIPE
-6114.130	2293.400	5.469	2298.869	65.00	2.40	.09	2298.96	.00	2.15	3.41	6.000	.000	.00	1 .0
93.025	.0036				.0002	.02	5.47	.15	2.06	.013	.00	.00	PIPE
-6021.104	2293.740	5.140	2298.880	65.00	2.52	.10	2298.98	.00	2.15	4.20	6.000	.000	.00	1 .0
71.395	.0036				.0002	.02	5.14	.18	2.06	.013	.00	.00	PIPE
-5949.710	2294.000	4.887	2298.887	65.00	2.64	.11	2299.00	.00	2.15	4.66	6.000	.000	.00	1 .0
59.446	.0041				.0003	.01	4.89	.20	2.01	.013	.00	.00	PIPE

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
-5890.264	2294.241	4.650	2298.891	65.00	2.76	.12	2299.01	.00	2.15	5.01	6.000	.000	.00	1 .0
53.181	.0041					.0003	.01	4.65	.22	2.01	.013	.00	.00	PIPE
-5837.083	2294.457	4.437	2298.894	65.00	2.90	.13	2299.02	.00	2.15	5.27	6.000	.000	.00	1 .0
37.783	.0041					.0003	.01	4.44	.25	2.01	.013	.00	.00	PIPE
JUNCT STR	.0000					.0003	.00	4.29	.27		.013	.00	.00	PIPE

♀ FILE: vpde-b.WSW

W S P G W - CIVILDESIGN Version 14.07

Program Package Serial Number: 1704

WATER SURFACE PROFILE LISTING

Date: 7- 1-2014 Time:10:12:47

PARK HIGHLAND WEST - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
VIRAGE PARK STORM DRAIN - DETENTION BASIN OUTLET STRUCTURE TO FARM RD
ULTIMATE CONDITION 100-YEAR WITH METHOD B FLOWS - JULY 2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
-5799.300	2294.610	4.286	2298.896	65.00	3.01	.14	2299.04	.00	2.15	5.42	6.000	.000	.00	1 .0
64.350	.0030					.0003	.02	4.29	.27	2.18	.013	.00	.00	PIPE
-5734.950	2294.801	4.103	2298.903	65.00	3.16	.15	2299.06	.00	2.15	5.58	6.000	.000	.00	1 .0
13.351	.0030					.0004	.00	4.10	.29	2.18	.013	.00	.00	PIPE
JUNCT STR	.0000					.0004	.00	4.06	.29		.013	.00	.00	PIPE
-5721.600	2294.840	4.065	2298.905	65.00	3.19	.16	2299.06	.00	2.15	5.61	6.000	.000	.00	1 .0
58.085	.0030					.0004	.02	4.06	.29	2.17	.013	.00	.00	PIPE
-5663.515	2295.014	3.897	2298.912	65.00	3.34	.17	2299.09	.00	2.15	5.73	6.000	.000	.00	1 .0
38.515	.0030					.0004	.02	3.90	.32	2.17	.013	.00	.00	PIPE
-5625.000	2295.130	3.786	2298.916	65.00	3.46	.19	2299.10	.00	2.15	5.79	6.000	.000	.00	1 .0
44.147	.0035					.0005	.02	3.79	.34	2.09	.013	.00	.00	PIPE
-5580.853	2295.282	3.636	2298.919	65.00	3.63	.20	2299.12	.00	2.15	5.86	6.000	.000	.00	1 .0
41.472	.0035					.0005	.02	3.64	.37	2.09	.013	.00	.00	PIPE
-5539.381	2295.426	3.495	2298.921	65.00	3.80	.22	2299.15	.00	2.15	5.92	6.000	.000	.00	1 .0
21.381	.0035					.0006	.01	3.49	.39	2.09	.013	.00	.00	PIPE
-5518.000	2295.500	3.421	2298.921	65.00	3.90	.24	2299.16	.00	2.15	5.94	6.000	.000	.00	1 .0

♀

APPENDIX G

Reference Material

Update to the Conceptual Drainage Study for North Las Vegas 1905 Acres (Aliante)

Mayor
Michael L. Montandon

Council Members
William E. Robinson
Stephanie S. Smith
Shari Buck
Robert L. Eliason

Acting City Manager
Gregory E. Rose

Assistant City Manager
Dan Turnwater

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Public Works Department - Development & Flood Control
2266 Civic Center Drive • North Las Vegas, Nevada 89030
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www.cityofnorthlasvegas.com

November 10, 2003

Jeffery J. McBride, PE
GC Wallace, Inc.
1555 South Rainbow Blvd.
Las Vegas, NV 89146

Re: Update to the Conceptual Drainage Study for North Las Vegas 1905 Acres
CNLV No. 12601; GCW No. 590.211.200

Dear Mr. Lozano:

Staff has reviewed the above referenced study, dated September 17, 2003, and found it to meet the minimum accepted standards for a technical drainage study. This acceptance is contingent upon the following conditions:

1. Concurrence must be obtained by the Clark County Regional Flood Control District due to the FEMA Special Flood Hazard Area that traverses the site and the proposed improvements proximity to Regional Flood Control Facilities. Please submit the study and a copy of this conditional approval letter to the Clark County Regional Flood Control District at your earliest convenience.

2. Concurrence must be obtained by the Clark County Public Works due to the proposed improvements proximity to the Clark County Beltway. Please submit the study and a copy of this conditional approval letter to the Clark County Public Works at your earliest convenience.

Acceptance of this drainage study does not imply approval of the grading plan or the structural calculations associated with the drainage for this site. A detailed review of the grading plan is performed by staff during the improvement plan review process.

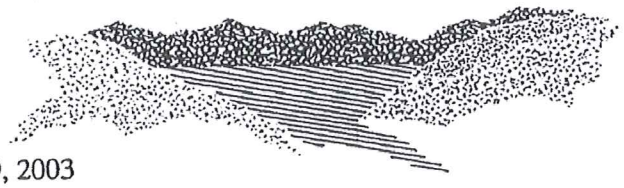
The City assumes no responsibility for the information, data, and conclusions presented in this report. If you have any questions concerning this matter, please contact me at 633-2088.

Sincerely,

Jennifer E. Doody, PE
Senior Engineer
Development and Flood Control Division

Calvin
Jeff
590.211.200

CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT



Gale Wm. Fraser, II, P.E.
General Manager/Chief Engineer

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Bruce L. Woodbury
Clark County

December 19, 2003

Mr. Stephen E. Casmus, P.E.
City of North Las Vegas Public Works
2266 Civic Center Drive
North Las Vegas, NV 89030

DISTRICT CONCURRENCE: NORTH LAS VEGAS 1905 ACRES UPDATE (CNLV NO. 12601) (RFCD NO. 03-5509)

Dear Mr. Casmus:

Clark County Regional Flood Control District (District) reviewed Conceptual Drainage Study dated September 17, 2003, for the above-mentioned project as submitted by G. C. Wallace, Inc. In addition, District is in receipt of the Conditional Letter of Acceptance from City of North Las Vegas Public Works dated November 10, 2003.

District concurs with acceptance of this Conceptual Drainage Study by City of North Las Vegas Public Works.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage*. As noted in study, site resides in a Special Flood Hazard Area (SFHA) designated as "Zone A" per the effective Flood Insurance Rate Map (FIRM). Therefore, consultant should be advised that this acceptance does not serve to amend the FIRM or remove the SFHA.

Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by G. C. Wallace, Inc. may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage. The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.

GALE WM. FRASER, II, P.E.
General Manager/Chief Engineer

BY: _____
Andrew R. Trelease, P.E.
Senior Civil Engineer

ART:css

c: Jeffery J. McBride, P.E., G. C. Wallace, Inc.

File: 19-61-17.GCW

600 S. Grand Central Parkway, Suite 300 • Las Vegas, Nevada 89106-4511
(702) 455-3139 • FAX: (702) 455-3870
Website: *http://www.ccrfcd.org*

Department of Development Services
Civil Engineering Division

500 S Grand Central Pky 1st Fl • PO Box 551799 • Las Vegas NV 89155-1799
(702) 455-4600 • Fax (702) 388-2550

Phil Rosenquist, Director • Carla J. Pearson, Assistant Director

590 211.200
Rick
Jeff
Calvin

December 5, 2003

G. C. Wallace, Inc.
1555 South Rainbow Boulevard
Las Vegas, Nevada 89146

CONCURRENCE FOR THE UPDATE TO THE CONCEPTUAL DRAINAGE STUDY FOR NORTH LAS VEGAS 1905 ACRES (ALIANTE) - SEC. 17-21, T. 19 S., R. 61 E. - HTE 03- 48960

The above-referenced site is located within the City of North Las Vegas. The drainage study was submitted to the County for concurrence because the property is crossed by the Northern Segment of the Las Vegas Beltway The County has reviewed the submittal. In addition, the County has received the acceptance letter dated November 10, 2003 from the City of North Las Vegas. The County concurs with the acceptance of this drainage study by the City of North Las Vegas, subject to the following conditions:

1. Grading within the Northern Beltway right-of-way requires an encroachment permit from Clark County Department of Development Services, Civil Engineering Division;

2. No nuisance water is allowed within the Northern Beltway right-of-way at any time. Nuisance flows from the site must be conveyed within a storm drain system to be maintained by the City of North Las Vegas;

Please note that the County's review of this development is limited to drainage issues significant to Clark County unincorporated areas.

No liability is assumed by the County for information, data, and conclusions of the consulting engineer.

DEVELOPMENT SERVICES DEPARTMENT
Civil Engineering Division

BY _____
Todd L. Myers, P.E.
Senior Engineer

TM: pts/22
cc: Jennifer E. Doody, P.E., Senior Engineer
City of North Las Vegas Department of Public Works
Mike Hand, P.E.
Clark County Department of Public Works

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THOM REILLY, County Manager

03-48960 UP

11.21.03

UPDATE TO THE CONCEPTUAL DRAINAGE STUDY FOR NORTH LAS VEGAS 1905 ACRES (ALIANTE)

590.211.200

September 2003

UP

Prepared for:

North Valley Enterprises, L.L.C.
901 N. Green Valley Parkway, Ste. 200
Henderson, NV 89074
Phone: (702) 458-8855
Fax: (702) 435-6605

G. C. WALLACE, INC.
Engineers/Planners/Surveyors

EXISTING CCRFCD FACILITY LVUP 1076
(8.5' SOIL CEMENT LINED BERM W/300' W CHANNEL)

EXISTING LVUP0976

EXISTING UPPER LAS VEGAS WASH DETENTION BASIN

EXISTING LVUP 0446 NATURAL WASH

EXISTING LVUP 0446 NATURAL WASH

NORTH

SCALE 1" = 1000'

1000 0 1000 2000
SCALE FEET

SUMMARY OF HEC-1 MODEL

SB OR CP	Q100 (CFS)	AREA (AC)
IN1	44	44
ON1	48	39.1
D1	85	
IN2	196	447.7
ON2	97	85.9
D2	217	
IN3	372	677.8
ON3	182	171.2
D3	431	
IN4	60	59.7
ON4	156	147.0
GCW4	206	
IN5	181	233.4
ON5	125	108.4
GCW3	242	
IN6A	214	319.1
IN6B	474	861.6
IN6	512	
ON6	153	165.0
GCW2	540	
ON7	255	149.9
D4	836	
ON8	31	18.6
IN7	106	103.6
ON9	188	162.4
GCW1	281	
ON10	184	134.4
D6A	380	
D6	397	
IN8A	492	970.4
IN8D	171	
IN8B	316	320.0
IN8C	85	74.4
IN8	555	
ON11	136	113.4
VT5	590	
ON12	250	190.7
D7A	651	
D7	931	
IN9	26	24.2
ON13	92	93.3
VT4	112	
ON14	98	67.8
D8	174	
IN10	107	90.7
ON15	67	70.6
VT3	168	
ON16	72	43.3
D9	190	
ON17	30	25.9
ON18	52	32.3
D10	75	
ON19	88	87.4
ON20	38	24.9
D11	111	

GRAND TETON
TENAYA
RAINBOW
JONES
DECATUR
ELKHORN SPRINGS
VALLEY
ALLEN
SIMMONS
CLAYTON
HIGHLAND DRIVE
REVERE
CENTENNIAL
PROJECT SITE
PARK HIGHLANDS WEST
IN1
IN2
IN3
IN4
IN5
IN6A
IN6B
IN6
IN7
IN8A
IN8B
IN8C
IN8
IN9
IN10
ON1
ON2
ON3
ON4
ON5
ON6
ON7
ON8
ON9
ON10
ON11
ON12
ON13
ON14
ON15
ON16
ON17
ON18
ON19
ON20
D1
D2
D3
D4
D5
D6
D7
D7A
D8
D9
D10
D11
GCW1
GCW2
GCW3
GCW4
VT1
VT2
VT3
VT4
VT5

DESIGN:
DRAWN:
CHECK:
ISSUE DATE:
ISSUE EDITOR:
PLOT DATE: 04-14-03
PLOT TIME: 15:55:03

NO.	DESCRIPTION	DATE	APP	DATE	ENGR.	APP	DATE

G.C. WALLACE, INC.
Engineers/Planners/Surveyors
2030 SOUTH GREEN VALLEY PARKWAY, SUITE 500
TELEPHONE (702) 804-2000 • FAX (702) 804-2299
P:\590-211\MASTER STUDIES\HYDRO\dgn\EXISTNGR.dwg jmbrides

NORTH LAS VEGAS 7500 PHASE I
AMERICA NEVADA CORPORATION / DEL WEBB CORPORATION

EXISTING CONDITIONS

SHEET
FIG. 5
SHT OF SHTS

UPMAPS 03-48960

UPMAPS

2nd Response to Comments on the 2nd Update to the Conceptual Drainage Study for the North Las Vegas 600-Acre Site (Park Highlands West)

Mayor
Michael L. Montandon

Council Members
William E. Robinson
Stephanie S. Smith
Shari Buck
Robert L. Eliason

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City Manager
Gregory E. Rose

Public Works Department - Majed A. Al-Ghafry, Director
2266 Civic Center Drive • North Las Vegas, Nevada 89030
Telephone: (702) 633-1200 • Fax: (702) 649-4696 • TDD: (800) 326-6868
www.cityofnorthlasvegas.com

February 28, 2007

A. Kumar Sathappan, P.E.

G.C. Wallace, Inc.
1555 South Rainbow Boulevard
Las Vegas, Nevada 89146

Re: Addendum #2 to the 2nd Update to the Conceptual Drainage Study for North Las Vegas 600-Acre Site
CNLV No. 28463

Dear Kumar:

Staff has reviewed the above referenced study, dated February 20, 2007, and found it to meet the minimum accepted standards for a technical drainage study.

Please be advised that all land surface area disturbances over 1 acre and/or adjacent to a water way must submit a "Notice of Intent" to discharge to the Nevada Division of Environmental Protection, which certifies that a stormwater pollution prevention plan has been developed and is maintained on site. For more information, including forms and applications, see http://ndep.nv.gov/bwpc/storm01.htm.

Acceptance of this drainage study does not imply approval of the grading plan or the structural calculations associated with the drainage for this site. A detailed review of the grading plan is performed by staff during the improvement plan review process.

Any future changes in the proposed design (or design assumptions) as outlined in the approved drainage study and the attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the City of North Las Vegas (CNLV) Development and Flood Control Section. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the CNLV reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

The City assumes no responsibility for the information, data, and conclusions presented in this report. If you have any questions concerning this matter, please contact me at 633-2771.

Sincerely,

Kent Chang, P.E.
Senior Engineer
Development and Flood Control Division

2nd RESPONSE TO COMMENTS ON THE 2nd UPDATE TO THE CONCEPTUAL DRAINAGE STUDY FOR THE NORTH LAS VEGAS 600-ACRE SITE

820-60-120X2

(CNLV No. 28463)

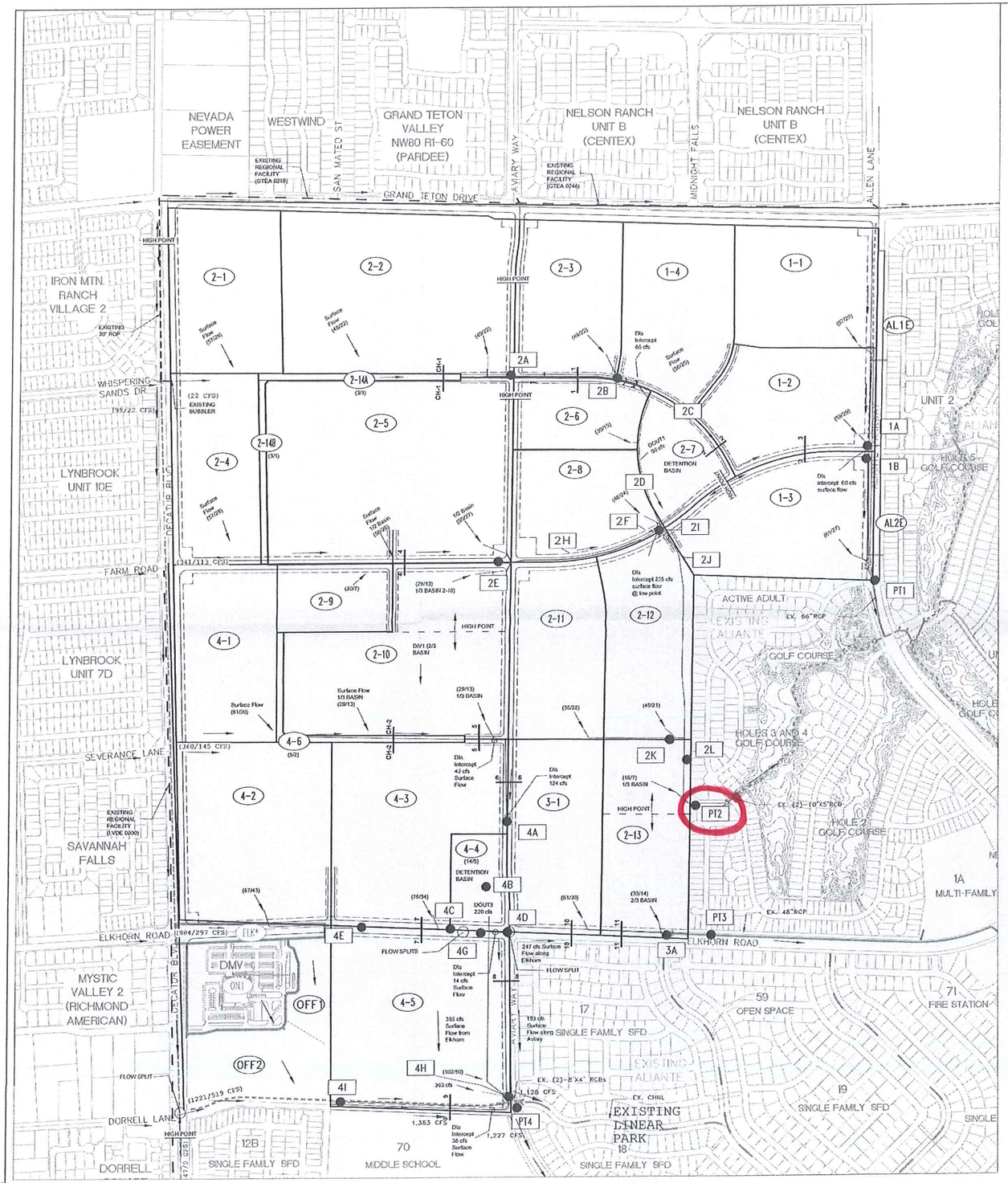
February 2007

Prepared for:

November 2005 Land Investors LLC/DHRI, Inc.
11411 Southern Highlands Parkway, Ste. 300
Las Vegas, Nevada 89141
Phone: (702) 616-3800
Fax: (702) 616-3833

Prepared by:

G. C. Wallace, Inc.
1555 S. Rainbow Blvd.
Las Vegas, Nevada 89146
Phone: (702) 804-2000
Fax: (702) 804-2297



NORTH

GRAPHIC SCALE
400 0 200 400
(IN FEET)
1 inch = 400 ft

LEGEND

- SUBBASIN BOUNDARY
- (ON1) SUBBASIN DESIGNATION
- 2B COMBINATION POINT
- PT1 DISCHARGE POINT
- FLOW DIRECTION

456/123 100-YR RUNOFF/10-YR RUNOFF

TABLE 1
SUMMARY OF HEC-1 MODEL
INTERIM CONDITIONS

Subbasin/ Combination Point*	Area (ac)	Q_{100} (cfs)
1-1	22.0	57
AL1E	1.7	6
PT3A	-	62
RPT3A	-	61
1-2	22.8	59
1A	-	120
1-4	23.9	56
R1-4	-	54
1B	-	167
AL2E	1.6	5
1-3	-	61
PT1	-	232
IN-WS	-	121
DEC	-	99
WS	-	22
RWS	-	21
2-1	23.5	57
2-2	47.5	97
2-14A	1.7	3
2A	-	157
2-3	20.9	49
2B	-	203
2-6	11.5	30
2C	-	232
2-7	10.0	20
2D	-	251
DOUT1	-	95
2-5	57.0	117
FAR2	-	58
REM2	-	59
2-10	40.1	87
D1	-	58
REMD1	-	29
2E	-	86
2-8	18.3	48
2F	-	133
IN-FAR	-	591
DEC2	-	250
FAR	-	341

TABLE 1
SUMMARY OF HEC-1 MODEL
INTERIM CONDITIONS

Subbasin/ Combination Point*	Area (ac)	Q_{100} (cfs)
2-4	21.4	57
2G	-	348
R2G	-	348
2-14B	1.6	3
2-9	10.0	20
RTFAR2	-	58
2H	-	366
2I	-	394
2J	-	488
2-11	21.1	55
2-12	21.7	49
2K	-	104
2L	-	530
2-13	21.8	49
D2	-	33
REMD2	-	16
PT2	-	531
4-1	23.0	61
4-6	2.5	5
RETD1	-	58
SD2	-	29
REMSD2	-	29
4A1	-	95
IN-SEV	-	917
DEC3	-	556
SD2	-	29
REMSD2	-	29
4A1	-	95
IN-SEV	-	917
DEC3	-	556
SEV	-	360
RSEV	-	359
RSEV	-	358
4A2	-	369
SD22	-	42
SEV2	-	243
FS	-	83
RETSD2	-	29
4-2	35.0	87

TABLE 1
SUMMARY OF HEC-1 MODEL
INTERIM CONDITIONS

Subbasin/ Combination Point*	Area (ac)	Q_{100} (cfs)
4-3	34.7	76
4C	-	161
IN-ELK	-	1669
DEC4	-	784
ELK	-	885
RELK	-	884
ELK*	5.9	14
4E	-	886
ELK2	-	594
FS01	-	292
4-4	7.0	14
4B	-	438
DOUT3A	-	220
RETE2	-	594
ELK3	-	580
FSE3	-	14
4G	-	227
RETE3	-	580
ELK1	-	195
FSE2	-	385
4-5	41.6	102
4H	-	571
RETE1	-	195
RETS2	-	243
4D	-	438
ELK4	-	246
FSE4	-	192
ON1	11.8	32
OFF1	3.9	11
OFF2	16.2	42
4I	-	85
PT4	-	769
RETD2	-	33
3-1	23.0	61
3A	-	94
RETE4	-	246
PT3	-	256
CPD	-	1510

Actual Flow at 4I = 85 (HEC-1) + 1221 (Dorrell Lane) + 77 (Whispering Sands) = 1383 cfs

Actual Flow at PT4 = 769 (HEC-1) + 1221 (Dorrell Lane) + 77 (Whispering Sands) = 2067 cfs

TABLE 2
STREET FLOW CHARACTERISTICS - 100 YEAR INTERIM CONDITONS

Cross Section	ROW Width(ft)	Slope (%)	Q100 (cfs)	Depth (ft)	Velocity (fps)	Vxd	Comments
Section 1	46	0.6	86	0.81	4.13	3.3	157 cfs (Combination Point 2A) - 22 cfs (in WS Storm System) - 49 cfs (1/2 Basin 2-2) = 86 cfs
Section 2	46	0.6	56	0.71	3.49	2.5	Surface flow from Basin 1-4.
Section 3	68	0.6	56	0.72	3.29	2.4	Surface flow from Basin 1-4.
Section 4	68	0.6	366	1.39	6.40	8.9	Combination Point 2H.
Section 5	46	0.6	369	1.46	7.33	10.7	Interim Conditions HEC1 Node 4A2
Section 6	68	0.5	369	1.47	4.26	6.3	- -
Section 7	90	0.6	886	1.87	8.03	15.0	Combination Point 4E (Offsite Elkhorn flow + ELK*)
Section 8	68	0.6	193	1.07	5.24	5.6	HEC1 node FSE4.
Section 9	50	0.6	1383	2.48	9.53	24.6	Actual flow.
Section 10	68	1.1	247	1.03	6.24	6.4	Flow Split ELK4.
Section 11	68	0.5	247	1.18	4.86	5.7	Flow Split ELK4.

TABLE 3
CROSS SECTIONS 100-YEAR INTERIM CONDITONS

Cross Section	Design Discharge (cfs)	Slope (%)	Depth (ft)	Velocity (fps)	Lining Reqd.
Section CH-1	86	0.6	1.33	4.60	NO
Section CH-2	455	0.6	3.59	6.10	YES
Section CH-3	200	0.6	2.83	5.22	YES

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REV. DATE DESCRIPTION
DATE AGEN. APP. DATE GOVT. APP.

G.C. WALLACE, INC.
Engineers/Planners/Surveyors
1555 SOUTH RAINBOW BLVD.LAS VEGAS, NEVADA 89146
TELEPHONE (702) 804-2000 FAX: (702) 804-2599
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RTC2 TO UPDATE 2 TO THE CONCEPTUAL DRAINAGE STUDY
NORTH LAS VEGAS - 600 ACRE SITE
FIGURE 6R2
INTERIM CONDITIONS DRAINAGE MAP

SHEET
FIG 6R2
OF SHTS

pm2438.dwg,6/20/12,m

2nd Response to Comments on the Technical Drainage Study for North Las Vegas 600-Acre Site Area 3

Mayor
Michael L. Montandon

Council Members
William E. Robinson
Stephanie S. Smith
Shari Buck
Robert L. Eliason

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Gregory E. Rose

Public Works Department - Majed A. Al-Ghafry, Director
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www.cityofnorthlasvegas.com

November 6, 2007

Ms. Debra M. Yamachika, P.E.
G.C. Wallace, Inc.
1555 South Rainbow Boulevard
Las Vegas, Nevada 89146

Re: Technical Drainage Study for North Las Vegas 600-acre Site - Area 3
Addendum No. 2
CNLV No. 28812

Dear Ms. Yamachika:

Staff has reviewed the above referenced study, dated January 11, 2007, Addendum No. 1, dated May 10, 2007, Addendum No. 2, dated September 25, and the Supplement to Addendum No. 2. Dated October 24, 2007 and found them to meet the minimum accepted standards for a technical drainage study. This acceptance is contingent upon the following conditions:

1. The **Technical Drainage Study** is predicated on the construction of the CCRFCD Facility GTEA 0246 within Grand Teton Drive to be in place prior to development. This will require a separate drainage study submittal for that proposed facility. Please be advised that construction of the CCRFCD Facility must be completed prior to any site development in Area 3. Otherwise, provide an interim design that addresses the circumstance should the CCRFCD Facility not be constructed prior to development of Area 3.

2. The **Technical Drainage Study** is predicated on the construction of the facilities proposed within Area 2, Area 4 and Area 7 to be in place prior to development. Please be advised that construction of the Area 2, Area 4 and Area 7 facilities must be completed prior to any site development in Area 3. Otherwise, provide an interim design that addresses the circumstance in the event that Area 2, Area 4 and Area 7 facilities are not constructed prior to development of Area 3.

3. Make sure that the HGL is provided on the plan and profiles. Show the grading necessary or provide a storm sewer design that maintains the HGL to 1' below the final grade above the storm sewer at all locations.

Please be advised that all land surface area disturbances more than 1 acre and/or adjacent to a water way must submit a "Notice of Intent" to discharge to the Nevada Division of Environmental Protection, which certifies that a stormwater pollution prevention plan has been developed and is maintained on site. For more information, including forms and applications, see http://ndep.nv.gov/bwpc/storm01.htm.

Acceptance of this drainage study does not imply approval of the grading plan or the structural calculations associated with the drainage for this site. A detailed review of the grading plan is performed by staff during the improvement plan review process.

Any future changes in the proposed design (or design assumptions) as outlined in the approved drainage study and the attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the City of North Las Vegas (CNLV) Development and Flood Control Section. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the CNLV reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

The City assumes no responsibility for the information, data, and conclusions presented in this report. If you have any questions concerning this matter, please contact me at 633-1912.

Sincerely,

Mark A. Escobedo

Mark A. Escobedo, P.E.
Development and Flood Control Division
City of North Las Vegas
(702) 633-1912 Office
(702) 649-4696 Fax

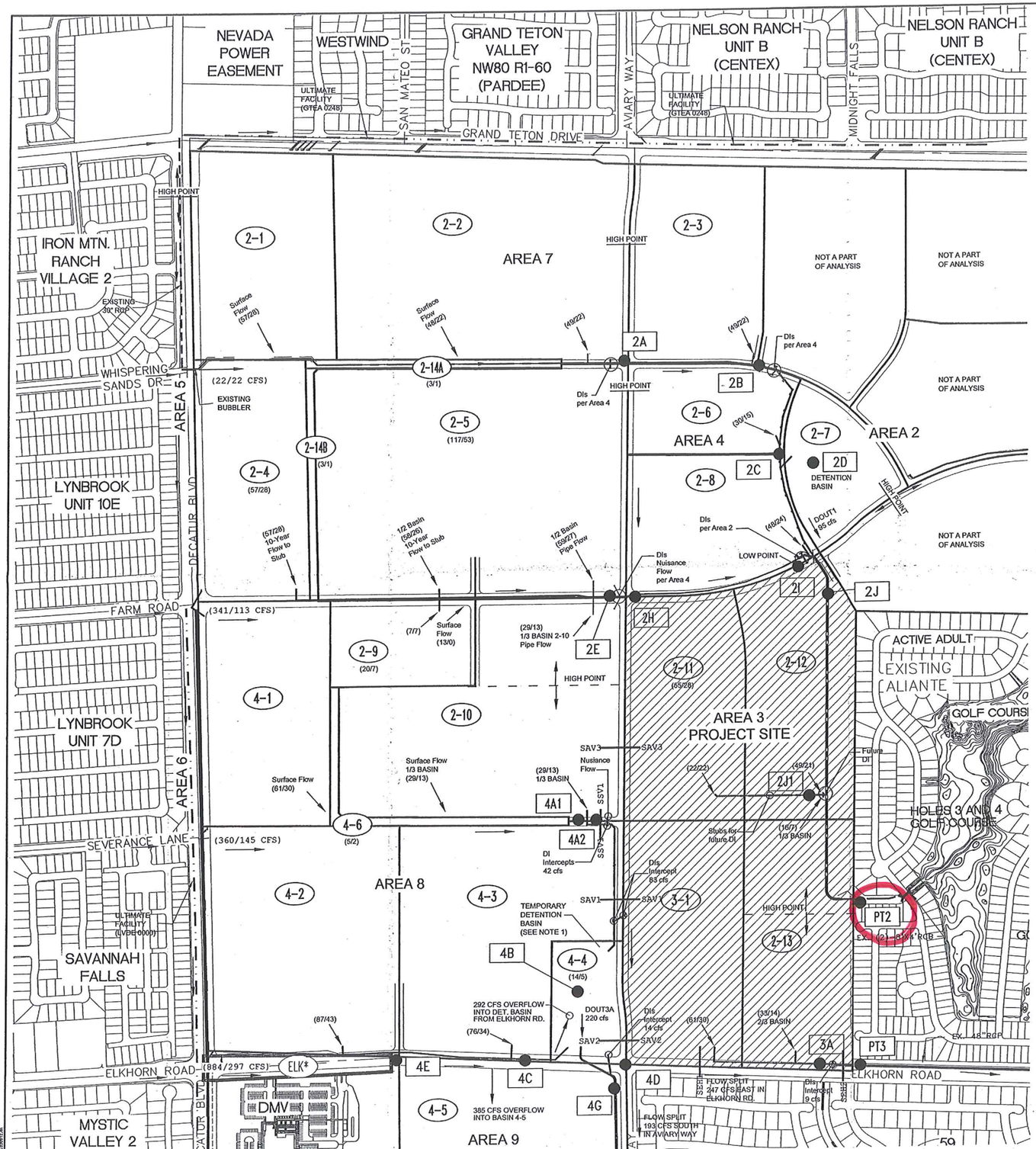
2nd RESPONSE TO COMMENTS ON THE TECHNICAL DRAINAGE STUDY FOR NORTH LAS VEGAS 600-ACRE SITE AREA 3

820-60-143

September 2007

Prepared For:

November 2005 Land Investors LLC/DHRI, Inc.
11411 Southern Highlands Parkway, Suite 300
Las Vegas, Nevada 89141
Phone: (702) 616-3800
Fax: (702) 616-3833



NORTH

GRAPHIC SCALE
200 0 100 200
(IN FEET)
1 inch = 250 ft.

LEGEND

- SUBBASIN BOUNDARY
- (ON1) SUBBASIN DESIGNATION
- 2B COMBINATION POINT
- PT1 DISCHARGE POINT
- FLOW DIRECTION

456/123 100-YR RUNOFF/10-YR RUNOFF

STREET FLOW (100-Year Ultimate)

Section	ROW (ft)	Q_{100} Total (cfs)	Slope (%)	Depth (ft)	Velocity (fps)	D*V	Notes
SSV1	49	95.0	0.5	0.85	3.6	3.04	Severance full street section
SAV1	70	30.5	0.5	0.77	2.5	1.95	Aviary west half street section
SAV1	70	30.5	0.5	0.77	2.5	1.95	Aviary east half street section
SAV2	70	3.5	0.5	0.41	1.8	0.73	Aviary west half street section
SAV2	70	3.5	0.5	0.41	1.8	0.73	Aviary east half street section
SAV3	70	2.0	1.4	0.26	2.0	0.52	Aviary full street section
SEH1	90	6.5	1.1	0.44	2.8	1.23	Elkhorn south half street
SEH2	90	9.5	0.5	0.55	2.1	1.16	Elkhorn north half street

SUMMARY OF HEC-1 MODEL
FUTURE CONDITIONS

Subbasin/ Combination Point*	Area (ac)	Q_{100} (cfs)	Subbasin/ Combination Point*	Area (ac)	Q_{100} (cfs)	Subbasin/ Combination Point*	Area (ac)	Q_{100} (cfs)
2-4	21.4	57	2B	-	203	FS01	-	292
FAR22	-	29	2-6	11.5	30	4-4	7.0	14
REM22	-	28	2C	-	232	4B	-	438
2-5	57.0	117	2-7	10.0	20	DOUT3A	-	220
FAR2	-	32	2D	-	251	RETE2	-	594
REM2	-	85	DOUT1	-	95	ELK3	-	580
2-10	40.1	87	2J	-	488	FSE3	-	14
D1	-	58	2-11	21.1	55	4G	-	227
REMD1	-	29	2-12	21.7	49	RETE3	-	580
2-9	10.0	20	2-13	21.8	49	ELK1	-	195
D11	-	13	D2	-	33	FSE2	-	385
REMD11	-	7	REMD2	-	16	4-5	41.6	102
2E	-	145	2I1	-	120	4H	-	571
IN-FAR	-	591	PT2	-	542	RETE1	-	195
DEC2	-	250	4-1	23.0	61	RETS2	-	244
FAR	-	341	4-6	2.5	5	4D	-	439
RFAR	-	339	RETD1	-	58	ELK4	-	246
2-14B	1.6	3	SD2	-	29	FSE4	-	192
RTFAR2	-	32	REMSD2	-	29	RETD2	-	33
RTFA22	-	29	4A1	-	95	3-1	23.0	61
RTFA11	-	13	IN-SEV	-	917	3A	-	94
2H	-	353	DEC3	-	556	RETE4	-	246
D3H	-	194	SEV	-	360	PT3	-	257
REMD3H	-	159	RSEV	-	359			
D4H	-	159	RSEV	-	358			
REMD4H	-	0	4A2	-	369			
2I	-	138	SD22	-	42			
RTD3H	-	194	REM4A2	-	327			
CPT1	-	317	SEV2	-	243			
RTD4H	-	160	FS	-	83			
CPT2	-	385	RETSD2	-	29			
2-8	18.3	48	RESD22	-	42			
CPT5	-	394	4-2	35.0	87			
IN-WS	-	121	4-3	34.7	76			
DEC	-	99	4C	-	161			
WS	-	22	IN-ELK	-	1669			
RWS	-	21	DEC4	-	784			
2-1	23.5	57	ELK	-	885			
2-2	47.5	97	RELK	-	884			
2-14A	1.7	3	ELK*	5.9	14			
2A	-	157	4E	-	886			
2-3	20.9	49	ELK2	-	594			

NOTE 1: TEMPORARY DETENTION BASIN WILL BE REMOVED UPON CONSTRUCTION OF REGIONAL STORM DRAIN FACILITY IN DECATUR.

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ISSUE EDITOR:
PLOT DATE: 05-24-07
PLOT TIME: 08:24:26

DATE | DESCRIPTION | REV | DATE | AGEN. APP. | DATE | GOV. APP. | DATE

G.C. WALLACE, INC.
Engineers/Planners/Surveyors
1555 SOUTH RAINBOW BLVD. FAX (702) 804-8746
LAS VEGAS, NEVADA 89146 TELEPHONE (702) 804-2000

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BGallam

NORTH LAS VEGAS 600 ACRE SITE
AREA 3
FIGURE 6
FUTURE CONDITIONS DRAINAGE MAP - AREA3

SHEET
FIG 6
OF SHTS

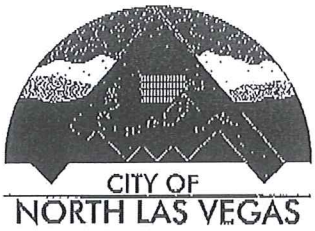
jcn436.dwg/209/17.dv

Technical Drainage Study Update No. 1 Addendum No. 3 for North Las Vegas 600-Acre Site

Area 3

Mayor
Shari L. Buck

Council Members
William E. Robinson
Robert L. Eliason
Anita G. Wood
Richard J. Cherchio



Acting City Manager
Maryann Ustick

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www.cityofnorthlasvegas.com

October 28, 2010

Mr. Mark J. Failla, P.E.
Slater Hanifan Group, Inc.
5740 South Arville Street, Suite 216
Las Vegas, Nevada 89118

Re: Technical Drainage Study Update for North Las Vegas 600-acre Site - Area 3
CNLV No. 41331
Addendum No. 4 and Supplement No. 1 to Addendum No. 4

Dear Mr. Failla:

Staff has reviewed the above referenced study, dated May 27, 2010, Addendum No. 1, dated June 23, 2010, Addendum No. 2, Dated July 19, 2010, Addendum No. 3, dated October 7, 2010, Addendum 4, dated October 21, 2010, and Supplement No. 1 to Addendum No. 4, dated October 26, 2010 and found them to meet the minimum standards for a technical drainage study. This acceptance is contingent upon the following conditions:

1. The **Technical Drainage Study** is predicated on the construction of the CCRFCD Facility GTEA 0246 within Grand Teton Drive to be in place prior to development. This will require a separate drainage study submittal for that proposed facility. Please be advised that construction of the CCRFCD Facility must be completed prior to any site development in Area 3. Otherwise, provide an interim design that addresses the circumstance should the CCRFCD Facility not be constructed prior to development of Area 3.

2. The **Technical Drainage Study** is predicated on the construction of the facilities proposed within Area 2, Area 4 and Area 7 to be in place prior to development. Please be

advised that construction of the Area 2, Area 4 and Area 7 facilities must be completed prior to any site development in Area 3. Otherwise, provide an interim design that addresses the circumstance in the event that Area 2, Area 4 and Area 7 facilities are not constructed prior to development of Area 3.

3. The **VTN Technical Drainage Study** is predicated on the construction of the facilities proposed within Area 5 and Area 6 to be in place prior to development. Please be advised that construction of the Area 5 and Area 6 facilities must be completed prior to any site development in Area 3. Otherwise, provide an interim design that addresses the circumstance in the event that Area 5 and Area 6 facilities are not constructed prior to development of Area 3.

4. The Technical Drainage Study for Area 2 and the Area 2 and Area 3 Improvement Plans must be revised to reflect the modifications proposed by this project. The update and plan revisions will be required prior to approval of improvement plans for this project.

5. Updates for the Technical Drainage Studies for Area 4, Area 5, Area 6 and Area 7 will be required to reflect changes in Area 3, prior to development (approval of improvement plans) in Area 4, Area 5, Area 6 and Area 7.

6. Update the Master Storm Drain Exhibit showing all storm drain proposed.

Please be advised that all land surface area disturbances more than 1 acre and/or adjacent to a water way must submit a "Notice of Intent" to discharge to the Nevada Division of Environmental Protection, which certifies that a stormwater pollution prevention plan has been developed and is maintained on site. For more information, including forms and applications, see http://ndep.nv.gov/bwpc/storm01.htm.

Acceptance of this drainage study does not imply approval of the grading plan or the structural calculations associated with the drainage for this site. A detailed review of the grading plan is performed by staff during the improvement plan review process.

Any future changes in the proposed design (or design assumptions) as outlined in the approved drainage study and the attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the City of North Las Vegas (CNLV) Development and Flood Control Section. Additionally, acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the CNLV reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

The City of North Las Vegas, it's officials, or employees assume no liability for the information,

calculations, data, and conclusions presented by the Engineer. We therefore, make no warranties, either expressed or implied, in conducting this review. If you have any questions concerning this matter, please contact me at 633-1912.

Sincerely,

Mark A. Escobedo

Mark A. Escobedo, P.E.
Development and Flood Control Division
City of North Las Vegas
(702) 633-1912 Office
(702) 649-4696 Fax

TECHNICAL DRAINAGE STUDY
UPDATE NO. 1
ADDENDUM NO.3
North Las Vegas 600-Acre Site Area 3
City of North Las Vegas, Nevada

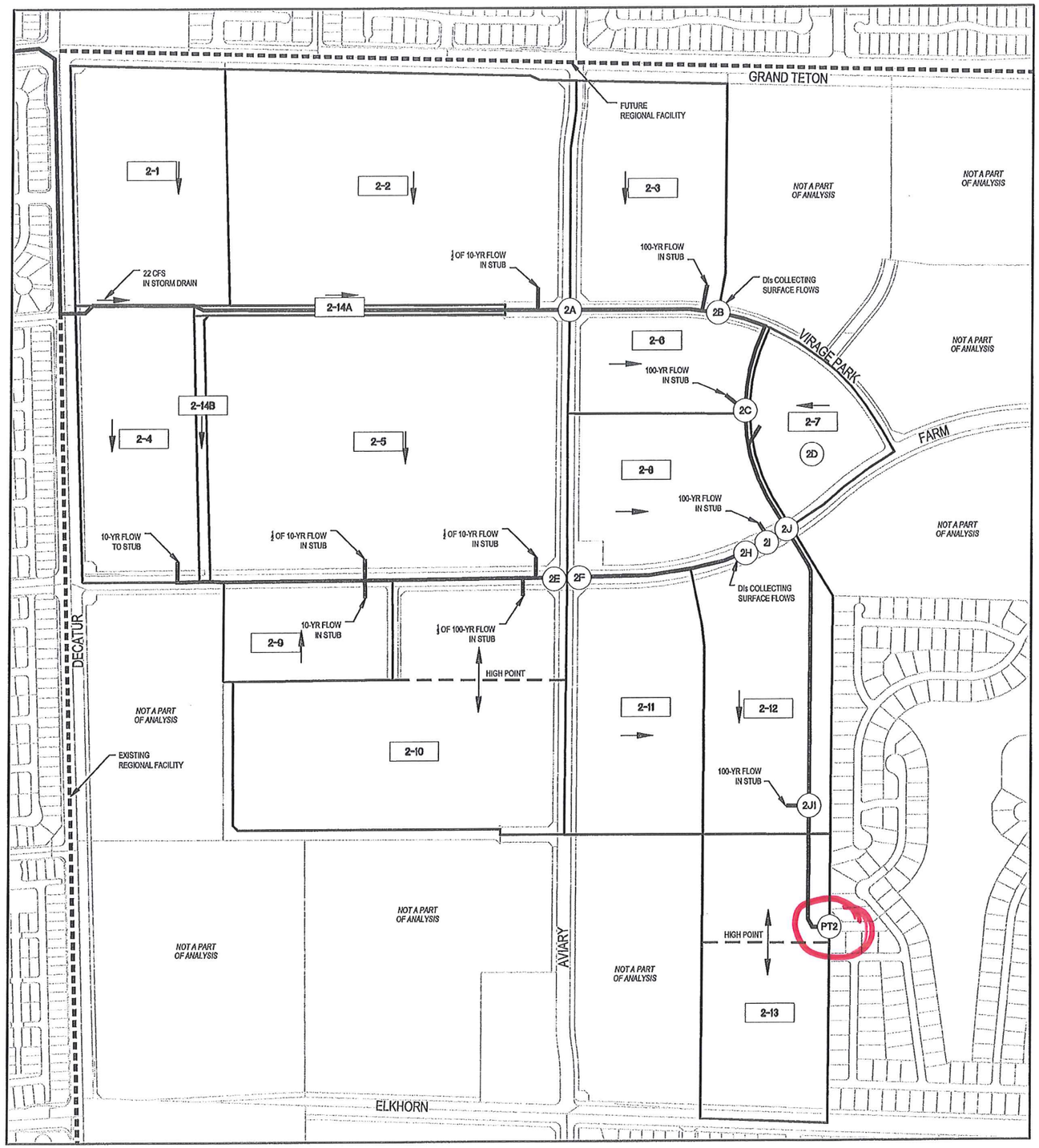
Job No.: OLY1001
Date: October 2010

Prepared By:
Slater Hanifan Group, Inc.
5740 S. Arville Street, Suite 216
Las Vegas, Nevada 89118
Phone: 702-284-5300 ▪ Fax: 702-284-5399

Prepared For:
November 2005 Land Investors, LLC
11411 Southern Highlands Parkway, Suite 300
Las Vegas, NV 89141
Phone: 702-616-3800 ▪ Fax: 702-616-3833

Mark J. Failla, P.E.
NV Professional Engineer No. 14566

Assisted By: Kellin Collins, E.I



LEGEND

- BASIN BOUNDARY
- ID — BASIN ID
- FLOW DIRECTION
- (ID) — COMBINATION POINT
- LOCAL STORM DRAIN SYSTEM
- REGIONAL FLOOD CONTROL STORM DRAIN SYSTEM

Basin Flow Summary
Future Condition

Basin ID	Q_{100} (cfs)	Q_{10} (cfs)
2-4	57	28
FRSD1	29	14
REM1	28	14
2-14B	3	1
2-5	117	53
FRSD2	53	24
REM2	64	29
2-9	20	7
FRSD3	7	3
REM3	13	5
2-10	87	39
SOUTH	58	26
NORTH	29	13
FRSD4	29	13
REM4	0	0
2-8	48	24
IN-WS	121	121
DEC	99	99
WS	22	22
2-1	57	28
2-2	97	44
2-14A	3	1
2-3	49	22
2-6	30	15
2-7	20	8
2-11	55	27
2-12	49	21
2-13	49	21
SOU	32	14
NOR	17	7

Combination Point Flow Summary
Future Condition

Basin ID	Q_{100} (cfs)	Q_{10} (cfs)
2E REM1 + 2-14B + REM2 + REM3 + REM4	107	48
2F FRSD1 + FRSD2 + RFSD3 + FRSD4	115	53
2H 2E + 2F	221	101
2I 2H + 2-8	269	125
2A WS + 2-1 + 2-2 + 2-14A	158	79
2B 2A + 2-3	206	101
2C 2B + 2-6	234	116
2D 2C + 2-7	253	124
DOUT1	94	68
2J 2I + DOUT1	335	184
2J1 2-11 + 2-12 + 2-13	121	56
PT2 2J + 2J1	448	240

0 600 1200
SCALE – 1"=600' FEET

N

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

NOVEMBER 2005 LAND INVESTORS, LLC
NORTH LAS VEGAS 600-ACRE SITE AREA 3
FUTURE CONDITION DRAINAGE BASIN MAP

DATE: OCT 2010
DRAFTER: K.C.
DESIGNER: K.C.
CHECKED: M.F.
PROJECT NO.
OLY1001

SHEET 1 OF 1

j:\oly1001 park highlands\drainage\update study\addendum3\figures\future condition drainage map.dwg 10/7/2010 7:58 AM Kellin Collins

Technical Drainage Study Addendum No. 2 for
Park Highlands Grand Teton Regional Flood Control Facility

Mayor
John J. Lee

Council Members
Anita G. Wood
Pamela A. Goynes-Brown
Wade W. Wagner
Isaac E. Barron

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NORTH LAS VEGAS

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Interim City Manager
Jeff L. Buchanan

Deputy City Manager
Dr. Qiong X. Liu, PE, PTOE

PUBLIC WORKS – DEVELOPMENT AND FLOOD CONTROL
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Telephone: (702) 633-1200 • Fax: (702) 649-4696 • TDD: (800) 326-6868
www.cityofnorthlasvegas.com

May 6, 2014

Mailed via: E-mail

Mark Failla, PE, CFM
Kellin Collins, PE

Slater Hanifan Group, Inc.
5740 S. Arville Street. Suite #216
Las Vegas, Nevada 89118

Re: Technical Drainage Study for Park Highlands Grand Teton Regional Flood Control Facility
CNLV No. 45326

Dear Mr. Failla and Mrs. Collins:

On July 16, 2013, CNLV conditionally approved the above referenced study, dated November 5, 2012, Addendum #1, dated March 7, 2013, Supplemental #1 to Addendum #1, dated May 9, 2013, and Supplemental #2 to Addendum #1, dated July 11, 2013.

On August 27, 2013, the Clark County Regional Flood Control District (CCRFCD) provided a review comment letter for the required corrections. SHG then submitted an Addendum #2 -dated November 13, 2013 for review and it was also conditionally approved by CNLV on February 13, 2014.

Subsequently, CCRFCD issued a second review comment letter on March 20, 2014 and SHG submitted a Supplemental #1 to Addendum #2, dated April 9, 2014 to address CCRFCD's comments. CNLV staff has reviewed and found the above referenced submittals to meet the minimum accepted standards for the technical drainage study. This acceptance is contingent upon the following conditions:

1. Concurrence must be obtained by the Clark County Regional Flood Control District (CCRFCD) due to the proposed improvement's proximity to a Regional Flood Control Facilities. Please submit a copy of this drainage study, all addenda, and supplements to CCRFCD upon acceptance from CNLV.

2. Since this drainage study is proposing to remove and/or revising various previously approved flood control facilities within Grand Teton east of the proposed detention basin and in Aliante north of Grand Teton, the submitted master drainage studies for the Park Highland East and West projects must include supporting calculations and analyses that reflect the changes from this approved study.

3. Since this study is proposing to add, remove, and revise various regional flood control facilities, a CCRFCD Master Plan Amendment (MPA) must be submitted and processed by the Engineer once this study and the currently submitted master drainage studies for Park Highlands East and West have been reviewed and approved by CNLV, CLV, and CCRFCD.

   All proposed CCRFCD's flood control facilities, by this project, must be fully maintained by the developer until the MPA has been approved and the maintenance funding has been secured by CNLV.

4. Approval from the City of Las Vegas (CLV) will be required since the project is proposing to construct storm drain improvements within CLV's public ROW.

5. Please note that no onsite development will be allowed until either all required interim or the permanent regional flood control and infrastructure facilities are constructed to intercept all offsite flows.

6. Please note that prior to approving the Improvement Drawings, all previously approved Improvement Drawings on CNLV files must be revised to reflect the changes from this approved drainage study.

7. Please note that this drainage study must be updated in the future to reflect any changes to the Improvement Drawings in the approved drainage study.

8. Please coordinate with Duane McNelly, Development and Flood Control Project Leader, when submitting Improvement Drawings for this project. Mr. McNelly can be reached at (702) 633-2312.

Please be advised that all land surface area disturbances over 1 acre and/or adjacent to a water way must submit a "Notice of Intent" to discharge to the Nevada Division of Environmental Protection, which certifies that a stormwater pollution prevention plan has been developed and is maintained on site. For more information, including forms and applications, see http://ndep.nv.gov/bwpc/storm01.htm.

Acceptance of this drainage study update does not imply approval of the Improvement Drawings and calculations associated with the drainage for this site. A detailed review of the drawings will be performed by staff during the improvement plan review process.

Any future changes in the proposed design (or design assumptions) as outlined in the approved drainage study and the attached preliminary plans which affect drainage must be addressed in a Drainage Study Amendment and accepted by the CNLV Development and Flood Control Section. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, CNLV reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

CNLV, its officials, or employees assume no liability for information, data, calculations and conclusions presented by the consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review. If you have any questions concerning this matter, please contact me at (702) 633-1932.

Sincerely,

Dan Le, P.E., CFM
Senior Engineer
Development and Flood Control Division

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM			DATE: March 4, 2014
TO: Land Development Services Department of Public Works			FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for: **Park Highlands (Project in CNLV)** **– Grand Teton Regional Flood Control Facility**		COPIES TO: Slater Hanifan Group
Cross Streets:	Grand Teton Blvd. & Decatur Blvd.		Crescent Bay Holdings
File Number:	F:\Depot\DSMemos\DS4577B.doc		Bart Anderson, P.E., DevCo
Parcel Number:	124-07-499-001 & More		CCRFCD
Zoning Action:	N/A		CNLV
FEMA Flood Zone	YES	NO X	
Proposed Storm Drain	YES X	NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	11/15/2012; 3/12/2013 & 7/11/2013	7/22/2013	Approved	$400.00	302060: $400
2nd Submittal	2/18/2014	3/4/2014	See Comments Below	$400.00	348090: $400
			TOTAL FEES (LDDRS):	**$800.00**	**$800.00**

REMARKS:

2nd Submittal: Response to CCRFCD Comments

The Drainage Study for the subject project has been reviewed and:

X	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to Clark County Public Works Department concurrence.

***City of Las Vegas Flood Control* staff has reviewed the Technical Drainage Study, Addendum #1 and Addendum #2 of the subject development in the *City of North Las Vegas*. *City of Las Vegas* concurs with the acceptance of the drainage study by the *City of North Las Vegas Department of Public Works*. The review of this project was limited to issues of flood control significance to the *City of Las Vegas*.**

1. As indicated on **Sheet SD-01**: The engineer/developer will add the regional facilities in *Grand Teton Boulevard* west of *Decatur* as Category A Facilities when the *Clark County Regional Flood Control District Master Plan Amendment* (CCRFCD MPA) is processed.

2. Add a note in all pertinent sheets for the construction of all storm drain drop inlets per a newly adopted USDCCA Drawing No. 421 (*Stormwater Quality Management Stamp and Sign Detail*).

NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the *City of Las Vegas Flood Control Section.* Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see http://ndep.nv.gov/bwpc/storm01.htm or call (775) 687-9429.

END OF REMARKS
ays

T/R/S: T19S/R61E/18
AREA H-18

REGIONAL FLOOD CONTROL DISTRICT

Gale Wm. Fraser, II, P.E.
General Manager/Chief Engineer

BOARD OF DIRECTORS

Lawrence L. Brown, III
Chairman
Clark County

Debra March
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Chris Giunchigliani
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Dr. Lois Tarkanian
City of Las Vegas

Mayor Roger Tobler
City of Boulder City

Mayor Mark Wier
City of Mesquite

April 15, 2014

Jennifer E. Doody, P.E.
City of North Las Vegas Public Works
2250 Las Vegas Blvd. North
North Las Vegas, NV 89030

DISTRICT CONCURRENCE: **PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY (CNLV #45326) (RFCD No. 13-9177)**

Dear Ms. Doody:

Clark County Regional Flood Control District (District) reviewed Technical Drainage Study dated November 15, 2012, Addendum No. 1 dated March 7, 2013, Addendum No. 2 dated November 13, 2013, Supplement No. 1 dated April 9, 2014, and Supplement No. 2 dated July 11, 2013 for above-mentioned project as submitted by SLATER HANIFAN GROUP. In addition, District is in receipt of the Conditional Letter of Acceptance from City of North Las Vegas Public Works dated February 13, 2014.

District concurs with acceptance of this Technical Drainage Study by City of North Las Vegas Public Works, with the following conditions:

1. The proposed detention basin and associated facilities will not be considered for maintenance funding through the District until such time as a Master Plan Amendment (MPA) to add the proposed facilities to the District's Master Plan Update is approved by the District's Board of Directors and adopted by City of North Las Vegas and City of Las Vegas.

2. The City of North Las Vegas and Crescent Bay are currently in the process of obtaining the necessary easements/rights from Bureau of Land Management to discharge flow thru the Conservation Transfer Area. If the permission is not granted, this study must be updated accordingly.

3. This study references Park Highlands West and East Master Drainage Studies. District has not reviewed these Master studies. Any impacts of the Master studies to the facilities proposed in this study may result in an update to this study.

4. SD-04 and DT-03:
Provide temperature and shrinkage reinforcing steel and any joints necessary to control cracking from thermal expansion and contraction in the spillway slab. Add a cutoff wall along the spillway slab to protect the structure in the interim until full build out of the slab to the roadway.

600 S. Grand Central Parkway, Suite 300 • Las Vegas, Nevada 89106-4511
(702) 685-0000 • FAX: (702) 685-0001
Website: *http://www.regionalflood.org*

REGIONAL FLOOD CONTROL DISTRICT

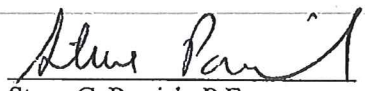
5. DT-01:
Remove the District logo and the Project Impact logo from the flood warning sign shown on Detail 8/DT-01.

6. SD-08:
Provide horizontal control for the detention basin monitoring station.

District's review of this project was limited to issues of Regional Flood Control Significance as defined in *Uniform Regulations for the Control of Drainage*.

Please be aware that as additional information becomes available and/or restudies of Flood Insurance Studies are performed, information submitted by SLATER HANIFAN GROUP may be superseded. Compliance with regulatory elements and design standards specified in *Uniform Regulations for the Control of Drainage* does not imply a guarantee that properties will be free from flooding or flood damage. The District, its officials, or employees assume no liability for information, data, or conclusions presented by consulting engineers. We, therefore, make no warranties, either expressed or implied, in conducting this review.

GALE WM. FRASER, II, P.E.
General Manager/Chief Engineer

BY: 
Steve C. Parrish, P.E.,
Assistant General Manager

SCP:sa

c: Mark J. Failla, P.E., Slater Hanifan Group

P:\Letters and Memos\Local Drainage\Land Development & Drainage\2014\L-13-9177.with conditions.doc

TECHNICAL DRAINAGE STUDY
ADDENDUM No. 2
(Response to RFCD Comments)
Park Highlands Grand Teton
Regional Flood Control Facility
City of North Las Vegas, Nevada

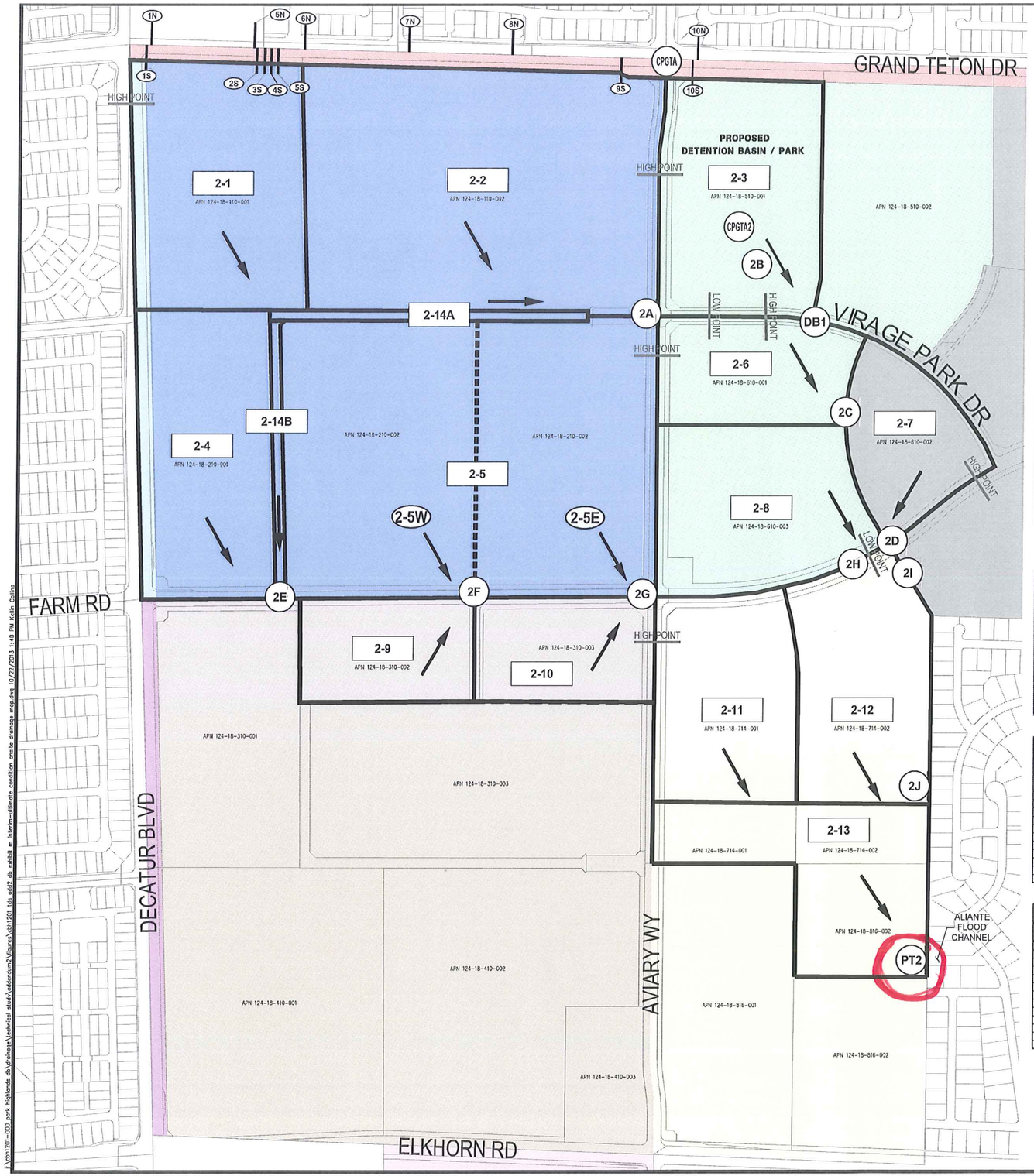
Job No.: CBH1201.000
Date: November 2013

Prepared By:
Slater Hanifan Group, Inc.
5740 S. Arville Street, Suite 216
Las Vegas, Nevada 89118
Phone: 702-284-5300 ▪ Fax: 702-284-5399

Prepared For:
Crescent Bay Holdings
7144 East Stetson Drive, Suite 410
Scottsdale, AZ 85251
Phone: 404-584-6997

Mark J. Failla, P.E., CFM
NV Professional Engineer No. 14566

Assisted by: Kellin Collins, P.E.



Onsite Basin Flow Summary
Ultimate Condition

Basin ID	Area (ac)	Q_{100} (cfs)	Q_{10} (cfs)
2-3	20.9	37	13
2-1	23.5	56	28
2-2	47.5	98	44
2-14A	1.7	3	1
2-6	11.5	29	15
2-7	10.0	19	7
2-4	21.4	56	28
2-14B	1.6	3	1
2-5	57.0	115	53
2-5E	27.5	55	25
2-5W	29.5	60	28
2-9	10.0	24	11
2-10	10.4	25	12
2-8	18.3	48	24
2-11	16.3	43	22
2-12	17.4	39	17
2-13	17.5	39	18

LEGEND
- BASIN BOUNDARY
- ID — BASIN ID
- FLOW DIRECTION
- ID — CONCENTRATION POINT
- CROSS SECTION
- ID — CROSS SECTION ID

AREA LEGEND
- AREA 1
- AREA 2
- AREA 3
- AREA 4
- AREA 5
- AREA 6
- AREA 7
- AREA 8
- AREA 9

N

0 250 500
SCALE – 1" = 250' FEET

Onsite Concentration Point Flow Summary
Future/Interim Condition

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)	Q_{10} (cfs)
CPGTA CP22 + CP23 + E760	3.62	0.915	943	329
CPGTA2 CPGTA + 2-3	3.65	0.915	951	331
2A 2-1 + 2-2 + 2-14A	0.11	0.990	155	72
2B CPGTA2 + 2A	3.77	0.915	994	344
DB1 DB1 outlet	3.77	0.915	231	142
2C DB1 + 2-6	3.78	0.915	231	142
2D 2C + 2-7	3.80	0.915	232	142
2E 2-4 + 2-14B	0.04	0.990	59	29
2F 2E + 2-5W + 2-9	0.14	0.990	142	67
2G 2F + 2-5E + 2-10	0.16	0.990	222	103
2H 2G + 2-8	0.19	0.990	269	127
2I 2D + 2H	3.99	0.915	356	169
2J 2-11 + 2-12	0.05	0.990	82	39
PT2 2I + 2J + 2-13	4.07	0.908	461	246

Onsite Concentration Point Flow Summary
Ultimate Condition

Concentration Point ID	Area (sq mi)	DARF	Q_{100} (cfs)	Q_{10} (cfs)
CPGTA CP20 + CP21 + U760	3.04	0.915	1,026	358
CPGTA2 CPGTA + 2-3	3.07	0.915	1,032	360
2A 2-1 + 2-2 + 2-14A	0.11	0.990	155	72
2B CPGTA2 + 2A	3.18	0.915	1,066	370
DB1 DB1 outlet	3.18	0.915	231	141
2C DB1 + 2-6	3.21	0.915	232	141
2D 2C + 2-7	3.22	0.915	232	142
2E 2-4 + 2-14B	0.04	0.990	59	29
2F 2E + 2-5W + 2-9	0.14	0.990	142	67
2G 2F + 2-5E + 2-10	0.16	0.990	222	103
2H 2G + 2-8	0.19	0.990	269	127
2I 2D + 2H	3.41	0.915	355	188
2J 2-11 + 2-12	0.05	0.990	82	39
PT2 2I + 2J + 2-13	3.49	0.915	464	245

10-Yr Event Cross Section Summary
Future/Interim Condition (Proposed Facilities w/ Interim Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	12	0.54	2.34	1.3	≥19.0
1S	0.50	12	0.54	2.34	1.3	≥19.0
2S	0.50	1	0.24	2.52	0.6	≥19.0
3S	0.50	-	-	-	-	≥19.0
4S	0.50	-	-	-	-	≥19.0
5N	2.47	-	-	-	-	≥19.0
5S	0.50	-	-	-	-	≥19.0
6N	0.50	10	0.51	2.24	1.1	≥19.0
7N	0.50	8	0.48	2.19	1.1	≥19.0
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Future/Interim Condition (Proposed Facilities w/ Interim Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	211	1.33	5.92	7.9
1S	0.50	211	1.33	5.92	7.9
2S	0.50	89	0.97	4.22	4.1
3S	0.50	38	0.76	3.07	2.3
4S	0.50	25	0.67	2.78	1.9
5N	2.47	93	0.78	7.01	5.5
5S	0.50	15	0.58	2.45	1.4
6N	0.50	98	1.01	4.38	4.4
7N	0.50	63	0.88	3.69	3.2
8N	0.50	12	0.54	2.34	1.3
9S	0.50	8	0.48	2.19	1.1
10N	0.50	-	-	-	-
10S	0.50	-	-	-	-

10-Yr Event Cross Section Summary
Future Condition (Proposed Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	33.5	0.73	2.98	2.2	10.2
1S	0.50	33.5	0.73	2.98	2.2	10.2
2S	0.50	3.5	0.39	1.68	0.7	32.6
3S	0.50	0.5	0.24	1.15	0.3	41.5
4S	0.50	-	-	-	-	≥19.0
5N	2.47	4.5	0.34	3.53	1.2	35.1
5S	0.50	-	-	-	-	≥19.0
6N	0.50	7.5	0.47	2.16	1.0	26.8
7N	0.50	5.5	0.43	2.04	0.9	29.4
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Future Condition (Proposed Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	275	1.47	6.47	9.5
1S	0.50	275	1.47	6.47	9.5
2S	0.50	153	1.18	5.21	6.1
3S	0.50	102	1.02	4.45	4.5
4S	0.50	89	0.97	4.22	4.1
5N	2.47	155	0.90	8.53	7.7
5S	0.50	79	0.84	4.03	3.8
6N	0.50	161	1.20	5.32	6.4
7N	0.50	126	1.10	4.83	5.3
8N	0.50	75	0.92	3.95	3.6
9S	0.50	72	0.91	3.88	3.5
10N	0.50	64	0.88	3.71	3.3
10S	0.50	64	0.88	3.71	3.3

10-Yr Event Cross Section Summary
Ultimate Condition (Ultimate Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{10} (cfs)	Depth (ft)	Velocity (fps)	DxV	Dry Lane (ft)
1N	0.50	-	-	-	-	≥19.0
1S	0.50	-	-	-	-	≥19.0
2S	0.50	-	-	-	-	≥19.0
3S	0.50	-	-	-	-	≥19.0
4S	0.50	-	-	-	-	≥19.0
5N	2.47	1	0.24	2.52	0.6	≥19.0
5S	0.50	-	-	-	-	≥19.0
6N	0.50	7	0.46	2.13	1.0	≥19.0
7N	0.50	5	0.42	2.00	0.8	≥19.0
8N	0.50	-	-	-	-	≥19.0
9S	0.50	-	-	-	-	≥19.0
10N	0.50	-	-	-	-	≥19.0
10S	0.50	-	-	-	-	≥19.0

100-Yr Event Cross Section Summary
Ultimate Condition (Ultimate Facilities w/ Ultimate Flows)

Cross Section ID	Slope (%)	Q_{100} (cfs)	Depth (ft)	Velocity (fps)	DxV
1N	0.50	211	1.33	5.92	7.9
1S	0.50	211	1.33	5.92	7.9
2S	0.50	89	0.97	4.22	4.1
3S	0.50	38	0.76	3.07	2.3
4S	0.50	25	0.67	2.78	1.9
5N	2.47	91	0.78	6.55	5.4
5S	0.50	15	0.58	2.45	1.4
6N	0.50	97	1.00	4.36	4.4
7N	0.50	62	0.87	3.67	3.2
8N	0.50	11	0.53	2.29	1.2
9S	0.50	8	0.48	2.19	1.1
10N	0.50	-	-	-	-
10S	0.50	-	-	-	-

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CRESCENT BAY HOLDINGS

PARK HIGHLANDS
GRAND TETON REGIONAL FLOOD CONTROL FACILITY
FUTURE/INTERIM & ULTIMATE CONDITION ONSITE DRAINAGE MAP

DATE: OCT 2013
DRAFTER: KC
DESIGNER: KC
CHECKED: MJF
PROJECT NO.
CBH1201-000

EXHIBIT M
SHEET 1 OF 1

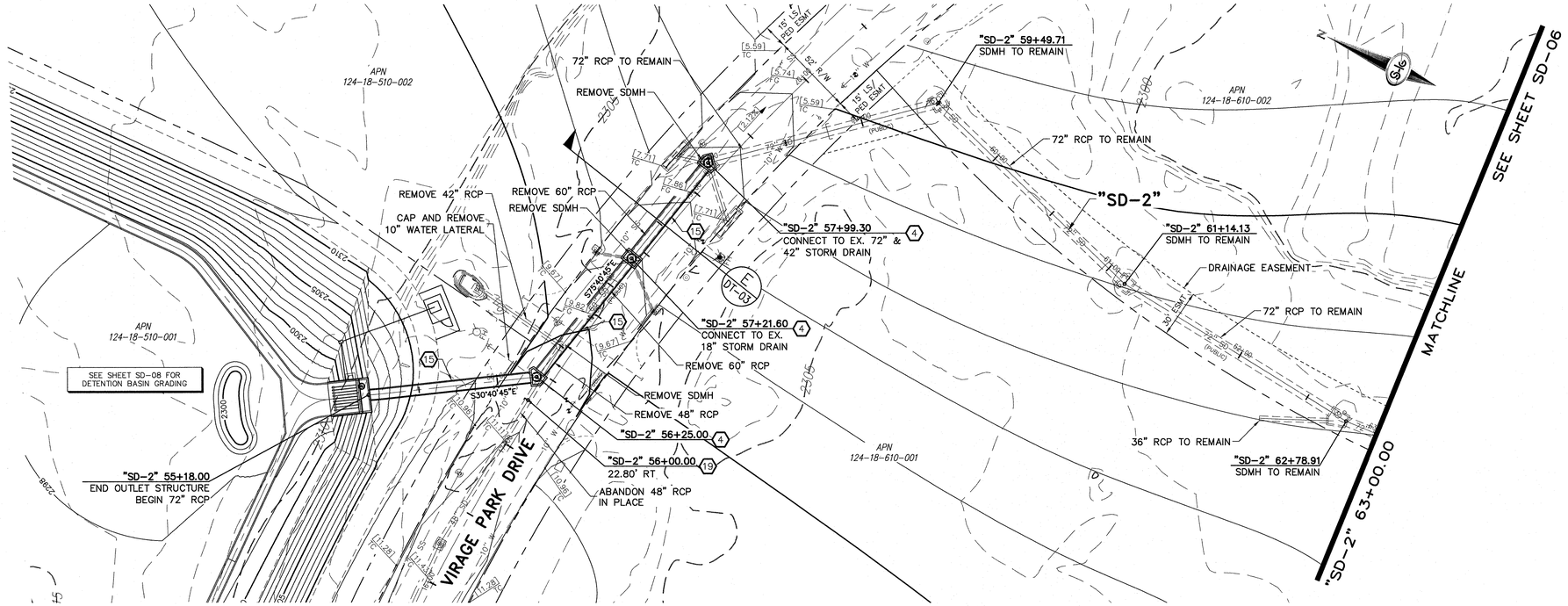
J:\cbh1201-000 park highlands dr\drainage\technical study\addendum2\Exhibits\cbh1201 tds add2 db exhibit m interim-ultimate condition onsite drainage map.dwg, 10/23/2013 1:40 PM, Kellin Collins

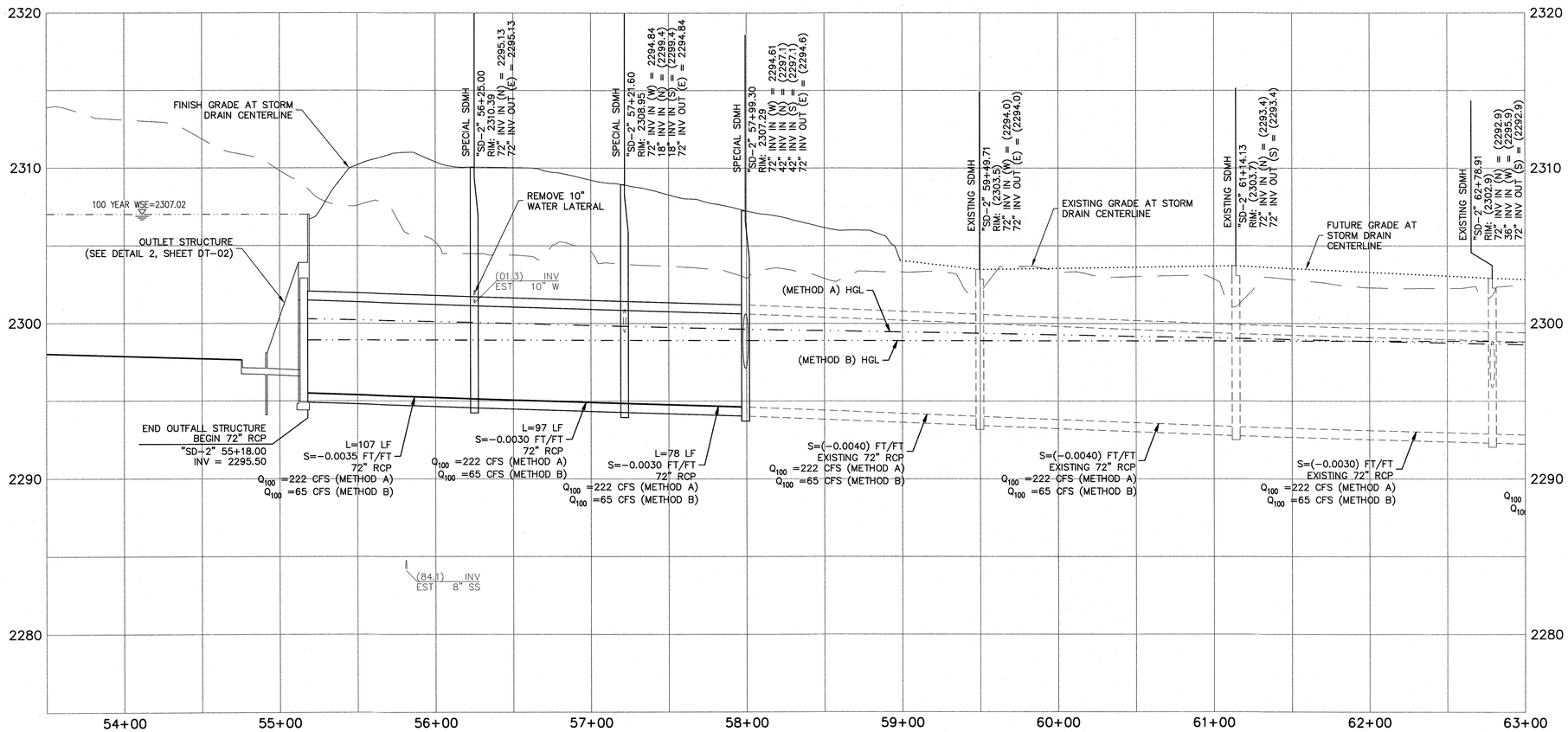
APPENDIX H

Plans, Profiles and Details

APPENDIX I

Electronic Files





STORM DRAIN NOTES

1. CONSTRUCT 60" TYPE III MANHOLE (USDCCA STD. DWG. NO. 406.1)
2. CONSTRUCT RCB MANHOLE (SEE STRUCTURAL DETAILS)
3. CONSTRUCT RCA MANHOLE (SEE STRUCTURAL DETAILS)
4. CONSTRUCT SPECIAL MANHOLE (SEE STRUCTURAL DETAILS)
5. CONSTRUCT 12.5-FOOT TYPE "DM" DROP INLET (USDCCA STD. DWG. NO. 412.1& 421)
6. CONSTRUCT 20-FOOT TYPE "CM2" DROP INLET (USDCCA STD. DWG. NO. 412.1& 421)
7. CONSTRUCT TRENCH DRAIN (L=34') (17 NEENAH R-4999-LX TYPE C HEAVY DUTY BOLT DOWN GRATES) (SEE STRUCTURAL DETAILS)
8. INSTALL 18" RCP (USDCCA STD. DWG. NO. 503.2)
9. INSTALL 24" RCP (USDCCA STD. DWG. NO. 503.2)
10. NOT USED
11. INSTALL 36" RCP (USDCCA STD. DWG. NO. 503.2)
12. INSTALL 42" RCP (USDCCA STD. DWG. NO. 503.2)
13. INSTALL 48" RCP (USDCCA STD. DWG. NO. 503.2)
14. INSTALL 66" RCP (USDCCA STD. DWG. NO. 503.2)
15. INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
16. CONSTRUCT 12' X 5' PRECAST RCB
17. CONSTRUCT 6' X 5' PRECAST RCB
18. CONSTRUCT 12' X 7' RCA (SEE STRUCTURAL DETAILS)
19. CONSTRUCT BRICK AND MORTAR PLUG (SEE DETAIL 7, SHEET DT-01)
20. CONSTRUCT RCB PLUG (NDOT STD. PLAN B-20.1.7)
21. INSTALL PULL BOX PER DETAIL SHEET DT-04

STORM DRAIN NOTES:

1. ALL PIPE LENGTHS MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR GRADE BREAK OR TO INSIDE EDGE OF DI, RCB, OR STRUCTURE.
2. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
3. ALL STORM DRAIN SHALL BE CLASS III UNLESS OTHERWISE NOTED.
4. SEE STRUCTURAL DETAILS FOR EXISTING AND PROPOSED LATERAL CONNECTIONS TO RCB AND RCA.

LATERAL RUN PROFILE INDEX

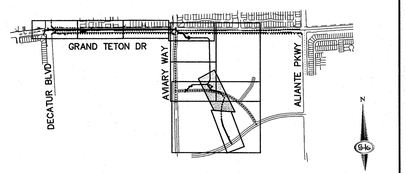
LATERAL RUN NO	SEE SHEET
1 THRU 8	SD-09
9 THRU 14	SD-10

FLOOD ZONE:

THIS SITE LIES WITHIN ZONE "X" DETERMINED TO BE OUTSIDE OF THE 500 YEAR FLOODPLAIN AS DEPICTED ON FIRM MAP PANEL NUMBER 32003C1765F, REVISED NOVEMBER 16, 2011.

"I CERTIFY THAT THIS PLAN CONFORMS TO THE APPROVED TECHNICAL DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF NORTH LAS VEGAS CNLV #45326."

JERRY SLATER, P.E. 14167 DATE



KEY MAP

SCALE 40 0 40 80 FEET

Call before you Dig — Avoid cutting underground utility lines. It's costly. Call 811 or 1-800-227-2600

FAST — Call before you UnderGround. 1-702-432-5300 FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. CALL BEFORE YOU DIG OVERHEAD 1-702-227-2929

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

NORTH LAS VEGAS, NV

SECTION 18
TOWNSHIP 19S
RANGE 61E

CRESCENT BAY HOLDINGS

GRAND TETON REGIONAL FLOOD CONTROL FACILITY
STORM DRAIN PLAN AND PROFILE
"SD-2" 55+18.00 TO "SD-2" 63+00.00

DATE: 07/02/2014
DRAFTER: JAS
DESIGNER: JSR
CHECKED: JJS

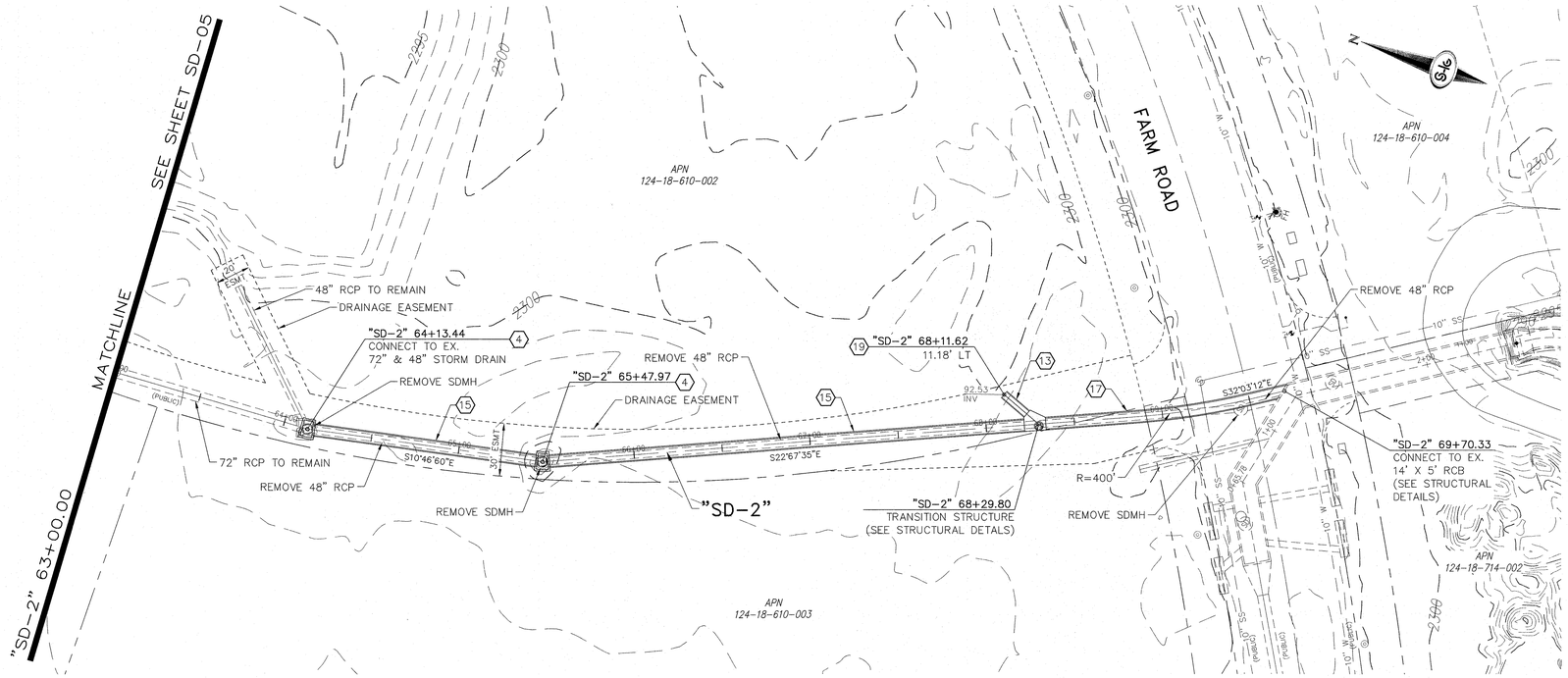
PROJECT NO.
CBH1201-000

PROFESSIONAL ENGINEER STATE OF NEVADA — JERRY SLATER — Exp. 06/30/2016 — CIVIL — No. 14167

7-2-14

SD-05
SHEET 8 OF 21

J:\cbh1201-000 park highlands dh\dwg\Improv\sd-05.dwg 7/2/2014 1:17 PM Kellin Collins



STORM DRAIN NOTES

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3. CONSTRUCT RCA MANHOLE (SEE STRUCTURAL DETAILS)
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5. CONSTRUCT 12.5-FOOT TYPE "DM" DROP INLET (USDCCA STD. DWG. NO. 412.1& 421)
6. CONSTRUCT 20-FOOT TYPE "CM2" DROP INLET (USDCCA STD. DWG. NO. 412.1& 421)
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14. INSTALL 66" RCP (USDCCA STD. DWG. NO. 503.2)
15. INSTALL 72" RCP (USDCCA STD. DWG. NO. 503.2)
16. CONSTRUCT 12' X 5' PRECAST RCB
17. CONSTRUCT 6' X 5' PRECAST RCB
18. CONSTRUCT 12' X 7' RCA (SEE STRUCTURAL DETAILS)
19. CONSTRUCT BRICK AND MORTAR PLUG (SEE DETAIL 7, SHEET DT-01)
20. CONSTRUCT RCB PLUG (NDOT STD. PLAN B-20.1.7)
21. INSTALL PULL BOX PER DETAIL SHEET DT-04

STORM DRAIN NOTES:

1. ALL PIPE LENGTHS MEASURED ALONG PIPE CENTERLINE TO CENTER OF MANHOLE OR GRADE BREAK OR TO INSIDE EDGE OF DI, RCB, OR STRUCTURE.
2. ALL DROP INLETS SHALL INCLUDE STORM WATER MANAGEMENT STAMP AND DETAIL PER USDCCA STD. DWG. NO. 421.
3. ALL STORM DRAIN SHALL BE CLASS III UNLESS OTHERWISE NOTED.
4. SEE STRUCTURAL DETAILS FOR EXISTING AND PROPOSED LATERAL CONNECTIONS TO RCB AND RCA.

LATERAL RUN PROFILE INDEX

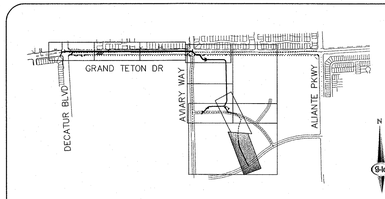
LATERAL RUN NO	SEE SHEET
1 THRU 8	SD-09
9 THRU 14	SD-10

FLOOD ZONE:

THIS SITE LIES WITHIN ZONE "X" DETERMINED TO BE OUTSIDE OF THE 500 YEAR FLOODPLAIN AS DEPICTED ON FIRM MAP PANEL NUMBER 32003C1765F, REVISED NOVEMBER 16, 2011.

"I CERTIFY THAT THIS PLAN CONFORMS TO THE APPROVED TECHNICAL DRAINAGE STUDY FOR THIS SITE ON FILE AT THE CITY OF NORTH LAS VEGAS CNLV #45326."

JERRY SLATER, P.E. 14167 DATE



KEY MAP

40 0 40 80
SCALE FEET

FAST
Call before you UnderGround.
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

NORTH LAS VEGAS, NV

CRESCENT BAY HOLDINGS

GRAND TETON REGIONAL FLOOD CONTROL FACILITY
STORM DRAIN PLAN AND PROFILE
"SD-2" 63+00.00 TO "SD-2" 69+70.33

SECTION 18
TOWNSHIP 19S
RANGE 61E

DATE: 07/02/2014
DRAFTER: JAS
DESIGNER: JSR
CHECKED: JJS
PROJECT NO.
CBH1201-000

PROFESSIONAL ENGINEER — STATE OF NEVADA — JERRY A. SLATER — No. 14167 — Exp. 06/30/2016 — CIVIL

SD-06
SHEET 9 OF 21

J:\cbh1201-000 park, highlands, dr\dwg\mxrcv\sd-06.dwg 7/2/2014 1:21 PM Kellin Collins

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN  1998                *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   27JUN14  TIME  14:27:31  *
*                                      *
****************************************
```

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

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

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

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


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

                    *DIAGRAM
            1       ID     SLATER HANIFAN GROUP, INC.
            2       ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
            3       ID     SUPPLEMENT NO. 1 UPDATE. 1 TO THE TECHNICAL DRAINAGE STUDY
            4       ID     INTERIM CONDITION
            5       ID
            6       ID     RETURN PERIOD ------- 10-YEAR
            7       ID     DISTRIBUTION -------- 6-HOUR SDN3
            8       ID     PROJECT NO. --------- CBH1201.000
            9       ID     FILENAME ------------ INT10.H1
           10       ID     DATE ---------------- JULY 2014
           11       ID     MODELED BY ---------- KC
           12       ID
           13       ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
           14       ID        DRAINAGE AREA (MI^2)       DARF
           15       ID        10-YR EVENT               0.570
           16       ID
           17       IT       5       0       0     300
           18       IO       5       0       0
           19       IN       5       0       0
           20       JR    PREC   0.570
                    *

           21       KK    E140
           22       BA   .0675
           23       PB    2.77
           24       PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
           25       PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
           26       PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
           27       PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
           28       PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
           29       PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
           30       PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
           31       PC   0.998   0.999   1.000
           32       LS       0    81.9
           33       UD   0.599
                    *

           34       KK    E360
           35       BA   .0095
           36       LS       0    85.6
           37       UD   0.159
                    *

           38       KK     CP1
           39       KM   COMBINE E140 AND E360 AT MAGGIE AND MUSTANG
           40       HC       2
                    *

           41       KK    CP1S
           42       KM   CP1E IS THE FLOW DRAINING EAST IN MAGGIE
           43       KM   CP1S IS THE FLOW DRAINING SOUTH IN MUSTANG
           44       DT    CP1E
           45       DI      12
           46       DQ       5
                    *
```



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

           47       KK    E160
           48       BA   .0641
           49       LS       0    83.1
           50       UD   0.445
                    *

           51       KK   E160E
```

```
   52          KM   E160E IS THE FLOW DRAINING EAST IN MAGGIE
   53          KM   E160S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   54          KM   FLOW IN TORREY PINES IS BASED ON 1/2 STREET CAPACITY, 10 CFS
   55          DT   E160S
   56          DI      14
   57          DQ      10
               *

   58          KK    E340
   59          BA   .0168
   60          LS       0    85.8
   61          UD   0.172
               *

   62          KK     CP2
   63          KM   COMBINE CP1S E160E AND E340 AT BRENT AND MUSTANG
   64          HC       3
               *

   65          KK    CP2S
   66          KM   CP2E IS THE FLOW DRAINING EAST IN BRENT
   67          KM   CP2S IS THE FLOW DRAINING SOUTH IN MUSTANG
   68          DT    CP2E
   69          DI      15
   70          DQ       8
               *

   71          KK    E180
   72          BA   .2142
   73          LS       0    80.7
   74          UD   0.715
               *

   75          KK   E160S
   76          KM   RETRIEVE E160S
   77          DR   E160S
               *

   78          KK    E320
   79          BA   .0169
   80          LS       0    85.7
   81          UD   0.168
               *
1                                        HEC-1 INPUT                                                PAGE  3

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

   82          KK     CP3
   83          KM   COMBINE CP2S E180 E160S AND E320 AT GUY AND MUSTANG
   84          HC       4
               *

   85          KK    CP3S
   86          KM   CP3E IS THE FLOW DRAINING EAST IN GUY
   87          KM   CP3S IS THE FLOW DRAINING SOUTH IN MUSTANG
   88          DT    CP3E
   89          DI      43
   90          DQ      20
               *

   91          KK    E200
   92          BA   .0059
   93          LS       0    83.7
   94          UD   0.183
               *

   95          KK    E300
   96          BA   .0132
   97          LS       0    85.8
   98          UD   0.168
               *

   99          KK     CP4
  100          KM   COMBINE CP3S E200 AND E300 AT HORSE AND MUSTANG
  101          HC       3
               *

  102          KK   SOUTH
  103          KM   CP4E IS THE FLOW DRAINING EAST IN HORSE
  104          KM   SOUTH IS THE FLOW DRAINING SOUTH IN MUSTANG
  105          KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
  106          DT    CP4E
  107          DI      26
  108          DQ       7
               *

  109          KK    NONE
  110          KM   NONE IS ZERO FLOW
  111          KM   CP4S IS THE FLOW DRAINING SOUTH IN MUSTANG
  112          DT    CP4S
  113          DI      10     100
  114          DQ      10     100
               *

  115          KK    E080
  116          BA   .0108
  117          LS       0    83.5
  118          UD   0.219
               *
1                                        HEC-1 INPUT                                                PAGE  4

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

  119          KK    CP1E
```

```
 120          KM   RETRIEVE CP1E
 121          DR    CP1E
              *

 122          KK    E380
 123          BA   .0195
 124          LS       0    85.7
 125          UD   0.203
              *

 126          KK     CP5
 127          KM   COMBINE E080 CP1E AND E380 AT BRENT AND MAVERICK
 128          HC       3
              *

 129          KK    CP5S
 130          KM   CP5S IS THE FLOW DRAINING SOUTH IN MAVERICK
 131          KM   CP5E IS THE FLOW DRAINING EAST IN BRENT
 132          DT    CP5E
 133          DI      15
 134          DQ       8
              *

 135          KK    E060
 136          BA   .2588
 137          LS       0    82.5
 138          UD   0.679
              *

 139          KK   E060S
 140          KM   E060S IS THE FLOW DRAINING SOUTH IN JONES
 141          KM   E060E IS THE FLOW DRAINING EAST IN SHELEHEDA
 142          KM   EXISTING SD IN  JONES IS FOR NUISANCE FLOW
 143          DT   E060E
 144          DI      42
 145          DQ      19
              *

 146          KK  RE060S
 147          KM   ROUTE TO CP6
 148          RD    1345   .0066   0.016       0    TRAP       0      50
              *

 149          KK    E100
 150          BA   .4698
 151          LS       0    81.2
 152          UD   0.956
              *
1                                        HEC-1 INPUT                                                PAGE  5

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

 153          KK     CP6
 154          KM   COMBINE E060S AND E100 AT IRON MOUNTAIN AND JONES
 155          HC       2
              *

 156          KK    CP6S
 157          KM   CP6S IS THE FLOW DRAINING SOUTH IN JONES
 158          KM   CP6E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
 159          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
 160          DT    CP6E
 161          DI      74
 162          DQ      60
              *

 163          KK   RCP6S
 164          KM   ROUTE TO CP7
 165          RD    2000   .0050   0.016       0    TRAP       0      50
              *

 166          KK    E420
 167          BA   .0957
 168          LS       0    85.4
 169          UD   0.251
              *

 170          KK    CP5E
 171          KM   RETRIEVE CP5E
 172          DR    CP5E
              *

 173          KK   RCP5E
 174          KM   ROUTE TO CP7
 175          RD    2010   .0058   0.016       0    TRAP       0      50
              *

 176          KK     CP7
 177          KM   COMBINE CP6S E420 AND CP5E AT GUY AND JONES
 178          HC       3
              *

 179          KK    CP7S
 180          KM   CP7S IS THE FLOW DRAINING SOUTH IN JONES
 181          KM   CP7E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
 182          KM   EXISTING SD IN JONES IS FOR NUISANCCE FLOW
 183          KM   FLOW IN JONES IS BASED ON 1/2 STREET CAPACITY, 45 CFS
 184          DT    CP7E
 185          DI      40
 186          DQ       0
              *
1                                        HEC-1 INPUT                                                PAGE  6

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

```
187          KK    CP2E
188          KM   RETRIEVE CP2E
189          DR    CP2E
             *

190          KK   RCP2E
191          KM   ROUTE TO CP8
192          RD    3370   .0055   0.016       0    TRAP       0      50
             *

193          KK    CP3E
194          KM   RETRIEVE CP3E
195          DR    CP3E
             *

196          KK   RCP3E
197          KM   ROUTE TO CP8
198          RD    2680   .0055   0.016       0    TRAP       0      50
             *

199          KK    CP4E
200          KM   RETRIEVE CP4E
201          DR    CP4E
             *

202          KK   RCP4E
203          KM   ROUTE TO CP8
204          RD    1955   .0048   0.016       0    TRAP       0      50
             *

205          KK   DUMMY
206          KM   COMBINE CP5S CP7S CP2E CP3E AND CP4E
207          HC       5
             *

208          KK    E400
209          BA   .0846
210          LS       0    85.2
211          UD   0.259
             *

212          KK     CP8
213          KM   COMBINE DUMMMY AND E400 AT HORSE AND JONES
214          HC       2
             *

215          KK    CP8E
216          KM   CP8S IS THE FLOW DRAINING SOUTH IN JONES
217          KM   CP8E IS THE FLOW DRAINING EAST IN HORSE
218          KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
219          DT    CP8S
220          DI      85
221          DQ      56
             *
```



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

222          KK   RCP8E
223          KM   ROUTE TO CP10
224          RD    2530   .0080   0.016       0    TRAP       0      50
             *

225          KK    E440
226          BA   .0523
227          LS       0    80.8
228          UD   0.290
             *

229          KK   E440S
230          KM   E440S IS THE FLOW DRAINING SOUTH IN BRADLEY
231          KM   E440E IS THE FLOW DRAINING EAST IN BRENT
232          DT   E440E
233          DI      12
234          DQ       7
             *

235          KK    E460
236          BA   .1140
237          LS       0    80.3
238          UD   0.355
             *

239          KK     CP9
240          KM   COMBINE E440S AND E460 IN BRADLEY BETWEEN BRENT AND HORSE
241          HC       2
             *

242          KK    CP9S
243          KM   CP9S IS THE FLOW DRAINING SOUTH IN BRADLEY
244          KM   CP9E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
245          KM   FLOW IN BRADELY IS BASED ON 1/2 STREET CAPACITY, 41 CFS
246          DT    CP9E
247          DI      26
248          DQ       0
             *

249          KK    CP7E
250          KM   RETRIEVE CP7E
251          DR    CP7E
             *

252          KK   RCP7E
253          KM   ROUTE TO CP10
```

```
 254          RD    2690   .0080   0.016       0    TRAP       0      50
              *
1                                        HEC-1 INPUT                                                    PAGE  8

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

 255          KK    E480
 256          BA   .0873
 257          LS       0    81.5
 258          UD   0.278
              *

 259          KK    CP10
 260          KM   COMBINE CP8E CP9S CP7E AND E480 AT HORSE AND BRADLEY
 261          HC       4
              *

 262          KK   CP10E
 263          KM   CP10S IS THE FLOW DRAINING SOUTH IN BRADLEY
 264          KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
 265          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
 266          DT   CP10S
 267          DI      72
 268          DQ      33
              *

 269          KK    CP9E
 270          KM   RETRIEVE CP9E
 271          DR    CP9E
              *

 272          KK    E520
 273          BA   .0143
 274          LS       0    85.0
 275          UD   0.162
              *

 276          KK    CP11
 277          KM   COMBINE CP10E CP9E AND E520 AT HORSE AND UNICORN
 278          HC       3
              *

 279          KK   CP11E
 280          KM   CP11S IS THE FLOW DRAINING SOUTH IN UNICORN
 281          KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
 282          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
 283          DT   CP11S
 284          DI      43
 285          DQ      19
              *

 286          KK  RCP11E
 287          KM   ROUTE TO CP14
 288          RD    1825   .0080   0.016       0    TRAP       0      50
              *
1                                        HEC-1 INPUT                                                    PAGE  9

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

 289          KK   E060E
 290          KM   RETRIEVE E060E
 291          DR   E060E
              *

 292          KK  RE060E
 293          KM   ROUTE TO CP12
 294          RD    5370   .0050   0.016       0    TRAP       0      50
              *

 295          KK    CP6E
 296          KM   RETRIEVE CP6E
 297          DR    CP6E
              *

 298          KK   RCP6E
 299          KM   ROUTE TO CP12
 300          RD    5145   .0050   0.016       0    TRAP       0      50
              *

 301          KK    E040
 302          BA   .3615
 303          LS       0    82.1
 304          UD   0.511
              *

 305          KK    CP12
 306          KM   COMBINE E060E CP6E AND E040 AT IRON MOUNTAIN AND DECATUR
 307          HC       3
              *

 308          KK   CP12S
 309          KM   CP12S IS THE FLOW DRAINING SOUTH IN DECATUR
 310          KM   CP12E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
 311          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
 312          DT   CP12E
 313          DI     110
 314          DQ       0
              *

 315          KK  RCP12S
 316          KM   ROUTE TO CP13
 317          RD    1270   .0040   0.016       0    TRAP       0      50
              *
```

```
 318          KK    E540
 319          BA   .0506
 320          LS       0    85.5
 321          UD   0.171
              *
1                                        HEC-1 INPUT                                                    PAGE 10

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

 322          KK    CP13
 323          KM   COMBINE CP12S AND E540 AT BRENT AND DECATUR
 324          HC       2
              *

 325          KK   CP13S
 326          KM   S9 IS THE FLOW DRAINING SOUTH IN DECATUR
 327          KM   E9 IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
 328          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
 329          DT   CP13E
 330          DI     116
 331          DQ       0
              *

 332          KK  RCP13S
 333          KM   ROUTE TO CP14
 334          RD    1290   .0040   0.016       0    TRAP       0      50
              *

 335          KK   E440E
 336          KM   RETRIEVE E440E
 337          DR   E440E
              *

 338          KK  RE440E
 339          KM   ROUTE TO CP14
 340          RD    3850   .0040   0.016       0    TRAP       0      50
              *

 341          KK    E560
 342          BA   .1763
 343          LS       0    89.1
 344          UD   0.370
              *

 345          KK    CP14
 346          KM   COMBINE CP11E CP13S E440E AND E560 AT HORSE AND DECATUR
 347          HC       4
              *

 348          KK   CP14E
 349          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
 350          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
 351          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
 352          KM   HIGH POINT IN DECATUR, ALL SURFACE FLOWS DRIAN EAST
 353          DT   CP14S
 354          DI     154
 355          DQ      30
              *
1                                        HEC-1 INPUT                                                    PAGE 11

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

 356          KK  RCP14E
 357          KM   ROUTE TO CP15
 358          RD    2645   .0050   0.016       0    TRAP       0      50
              *

 359          KK    E600
 360          BA   .0862
 361          LS       0    83.7
 362          UD   0.285
              *

 363          KK    CP15
 364          KM   COMBINE CP14E AND E600 AT HORSE AND AVIARY
 365          HC       2
              *

 366          KK   CP15E
 367          KM   CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
 368          KM   CP15E IS THE FLOW DRAINING EAST IN HORSE
 369          KM   EXISTING SD IN HORSE CONVEYS 206 CFS EAST
 370          DT   CP15S
 371          DI     113
 372          DQ       0
              *

 373          KK    E240
 374          BA   .1327
 375          LS       0    83.1
 376          UD   0.472
              *

 377          KK   E240S
 378          KM   E240S IS THE FLOW DRAINING SOUTH IN TORREY PINES
 379          KM   E240E IS THE FLOW DRAINING EAST IN MEISENHEIMER
 380          DT   E240E
 381          DI      29
 382          DQ      15
              *

 383          KK    E260
 384          BA   .1379
 385          LS       0    83.3
```

```
386          UD   0.441
             *

387          KK    CP16
388          KM   COMBINE E240S AND E260 AT RACEL AND TORREY PINES
389          HC       2
             *
```



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

390          KK   CP16S
391          KM   S9 IS THE FLOW DRAINING SOUTH IN TORREY PINES
392          KM   E9 IS THE FLOW DRAINING EAST IN RACEL
393          DT   CP16E
394          DI      45
395          DQ      23
             *

396          KK   DUMMY
397          HC       3
             *

398          KK   CP14S
399          KM   RETRIEVE CP14S
400          DR   CP14S
             *

401          KK  RCP14S
402          KM   ROUTE TO CP17
403          RD    2565   .0050   0.013       0    CIRC     2.5       0
             *

404          KK    E580
405          BA   .0980
406          LS       0    88.1
407          UD   0.296
             *

408          KK    CP17
409          KM   COMBINE CP14S AND E580 IN DECATUR BETWEEN HORSE AND GRAND TETON
410          HC       2
             *

411          KK   CP17S
412          KM   CP17S IS THE FLOW DRAINING SOUTH IN DECATUR
413          KM   CP17E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
414          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
415          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
416          DT   CP17E
417          DI      62
418          DQ       0
             *

419          KK    E220
420          BA   .0445
421          LS       0    83.5
422          UD   0.284
             *
```



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

423          KK   RE220
424          KM   ROUTE TO CP18
425          RD    5085   .0050   0.016       0    TRAP       0      50
             *

426          KK   E240E
427          KM   RETRIEVE E240E
428          DR   E240E
             *

429          KK  RE240E
430          KM   ROUTE TO CP18
431          RD    4710   .0050   0.016       0    TRAP       0      50
             *

432          KK   CP16E
433          KM   RETRIEVE CP16E
434          DR   CP16E
             *

435          KK  RCP16E
436          KM   ROUTE TO CP18
437          RD    4030   .0050   0.016       0    TRAP       0      50
             *

438          KK    CP4S
439          KM   RETRIEVE CP4S
440          DR    CP4S
             *

441          KK   RCP4S
442          KM   ROUTE TO CP18
443          RD    4770   .0050   0.016       0    TRAP       0      50
             *

444          KK    CP8S
445          KM   RETRIEVE CP8S
446          DR    CP8S
             *

447          KK   RCP8S
```

```
          448          KM   ROUTE TO CP18
          449          RD    2755   .0050   0.016       0    TRAP       0      50
                       *

          450          KK   DUMMY
          451          KM   COMBINE E220 E240E CP16E CP4S AND CP8S
          452          HC       5
                       *
1                                        HEC-1 INPUT                                                    PAGE 14

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


          453          KK    E280
          454          BA   .2782
          455          LS       0    83.5
          456          UD   0.399
                       *

          457          KK    CP18
          458          KM   COMBINE DUMMY AND E280 AT GRAND TETON AND JONES
          459          HC       2
                       *

          460          KK   RCP18
          461          KM   ROUTE TO CP19
          462          RD    4935   .0050   0.016       0    TRAP       0      50
                       *

          463          KK   CP10S
          464          KM   RETRIEVE CP10S
          465          DR   CP10S
                       *

          466          KK  RCP10S
          467          KM   ROUTE TO CP19
          468          RD    5215   .0050   0.016       0    TRAP       0      50
                       *

          469          KK   CP11S
          470          KM   RETRIEVE CP11S
          471          DR   CP11S
                       *

          472          KK  RCP11S
          473          KM   ROUTE TO CP19
          474          RD    4550   .0050   0.016       0    TRAP       0      50
                       *

          475          KK    E500
          476          BA   .3881
          477          LS       0    83.3
          478          UD   0.510
                       *

          479          KK   CP18A
          480          KM   COMBINE CP18 CP10S CP11S AND E500 IN GRAND TETON WEST OF DECATUR
          481          HC       4
                       *

          482          KK    CP19
          483          KM   COMBINE CP17S AND CP18A AT GRAND TETON AND DECATUR
          484          HC       2
                       *
1                                        HEC-1 INPUT                                                    PAGE 15

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


          485          KK   CP17E
          486          KM   RETRIEVE CP17E
          487          DR   CP17E
                       *

          488          KK   E660
          489          BA   .0140
          490          LS       0    84.5
          491          UD   0.165
                       *

          492          KK    CP20
          493          KM   COMBINE CP19 CP17E AND E660 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
          494          HC       3
                       *

          495          KK    E640
          496          BA   .0700
          497          LS       0    87.8
          498          UD   0.263
                       *

          499          KK    CP21
          500          KM   COMBINE CP20 AND E640 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
          501          HC       2
                       *

          502          KK    E620
          503          BA   .0472
          504          LS       0    88.1
          505          UD   0.246
                       *

          506          KK    CP22
          507          KM   COMBINE CP21 AND E620 AT GRAND TETON AND SAN MATEO
          508          HC       2
                       *
```

```
 509          KK   RCP22
 510          KM   ROUTE TO CP24
 511          RD    1230   .0050   0.016       0    TRAP       0      50
              *

 512          KK   CP15S
 513          KM   RETRIEVE CP15S
 514          DR   CP15S
              *

 515          KK  RCP15S
 516          KM   ROUTE TO CP23
 517          RD    2555   .0050   0.016       0    TRAP       0      50
              *
```



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

 518          KK    E680
 519          BA   .1122
 520          LS       0    88.0
 521          UD   0.303
              *

 522          KK    CP23
 523          KM   COMBINE CP15S AND E680 IN AVIARY JUST NORTH OF GRAND TETON
 524          HC       2
              *

 525          KK    E760
 526          BA   .0076
 527          LS       0    88.3
 528          UD   0.171
              *

 529          KK   CPGTA
 530          KM   COMBINE CP22 CP23 AND E760 AT GRAND TETON AND AVIARY
 531          HC       3
              *

 532          KK     2-3
 533          BA  0.0327
 534          LS       0    85.0
 535          UD   0.172
              *

 536          KK  CPGTA2
 537          HC       2
              *

 538          KK     2-1
 539          BA  0.0367
 540          LS       0    94.0
 541          UD   0.187
              *

 542          KK     2-2
 543          BA  0.0742
 544          LS       0    91.0
 545          UD   0.215
              *

 546          KK   2-14A
 547          BA  0.0027
 548          LS       0    85.0
 549          UD   0.135
              *
```



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

 550          KK      2A
 551          HC       3
              *

 552          KK      2B
 553          HC       2
              *

 554          KK     DB1
 555          KM   PARK HIGHLANDS WEST DETENTION BASIN
 556          KO       2
 557          RS       1    ELEV      -1
 558          SV       0   0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
 559          SE  2297.0  2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
 560          SQ       0      72     110     138     161     199     215     231     252    1975
 561          SE  2297.0  2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
 562          KO       1
              *

 563          KK     2-6
 564          BA  0.0180
 565          LS       0    94.0
 566          UD   0.158
              *

 567          KK      2C
 568          HC       2
              *

 569          KK     2-7
 570          BA  0.0156
 571          LS       0    85.0
```

```
          572          UD   0.137
                       *

          573          KK      2D
          574          HC       2
                       *

          575          KK     2-4
          576          BA  0.0334
          577          LS       0    94.0
          578          UD   0.137
                       *

          579          KK   2-14B
          580          BA  0.0025
          581          LS       0    85.0
          582          UD   0.126
                       *
```



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

          583          KK      2E
          584          HC       2
                       *

          585          KK     2-5
          586          BA  0.0891
          587          LS       0    91.0
          588          UD   0.215
                       *

          589          KK    2-5W
          590          DT    2-5E
          591          DI       0     100
          592          DQ       0      48
                       *

          593          KK     2-9
          594          BA  0.0156
          595          LS       0    91.0
          596          UD   0.135
                       *

          597          KK      2F
          598          HC       3
                       *

          599          KK    2-5E
          600          DR    2-5E
                       *

          601          KK    2-10
          602          BA  0.0163
          603          LS       0    91.0
          604          UD   0.132
                       *

          605          KK      2G
          606          HC       3
                       *

          607          KK     2-8
          608          BA  0.0286
          609          LS       0    94.0
          610          UD   0.144
                       *

          611          KK      2H
          612          HC       2
                       *
```



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

          613          KK      2I
          614          HC       2
                       *

          615          KK    2-11
          616          BA  0.0255
          617          LS       0    94.0
          618          UD   0.135
                       *

          619          KK    2-12
          620          BA  0.0272
          621          LS       0    90.0
          622          UD   0.150
                       *

          623          KK      2J
          624          HC       2
                       *

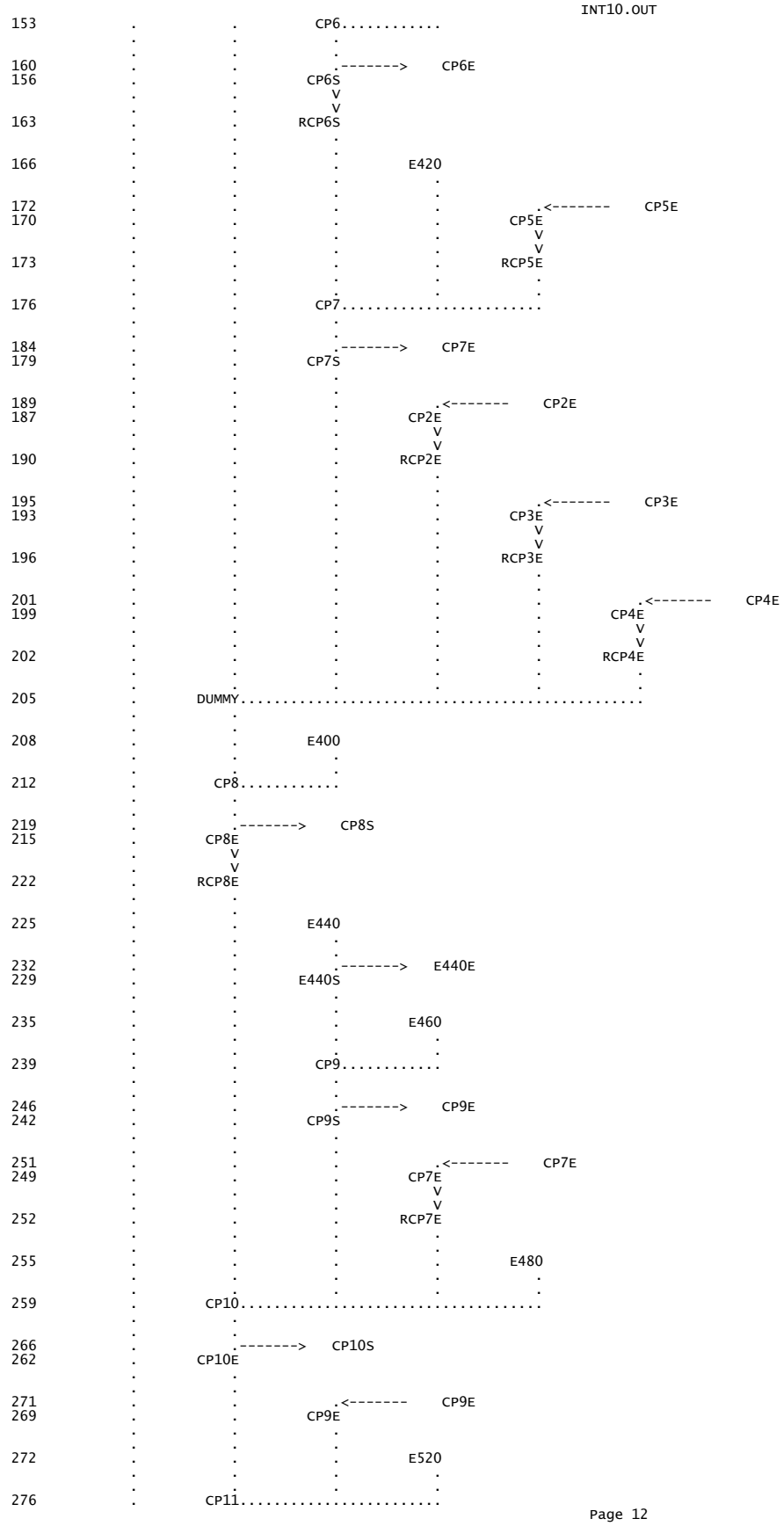
          625          KK      2K
          626          HC       2
                       *

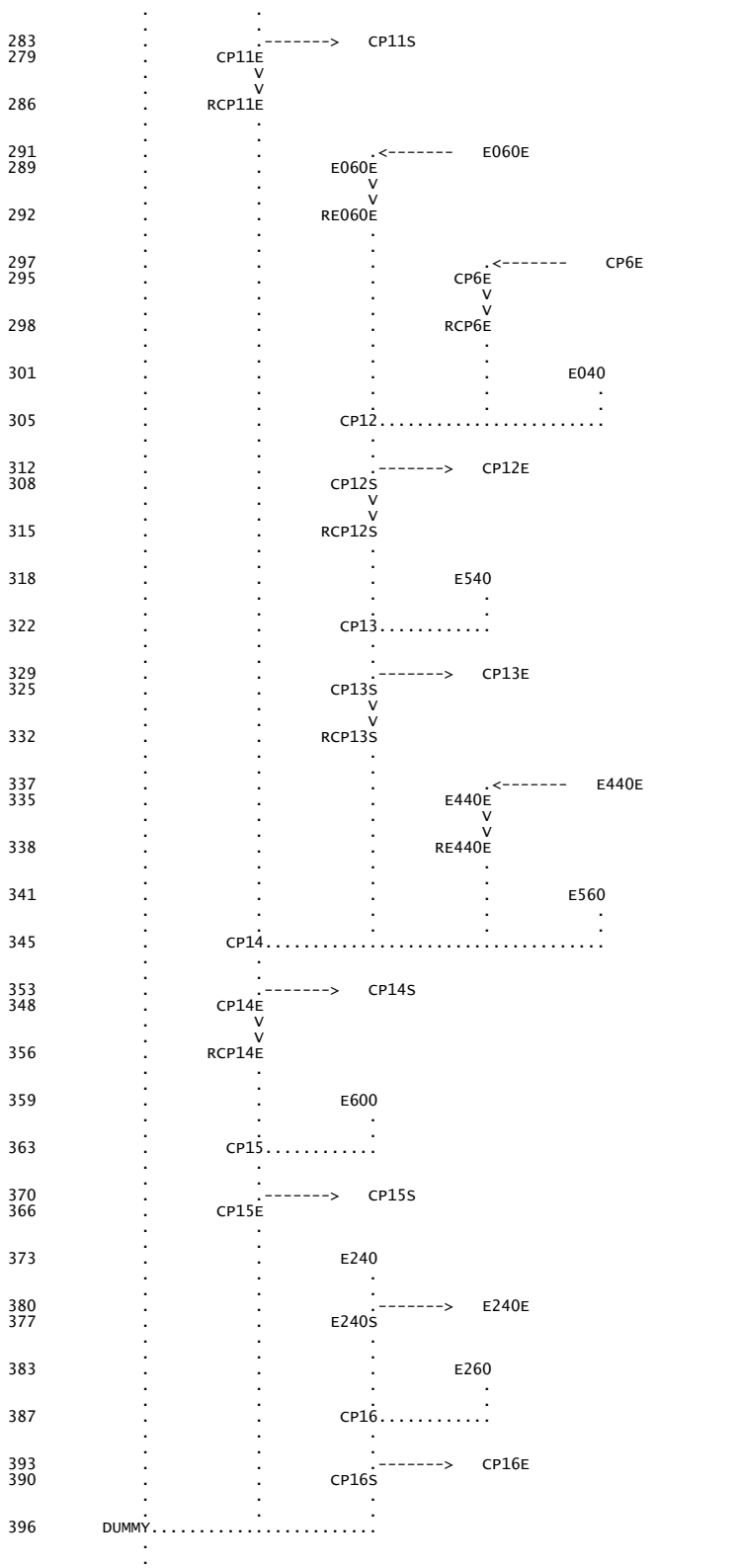
          627          KK    2-13
          628          BA  0.0273
          629          LS       0    91.0
          630          UD   0.176
                       *
```

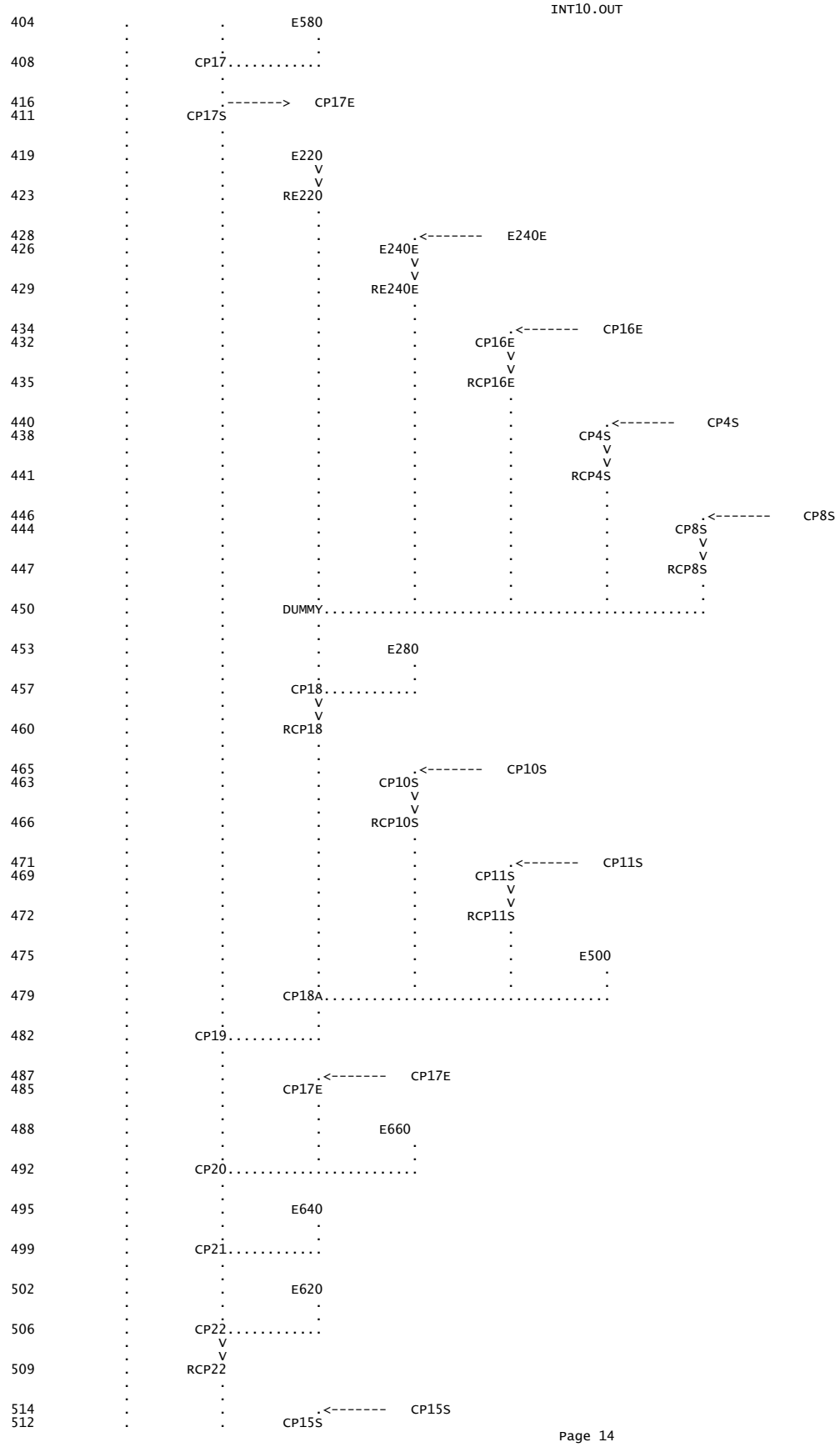
```
           631           KK     PT2
           632           HC       2
                         *
           633           ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

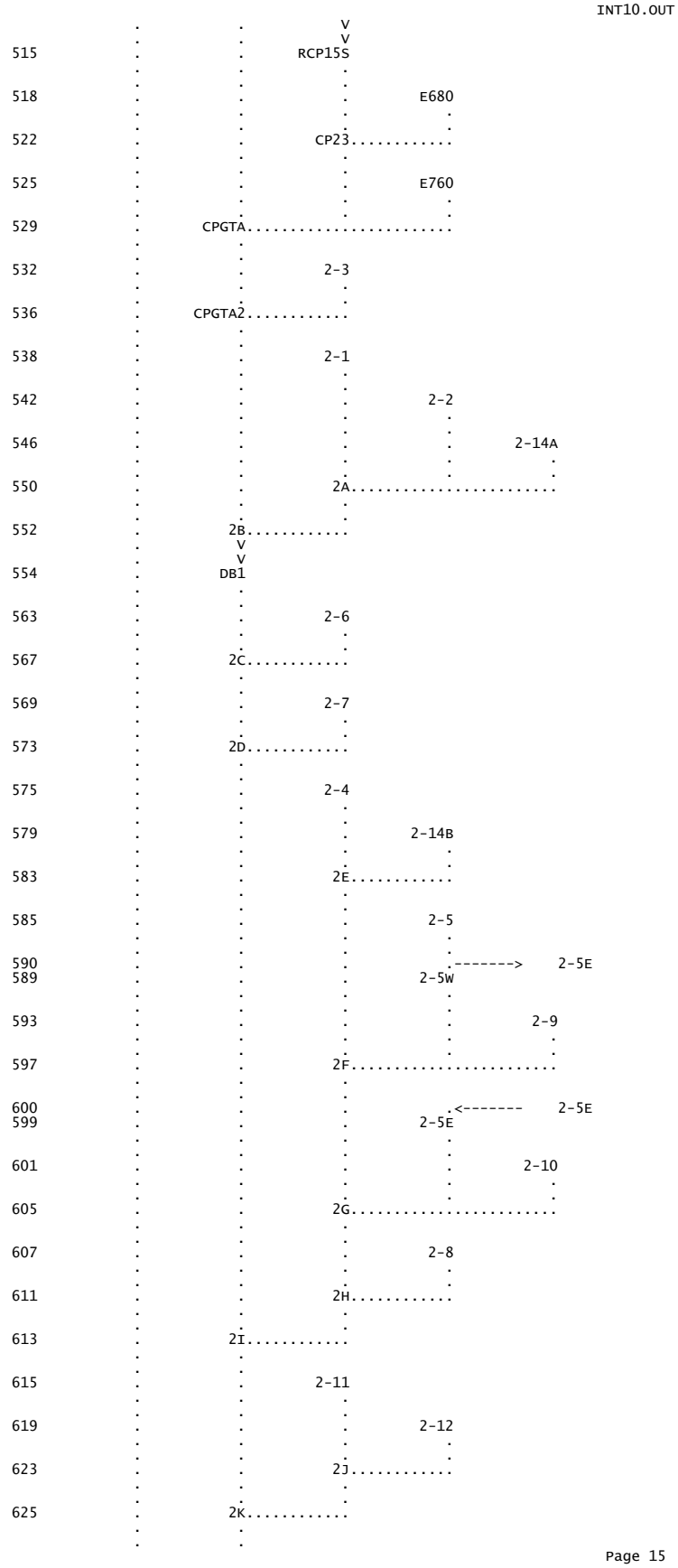
   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    21        E140
                 .
                 .
    34           .        E360
                 .           .
                 .           .
    38         CP1............
                 .
                 .
    44           .-------->    CP1E
    41        CP1S
                 .
                 .
    47           .        E160
                 .           .
                 .           .
    55           .           .-------->   E160S
    51           .       E160E
                 .           .
                 .           .
    58           .           .        E340
                 .           .           .
                 .           .           .
    62         CP2.........................
                 .
                 .
    68           .-------->    CP2E
    65        CP2S
                 .
                 .
    71           .        E180
                 .           .
                 .           .
    77           .           .           .<-------   E160S
    75           .           .       E160S
                 .           .           .
                 .           .           .
    78           .           .           .        E320
                 .           .           .           .
                 .           .           .           .
    82         CP3.....................................
                 .
                 .
    88           .-------->    CP3E
    85        CP3S
                 .
                 .
    91           .        E200
                 .           .
                 .           .
    95           .           .        E300
                 .           .           .
                 .           .           .
    99         CP4.........................
                 .
                 .
   106           .-------->    CP4E
   102       SOUTH
                 .
                 .
   112           .-------->    CP4S
   109        NONE
                 .
                 .
   115           .        E080
                 .           .
                 .           .
   121           .           .           .<-------    CP1E
   119           .           .        CP1E
                 .           .           .
                 .           .           .
   122           .           .           .        E380
                 .           .           .           .
                 .           .           .           .
   126           .         CP5.........................
                 .           .
                 .           .
   132           .           .-------->    CP5E
   129           .        CP5S
                 .           .
                 .           .
   135           .           .        E060
                 .           .           .
                 .           .           .
   143           .           .           .-------->   E060E
   139           .           .       E060S
                 .           .           V
                 .           .           V
   146           .           .      RE060S
                 .           .           .
                 .           .           .
   149           .           .           .        E100
                 .           .           .           .
                 .           .           .           .
```


CP6
CP6E
CP6S
RCP6S
E420
CP5E
CP7
CP7E
CP7S
CP2E
RCP2E
CP3E
RCP3E
CP4E
RCP4E
DUMMY
E400
CP8
CP8S
CP8E
RCP8E
E440
E440E
E440S
E460
CP9
CP9E
CP9S
CP7E
RCP7E
E480
CP10
CP10S
CP10E
E520
CP11


283
279 CP11E
286 RCP11E
291
289 E060E
292 RE060E
297
295 CP6E
298 RCP6E
301 E040
305 CP12
312
308 CP12S
315 RCP12S
318 E540
322 CP13
329
325 CP13S
332 RCP13S
337
335 E440E
338 RE440E
341 E560
345 CP14
353
348 CP14E
356 RCP14E
359 E600
363 CP15
370
366 CP15E
373 E240
380
377 E240S
383 E260
387 CP16
393
390 CP16S
396 DUMMY
400
398 CP14S
401 RCP14S
CP11S
CP6E
CP12E
CP13E
E440E
CP14S
E240E
CP16E


E580
CP17
CP17E
CP17S
E220
RE220
E240E
RE240E
CP16E
RCP16E
CP4S
RCP4S
CP8S
RCP8S
DUMMY
E280
CP18
RCP18
CP10S
RCP10S
CP11S
RCP11S
E500
CP18A
CP19
CP17E
E660
CP20
E640
CP21
E620
CP22
RCP22
CP15S


RCP15S
E680
CP23
E760
CPGTA
2-3
CPGTA2
2-1
2-2
2-14A
2A
2B
DB1
2-6
2C
2-7
2D
2-4
2-14B
2E
2-5
2-5E
2-5W
2-9
2F
2-5E
2-10
2G
2-8
2H
2I
2-11
2-12
2J
2K

```
  627          .          .        2-13
               .          .          .
               .          .          .
  631          .        PT2.....
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               JUN   1998              *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   27JUN14  TIME  14:27:31   *
*                                       *
*****************************************
```

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

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE. 1 TO THE TECHNICAL DRAINAGE STUDY
INTERIM CONDITION

RETURN PERIOD ------- 10-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ INT10.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MI^2) DARF
10-YR EVENT   0.570

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

     IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      2    0  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          19  CENTURY MARK

                   COMPUTATION INTERVAL     .08 HOURS
                        TOTAL TIME BASE   24.92 HOURS

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

     JP           MULTI-PLAN OPTION
                      NPLAN           1  NUMBER OF PLANS

     JR           MULTI-RATIO OPTION
                     RATIOS OF PRECIPITATION
                     .57
```

*** ***

```
            **************
            *            *
 554 KK     *       DB1  *
            *            *
            **************

 556 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           2  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

 562 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           1  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 557 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        ELEV  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 558 SV            STORAGE          .0        .1       2.4      10.5      24.0      38.2      52.7     113.5     137.4     170.6

 559 SE          ELEVATION     2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2307.00   2308.50   2310.50

 560 SQ          DISCHARGE          0.       72.      110.      138.      161.      199.      215.      231.      252.     1975.
```

561 SE ELEVATION 2297.00 2300.00 2301.00 2302.00 2303.00 2305.00 2306.00 2307.00 2308.50 2310.50

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.13	2.43	10.54	24.01	38.19	52.70	83.07	98.26	113.45
OUTFLOW	.00	24.00	48.00	72.00	110.00	138.00	161.00	199.00	215.00	231.00
ELEVATION	2297.00	2298.00	2299.00	2300.00	2301.00	2302.00	2303.00	2305.00	2306.00	2307.00

STORAGE	137.41	170.56
OUTFLOW	252.00	1975.00
ELEVATION	2308.50	2310.50

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .57

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	95.	18.8	2300.6	1		1640	201	0.	.0	2297.0
1		0005	2	0.	.0	2297.0	1		0825	102	94.	18.2	2300.6	1		1645	202	0.	.0	2297.0
1		0010	3	0.	.0	2297.0	1		0830	103	92.	17.6	2300.5	1		1650	203	0.	.0	2297.0
1		0015	4	0.	.0	2297.0	1		0835	104	90.	17.0	2300.5	1		1655	204	0.	.0	2297.0
1		0020	5	0.	.0	2297.0	1		0840	105	89.	16.4	2300.4	1		1700	205	0.	.0	2297.0
1		0025	6	0.	.0	2297.0	1		0845	106	87.	15.8	2300.4	1		1705	206	0.	.0	2297.0
1		0030	7	0.	.0	2297.0	1		0850	107	85.	15.3	2300.4	1		1710	207	0.	.0	2297.0
1		0035	8	0.	.0	2297.0	1		0855	108	84.	14.7	2300.3	1		1715	208	0.	.0	2297.0
1		0040	9	0.	.0	2297.0	1		0900	109	82.	14.2	2300.3	1		1720	209	0.	.0	2297.0
1		0045	10	1.	.0	2297.0	1		0905	110	81.	13.6	2300.2	1		1725	210	0.	.0	2297.0
1		0050	11	0.	.0	2297.0	1		0910	111	79.	13.1	2300.2	1		1730	211	0.	.0	2297.0
1		0055	12	0.	.0	2297.0	1		0915	112	78.	12.5	2300.1	1		1735	212	0.	.0	2297.0
1		0100	13	0.	.0	2297.0	1		0920	113	76.	12.0	2300.1	1		1740	213	0.	.0	2297.0
1		0105	14	0.	.0	2297.0	1		0925	114	75.	11.5	2300.1	1		1745	214	0.	.0	2297.0
1		0110	15	0.	.0	2297.0	1		0930	115	73.	11.0	2300.0	1		1750	215	0.	.0	2297.0
1		0115	16	0.	.0	2297.0	1		0935	116	72.	10.5	2300.0	1		1755	216	0.	.0	2297.0
1		0120	17	0.	.0	2297.0	1		0940	117	71.	10.0	2299.9	1		1800	217	0.	.0	2297.0
1		0125	18	1.	.0	2297.0	1		0945	118	69.	9.6	2299.9	1		1805	218	0.	.0	2297.0
1		0130	19	1.	.0	2297.0	1		0950	119	68.	9.1	2299.8	1		1810	219	0.	.0	2297.0
1		0135	20	1.	.0	2297.1	1		0955	120	66.	8.6	2299.8	1		1815	220	0.	.0	2297.0
1		0140	21	2.	.0	2297.1	1		1000	121	65.	8.2	2299.7	1		1820	221	0.	.0	2297.0
1		0145	22	2.	.0	2297.1	1		1005	122	64.	7.8	2299.7	1		1825	222	0.	.0	2297.0
1		0150	23	2.	.0	2297.1	1		1010	123	62.	7.3	2299.6	1		1830	223	0.	.0	2297.0
1		0155	24	2.	.0	2297.1	1		1015	124	61.	6.9	2299.6	1		1835	224	0.	.0	2297.0
1		0200	25	2.	.0	2297.1	1		1020	125	60.	6.5	2299.5	1		1840	225	0.	.0	2297.0
1		0205	26	2.	.0	2297.1	1		1025	126	59.	6.1	2299.5	1		1845	226	0.	.0	2297.0
1		0210	27	2.	.0	2297.1	1		1030	127	58.	5.7	2299.4	1		1850	227	0.	.0	2297.0
1		0215	28	2.	.0	2297.1	1		1035	128	56.	5.3	2299.4	1		1855	228	0.	.0	2297.0
1		0220	29	3.	.0	2297.1	1		1040	129	55.	4.9	2299.3	1		1900	229	0.	.0	2297.0
1		0225	30	5.	.0	2297.2	1		1045	130	54.	4.5	2299.3	1		1905	230	0.	.0	2297.0
1		0230	31	6.	.0	2297.3	1		1050	131	53.	4.2	2299.2	1		1910	231	0.	.0	2297.0
1		0235	32	7.	.0	2297.3	1		1055	132	52.	3.8	2299.2	1		1915	232	0.	.0	2297.0
1		0240	33	7.	.0	2297.3	1		1100	133	51.	3.4	2299.1	1		1920	233	0.	.0	2297.0
1		0245	34	8.	.0	2297.3	1		1105	134	50.	3.1	2299.1	1		1925	234	0.	.0	2297.0
1		0250	35	9.	.0	2297.4	1		1110	135	49.	2.8	2299.0	1		1930	235	0.	.0	2297.0
1		0255	36	9.	.0	2297.4	1		1115	136	48.	2.4	2299.0	1		1935	236	0.	.0	2297.0
1		0300	37	9.	.0	2297.4	1		1120	137	45.	2.1	2298.9	1		1940	237	0.	.0	2297.0
1		0305	38	10.	.1	2297.4	1		1125	138	42.	1.8	2298.7	1		1945	238	0.	.0	2297.0
1		0310	39	13.	.1	2297.5	1		1130	139	39.	1.5	2298.6	1		1950	239	0.	.0	2297.0
1		0315	40	19.	.1	2297.8	1		1135	140	36.	1.3	2298.5	1		1955	240	0.	.0	2297.0
1		0320	41	25.	.2	2298.0	1		1140	141	33.	1.0	2298.4	1		2000	241	0.	.0	2297.0
1		0325	42	28.	.5	2298.1	1		1145	142	31.	.8	2298.3	1		2005	242	0.	.0	2297.0
1		0330	43	33.	1.0	2298.4	1		1150	143	29.	.6	2298.2	1		2010	243	0.	.0	2297.0
1		0335	44	43.	2.0	2298.8	1		1155	144	27.	.4	2298.1	1		2015	244	0.	.0	2297.0
1		0340	45	50.	3.2	2299.1	1		1200	145	25.	.2	2298.0	1		2020	245	0.	.0	2297.0
1		0345	46	55.	4.7	2299.3	1		1205	146	17.	.1	2297.7	1		2025	246	0.	.0	2297.0
1		0350	47	59.	6.2	2299.5	1		1210	147	4.	.0	2297.1	1		2030	247	0.	.0	2297.0
1		0355	48	64.	7.7	2299.7	1		1215	148	1.	.0	2297.0	1		2035	248	0.	.0	2297.0
1		0400	49	68.	9.1	2299.8	1		1220	149	0.	.0	2297.0	1		2040	249	0.	.0	2297.0
1		0405	50	72.	10.6	2300.0	1		1225	150	0.	.0	2297.0	1		2045	250	0.	.0	2297.0
1		0410	51	77.	12.2	2300.1	1		1230	151	0.	.0	2297.0	1		2050	251	0.	.0	2297.0
1		0415	52	82.	14.0	2300.3	1		1235	152	0.	.0	2297.0	1		2055	252	0.	.0	2297.0
1		0420	53	87.	15.7	2300.4	1		1240	153	0.	.0	2297.0	1		2100	253	0.	.0	2297.0
1		0425	54	91.	17.4	2300.5	1		1245	154	0.	.0	2297.0	1		2105	254	0.	.0	2297.0
1		0430	55	96.	18.9	2300.6	1		1250	155	0.	.0	2297.0	1		2110	255	0.	.0	2297.0
1		0435	56	100.	20.5	2300.7	1		1255	156	0.	.0	2297.0	1		2115	256	0.	.0	2297.0
1		0440	57	104.	21.9	2300.8	1		1300	157	0.	.0	2297.0	1		2120	257	0.	.0	2297.0
1		0445	58	108.	23.3	2301.0	1		1305	158	0.	.0	2297.0	1		2125	258	0.	.0	2297.0
1		0450	59	111.	24.7	2301.0	1		1310	159	0.	.0	2297.0	1		2130	259	0.	.0	2297.0
1		0455	60	114.	25.9	2301.1	1		1315	160	0.	.0	2297.0	1		2135	260	0.	.0	2297.0
1		0500	61	116.	27.0	2301.2	1		1320	161	0.	.0	2297.0	1		2140	261	0.	.0	2297.0
1		0505	62	118.	28.1	2301.3	1		1325	162	0.	.0	2297.0	1		2145	262	0.	.0	2297.0
1		0510	63	120.	29.1	2301.4	1		1330	163	0.	.0	2297.0	1		2150	263	0.	.0	2297.0
1		0515	64	122.	29.9	2301.4	1		1335	164	0.	.0	2297.0	1		2155	264	0.	.0	2297.0
1		0520	65	123.	30.7	2301.5	1		1340	165	0.	.0	2297.0	1		2200	265	0.	.0	2297.0
1		0525	66	124.	31.3	2301.5	1		1345	166	0.	.0	2297.0	1		2205	266	0.	.0	2297.0
1		0530	67	126.	31.9	2301.6	1		1350	167	0.	.0	2297.0	1		2210	267	0.	.0	2297.0
1		0535	68	126.	32.3	2301.6	1		1355	168	0.	.0	2297.0	1		2215	268	0.	.0	2297.0
1		0540	69	127.	32.6	2301.6	1		1400	169	0.	.0	2297.0	1		2220	269	0.	.0	2297.0
1		0545	70	128.	32.9	2301.6	1		1405	170	0.	.0	2297.0	1		2225	270	0.	.0	2297.0
1		0550	71	128.	33.0	2301.6	1		1410	171	0.	.0	2297.0	1		2230	271	0.	.0	2297.0
1		0555	72	128.	33.1	2301.6	1		1415	172	0.	.0	2297.0	1		2235	272	0.	.0	2297.0
1		0600	73	128.	33.1	2301.6	1		1420	173	0.	.0	2297.0	1		2240	273	0.	.0	2297.0
1		0605	74	128.	33.0	2301.6	1		1425	174	0.	.0	2297.0	1		2245	274	0.	.0	2297.0
1		0610	75	127.	32.8	2301.6	1		1430	175	0.	.0	2297.0	1		2250	275	0.	.0	2297.0
1		0615	76	127.	32.6	2301.6	1		1435	176	0.	.0	2297.0	1		2255	276	0.	.0	2297.0
1		0620	77	126.	32.3	2301.6	1		1440	177	0.	.0	2297.0	1		2300	277	0.	.0	2297.0
1		0625	78	126.	32.0	2301.6	1		1445	178	0.	.0	2297.0	1		2305	278	0.	.0	2297.0
1		0630	79	125.	31.6	2301.5	1		1450	179	0.	.0	2297.0	1		2310	279	0.	.0	2297.0
1		0635	80	124.	31.2	2301.5	1		1455	180	0.	.0	2297.0	1		2315	280	0.	.0	2297.0

1	0640	81	123.	30.8	2301.5	*	1	1500	181	0.	.0	2297.0	*	1	2320	281	0.	.0	2297.0
1	0645	82	122.	30.3	2301.4	*	1	1505	182	0.	.0	2297.0	*	1	2325	282	0.	.0	2297.0
1	0650	83	121.	29.8	2301.4	*	1	1510	183	0.	.0	2297.0	*	1	2330	283	0.	.0	2297.0
1	0655	84	120.	29.2	2301.4	*	1	1515	184	0.	.0	2297.0	*	1	2335	284	0.	.0	2297.0
1	0700	85	119.	28.7	2301.3	*	1	1520	185	0.	.0	2297.0	*	1	2340	285	0.	.0	2297.0
1	0705	86	118.	28.1	2301.3	*	1	1525	186	0.	.0	2297.0	*	1	2345	286	0.	.0	2297.0
1	0710	87	117.	27.5	2301.2	*	1	1530	187	0.	.0	2297.0	*	1	2350	287	0.	.0	2297.0
1	0715	88	116.	26.9	2301.2	*	1	1535	188	0.	.0	2297.0	*	1	2355	288	0.	.0	2297.0
1	0720	89	114.	26.3	2301.2	*	1	1540	189	0.	.0	2297.0	*	2	0000	289	0.	.0	2297.0
1	0725	90	113.	25.7	2301.1	*	1	1545	190	0.	.0	2297.0	*	2	0005	290	0.	.0	2297.0
1	0730	91	112.	25.0	2301.1	*	1	1550	191	0.	.0	2297.0	*	2	0010	291	0.	.0	2297.0
1	0735	92	111.	24.4	2301.0	*	1	1555	192	0.	.0	2297.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	109.	23.8	2301.0	*	1	1600	193	0.	.0	2297.0	*	2	0020	293	0.	.0	2297.0
1	0745	94	107.	23.1	2300.9	*	1	1605	194	0.	.0	2297.0	*	2	0025	294	0.	.0	2297.0
1	0750	95	106.	22.5	2300.9	*	1	1610	195	0.	.0	2297.0	*	2	0030	295	0.	.0	2297.0
1	0755	96	104.	21.9	2300.8	*	1	1615	196	0.	.0	2297.0	*	2	0035	296	0.	.0	2297.0
1	0800	97	102.	21.2	2300.8	*	1	1620	197	0.	.0	2297.0	*	2	0040	297	0.	.0	2297.0
1	0805	98	100.	20.6	2300.7	*	1	1625	198	0.	.0	2297.0	*	2	0045	298	0.	.0	2297.0
1	0810	99	99.	20.0	2300.7	*	1	1630	199	0.	.0	2297.0	*	2	0050	299	0.	.0	2297.0
1	0815	100	97.	19.4	2300.7	*	1	1635	200	0.	.0	2297.0	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 128.	5.92	103.	32.	31.	31.
		(INCHES) .797	.980	.980	.980
		(AC-FT) 51.	63.	63.	63.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
33.	5.92	22.	6.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2301.64	5.92	2300.87	2298.22	2298.17	2298.17

CUMULATIVE AREA = 1.21 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1
					.57
HYDROGRAPH AT					
+	E140	.07	1	FLOW	11.
				TIME	4.08
HYDROGRAPH AT					
+	E360	.01	1	FLOW	4.
				TIME	3.58
2 COMBINED AT					
+	CP1	.08	1	FLOW	12.
				TIME	4.08
DIVERSION TO					
+	CP1E	.08	1	FLOW	5.
				TIME	4.08
HYDROGRAPH AT					
+	CP1S	.08	1	FLOW	7.
				TIME	4.08
HYDROGRAPH AT					
+	E160	.06	1	FLOW	14.
				TIME	3.92
DIVERSION TO					
+	E160S	.06	1	FLOW	10.
				TIME	3.92
HYDROGRAPH AT					
+	E160E	.06	1	FLOW	4.
				TIME	3.92
HYDROGRAPH AT					
+	E340	.02	1	FLOW	7.
				TIME	3.58
3 COMBINED AT					
+	CP2	.16	1	FLOW	15.
				TIME	3.83
DIVERSION TO					
+	CP2E	.16	1	FLOW	8.
				TIME	3.83
HYDROGRAPH AT					
+	CP2S	.16	1	FLOW	7.
				TIME	3.83
HYDROGRAPH AT					
+	E180	.21	1	FLOW	28.
				TIME	4.25

HYDROGRAPH AT					
+	E160S	.00	1	FLOW	10.
				TIME	3.92
HYDROGRAPH AT					
+	E320	.02	1	FLOW	7.
				TIME	3.58
4 COMBINED AT					
+	CP3	.39	1	FLOW	43.
				TIME	4.08
DIVERSION TO					
+	CP3E	.39	1	FLOW	20.
				TIME	4.08
HYDROGRAPH AT					
+	CP3S	.39	1	FLOW	23.
				TIME	4.08
HYDROGRAPH AT					
+	E200	.01	1	FLOW	2.
				TIME	3.67
HYDROGRAPH AT					
+	E300	.01	1	FLOW	6.
				TIME	3.58
3 COMBINED AT					
+	CP4	.41	1	FLOW	26.
				TIME	4.08
DIVERSION TO					
+	CP4E	.41	1	FLOW	7.
				TIME	4.08
HYDROGRAPH AT					
+	SOUTH	.41	1	FLOW	19.
				TIME	4.08
DIVERSION TO					
+	CP4S	.41	1	FLOW	19.
				TIME	4.08
HYDROGRAPH AT					
+	NONE	.41	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	E080	.01	1	FLOW	4.
				TIME	3.67
HYDROGRAPH AT					
+	CP1E	.00	1	FLOW	5.
				TIME	4.08
HYDROGRAPH AT					
+	E380	.02	1	FLOW	8.
				TIME	3.67
3 COMBINED AT					
+	CP5	.03	1	FLOW	15.
				TIME	3.67
DIVERSION TO					
+	CP5E	.03	1	FLOW	8.
				TIME	3.67
HYDROGRAPH AT					
+	CP5S	.03	1	FLOW	7.
				TIME	3.67
HYDROGRAPH AT					
+	E060	.26	1	FLOW	42.
				TIME	4.17
DIVERSION TO					
+	E060E	.26	1	FLOW	19.
				TIME	4.17
HYDROGRAPH AT					
+	E060S	.26	1	FLOW	23.
				TIME	4.17
ROUTED TO					
+	RE060S	.26	1	FLOW	23.
				TIME	4.33
HYDROGRAPH AT					
+	E100	.47	1	FLOW	53.
				TIME	4.58
2 COMBINED AT					
+	CP6	.73	1	FLOW	74.
				TIME	4.50
DIVERSION TO					
+	CP6E	.73	1	FLOW	60.
				TIME	4.50
HYDROGRAPH AT					
+	CP6S	.73	1	FLOW	14.
				TIME	4.50
ROUTED TO					
+	RCP6S	.73	1	FLOW	14.

				TIME	4.67
HYDROGRAPH AT					
+	E420	.10	1	FLOW	35.
				TIME	3.67
HYDROGRAPH AT					
+	CP5E	.00	1	FLOW	8.
				TIME	3.67
ROUTED TO					
+	RCP5E	.00	1	FLOW	8.
				TIME	3.92
3 COMBINED AT					
+	CP7	.82	1	FLOW	40.
				TIME	3.75
DIVERSION TO					
+	CP7E	.82	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP7S	.82	1	FLOW	40.
				TIME	3.75
HYDROGRAPH AT					
+	CP2E	.00	1	FLOW	8.
				TIME	3.83
ROUTED TO					
+	RCP2E	.00	1	FLOW	8.
				TIME	4.08
HYDROGRAPH AT					
+	CP3E	.00	1	FLOW	20.
				TIME	4.08
ROUTED TO					
+	RCP3E	.00	1	FLOW	20.
				TIME	4.33
HYDROGRAPH AT					
+	CP4E	.00	1	FLOW	7.
				TIME	4.08
ROUTED TO					
+	RCP4E	.00	1	FLOW	7.
				TIME	4.25
5 COMBINED AT					
+	DUMMY	.85	1	FLOW	64.
				TIME	4.00
HYDROGRAPH AT					
+	E400	.08	1	FLOW	30.
				TIME	3.75
2 COMBINED AT					
+	CP8	.94	1	FLOW	85.
				TIME	3.83
DIVERSION TO					
+	CP8S	.94	1	FLOW	56.
				TIME	3.83
HYDROGRAPH AT					
+	CP8E	.94	1	FLOW	29.
				TIME	3.83
ROUTED TO					
+	RCP8E	.94	1	FLOW	29.
				TIME	4.08
HYDROGRAPH AT					
+	E440	.05	1	FLOW	12.
				TIME	3.75
DIVERSION TO					
+	E440E	.05	1	FLOW	7.
				TIME	3.75
HYDROGRAPH AT					
+	E440S	.05	1	FLOW	5.
				TIME	3.75
HYDROGRAPH AT					
+	E460	.11	1	FLOW	22.
				TIME	3.83
2 COMBINED AT					
+	CP9	.17	1	FLOW	26.
				TIME	3.83
DIVERSION TO					
+	CP9E	.17	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP9S	.17	1	FLOW	26.
				TIME	3.83
HYDROGRAPH AT					
+	CP7E	.00	1	FLOW	0.
				TIME	.00

ROUTED TO					
+	RCP7E	.00	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	E480	.09	1	FLOW	21.
				TIME	3.75
4 COMBINED AT					
+	CP10	1.19	1	FLOW	72.
				TIME	3.83
DIVERSION TO					
+	CP10S	1.19	1	FLOW	33.
				TIME	3.83
HYDROGRAPH AT					
+	CP10E	1.19	1	FLOW	39.
				TIME	3.83
HYDROGRAPH AT					
+	CP9E	.00	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	E520	.01	1	FLOW	6.
				TIME	3.58
3 COMBINED AT					
+	CP11	1.21	1	FLOW	43.
				TIME	3.83
DIVERSION TO					
+	CP11S	1.21	1	FLOW	19.
				TIME	3.83
HYDROGRAPH AT					
+	CP11E	1.21	1	FLOW	24.
				TIME	3.83
ROUTED TO					
+	RCP11E	1.21	1	FLOW	24.
				TIME	4.00
HYDROGRAPH AT					
+	E060E	.00	1	FLOW	19.
				TIME	4.17
ROUTED TO					
+	RE060E	.00	1	FLOW	19.
				TIME	4.67
HYDROGRAPH AT					
+	CP6E	.00	1	FLOW	60.
				TIME	4.50
ROUTED TO					
+	RCP6E	.00	1	FLOW	60.
				TIME	4.83
HYDROGRAPH AT					
+	E040	.36	1	FLOW	68.
				TIME	4.00
3 COMBINED AT					
+	CP12	.36	1	FLOW	110.
				TIME	4.83
DIVERSION TO					
+	CP12E	.36	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP12S	.36	1	FLOW	110.
				TIME	4.83
ROUTED TO					
+	RCP12S	.36	1	FLOW	110.
				TIME	4.83
HYDROGRAPH AT					
+	E540	.05	1	FLOW	22.
				TIME	3.58
2 COMBINED AT					
+	CP13	.41	1	FLOW	116.
				TIME	4.83
DIVERSION TO					
+	CP13E	.41	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP13S	.41	1	FLOW	116.
				TIME	4.83
ROUTED TO					
+	RCP13S	.41	1	FLOW	116.
				TIME	4.83
HYDROGRAPH AT					
+	E440E	.00	1	FLOW	7.
				TIME	3.75
ROUTED TO					
+	RE440E	.00	1	FLOW	7.

				TIME	4.33
HYDROGRAPH AT					
+	E560	.18	1	FLOW	72.
				TIME	3.83
4 COMBINED AT					
+	CP14	1.80	1	FLOW	154.
				TIME	4.92
DIVERSION TO					
+	CP14S	1.80	1	FLOW	30.
				TIME	4.92
HYDROGRAPH AT					
+	CP14E	1.80	1	FLOW	124.
				TIME	4.92
ROUTED TO					
+	RCP14E	1.80	1	FLOW	125.
				TIME	5.08
HYDROGRAPH AT					
+	E600	.09	1	FLOW	26.
				TIME	3.75
2 COMBINED AT					
+	CP15	1.88	1	FLOW	133.
				TIME	4.08
DIVERSION TO					
+	CP15S	1.88	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP15E	1.88	1	FLOW	133.
				TIME	4.08
HYDROGRAPH AT					
+	E240	.13	1	FLOW	29.
				TIME	4.00
DIVERSION TO					
+	E240E	.13	1	FLOW	15.
				TIME	4.00
HYDROGRAPH AT					
+	E240S	.13	1	FLOW	14.
				TIME	4.00
HYDROGRAPH AT					
+	E260	.14	1	FLOW	32.
				TIME	3.92
2 COMBINED AT					
+	CP16	.27	1	FLOW	45.
				TIME	3.92
DIVERSION TO					
+	CP16E	.27	1	FLOW	23.
				TIME	3.92
HYDROGRAPH AT					
+	CP16S	.27	1	FLOW	22.
				TIME	3.92
3 COMBINED AT					
+	DUMMY	2.56	1	FLOW	153.
				TIME	4.08
HYDROGRAPH AT					
+	CP14S	.00	1	FLOW	30.
				TIME	4.92
ROUTED TO					
+	RCP14S	.00	1	FLOW	30.
				TIME	5.00
HYDROGRAPH AT					
+	E580	.10	1	FLOW	41.
				TIME	3.75
2 COMBINED AT					
+	CP17	.10	1	FLOW	62.
				TIME	3.83
DIVERSION TO					
+	CP17E	.10	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP17S	.10	1	FLOW	62.
				TIME	3.83
HYDROGRAPH AT					
+	E220	.04	1	FLOW	13.
				TIME	3.75
ROUTED TO					
+	RE220	.04	1	FLOW	15.
				TIME	4.25
HYDROGRAPH AT					
+	E240E	.00	1	FLOW	15.
				TIME	4.00

```
 ROUTED TO
+                RE240E       .00     1   FLOW          15.
                                          TIME        4.50

 HYDROGRAPH AT
+                 CP16E       .00     1   FLOW          23.
                                          TIME        3.92

 ROUTED TO
+                RCP16E       .00     1   FLOW          23.
                                          TIME        4.25

 HYDROGRAPH AT
+                  CP4S       .00     1   FLOW          19.
                                          TIME        4.08

 ROUTED TO
+                 RCP4S       .00     1   FLOW          19.
                                          TIME        4.17

 HYDROGRAPH AT
+                  CP8S       .00     1   FLOW          56.
                                          TIME        3.83

 ROUTED TO
+                 RCP8S       .00     1   FLOW          56.
                                          TIME        4.08

  5 COMBINED AT
+                 DUMMY       .04     1   FLOW         120.
                                          TIME        4.25

 HYDROGRAPH AT
+                  E280       .28     1   FLOW          68.
                                          TIME        3.92

  2 COMBINED AT
+                  CP18       .32     1   FLOW         162.
                                          TIME        4.25

 ROUTED TO
+                 RCP18       .32     1   FLOW         160.
                                          TIME        4.50

 HYDROGRAPH AT
+                 CP10S       .00     1   FLOW          33.
                                          TIME        3.83

 ROUTED TO
+                RCP10S       .00     1   FLOW          36.
                                          TIME        4.25

 HYDROGRAPH AT
+                 CP11S       .00     1   FLOW          19.
                                          TIME        3.83

 ROUTED TO
+                RCP11S       .00     1   FLOW          19.
                                          TIME        4.17

 HYDROGRAPH AT
+                  E500       .39     1   FLOW          82.
                                          TIME        4.00

  4 COMBINED AT
+                 CP18A       .71     1   FLOW         252.
                                          TIME        4.42

  2 COMBINED AT
+                  CP19       .81     1   FLOW         293.
                                          TIME        4.25

 HYDROGRAPH AT
+                 CP17E       .00     1   FLOW           0.
                                          TIME         .00

 HYDROGRAPH AT
+                  E660       .01     1   FLOW           6.
                                          TIME        3.58

  3 COMBINED AT
+                  CP20       .82     1   FLOW         294.
                                          TIME        4.25

 HYDROGRAPH AT
+                  E640       .07     1   FLOW          30.
                                          TIME        3.67

  2 COMBINED AT
+                  CP21       .89     1   FLOW         304.
                                          TIME        4.17

 HYDROGRAPH AT
+                  E620       .05     1   FLOW          22.
                                          TIME        3.67

  2 COMBINED AT
+                  CP22       .94     1   FLOW         311.
                                          TIME        4.17

 ROUTED TO
+                 RCP22       .94     1   FLOW         311.
                                          TIME        4.25

 HYDROGRAPH AT
+                 CP15S       .00     1   FLOW           0.
```

				TIME	.00
ROUTED TO					
+	RCP15S	.00	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	E680	.11	1	FLOW	46.
				TIME	3.75
2 COMBINED AT					
+	CP23	.11	1	FLOW	46.
				TIME	3.75
HYDROGRAPH AT					
+	E760	.01	1	FLOW	4.
				TIME	3.58
3 COMBINED AT					
+	CPGTA	1.06	1	FLOW	329.
				TIME	4.25
HYDROGRAPH AT					
+	2-3	.03	1	FLOW	13.
				TIME	3.58
2 COMBINED AT					
+	CPGTA2	1.09	1	FLOW	331.
				TIME	4.25
HYDROGRAPH AT					
+	2-1	.04	1	FLOW	28.
				TIME	3.58
HYDROGRAPH AT					
+	2-2	.07	1	FLOW	44.
				TIME	3.67
HYDROGRAPH AT					
+	2-14A	.00	1	FLOW	1.
				TIME	3.58
3 COMBINED AT					
+	2A	.11	1	FLOW	72.
				TIME	3.58
2 COMBINED AT					
+	2B	1.21	1	FLOW	344.
				TIME	4.25
ROUTED TO					
+	DB1	1.21	1	FLOW	128.
				TIME	5.92
			** PEAK STAGES IN FEET **		
			1	STAGE	2301.64
				TIME	5.92
HYDROGRAPH AT					
+	2-6	.02	1	FLOW	15.
				TIME	3.58
2 COMBINED AT					
+	2C	1.22	1	FLOW	128.
				TIME	5.92
HYDROGRAPH AT					
+	2-7	.02	1	FLOW	7.
				TIME	3.58
2 COMBINED AT					
+	2D	1.24	1	FLOW	128.
				TIME	5.92
HYDROGRAPH AT					
+	2-4	.03	1	FLOW	28.
				TIME	3.58
HYDROGRAPH AT					
+	2-14B	.00	1	FLOW	1.
				TIME	3.58
2 COMBINED AT					
+	2E	.04	1	FLOW	29.
				TIME	3.58
HYDROGRAPH AT					
+	2-5	.09	1	FLOW	53.
				TIME	3.67
DIVERSION TO					
+	2-5E	.09	1	FLOW	25.
				TIME	3.67
HYDROGRAPH AT					
+	2-5W	.09	1	FLOW	28.
				TIME	3.67
HYDROGRAPH AT					
+	2-9	.02	1	FLOW	11.
				TIME	3.58
3 COMBINED AT					
+	2F	.14	1	FLOW	67.
				TIME	3.58

```
 HYDROGRAPH AT
+                    2-5E       .00     1   FLOW          25.
                                            TIME         3.67

 HYDROGRAPH AT
+                    2-10       .02     1   FLOW          12.
                                            TIME         3.58

  3 COMBINED AT
+                      2G       .16     1   FLOW         103.
                                            TIME         3.58

 HYDROGRAPH AT
+                     2-8       .03     1   FLOW          24.
                                            TIME         3.58

  2 COMBINED AT
+                      2H       .19     1   FLOW         127.
                                            TIME         3.58

  2 COMBINED AT
+                      2I      1.43     1   FLOW         192.
                                            TIME         3.58

 HYDROGRAPH AT
+                    2-11       .03     1   FLOW          22.
                                            TIME         3.58

 HYDROGRAPH AT
+                    2-12       .03     1   FLOW          17.
                                            TIME         3.58

  2 COMBINED AT
+                      2J       .05     1   FLOW          39.
                                            TIME         3.58

  2 COMBINED AT
+                      2K      1.48     1   FLOW         231.
                                            TIME         3.58

 HYDROGRAPH AT
+                    2-13       .03     1   FLOW          18.
                                            TIME         3.58

  2 COMBINED AT
+                     PT2      1.51     1   FLOW         249.
                                            TIME         3.58
1
                                        SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                            (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                 INTERPOLATED TO
                                                                                COMPUTATION INTERVAL
            ISTAQ    ELEMENT      DT       PEAK    TIME TO      VOLUME      DT       PEAK    TIME TO     VOLUME
                                                      PEAK                                     PEAK

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

          FOR PLAN = 1  RATIO=  .00
            RE060S  MANE         4.75     22.80    256.50       .22      5.00     22.79    260.00         .22

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3074E+01 EXCESS= .0000E+00 OUTFLOW= .3076E+01 BASIN STORAGE= .8120E-03 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP6S  MANE         5.00     14.02    280.00       .06      5.00     14.02    280.00         .06

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2302E+01 EXCESS= .0000E+00 OUTFLOW= .2303E+01 BASIN STORAGE= .1545E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP5E  MANE         4.25      7.96    233.75     -1.00      5.00      7.89    235.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP2E  MANE         4.50      7.94    243.00     -1.00      5.00      7.94    245.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE         5.00     20.08    260.00     -1.00      5.00     20.08    260.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE         5.00      6.85    255.00     -1.00      5.00      6.85    255.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP8E  MANE         5.00     29.00    245.00       .09      5.00     29.00    245.00         .09

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4699E+01 EXCESS= .0000E+00 OUTFLOW= .4702E+01 BASIN STORAGE= .1574E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP7E  MANE         5.00       .00      .00     -1.00      5.00       .00    245.00       -1.00


          FOR PLAN = 1  RATIO=  .00
            RCP11E  MANE         5.00     23.78    240.00       .05      5.00     23.78    240.00         .05
```

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2898E+01 EXCESS= .0000E+00 OUTFLOW= .2900E+01 BASIN STORAGE= .1148E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060E	MANE	4.75	19.28	280.25	-1.00	5.00	19.22	280.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	60.03	290.00	-1.00	5.00	60.03	290.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	110.34	290.00	1.04	5.00	110.34	290.00	1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2001E+02 EXCESS= .0000E+00 OUTFLOW= .2001E+02 BASIN STORAGE= .9991E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	5.00	116.05	290.00	.97	5.00	116.05	290.00	.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2143E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .9746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RE440E	MANE	2.25	7.47	252.00	-1.00	5.00	6.69	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14E	MANE	5.00	124.91	305.00	.26	5.00	124.91	305.00	.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2532E+02 EXCESS= .0000E+00 OUTFLOW= .2532E+02 BASIN STORAGE= .1872E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	30.13	300.00	-1.00	5.00	30.13	300.00	-1.00

FOR PLAN = 1 RATIO= .00

RE220	MANE	4.00	15.34	256.00	.45	5.00	14.63	255.00	.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1053E+01 EXCESS= .0000E+00 OUTFLOW= .1063E+01 BASIN STORAGE= .3922E-02 PERCENT ERROR= -1.4

FOR PLAN = 1 RATIO= .00

RE240E	MANE	4.25	15.35	267.75	-1.00	5.00	14.53	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	4.25	23.18	255.00	-1.00	5.00	23.18	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	5.00	19.44	250.00	-1.00	5.00	19.44	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	56.03	245.00	-1.00	5.00	56.03	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	159.66	270.00	1.37	5.00	159.66	270.00	1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2357E+02 EXCESS= .0000E+00 OUTFLOW= .2360E+02 BASIN STORAGE= .4241E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	35.87	255.00	-1.00	5.00	35.87	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	19.11	250.00	-1.00	5.00	19.11	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.98	310.69	254.65	1.05	5.00	310.66	255.00	1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5284E+02 EXCESS= .0000E+00 OUTFLOW= .5284E+02 BASIN STORAGE= .8757E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	255.00	-1.00

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

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1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *             JUN   1998               *                    *    HYDROLOGIC ENGINEERING CENTER     *
 *           VERSION 4.1                *                    *         609 SECOND STREET            *
 *                                      *                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   27JUN14  TIME  14:27:39  *                    *           (916) 756-1104             *
 *                                      *                    *                                      *
 ****************************************                    ****************************************

                                        X     X  XXXXXXX   XXXXX           X
                                        X     X  X        X     X         XX
                                        X     X  X        X               X
                                        XXXXXXX  XXXX     X        XXXXX   X
                                        X     X  X        X               X
                                        X     X  X        X     X         X
                                        X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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


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

                        *DIAGRAM
            1           ID     SLATER HANIFAN GROUP, INC.
            2           ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
            3           ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
            4           ID     INTERIM CONDITION
            5           ID
            6           ID     RETURN PERIOD ------- 100-YEAR
            7           ID     DISTRIBUTION -------- 6-HOUR SDN3
            8           ID     PROJECT NO. --------- CBH1201.000
            9           ID     FILENAME ------------ INT100.H1
           10           ID     DATE ---------------- JULY 2014
           11           ID     MODELED BY ---------- KC
           12           ID
           13           ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
           14           ID        DRAINAGE AREA (MI^2)       DARF
           15           ID        0.00-0.49                  0.990
           16           ID        0.50-0.99                  0.975
           17           ID        1.00-1.99                  0.950
           18           ID        2.00-2.99                  0.925
           19           ID        3.00-3.99                  0.915
           20           ID        4.00-4.99                  0.908
           21           ID
           22           IT       5       0       0     300
           23           IO       5       0       0
           24           IN       5       0       0
           25           JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
                        *

           26           KK    E140
           27           BA   .0675
           28           PB    2.77
           29           PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
           30           PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
           31           PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
           32           PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
           33           PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
           34           PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
           35           PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
           36           PC   0.998   0.999   1.000
           37           LS       0    81.9
           38           UD   0.599
                        *

           39           KK    E360
           40           BA   .0095
           41           LS       0    85.6
           42           UD   0.159
                        *

           43           KK     CP1
           44           KM   COMBINE E140 AND E360 AT MAGGIE AND MUSTANG
           45           HC       2
                        *
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          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

           46           KK    CP1S
           47           KM   CP1E IS THE FLOW DRAINING EAST IN MAGGIE
           48           KM   CP1S IS THE FLOW DRAINING SOUTH IN MUSTANG
           49           DT    CP1E
           50           DI      33      33      34      35      37      38
           51           DQ      15      15      15      16      17      17
                        *

           52           KK    E160
           53           BA   .0641
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 54          LS       0    83.1
 55          UD   0.445
             *

 56          KK   E160E
 57          KM   E160E IS THE FLOW DRAINING EAST IN MAGGIE
 58          KM   E160S IS THE FLOW DRAINING SOUTH IN TORREY PINES
 59          KM   FLOW IN TORREY PINES IS BASED ON 1/2 STREET CAPACITY, 10 CFS
 60          DT   E160S
 61          DI      37      37      38      40      41      42
 62          DQ      10      10      10      10      10      10
             *

 63          KK    E340
 64          BA   .0168
 65          LS       0    85.8
 66          UD   0.172
             *

 67          KK     CP2
 68          KM   COMBINE CP1S E160E AND E340 AT BRENT AND MUSTANG
 69          HC       3
             *

 70          KK    CP2S
 71          KM   CP2E IS THE FLOW DRAINING EAST IN BRENT
 72          KM   CP2S IS THE FLOW DRAINING SOUTH IN MUSTANG
 73          DT    CP2E
 74          DI      50      51      53      57      60      62
 75          DQ      25      26      27      29      30      31
             *

 76          KK    E180
 77          BA   .2142
 78          LS       0    80.7
 79          UD   0.715
             *

 80          KK   E160S
 81          KM   RETRIEVE E160S
 82          DR   E160S
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 83          KK    E320
 84          BA   .0169
 85          LS       0    85.7
 86          UD   0.168
             *

 87          KK     CP3
 88          KM   COMBINE CP2S E180 E160S AND E320 AT GUY AND MUSTANG
 89          HC       4
             *

 90          KK    CP3S
 91          KM   CP3E IS THE FLOW DRAINING EAST IN GUY
 92          KM   CP3S IS THE FLOW DRAINING SOUTH IN MUSTANG
 93          DT    CP3E
 94          DI     110     112     115     122     128     131
 95          DQ      53      53      54      58      61      62
             *

 96          KK    E200
 97          BA   .0059
 98          LS       0    83.7
 99          UD   0.183
             *

100          KK    E300
101          BA   .0132
102          LS       0    85.8
103          UD   0.168
             *

104          KK     CP4
105          KM   COMBINE CP3S E200 AND E300 AT HORSE AND MUSTANG
106          HC       3
             *

107          KK   SOUTH
108          KM   CP4E IS THE FLOW DRAINING EAST IN HORSE
109          KM   SOUTH IS THE FLOW DRAINING SOUTH IN MUSTANG
110          KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
111          DT    CP4E
112          DI      63      65      67      69      72      75
113          DQ      20      20      21      22      22      23
             *

114          KK    NONE
115          KM   NONE IS ZERO FLOW
116          KM   CP4S IS THE FLOW DRAINING SOUTH IN MUSTANG
117          DT    CP4S
118          DI      10     100
119          DQ      10     100
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

120          KK    E080
121          BA   .0108
```

```
 122          LS       0    83.5
 123          UD   0.219
              *

 124          KK    CP1E
 125          KM   RETRIEVE CP1E
 126          DR    CP1E
              *

 127          KK    E380
 128          BA   .0195
 129          LS       0    85.7
 130          UD   0.203
              *

 131          KK     CP5
 132          KM   COMBINE E080 CP1E AND E380 AT BRENT AND MAVERICK
 133          HC       3
              *

 134          KK    CP5S
 135          KM   CP5S IS THE FLOW DRAINING SOUTH IN MAVERICK
 136          KM   CP5E IS THE FLOW DRAINING EAST IN BRENT
 137          DT    CP5E
 138          DI      42      42      43      44      45      46
 139          DQ      22      22      23      24      24      25
              *

 140          KK    E060
 141          BA   .2588
 142          LS       0    82.5
 143          UD   0.679
              *

 144          KK   E060S
 145          KM   E060S IS THE FLOW DRAINING SOUTH IN JONES
 146          KM   E060E IS THE FLOW DRAINING EAST IN SHELEHEDA
 147          KM   EXISTING SD IN  JONES IS FOR NUISANCE FLOW
 148          DT   E060E
 149          DI     110     112     114     119     125     128
 150          DQ      54      55      56      58      61      63
              *

 151          KK  RE060S
 152          KM   ROUTE TO CP6
 153          RD    1345   .0066   0.016       0    TRAP       0      50
              *
```



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

 154          KK    E100
 155          BA   .4698
 156          LS       0    81.2
 157          UD   0.956
              *

 158          KK     CP6
 159          KM   COMBINE E060S AND E100 AT IRON MOUNTAIN AND JONES
 160          HC       2
              *

 161          KK    CP6S
 162          KM   CP6S IS THE FLOW DRAINING SOUTH IN JONES
 163          KM   CP6E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
 164          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
 165          DT    CP6E
 166          DI     196     200     204     215     226     232
 167          DQ     121     123     125     131     136     139
              *

 168          KK   RCP6S
 169          KM   ROUTE TO CP7
 170          RD    2000   .0050   0.016       0    TRAP       0      50
              *

 171          KK    E420
 172          BA   .0957
 173          LS       0    85.4
 174          UD   0.251
              *

 175          KK    CP5E
 176          KM   RETRIEVE CP5E
 177          DR    CP5E
              *

 178          KK   RCP5E
 179          KM   ROUTE TO CP7
 180          RD    2010   .0058   0.016       0    TRAP       0      50
              *

 181          KK     CP7
 182          KM   COMBINE CP6S E420 AND CP5E AT GUY AND JONES
 183          HC       3
              *

 184          KK    CP7S
 185          KM   CP7S IS THE FLOW DRAINING SOUTH IN JONES
 186          KM   CP7E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
 187          KM   EXISTING SD IN JONES IS FOR NUISANCCE FLOW
 188          KM   FLOW IN JONES IS BASED ON 1/2 STREET CAPACITY, 45 CFS
 189          DT    CP7E
 190          DI     109     111     114     120     126     130
 191          DQ      64      66      69      75      81      85
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                *
1                                       HEC-1 INPUT                                                     PAGE  6

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

            192     KK    CP2E
            193     KM   RETRIEVE CP2E
            194     DR    CP2E
                    *

            195     KK   RCP2E
            196     KM   ROUTE TO CP8
            197     RD    3370   .0055   0.016       0    TRAP       0      50
                    *

            198     KK    CP3E
            199     KM   RETRIEVE CP3E
            200     DR    CP3E
                    *

            201     KK   RCP3E
            202     KM   ROUTE TO CP8
            203     RD    2680   .0055   0.016       0    TRAP       0      50
                    *

            204     KK    CP4E
            205     KM   RETRIEVE CP4E
            206     DR    CP4E
                    *

            207     KK   RCP4E
            208     KM   ROUTE TO CP8
            209     RD    1955   .0048   0.016       0    TRAP       0      50
                    *

            210     KK   DUMMY
            211     KM   COMBINE CP5S CP7S CP2E CP3E AND CP4E
            212     HC       5
                    *

            213     KK    E400
            214     BA   .0846
            215     LS       0    85.2
            216     UD   0.259
                    *

            217     KK     CP8
            218     KM   COMBINE DUMMMY AND E400 AT HORSE AND JONES
            219     HC       2
                    *

            220     KK    CP8E
            221     KM   CP8S IS THE FLOW DRAINING SOUTH IN JONES
            222     KM   CP8E IS THE FLOW DRAINING EAST IN HORSE
            223     KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
            224     DT    CP8S
            225     DI     195     198     202     213     222     226
            226     DQ     117     117     120     125     130     133
                    *
1                                       HEC-1 INPUT                                                     PAGE  7

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

            227     KK   RCP8E
            228     KM   ROUTE TO CP10
            229     RD    2530   .0080   0.016       0    TRAP       0      50
                    *

            230     KK    E440
            231     BA   .0523
            232     LS       0    80.8
            233     UD   0.290
                    *

            234     KK   E440S
            235     KM   E440S IS THE FLOW DRAINING SOUTH IN BRADLEY
            236     KM   E440E IS THE FLOW DRAINING EAST IN BRENT
            237     DT   E440E
            238     DI      33      33      34      35      37      38
            239     DQ      18      18      18      19      20      20
                    *

            240     KK    E460
            241     BA   .1140
            242     LS       0    80.3
            243     UD   0.355
                    *

            244     KK     CP9
            245     KM   COMBINE E440S AND E460 IN BRADLEY BETWEEN BRENT AND HORSE
            246     HC       2
                    *

            247     KK    CP9S
            248     KM   CP9S IS THE FLOW DRAINING SOUTH IN BRADLEY
            249     KM   CP9E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
            250     KM   FLOW IN BRADELY IS BASED ON 1/2 STREET CAPACITY, 41 CFS
            251     DT    CP9E
            252     DI      75      77      79      83      87      90
            253     DQ      34      36      38      42      46      49
                    *

            254     KK    CP7E
            255     KM   RETRIEVE CP7E
```

```
 256          DR    CP7E
              *

 257          KK   RCP7E
 258          KM   ROUTE TO CP10
 259          RD    2690   .0080   0.016       0    TRAP       0      50
              *
1                                        HEC-1 INPUT                                                    PAGE  8

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

 260          KK    E480
 261          BA   .0873
 262          LS       0    81.5
 263          UD   0.278
              *

 264          KK    CP10
 265          KM   COMBINE CP8E CP9S CP7E AND E480 AT HORSE AND BRADLEY
 266          HC       4
              *

 267          KK   CP10E
 268          KM   CP10S IS THE FLOW DRAINING SOUTH IN BRADLEY
 269          KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
 270          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
 271          DT   CP10S
 272          DI     222     226     230     242     253     257
 273          DQ     116     117     119     127     133     135
              *

 274          KK    CP9E
 275          KM   RETRIEVE CP9E
 276          DR    CP9E
              *

 277          KK    E520
 278          BA   .0143
 279          LS       0    85.0
 280          UD   0.162
              *

 281          KK    CP11
 282          KM   COMBINE CP10E CP9E AND E520 AT HORSE AND UNICORN
 283          HC       3
              *

 284          KK   CP11E
 285          KM   CP11S IS THE FLOW DRAINING SOUTH IN UNICORN
 286          KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
 287          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
 288          DT   CP11S
 289          DI     148    152    157    166    175    180
 290          DQ      68     70     72     75     79     83
              *

 291          KK  RCP11E
 292          KM   ROUTE TO CP14
 293          RD    1825   .0080   0.016       0    TRAP       0      50
              *
1                                        HEC-1 INPUT                                                    PAGE  9

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

 294          KK   E060E
 295          KM   RETRIEVE E060E
 296          DR   E060E
              *

 297          KK  RE060E
 298          KM   ROUTE TO CP12
 299          RD    5370   .0050   0.016       0    TRAP       0      50
              *

 300          KK    CP6E
 301          KM   RETRIEVE CP6E
 302          DR    CP6E
              *

 303          KK   RCP6E
 304          KM   ROUTE TO CP12
 305          RD    5145   .0050   0.016       0    TRAP       0      50
              *

 306          KK    E040
 307          BA   .3615
 308          LS       0    82.1
 309          UD   0.511
              *

 310          KK    CP12
 311          KM   COMBINE E060E CP6E AND E040 AT IRON MOUNTAIN AND DECATUR
 312          HC       3
              *

 313          KK   CP12S
 314          KM   CP12S IS THE FLOW DRAINING SOUTH IN DECATUR
 315          KM   CP12E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
 316          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
 317          DT   CP12E
 318          DI     301     304     308     319     331     338
 319          DQ     162     165     169     180     192     199
              *
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 320          KK  RCP12S
 321          KM   ROUTE TO CP13
 322          RD    1270   .0040   0.016       0    TRAP       0      50
              *

 323          KK    E540
 324          BA   .0506
 325          LS       0    85.5
 326          UD   0.171
              *
```



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

 327          KK    CP13
 328          KM   COMBINE CP12S AND E540 AT BRENT AND DECATUR
 329          HC       2
              *

 330          KK   CP13S
 331          KM   S9 IS THE FLOW DRAINING SOUTH IN DECATUR
 332          KM   E9 IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
 333          KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
 334          DT   CP13E
 335          DI     143     143     145     146     149     149
 336          DQ       4       4       6       7      10      10
              *

 337          KK  RCP13S
 338          KM   ROUTE TO CP14
 339          RD    1290   .0040   0.016       0    TRAP       0      50
              *

 340          KK   E440E
 341          KM   RETRIEVE E440E
 342          DR   E440E
              *

 343          KK  RE440E
 344          KM   ROUTE TO CP14
 345          RD    3850   .0040   0.016       0    TRAP       0      50
              *

 346          KK    E560
 347          BA   .1763
 348          LS       0    89.1
 349          UD   0.370
              *

 350          KK    CP14
 351          KM   COMBINE CP11E CP13S E440E AND E560 AT HORSE AND DECATUR
 352          HC       4
              *

 353          KK   CP14E
 354          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
 355          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
 356          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
 357          KM   HIGH POINT IN DECATUR, ALL SURFACE FLOWS DRIAN EAST
 358          DT   CP14S
 359          DI     250     256     262     277     298     310
 360          DQ      30      30      30      30      30      30
              *
```



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

 361          KK  RCP14E
 362          KM   ROUTE TO CP15
 363          RD    2645   .0050   0.016       0    TRAP       0      50
              *

 364          KK    E600
 365          BA   .0862
 366          LS       0    83.7
 367          UD   0.285
              *

 368          KK    CP15
 369          KM   COMBINE CP14E AND E600 AT HORSE AND AVIARY
 370          HC       2
              *

 371          KK   CP15E
 372          KM   CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
 373          KM   CP15E IS THE FLOW DRAINING EAST IN HORSE
 374          KM   EXISTING SD IN HORSE CONVEYS 206 CFS EAST
 375          DT   CP15S
 376          DI     250     256     262     278     312     324
 377          DQ      19      21      24      32      49      54
              *

 378          KK    E240
 379          BA   .1327
 380          LS       0    83.1
 381          UD   0.472
              *

 382          KK   E240S
 383          KM   E240S IS THE FLOW DRAINING SOUTH IN TORREY PINES
 384          KM   E240E IS THE FLOW DRAINING EAST IN MEISENHEIMER
 385          DT   E240E
 386          DI      73      74      76      79      83      85
 387          DQ      38      39      40      42      43      45
```

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                *

  388           KK    E260
  389           BA   .1379
  390           LS       0    83.3
  391           UD   0.441
                *

  392           KK    CP16
  393           KM   COMBINE E240S AND E260 AT RACEL AND TORREY PINES
  394           HC       2
                *
1                                       HEC-1 INPUT                                                 PAGE 12

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

  395           KK   CP16S
  396           KM   S9 IS THE FLOW DRAINING SOUTH IN TORREY PINES
  397           KM   E9 IS THE FLOW DRAINING EAST IN RACEL
  398           DT   CP16E
  399           DI     115     116     118     123     130     133
  400           DQ      57      58      59      61      65      66
                *

  401           KK   DUMMY
  402           HC       3
                *

  403           KK   CP14S
  404           KM   RETRIEVE CP14S
  405           DR   CP14S
                *

  406           KK  RCP14S
  407           KM   ROUTE TO CP17
  408           RD    2565   .0050   0.013       0    CIRC     2.5       0
                *

  409           KK    E580
  410           BA   .0980
  411           LS       0    88.1
  412           UD   0.296
                *

  413           KK    CP17
  414           KM   COMBINE CP14S AND E580 IN DECATUR BETWEEN HORSE AND GRAND TETON
  415           HC       2
                *

  416           KK   CP17S
  417           KM   CP17S IS THE FLOW DRAINING SOUTH IN DECATUR
  418           KM   CP17E IS THE FLOW DRAINING EAST ONTO UNDEVELOPED LAND
  419           KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
  420           KM   FLOW IN DECATUR IS BASED ON 1/2 STREET CAPACITY, 139 CFS
  421           DT   CP17E
  422           DI     118     119     121     124     128     130
  423           DQ       0       0       0       0       0       0
                *

  424           KK    E220
  425           BA   .0445
  426           LS       0    83.5
  427           UD   0.284
                *
1                                       HEC-1 INPUT                                                 PAGE 13

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

  428           KK   RE220
  429           KM   ROUTE TO CP18
  430           RD    5085   .0050   0.016       0    TRAP       0      50
                *

  431           KK   E240E
  432           KM   RETRIEVE E240E
  433           DR   E240E
                *

  434           KK  RE240E
  435           KM   ROUTE TO CP18
  436           RD    4710   .0050   0.016       0    TRAP       0      50
                *

  437           KK   CP16E
  438           KM   RETRIEVE CP16E
  439           DR   CP16E
                *

  440           KK  RCP16E
  441           KM   ROUTE TO CP18
  442           RD    4030   .0050   0.016       0    TRAP       0      50
                *

  443           KK    CP4S
  444           KM   RETRIEVE CP4S
  445           DR    CP4S
                *

  446           KK   RCP4S
  447           KM   ROUTE TO CP18
  448           RD    4770   .0050   0.016       0    TRAP       0      50
                *

  449           KK    CP8S
```

```
 450          KM   RETRIEVE CP8S
 451          DR    CP8S
              *

 452          KK   RCP8S
 453          KM   ROUTE TO CP18
 454          RD    2755   .0050   0.016       0    TRAP       0      50
              *

 455          KK   DUMMY
 456          KM   COMBINE E220 E240E CP16E CP4S AND CP8S
 457          HC       5
              *
1                                        HEC-1 INPUT                                                    PAGE 14

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

 458          KK    E280
 459          BA   .2782
 460          LS       0    83.5
 461          UD   0.399
              *

 462          KK    CP18
 463          KM   COMBINE DUMMY AND E280 AT GRAND TETON AND JONES
 464          HC       2
              *

 465          KK   RCP18
 466          KM   ROUTE TO CP19
 467          RD    4935   .0050   0.016       0    TRAP       0      50
              *

 468          KK   CP10S
 469          KM   RETRIEVE CP10S
 470          DR   CP10S
              *

 471          KK  RCP10S
 472          KM   ROUTE TO CP19
 473          RD    5215   .0050   0.016       0    TRAP       0      50
              *

 474          KK   CP11S
 475          KM   RETRIEVE CP11S
 476          DR   CP11S
              *

 477          KK  RCP11S
 478          KM   ROUTE TO CP19
 479          RD    4550   .0050   0.016       0    TRAP       0      50
              *

 480          KK    E500
 481          BA   .3881
 482          LS       0    83.3
 483          UD   0.510
              *

 484          KK   CP18A
 485          KM   COMBINE CP18 CP10S CP11S AND E500 IN GRAND TETON WEST OF DECATUR
 486          HC       4
              *

 487          KK    CP19
 488          KM   COMBINE CP17S AND CP18A AT GRAND TETON AND DECATUR
 489          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE 15

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

 490          KK   CP17E
 491          KM   RETRIEVE CP17E
 492          DR   CP17E
              *

 493          KK   E660
 494          BA   .0140
 495          LS       0    84.5
 496          UD   0.165
              *

 497          KK    CP20
 498          KM   COMBINE CP19 CP17E AND E660 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
 499          HC       3
              *

 500          KK    E640
 501          BA   .0700
 502          LS       0    87.8
 503          UD   0.263
              *

 504          KK    CP21
 505          KM   COMBINE CP20 AND E640 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
 506          HC       2
              *

 507          KK    E620
 508          BA   .0472
 509          LS       0    88.1
 510          UD   0.246
              *
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```
 511          KK    CP22
 512          KM   COMBINE CP21 AND E620 AT GRAND TETON AND SAN MATEO
 513          HC       2
              *

 514          KK   RCP22
 515          KM   ROUTE TO CP24
 516          RD    1230   .0050   0.016       0    TRAP       0      50
              *

 517          KK   CP15S
 518          KM   RETRIEVE CP15S
 519          DR   CP15S
              *

 520          KK  RCP15S
 521          KM   ROUTE TO CP23
 522          RD    2555   .0050   0.016       0    TRAP       0      50
              *
1                                      HEC-1 INPUT                                                    PAGE 16

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

 523          KK    E680
 524          BA   .1122
 525          LS       0    88.0
 526          UD   0.303
              *

 527          KK    CP23
 528          KM   COMBINE CP15S AND E680 IN AVIARY JUST NORTH OF GRAND TETON
 529          HC       2
              *

 530          KK    E760
 531          BA   .0076
 532          LS       0    88.3
 533          UD   0.171
              *

 534          KK   CPGTA
 535          KM   COMBINE CP22 CP23 AND E760 AT GRAND TETON AND AVIARY
 536          HC       3
              *

 537          KK     2-3
 538          BA  0.0327
 539          LS       0    85.0
 540          UD   0.172
              *

 541          KK  CPGTA2
 542          HC       2
              *

 543          KK     2-1
 544          BA  0.0367
 545          LS       0    94.0
 546          UD   0.187
              *

 547          KK     2-2
 548          BA  0.0742
 549          LS       0    91.0
 550          UD   0.215
              *

 551          KK   2-14A
 552          BA  0.0027
 553          LS       0    85.0
 554          UD   0.135
              *
1                                      HEC-1 INPUT                                                    PAGE 17

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

 555          KK      2A
 556          HC       3
              *

 557          KK      2B
 558          HC       2
              *

 559          KK     DB1
 560          KM   PARK HIGHLANDS WEST DETENTION BASIN
 561          KO       2
 562          RS       1    ELEV      -1
 563          SV       0   0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
 564          SE  2297.0  2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
 565          SQ       0      72     110     138     161     199     215     231     252    1975
 566          SE  2297.0  2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
 567          KO       1
              *

 568          KK     2-6
 569          BA  0.0180
 570          LS       0    94.0
 571          UD   0.158
              *

 572          KK      2C
 573          HC       2
```

```
                *

          574   KK     2-7
          575   BA  0.0156
          576   LS       0    85.0
          577   UD   0.137
                *

          578   KK      2D
          579   HC       2
                *

          580   KK     2-4
          581   BA  0.0334
          582   LS       0    94.0
          583   UD   0.137
                *

          584   KK   2-14B
          585   BA  0.0025
          586   LS       0    85.0
          587   UD   0.126
                *
1                                          HEC-1 INPUT                                                PAGE 18

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

          588   KK      2E
          589   HC       2
                *

          590   KK     2-5
          591   BA  0.0891
          592   LS       0    91.0
          593   UD   0.215
                *

          594   KK    2-5W
          595   DT    2-5E
          596   DI       0     100
          597   DQ       0      48
                *

          598   KK     2-9
          599   BA  0.0156
          600   LS       0    91.0
          601   UD   0.135
                *

          602   KK      2F
          603   HC       3
                *

          604   KK    2-5E
          605   DR    2-5E
                *

          606   KK    2-10
          607   BA  0.0163
          608   LS       0    91.0
          609   UD   0.132
                *

          610   KK      2G
          611   HC       3
                *

          612   KK     2-8
          613   BA  0.0286
          614   LS       0    94.0
          615   UD   0.144
                *

          616   KK      2H
          617   HC       2
                *
1                                          HEC-1 INPUT                                                PAGE 19

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

          618   KK      2I
          619   HC       2
                *

          620   KK    2-11
          621   BA  0.0255
          622   LS       0    94.0
          623   UD   0.135
                *

          624   KK    2-12
          625   BA  0.0272
          626   LS       0    90.0
          627   UD   0.150
                *

          628   KK      2J
          629   HC       2
                *

          630   KK      2K
          631   HC       2
                *
```

```
            632           KK    2-13
            633           BA  0.0273
            634           LS       0    91.0
            635           UD   0.176
                          *

            636           KK     PT2
            637           HC       2
                          *
            638           ZZ
```

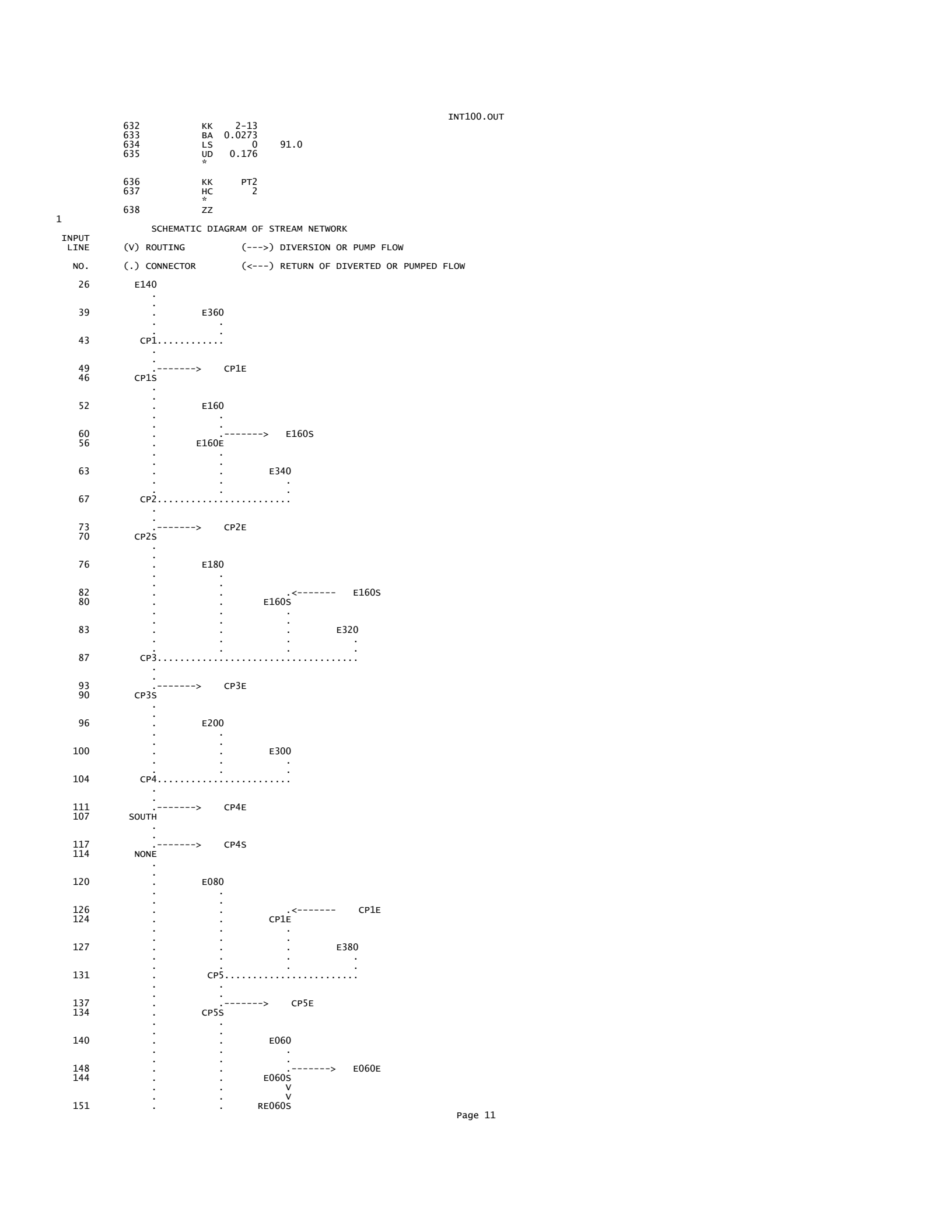
1

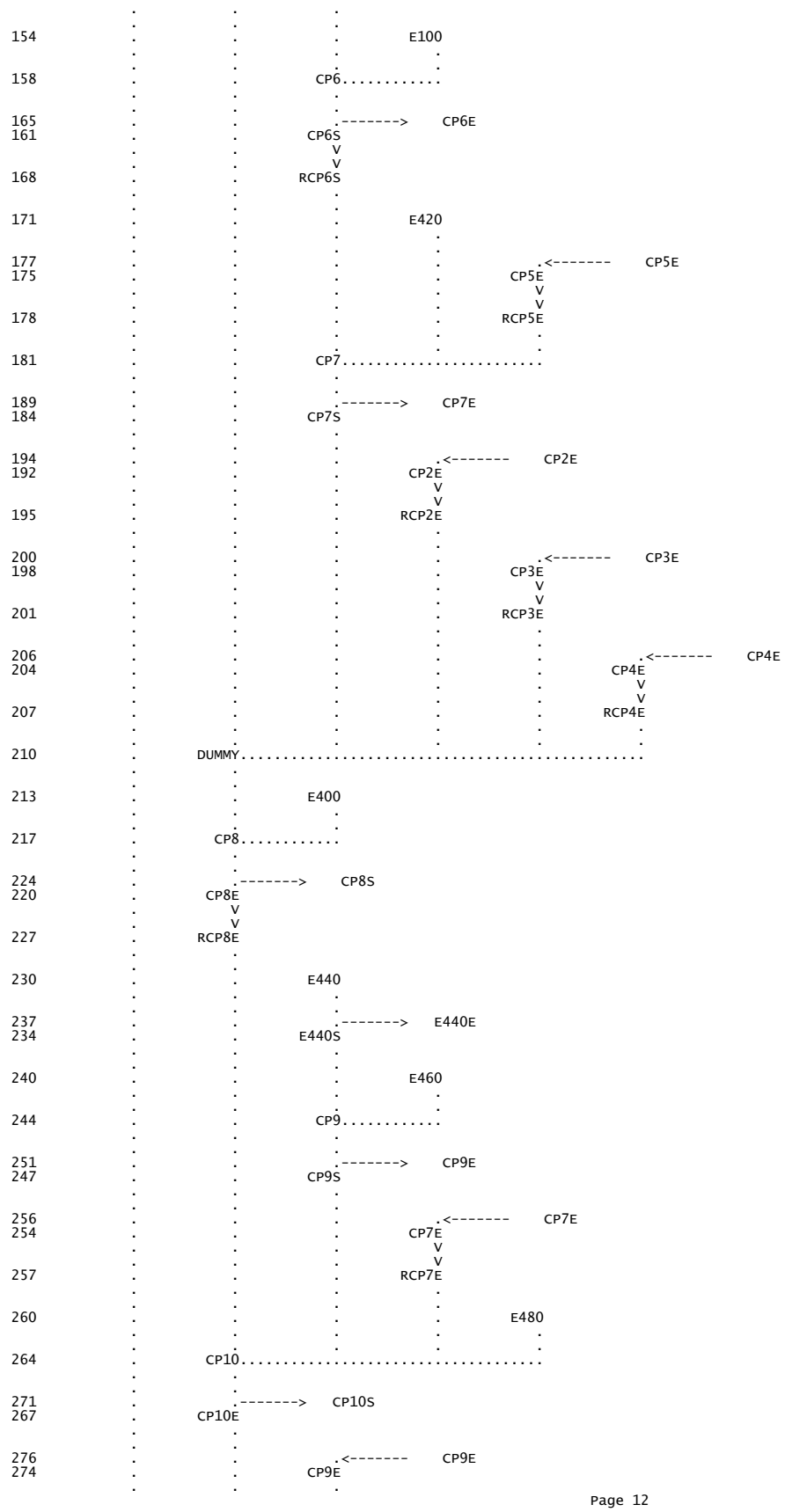
SCHEMATIC DIAGRAM OF STREAM NETWORK

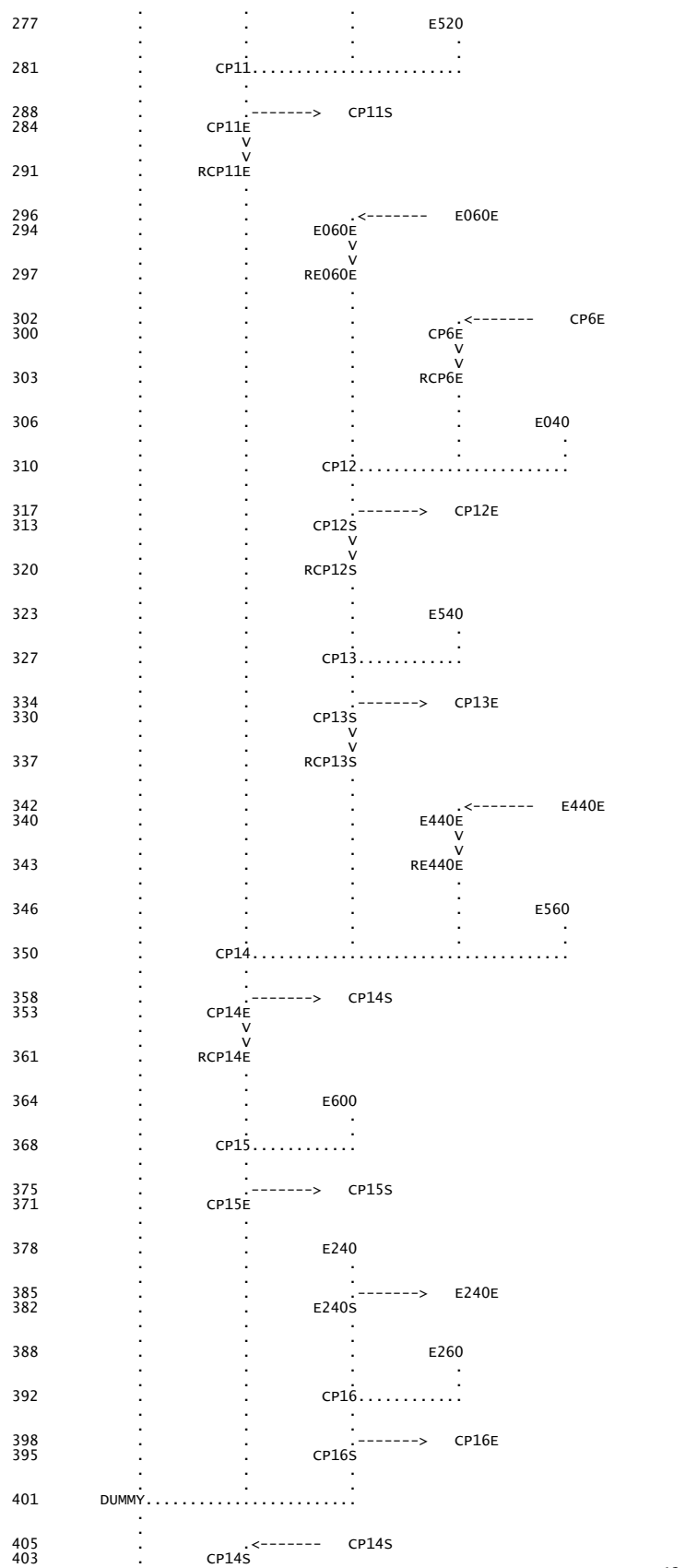
INPUT LINE NO.

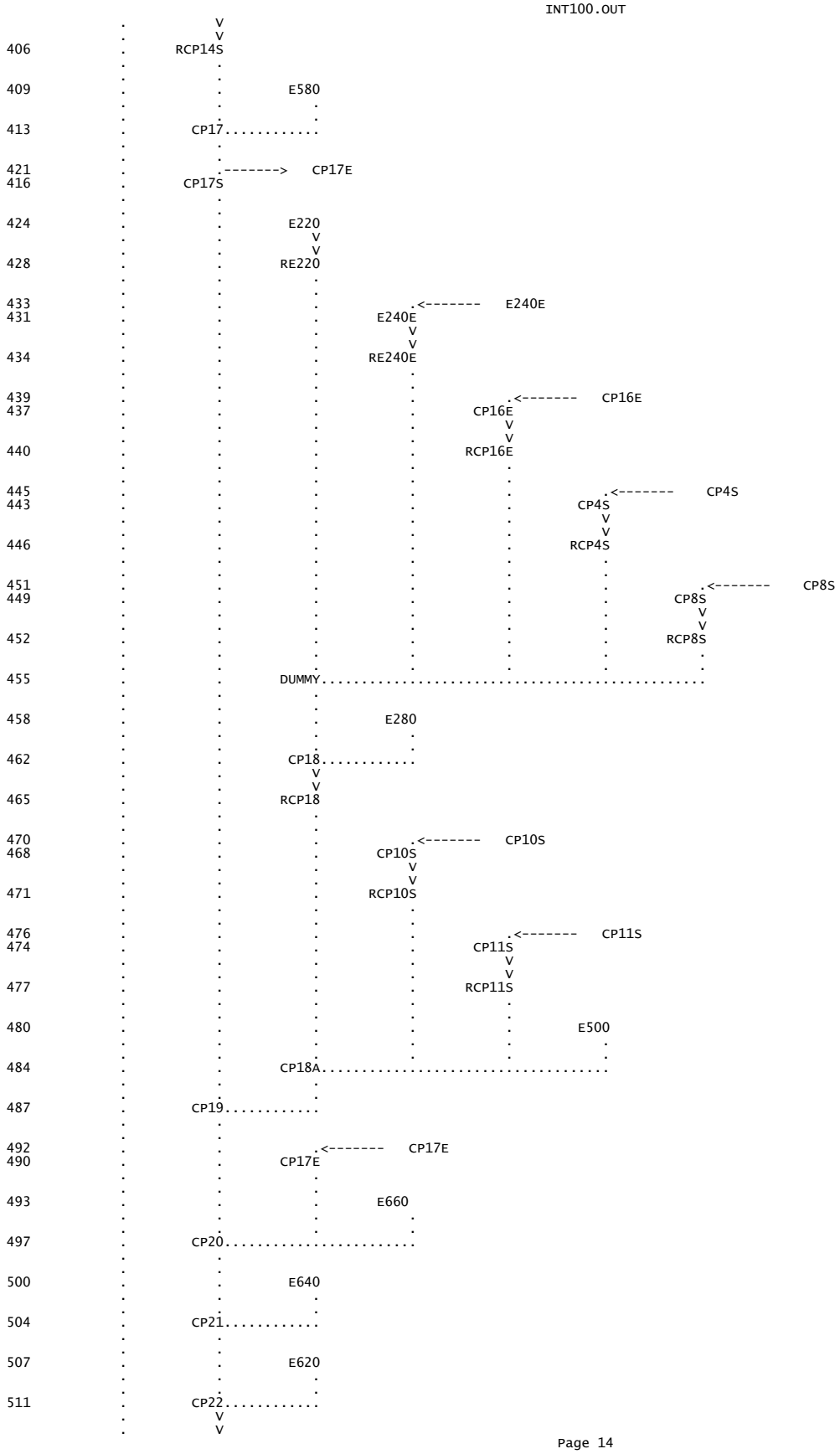
(V) ROUTING (---->) DIVERSION OR PUMP FLOW

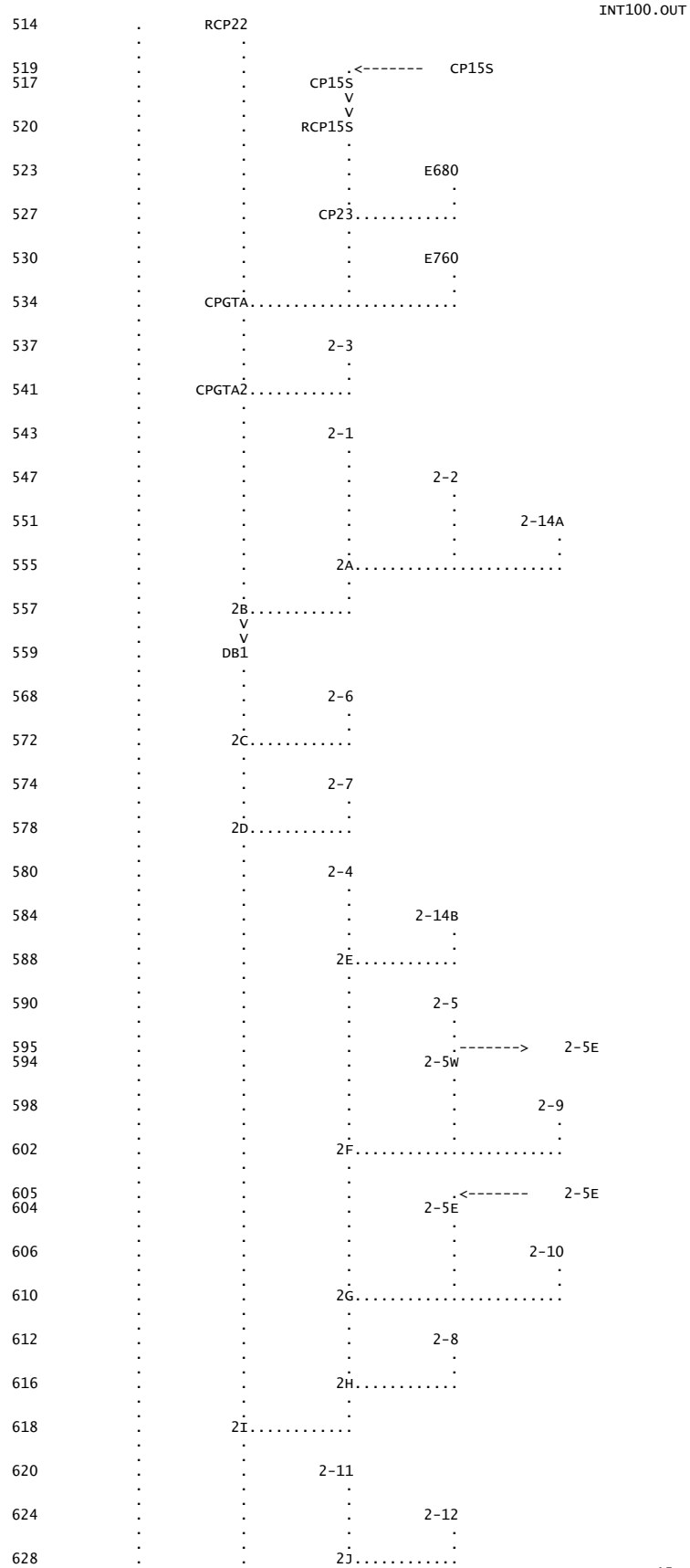
(.) CONNECTOR (<----) RETURN OF DIVERTED OR PUMPED FLOW




154 E100
158 CP6
165 CP6E
161 CP6S
168 RCP6S
171 E420
177 CP5E
175 CP5E
178 RCP5E
181 CP7
189 CP7E
184 CP7S
194 CP2E
192 CP2E
195 RCP2E
200 CP3E
198 CP3E
201 RCP3E
206 CP4E
204 CP4E
207 RCP4E
210 DUMMY
213 E400
217 CP8
224 CP8S
220 CP8E
227 RCP8E
230 E440
237 E440E
234 E440S
240 E460
244 CP9
251 CP9E
247 CP9S
256 CP7E
254 CP7E
257 RCP7E
260 E480
264 CP10
271 CP10S
267 CP10E
276 CP9E
274 CP9E


277
E520
281
CP11
288
CP11S
284
CP11E
291
RCP11E
296
E060E
294
E060E
297
RE060E
302
CP6E
300
CP6E
303
RCP6E
306
E040
310
CP12
317
CP12E
313
CP12S
320
RCP12S
323
E540
327
CP13
334
CP13E
330
CP13S
337
RCP13S
342
E440E
340
E440E
343
RE440E
346
E560
350
CP14
358
CP14S
353
CP14E
361
RCP14E
364
E600
368
CP15
375
CP15S
371
CP15E
378
E240
385
E240E
382
E240S
388
E260
392
CP16
398
CP16E
395
CP16S
401
DUMMY
405
CP14S
403
CP14S


406 RCP14S
409 E580
413 CP17
421 CP17E
416 CP17S
424 E220
428 RE220
433 E240E
431 E240E
434 RE240E
439 CP16E
437 CP16E
440 RCP16E
445 CP4S
443 CP4S
446 RCP4S
451 CP8S
449 CP8S
452 RCP8S
455 DUMMY
458 E280
462 CP18
465 RCP18
470 CP10S
468 CP10S
471 RCP10S
476 CP11S
474 CP11S
477 RCP11S
480 E500
484 CP18A
487 CP19
492 CP17E
490 CP17E
493 E660
497 CP20
500 E640
504 CP21
507 E620
511 CP22


RCP22
CP15S
CP15S
RCP15S
E680
CP23
E760
CPGTA
2-3
CPGTA2
2-1
2-2
2-14A
2A
2B
DB1
2-6
2C
2-7
2D
2-4
2-14B
2E
2-5
2-5E
2-5W
2-9
2F
2-5E
2-10
2G
2-8
2H
2I
2-11
2-12
2J

```
                .           .           .
                .           .           .
  630           .          2K............
                .           .
                .           .
  632           .           .        2-13
                .           .           .
                .           .           .
  636           .         PT2............
```

```
 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *               JUN   1998             *                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                    *          609 SECOND STREET           *
 *                                      *                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   27JUN14  TIME  14:27:39  *                    *           (916) 756-1104             *
 *                                      *                    *                                      *
 ****************************************                    ****************************************
```

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
INTERIM CONDITION

RETURN PERIOD ------- 100-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ INT100.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	DARF
0.00-0.49	0.990
0.50-0.99	0.975
1.00-1.99	0.950
2.00-2.99	0.925
3.00-3.99	0.915
4.00-4.99	0.908

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

     IT          HYDROGRAPH TIME DATA
                        NMIN           5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1    0  STARTING DATE
                       ITIME         0000  STARTING TIME
                          NQ          300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      2    0  ENDING DATE
                      NDTIME         0055  ENDING TIME
                       ICENT           19  CENTURY MARK

                   COMPUTATION INTERVAL      .08 HOURS
                        TOTAL TIME BASE   24.92 HOURS

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

     JP          MULTI-PLAN OPTION
                       NPLAN           1  NUMBER OF PLANS

     JR          MULTI-RATIO OPTION
                     RATIOS OF PRECIPITATION
                     .99       .98       .95       .93       .92       .91


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


            **************
            *            *
  559 KK    *       DB1  *
            *            *
            **************

  561 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           2  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  567 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           1  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

  562 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        ELEV  TYPE OF INITIAL CONDITION
```

RSVRIC X -1.00 INITIAL CONDITION .00 WORKING R AND D COEFFICIENT

563 SV	STORAGE	.0	.1	2.4	10.5	24.0	38.2	52.7	113.5	137.4	170.6
564 SE	ELEVATION	2297.00	2298.00	2299.00	2300.00	2301.00	2302.00	2303.00	2307.00	2308.50	2310.50
565 SQ	DISCHARGE	0.	72.	110.	138.	161.	199.	215.	231.	252.	1975.
566 SE	ELEVATION	2297.00	2300.00	2301.00	2302.00	2303.00	2305.00	2306.00	2307.00	2308.50	2310.50

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	.13	2.43	10.54	24.01	38.19	52.70	83.07	98.26	113.45
OUTFLOW	.00	24.00	48.00	72.00	110.00	138.00	161.00	199.00	215.00	231.00
ELEVATION	2297.00	2298.00	2299.00	2300.00	2301.00	2302.00	2303.00	2305.00	2306.00	2307.00
STORAGE	137.41	170.56								
OUTFLOW	252.00	1975.00								
ELEVATION	2308.50	2310.50								

****

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .99

****

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	209.	92.4	2305.6	1		1640	201	52.	3.8	2299.2
1		0005	2	0.	.0	2297.0	1		0825	102	207.	91.0	2305.5	1		1645	202	51.	3.4	2299.1
1		0010	3	0.	.0	2297.0	1		0830	103	206.	89.7	2305.4	1		1650	203	50.	3.1	2299.1
1		0015	4	0.	.0	2297.0	1		0835	104	204.	88.3	2305.3	1		1655	204	49.	2.7	2299.0
1		0020	5	0.	.0	2297.0	1		0840	105	203.	86.9	2305.3	1		1700	205	48.	2.4	2299.0
1		0025	6	1.	.0	2297.0	1		0845	106	202.	85.5	2305.2	1		1705	206	45.	2.1	2298.9
1		0030	7	3.	.0	2297.1	1		0850	107	200.	84.2	2305.1	1		1710	207	41.	1.8	2298.7
1		0035	8	5.	.0	2297.2	1		0855	108	199.	82.8	2305.0	1		1715	208	39.	1.5	2298.6
1		0040	9	6.	.0	2297.3	1		0900	109	197.	81.4	2304.9	1		1720	209	36.	1.3	2298.5
1		0045	10	7.	.0	2297.3	1		0905	110	195.	80.1	2304.8	1		1725	210	33.	1.0	2298.4
1		0050	11	6.	.0	2297.3	1		0910	111	194.	78.8	2304.7	1		1730	211	31.	.8	2298.3
1		0055	12	5.	.0	2297.2	1		0915	112	192.	77.4	2304.6	1		1735	212	29.	.6	2298.2
1		0100	13	5.	.0	2297.2	1		0920	113	190.	76.1	2304.5	1		1740	213	27.	.4	2298.1
1		0105	14	4.	.0	2297.2	1		0925	114	189.	74.8	2304.5	1		1745	214	25.	.2	2298.0
1		0110	15	4.	.0	2297.2	1		0930	115	187.	73.5	2304.4	1		1750	215	16.	.1	2297.7
1		0115	16	4.	.0	2297.2	1		0935	116	185.	72.3	2304.3	1		1755	216	3.	.0	2297.1
1		0120	17	5.	.0	2297.2	1		0940	117	184.	71.0	2304.2	1		1800	217	1.	.0	2297.0
1		0125	18	6.	.0	2297.3	1		0945	118	182.	69.7	2304.1	1		1805	218	0.	.0	2297.0
1		0130	19	8.	.0	2297.3	1		0950	119	181.	68.5	2304.0	1		1810	219	0.	.0	2297.0
1		0135	20	12.	.1	2297.5	1		0955	120	179.	67.3	2304.0	1		1815	220	0.	.0	2297.0
1		0140	21	16.	.1	2297.7	1		1000	121	178.	66.0	2303.9	1		1820	221	0.	.0	2297.0
1		0145	22	21.	.1	2297.9	1		1005	122	176.	64.8	2303.8	1		1825	222	0.	.0	2297.0
1		0150	23	24.	.1	2298.0	1		1010	123	175.	63.6	2303.7	1		1830	223	0.	.0	2297.0
1		0155	24	24.	.2	2298.0	1		1015	124	173.	62.4	2303.6	1		1835	224	0.	.0	2297.0
1		0200	25	25.	.2	2298.0	1		1020	125	172.	61.2	2303.6	1		1840	225	0.	.0	2297.0
1		0205	26	25.	.2	2298.0	1		1025	126	170.	60.0	2303.5	1		1845	226	0.	.0	2297.0
1		0210	27	25.	.2	2298.0	1		1030	127	169.	58.9	2303.4	1		1850	227	0.	.0	2297.0
1		0215	28	25.	.2	2298.0	1		1035	128	167.	57.7	2303.3	1		1855	228	0.	.0	2297.0
1		0220	29	25.	.3	2298.1	1		1040	129	166.	56.6	2303.3	1		1900	229	0.	.0	2297.0
1		0225	30	26.	.3	2298.1	1		1045	130	164.	55.4	2303.2	1		1905	230	0.	.0	2297.0
1		0230	31	28.	.5	2298.1	1		1050	131	163.	54.3	2303.1	1		1910	231	0.	.0	2297.0
1		0235	32	29.	.6	2298.2	1		1055	132	162.	53.2	2303.0	1		1915	232	0.	.0	2297.0
1		0240	33	31.	.8	2298.3	1		1100	133	160.	52.1	2303.0	1		1920	233	0.	.0	2297.0
1		0245	34	33.	1.0	2298.4	1		1105	134	158.	51.0	2302.9	1		1925	234	0.	.0	2297.0
1		0250	35	35.	1.2	2298.5	1		1110	135	157.	49.9	2302.8	1		1930	235	0.	.0	2297.0
1		0255	36	38.	1.4	2298.6	1		1115	136	155.	48.8	2302.7	1		1935	236	0.	.0	2297.0
1		0300	37	40.	1.6	2298.7	1		1120	137	153.	47.8	2302.7	1		1940	237	0.	.0	2297.0
1		0305	38	42.	1.9	2298.8	1		1125	138	152.	46.7	2302.6	1		1945	238	0.	.0	2297.0
1		0310	39	46.	2.2	2298.9	1		1130	139	150.	45.7	2302.5	1		1950	239	0.	.0	2297.0
1		0315	40	49.	2.7	2299.0	1		1135	140	148.	44.7	2302.4	1		1955	240	0.	.0	2297.0
1		0320	41	51.	3.5	2299.1	1		1140	141	147.	43.6	2302.4	1		2000	241	0.	.0	2297.0
1		0325	42	55.	4.9	2299.3	1		1145	142	145.	42.6	2302.3	1		2005	242	0.	.0	2297.0
1		0330	43	62.	7.3	2299.6	1		1150	143	143.	41.6	2302.2	1		2010	243	0.	.0	2297.0
1		0335	44	72.	10.6	2300.0	1		1155	144	142.	40.7	2302.2	1		2015	244	0.	.0	2297.0
1		0340	45	84.	14.9	2300.3	1		1200	145	140.	39.7	2302.1	1		2020	245	0.	.0	2297.0
1		0345	46	98.	19.7	2300.7	1		1205	146	139.	38.7	2302.0	1		2025	246	0.	.0	2297.0
1		0350	47	112.	24.8	2301.1	1		1210	147	137.	37.8	2302.0	1		2030	247	0.	.0	2297.0
1		0355	48	123.	30.5	2301.5	1		1215	148	135.	36.8	2301.9	1		2035	248	0.	.0	2297.0
1		0400	49	135.	36.7	2301.9	1		1220	149	133.	35.9	2301.8	1		2040	249	0.	.0	2297.0
1		0405	50	146.	43.4	2302.4	1		1225	150	132.	35.0	2301.8	1		2045	250	0.	.0	2297.0
1		0410	51	157.	50.0	2302.8	1		1230	151	130.	34.1	2301.7	1		2050	251	0.	.0	2297.0
1		0415	52	166.	56.4	2303.2	1		1235	152	128.	33.2	2301.6	1		2055	252	0.	.0	2297.0
1		0420	53	173.	62.5	2303.6	1		1240	153	126.	32.3	2301.6	1		2100	253	0.	.0	2297.0
1		0425	54	180.	68.1	2304.0	1		1245	154	125.	31.5	2301.5	1		2105	254	0.	.0	2297.0
1		0430	55	187.	73.2	2304.3	1		1250	155	123.	30.6	2301.5	1		2110	255	0.	.0	2297.0
1		0435	56	192.	77.9	2304.7	1		1255	156	121.	29.8	2301.4	1		2115	256	0.	.0	2297.0
1		0440	57	198.	82.3	2304.9	1		1300	157	120.	28.9	2301.3	1		2120	257	0.	.0	2297.0
1		0445	58	203.	86.5	2305.2	1		1305	158	118.	28.1	2301.3	1		2125	258	0.	.0	2297.0
1		0450	59	207.	90.5	2305.5	1		1310	159	117.	27.3	2301.2	1		2130	259	0.	.0	2297.0
1		0455	60	211.	94.5	2305.7	1		1315	160	115.	26.5	2301.2	1		2135	260	0.	.0	2297.0
1		0500	61	215.	98.2	2306.0	1		1320	161	113.	25.7	2301.1	1		2140	261	0.	.0	2297.0
1		0505	62	219.	101.7	2306.2	1		1325	162	112.	25.0	2301.1	1		2145	262	0.	.0	2297.0
1		0510	63	222.	105.0	2306.4	1		1330	163	110.	24.2	2301.0	1		2150	263	0.	.0	2297.0
1		0515	64	225.	108.1	2306.6	1		1335	164	108.	23.4	2301.0	1		2155	264	0.	.0	2297.0
1		0520	65	228.	110.8	2306.8	1		1340	165	106.	22.7	2300.9	1		2200	265	0.	.0	2297.0
1		0525	66	231.	113.3	2307.0	1		1345	166	104.	22.0	2300.8	1		2205	266	0.	.0	2297.0
1		0530	67	233.	115.5	2307.1	1		1350	167	102.	21.3	2300.8	1		2210	267	0.	.0	2297.0
1		0535	68	234.	117.3	2307.2	1		1355	168	100.	20.6	2300.7	1		2215	268	0.	.0	2297.0
1		0540	69	236.	118.8	2307.3	1		1400	169	98.	19.9	2300.7	1		2220	269	0.	.0	2297.0
1		0545	70	237.	120.0	2307.4	1		1405	170	96.	19.2	2300.6	1		2225	270	0.	.0	2297.0

1	0550	71	238.	120.9	2307.5	*	1	1410	171	95.	18.6	2300.6	*	1	2230	271	0.	.0	2297.0
1	0555	72	238.	121.6	2307.5	*	1	1415	172	93.	17.9	2300.5	*	1	2235	272	0.	.0	2297.0
1	0600	73	238.	122.0	2307.5	*	1	1420	173	91.	17.3	2300.5	*	1	2240	273	0.	.0	2297.0
1	0605	74	239.	122.2	2307.5	*	1	1425	174	89.	16.7	2300.5	*	1	2245	274	0.	.0	2297.0
1	0610	75	239.	122.3	2307.6	*	1	1430	175	88.	16.0	2300.4	*	1	2250	275	0.	.0	2297.0
1	0615	76	239.	122.1	2307.5	*	1	1435	176	86.	15.4	2300.4	*	1	2255	276	0.	.0	2297.0
1	0620	77	238.	121.8	2307.5	*	1	1440	177	84.	14.9	2300.3	*	1	2300	277	0.	.0	2297.0
1	0625	78	238.	121.2	2307.5	*	1	1445	178	83.	14.3	2300.3	*	1	2305	278	0.	.0	2297.0
1	0630	79	237.	120.5	2307.4	*	1	1450	179	81.	13.7	2300.2	*	1	2310	279	0.	.0	2297.0
1	0635	80	236.	119.7	2307.4	*	1	1455	180	79.	13.2	2300.2	*	1	2315	280	0.	.0	2297.0
1	0640	81	236.	118.7	2307.3	*	1	1500	181	78.	12.6	2300.2	*	1	2320	281	0.	.0	2297.0
1	0645	82	235.	117.7	2307.3	*	1	1505	182	76.	12.1	2300.1	*	1	2325	282	0.	.0	2297.0
1	0650	83	234.	116.6	2307.2	*	1	1510	183	75.	11.6	2300.1	*	1	2330	283	0.	.0	2297.0
1	0655	84	233.	115.5	2307.1	*	1	1515	184	73.	11.1	2300.0	*	1	2335	284	0.	.0	2297.0
1	0700	85	232.	114.2	2307.0	*	1	1520	185	72.	10.6	2300.0	*	1	2340	285	0.	.0	2297.0
1	0705	86	231.	113.0	2307.0	*	1	1525	186	71.	10.1	2299.9	*	1	2345	286	0.	.0	2297.0
1	0710	87	229.	111.7	2306.9	*	1	1530	187	69.	9.6	2299.9	*	1	2350	287	0.	.0	2297.0
1	0715	88	228.	110.4	2306.8	*	1	1535	188	68.	9.1	2299.8	*	1	2355	288	0.	.0	2297.0
1	0720	89	226.	109.1	2306.7	*	1	1540	189	66.	8.7	2299.8	*	2	0000	289	0.	.0	2297.0
1	0725	90	225.	107.7	2306.6	*	1	1545	190	65.	8.2	2299.7	*	2	0005	290	0.	.0	2297.0
1	0730	91	224.	106.4	2306.5	*	1	1550	191	64.	7.8	2299.7	*	2	0010	291	0.	.0	2297.0
1	0735	92	222.	105.0	2306.4	*	1	1555	192	63.	7.3	2299.6	*	2	0015	292	0.	.0	2297.0
1	0740	93	221.	103.6	2306.4	*	1	1600	193	61.	6.9	2299.6	*	2	0020	293	0.	.0	2297.0
1	0745	94	219.	102.2	2306.3	*	1	1605	194	60.	6.5	2299.5	*	2	0025	294	0.	.0	2297.0
1	0750	95	218.	100.9	2306.2	*	1	1610	195	59.	6.1	2299.4	*	2	0030	295	0.	.0	2297.0
1	0755	96	216.	99.5	2306.1	*	1	1615	196	58.	5.7	2299.4	*	2	0035	296	0.	.0	2297.0
1	0800	97	215.	98.1	2306.0	*	1	1620	197	56.	5.3	2299.4	*	2	0040	297	0.	.0	2297.0
1	0805	98	213.	96.6	2305.9	*	1	1625	198	55.	4.9	2299.3	*	2	0045	298	0.	.0	2297.0
1	0810	99	212.	95.2	2305.8	*	1	1630	199	54.	4.5	2299.3	*	2	0050	299	0.	.0	2297.0
1	0815	100	210.	93.8	2305.7	*	1	1635	200	53.	4.1	2299.2	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 239.	6.17		212.	91.	88.	88.
		(INCHES)	1.635	2.805	2.805	2.805
		(AC-FT)	105.	180.	180.	180.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
	122.	6.17	96.	33.	31.	31.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
	2307.55	6.17	2305.87	2300.67	2300.54	2300.54

CUMULATIVE AREA = 1.21 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .98

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	205.	89.1	2305.4	1		1640	201	50.	3.0	2299.1
1		0005	2	0.	.0	2297.0	1		0825	102	204.	87.7	2305.3	1		1645	202	49.	2.6	2299.0
1		0010	3	0.	.0	2297.0	1		0830	103	202.	86.3	2305.2	1		1650	203	47.	2.3	2298.9
1		0015	4	0.	.0	2297.0	1		0835	104	201.	85.0	2305.1	1		1655	204	43.	2.0	2298.8
1		0020	5	0.	.0	2297.0	1		0840	105	200.	83.6	2305.0	1		1700	205	40.	1.7	2298.7
1		0025	6	1.	.0	2297.0	1		0845	106	198.	82.3	2304.9	1		1705	206	38.	1.4	2298.6
1		0030	7	2.	.0	2297.1	1		0850	107	196.	80.9	2304.9	1		1710	207	35.	1.2	2298.5
1		0035	8	4.	.0	2297.2	1		0855	108	195.	79.6	2304.8	1		1715	208	33.	.9	2298.4
1		0040	9	6.	.0	2297.2	1		0900	109	193.	78.3	2304.7	1		1720	209	30.	.7	2298.3
1		0045	10	6.	.0	2297.3	1		0905	110	191.	77.0	2304.6	1		1725	210	28.	.5	2298.2
1		0050	11	6.	.0	2297.2	1		0910	111	190.	75.6	2304.5	1		1730	211	26.	.3	2298.1
1		0055	12	5.	.0	2297.2	1		0915	112	188.	74.4	2304.4	1		1735	212	24.	.2	2298.0
1		0100	13	4.	.0	2297.2	1		0920	113	186.	73.1	2304.3	1		1740	213	9.	.0	2297.4
1		0105	14	4.	.0	2297.2	1		0925	114	185.	71.8	2304.3	1		1745	214	2.	.0	2297.1
1		0110	15	3.	.0	2297.1	1		0930	115	183.	70.5	2304.2	1		1750	215	0.	.0	2297.0
1		0115	16	4.	.0	2297.2	1		0935	116	182.	69.3	2304.1	1		1755	216	0.	.0	2297.0
1		0120	17	5.	.0	2297.2	1		0940	117	180.	68.0	2304.0	1		1800	217	0.	.0	2297.0
1		0125	18	6.	.0	2297.2	1		0945	118	179.	66.8	2303.9	1		1805	218	0.	.0	2297.0
1		0130	19	8.	.0	2297.3	1		0950	119	177.	65.6	2303.8	1		1810	219	0.	.0	2297.0
1		0135	20	11.	.1	2297.5	1		0955	120	176.	64.4	2303.8	1		1815	220	0.	.0	2297.0
1		0140	21	16.	.1	2297.7	1		1000	121	174.	63.2	2303.7	1		1820	221	0.	.0	2297.0
1		0145	22	20.	.1	2297.8	1		1005	122	173.	62.0	2303.6	1		1825	222	0.	.0	2297.0
1		0150	23	24.	.1	2298.0	1		1010	123	171.	60.8	2303.5	1		1830	223	0.	.0	2297.0
1		0155	24	24.	.1	2298.0	1		1015	124	170.	59.6	2303.5	1		1835	224	0.	.0	2297.0
1		0200	25	24.	.2	2298.0	1		1020	125	168.	58.5	2303.4	1		1840	225	0.	.0	2297.0
1		0205	26	25.	.2	2298.0	1		1025	126	167.	57.3	2303.3	1		1845	226	0.	.0	2297.0
1		0210	27	24.	.2	2298.0	1		1030	127	165.	56.2	2303.2	1		1850	227	0.	.0	2297.0
1		0215	28	25.	.2	2298.0	1		1035	128	164.	55.0	2303.2	1		1855	228	0.	.0	2297.0
1		0220	29	25.	.2	2298.0	1		1040	129	163.	53.9	2303.1	1		1900	229	0.	.0	2297.0
1		0225	30	26.	.3	2298.1	1		1045	130	161.	52.8	2303.0	1		1905	230	0.	.0	2297.0
1		0230	31	27.	.4	2298.1	1		1050	131	159.	51.7	2302.9	1		1910	231	0.	.0	2297.0
1		0235	32	28.	.5	2298.2	1		1055	132	158.	50.6	2302.9	1		1915	232	0.	.0	2297.0
1		0240	33	30.	.7	2298.3	1		1100	133	156.	49.5	2302.8	1		1920	233	0.	.0	2297.0
1		0245	34	32.	.9	2298.3	1		1105	134	154.	48.4	2302.7	1		1925	234	0.	.0	2297.0
1		0250	35	34.	1.1	2298.4	1		1110	135	153.	47.4	2302.6	1		1930	235	0.	.0	2297.0
1		0255	36	36.	1.3	2298.5	1		1115	136	151.	46.3	2302.6	1		1935	236	0.	.0	2297.0
1		0300	37	38.	1.5	2298.6	1		1120	137	149.	45.3	2302.5	1		1940	237	0.	.0	2297.0
1		0305	38	41.	1.7	2298.7	1		1125	138	148.	44.3	2302.4	1		1945	238	0.	.0	2297.0
1		0310	39	44.	2.0	2298.8	1		1130	139	146.	43.3	2302.4	1		1950	239	0.	.0	2297.0
1		0315	40	48.	2.5	2299.0	1		1135	140	144.	42.3	2302.3	1		1955	240	0.	.0	2297.0
1		0320	41	51.	3.3	2299.1	1		1140	141	143.	41.3	2302.2	1		2000	241	0.	.0	2297.0
1		0325	42	55.	4.7	2299.3	1		1145	142	141.	40.3	2302.1	1		2005	242	0.	.0	2297.0
1		0330	43	61.	6.9	2299.6	1		1150	143	140.	39.3	2302.1	1		2010	243	0.	.0	2297.0

1	0335	44	71.	10.2	2300.0	*	1	1155	144	138.	38.4	2302.0	*	1	2015	244	0.	.0	2297.0
1	0340	45	83.	14.3	2300.3	*	1	1200	145	136.	37.4	2301.9	*	1	2020	245	0.	.0	2297.0
1	0345	46	96.	19.0	2300.6	*	1	1205	146	135.	36.5	2301.9	*	1	2025	246	0.	.0	2297.0
1	0350	47	110.	24.0	2301.0	*	1	1210	147	133.	35.6	2301.8	*	1	2030	247	0.	.0	2297.0
1	0355	48	121.	29.4	2301.4	*	1	1215	148	131.	34.7	2301.8	*	1	2035	248	0.	.0	2297.0
1	0400	49	133.	35.5	2301.8	*	1	1220	149	129.	33.8	2301.7	*	1	2040	249	0.	.0	2297.0
1	0405	50	144.	42.0	2302.3	*	1	1225	150	128.	32.9	2301.6	*	1	2045	250	0.	.0	2297.0
1	0410	51	154.	48.4	2302.7	*	1	1230	151	126.	32.0	2301.6	*	1	2050	251	0.	.0	2297.0
1	0415	52	163.	54.6	2303.1	*	1	1235	152	124.	31.2	2301.5	*	1	2055	252	0.	.0	2297.0
1	0420	53	171.	60.5	2303.5	*	1	1240	153	122.	30.3	2301.4	*	1	2100	253	0.	.0	2297.0
1	0425	54	177.	65.9	2303.9	*	1	1245	154	121.	29.5	2301.4	*	1	2105	254	0.	.0	2297.0
1	0430	55	184.	70.7	2304.2	*	1	1250	155	119.	28.6	2301.3	*	1	2110	255	0.	.0	2297.0
1	0435	56	189.	75.3	2304.5	*	1	1255	156	118.	27.8	2301.3	*	1	2115	256	0.	.0	2297.0
1	0440	57	195.	79.6	2304.8	*	1	1300	157	116.	27.0	2301.2	*	1	2120	257	0.	.0	2297.0
1	0445	58	200.	83.7	2305.0	*	1	1305	158	114.	26.2	2301.2	*	1	2125	258	0.	.0	2297.0
1	0450	59	204.	87.6	2305.3	*	1	1310	159	113.	25.4	2301.1	*	1	2130	259	0.	.0	2297.0
1	0455	60	208.	91.5	2305.6	*	1	1315	160	111.	24.7	2301.0	*	1	2135	260	0.	.0	2297.0
1	0500	61	212.	95.2	2305.8	*	1	1320	161	110.	23.9	2301.0	*	1	2140	261	0.	.0	2297.0
1	0505	62	215.	98.6	2306.0	*	1	1325	162	108.	23.2	2300.9	*	1	2145	262	0.	.0	2297.0
1	0510	63	219.	101.8	2306.2	*	1	1330	163	106.	22.4	2300.9	*	1	2150	263	0.	.0	2297.0
1	0515	64	222.	104.8	2306.4	*	1	1335	164	104.	21.7	2300.8	*	1	2155	264	0.	.0	2297.0
1	0520	65	225.	107.5	2306.6	*	1	1340	165	102.	21.0	2300.8	*	1	2200	265	0.	.0	2297.0
1	0525	66	227.	109.9	2306.8	*	1	1345	166	100.	20.3	2300.7	*	1	2205	266	0.	.0	2297.0
1	0530	67	229.	112.0	2306.9	*	1	1350	167	98.	19.6	2300.7	*	1	2210	267	0.	.0	2297.0
1	0535	68	231.	113.8	2307.0	*	1	1355	168	96.	19.0	2300.6	*	1	2215	268	0.	.0	2297.0
1	0540	69	233.	115.2	2307.1	*	1	1400	169	94.	18.3	2300.6	*	1	2220	269	0.	.0	2297.0
1	0545	70	234.	116.3	2307.2	*	1	1405	170	92.	17.7	2300.5	*	1	2225	270	0.	.0	2297.0
1	0550	71	234.	117.2	2307.2	*	1	1410	171	90.	17.0	2300.5	*	1	2230	271	0.	.0	2297.0
1	0555	72	235.	117.9	2307.3	*	1	1415	172	89.	16.4	2300.4	*	1	2235	272	0.	.0	2297.0
1	0600	73	235.	118.3	2307.3	*	1	1420	173	87.	15.8	2300.4	*	1	2240	273	0.	.0	2297.0
1	0605	74	235.	118.5	2307.3	*	1	1425	174	85.	15.2	2300.3	*	1	2245	274	0.	.0	2297.0
1	0610	75	235.	118.5	2307.3	*	1	1430	175	84.	14.7	2300.3	*	1	2250	275	0.	.0	2297.0
1	0615	76	235.	118.3	2307.3	*	1	1435	176	82.	14.1	2300.3	*	1	2255	276	0.	.0	2297.0
1	0620	77	235.	118.0	2307.3	*	1	1440	177	80.	13.5	2300.2	*	1	2300	277	0.	.0	2297.0
1	0625	78	234.	117.4	2307.2	*	1	1445	178	79.	13.0	2300.2	*	1	2305	278	0.	.0	2297.0
1	0630	79	234.	116.7	2307.2	*	1	1450	179	77.	12.4	2300.1	*	1	2310	279	0.	.0	2297.0
1	0635	80	233.	115.9	2307.2	*	1	1455	180	76.	11.9	2300.1	*	1	2315	280	0.	.0	2297.0
1	0640	81	232.	114.9	2307.1	*	1	1500	181	74.	11.4	2300.1	*	1	2320	281	0.	.0	2297.0
1	0645	82	231.	113.9	2307.0	*	1	1505	182	73.	10.9	2300.0	*	1	2325	282	0.	.0	2297.0
1	0650	83	230.	112.8	2307.0	*	1	1510	183	72.	10.4	2300.0	*	1	2330	283	0.	.0	2297.0
1	0655	84	229.	111.7	2306.9	*	1	1515	184	70.	9.9	2299.9	*	1	2335	284	0.	.0	2297.0
1	0700	85	228.	110.5	2306.8	*	1	1520	185	69.	9.4	2299.9	*	1	2340	285	0.	.0	2297.0
1	0705	86	227.	109.3	2306.7	*	1	1525	186	67.	9.0	2299.8	*	1	2345	286	0.	.0	2297.0
1	0710	87	225.	108.0	2306.6	*	1	1530	187	66.	8.5	2299.7	*	1	2350	287	0.	.0	2297.0
1	0715	88	224.	106.7	2306.6	*	1	1535	188	65.	8.0	2299.7	*	1	2355	288	0.	.0	2297.0
1	0720	89	223.	105.4	2306.5	*	1	1540	189	63.	7.6	2299.6	*	2	0000	289	0.	.0	2297.0
1	0725	90	221.	104.1	2306.4	*	1	1545	190	62.	7.2	2299.6	*	2	0005	290	0.	.0	2297.0
1	0730	91	220.	102.8	2306.3	*	1	1550	191	61.	6.7	2299.5	*	2	0010	291	0.	.0	2297.0
1	0735	92	218.	101.4	2306.2	*	1	1555	192	60.	6.3	2299.5	*	2	0015	292	0.	.0	2297.0
1	0740	93	217.	100.1	2306.1	*	1	1600	193	58.	5.9	2299.4	*	2	0020	293	0.	.0	2297.0
1	0745	94	215.	98.7	2306.0	*	1	1605	194	57.	5.5	2299.4	*	2	0025	294	0.	.0	2297.0
1	0750	95	214.	97.3	2305.9	*	1	1610	195	56.	5.1	2299.3	*	2	0030	295	0.	.0	2297.0
1	0755	96	213.	96.0	2305.8	*	1	1615	196	55.	4.8	2299.3	*	2	0035	296	0.	.0	2297.0
1	0800	97	211.	94.6	2305.8	*	1	1620	197	54.	4.4	2299.2	*	2	0040	297	0.	.0	2297.0
1	0805	98	210.	93.2	2305.7	*	1	1625	198	53.	4.0	2299.2	*	2	0045	298	0.	.0	2297.0
1	0810	99	208.	91.8	2305.6	*	1	1630	199	52.	3.7	2299.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	207.	90.4	2305.5	*	1	1635	200	51.	3.3	2299.1	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 235.	6.17		209.	89.	85.	85.
		(INCHES)	1.608	2.730	2.730	2.730
		(AC-FT)	103.	176.	176.	176.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
118.	6.17		93.	31.	30.	30.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2307.32	6.17		2305.66	2300.56	2300.43	2300.43

CUMULATIVE AREA = 1.21 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .95

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	200.	83.6	2305.0	1		1640	201	41.	1.7	2298.7
1		0005	2	0.	.0	2297.0	1		0825	102	198.	82.3	2304.9	1		1645	202	38.	1.4	2298.6
1		0010	3	0.	.0	2297.0	1		0830	103	196.	80.9	2304.9	1		1650	203	35.	1.2	2298.5
1		0015	4	0.	.0	2297.0	1		0835	104	195.	79.6	2304.8	1		1655	204	33.	1.0	2298.4
1		0020	5	0.	.0	2297.0	1		0840	105	193.	78.3	2304.7	1		1700	205	30.	.7	2298.3
1		0025	6	1.	.0	2297.0	1		0845	106	191.	77.0	2304.6	1		1705	206	28.	.5	2298.2
1		0030	7	2.	.0	2297.1	1		0850	107	190.	75.7	2304.5	1		1710	207	26.	.4	2298.1
1		0035	8	4.	.0	2297.2	1		0855	108	188.	74.4	2304.4	1		1715	208	25.	.2	2298.0
1		0040	9	5.	.0	2297.2	1		0900	109	187.	73.1	2304.3	1		1720	209	11.	.1	2297.5
1		0045	10	6.	.0	2297.2	1		0905	110	185.	71.9	2304.3	1		1725	210	2.	.0	2297.1
1		0050	11	5.	.0	2297.2	1		0910	111	183.	70.6	2304.2	1		1730	211	0.	.0	2297.0
1		0055	12	4.	.0	2297.2	1		0915	112	182.	69.4	2304.1	1		1735	212	0.	.0	2297.0
1		0100	13	4.	.0	2297.1	1		0920	113	180.	68.1	2304.0	1		1740	213	0.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	179.	66.9	2303.9	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	177.	65.7	2303.9	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	1		0935	116	176.	64.5	2303.8	1		1755	216	0.	.0	2297.0

1	0120	17	4.	.0	2297.2	*	1	0940	117	174.	63.3	2303.7	*	1	1800	217	0.	.0	2297.0
1	0125	18	5.	.0	2297.2	*	1	0945	118	173.	62.1	2303.6	*	1	1805	218	0.	.0	2297.0
1	0130	19	7.	.0	2297.3	*	1	0950	119	171.	60.9	2303.5	*	1	1810	219	0.	.0	2297.0
1	0135	20	10.	.1	2297.4	*	1	0955	120	170.	59.7	2303.5	*	1	1815	220	0.	.0	2297.0
1	0140	21	14.	.1	2297.6	*	1	1000	121	168.	58.5	2303.4	*	1	1820	221	0.	.0	2297.0
1	0145	22	19.	.1	2297.8	*	1	1005	122	167.	57.4	2303.3	*	1	1825	222	0.	.0	2297.0
1	0150	23	22.	.1	2297.9	*	1	1010	123	165.	56.2	2303.2	*	1	1830	223	0.	.0	2297.0
1	0155	24	24.	.1	2298.0	*	1	1015	124	164.	55.1	2303.2	*	1	1835	224	0.	.0	2297.0
1	0200	25	24.	.1	2298.0	*	1	1020	125	163.	54.0	2303.1	*	1	1840	225	0.	.0	2297.0
1	0205	26	24.	.1	2298.0	*	1	1025	126	161.	52.9	2303.0	*	1	1845	226	0.	.0	2297.0
1	0210	27	23.	.1	2298.0	*	1	1030	127	160.	51.8	2302.9	*	1	1850	227	0.	.0	2297.0
1	0215	28	23.	.1	2297.9	*	1	1035	128	158.	50.7	2302.9	*	1	1855	228	0.	.0	2297.0
1	0220	29	24.	.1	2298.0	*	1	1040	129	156.	49.6	2302.8	*	1	1900	229	0.	.0	2297.0
1	0225	30	25.	.2	2298.0	*	1	1045	130	154.	48.5	2302.7	*	1	1905	230	0.	.0	2297.0
1	0230	31	26.	.3	2298.1	*	1	1050	131	153.	47.5	2302.6	*	1	1910	231	0.	.0	2297.0
1	0235	32	27.	.4	2298.1	*	1	1055	132	151.	46.4	2302.6	*	1	1915	232	0.	.0	2297.0
1	0240	33	29.	.6	2298.2	*	1	1100	133	149.	45.4	2302.5	*	1	1920	233	0.	.0	2297.0
1	0245	34	30.	.7	2298.3	*	1	1105	134	148.	44.4	2302.4	*	1	1925	234	0.	.0	2297.0
1	0250	35	32.	.9	2298.3	*	1	1110	135	146.	43.4	2302.4	*	1	1930	235	0.	.0	2297.0
1	0255	36	34.	1.1	2298.4	*	1	1115	136	145.	42.4	2302.3	*	1	1935	236	0.	.0	2297.0
1	0300	37	36.	1.3	2298.5	*	1	1120	137	143.	41.4	2302.2	*	1	1940	237	0.	.0	2297.0
1	0305	38	38.	1.5	2298.6	*	1	1125	138	141.	40.4	2302.2	*	1	1945	238	0.	.0	2297.0
1	0310	39	41.	1.8	2298.7	*	1	1130	139	140.	39.4	2302.1	*	1	1950	239	0.	.0	2297.0
1	0315	40	46.	2.2	2298.9	*	1	1135	140	138.	38.5	2302.0	*	1	1955	240	0.	.0	2297.0
1	0320	41	49.	2.9	2299.1	*	1	1140	141	137.	37.5	2302.0	*	1	2000	241	0.	.0	2297.0
1	0325	42	53.	4.2	2299.2	*	1	1145	142	135.	36.6	2301.9	*	1	2005	242	0.	.0	2297.0
1	0330	43	60.	6.4	2299.5	*	1	1150	143	133.	35.7	2301.8	*	1	2010	243	0.	.0	2297.0
1	0335	44	69.	9.5	2299.9	*	1	1155	144	131.	34.7	2301.8	*	1	2015	244	0.	.0	2297.0
1	0340	45	80.	13.4	2300.2	*	1	1200	145	129.	33.8	2301.7	*	1	2020	245	0.	.0	2297.0
1	0345	46	93.	17.8	2300.5	*	1	1205	146	128.	33.0	2301.6	*	1	2025	246	0.	.0	2297.0
1	0350	47	106.	22.6	2300.9	*	1	1210	147	126.	32.1	2301.6	*	1	2030	247	0.	.0	2297.0
1	0355	48	117.	27.7	2301.3	*	1	1215	148	124.	31.2	2301.5	*	1	2035	248	0.	.0	2297.0
1	0400	49	129.	33.5	2301.7	*	1	1220	149	123.	30.4	2301.4	*	1	2040	249	0.	.0	2297.0
1	0405	50	140.	39.7	2302.1	*	1	1225	150	121.	29.5	2301.4	*	1	2045	250	0.	.0	2297.0
1	0410	51	150.	45.8	2302.5	*	1	1230	151	119.	28.7	2301.3	*	1	2050	251	0.	.0	2297.0
1	0415	52	159.	51.6	2302.9	*	1	1235	152	118.	27.9	2301.3	*	1	2055	252	0.	.0	2297.0
1	0420	53	167.	57.1	2303.3	*	1	1240	153	116.	27.1	2301.2	*	1	2100	253	0.	.0	2297.0
1	0425	54	173.	62.2	2303.6	*	1	1245	154	115.	26.3	2301.2	*	1	2105	254	0.	.0	2297.0
1	0430	55	179.	66.9	2303.9	*	1	1250	155	113.	25.5	2301.1	*	1	2110	255	0.	.0	2297.0
1	0435	56	184.	71.2	2304.2	*	1	1255	156	111.	24.7	2301.1	*	1	2115	256	0.	.0	2297.0
1	0440	57	189.	75.4	2304.5	*	1	1300	157	110.	24.0	2301.0	*	1	2120	257	0.	.0	2297.0
1	0445	58	194.	79.3	2304.7	*	1	1305	158	108.	23.2	2300.9	*	1	2125	258	0.	.0	2297.0
1	0450	59	199.	83.0	2305.0	*	1	1310	159	106.	22.5	2300.9	*	1	2130	259	0.	.0	2297.0
1	0455	60	203.	86.7	2305.2	*	1	1315	160	104.	21.8	2300.8	*	1	2135	260	0.	.0	2297.0
1	0500	61	207.	90.2	2305.5	*	1	1320	161	102.	21.1	2300.8	*	1	2140	261	0.	.0	2297.0
1	0505	62	210.	93.5	2305.7	*	1	1325	162	100.	20.4	2300.7	*	1	2145	262	0.	.0	2297.0
1	0510	63	213.	96.6	2305.9	*	1	1330	163	98.	19.7	2300.7	*	1	2150	263	0.	.0	2297.0
1	0515	64	216.	99.5	2306.1	*	1	1335	164	96.	19.0	2300.6	*	1	2155	264	0.	.0	2297.0
1	0520	65	219.	102.1	2306.2	*	1	1340	165	94.	18.4	2300.6	*	1	2200	265	0.	.0	2297.0
1	0525	66	221.	104.3	2306.4	*	1	1345	166	92.	17.7	2300.5	*	1	2205	266	0.	.0	2297.0
1	0530	67	223.	106.3	2306.5	*	1	1350	167	91.	17.1	2300.5	*	1	2210	267	0.	.0	2297.0
1	0535	68	225.	108.0	2306.6	*	1	1355	168	89.	16.5	2300.4	*	1	2215	268	0.	.0	2297.0
1	0540	69	227.	109.3	2306.7	*	1	1400	169	87.	15.9	2300.4	*	1	2220	269	0.	.0	2297.0
1	0545	70	228.	110.4	2306.8	*	1	1405	170	85.	15.3	2300.4	*	1	2225	270	0.	.0	2297.0
1	0550	71	229.	111.2	2306.9	*	1	1410	171	84.	14.7	2300.3	*	1	2230	271	0.	.0	2297.0
1	0555	72	229.	111.8	2306.9	*	1	1415	172	82.	14.1	2300.3	*	1	2235	272	0.	.0	2297.0
1	0600	73	230.	112.2	2306.9	*	1	1420	173	81.	13.6	2300.2	*	1	2240	273	0.	.0	2297.0
1	0605	74	230.	112.3	2306.9	*	1	1425	174	79.	13.0	2300.2	*	1	2245	274	0.	.0	2297.0
1	0610	75	230.	112.3	2306.9	*	1	1430	175	77.	12.5	2300.1	*	1	2250	275	0.	.0	2297.0
1	0615	76	230.	112.1	2306.9	*	1	1435	176	76.	12.0	2300.1	*	1	2255	276	0.	.0	2297.0
1	0620	77	229.	111.7	2306.9	*	1	1440	177	75.	11.4	2300.1	*	1	2300	277	0.	.0	2297.0
1	0625	78	229.	111.2	2306.9	*	1	1445	178	73.	10.9	2300.0	*	1	2305	278	0.	.0	2297.0
1	0630	79	228.	110.5	2306.8	*	1	1450	179	72.	10.4	2300.0	*	1	2310	279	0.	.0	2297.0
1	0635	80	227.	109.7	2306.7	*	1	1455	180	70.	9.9	2299.9	*	1	2315	280	0.	.0	2297.0
1	0640	81	226.	108.7	2306.7	*	1	1500	181	69.	9.5	2299.9	*	1	2320	281	0.	.0	2297.0
1	0645	82	225.	107.7	2306.6	*	1	1505	182	67.	9.0	2299.8	*	1	2325	282	0.	.0	2297.0
1	0650	83	224.	106.7	2306.6	*	1	1510	183	66.	8.5	2299.8	*	1	2330	283	0.	.0	2297.0
1	0655	84	223.	105.6	2306.5	*	1	1515	184	65.	8.1	2299.7	*	1	2335	284	0.	.0	2297.0
1	0700	85	221.	104.4	2306.4	*	1	1520	185	63.	7.6	2299.6	*	1	2340	285	0.	.0	2297.0
1	0705	86	220.	103.2	2306.3	*	1	1525	186	62.	7.2	2299.6	*	1	2345	286	0.	.0	2297.0
1	0710	87	219.	102.0	2306.2	*	1	1530	187	61.	6.8	2299.5	*	1	2350	287	0.	.0	2297.0
1	0715	88	218.	100.8	2306.2	*	1	1535	188	60.	6.4	2299.5	*	1	2355	288	0.	.0	2297.0
1	0720	89	216.	99.5	2306.1	*	1	1540	189	58.	6.0	2299.4	*	2	0000	289	0.	.0	2297.0
1	0725	90	215.	98.2	2306.0	*	1	1545	190	57.	5.6	2299.4	*	2	0005	290	0.	.0	2297.0
1	0730	91	214.	96.9	2305.9	*	1	1550	191	56.	5.2	2299.3	*	2	0010	291	0.	.0	2297.0
1	0735	92	212.	95.6	2305.8	*	1	1555	192	55.	4.8	2299.3	*	2	0015	292	0.	.0	2297.0
1	0740	93	211.	94.3	2305.7	*	1	1600	193	54.	4.4	2299.2	*	2	0020	293	0.	.0	2297.0
1	0745	94	209.	93.0	2305.7	*	1	1605	194	53.	4.0	2299.2	*	2	0025	294	0.	.0	2297.0
1	0750	95	208.	91.6	2305.6	*	1	1610	195	52.	3.7	2299.2	*	2	0030	295	0.	.0	2297.0
1	0755	96	207.	90.3	2305.5	*	1	1615	196	51.	3.3	2299.1	*	2	0035	296	0.	.0	2297.0
1	0800	97	205.	89.0	2305.4	*	1	1620	197	50.	3.0	2299.1	*	2	0040	297	0.	.0	2297.0
1	0805	98	204.	87.6	2305.3	*	1	1625	198	49.	2.6	2299.0	*	2	0045	298	0.	.0	2297.0
1	0810	99	202.	86.3	2305.2	*	1	1630	199	47.	2.3	2299.0	*	2	0050	299	0.	.0	2297.0
1	0815	100	201.	84.9	2305.1	*	1	1635	200	44.	2.0	2298.8	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 230.	6.08		203.	85.	81.	81.
		(INCHES)	1.563	2.607	2.607	2.607
		(AC-FT)	101.	168.	168.	168.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
112.	6.08		88.	29.	28.	28.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2306.93	6.08		2305.31	2300.37	2300.25	2300.25

CUMULATIVE AREA = 1.21 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .93

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	193.	78.6	2304.7	1		1640	201	31.	.8	2298.3
1		0005	2	0.	.0	2297.0	1		0825	102	192.	77.3	2304.6	1		1645	202	29.	.6	2298.2
1		0010	3	0.	.0	2297.0	1		0830	103	190.	76.0	2304.5	1		1650	203	27.	.4	2298.1
1		0015	4	0.	.0	2297.0	1		0835	104	189.	74.8	2304.5	1		1655	204	25.	.2	2298.0
1		0020	5	0.	.0	2297.0	1		0840	105	187.	73.5	2304.4	1		1700	205	17.	.1	2297.7
1		0025	6	1.	.0	2297.0	1		0845	106	185.	72.2	2304.3	1		1705	206	3.	.0	2297.1
1		0030	7	2.	.0	2297.1	1		0850	107	184.	71.0	2304.2	1		1710	207	1.	.0	2297.0
1		0035	8	4.	.0	2297.1	1		0855	108	182.	69.7	2304.1	1		1715	208	0.	.0	2297.0
1		0040	9	5.	.0	2297.2	1		0900	109	181.	68.5	2304.0	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	1		0905	110	179.	67.3	2304.0	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	1		0910	111	178.	66.0	2303.9	1		1730	211	0.	.0	2297.0
1		0055	12	4.	.0	2297.1	1		0915	112	176.	64.8	2303.8	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	1		0920	113	175.	63.6	2303.7	1		1740	213	0.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	173.	62.4	2303.6	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	172.	61.2	2303.6	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	1		0935	116	170.	60.1	2303.5	1		1755	216	0.	.0	2297.0
1		0120	17	4.	.0	2297.2	1		0940	117	169.	58.9	2303.4	1		1800	217	0.	.0	2297.0
1		0125	18	5.	.0	2297.2	1		0945	118	167.	57.7	2303.3	1		1805	218	0.	.0	2297.0
1		0130	19	6.	.0	2297.3	1		0950	119	166.	56.6	2303.3	1		1810	219	0.	.0	2297.0
1		0135	20	9.	.0	2297.4	1		0955	120	164.	55.5	2303.2	1		1815	220	0.	.0	2297.0
1		0140	21	13.	.1	2297.5	1		1000	121	163.	54.3	2303.1	1		1820	221	0.	.0	2297.0
1		0145	22	17.	.1	2297.7	1		1005	122	162.	53.2	2303.0	1		1825	222	0.	.0	2297.0
1		0150	23	20.	.1	2297.8	1		1010	123	160.	52.1	2303.0	1		1830	223	0.	.0	2297.0
1		0155	24	22.	.1	2297.9	1		1015	124	158.	51.0	2302.9	1		1835	224	0.	.0	2297.0
1		0200	25	23.	.1	2297.9	1		1020	125	157.	49.9	2302.8	1		1840	225	0.	.0	2297.0
1		0205	26	22.	.1	2297.9	1		1025	126	155.	48.9	2302.7	1		1845	226	0.	.0	2297.0
1		0210	27	20.	.1	2297.9	1		1030	127	153.	47.8	2302.7	1		1850	227	0.	.0	2297.0
1		0215	28	21.	.1	2297.9	1		1035	128	152.	46.8	2302.6	1		1855	228	0.	.0	2297.0
1		0220	29	24.	.1	2298.0	1		1040	129	150.	45.7	2302.5	1		1900	229	0.	.0	2297.0
1		0225	30	24.	.2	2298.0	1		1045	130	148.	44.7	2302.4	1		1905	230	0.	.0	2297.0
1		0230	31	25.	.3	2298.1	1		1050	131	147.	43.7	2302.4	1		1910	231	0.	.0	2297.0
1		0235	32	26.	.4	2298.1	1		1055	132	145.	42.7	2302.3	1		1915	232	0.	.0	2297.0
1		0240	33	28.	.5	2298.2	1		1100	133	144.	41.7	2302.2	1		1920	233	0.	.0	2297.0
1		0245	34	29.	.6	2298.2	1		1105	134	142.	40.7	2302.2	1		1925	234	0.	.0	2297.0
1		0250	35	31.	.8	2298.3	1		1110	135	140.	39.7	2302.1	1		1930	235	0.	.0	2297.0
1		0255	36	33.	.9	2298.4	1		1115	136	139.	38.8	2302.0	1		1935	236	0.	.0	2297.0
1		0300	37	34.	1.1	2298.4	1		1120	137	137.	37.8	2302.0	1		1940	237	0.	.0	2297.0
1		0305	38	36.	1.3	2298.5	1		1125	138	135.	36.9	2301.9	1		1945	238	0.	.0	2297.0
1		0310	39	39.	1.5	2298.6	1		1130	139	134.	35.9	2301.8	1		1950	239	0.	.0	2297.0
1		0315	40	43.	1.9	2298.8	1		1135	140	132.	35.0	2301.8	1		1955	240	0.	.0	2297.0
1		0320	41	49.	2.6	2299.0	1		1140	141	130.	34.1	2301.7	1		2000	241	0.	.0	2297.0
1		0325	42	52.	3.8	2299.2	1		1145	142	128.	33.2	2301.7	1		2005	242	0.	.0	2297.0
1		0330	43	58.	5.8	2299.4	1		1150	143	126.	32.4	2301.6	1		2010	243	0.	.0	2297.0
1		0335	44	67.	8.8	2299.8	1		1155	144	125.	31.5	2301.5	1		2015	244	0.	.0	2297.0
1		0340	45	78.	12.5	2300.1	1		1200	145	123.	30.6	2301.5	1		2020	245	0.	.0	2297.0
1		0345	46	90.	16.8	2300.5	1		1205	146	121.	29.8	2301.4	1		2025	246	0.	.0	2297.0
1		0350	47	102.	21.3	2300.8	1		1210	147	120.	29.0	2301.3	1		2030	247	0.	.0	2297.0
1		0355	48	114.	26.1	2301.2	1		1215	148	118.	28.2	2301.3	1		2035	248	0.	.0	2297.0
1		0400	49	125.	31.6	2301.5	1		1220	149	117.	27.3	2301.2	1		2040	249	0.	.0	2297.0
1		0405	50	137.	37.5	2301.9	1		1225	150	115.	26.5	2301.2	1		2045	250	0.	.0	2297.0
1		0410	51	146.	43.3	2302.4	1		1230	151	113.	25.8	2301.1	1		2050	251	0.	.0	2297.0
1		0415	52	155.	48.9	2302.7	1		1235	152	112.	25.0	2301.1	1		2055	252	0.	.0	2297.0
1		0420	53	163.	54.2	2303.1	1		1240	153	110.	24.2	2301.0	1		2100	253	0.	.0	2297.0
1		0425	54	169.	59.1	2303.4	1		1245	154	108.	23.5	2301.0	1		2105	254	0.	.0	2297.0
1		0430	55	175.	63.6	2303.7	1		1250	155	106.	22.7	2300.9	1		2110	255	0.	.0	2297.0
1		0435	56	180.	67.8	2304.0	1		1255	156	104.	22.0	2300.9	1		2115	256	0.	.0	2297.0
1		0440	57	185.	71.8	2304.3	1		1300	157	102.	21.3	2300.8	1		2120	257	0.	.0	2297.0
1		0445	58	189.	75.4	2304.5	1		1305	158	100.	20.6	2300.7	1		2125	258	0.	.0	2297.0
1		0450	59	194.	79.0	2304.7	1		1310	159	98.	19.9	2300.7	1		2130	259	0.	.0	2297.0
1		0455	60	198.	82.5	2305.0	1		1315	160	97.	19.2	2300.6	1		2135	260	0.	.0	2297.0
1		0500	61	202.	85.9	2305.2	1		1320	161	95.	18.6	2300.6	1		2140	261	0.	.0	2297.0
1		0505	62	205.	89.0	2305.4	1		1325	162	93.	17.9	2300.5	1		2145	262	0.	.0	2297.0
1		0510	63	208.	92.0	2305.6	1		1330	163	91.	17.3	2300.5	1		2150	263	0.	.0	2297.0
1		0515	64	211.	94.7	2305.8	1		1335	164	89.	16.7	2300.5	1		2155	264	0.	.0	2297.0
1		0520	65	214.	97.2	2305.9	1		1340	165	88.	16.1	2300.4	1		2200	265	0.	.0	2297.0
1		0525	66	216.	99.3	2306.1	1		1345	166	86.	15.5	2300.4	1		2205	266	0.	.0	2297.0
1		0530	67	218.	101.1	2306.2	1		1350	167	84.	14.9	2300.3	1		2210	267	0.	.0	2297.0
1		0535	68	220.	102.7	2306.3	1		1355	168	83.	14.3	2300.3	1		2215	268	0.	.0	2297.0
1		0540	69	221.	103.9	2306.4	1		1400	169	81.	13.7	2300.2	1		2220	269	0.	.0	2297.0
1		0545	70	222.	104.9	2306.4	1		1405	170	79.	13.2	2300.2	1		2225	270	0.	.0	2297.0
1		0550	71	223.	105.7	2306.5	1		1410	171	78.	12.6	2300.2	1		2230	271	0.	.0	2297.0
1		0555	72	223.	106.2	2306.5	1		1415	172	76.	12.1	2300.1	1		2235	272	0.	.0	2297.0
1		0600	73	224.	106.6	2306.5	1		1420	173	75.	11.6	2300.1	1		2240	273	0.	.0	2297.0
1		0605	74	224.	106.7	2306.6	1		1425	174	74.	11.1	2300.0	1		2245	274	0.	.0	2297.0
1		0610	75	224.	106.7	2306.6	1		1430	175	72.	10.6	2300.0	1		2250	275	0.	.0	2297.0
1		0615	76	224.	106.5	2306.5	1		1435	176	71.	10.1	2299.9	1		2255	276	0.	.0	2297.0
1		0620	77	223.	106.1	2306.5	1		1440	177	69.	9.6	2299.9	1		2300	277	0.	.0	2297.0
1		0625	78	223.	105.5	2306.5	1		1445	178	68.	9.1	2299.8	1		2305	278	0.	.0	2297.0
1		0630	79	222.	104.8	2306.4	1		1450	179	66.	8.7	2299.8	1		2310	279	0.	.0	2297.0
1		0635	80	221.	104.0	2306.4	1		1455	180	65.	8.2	2299.7	1		2315	280	0.	.0	2297.0
1		0640	81	220.	103.1	2306.3	1		1500	181	64.	7.8	2299.7	1		2320	281	0.	.0	2297.0
1		0645	82	219.	102.1	2306.3	1		1505	182	63.	7.3	2299.6	1		2325	282	0.	.0	2297.0
1		0650	83	218.	101.1	2306.2	1		1510	183	61.	6.9	2299.6	1		2330	283	0.	.0	2297.0
1		0655	84	217.	100.0	2306.1	1		1515	184	60.	6.5	2299.5	1		2335	284	0.	.0	2297.0
1		0700	85	216.	98.9	2306.0	1		1520	185	59.	6.1	2299.5	1		2340	285	0.	.0	2297.0
1		0705	86	214.	97.7	2306.0	1		1525	186	58.	5.7	2299.4	1		2345	286	0.	.0	2297.0
1		0710	87	213.	96.5	2305.9	1		1530	187	56.	5.3	2299.4	1		2350	287	0.	.0	2297.0
1		0715	88	212.	95.3	2305.8	1		1535	188	55.	4.9	2299.3	1		2355	288	0.	.0	2297.0
1		0720	89	211.	94.1	2305.7	1		1540	189	54.	4.5	2299.3	2		0000	289	0.	.0	2297.0
1		0725	90	209.	92.8	2305.6	1		1545	190	53.	4.2	2299.2	2		0005	290	0.	.0	2297.0
1		0730	91	208.	91.6	2305.6	1		1550	191	52.	3.8	2299.2	2		0010	291	0.	.0	2297.0
1		0735	92	207.	90.3	2305.5	1		1555	192	51.	3.4	2299.1	2		0015	292	0.	.0	2297.0
1		0740	93	205.	89.0	2305.4	1		1600	193	50.	3.1	2299.1	2		0020	293	0.	.0	2297.0
1		0745	94	204.	87.7	2305.3	1		1605	194	49.	2.8	2299.0	2		0025	294	0.	.0	2297.0
1		0750	95	203.	86.4	2305.2	1		1610	195	48.	2.4	2299.0	2		0030	295	0.	.0	2297.0

1	0755	96	201.	85.1	2305.1	*	1	1615	196	45.	2.1	2298.9	*	2	0035	296	0.	.0	2297.0
1	0800	97	200.	83.8	2305.0	*	1	1620	197	42.	1.8	2298.7	*	2	0040	297	0.	.0	2297.0
1	0805	98	198.	82.5	2305.0	*	1	1625	198	39.	1.5	2298.6	*	2	0045	298	0.	.0	2297.0
1	0810	99	197.	81.2	2304.9	*	1	1630	199	36.	1.3	2298.5	*	2	0050	299	0.	.0	2297.0
1	0815	100	195.	79.9	2304.8	*	1	1635	200	33.	1.0	2298.4	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 224.	6.08	197.	81.	78.	78.
		(INCHES) 1.520	2.494	2.494	2.494
		(AC-FT) 98.	160.	160.	160.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
107.	6.08	83.	27.	26.	26.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2306.56	6.08	2304.99	2300.21	2300.09	2300.09

CUMULATIVE AREA = 1.21 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .92

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	*	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	*	1		0820	101	191.	76.6	2304.6	*	1		1640	201	28.	.5	2298.2
1		0005	2	0.	.0	2297.0	*	1		0825	102	189.	75.3	2304.5	*	1		1645	202	26.	.3	2298.1
1		0010	3	0.	.0	2297.0	*	1		0830	103	188.	74.1	2304.4	*	1		1650	203	24.	.1	2298.0
1		0015	4	0.	.0	2297.0	*	1		0835	104	186.	72.8	2304.3	*	1		1655	204	7.	.0	2297.3
1		0020	5	0.	.0	2297.0	*	1		0840	105	185.	71.6	2304.2	*	1		1700	205	2.	.0	2297.1
1		0025	6	1.	.0	2297.0	*	1		0845	106	183.	70.3	2304.2	*	1		1705	206	0.	.0	2297.0
1		0030	7	2.	.0	2297.1	*	1		0850	107	181.	69.1	2304.1	*	1		1710	207	0.	.0	2297.0
1		0035	8	3.	.0	2297.1	*	1		0855	108	180.	67.8	2304.0	*	1		1715	208	0.	.0	2297.0
1		0040	9	5.	.0	2297.2	*	1		0900	109	178.	66.6	2303.9	*	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	*	1		0905	110	177.	65.4	2303.8	*	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	*	1		0910	111	175.	64.2	2303.8	*	1		1730	211	0.	.0	2297.0
1		0055	12	3.	.0	2297.1	*	1		0915	112	174.	63.0	2303.7	*	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	*	1		0920	113	172.	61.8	2303.6	*	1		1740	213	0.	.0	2297.0
1		0105	14	2.	.0	2297.1	*	1		0925	114	171.	60.6	2303.5	*	1		1745	214	0.	.0	2297.0
1		0110	15	2.	.0	2297.1	*	1		0930	115	169.	59.5	2303.4	*	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	*	1		0935	116	168.	58.3	2303.4	*	1		1755	216	0.	.0	2297.0
1		0120	17	3.	.0	2297.1	*	1		0940	117	167.	57.2	2303.3	*	1		1800	217	0.	.0	2297.0
1		0125	18	4.	.0	2297.2	*	1		0945	118	165.	56.0	2303.2	*	1		1805	218	0.	.0	2297.0
1		0130	19	6.	.0	2297.3	*	1		0950	119	164.	54.9	2303.1	*	1		1810	219	0.	.0	2297.0
1		0135	20	9.	.0	2297.4	*	1		0955	120	162.	53.8	2303.1	*	1		1815	220	0.	.0	2297.0
1		0140	21	13.	.1	2297.5	*	1		1000	121	161.	52.7	2303.0	*	1		1820	221	0.	.0	2297.0
1		0145	22	16.	.1	2297.7	*	1		1005	122	159.	51.6	2302.9	*	1		1825	222	0.	.0	2297.0
1		0150	23	19.	.1	2297.8	*	1		1010	123	157.	50.5	2302.8	*	1		1830	223	0.	.0	2297.0
1		0155	24	21.	.1	2297.9	*	1		1015	124	156.	49.4	2302.8	*	1		1835	224	0.	.0	2297.0
1		0200	25	22.	.1	2297.9	*	1		1020	125	154.	48.3	2302.7	*	1		1840	225	0.	.0	2297.0
1		0205	26	21.	.1	2297.9	*	1		1025	126	152.	47.3	2302.6	*	1		1845	226	0.	.0	2297.0
1		0210	27	20.	.1	2297.8	*	1		1030	127	151.	46.2	2302.6	*	1		1850	227	0.	.0	2297.0
1		0215	28	20.	.1	2297.8	*	1		1035	128	149.	45.2	2302.5	*	1		1855	228	0.	.0	2297.0
1		0220	29	23.	.1	2298.0	*	1		1040	129	147.	44.2	2302.4	*	1		1900	229	0.	.0	2297.0
1		0225	30	24.	.2	2298.0	*	1		1045	130	146.	43.2	2302.3	*	1		1905	230	0.	.0	2297.0
1		0230	31	25.	.2	2298.0	*	1		1050	131	144.	42.2	2302.3	*	1		1910	231	0.	.0	2297.0
1		0235	32	26.	.3	2298.1	*	1		1055	132	143.	41.2	2302.2	*	1		1915	232	0.	.0	2297.0
1		0240	33	27.	.4	2298.1	*	1		1100	133	141.	40.2	2302.1	*	1		1920	233	0.	.0	2297.0
1		0245	34	29.	.6	2298.2	*	1		1105	134	140.	39.2	2302.1	*	1		1925	234	0.	.0	2297.0
1		0250	35	30.	.7	2298.3	*	1		1110	135	138.	38.3	2302.0	*	1		1930	235	0.	.0	2297.0
1		0255	36	32.	.9	2298.3	*	1		1115	136	136.	37.3	2301.9	*	1		1935	236	0.	.0	2297.0
1		0300	37	34.	1.0	2298.4	*	1		1120	137	134.	36.4	2301.9	*	1		1940	237	0.	.0	2297.0
1		0305	38	35.	1.2	2298.5	*	1		1125	138	133.	35.5	2301.8	*	1		1945	238	0.	.0	2297.0
1		0310	39	38.	1.5	2298.6	*	1		1130	139	131.	34.6	2301.7	*	1		1950	239	0.	.0	2297.0
1		0315	40	42.	1.8	2298.7	*	1		1135	140	129.	33.7	2301.7	*	1		1955	240	0.	.0	2297.0
1		0320	41	48.	2.5	2299.0	*	1		1140	141	127.	32.8	2301.6	*	1		2000	241	0.	.0	2297.0
1		0325	42	52.	3.7	2299.2	*	1		1145	142	126.	31.9	2301.6	*	1		2005	242	0.	.0	2297.0
1		0330	43	58.	5.6	2299.4	*	1		1150	143	124.	31.1	2301.5	*	1		2010	243	0.	.0	2297.0
1		0335	44	66.	8.5	2299.8	*	1		1155	144	122.	30.2	2301.4	*	1		2015	244	0.	.0	2297.0
1		0340	45	77.	12.2	2300.1	*	1		1200	145	121.	29.4	2301.4	*	1		2020	245	0.	.0	2297.0
1		0345	46	88.	16.3	2300.4	*	1		1205	146	119.	28.6	2301.3	*	1		2025	246	0.	.0	2297.0
1		0350	47	101.	20.7	2300.8	*	1		1210	147	117.	27.7	2301.3	*	1		2030	247	0.	.0	2297.0
1		0355	48	113.	25.5	2301.1	*	1		1215	148	116.	26.9	2301.2	*	1		2035	248	0.	.0	2297.0
1		0400	49	123.	30.8	2301.5	*	1		1220	149	114.	26.1	2301.2	*	1		2040	249	0.	.0	2297.0
1		0405	50	135.	36.6	2301.9	*	1		1225	150	113.	25.4	2301.1	*	1		2045	250	0.	.0	2297.0
1		0410	51	145.	42.4	2302.3	*	1		1230	151	111.	24.6	2301.0	*	1		2050	251	0.	.0	2297.0
1		0415	52	153.	47.9	2302.7	*	1		1235	152	109.	23.8	2301.0	*	1		2055	252	0.	.0	2297.0
1		0420	53	161.	53.0	2303.0	*	1		1240	153	107.	23.1	2300.9	*	1		2100	253	0.	.0	2297.0
1		0425	54	167.	57.8	2303.3	*	1		1245	154	105.	22.4	2300.9	*	1		2105	254	0.	.0	2297.0
1		0430	55	173.	62.3	2303.6	*	1		1250	155	103.	21.6	2300.8	*	1		2110	255	0.	.0	2297.0
1		0435	56	178.	66.4	2303.9	*	1		1255	156	101.	20.9	2300.8	*	1		2115	256	0.	.0	2297.0
1		0440	57	183.	70.3	2304.2	*	1		1300	157	99.	20.2	2300.7	*	1		2120	257	0.	.0	2297.0
1		0445	58	188.	73.9	2304.4	*	1		1305	158	97.	19.6	2300.7	*	1		2125	258	0.	.0	2297.0
1		0450	59	192.	77.4	2304.6	*	1		1310	159	96.	18.9	2300.6	*	1		2130	259	0.	.0	2297.0
1		0455	60	196.	80.8	2304.8	*	1		1315	160	94.	18.2	2300.6	*	1		2135	260	0.	.0	2297.0
1		0500	61	200.	84.1	2305.1	*	1		1320	161	92.	17.6	2300.5	*	1		2140	261	0.	.0	2297.0
1		0505	62	203.	87.2	2305.3	*	1		1325	162	90.	17.0	2300.5	*	1		2145	262	0.	.0	2297.0
1		0510	63	206.	90.1	2305.5	*	1		1330	163	88.	16.4	2300.4	*	1		2150	263	0.	.0	2297.0
1		0515	64	209.	92.8	2305.6	*	1		1335	164	87.	15.8	2300.4	*	1		2155	264	0.	.0	2297.0
1		0520	65	212.	95.2	2305.8	*	1		1340	165	85.	15.2	2300.3	*	1		2200	265	0.	.0	2297.0
1		0525	66	214.	97.3	2305.9	*	1		1345	166	83.	14.6	2300.3	*	1		2205	266	0.	.0	2297.0
1		0530	67	216.	99.0	2306.1	*	1		1350	167	82.	14.0	2300.3	*	1		2210	267	0.	.0	2297.0
1		0535	68	217.	100.5	2306.1	*	1		1355	168	80.	13.5	2300.2	*	1		2215	268	0.	.0	2297.0

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0540	69	219.	101.8	2306.2	1		1400	169	79.	12.9	2300.2	1		2220	269	0.	.0	2297.0
1		0545	70	220.	102.7	2306.3	1		1405	170	77.	12.4	2300.1	1		2225	270	0.	.0	2297.0
1		0550	71	220.	103.5	2306.3	1		1410	171	76.	11.8	2300.1	1		2230	271	0.	.0	2297.0
1		0555	72	221.	104.0	2306.4	1		1415	172	74.	11.3	2300.1	1		2235	272	0.	.0	2297.0
1		0600	73	221.	104.3	2306.4	1		1420	173	73.	10.8	2300.0	1		2240	273	0.	.0	2297.0
1		0605	74	222.	104.5	2306.4	1		1425	174	71.	10.3	2300.0	1		2245	274	0.	.0	2297.0
1		0610	75	221.	104.4	2306.4	1		1430	175	70.	9.8	2299.9	1		2250	275	0.	.0	2297.0
1		0615	76	221.	104.2	2306.4	1		1435	176	69.	9.4	2299.9	1		2255	276	0.	.0	2297.0
1		0620	77	221.	103.8	2306.4	1		1440	177	67.	8.9	2299.8	1		2300	277	0.	.0	2297.0
1		0625	78	220.	103.2	2306.3	1		1445	178	66.	8.4	2299.7	1		2305	278	0.	.0	2297.0
1		0630	79	219.	102.5	2306.3	1		1450	179	64.	8.0	2299.7	1		2310	279	0.	.0	2297.0
1		0635	80	219.	101.7	2306.2	1		1455	180	63.	7.6	2299.6	1		2315	280	0.	.0	2297.0
1		0640	81	218.	100.8	2306.2	1		1500	181	62.	7.1	2299.6	1		2320	281	0.	.0	2297.0
1		0645	82	217.	99.8	2306.1	1		1505	182	61.	6.7	2299.5	1		2325	282	0.	.0	2297.0
1		0650	83	216.	98.8	2306.0	1		1510	183	59.	6.3	2299.5	1		2330	283	0.	.0	2297.0
1		0655	84	214.	97.7	2306.0	1		1515	184	58.	5.9	2299.4	1		2335	284	0.	.0	2297.0
1		0700	85	213.	96.6	2305.9	1		1520	185	57.	5.5	2299.4	1		2340	285	0.	.0	2297.0
1		0705	86	212.	95.5	2305.8	1		1525	186	56.	5.1	2299.3	1		2345	286	0.	.0	2297.0
1		0710	87	211.	94.3	2305.7	1		1530	187	55.	4.7	2299.3	1		2350	287	0.	.0	2297.0
1		0715	88	210.	93.1	2305.7	1		1535	188	54.	4.3	2299.2	1		2355	288	0.	.0	2297.0
1		0720	89	208.	91.9	2305.6	1		1540	189	53.	4.0	2299.2	2		0000	289	0.	.0	2297.0
1		0725	90	207.	90.6	2305.5	1		1545	190	52.	3.6	2299.1	2		0005	290	0.	.0	2297.0
1		0730	91	206.	89.4	2305.4	1		1550	191	50.	3.3	2299.1	2		0010	291	0.	.0	2297.0
1		0735	92	204.	88.1	2305.3	1		1555	192	49.	2.9	2299.1	2		0015	292	0.	.0	2297.0
1		0740	93	203.	86.9	2305.3	1		1600	193	48.	2.6	2299.0	2		0020	293	0.	.0	2297.0
1		0745	94	202.	85.6	2305.2	1		1605	194	46.	2.3	2298.9	2		0025	294	0.	.0	2297.0
1		0750	95	200.	84.3	2305.1	1		1610	195	43.	2.0	2298.8	2		0030	295	0.	.0	2297.0
1		0755	96	199.	83.0	2305.0	1		1615	196	40.	1.7	2298.7	2		0035	296	0.	.0	2297.0
1		0800	97	197.	81.8	2304.9	1		1620	197	37.	1.4	2298.6	2		0040	297	0.	.0	2297.0
1		0805	98	196.	80.5	2304.8	1		1625	198	35.	1.2	2298.4	2		0045	298	0.	.0	2297.0
1		0810	99	194.	79.2	2304.7	1		1630	199	32.	.9	2298.3	2		0050	299	0.	.0	2297.0
1		0815	100	193.	77.9	2304.7	1		1635	200	30.	.7	2298.3	2		0055	300	0.	.0	2297.0

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
		(CFS)			
222.	6.08	195.	79.	76.	76.
		(INCHES) 1.503	2.448	2.448	2.448
		(AC-FT) 97.	157.	157.	157.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
104.	6.08	81.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
2306.41	6.08	2304.86	2300.14	2300.03	2300.03

CUMULATIVE AREA = 1.21 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .91

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	189.	75.2	2304.5	1		1640	201	26.	.3	2298.1
1		0005	2	0.	.0	2297.0	1		0825	102	188.	74.0	2304.4	1		1645	202	24.	.1	2298.0
1		0010	3	0.	.0	2297.0	1		0830	103	186.	72.7	2304.3	1		1650	203	6.	.0	2297.3
1		0015	4	0.	.0	2297.0	1		0835	104	184.	71.5	2304.2	1		1655	204	1.	.0	2297.1
1		0020	5	0.	.0	2297.0	1		0840	105	183.	70.2	2304.2	1		1700	205	0.	.0	2297.0
1		0025	6	1.	.0	2297.0	1		0845	106	181.	69.0	2304.1	1		1705	206	0.	.0	2297.0
1		0030	7	2.	.0	2297.1	1		0850	107	180.	67.8	2304.0	1		1710	207	0.	.0	2297.0
1		0035	8	3.	.0	2297.1	1		0855	108	178.	66.5	2303.9	1		1715	208	0.	.0	2297.0
1		0040	9	4.	.0	2297.2	1		0900	109	177.	65.3	2303.8	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	1		0905	110	175.	64.1	2303.8	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	1		0910	111	174.	62.9	2303.7	1		1730	211	0.	.0	2297.0
1		0055	12	3.	.0	2297.1	1		0915	112	172.	61.7	2303.6	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	1		0920	113	171.	60.6	2303.5	1		1740	213	0.	.0	2297.0
1		0105	14	2.	.0	2297.1	1		0925	114	169.	59.4	2303.4	1		1745	214	0.	.0	2297.0
1		0110	15	2.	.0	2297.1	1		0930	115	168.	58.2	2303.4	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	1		0935	116	167.	57.1	2303.3	1		1755	216	0.	.0	2297.0
1		0120	17	3.	.0	2297.1	1		0940	117	165.	56.0	2303.2	1		1800	217	0.	.0	2297.0
1		0125	18	4.	.0	2297.2	1		0945	118	164.	54.8	2303.1	1		1805	218	0.	.0	2297.0
1		0130	19	6.	.0	2297.2	1		0950	119	162.	53.7	2303.1	1		1810	219	0.	.0	2297.0
1		0135	20	9.	.0	2297.4	1		0955	120	161.	52.6	2303.0	1		1815	220	0.	.0	2297.0
1		0140	21	12.	.1	2297.5	1		1000	121	159.	51.5	2302.9	1		1820	221	0.	.0	2297.0
1		0145	22	16.	.1	2297.7	1		1005	122	157.	50.4	2302.8	1		1825	222	0.	.0	2297.0
1		0150	23	19.	.1	2297.8	1		1010	123	156.	49.3	2302.8	1		1830	223	0.	.0	2297.0
1		0155	24	21.	.1	2297.9	1		1015	124	154.	48.3	2302.7	1		1835	224	0.	.0	2297.0
1		0200	25	21.	.1	2297.9	1		1020	125	152.	47.2	2302.6	1		1840	225	0.	.0	2297.0
1		0205	26	20.	.1	2297.8	1		1025	126	151.	46.2	2302.6	1		1845	226	0.	.0	2297.0
1		0210	27	19.	.1	2297.8	1		1030	127	149.	45.1	2302.5	1		1850	227	0.	.0	2297.0
1		0215	28	19.	.1	2297.8	1		1035	128	147.	44.1	2302.4	1		1855	228	0.	.0	2297.0
1		0220	29	22.	.1	2297.9	1		1040	129	146.	43.1	2302.3	1		1900	229	0.	.0	2297.0
1		0225	30	24.	.2	2298.0	1		1045	130	144.	42.1	2302.3	1		1905	230	0.	.0	2297.0
1		0230	31	25.	.2	2298.0	1		1050	131	143.	41.1	2302.2	1		1910	231	0.	.0	2297.0
1		0235	32	26.	.3	2298.1	1		1055	132	141.	40.1	2302.1	1		1915	232	0.	.0	2297.0
1		0240	33	27.	.4	2298.1	1		1100	133	140.	39.2	2302.1	1		1920	233	0.	.0	2297.0
1		0245	34	28.	.5	2298.2	1		1105	134	138.	38.2	2302.0	1		1925	234	0.	.0	2297.0
1		0250	35	30.	.7	2298.2	1		1110	135	136.	37.3	2301.9	1		1930	235	0.	.0	2297.0
1		0255	36	31.	.8	2298.3	1		1115	136	134.	36.3	2301.9	1		1935	236	0.	.0	2297.0
1		0300	37	33.	1.0	2298.4	1		1120	137	133.	35.4	2301.8	1		1940	237	0.	.0	2297.0
1		0305	38	35.	1.2	2298.5	1		1125	138	131.	34.5	2301.7	1		1945	238	0.	.0	2297.0
1		0310	39	37.	1.4	2298.6	1		1130	139	129.	33.6	2301.7	1		1950	239	0.	.0	2297.0
1		0315	40	41.	1.8	2298.7	1		1135	140	127.	32.7	2301.6	1		1955	240	0.	.0	2297.0
1		0320	41	48.	2.4	2299.0	1		1140	141	126.	31.9	2301.6	1		2000	241	0.	.0	2297.0

1	0325	42	51.	3.6	2299.1	*	1	1145	142	124.	31.0	2301.5	*	1	2005	242	0.	.0	2297.0
1	0330	43	57.	5.5	2299.4	*	1	1150	143	122.	30.2	2301.4	*	1	2010	243	0.	.0	2297.0
1	0335	44	66.	8.4	2299.7	*	1	1155	144	121.	29.3	2301.4	*	1	2015	244	0.	.0	2297.0
1	0340	45	76.	12.0	2300.1	*	1	1200	145	119.	28.5	2301.3	*	1	2020	245	0.	.0	2297.0
1	0345	46	88.	16.1	2300.4	*	1	1205	146	117.	27.7	2301.3	*	1	2025	246	0.	.0	2297.0
1	0350	47	100.	20.4	2300.7	*	1	1210	147	116.	26.9	2301.2	*	1	2030	247	0.	.0	2297.0
1	0355	48	112.	25.1	2301.1	*	1	1215	148	114.	26.1	2301.1	*	1	2035	248	0.	.0	2297.0
1	0400	49	122.	30.3	2301.4	*	1	1220	149	113.	25.3	2301.1	*	1	2040	249	0.	.0	2297.0
1	0405	50	134.	36.0	2301.8	*	1	1225	150	111.	24.6	2301.0	*	1	2045	250	0.	.0	2297.0
1	0410	51	144.	41.8	2302.2	*	1	1230	151	109.	23.8	2301.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	152.	47.2	2302.6	*	1	1235	152	107.	23.0	2300.9	*	1	2055	252	0.	.0	2297.0
1	0420	53	160.	52.3	2303.0	*	1	1240	153	105.	22.3	2300.9	*	1	2100	253	0.	.0	2297.0
1	0425	54	166.	57.0	2303.3	*	1	1245	154	103.	21.6	2300.8	*	1	2105	254	0.	.0	2297.0
1	0430	55	172.	61.4	2303.6	*	1	1250	155	101.	20.9	2300.8	*	1	2110	255	0.	.0	2297.0
1	0435	56	177.	65.4	2303.8	*	1	1255	156	99.	20.2	2300.7	*	1	2115	256	0.	.0	2297.0
1	0440	57	182.	69.3	2304.1	*	1	1300	157	97.	19.5	2300.7	*	1	2120	257	0.	.0	2297.0
1	0445	58	186.	72.9	2304.3	*	1	1305	158	95.	18.9	2300.6	*	1	2125	258	0.	.0	2297.0
1	0450	59	190.	76.3	2304.6	*	1	1310	159	94.	18.2	2300.6	*	1	2130	259	0.	.0	2297.0
1	0455	60	195.	79.6	2304.8	*	1	1315	160	92.	17.6	2300.5	*	1	2135	260	0.	.0	2297.0
1	0500	61	199.	82.9	2305.0	*	1	1320	161	90.	16.9	2300.5	*	1	2140	261	0.	.0	2297.0
1	0505	62	202.	86.0	2305.2	*	1	1325	162	88.	16.3	2300.4	*	1	2145	262	0.	.0	2297.0
1	0510	63	205.	88.8	2305.4	*	1	1330	163	87.	15.7	2300.4	*	1	2150	263	0.	.0	2297.0
1	0515	64	208.	91.4	2305.6	*	1	1335	164	85.	15.1	2300.3	*	1	2155	264	0.	.0	2297.0
1	0520	65	210.	93.8	2305.7	*	1	1340	165	83.	14.6	2300.3	*	1	2200	265	0.	.0	2297.0
1	0525	66	212.	95.8	2305.8	*	1	1345	166	82.	14.0	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	214.	97.6	2306.0	*	1	1350	167	80.	13.4	2300.2	*	1	2210	267	0.	.0	2297.0
1	0535	68	216.	99.0	2306.1	*	1	1355	168	79.	12.9	2300.2	*	1	2215	268	0.	.0	2297.0
1	0540	69	217.	100.2	2306.1	*	1	1400	169	77.	12.3	2300.1	*	1	2220	269	0.	.0	2297.0
1	0545	70	218.	101.2	2306.2	*	1	1405	170	76.	11.8	2300.1	*	1	2225	270	0.	.0	2297.0
1	0550	71	219.	101.9	2306.2	*	1	1410	171	74.	11.3	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	219.	102.4	2306.3	*	1	1415	172	73.	10.8	2300.0	*	1	2235	272	0.	.0	2297.0
1	0600	73	220.	102.8	2306.3	*	1	1420	173	71.	10.3	2300.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	220.	102.9	2306.3	*	1	1425	174	70.	9.8	2299.9	*	1	2245	274	0.	.0	2297.0
1	0610	75	220.	102.8	2306.3	*	1	1430	175	68.	9.3	2299.9	*	1	2250	275	0.	.0	2297.0
1	0615	76	220.	102.6	2306.3	*	1	1435	176	67.	8.9	2299.8	*	1	2255	276	0.	.0	2297.0
1	0620	77	219.	102.2	2306.3	*	1	1440	177	66.	8.4	2299.7	*	1	2300	277	0.	.0	2297.0
1	0625	78	219.	101.6	2306.2	*	1	1445	178	64.	8.0	2299.7	*	1	2305	278	0.	.0	2297.0
1	0630	79	218.	100.9	2306.2	*	1	1450	179	63.	7.5	2299.6	*	1	2310	279	0.	.0	2297.0
1	0635	80	217.	100.1	2306.1	*	1	1455	180	62.	7.1	2299.6	*	1	2315	280	0.	.0	2297.0
1	0640	81	216.	99.2	2306.1	*	1	1500	181	61.	6.7	2299.5	*	1	2320	281	0.	.0	2297.0
1	0645	82	215.	98.3	2306.0	*	1	1505	182	59.	6.3	2299.5	*	1	2325	282	0.	.0	2297.0
1	0650	83	214.	97.2	2305.9	*	1	1510	183	58.	5.9	2299.4	*	1	2330	283	0.	.0	2297.0
1	0655	84	213.	96.2	2305.9	*	1	1515	184	57.	5.5	2299.4	*	1	2335	284	0.	.0	2297.0
1	0700	85	212.	95.1	2305.8	*	1	1520	185	56.	5.1	2299.3	*	1	2340	285	0.	.0	2297.0
1	0705	86	210.	93.9	2305.7	*	1	1525	186	55.	4.7	2299.3	*	1	2345	286	0.	.0	2297.0
1	0710	87	209.	92.8	2305.6	*	1	1530	187	54.	4.3	2299.2	*	1	2350	287	0.	.0	2297.0
1	0715	88	208.	91.6	2305.6	*	1	1535	188	53.	4.0	2299.2	*	1	2355	288	0.	.0	2297.0
1	0720	89	207.	90.4	2305.5	*	1	1540	189	51.	3.6	2299.1	*	2	0000	289	0.	.0	2297.0
1	0725	90	205.	89.2	2305.4	*	1	1545	190	50.	3.2	2299.1	*	2	0005	290	0.	.0	2297.0
1	0730	91	204.	87.9	2305.3	*	1	1550	191	49.	2.9	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	203.	86.7	2305.2	*	1	1555	192	48.	2.6	2299.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	201.	85.4	2305.2	*	1	1600	193	46.	2.2	2298.9	*	2	0020	293	0.	.0	2297.0
1	0745	94	200.	84.1	2305.1	*	1	1605	194	43.	1.9	2298.8	*	2	0025	294	0.	.0	2297.0
1	0750	95	199.	82.9	2305.0	*	1	1610	195	40.	1.7	2298.7	*	2	0030	295	0.	.0	2297.0
1	0755	96	197.	81.6	2304.9	*	1	1615	196	37.	1.4	2298.5	*	2	0035	296	0.	.0	2297.0
1	0800	97	196.	80.3	2304.8	*	1	1620	197	35.	1.1	2298.4	*	2	0040	297	0.	.0	2297.0
1	0805	98	194.	79.1	2304.7	*	1	1625	198	32.	.9	2298.3	*	2	0045	298	0.	.0	2297.0
1	0810	99	192.	77.8	2304.7	*	1	1630	199	30.	.7	2298.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	191.	76.5	2304.6	*	1	1635	200	28.	.5	2298.2	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 220.	6.08		193.	78.	75.	75.
		(INCHES)	1.491	2.417	2.417	2.417
		(AC-FT)	96.	155.	155.	155.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
103.	6.08		80.	26.	25.	25.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2306.30	6.08		2304.77	2300.09	2299.98	2299.98

CUMULATIVE AREA = 1.21 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .99	RATIO 2 .98	RATIO 3 .95	RATIO 4 .93	RATIO 5 .92	RATIO 6 .91
HYDROGRAPH AT										
+	E140	.07	1	FLOW	35.	34.	33.	31.	31.	30.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E360	.01	1	FLOW	11.	11.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CP1	.08	1	FLOW	38.	37.	35.	34.	33.	33.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08
DIVERSION TO										

+	CP1E	.08	1	FLOW	17.	17.	16.	15.	15.	15.
				TIME	4.00	4.00	4.00	3.50	3.50	3.50
HYDROGRAPH AT										
+	CP1S	.08	1	FLOW	21.	20.	19.	19.	18.	18.
				TIME	4.00	4.00	4.00	4.08	4.08	4.08
HYDROGRAPH AT										
+	E160	.06	1	FLOW	42.	41.	40.	38.	37.	37.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO										
+	E160S	.06	1	FLOW	10.	10.	10.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT										
+	E160E	.06	1	FLOW	32.	31.	30.	28.	27.	27.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	E340	.02	1	FLOW	19.	19.	18.	18.	17.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP2	.16	1	FLOW	62.	60.	57.	53.	51.	50.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92
DIVERSION TO										
+	CP2E	.16	1	FLOW	31.	30.	29.	27.	26.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92
HYDROGRAPH AT										
+	CP2S	.16	1	FLOW	31.	30.	28.	26.	25.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	E180	.21	1	FLOW	93.	91.	86.	82.	80.	79.
				TIME	4.17	4.17	4.17	4.17	4.25	4.25
HYDROGRAPH AT										
+	E160S	.00	1	FLOW	10.	10.	10.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT										
+	E320	.02	1	FLOW	20.	19.	19.	18.	17.	17.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT										
+	CP3	.39	1	FLOW	131.	128.	122.	115.	112.	110.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
DIVERSION TO										
+	CP3E	.39	1	FLOW	62.	61.	58.	54.	53.	53.
				TIME	4.08	4.08	4.08	4.08	4.08	3.58
HYDROGRAPH AT										
+	CP3S	.39	1	FLOW	69.	67.	64.	61.	59.	57.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E200	.01	1	FLOW	6.	6.	6.	5.	5.	5.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	E300	.01	1	FLOW	15.	15.	15.	14.	14.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP4	.41	1	FLOW	75.	72.	69.	67.	65.	63.
				TIME	4.08	4.08	4.00	4.00	4.00	4.00
DIVERSION TO										
+	CP4E	.41	1	FLOW	23.	22.	22.	21.	20.	20.
				TIME	4.08	4.08	4.00	4.00	3.58	3.67
HYDROGRAPH AT										
+	SOUTH	.41	1	FLOW	52.	50.	47.	46.	45.	43.
				TIME	4.08	4.08	4.00	4.00	4.00	4.00
DIVERSION TO										
+	CP4S	.41	1	FLOW	52.	50.	47.	46.	45.	43.
				TIME	4.08	4.08	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	NONE	.41	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT										
+	E080	.01	1	FLOW	10.	10.	9.	9.	9.	9.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	CP1E	.00	1	FLOW	17.	17.	16.	15.	15.	15.
				TIME	4.00	4.00	4.00	3.50	3.50	3.50
HYDROGRAPH AT										
+	E380	.02	1	FLOW	21.	20.	19.	19.	18.	18.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	CP5	.03	1	FLOW	46.	45.	44.	43.	42.	42.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO										
+	CP5E	.03	1	FLOW	25.	24.	24.	23.	22.	22.
				TIME	3.67	3.67	3.67	3.67	3.67	3.42

HYDROGRAPH AT										
+	CP5S	.03	1	FLOW	21.	21.	20.	20.	20.	20.
				TIME	3.58	3.67	3.58	3.67	3.67	3.67
HYDROGRAPH AT										
+	E060	.26	1	FLOW	128.	125.	119.	114.	112.	110.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
DIVERSION TO										
+	E060E	.26	1	FLOW	63.	61.	58.	56.	55.	54.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT										
+	E060S	.26	1	FLOW	65.	64.	61.	58.	57.	56.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO										
+	RE060S	.26	1	FLOW	65.	64.	61.	58.	57.	56.
				TIME	4.25	4.25	4.25	4.25	4.25	4.25
HYDROGRAPH AT										
+	E100	.47	1	FLOW	172.	167.	159.	152.	149.	146.
				TIME	4.50	4.50	4.50	4.50	4.50	4.50
2 COMBINED AT										
+	CP6	.73	1	FLOW	232.	226.	215.	204.	200.	196.
				TIME	4.42	4.42	4.42	4.33	4.33	4.33
DIVERSION TO										
+	CP6E	.73	1	FLOW	139.	136.	131.	125.	123.	121.
				TIME	4.42	4.42	4.42	4.33	4.33	4.33
HYDROGRAPH AT										
+	CP6S	.73	1	FLOW	93.	90.	84.	79.	77.	75.
				TIME	4.42	4.42	4.42	4.33	4.33	4.33
ROUTED TO										
+	RCP6S	.73	1	FLOW	93.	90.	84.	79.	77.	75.
				TIME	4.50	4.50	4.50	4.50	4.50	4.50
HYDROGRAPH AT										
+	E420	.10	1	FLOW	94.	92.	88.	84.	83.	82.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	CP5E	.00	1	FLOW	25.	24.	24.	23.	22.	22.
				TIME	3.67	3.67	3.67	3.67	3.67	3.42
ROUTED TO										
+	RCP5E	.00	1	FLOW	24.	24.	24.	24.	24.	24.
				TIME	3.83	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT										
+	CP7	.82	1	FLOW	130.	126.	120.	114.	111.	109.
				TIME	4.58	4.58	4.58	4.42	4.50	4.50
DIVERSION TO										
+	CP7E	.82	1	FLOW	85.	81.	75.	69.	66.	64.
				TIME	4.58	4.58	4.58	4.42	4.50	3.50
HYDROGRAPH AT										
+	CP7S	.82	1	FLOW	45.	45.	45.	45.	45.	45.
				TIME	3.67	3.67	3.67	4.33	4.42	4.50
HYDROGRAPH AT										
+	CP2E	.00	1	FLOW	31.	30.	29.	27.	26.	25.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92
ROUTED TO										
+	RCP2E	.00	1	FLOW	32.	32.	29.	27.	27.	27.
				TIME	4.17	4.17	4.17	4.25	4.00	4.00
HYDROGRAPH AT										
+	CP3E	.00	1	FLOW	62.	61.	58.	54.	53.	53.
				TIME	4.08	4.08	4.08	4.08	4.08	3.58
ROUTED TO										
+	RCP3E	.00	1	FLOW	62.	60.	57.	55.	56.	56.
				TIME	4.25	4.25	4.33	3.83	3.83	3.83
HYDROGRAPH AT										
+	CP4E	.00	1	FLOW	23.	22.	22.	21.	20.	20.
				TIME	4.08	4.08	4.00	4.00	3.58	3.67
ROUTED TO										
+	RCP4E	.00	1	FLOW	23.	22.	22.	21.	21.	21.
				TIME	4.08	4.08	4.17	3.83	3.83	3.83
5 COMBINED AT										
+	DUMMY	.85	1	FLOW	164.	156.	152.	145.	144.	143.
				TIME	4.17	4.25	4.25	4.33	4.50	4.50
HYDROGRAPH AT										
+	E400	.08	1	FLOW	81.	79.	76.	72.	71.	70.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CP8	.94	1	FLOW	226.	222.	213.	202.	198.	195.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	CP8S	.94	1	FLOW	133.	130.	125.	120.	117.	117.
				TIME	3.75	3.75	3.75	3.75	3.58	3.58
HYDROGRAPH AT										

+	CP8E	.94	1	FLOW	93.	92.	88.	82.	81.	78.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	RCP8E	.94	1	FLOW	93.	91.	87.	82.	80.	77.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	E440	.05	1	FLOW	38.	37.	35.	34.	33.	33.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	E440E	.05	1	FLOW	20.	20.	19.	18.	18.	18.
				TIME	3.75	3.75	3.75	3.50	3.58	3.58
HYDROGRAPH AT										
+	E440S	.05	1	FLOW	18.	17.	16.	16.	15.	15.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	E460	.11	1	FLOW	73.	71.	68.	65.	63.	62.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT										
+	CP9	.17	1	FLOW	90.	87.	83.	79.	77.	75.
				TIME	3.75	3.83	3.83	3.75	3.75	3.75
DIVERSION TO										
+	CP9E	.17	1	FLOW	49.	46.	42.	38.	36.	34.
				TIME	3.75	3.83	3.83	3.75	3.75	3.75
HYDROGRAPH AT										
+	CP9S	.17	1	FLOW	41.	41.	41.	41.	41.	41.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	CP7E	.00	1	FLOW	85.	81.	75.	69.	66.	64.
				TIME	4.58	4.58	4.58	4.42	4.50	3.50
ROUTED TO										
+	RCP7E	.00	1	FLOW	87.	83.	75.	70.	70.	70.
				TIME	4.50	4.50	4.67	4.50	3.75	3.75
HYDROGRAPH AT										
+	E480	.09	1	FLOW	67.	65.	62.	59.	58.	57.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
4 COMBINED AT										
+	CP10	1.19	1	FLOW	257.	253.	242.	230.	226.	222.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO										
+	CP10S	1.19	1	FLOW	135.	133.	127.	119.	117.	116.
				TIME	3.83	3.83	3.83	3.83	3.83	3.67
HYDROGRAPH AT										
+	CP10E	1.19	1	FLOW	122.	120.	115.	111.	109.	106.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	CP9E	.00	1	FLOW	49.	46.	42.	38.	36.	34.
				TIME	3.75	3.83	3.83	3.75	3.75	3.75
HYDROGRAPH AT										
+	E520	.01	1	FLOW	16.	16.	15.	15.	14.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP11	1.21	1	FLOW	180.	175.	166.	157.	152.	148.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
DIVERSION TO										
+	CP11S	1.21	1	FLOW	83.	81.	76.	72.	70.	68.
				TIME	3.83	3.83	3.83	3.83	3.83	3.67
HYDROGRAPH AT										
+	CP11E	1.21	1	FLOW	97.	95.	90.	85.	82.	80.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO										
+	RCP11E	1.21	1	FLOW	97.	93.	84.	81.	79.	75.
				TIME	3.92	3.92	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	E060E	.00	1	FLOW	63.	61.	58.	56.	55.	54.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO										
+	RE060E	.00	1	FLOW	63.	61.	58.	57.	57.	57.
				TIME	4.50	4.50	4.50	4.17	4.17	4.17
HYDROGRAPH AT										
+	CP6E	.00	1	FLOW	139.	136.	131.	125.	123.	121.
				TIME	4.42	4.42	4.42	4.33	4.33	4.33
ROUTED TO										
+	RCP6E	.00	1	FLOW	141.	138.	134.	128.	128.	128.
				TIME	4.67	4.67	4.67	4.33	4.42	4.42
HYDROGRAPH AT										
+	E040	.36	1	FLOW	210.	204.	195.	186.	182.	180.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
3 COMBINED AT										
+	CP12	.36	1	FLOW	338.	331.	319.	308.	304.	301.
				TIME	4.25	4.25	4.25	4.33	4.33	4.33

DIVERSION TO										
+	CP12E	.36	1	FLOW	199.	192.	180.	169.	165.	162.
				TIME	4.25	4.25	4.25	4.33	4.33	4.33
HYDROGRAPH AT										
+	CP12S	.36	1	FLOW	139.	139.	139.	139.	139.	139.
				TIME	4.08	4.08	4.17	4.25	4.33	4.33
ROUTED TO										
+	RCP12S	.36	1	FLOW	139.	139.	139.	138.	137.	136.
				TIME	4.33	4.33	4.33	4.33	4.42	4.42
HYDROGRAPH AT										
+	E540	.05	1	FLOW	58.	57.	54.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CP13	.41	1	FLOW	149.	149.	146.	145.	143.	143.
				TIME	4.17	4.17	4.25	4.33	4.42	4.42
DIVERSION TO										
+	CP13E	.41	1	FLOW	10.	10.	7.	6.	4.	4.
				TIME	4.17	4.17	4.25	4.33	4.42	3.17
HYDROGRAPH AT										
+	CP13S	.41	1	FLOW	139.	139.	139.	139.	139.	139.
				TIME	4.17	4.17	4.25	4.33	4.42	4.42
ROUTED TO										
+	RCP13S	.41	1	FLOW	139.	139.	139.	138.	137.	136.
				TIME	4.33	4.42	4.42	4.42	4.50	4.50
HYDROGRAPH AT										
+	E440E	.00	1	FLOW	20.	20.	19.	18.	18.	18.
				TIME	3.75	3.75	3.75	3.50	3.58	3.58
ROUTED TO										
+	RE440E	.00	1	FLOW	21.	21.	21.	21.	21.	21.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	E560	.18	1	FLOW	168.	165.	159.	153.	151.	149.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
4 COMBINED AT										
+	CP14	1.80	1	FLOW	310.	298.	277.	262.	256.	250.
				TIME	4.08	3.92	3.92	3.92	3.92	3.92
DIVERSION TO										
+	CP14S	1.80	1	FLOW	30.	30.	30.	30.	30.	30.
				TIME	3.33	3.33	3.33	3.33	3.33	3.42
HYDROGRAPH AT										
+	CP14E	1.80	1	FLOW	280.	268.	247.	232.	226.	220.
				TIME	4.08	3.92	3.92	3.92	3.92	3.92
ROUTED TO										
+	RCP14E	1.80	1	FLOW	278.	267.	242.	228.	222.	218.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E600	.09	1	FLOW	73.	71.	68.	65.	64.	63.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
+	CP15	1.88	1	FLOW	324.	312.	278.	262.	256.	250.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
DIVERSION TO										
+	CP15S	1.88	1	FLOW	54.	49.	32.	24.	21.	19.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	CP15E	1.88	1	FLOW	270.	263.	246.	238.	235.	231.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E240	.13	1	FLOW	85.	83.	79.	76.	74.	73.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO										
+	E240E	.13	1	FLOW	45.	43.	42.	40.	39.	38.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	E240S	.13	1	FLOW	40.	40.	37.	36.	35.	35.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	E260	.14	1	FLOW	93.	90.	86.	82.	81.	80.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT										
+	CP16	.27	1	FLOW	133.	130.	123.	118.	116.	115.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
DIVERSION TO										
+	CP16E	.27	1	FLOW	66.	65.	61.	59.	58.	57.
				TIME	3.92	3.92	3.92	3.92	3.92	3.67
HYDROGRAPH AT										
+	CP16S	.27	1	FLOW	67.	65.	62.	59.	58.	58.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
3 COMBINED AT										

+	DUMMY	2.56	1	FLOW	334.	326.	302.	286.	278.	272.
				TIME	4.00	4.00	4.00	4.00	4.08	4.08
HYDROGRAPH AT										
+	CP14S	.00	1	FLOW	30.	30.	30.	30.	30.	30.
				TIME	3.33	3.33	3.33	3.33	3.33	3.42
ROUTED TO										
+	RCP14S	.00	1	FLOW	31.	31.	31.	32.	32.	32.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT										
+	E580	.10	1	FLOW	100.	98.	94.	91.	89.	88.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
+	CP17	.10	1	FLOW	130.	128.	124.	121.	119.	118.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	CP17E	.10	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT										
+	CP17S	.10	1	FLOW	130.	128.	124.	121.	119.	118.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	E220	.04	1	FLOW	37.	37.	35.	33.	33.	32.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	RE220	.04	1	FLOW	38.	37.	36.	34.	33.	33.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E240E	.00	1	FLOW	45.	43.	42.	40.	39.	38.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO										
+	RE240E	.00	1	FLOW	45.	44.	42.	42.	42.	42.
				TIME	4.33	4.33	4.33	4.08	4.08	4.08
HYDROGRAPH AT										
+	CP16E	.00	1	FLOW	66.	65.	61.	59.	58.	57.
				TIME	3.92	3.92	3.92	3.92	3.92	3.67
ROUTED TO										
+	RCP16E	.00	1	FLOW	67.	65.	61.	60.	60.	60.
				TIME	4.25	4.25	4.00	4.00	4.00	4.08
HYDROGRAPH AT										
+	CP4S	.00	1	FLOW	52.	50.	47.	46.	45.	43.
				TIME	4.08	4.08	4.00	4.00	4.00	4.00
ROUTED TO										
+	RCP4S	.00	1	FLOW	52.	50.	47.	45.	44.	42.
				TIME	4.33	4.33	4.33	4.33	4.42	4.42
HYDROGRAPH AT										
+	CP8S	.00	1	FLOW	133.	130.	125.	120.	117.	117.
				TIME	3.75	3.75	3.75	3.75	3.58	3.58
ROUTED TO										
+	RCP8S	.00	1	FLOW	134.	130.	126.	127.	128.	129.
				TIME	4.00	4.00	3.83	3.83	3.83	3.83
5 COMBINED AT										
+	DUMMY	.04	1	FLOW	313.	308.	296.	288.	283.	280.
				TIME	4.25	4.25	4.25	4.25	4.33	4.33
HYDROGRAPH AT										
+	E280	.28	1	FLOW	199.	194.	186.	178.	174.	172.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT										
+	CP18	.32	1	FLOW	464.	441.	417.	398.	391.	389.
				TIME	4.08	4.08	4.00	4.17	4.00	4.08
ROUTED TO										
+	RCP18	.32	1	FLOW	457.	440.	414.	401.	393.	386.
				TIME	4.33	4.33	4.33	4.33	4.33	4.33
HYDROGRAPH AT										
+	CP10S	.00	1	FLOW	135.	133.	127.	119.	117.	116.
				TIME	3.83	3.83	3.83	3.83	3.83	3.67
ROUTED TO										
+	RCP10S	.00	1	FLOW	136.	134.	132.	128.	126.	125.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	CP11S	.00	1	FLOW	83.	81.	76.	72.	70.	68.
				TIME	3.83	3.83	3.83	3.83	3.83	3.67
ROUTED TO										
+	RCP11S	.00	1	FLOW	82.	79.	75.	72.	71.	71.
				TIME	4.17	4.17	4.17	4.08	4.08	4.08
HYDROGRAPH AT										
+	E500	.39	1	FLOW	239.	233.	223.	213.	209.	206.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
4 COMBINED AT										
+	CP18A	.71	1	FLOW	849.	824.	788.	763.	753.	746.
				TIME	4.25	4.25	4.08	4.08	4.08	4.08

2 COMBINED AT										
+	CP19	.81	1	FLOW	922.	897.	867.	840.	829.	822.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	CP17E	.00	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT										
+	E660	.01	1	FLOW	16.	15.	15.	14.	14.	14.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP20	.82	1	FLOW	926.	901.	870.	843.	833.	826.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E640	.07	1	FLOW	75.	73.	70.	67.	66.	66.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CP21	.89	1	FLOW	959.	933.	901.	873.	862.	855.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	E620	.05	1	FLOW	53.	51.	50.	48.	47.	46.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CP22	.94	1	FLOW	980.	953.	921.	892.	881.	874.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO										
+	RCP22	.94	1	FLOW	978.	949.	915.	880.	868.	858.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17
HYDROGRAPH AT										
+	CP15S	.00	1	FLOW	54.	49.	32.	24.	21.	19.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
ROUTED TO										
+	RCP15S	.00	1	FLOW	57.	49.	30.	21.	21.	21.
				TIME	4.25	4.25	4.33	4.42	3.75	3.75
HYDROGRAPH AT										
+	E680	.11	1	FLOW	113.	111.	107.	102.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
+	CP23	.11	1	FLOW	133.	131.	127.	123.	122.	120.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	E760	.01	1	FLOW	10.	10.	9.	9.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CPGTA	1.06	1	FLOW	1066.	1034.	993.	956.	943.	933.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	2-3	.03	1	FLOW	37.	36.	34.	33.	32.	32.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CPGTA2	1.09	1	FLOW	1075.	1043.	1003.	965.	951.	941.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	2-1	.04	1	FLOW	56.	55.	54.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-2	.07	1	FLOW	96.	94.	91.	88.	87.	86.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-14A	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	2A	.11	1	FLOW	155.	152.	147.	142.	140.	138.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2B	1.21	1	FLOW	1122.	1089.	1047.	1008.	994.	983.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO										
+	DB1	1.21	1	FLOW	239.	235.	230.	224.	222.	220.
				TIME	6.17	6.17	6.08	6.08	6.08	6.08
			** PEAK STAGES IN FEET **							
			1	STAGE	2307.55	2307.32	2306.93	2306.56	2306.41	2306.30
				TIME	6.17	6.17	6.08	6.08	6.08	6.08
HYDROGRAPH AT										
+	2-6	.02	1	FLOW	29.	29.	28.	27.	27.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2C	1.22	1	FLOW	239.	236.	230.	224.	222.	220.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08
HYDROGRAPH AT										

+	2-7	.02	1	FLOW	19.	18.	18.	17.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2D	1.24	1	FLOW	239.	236.	230.	224.	222.	220.
				TIME	6.08	6.08	6.08	6.08	6.08	6.08
HYDROGRAPH AT										
+	2-4	.03	1	FLOW	56.	55.	53.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-14B	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2E	.04	1	FLOW	59.	58.	56.	54.	54.	53.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-5	.09	1	FLOW	115.	113.	109.	106.	104.	103.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO										
+	2-5E	.09	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-5W	.09	1	FLOW	60.	59.	57.	55.	54.	54.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-9	.02	1	FLOW	24.	23.	23.	22.	22.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	2F	.14	1	FLOW	142.	139.	135.	130.	129.	127.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-5E	.00	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT										
+	2-10	.02	1	FLOW	25.	24.	24.	23.	23.	22.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	2G	.16	1	FLOW	222.	218.	210.	203.	200.	198.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-8	.03	1	FLOW	48.	47.	45.	44.	43.	43.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2H	.19	1	FLOW	269.	264.	256.	247.	244.	241.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2I	1.43	1	FLOW	390.	382.	370.	358.	353.	350.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-11	.03	1	FLOW	43.	42.	41.	40.	39.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-12	.03	1	FLOW	39.	39.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2J	.05	1	FLOW	82.	81.	78.	75.	74.	74.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	2K	1.48	1	FLOW	472.	463.	448.	433.	428.	424.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT										
+	2-13	.03	1	FLOW	39.	38.	37.	36.	35.	35.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	PT2	1.51	1	FLOW	511.	501.	485.	469.	463.	458.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

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SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
(FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)

ISTAQ	ELEMENT	DT	PEAK	TIME TO PEAK	VOLUME	INTERPOLATED TO COMPUTATION INTERVAL DT	PEAK	TIME TO PEAK	VOLUME
		(MIN)	(CFS)	(MIN)	(IN)	(MIN)	(CFS)	(MIN)	(IN)
FOR PLAN = 1 RATIO= .00									
RE060S	MANE	1.75	65.04	252.00	.34	5.00	64.93	255.00	.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4711E+01 EXCESS= .0000E+00 OUTFLOW= .4714E+01 BASIN STORAGE= .1155E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RE060S	MANE	1.75	63.79	253.75	.32	5.00	63.73	255.00	.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4446E+01 EXCESS= .0000E+00 OUTFLOW= .4450E+01 BASIN STORAGE= .1002E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060S	MANE	1.50	60.97	255.00	.29	5.00	60.97	255.00	.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+01 EXCESS= .0000E+00 OUTFLOW= .4025E+01 BASIN STORAGE= .1131E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060S	MANE	1.50	57.71	255.00	.26	5.00	57.71	255.00	.26	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3585E+01 EXCESS= .0000E+00 OUTFLOW= .3587E+01 BASIN STORAGE= .8472E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060S	MANE	1.50	56.59	252.00	.25	5.00	56.58	255.00	.25	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3411E+01 EXCESS= .0000E+00 OUTFLOW= .3413E+01 BASIN STORAGE= .1237E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060S	MANE	1.50	55.68	255.00	.24	5.00	55.68	255.00	.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3285E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .1298E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.75	93.03	271.25	.17	5.00	93.00	270.00	.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6722E+01 EXCESS= .0000E+00 OUTFLOW= .6729E+01 BASIN STORAGE= .2051E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.75	89.76	269.50	.16	5.00	89.76	270.00	.16	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6194E+01 EXCESS= .0000E+00 OUTFLOW= .6202E+01 BASIN STORAGE= .1583E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.50	84.01	270.00	.14	5.00	84.01	270.00	.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5349E+01 EXCESS= .0000E+00 OUTFLOW= .5357E+01 BASIN STORAGE= .1646E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.25	78.89	268.75	.12	5.00	78.87	270.00	.12	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4536E+01 EXCESS= .0000E+00 OUTFLOW= .4539E+01 BASIN STORAGE= .1666E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.25	76.60	268.75	.11	5.00	76.56	270.00	.11	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4203E+01 EXCESS= .0000E+00 OUTFLOW= .4207E+01 BASIN STORAGE= .1480E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP6S	MANE	1.25	74.66	268.75	.10	5.00	74.53	270.00	.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3952E+01 EXCESS= .0000E+00 OUTFLOW= .3955E+01 BASIN STORAGE= .1894E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.19	230.00	-1.00	5.00	24.19	230.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.00	220.00	-1.00	5.00	24.00	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.04	220.00	-1.00	5.00	24.04	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.01	220.00	-1.00	5.00	24.01	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.07	220.00	-1.00	5.00	24.07	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP5E	MANE	5.00	24.11	220.00	-1.00	5.00	24.11	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP2E	MANE	5.00	32.48	250.00	-1.00	5.00	32.48	250.00	-1.00	

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          FOR PLAN = 1  RATIO=  .00
             RCP2E  MANE          5.00     31.62    250.00     -1.00      5.00     31.62    250.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP2E  MANE          5.00     29.45    250.00     -1.00      5.00     29.45    250.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP2E  MANE          5.00     27.31    255.00     -1.00      5.00     27.31    255.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP2E  MANE          5.00     27.01    240.00     -1.00      5.00     27.01    240.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP2E  MANE          5.00     27.09    240.00     -1.00      5.00     27.09    240.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE          5.00     62.08    255.00     -1.00      5.00     62.08    255.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE          5.00     60.36    255.00     -1.00      5.00     60.36    255.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE          5.00     57.37    260.00     -1.00      5.00     57.37    260.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE          5.00     55.47    230.00     -1.00      5.00     55.47    230.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE          5.00     55.58    230.00     -1.00      5.00     55.58    230.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP3E  MANE          5.00     55.66    230.00     -1.00      5.00     55.66    230.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE          5.00     23.01    245.00     -1.00      5.00     23.01    245.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE          5.00     22.41    245.00     -1.00      5.00     22.41    245.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE          5.00     22.20    250.00     -1.00      5.00     22.20    250.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE          5.00     20.84    230.00     -1.00      5.00     20.84    230.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE          5.00     20.88    230.00     -1.00      5.00     20.88    230.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP4E  MANE          5.00     20.73    230.00     -1.00      5.00     20.73    230.00       -1.00


          FOR PLAN = 1  RATIO=  .00
             RCP8E  MANE           .75     92.98    234.00       .14      5.00     92.79    235.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6768E+01 EXCESS= .0000E+00 OUTFLOW= .6777E+01 BASIN STORAGE= .1844E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
             RCP8E  MANE           .75     91.60    234.00       .13      5.00     91.09    235.00         .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6313E+01 EXCESS= .0000E+00 OUTFLOW= .6322E+01 BASIN STORAGE= .1614E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
             RCP8E  MANE           .75     87.59    234.00       .11      5.00     87.06    235.00         .11
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .5412E+01 EXCESS= .0000E+00 OUTFLOW= .5419E+01 BASIN STORAGE= .1807E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	81.98	234.75	.09	5.00	81.87	235.00	.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4534E+01 EXCESS= .0000E+00 OUTFLOW= .4539E+01 BASIN STORAGE= .1663E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	80.36	234.00	.08	5.00	80.11	235.00	.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4185E+01 EXCESS= .0000E+00 OUTFLOW= .4190E+01 BASIN STORAGE= .2048E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.75	77.50	234.75	.08	5.00	77.33	235.00	.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3902E+01 EXCESS= .0000E+00 OUTFLOW= .3907E+01 BASIN STORAGE= .1911E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	86.53	270.00	-1.00	5.00	86.53	270.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	82.62	270.00	-1.00	5.00	82.62	270.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	75.47	280.00	-1.00	5.00	75.47	280.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	69.74	270.00	-1.00	5.00	69.74	270.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	69.67	225.00	-1.00	5.00	69.67	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	69.90	225.00	-1.00	5.00	69.90	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	96.78	235.50	.05	5.00	96.74	235.00	.05	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3078E+01 EXCESS= .0000E+00 OUTFLOW= .3085E+01 BASIN STORAGE= .1111E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	93.70	236.25	.04	5.00	93.09	235.00	.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2819E+01 EXCESS= .0000E+00 OUTFLOW= .2823E+01 BASIN STORAGE= .1122E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	88.79	237.00	.04	5.00	84.26	240.00	.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2279E+01 EXCESS= .0000E+00 OUTFLOW= .2282E+01 BASIN STORAGE= .1020E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	84.45	237.00	.03	5.00	81.01	240.00	.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1960E+01 EXCESS= .0000E+00 OUTFLOW= .1962E+01 BASIN STORAGE= .1339E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	82.11	237.00	.03	5.00	78.59	240.00	.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1823E+01 EXCESS= .0000E+00 OUTFLOW= .1824E+01 BASIN STORAGE= .1183E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP11E	MANE	.75	79.02	237.00	.03	5.00	74.50	240.00	.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1701E+01 EXCESS= .0000E+00 OUTFLOW= .1701E+01 BASIN STORAGE= .1064E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	63.49	270.00	-1.00	5.00	63.49	270.00	-1.00	

FOR PLAN = 1 RATIO= .00

RE060E	MANE	5.00	61.34	270.00	-1.00	5.00	61.34	270.00	-1.00	

FOR PLAN = 1 RATIO= .00
RE060E MANE 5.00 58.07 270.00 -1.00 5.00 58.07 270.00 -1.00

FOR PLAN = 1 RATIO= .00
RE060E MANE 5.00 57.30 250.00 -1.00 5.00 57.30 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RE060E MANE 5.00 57.01 250.00 -1.00 5.00 57.01 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RE060E MANE 5.00 56.79 250.00 -1.00 5.00 56.79 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP6E MANE 5.00 140.60 280.00 -1.00 5.00 140.60 280.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP6E MANE 5.00 138.20 280.00 -1.00 5.00 138.20 280.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP6E MANE 5.00 133.58 280.00 -1.00 5.00 133.58 280.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP6E MANE 5.00 127.65 260.00 -1.00 5.00 127.65 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP6E MANE 5.00 127.50 265.00 -1.00 5.00 127.50 265.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP6E MANE 5.00 128.05 265.00 -1.00 5.00 128.05 265.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 1.25 139.18 251.25 .86 5.00 139.00 265.00 .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1657E+02 EXCESS= .0000E+00 OUTFLOW= .1658E+02 BASIN STORAGE= .1277E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP12S MANE 1.25 139.26 251.25 .82 5.00 139.00 265.00 .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1589E+02 EXCESS= .0000E+00 OUTFLOW= .1589E+02 BASIN STORAGE= .1183E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP12S MANE 1.50 139.17 256.50 .76 5.00 138.97 260.00 .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1463E+02 EXCESS= .0000E+00 OUTFLOW= .1463E+02 BASIN STORAGE= .1367E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP12S MANE 1.50 139.08 261.00 .69 5.00 138.34 260.00 .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1337E+02 EXCESS= .0000E+00 OUTFLOW= .1337E+02 BASIN STORAGE= .9497E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP12S MANE 1.75 138.27 262.50 .67 5.00 136.76 265.00 .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1287E+02 EXCESS= .0000E+00 OUTFLOW= .1287E+02 BASIN STORAGE= .1223E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP12S MANE 1.75 136.93 264.25 .65 5.00 136.24 265.00 .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1252E+02 EXCESS= .0000E+00 OUTFLOW= .1252E+02 BASIN STORAGE= .1090E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP13S MANE 2.50 139.44 257.50 .86 5.00 139.30 260.00 .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1891E+02 EXCESS= .0000E+00 OUTFLOW= .1891E+02 BASIN STORAGE= .1162E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP13S MANE 2.50 139.98 257.50 .83 5.00 139.30 265.00 .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1825E+02 EXCESS= .0000E+00 OUTFLOW= .1825E+02 BASIN STORAGE= .1064E-02 PERCENT ERROR= .0

```
           FOR PLAN = 1  RATIO=  .00
             RCP13S  MANE         2.50    139.27    265.00       .77      5.00    139.27    265.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1692E+02 EXCESS= .0000E+00 OUTFLOW= .1693E+02 BASIN STORAGE= .1389E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP13S  MANE         2.75    138.98    266.75       .71      5.00    138.37    265.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1558E+02 EXCESS= .0000E+00 OUTFLOW= .1558E+02 BASIN STORAGE= .1479E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP13S  MANE         2.75    138.81    266.75       .69      5.00    137.10    270.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1506E+02 EXCESS= .0000E+00 OUTFLOW= .1506E+02 BASIN STORAGE= .1307E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP13S  MANE         2.75    136.76    269.50       .67      5.00    136.16    270.00         .67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1467E+02 EXCESS= .0000E+00 OUTFLOW= .1467E+02 BASIN STORAGE= .1140E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RE440E  MANE         5.00     20.89    240.00     -1.00      5.00     20.89    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RE440E  MANE         5.00     20.90    240.00     -1.00      5.00     20.90    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RE440E  MANE         5.00     20.74    240.00     -1.00      5.00     20.74    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RE440E  MANE         5.00     21.04    240.00     -1.00      5.00     21.04    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RE440E  MANE         5.00     20.96    240.00     -1.00      5.00     20.96    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RE440E  MANE         5.00     20.86    240.00     -1.00      5.00     20.86    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE         2.25    280.78    240.75       .33      5.00    278.01    240.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3129E+02 EXCESS= .0000E+00 OUTFLOW= .3130E+02 BASIN STORAGE= .2248E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE         2.00    267.06    240.00       .31      5.00    267.06    240.00         .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3011E+02 EXCESS= .0000E+00 OUTFLOW= .3012E+02 BASIN STORAGE= .2310E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE         2.00    243.41    244.00       .29      5.00    242.44    245.00         .29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2779E+02 EXCESS= .0000E+00 OUTFLOW= .2780E+02 BASIN STORAGE= .2823E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE         2.00    228.66    244.00       .27      5.00    227.99    245.00         .27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2567E+02 EXCESS= .0000E+00 OUTFLOW= .2569E+02 BASIN STORAGE= .2845E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE         2.00    222.75    244.00       .26      5.00    222.36    245.00         .26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2485E+02 EXCESS= .0000E+00 OUTFLOW= .2486E+02 BASIN STORAGE= .2671E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE         1.75    217.52    245.00       .25      5.00    217.52    245.00         .25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2422E+02 EXCESS= .0000E+00 OUTFLOW= .2423E+02 BASIN STORAGE= .2572E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP14S  MANE         5.00     31.04    210.00     -1.00      5.00     31.04    210.00       -1.00


           FOR PLAN = 1  RATIO=  .00
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RCP14S	MANE	5.00	31.19	210.00	-1.00	5.00	31.19	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.43	210.00	-1.00	5.00	31.43	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.73	210.00	-1.00	5.00	31.73	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.82	210.00	-1.00	5.00	31.82	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	31.86	210.00	-1.00	5.00	31.86	210.00	-1.00

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	38.46	245.00	1.28	5.00	38.46	245.00	1.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3024E+01 EXCESS= .0000E+00 OUTFLOW= .3032E+01 BASIN STORAGE= .4469E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	37.49	245.00	1.24	5.00	37.49	245.00	1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2946E+01 EXCESS= .0000E+00 OUTFLOW= .2954E+01 BASIN STORAGE= .4423E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	35.83	245.00	1.19	5.00	35.83	245.00	1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2818E+01 EXCESS= .0000E+00 OUTFLOW= .2826E+01 BASIN STORAGE= .4266E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	34.15	245.00	1.14	5.00	34.15	245.00	1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2690E+01 EXCESS= .0000E+00 OUTFLOW= .2698E+01 BASIN STORAGE= .4159E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	33.46	245.00	1.12	5.00	33.46	245.00	1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2639E+01 EXCESS= .0000E+00 OUTFLOW= .2648E+01 BASIN STORAGE= .4128E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .00

RE220	MANE	5.00	32.97	245.00	1.10	5.00	32.97	245.00	1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2604E+01 EXCESS= .0000E+00 OUTFLOW= .2612E+01 BASIN STORAGE= .4106E-02 PERCENT ERROR= -.5

FOR PLAN = 1 RATIO= .00

RE240E	MANE	5.00	45.30	260.00	-1.00	5.00	45.30	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RE240E	MANE	5.00	43.80	260.00	-1.00	5.00	43.80	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RE240E	MANE	5.00	42.08	260.00	-1.00	5.00	42.08	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RE240E	MANE	5.00	41.67	245.00	-1.00	5.00	41.67	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RE240E	MANE	5.00	41.59	245.00	-1.00	5.00	41.59	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RE240E	MANE	5.00	41.52	245.00	-1.00	5.00	41.52	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	67.04	255.00	-1.00	5.00	67.04	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	65.26	255.00	-1.00	5.00	65.26	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	60.95	240.00	-1.00	5.00	60.95	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	59.90	240.00	-1.00	5.00	59.90	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	59.72	240.00	-1.00	5.00	59.72	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16E	MANE	5.00	59.64	245.00	-1.00	5.00	59.64	245.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.75	51.83	255.50	-1.00	5.00	51.54	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.75	52.65	246.75	-1.00	5.00	50.05	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.50	47.45	261.00	-1.00	5.00	47.26	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.50	45.64	262.50	-1.00	5.00	45.35	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.50	44.33	264.00	-1.00	5.00	43.91	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP4S	MANE	1.25	42.21	262.50	-1.00	5.00	41.81	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	133.83	240.00	-1.00	5.00	133.83	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	130.15	240.00	-1.00	5.00	130.15	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	126.15	230.00	-1.00	5.00	126.15	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	127.45	230.00	-1.00	5.00	127.45	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	127.85	230.00	-1.00	5.00	127.85	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP8S	MANE	5.00	128.51	230.00	-1.00	5.00	128.51	230.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	456.52	260.00	3.78	5.00	456.52	260.00	3.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6497E+02 EXCESS= .0000E+00 OUTFLOW= .6499E+02 BASIN STORAGE= .3437E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	439.85	260.00	3.68	5.00	439.85	260.00	3.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6339E+02 EXCESS= .0000E+00 OUTFLOW= .6340E+02 BASIN STORAGE= .3397E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	414.22	260.00	3.54	5.00	414.22	260.00	3.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6086E+02 EXCESS= .0000E+00 OUTFLOW= .6088E+02 BASIN STORAGE= .3292E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP18	MANE	5.00	400.90	260.00	3.40	5.00	400.90	260.00	3.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5848E+02 EXCESS= .0000E+00 OUTFLOW= .5850E+02 BASIN STORAGE= .4234E-02 PERCENT ERROR= .0

```
           FOR PLAN = 1  RATIO=  .00
              RCP18  MANE         5.00    393.21    260.00      3.34      5.00    393.21    260.00        3.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5743E+02 EXCESS= .0000E+00 OUTFLOW= .5744E+02 BASIN STORAGE= .4197E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
              RCP18  MANE         5.00    386.21    260.00      3.29      5.00    386.21    260.00        3.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5665E+02 EXCESS= .0000E+00 OUTFLOW= .5667E+02 BASIN STORAGE= .4134E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP10S  MANE         5.00    135.63    240.00     -1.00      5.00    135.63    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP10S  MANE         5.00    133.58    240.00     -1.00      5.00    133.58    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP10S  MANE         5.00    132.14    240.00     -1.00      5.00    132.14    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP10S  MANE         5.00    127.99    240.00     -1.00      5.00    127.99    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP10S  MANE         5.00    126.33    240.00     -1.00      5.00    126.33    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP10S  MANE         5.00    125.17    240.00     -1.00      5.00    125.17    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP11S  MANE         5.00     82.01    250.00     -1.00      5.00     82.01    250.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP11S  MANE         5.00     78.64    250.00     -1.00      5.00     78.64    250.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP11S  MANE         5.00     74.52    250.00     -1.00      5.00     74.52    250.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP11S  MANE         5.00     71.75    245.00     -1.00      5.00     71.75    245.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP11S  MANE         5.00     71.46    245.00     -1.00      5.00     71.46    245.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP11S  MANE         5.00     71.14    245.00     -1.00      5.00     71.14    245.00       -1.00


           FOR PLAN = 1  RATIO=  .00
              RCP22  MANE         2.99    978.25    244.90      3.00      5.00    978.25    245.00        3.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1503E+03 EXCESS= .0000E+00 OUTFLOW= .1503E+03 BASIN STORAGE= .8292E-03 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
              RCP22  MANE         3.01    954.96    246.62      2.92      5.00    949.42    245.00        2.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1464E+03 EXCESS= .0000E+00 OUTFLOW= .1464E+03 BASIN STORAGE= .9349E-03 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
              RCP22  MANE         3.03    919.72    245.70      2.79      5.00    914.95    245.00        2.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1400E+03 EXCESS= .0000E+00 OUTFLOW= .1399E+03 BASIN STORAGE= .9374E-03 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
              RCP22  MANE         3.06    888.77    247.66      2.67      5.00    880.30    245.00        2.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1338E+03 EXCESS= .0000E+00 OUTFLOW= .1338E+03 BASIN STORAGE= .8739E-03 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
              RCP22  MANE         3.07    873.58    248.45      2.62      5.00    867.62    245.00        2.62
```

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1312E+03 EXCESS= .0000E+00 OUTFLOW= .1312E+03 BASIN STORAGE= .9542E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP22	MANE	3.07	866.57	245.90	2.58	5.00	858.17	250.00	2.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1295E+03 EXCESS= .0000E+00 OUTFLOW= .1295E+03 BASIN STORAGE= .8315E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	56.61	255.00	-1.00	5.00	56.61	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	49.12	255.00	-1.00	5.00	49.12	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	30.49	260.00	-1.00	5.00	30.49	260.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	21.31	265.00	-1.00	5.00	21.31	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	20.72	225.00	-1.00	5.00	20.72	225.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	20.78	225.00	-1.00	5.00	20.78	225.00	-1.00

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

```
1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *             JUN  1998                *                    *    HYDROLOGIC ENGINEERING CENTER     *
 *           VERSION 4.1                *                    *         609 SECOND STREET            *
 *                                      *                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   27JUN14  TIME  14:27:50  *                    *           (916) 756-1104             *
 *                                      *                    *                                      *
 ****************************************                    ****************************************

                                        X     X  XXXXXXX   XXXXX           X
                                        X     X  X        X     X         XX
                                        X     X  X        X               X
                                        XXXXXXX  XXXX     X        XXXXX   X
                                        X     X  X        X               X
                                        X     X  X        X     X         X
                                        X     X  XXXXXXX   XXXXX          XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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


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

                        *DIAGRAM
            1           ID     SLATER HANIFAN GROUP, INC.
            2           ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
            3           ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
            4           ID     ULTIMATE CONDITION
            5           ID
            6           ID     RETURN PERIOD ------- 10-YEAR
            7           ID     DISTRIBUTION -------- 6-HOUR SDN3
            8           ID     PROJECT NO. --------- CBH1201.000
            9           ID     FILENAME ------------ ULT10.H1
           10           ID     DATE ---------------- JULY 2014
           11           ID     MODELED BY ---------- KC
           12           ID
           13           ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
           14           ID        DRAINAGE AREA (MI^2)       DARF
           15           ID        10-YR EVENT               0.570
           16           ID
           17           IT       5       0       0     300
           18           IO       5       0       0
           19           IN       5       0       0
           20           JR    PREC   0.570
                        *

           21           KK    U190
           22           BA   .3684
           23           PB    2.77
           24           PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
           25           PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
           26           PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
           27           PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
           28           PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
           29           PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
           30           PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
           31           PC   0.998   0.999   1.000
           32           LS       0    80.7
           33           UD   0.522
                        *

           34           KK    U170
           35           BA   .2521
           36           LS       0    83.0
           37           UD   0.521
                        *

           38           KK     CP1
           39           KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
           40           HC       2
                        *

           41           KK    CP1E
           42           KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
           43           KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
           44           DT    CP1S
           45           DI     109
           46           DQ      49
                        *
```



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

           47           KK   RCP1E
           48           KM   ROUTE TO CP2
           49           RD    2480   .0050   0.016       0    TRAP       0      50
                        *

           50           KK    U150
           51           BA   .1336
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```
   52          LS       0    83.0
   53          UD   0.322
               *

   54          KK   U150S
   55          KM   U150S IS THE FLOW DRAINING SOUTH IN JONES
   56          KM   U150E IS THE FLOW DRAINING EAST IN SHELEHEDA
   57          KM   EXISTING SD IN JONES IS FOR NUISANCE FLOW
   58          DT   U150E
   59          DI      35
   60          DQ      20
               *

   61          KK   RU150S
   62          KM   ROUTE TO CP2
   63          RD    1345   .0050   0.016       0    TRAP       0      50
               *

   64          KK   U155
   65          BA   .1294
   66          LS       0    83.4
   67          UD   0.314
               *

   68          KK     CP2
   69          KM   COMBINE CP1 U150S AND U155 AT IRON MOUNTAIN AND JONES
   70          HC       3
               *

   71          KK    CP2S
   72          KM   CP2S IS THE FLOW DRAINING SOUTH IN JONES
   73          KM   CP2E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
   74          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
   75          DT    CP2E
   76          DI      92
   77          DQ      69
               *

   78          KK   RCP2S
   79          KM   ROUTE TO CP10
   80          RD    2695   .0050   0.016       0    TRAP       0      50
               *
1                                        HEC-1 INPUT                                                PAGE  3

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

   81          KK    CP1S
   82          KM   RETRIEVE CP1S
   83          DR    CP1S
               *

   84          KK    U210
   85          BA   .0727
   86          LS       0    83.1
   87          UD   0.289
               *

   88          KK     CP3
   89          KM   COMBINE CP1S AND U210 AT MAGGIE AND TORREY PINES
   90          HC       2
               *

   91          KK    CP3S
   92          KM   CP3S IS THE FLOW DRAINING SOUTH IN TORREY PINES
   93          KM   CP3E IS THE FLOW DRAINING EAST IN MAGGIE
   94          DT    CP3E
   95          DI      64
   96          DQ      29
               *

   97          KK    U250
   98          BA   .0698
   99          LS       0    83.1
  100          UD   0.289
               *

  101          KK     CP4
  102          KM   COMBINE CP3S AND U250 AT BRENT AND TORREY PINES
  103          HC       2
               *

  104          KK    CP4S
  105          KM   CP4S IS THE FLOW DRAINING SOUTH IN TORREY PINES
  106          KM   CP4E IS THE FLOW DRAINING EAST IN BRENT
  107          DT    CP4E
  108          DI      52
  109          DQ      25
               *

  110          KK   RCP4S
  111          KM   ROUTE TO CP5
  112          RD    1380   .0050   0.016       0    TRAP       0      50
               *

  113          KK    U230
  114          BA   .1390
  115          LS       0    83.4
  116          UD   0.328
               *
1                                        HEC-1 INPUT                                                PAGE  4

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

  117          KK    U330
```

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118           BA   .0142
119           LS      0    85.0
120           UD   0.188
              *

121           KK     CP5
122           KM   COMBINE CP4S U230 AND U330 AT HORSE AND TORREY PINES
123           HC       3
              *

124           KK    CP3E
125           KM   RETRIEVE CP3E
126           DR    CP3E
              *

127           KK    U370
128           BA   .0159
129           LS      0    86.2
130           UD   0.185
              *

131           KK     CP6
132           KM   COMBINE CP3E AND U370 AT MAGGIE AND MUSTANG
133           HC       2
              *

134           KK    CP6S
135           KM   CP6S IS THE FLOW DRAINING SOUTH IN MUSTANG
136           KM   CP6E IS THE FLOW DRAINING EAST IN MAGGIE
137           DT    CP6E
138           DI      32
139           DQ      14
              *

140           KK    CP4E
141           KM   RETRIEVE CP4E
142           DR    CP4E
              *

143           KK    U350
144           BA   .0163
145           LS      0    86.3
146           UD   0.186
              *

147           KK     CP7
148           KM   COMBINE CP6S CP4E AND U350 AT BRENT AND MUSTANG
149           HC       3
              *
```



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

150           KK    CP7S
151           KM   CP7S IS THE FLOW DRAINING SOUTH IN MUSTANG
152           KM   CP7E IS THE FLOW DRAINING EAST IN BRENT
153           DT    CP7E
154           DI      48
155           DQ      24
              *

156           KK    U305
157           BA   .0093
158           LS      0    86.7
159           UD   0.171
              *

160           KK     CP8
161           KM   COMBINE CP7S AND U305 AT GUY AND MUSTANG
162           HC       2
              *

163           KK    CP8S
164           KM   CP8S IS THE FLOW DRAINING SOUTH IN MUSTANG
165           KM   CP8E IS THE FLOW DRAINING EAST IN GUY
166           DT    CP8E
167           DI      27
168           DQ      13
              *

169           KK    U310
170           BA   .0102
171           LS      0    87.1
172           UD   0.171
              *

173           KK     CP9
174           KM   COMBINE CP5 CP8S AND U310 AT HORSE AND MUSTANG
175           HC       3
              *

176           KK    CP9E
177           KM   CP9S IS THE FLOW DRAINING SOUTH IN MUSTANG
178           KM   CP9E IS THE FLOW DRAINING EAST IN HORSE
179           KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
180           DT    CP9S
181           DI      82
182           DQ      56
              *

183           KK   RCP9E
184           KM   ROUTE TO CP10
185           RD    1950   .0050   0.016       0    TRAP       0      50
              *
```

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

  186         KK    CP6E
  187         KM   RETRIEVE CP6E
  188         DR    CP6E
              *

  189         KK   RCP6E
  190         KM   ROUTE TO CP10
  191         RD    4010   .0050   0.016       0    TRAP       0      50
              *

  192         KK    CP7E
  193         KM   RETRIEVE CP7E
  194         DR    CP7E
              *

  195         KK   RCP7E
  196         KM   ROUTE TO CP10
  197         RD    3370   .0050   0.016       0    TRAP       0      50
              *

  198         KK    CP8E
  199         KM   RETRIEVE CP8E
  200         DR    CP8E
              *

  201         KK   RCP8E
  202         KM   ROUTE TO CP10
  203         RD    2680    0050   0.016       0    TRAP       0      50
              *

  204         KK   DUMMY
  205         KM   COMBINE CP2S CP9E CP6E CP7E AND CP8E
  206         HC       5
              *

  207         KK    U410
  208         BA   .2013
  209         LS       0    85.7
  210         UD   0.354
              *

  211         KK    CP10
  212         KM   COMBINE DUMMY AND U410 AT HORSE AND JONES
  213         HC       2
              *

  214         KK   CP10E
  215         KM   CP10S IS THE FLOW DRAINING SOUTH IN JONES
  216         KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
  217         KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
  218         DT   CP10S
  219         DI     134
  220         DQ      83
              *
```



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

  221         KK  RCP10E
  222         KM   ROUTE TO CP11
  223         RD    2530   .0050   0.016       0    TRAP       0      50
              *

  224         KK    U440
  225         BA   .0523
  226         LS       0    80.9
  227         UD   0.290
              *

  228         KK   U440S
  229         KM   U440S IS THE FLOW DRAINING SOUTH IN BRADLEY
  230         KM   U440E IS THE FLOW DRAINING EAST IN BRENT
  231         DT   U440E
  232         DI      12
  233         DQ       7
              *

  234         KK  RU440S
  235         KM   ROUTE TO CP11
  236         RD    1345   .0050   0.016       0    TRAP       0      50
              *

  237         KK    U470
  238         BA   .2012
  239         LS       0    80.7
  240         UD   0.356
              *

  241         KK    CP11
  242         KM   COMBINE CP10E U440S AND U470 AT HORSE AND BRADLEY
  243         HC       3
              *

  244         KK   CP11E
  245         KM   CP11S IS THE FLOW DRAINING SOUTH IN BRADLEY
  246         KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
  247         KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
  248         DT   CP11S
  249         DI      79
  250         DQ      33
              *
```

```
 251          KK    U530
 252          BA   .0131
 253          LS      0    84.0
 254          UD   0.148
              *
1                                        HEC-1 INPUT                                                    PAGE  8

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


 255          KK    CP12
 256          KM   COMBINE CP11E AND U530 AT HORSE AND UNICORN
 257          HC       2
              *

 258          KK   CP12E
 259          KM   CP12S IS THE FLOW DRAINING SOUTH IN UNICORN
 260          KM   CP12E IS THE FLOW DRAINING EAST IN HORSE
 261          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
 262          DT   CP12S
 263          DI      48
 264          DQ      21
              *

 265          KK  RCP12E
 266          KM   ROUTE TO CP14
 267          RD    1825   .0050   0.016       0    TRAP       0      50
              *

 268          KK    U130
 269          BA   .0556
 270          LS      0    83.9
 271          UD   0.203
              *

 272          KK   U130S
 273          KM   U130S IS THE FLOW DRAINING SOUTH IN DECATUR
 274          KM   U130E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
 275          DT   U130E
 276          DI      19
 277          DQ      10
              *

 278          KK  RU130S
 279          KM   ROUTE TO CP13
 280          RD    1270   .0050   0.016       0    TRAP       0      50
              *

 281          KK    U550
 282          BA   .0534
 283          LS      0    85.4
 284          UD   0.225
              *

 285          KK    CP13
 286          KM   COMBINE U130S AND U550 AT BRENT AND DECATUR
 287          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE  9

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


 288          KK   CP13S
 289          KM   CP13S IS THE FLOW DRAINING SOUTH IN DECATUR
 290          KM   CP13E IS THE FLOW DRAINING EAST IN BRENT
 291          DT   CP13E
 292          DI      28
 293          DQ      17
              *

 294          KK  RCP13S
 295          KM   ROUTE TO CP14
 296          RD    1290   .0040   0.016       0    TRAP       0      50
              *

 297          KK   U440E
 298          KM   RETRIEVE U440E
 299          DR   U440E
              *

 300          KK  RU440E
 301          KM   ROUTE TO CP14
 302          RD    3850   .0040   0.016       0    TRAP       0      50
              *

 303          KK    U570
 304          BA   .1791
 305          LS      0    89.0
 306          UD   0.370
              *

 307          KK    CP14
 308          KM   COMBINE CP12E CP13S U440E AND U570 AT HORSE AND DECATUR
 309          HC       4
              *

 310          KK   CP14E
 311          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
 312          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
 313          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
 314          DT   CP14S
 315          DI      98
 316          DQ      30
              *
```

```
 317          KK  RCP14E
 318          KM   ROUTE TO CP15
 319          RD    2645   .0050   0.016       0    TRAP       0      50
              *

 320          KK    U610
 321          BA   .0479
 322          LS       0    84.2
 323          UD   0.311
              *
```



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

 324          KK    CP15
 325          KM   COMBINE CP14E AND U610 AT HORSE AND AVIARY
 326          HC       2
              *

 327          KK   CP15E
 328          KM   CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
 329          KM   CP15E IS THE FLOW DRAINING EAST IN HORSE
 330          KM   ULTIMATE SD IN HORSE CONVEYS 321 CFS EAST
 331          DT   CP15S
 332          DI      77
 333          DQ       0
              *

 334          KK    CP9S
 335          KM   RETRIEVE CP9S
 336          DR    CP9S
              *

 337          KK   RCP9S
 338          KM   ROUTE TO CP16
 339          RD    4770   .0050   0.016       0    TRAP       0      50
              *

 340          KK   CP10S
 341          KM   RETRIEVE CP10S
 342          DR   CP10S
              *

 343          KK  RCP10S
 344          KM   ROUTE TO CP16
 345          RD    2755   .0050   0.016       0    TRAP       0      50
              *

 346          KK    U280
 347          BA   .2688
 348          LS       0    83.3
 349          UD   0.375
              *

 350          KK    CP16
 351          KM   COMBINE CP9S CP10S AND U280 AT GRAND TETON AND JONES
 352          HC       3
              *

 353          KK   RCP16
 354          KM   ROUTE TO CP17
 355          RD    4900   .0050   0.016       0    TRAP       0      50
              *
```



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

 356          KK   CP11S
 357          KM   RETRIEVE CP11S
 358          DR   CP11S
              *

 359          KK  RCP11S
 360          KM   ROUTE TO CP17
 361          RD    5215   .0050   0.016       0    TRAP       0      50
              *

 362          KK   CP12S
 363          KM   RETRIEVE CP12S
 364          DR   CP12S
              *

 365          KK  RCP12S
 366          KM   ROUTE TO CP17
 367          RD    4550   .0050   0.016       0    TRAP       0      50
              *

 368          KK   CP14S
 369          KM   RETRIEVE CP14S
 370          DR   CP14S
              *

 371          KK  RCP14S
 372          KM   ROUTE TO CP17
 373          RD    2565   .0050   0.013       0    CIRC     2.5       0
              *

 374          KK    U510
 375          BA   .4885
 376          LS       0    84.8
 377          UD   0.510
              *
```

```
 378          KK    CP17
 379          KM   COMBINE CP16 CP11S CP12S CP14S AND U510 AT GRAND TETON AND DECATUR
 380          HC       5
              *

 381          KK    U650
 382          BA   .0085
 383          LS       0    89.3
 384          UD   0.106
              *

 385          KK    CP18
 386          KM   COMBINE CP17 AND U650 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
 387          HC       2
              *
1                                      HEC-1 INPUT                                                PAGE 12

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

 388          KK    U630
 389          BA   .0735
 390          LS       0    88.0
 391          UD   0.246
              *

 392          KK    CP19
 393          KM   COMBINE CP18 AND U630 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
 394          HC       2
              *

 395          KK    U620
 396          BA   .0472
 397          LS       0    88.1
 398          UD   0.246
              *

 399          KK    CP20
 400          KM   COMBINE CP19 AND U620 AT GRAND TETON AND SAN MATEO
 401          HC       2
              *

 402          KK   RCP20
 403          KM   ROUTE TO CP22
 404          RD    1230   .0050   0.016       0    TRAP       0      50
              *

 405          KK   CP15S
 406          KM   RETRIEVE CP15S
 407          DR   CP15S
              *

 408          KK  RCP15S
 409          KM   ROUTE TO CP20
 410          RD    2555   .0050   0.016       0    TRAP       0      50
              *

 411          KK    U680
 412          BA   .1122
 413          LS       0    88.0
 414          UD   0.303
              *

 415          KK    CP21
 416          KM   COMBINE CP15S AND U680 IN AVIARY JUST NORTH OF GRAND TETON
 417          HC       2
              *

 418          KK    U760
 419          BA   .0076
 420          LS       0    88.3
 421          UD   0.147
              *
1                                      HEC-1 INPUT                                                PAGE 13

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

 422          KK   CPGTA
 423          KM   COMBINE CP20 CP21 AND U760 AT GRAND TETON AND AVIARY
 424          HC       3
              *

 425          KK     2-3
 426          BA  0.0327
 427          LS       0    85.0
 428          UD   0.172
              *

 429          KK  CPGTA2
 430          HC       2
              *

 431          KK     2-1
 432          BA  0.0367
 433          LS       0    94.0
 434          UD   0.187
              *

 435          KK     2-2
 436          BA  0.0742
 437          LS       0    91.0
 438          UD   0.215
              *

 439          KK   2-14A
```

```
 440          BA  0.0027
 441          LS       0    85.0
 442          UD   0.135
              *

 443          KK      2A
 444          HC       3
              *

 445          KK      2B
 446          KO       2
 447          HC       2
              *

 448          KK     DB1
 449          KM   PARK HIGHLANDS WEST DETENTION BASIN
 450          KO       2
 451          RS       1    ELEV      -1
 452          SV       0   0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
 453          SE  2297.0  2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
 454          SQ       0      72     110     138     161     199     215     231     252    1975
 455          SE  2297.0  2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
 456          KO       1
              *
```



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

 457          KK     2-6
 458          BA  0.0180
 459          LS       0    94.0
 460          UD   0.158
              *

 461          KK      2C
 462          HC       2
              *

 463          KK     2-7
 464          BA  0.0156
 465          LS       0    85.0
 466          UD   0.137
              *

 467          KK      2D
 468          HC       2
              *

 469          KK     2-4
 470          BA  0.0334
 471          LS       0    94.0
 472          UD   0.137
              *

 473          KK   2-14B
 474          BA  0.0025
 475          LS       0    85.0
 476          UD   0.126
              *

 477          KK      2E
 478          HC       2
              *

 479          KK     2-5
 480          BA  0.0891
 481          LS       0    91.0
 482          UD   0.215
              *

 483          KK    2-5W
 484          DT    2-5E
 485          DI       0     100
 486          DQ       0      48
              *

 487          KK     2-9
 488          BA  0.0156
 489          LS       0    91.0
 490          UD   0.135
              *
```



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

 491          KK      2F
 492          HC       3
              *

 493          KK    2-5E
 494          DR    2-5E
              *

 495          KK    2-10
 496          BA  0.0163
 497          LS       0    91.0
 498          UD   0.132
              *

 499          KK      2G
 500          HC       3
              *

 501          KK     2-8
```

```
            502           BA  0.0286
            503           LS       0    94.0
            504           UD   0.144
                          *

            505           KK      2H
            506           HC       2
                          *

            507           KK      2I
            508           HC       2
                          *

            509           KK    2-11
            510           BA  0.0255
            511           LS       0    94.0
            512           UD   0.135
                          *

            513           KK    2-12
            514           BA  0.0272
            515           LS       0    90.0
            516           UD   0.150
                          *

            517           KK      2J
            518           HC       2
                          *

            519           KK      2K
            520           HC       2
                          *
```



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

            521           KK    2-13
            522           BA  0.0273
            523           LS       0    91.0
            524           UD   0.176
                          *

            525           KK     PT2
            526           HC       2
                          *
            527           ZZ
```

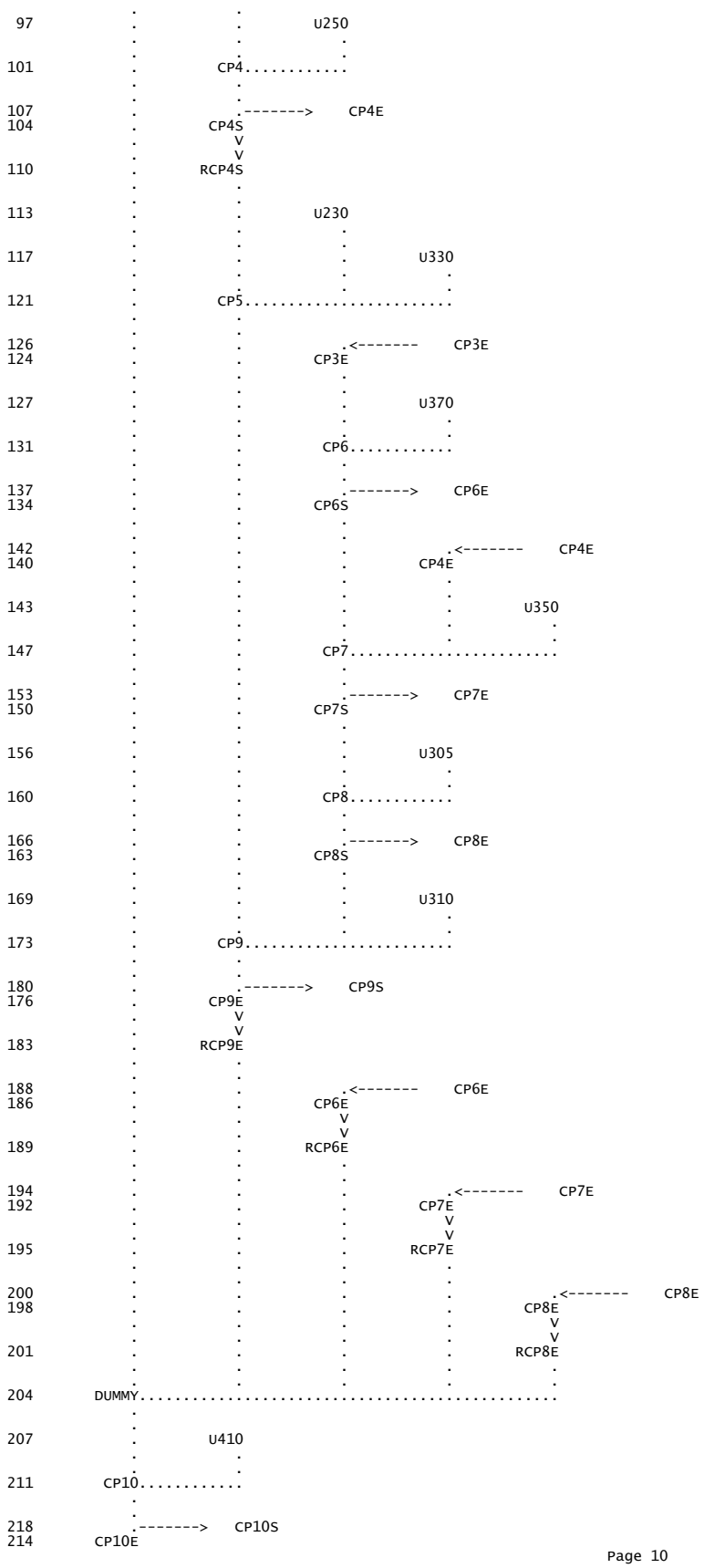
1

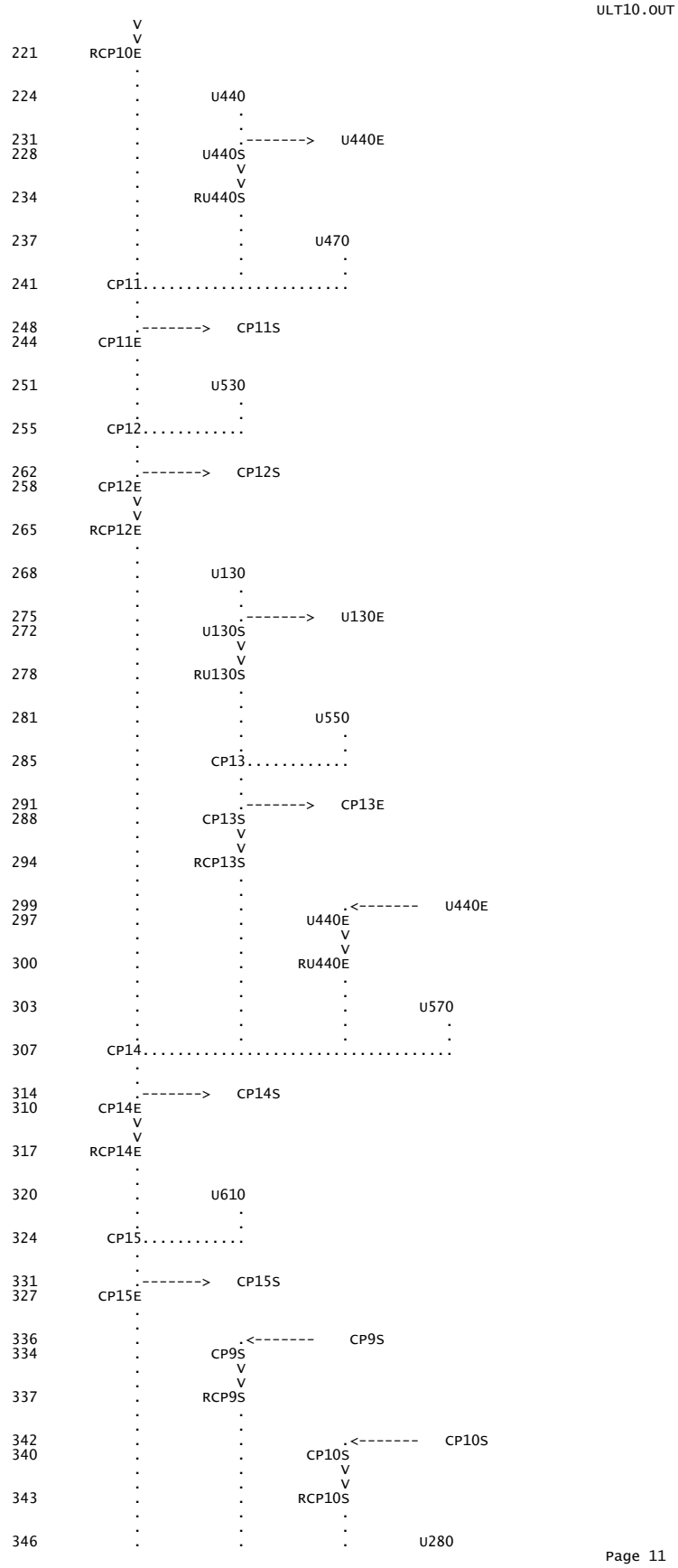
SCHEMATIC DIAGRAM OF STREAM NETWORK

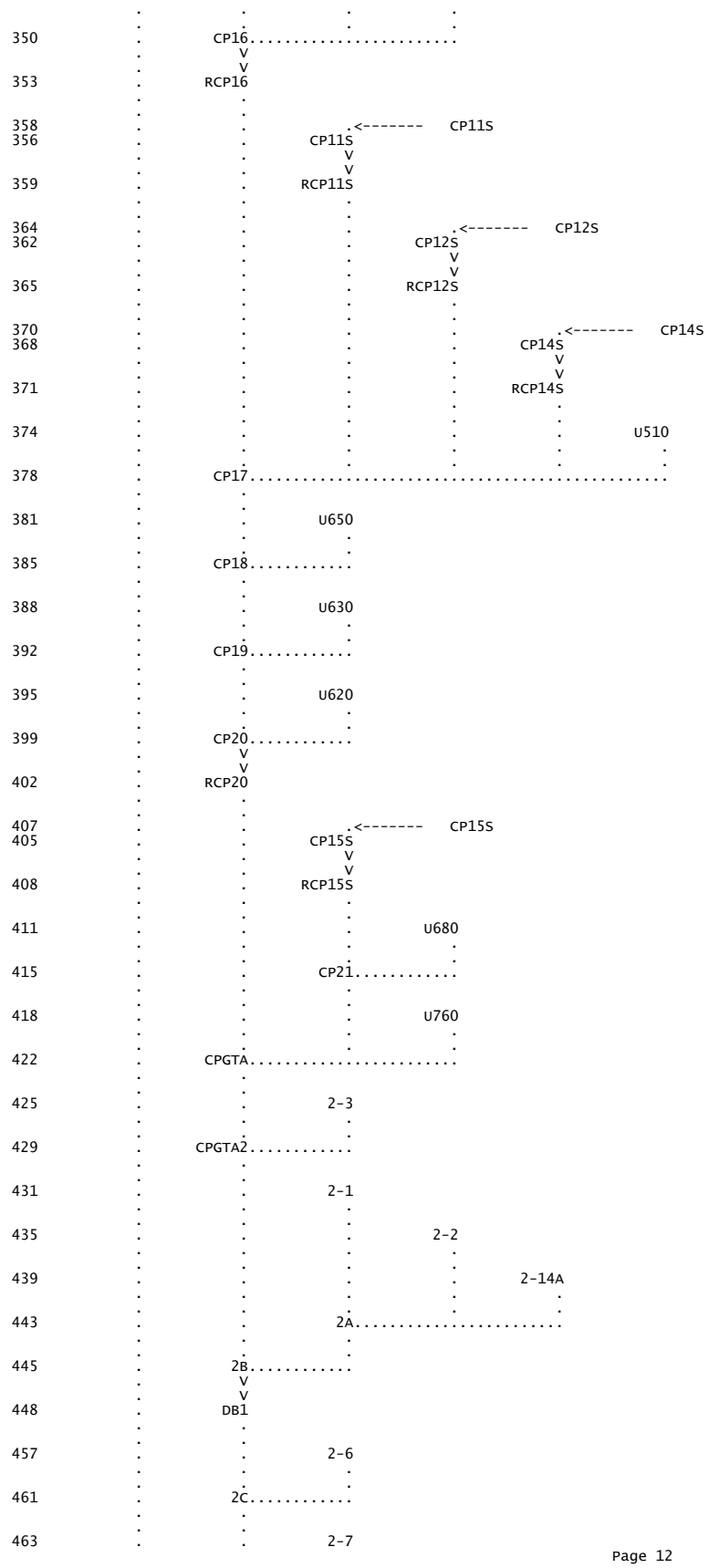
```
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

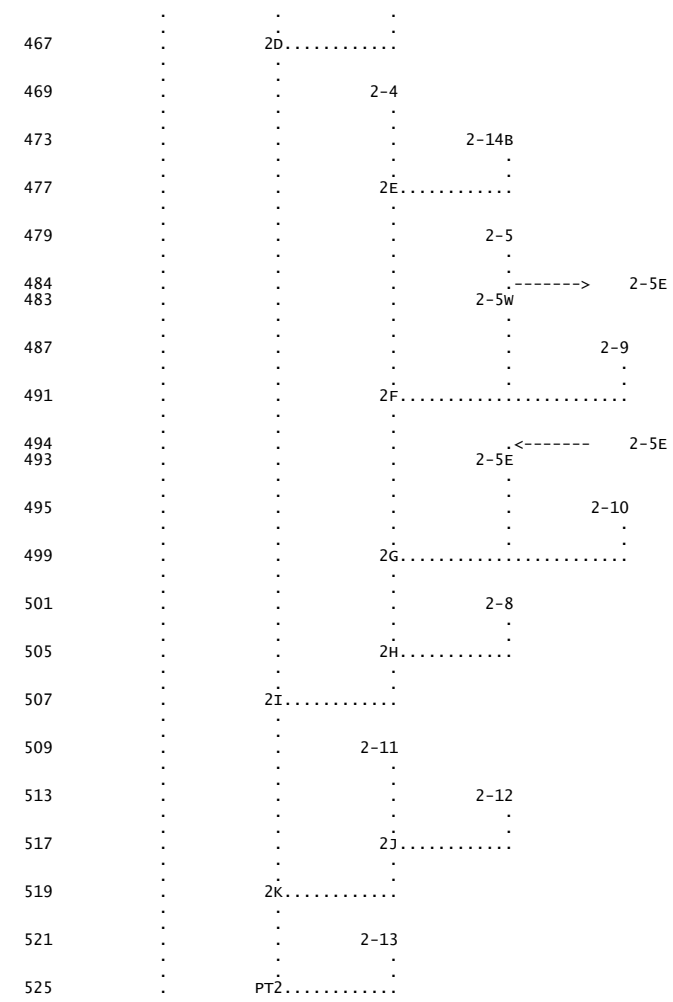
    NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

     21       U19O
                 .
                 .
     34          .        U17O
                 .          .
                 .          .
     38         CP1.........
                 .
                 .
     44          .------->    CP1S
     41       CP1E
                 V
                 V
     47      RCP1E
                 .
                 .
     50          .        U15O
                 .          .
                 .          .
     58          .          .------->   U15OE
     54          .       U15OS
                 .          V
                 .          V
     61          .       RU15O
                 .          .
                 .          .
     64          .          .       U155
                 .          .          .
                 .          .          .
     68         CP2.........
                 .
                 .
     75          .------->    CP2E
     71       CP2S
                 V
                 V
     78      RCP2S
                 .
                 .
     83          .          .<-------    CP1S
     81          .        CP1S
                 .          .
                 .          .
     84          .          .        U21O
                 .          .          .
                 .          .          .
     88          .         CP3.........
                 .          .
                 .          .
     94          .          .------->    CP3E
     91          .        CP3S
                 .          .
```


97 U250
101 CP4
107
104 CP4S
110 RCP4S
113 U230
117 U330
121 CP5
126
124 CP3E
127 U370
131 CP6
137
134 CP6S
142
140 CP4E
143 U350
147 CP7
153
150 CP7S
156 U305
160 CP8
166
163 CP8S
169 U310
173 CP9
180
176 CP9E
183 RCP9E
188
186 CP6E
189 RCP6E
194
192 CP7E
195 RCP7E
200
198 CP8E
201 RCP8E
204 DUMMY
207 U410
211 CP10
218
214 CP10E


RCP10E
U440
U440E
U440S
RU440S
U470
CP11
CP11S
CP11E
U530
CP12
CP12S
CP12E
RCP12E
U130
U130E
U130S
RU130S
U550
CP13
CP13E
CP13S
RCP13S
U440E
RU440E
U570
CP14
CP14S
CP14E
RCP14E
U610
CP15
CP15S
CP15E
CP9S
RCP9S
CP10S
RCP10S
U280


CP16
RCP16
CP11S
RCP11S
CP12S
RCP12S
CP14S
RCP14S
U510
CP17
U650
CP18
U630
CP19
U620
CP20
RCP20
CP15S
RCP15S
U680
CP21
U760
CPGTA
2-3
CPGTA2
2-1
2-2
2-14A
2A
2B
DB1
2-6
2C
2-7



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998               *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   27JUN14  TIME  14:27:50   *
 *                                       *
 *****************************************
```

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

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
ULTIMATE CONDITION

RETURN PERIOD ------- 10-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ ULT10.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS
DRAINAGE AREA (MI^2) DARF
10-YR EVENT   0.570

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

     IT          HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      2    0  ENDING DATE
```

```
                NDTIME        0055  ENDING TIME
                ICENT           19  CENTURY MARK

             COMPUTATION INTERVAL     .08 HOURS
                 TOTAL TIME BASE   24.92 HOURS

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

  JP          MULTI-PLAN OPTION
                NPLAN           1  NUMBER OF PLANS

  JR          MULTI-RATIO OPTION
              RATIOS OF PRECIPITATION
              .57


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


          **************
          *            *
445 KK    *        2B  *
          *            *
          **************

446 KO          OUTPUT CONTROL VARIABLES
                  IPRNT           2  PRINT CONTROL
                  IPLOT           0  PLOT CONTROL
                  QSCAL          0.  HYDROGRAPH PLOT SCALE

447 HC          HYDROGRAPH COMBINATION
                  ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
```

***

HYDROGRAPH AT STATION 2B
SUM OF 2 HYDROGRAPHS
PLAN 1, RATIO = .57

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	0.	*	1		0615	76	78.	*	1		1230	151	0.	*	1		1845	226	0.
1		0005	2	0.	*	1		0620	77	69.	*	1		1235	152	0.	*	1		1850	227	0.
1		0010	3	0.	*	1		0625	78	62.	*	1		1240	153	0.	*	1		1855	228	0.
1		0015	4	0.	*	1		0630	79	55.	*	1		1245	154	0.	*	1		1900	229	0.
1		0020	5	0.	*	1		0635	80	49.	*	1		1250	155	0.	*	1		1905	230	0.
1		0025	6	0.	*	1		0640	81	44.	*	1		1255	156	0.	*	1		1910	231	0.
1		0030	7	0.	*	1		0645	82	39.	*	1		1300	157	0.	*	1		1915	232	0.
1		0035	8	0.	*	1		0650	83	34.	*	1		1305	158	0.	*	1		1920	233	0.
1		0040	9	1.	*	1		0655	84	31.	*	1		1310	159	0.	*	1		1925	234	0.
1		0045	10	0.	*	1		0700	85	27.	*	1		1315	160	0.	*	1		1930	235	0.
1		0050	11	0.	*	1		0705	86	24.	*	1		1320	161	0.	*	1		1935	236	0.
1		0055	12	0.	*	1		0710	87	22.	*	1		1325	162	0.	*	1		1940	237	0.
1		0100	13	0.	*	1		0715	88	19.	*	1		1330	163	0.	*	1		1945	238	0.
1		0105	14	0.	*	1		0720	89	17.	*	1		1335	164	0.	*	1		1950	239	0.
1		0110	15	0.	*	1		0725	90	16.	*	1		1340	165	0.	*	1		1955	240	0.
1		0115	16	0.	*	1		0730	91	14.	*	1		1345	166	0.	*	1		2000	241	0.
1		0120	17	0.	*	1		0735	92	13.	*	1		1350	167	0.	*	1		2005	242	0.
1		0125	18	1.	*	1		0740	93	11.	*	1		1355	168	0.	*	1		2010	243	0.
1		0130	19	1.	*	1		0745	94	10.	*	1		1400	169	0.	*	1		2015	244	0.
1		0135	20	2.	*	1		0750	95	9.	*	1		1405	170	0.	*	1		2020	245	0.
1		0140	21	2.	*	1		0755	96	8.	*	1		1410	171	0.	*	1		2025	246	0.
1		0145	22	3.	*	1		0800	97	7.	*	1		1415	172	0.	*	1		2030	247	0.
1		0150	23	3.	*	1		0805	98	6.	*	1		1420	173	0.	*	1		2035	248	0.
1		0155	24	2.	*	1		0810	99	6.	*	1		1425	174	0.	*	1		2040	249	0.
1		0200	25	2.	*	1		0815	100	5.	*	1		1430	175	0.	*	1		2045	250	0.
1		0205	26	2.	*	1		0820	101	4.	*	1		1435	176	0.	*	1		2050	251	0.
1		0210	27	2.	*	1		0825	102	4.	*	1		1440	177	0.	*	1		2055	252	0.
1		0215	28	3.	*	1		0830	103	3.	*	1		1445	178	0.	*	1		2100	253	0.
1		0220	29	4.	*	1		0835	104	3.	*	1		1450	179	0.	*	1		2105	254	0.
1		0225	30	6.	*	1		0840	105	2.	*	1		1455	180	0.	*	1		2110	255	0.
1		0230	31	7.	*	1		0845	106	2.	*	1		1500	181	0.	*	1		2115	256	0.
1		0235	32	7.	*	1		0850	107	2.	*	1		1505	182	0.	*	1		2120	257	0.
1		0240	33	7.	*	1		0855	108	1.	*	1		1510	183	0.	*	1		2125	258	0.
1		0245	34	8.	*	1		0900	109	1.	*	1		1515	184	0.	*	1		2130	259	0.
1		0250	35	9.	*	1		0905	110	1.	*	1		1520	185	0.	*	1		2135	260	0.
1		0255	36	9.	*	1		0910	111	1.	*	1		1525	186	0.	*	1		2140	261	0.
1		0300	37	9.	*	1		0915	112	1.	*	1		1530	187	0.	*	1		2145	262	0.
1		0305	38	11.	*	1		0920	113	1.	*	1		1535	188	0.	*	1		2150	263	0.
1		0310	39	16.	*	1		0925	114	1.	*	1		1540	189	0.	*	1		2155	264	0.
1		0315	40	27.	*	1		0930	115	0.	*	1		1545	190	0.	*	1		2200	265	0.
1		0320	41	47.	*	1		0935	116	0.	*	1		1550	191	0.	*	1		2205	266	0.
1		0325	42	83.	*	1		0940	117	0.	*	1		1555	192	0.	*	1		2210	267	0.
1		0330	43	138.	*	1		0945	118	0.	*	1		1600	193	0.	*	1		2215	268	0.
1		0335	44	199.	*	1		0950	119	0.	*	1		1605	194	0.	*	1		2220	269	0.
1		0340	45	244.	*	1		0955	120	0.	*	1		1610	195	0.	*	1		2225	270	0.
1		0345	46	267.	*	1		1000	121	0.	*	1		1615	196	0.	*	1		2230	271	0.
1		0350	47	274.	*	1		1005	122	0.	*	1		1620	197	0.	*	1		2235	272	0.
1		0355	48	272.	*	1		1010	123	0.	*	1		1625	198	0.	*	1		2240	273	0.
1		0400	49	278.	*	1		1015	124	0.	*	1		1630	199	0.	*	1		2245	274	0.
1		0405	50	298.	*	1		1020	125	0.	*	1		1635	200	0.	*	1		2250	275	0.
1		0410	51	316.	*	1		1025	126	0.	*	1		1640	201	0.	*	1		2255	276	0.
1		0415	52	342.	*	1		1030	127	0.	*	1		1645	202	0.	*	1		2300	277	0.
1		0420	53	366.	*	1		1035	128	0.	*	1		1650	203	0.	*	1		2305	278	0.

1	0425	54	370.	*	1	1040	129	0.	*	1	1655	204	0.	*	1	2310	279	0.
1	0430	55	361.	*	1	1045	130	0.	*	1	1700	205	0.	*	1	2315	280	0.
1	0435	56	346.	*	1	1050	131	0.	*	1	1705	206	0.	*	1	2320	281	0.
1	0440	57	332.	*	1	1055	132	0.	*	1	1710	207	0.	*	1	2325	282	0.
1	0445	58	315.	*	1	1100	133	0.	*	1	1715	208	0.	*	1	2330	283	0.
1	0450	59	297.	*	1	1105	134	0.	*	1	1720	209	0.	*	1	2335	284	0.
1	0455	60	283.	*	1	1110	135	0.	*	1	1725	210	0.	*	1	2340	285	0.
1	0500	61	268.	*	1	1115	136	0.	*	1	1730	211	0.	*	1	2345	286	0.
1	0505	62	252.	*	1	1120	137	0.	*	1	1735	212	0.	*	1	2350	287	0.
1	0510	63	236.	*	1	1125	138	0.	*	1	1740	213	0.	*	1	2355	288	0.
1	0515	64	220.	*	1	1130	139	0.	*	1	1745	214	0.	*	2	0000	289	0.
1	0520	65	205.	*	1	1135	140	0.	*	1	1750	215	0.	*	2	0005	290	0.
1	0525	66	192.	*	1	1140	141	0.	*	1	1755	216	0.	*	2	0010	291	0.
1	0530	67	179.	*	1	1145	142	0.	*	1	1800	217	0.	*	2	0015	292	0.
1	0535	68	167.	*	1	1150	143	0.	*	1	1805	218	0.	*	2	0020	293	0.
1	0540	69	155.	*	1	1155	144	0.	*	1	1810	219	0.	*	2	0025	294	0.
1	0545	70	143.	*	1	1200	145	0.	*	1	1815	220	0.	*	2	0030	295	0.
1	0550	71	131.	*	1	1205	146	0.	*	1	1820	221	0.	*	2	0035	296	0.
1	0555	72	120.	*	1	1210	147	0.	*	1	1825	222	0.	*	2	0040	297	0.
1	0600	73	108.	*	1	1215	148	0.	*	1	1830	223	0.	*	2	0045	298	0.
1	0605	74	98.	*	1	1220	149	0.	*	1	1835	224	0.	*	2	0050	299	0.
1	0610	75	88.	*	1	1225	150	0.	*	1	1840	225	0.	*	2	0055	300	0.
				*					*					*					

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 370.	4.42		122.	31.	30.	30.
		(INCHES)	.984	.990	.990	.990
		(AC-FT)	60.	61.	61.	61.

CUMULATIVE AREA = 1.15 SQ MI

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          **************
          *            *
448 KK    *       DB1  *
          *            *
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450 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           2  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

456 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           1  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

451 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        ELEV  TYPE OF INITIAL CONDITION
                    RSVRIC       -1.00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

452 SV            STORAGE          .0        .1       2.4      10.5      24.0      38.2      52.7     113.5     137.4     170.6

453 SE          ELEVATION     2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2307.00   2308.50   2310.50

454 SQ          DISCHARGE          0.       72.      110.      138.      161.      199.      215.      231.      252.     1975.

455 SE          ELEVATION     2297.00   2300.00   2301.00   2302.00   2303.00   2305.00   2306.00   2307.00   2308.50   2310.50

                                                      ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00       .13      2.43     10.54     24.01     38.19     52.70     83.07     98.26    113.45
            OUTFLOW        .00     24.00     48.00     72.00    110.00    138.00    161.00    199.00    215.00    231.00
          ELEVATION    2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2305.00   2306.00   2307.00

            STORAGE     137.41    170.56
            OUTFLOW     252.00   1975.00
          ELEVATION    2308.50   2310.50
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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .57

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	91.	17.3	2300.5	1		1640	201	0.	.0	2297.0
1		0005	2	0.	.0	2297.0	1		0825	102	89.	16.7	2300.5	1		1645	202	0.	.0	2297.0
1		0010	3	0.	.0	2297.0	1		0830	103	88.	16.1	2300.4	1		1650	203	0.	.0	2297.0
1		0015	4	0.	.0	2297.0	1		0835	104	86.	15.5	2300.4	1		1655	204	0.	.0	2297.0
1		0020	5	0.	.0	2297.0	1		0840	105	84.	14.9	2300.3	1		1700	205	0.	.0	2297.0
1		0025	6	0.	.0	2297.0	1		0845	106	83.	14.4	2300.3	1		1705	206	0.	.0	2297.0
1		0030	7	0.	.0	2297.0	1		0850	107	81.	13.8	2300.2	1		1710	207	0.	.0	2297.0
1		0035	8	0.	.0	2297.0	1		0855	108	80.	13.3	2300.2	1		1715	208	0.	.0	2297.0

1	0040	9	0.	.0	2297.0	*	1	0900	109	78.	12.8	2300.2	*	1	1720	209	0.	.0	2297.0
1	0045	10	1.	.0	2297.0	*	1	0905	110	77.	12.2	2300.1	*	1	1725	210	0.	.0	2297.0
1	0050	11	0.	.0	2297.0	*	1	0910	111	75.	11.7	2300.1	*	1	1730	211	0.	.0	2297.0
1	0055	12	0.	.0	2297.0	*	1	0915	112	74.	11.2	2300.0	*	1	1735	212	0.	.0	2297.0
1	0100	13	0.	.0	2297.0	*	1	0920	113	72.	10.7	2300.0	*	1	1740	213	0.	.0	2297.0
1	0105	14	0.	.0	2297.0	*	1	0925	114	71.	10.2	2300.0	*	1	1745	214	0.	.0	2297.0
1	0110	15	0.	.0	2297.0	*	1	0930	115	70.	9.7	2299.9	*	1	1750	215	0.	.0	2297.0
1	0115	16	0.	.0	2297.0	*	1	0935	116	68.	9.3	2299.8	*	1	1755	216	0.	.0	2297.0
1	0120	17	0.	.0	2297.0	*	1	0940	117	67.	8.8	2299.8	*	1	1800	217	0.	.0	2297.0
1	0125	18	1.	.0	2297.0	*	1	0945	118	66.	8.3	2299.7	*	1	1805	218	0.	.0	2297.0
1	0130	19	1.	.0	2297.0	*	1	0950	119	64.	7.9	2299.7	*	1	1810	219	0.	.0	2297.0
1	0135	20	1.	.0	2297.1	*	1	0955	120	63.	7.5	2299.6	*	1	1815	220	0.	.0	2297.0
1	0140	21	2.	.0	2297.1	*	1	1000	121	62.	7.0	2299.6	*	1	1820	221	0.	.0	2297.0
1	0145	22	2.	.0	2297.1	*	1	1005	122	60.	6.6	2299.5	*	1	1825	222	0.	.0	2297.0
1	0150	23	3.	.0	2297.1	*	1	1010	123	59.	6.2	2299.5	*	1	1830	223	0.	.0	2297.0
1	0155	24	2.	.0	2297.1	*	1	1015	124	58.	5.8	2299.4	*	1	1835	224	0.	.0	2297.0
1	0200	25	2.	.0	2297.1	*	1	1020	125	57.	5.4	2299.4	*	1	1840	225	0.	.0	2297.0
1	0205	26	2.	.0	2297.1	*	1	1025	126	56.	5.0	2299.3	*	1	1845	226	0.	.0	2297.0
1	0210	27	2.	.0	2297.1	*	1	1030	127	55.	4.6	2299.3	*	1	1850	227	0.	.0	2297.0
1	0215	28	2.	.0	2297.1	*	1	1035	128	53.	4.3	2299.2	*	1	1855	228	0.	.0	2297.0
1	0220	29	3.	.0	2297.1	*	1	1040	129	52.	3.9	2299.2	*	1	1900	229	0.	.0	2297.0
1	0225	30	5.	.0	2297.2	*	1	1045	130	51.	3.5	2299.1	*	1	1905	230	0.	.0	2297.0
1	0230	31	6.	.0	2297.3	*	1	1050	131	50.	3.2	2299.1	*	1	1910	231	0.	.0	2297.0
1	0235	32	7.	.0	2297.3	*	1	1055	132	49.	2.9	2299.1	*	1	1915	232	0.	.0	2297.0
1	0240	33	7.	.0	2297.3	*	1	1100	133	48.	2.5	2299.0	*	1	1920	233	0.	.0	2297.0
1	0245	34	7.	.0	2297.3	*	1	1105	134	46.	2.2	2298.9	*	1	1925	234	0.	.0	2297.0
1	0250	35	8.	.0	2297.3	*	1	1110	135	42.	1.9	2298.8	*	1	1930	235	0.	.0	2297.0
1	0255	36	9.	.0	2297.4	*	1	1115	136	39.	1.6	2298.6	*	1	1935	236	0.	.0	2297.0
1	0300	37	9.	.0	2297.4	*	1	1120	137	37.	1.3	2298.5	*	1	1940	237	0.	.0	2297.0
1	0305	38	10.	.1	2297.4	*	1	1125	138	34.	1.1	2298.4	*	1	1945	238	0.	.0	2297.0
1	0310	39	13.	.1	2297.5	*	1	1130	139	32.	.9	2298.3	*	1	1950	239	0.	.0	2297.0
1	0315	40	20.	.1	2297.8	*	1	1135	140	30.	.7	2298.2	*	1	1955	240	0.	.0	2297.0
1	0320	41	25.	.2	2298.0	*	1	1140	141	28.	.5	2298.1	*	1	2000	241	0.	.0	2297.0
1	0325	42	28.	.5	2298.1	*	1	1145	142	26.	.3	2298.1	*	1	2005	242	0.	.0	2297.0
1	0330	43	33.	1.0	2298.4	*	1	1150	143	23.	.1	2297.9	*	1	2010	243	0.	.0	2297.0
1	0335	44	43.	1.9	2298.8	*	1	1155	144	5.	.0	2297.2	*	1	2015	244	0.	.0	2297.0
1	0340	45	50.	3.1	2299.1	*	1	1200	145	1.	.0	2297.0	*	1	2020	245	0.	.0	2297.0
1	0345	46	54.	4.5	2299.3	*	1	1205	146	0.	.0	2297.0	*	1	2025	246	0.	.0	2297.0
1	0350	47	59.	6.0	2299.4	*	1	1210	147	0.	.0	2297.0	*	1	2030	247	0.	.0	2297.0
1	0355	48	63.	7.5	2299.6	*	1	1215	148	0.	.0	2297.0	*	1	2035	248	0.	.0	2297.0
1	0400	49	67.	8.9	2299.8	*	1	1220	149	0.	.0	2297.0	*	1	2040	249	0.	.0	2297.0
1	0405	50	72.	10.4	2300.0	*	1	1225	150	0.	.0	2297.0	*	1	2045	250	0.	.0	2297.0
1	0410	51	76.	12.0	2300.1	*	1	1230	151	0.	.0	2297.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	81.	13.7	2300.2	*	1	1235	152	0.	.0	2297.0	*	1	2055	252	0.	.0	2297.0
1	0420	53	86.	15.6	2300.4	*	1	1240	153	0.	.0	2297.0	*	1	2100	253	0.	.0	2297.0
1	0425	54	92.	17.5	2300.5	*	1	1245	154	0.	.0	2297.0	*	1	2105	254	0.	.0	2297.0
1	0430	55	97.	19.4	2300.7	*	1	1250	155	0.	.0	2297.0	*	1	2110	255	0.	.0	2297.0
1	0435	56	102.	21.1	2300.8	*	1	1255	156	0.	.0	2297.0	*	1	2115	256	0.	.0	2297.0
1	0440	57	106.	22.8	2300.9	*	1	1300	157	0.	.0	2297.0	*	1	2120	257	0.	.0	2297.0
1	0445	58	110.	24.2	2301.0	*	1	1305	158	0.	.0	2297.0	*	1	2125	258	0.	.0	2297.0
1	0450	59	113.	25.6	2301.1	*	1	1310	159	0.	.0	2297.0	*	1	2130	259	0.	.0	2297.0
1	0455	60	115.	26.8	2301.2	*	1	1315	160	0.	.0	2297.0	*	1	2135	260	0.	.0	2297.0
1	0500	61	118.	27.9	2301.3	*	1	1320	161	0.	.0	2297.0	*	1	2140	261	0.	.0	2297.0
1	0505	62	120.	28.8	2301.3	*	1	1325	162	0.	.0	2297.0	*	1	2145	262	0.	.0	2297.0
1	0510	63	121.	29.7	2301.4	*	1	1330	163	0.	.0	2297.0	*	1	2150	263	0.	.0	2297.0
1	0515	64	123.	30.4	2301.5	*	1	1335	164	0.	.0	2297.0	*	1	2155	264	0.	.0	2297.0
1	0520	65	124.	31.0	2301.5	*	1	1340	165	0.	.0	2297.0	*	1	2200	265	0.	.0	2297.0
1	0525	66	125.	31.6	2301.5	*	1	1345	166	0.	.0	2297.0	*	1	2205	266	0.	.0	2297.0
1	0530	67	126.	32.0	2301.6	*	1	1350	167	0.	.0	2297.0	*	1	2210	267	0.	.0	2297.0
1	0535	68	126.	32.3	2301.6	*	1	1355	168	0.	.0	2297.0	*	1	2215	268	0.	.0	2297.0
1	0540	69	127.	32.5	2301.6	*	1	1400	169	0.	.0	2297.0	*	1	2220	269	0.	.0	2297.0
1	0545	70	127.	32.7	2301.6	*	1	1405	170	0.	.0	2297.0	*	1	2225	270	0.	.0	2297.0
1	0550	71	127.	32.7	2301.6	*	1	1410	171	0.	.0	2297.0	*	1	2230	271	0.	.0	2297.0
1	0555	72	127.	32.7	2301.6	*	1	1415	172	0.	.0	2297.0	*	1	2235	272	0.	.0	2297.0
1	0600	73	127.	32.6	2301.6	*	1	1420	173	0.	.0	2297.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	127.	32.5	2301.6	*	1	1425	174	0.	.0	2297.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	126.	32.2	2301.6	*	1	1430	175	0.	.0	2297.0	*	1	2250	275	0.	.0	2297.0
1	0615	76	126.	31.9	2301.6	*	1	1435	176	0.	.0	2297.0	*	1	2255	276	0.	.0	2297.0
1	0620	77	125.	31.6	2301.5	*	1	1440	177	0.	.0	2297.0	*	1	2300	277	0.	.0	2297.0
1	0625	78	124.	31.2	2301.5	*	1	1445	178	0.	.0	2297.0	*	1	2305	278	0.	.0	2297.0
1	0630	79	123.	30.7	2301.5	*	1	1450	179	0.	.0	2297.0	*	1	2310	279	0.	.0	2297.0
1	0635	80	122.	30.2	2301.4	*	1	1455	180	0.	.0	2297.0	*	1	2315	280	0.	.0	2297.0
1	0640	81	121.	29.7	2301.4	*	1	1500	181	0.	.0	2297.0	*	1	2320	281	0.	.0	2297.0
1	0645	82	120.	29.2	2301.4	*	1	1505	182	0.	.0	2297.0	*	1	2325	282	0.	.0	2297.0
1	0650	83	119.	28.6	2301.3	*	1	1510	183	0.	.0	2297.0	*	1	2330	283	0.	.0	2297.0
1	0655	84	118.	28.0	2301.3	*	1	1515	184	0.	.0	2297.0	*	1	2335	284	0.	.0	2297.0
1	0700	85	117.	27.4	2301.2	*	1	1520	185	0.	.0	2297.0	*	1	2340	285	0.	.0	2297.0
1	0705	86	115.	26.8	2301.2	*	1	1525	186	0.	.0	2297.0	*	1	2345	286	0.	.0	2297.0
1	0710	87	114.	26.2	2301.2	*	1	1530	187	0.	.0	2297.0	*	1	2350	287	0.	.0	2297.0
1	0715	88	113.	25.5	2301.1	*	1	1535	188	0.	.0	2297.0	*	1	2355	288	0.	.0	2297.0
1	0720	89	112.	24.9	2301.1	*	1	1540	189	0.	.0	2297.0	*	2	0000	289	0.	.0	2297.0
1	0725	90	110.	24.2	2301.0	*	1	1545	190	0.	.0	2297.0	*	2	0005	290	0.	.0	2297.0
1	0730	91	109.	23.6	2301.0	*	1	1550	191	0.	.0	2297.0	*	2	0010	291	0.	.0	2297.0
1	0735	92	107.	22.9	2300.9	*	1	1555	192	0.	.0	2297.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	105.	22.3	2300.9	*	1	1600	193	0.	.0	2297.0	*	2	0020	293	0.	.0	2297.0
1	0745	94	103.	21.6	2300.8	*	1	1605	194	0.	.0	2297.0	*	2	0025	294	0.	.0	2297.0
1	0750	95	101.	21.0	2300.8	*	1	1610	195	0.	.0	2297.0	*	2	0030	295	0.	.0	2297.0
1	0755	96	100.	20.3	2300.7	*	1	1615	196	0.	.0	2297.0	*	2	0035	296	0.	.0	2297.0
1	0800	97	98.	19.7	2300.7	*	1	1620	197	0.	.0	2297.0	*	2	0040	297	0.	.0	2297.0
1	0805	98	96.	19.1	2300.6	*	1	1625	198	0.	.0	2297.0	*	2	0045	298	0.	.0	2297.0
1	0810	99	94.	18.5	2300.6	*	1	1630	199	0.	.0	2297.0	*	2	0050	299	0.	.0	2297.0
1	0815	100	93.	17.9	2300.5	*	1	1635	200	0.	.0	2297.0	*	2	0055	300	0.	.0	2297.0
						*							*						

****

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 127.	5.83		101.	31.	30.	30.
		(INCHES)	.818	.990	.990	.990
		(AC-FT)	50.	61.	61.	61.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				

33.	5.83	22.	6.	6.	6.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2301.62	5.83	2300.81	2298.17	2298.13	2298.13

CUMULATIVE AREA = 1.15 SQ MI

1

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .57
HYDROGRAPH AT					
+	U190	.37	1	FLOW	59.
				TIME	4.08
HYDROGRAPH AT					
+	U170	.25	1	FLOW	51.
				TIME	4.00
2 COMBINED AT					
+	CP1	.62	1	FLOW	109.
				TIME	4.00
DIVERSION TO					
+	CP1S	.62	1	FLOW	49.
				TIME	4.00
HYDROGRAPH AT					
+	CP1E	.62	1	FLOW	60.
				TIME	4.00
ROUTED TO					
+	RCP1E	.62	1	FLOW	60.
				TIME	4.25
HYDROGRAPH AT					
+	U150	.13	1	FLOW	35.
				TIME	3.83
DIVERSION TO					
+	U150E	.13	1	FLOW	20.
				TIME	3.83
HYDROGRAPH AT					
+	U150S	.13	1	FLOW	15.
				TIME	3.83
ROUTED TO					
+	RU150	.13	1	FLOW	15.
				TIME	3.92
HYDROGRAPH AT					
+	U155	.13	1	FLOW	35.
				TIME	3.75
3 COMBINED AT					
+	CP2	.88	1	FLOW	92.
				TIME	4.08
DIVERSION TO					
+	CP2E	.88	1	FLOW	69.
				TIME	4.08
HYDROGRAPH AT					
+	CP2S	.88	1	FLOW	23.
				TIME	4.08
ROUTED TO					
+	RCP2S	.88	1	FLOW	23.
				TIME	4.33
HYDROGRAPH AT					
+	CP1S	.00	1	FLOW	49.
				TIME	4.00
HYDROGRAPH AT					
+	U210	.07	1	FLOW	20.
				TIME	3.75
2 COMBINED AT					
+	CP3	.07	1	FLOW	64.
				TIME	3.92
DIVERSION TO					
+	CP3E	.07	1	FLOW	29.
				TIME	3.92
HYDROGRAPH AT					
+	CP3S	.07	1	FLOW	35.
				TIME	3.92
HYDROGRAPH AT					
+	U250	.07	1	FLOW	19.
				TIME	3.75
2 COMBINED AT					
+	CP4	.14	1	FLOW	52.

				TIME	3.83
DIVERSION TO					
+	CP4E	.14	1	FLOW	25.
				TIME	3.83
HYDROGRAPH AT					
+	CP4S	.14	1	FLOW	27.
				TIME	3.83
ROUTED TO					
+	RCP4S	.14	1	FLOW	27.
				TIME	4.00
HYDROGRAPH AT					
+	U230	.14	1	FLOW	37.
				TIME	3.83
HYDROGRAPH AT					
+	U330	.01	1	FLOW	6.
				TIME	3.67
3 COMBINED AT					
+	CP5	.30	1	FLOW	65.
				TIME	3.83
HYDROGRAPH AT					
+	CP3E	.00	1	FLOW	29.
				TIME	3.92
HYDROGRAPH AT					
+	U370	.02	1	FLOW	7.
				TIME	3.58
2 COMBINED AT					
+	CP6	.02	1	FLOW	32.
				TIME	3.92
DIVERSION TO					
+	CP6E	.02	1	FLOW	14.
				TIME	3.92
HYDROGRAPH AT					
+	CP6S	.02	1	FLOW	18.
				TIME	3.92
HYDROGRAPH AT					
+	CP4E	.00	1	FLOW	25.
				TIME	3.83
HYDROGRAPH AT					
+	U350	.02	1	FLOW	7.
				TIME	3.58
3 COMBINED AT					
+	CP7	.03	1	FLOW	48.
				TIME	3.83
DIVERSION TO					
+	CP7E	.03	1	FLOW	24.
				TIME	3.83
HYDROGRAPH AT					
+	CP7S	.03	1	FLOW	24.
				TIME	3.83
HYDROGRAPH AT					
+	U305	.01	1	FLOW	4.
				TIME	3.58
2 COMBINED AT					
+	CP8	.04	1	FLOW	27.
				TIME	3.75
DIVERSION TO					
+	CP8E	.04	1	FLOW	13.
				TIME	3.75
HYDROGRAPH AT					
+	CP8S	.04	1	FLOW	14.
				TIME	3.75
HYDROGRAPH AT					
+	U310	.01	1	FLOW	5.
				TIME	3.58
3 COMBINED AT					
+	CP9	.35	1	FLOW	82.
				TIME	3.83
DIVERSION TO					
+	CP9S	.35	1	FLOW	56.
				TIME	3.83
HYDROGRAPH AT					
+	CP9E	.35	1	FLOW	26.
				TIME	3.83
ROUTED TO					
+	RCP9E	.35	1	FLOW	26.
				TIME	4.00
HYDROGRAPH AT					
+	CP6E	.00	1	FLOW	14.
				TIME	3.92

```
 ROUTED TO
+                  RCP6E       .00     1   FLOW          14.
                                           TIME        4.33

 HYDROGRAPH AT
+                   CP7E       .00     1   FLOW          24.
                                           TIME        3.83

 ROUTED TO
+                  RCP7E       .00     1   FLOW          24.
                                           TIME        4.08

 HYDROGRAPH AT
+                   CP8E       .00     1   FLOW          13.
                                           TIME        3.75

 ROUTED TO
+                  RCP8E       .00     1   FLOW          13.
                                           TIME        3.83

  5 COMBINED AT
+                  DUMMY      1.23     1   FLOW          91.
                                           TIME        4.17

 HYDROGRAPH AT
+                   U410       .20     1   FLOW          64.
                                           TIME        3.83

  2 COMBINED AT
+                   CP10      1.43     1   FLOW         134.
                                           TIME        4.08

 DIVERSION TO
+                  CP10S      1.43     1   FLOW          83.
                                           TIME        4.08

 HYDROGRAPH AT
+                  CP10E      1.43     1   FLOW          51.
                                           TIME        4.08

 ROUTED TO
+                 RCP10E      1.43     1   FLOW          51.
                                           TIME        4.25

 HYDROGRAPH AT
+                   U440       .05     1   FLOW          12.
                                           TIME        3.75

 DIVERSION TO
+                  U440E       .05     1   FLOW           7.
                                           TIME        3.75

 HYDROGRAPH AT
+                  U440S       .05     1   FLOW           5.
                                           TIME        3.75

 ROUTED TO
+                 RU440S       .05     1   FLOW           5.
                                           TIME        3.92

 HYDROGRAPH AT
+                   U470       .20     1   FLOW          40.
                                           TIME        3.83

  3 COMBINED AT
+                   CP11      1.69     1   FLOW          79.
                                           TIME        4.08

 DIVERSION TO
+                  CP11S      1.69     1   FLOW          33.
                                           TIME        4.08

 HYDROGRAPH AT
+                  CP11E      1.69     1   FLOW          46.
                                           TIME        4.08

 HYDROGRAPH AT
+                   U530       .01     1   FLOW           5.
                                           TIME        3.58

  2 COMBINED AT
+                   CP12      1.70     1   FLOW          48.
                                           TIME        4.08

 DIVERSION TO
+                  CP12S      1.70     1   FLOW          21.
                                           TIME        4.08

 HYDROGRAPH AT
+                  CP12E      1.70     1   FLOW          27.
                                           TIME        4.08

 ROUTED TO
+                 RCP12E      1.70     1   FLOW          27.
                                           TIME        4.25

 HYDROGRAPH AT
+                   U130       .06     1   FLOW          19.
                                           TIME        3.67

 DIVERSION TO
+                  U130E       .06     1   FLOW          10.
                                           TIME        3.67

 HYDROGRAPH AT
+                  U130S       .06     1   FLOW           9.
```

				TIME	3.67
ROUTED TO					
+	RU130S	.06	1	FLOW	9.
				TIME	3.83
HYDROGRAPH AT					
+	U550	.05	1	FLOW	20.
				TIME	3.67
2 COMBINED AT					
+	CP13	.11	1	FLOW	28.
				TIME	3.75
DIVERSION TO					
+	CP13E	.11	1	FLOW	17.
				TIME	3.75
HYDROGRAPH AT					
+	CP13S	.11	1	FLOW	11.
				TIME	3.75
ROUTED TO					
+	RCP13S	.11	1	FLOW	11.
				TIME	3.92
HYDROGRAPH AT					
+	U440E	.00	1	FLOW	7.
				TIME	3.75
ROUTED TO					
+	RU440E	.00	1	FLOW	7.
				TIME	4.33
HYDROGRAPH AT					
+	U570	.18	1	FLOW	73.
				TIME	3.83
4 COMBINED AT					
+	CP14	1.99	1	FLOW	98.
				TIME	3.92
DIVERSION TO					
+	CP14S	1.99	1	FLOW	30.
				TIME	3.92
HYDROGRAPH AT					
+	CP14E	1.99	1	FLOW	68.
				TIME	3.92
ROUTED TO					
+	RCP14E	1.99	1	FLOW	69.
				TIME	4.08
HYDROGRAPH AT					
+	U610	.05	1	FLOW	14.
				TIME	3.75
2 COMBINED AT					
+	CP15	2.03	1	FLOW	77.
				TIME	4.08
DIVERSION TO					
+	CP15S	2.03	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	CP15E	2.03	1	FLOW	77.
				TIME	4.08
HYDROGRAPH AT					
+	CP9S	.00	1	FLOW	56.
				TIME	3.83
ROUTED TO					
+	RCP9S	.00	1	FLOW	56.
				TIME	4.17
HYDROGRAPH AT					
+	CP10S	.00	1	FLOW	83.
				TIME	4.08
ROUTED TO					
+	RCP10S	.00	1	FLOW	83.
				TIME	4.25
HYDROGRAPH AT					
+	U280	.27	1	FLOW	67.
				TIME	3.83
3 COMBINED AT					
+	CP16	.27	1	FLOW	181.
				TIME	4.17
ROUTED TO					
+	RCP16	.27	1	FLOW	185.
				TIME	4.42
HYDROGRAPH AT					
+	CP11S	.00	1	FLOW	33.
				TIME	4.08
ROUTED TO					
+	RCP11S	.00	1	FLOW	34.
				TIME	4.50

HYDROGRAPH AT					
+	CP12S	.00	1	FLOW	21.
				TIME	4.08
ROUTED TO					
+	RCP12S	.00	1	FLOW	22.
				TIME	4.42
HYDROGRAPH AT					
+	CP14S	.00	1	FLOW	30.
				TIME	3.92
ROUTED TO					
+	RCP14S	.00	1	FLOW	30.
				TIME	4.00
HYDROGRAPH AT					
+	U510	.49	1	FLOW	118.
				TIME	4.00
5 COMBINED AT					
+	CP17	.76	1	FLOW	336.
				TIME	4.33
HYDROGRAPH AT					
+	U650	.01	1	FLOW	5.
				TIME	3.58
2 COMBINED AT					
+	CP18	.77	1	FLOW	337.
				TIME	4.33
HYDROGRAPH AT					
+	U630	.07	1	FLOW	33.
				TIME	3.67
2 COMBINED AT					
+	CP19	.84	1	FLOW	344.
				TIME	4.33
HYDROGRAPH AT					
+	U620	.05	1	FLOW	22.
				TIME	3.67
2 COMBINED AT					
+	CP20	.89	1	FLOW	349.
				TIME	4.33
ROUTED TO					
+	RCP20	.89	1	FLOW	346.
				TIME	4.42
HYDROGRAPH AT					
+	CP15S	.00	1	FLOW	0.
				TIME	.00
ROUTED TO					
+	RCP15S	.00	1	FLOW	0.
				TIME	.00
HYDROGRAPH AT					
+	U680	.11	1	FLOW	46.
				TIME	3.75
2 COMBINED AT					
+	CP21	.11	1	FLOW	46.
				TIME	3.75
HYDROGRAPH AT					
+	U760	.01	1	FLOW	4.
				TIME	3.58
3 COMBINED AT					
+	CPGTA	1.01	1	FLOW	358.
				TIME	4.42
HYDROGRAPH AT					
+	2-3	.03	1	FLOW	13.
				TIME	3.58
2 COMBINED AT					
+	CPGTA2	1.04	1	FLOW	360.
				TIME	4.42
HYDROGRAPH AT					
+	2-1	.04	1	FLOW	28.
				TIME	3.58
HYDROGRAPH AT					
+	2-2	.07	1	FLOW	44.
				TIME	3.67
HYDROGRAPH AT					
+	2-14A	.00	1	FLOW	1.
				TIME	3.58
3 COMBINED AT					
+	2A	.11	1	FLOW	72.
				TIME	3.58
2 COMBINED AT					
+	2B	1.15	1	FLOW	370.
				TIME	4.42
ROUTED TO					
+	DB1	1.15	1	FLOW	127.

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                                        TIME         5.83

                                    ** PEAK STAGES IN FEET **
                                    1   STAGE     2301.62
                                        TIME         5.83

 HYDROGRAPH AT
+                    2-6       .02     1   FLOW          15.
                                        TIME         3.58

   2 COMBINED AT
+                     2C      1.17     1   FLOW         128.
                                        TIME         5.83

 HYDROGRAPH AT
+                    2-7       .02     1   FLOW           7.
                                        TIME         3.58

   2 COMBINED AT
+                     2D      1.19     1   FLOW         128.
                                        TIME         5.83

 HYDROGRAPH AT
+                    2-4       .03     1   FLOW          28.
                                        TIME         3.58

 HYDROGRAPH AT
+                   2-14B      .00     1   FLOW           1.
                                        TIME         3.58

   2 COMBINED AT
+                     2E       .04     1   FLOW          29.
                                        TIME         3.58

 HYDROGRAPH AT
+                    2-5       .09     1   FLOW          53.
                                        TIME         3.67

 DIVERSION TO
+                   2-5E       .09     1   FLOW          25.
                                        TIME         3.67

 HYDROGRAPH AT
+                   2-5W       .09     1   FLOW          28.
                                        TIME         3.67

 HYDROGRAPH AT
+                    2-9       .02     1   FLOW          11.
                                        TIME         3.58

   3 COMBINED AT
+                     2F       .14     1   FLOW          67.
                                        TIME         3.58

 HYDROGRAPH AT
+                   2-5E       .00     1   FLOW          25.
                                        TIME         3.67

 HYDROGRAPH AT
+                   2-10       .02     1   FLOW          12.
                                        TIME         3.58

   3 COMBINED AT
+                     2G       .16     1   FLOW         103.
                                        TIME         3.58

 HYDROGRAPH AT
+                    2-8       .03     1   FLOW          24.
                                        TIME         3.58

   2 COMBINED AT
+                     2H       .19     1   FLOW         127.
                                        TIME         3.58

   2 COMBINED AT
+                     2I      1.37     1   FLOW         192.
                                        TIME         3.58

 HYDROGRAPH AT
+                   2-11       .03     1   FLOW          22.
                                        TIME         3.58

 HYDROGRAPH AT
+                   2-12       .03     1   FLOW          17.
                                        TIME         3.58

   2 COMBINED AT
+                     2J       .05     1   FLOW          39.
                                        TIME         3.58

   2 COMBINED AT
+                     2K      1.42     1   FLOW         231.
                                        TIME         3.58

 HYDROGRAPH AT
+                   2-13       .03     1   FLOW          18.
                                        TIME         3.58

   2 COMBINED AT
+                    PT2      1.45     1   FLOW         248.
                                        TIME         3.58
1
                                    SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                        (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                INTERPOLATED TO
                                                              COMPUTATION INTERVAL
```

ISTAQ	ELEMENT	DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)	DT (MIN)	PEAK (CFS)	TIME TO PEAK (MIN)	VOLUME (IN)
FOR PLAN = 1 RATIO= .00									
RCP1E	MANE	4.25	59.77	250.75	.21	5.00	59.69	255.00	.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6897E+01 EXCESS= .0000E+00 OUTFLOW= .6901E+01 BASIN STORAGE= .1911E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU15O	MANE	3.75	15.01	236.25	.18	5.00	14.88	235.00	.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1298E+01 EXCESS= .0000E+00 OUTFLOW= .1298E+01 BASIN STORAGE= .9878E-03 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP2S	MANE	4.75	22.74	256.50	.06	5.00	22.69	260.00	.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2805E+01 EXCESS= .0000E+00 OUTFLOW= .2808E+01 BASIN STORAGE= .2198E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00									
RCP4S	MANE	3.75	26.75	236.25	.38	5.00	26.72	240.00	.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2899E+01 EXCESS= .0000E+00 OUTFLOW= .2900E+01 BASIN STORAGE= .1067E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP9E	MANE	5.00	25.88	240.00	.14	5.00	25.88	240.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2658E+01 EXCESS= .0000E+00 OUTFLOW= .2661E+01 BASIN STORAGE= .1455E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP6E	MANE	5.00	14.47	260.00	-1.00	5.00	14.47	260.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP7E	MANE	5.00	23.86	245.00	-1.00	5.00	23.86	245.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP8E	MANE	.61	12.86	226.23	-1.00	5.00	12.85	230.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP10E	MANE	5.00	50.74	255.00	.08	5.00	50.74	255.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6434E+01 EXCESS= .0000E+00 OUTFLOW= .6437E+01 BASIN STORAGE= .2038E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU44OS	MANE	2.25	4.85	236.25	.15	5.00	4.80	235.00	.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4105E+00 EXCESS= .0000E+00 OUTFLOW= .4107E+00 BASIN STORAGE= .9404E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00									
RCP12E	MANE	5.00	26.82	255.00	.04	5.00	26.82	255.00	.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3644E+01 EXCESS= .0000E+00 OUTFLOW= .3646E+01 BASIN STORAGE= .1454E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RU13OS	MANE	4.00	9.18	228.00	.22	5.00	8.97	230.00	.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6444E+00 EXCESS= .0000E+00 OUTFLOW= .6449E+00 BASIN STORAGE= .9329E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00									
RCP13S	MANE	4.50	10.95	234.00	.14	5.00	10.76	235.00	.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8358E+00 EXCESS= .0000E+00 OUTFLOW= .8364E+00 BASIN STORAGE= .1028E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00									
RU44OE	MANE	2.25	7.71	252.00	-1.00	5.00	6.74	260.00	-1.00
FOR PLAN = 1 RATIO= .00									
RCP14E	MANE	5.00	68.52	245.00	.08	5.00	68.52	245.00	.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8089E+01 EXCESS= .0000E+00 OUTFLOW= .8092E+01 BASIN STORAGE= .1759E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00									
RCP9S	MANE	5.00	55.85	250.00	-1.00	5.00	55.85	250.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP10S	MANE	5.00	82.51	255.00	-1.00	5.00	82.51	255.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP16	MANE	5.00	184.88	265.00	1.57	5.00	184.88	265.00	1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2247E+02 EXCESS= .0000E+00 OUTFLOW= .2249E+02 BASIN STORAGE= .4033E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP11S	MANE	5.00	33.98	270.00	-1.00	5.00	33.98	270.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP12S	MANE	5.00	21.81	265.00	-1.00	5.00	21.81	265.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP14S	MANE	5.00	29.98	240.00	-1.00	5.00	29.98	240.00	-1.00

FOR PLAN = 1 RATIO= .00

RCP20	MANE	3.87	347.89	262.96	1.07	5.00	345.75	265.00	1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5066E+02 EXCESS= .0000E+00 OUTFLOW= .5066E+02 BASIN STORAGE= .1005E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP15S	MANE	5.00	.00	.00	-1.00	5.00	.00	265.00	-1.00

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

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *             JUN   1998               *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   27JUN14  TIME  14:27:58  *
 *                                      *
 ****************************************
```

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

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

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

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


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

                    *DIAGRAM
            1       ID     SLATER HANIFAN GROUP, INC.
            2       ID     PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
            3       ID     SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
            4       ID     ULTIMATE CONDITION
            5       ID
            6       ID     RETURN PERIOD ------- 100-YEAR
            7       ID     DISTRIBUTION -------- 6-HOUR SDN3
            8       ID     PROJECT NO. --------- CBH1201.000
            9       ID     FILENAME ------------ ULT100.H1
           10       ID     DATE ---------------- JULY 2014
           11       ID     MODELED BY ---------- KC
           12       ID
           13       ID        SIX HOUR DEPTH-AREA REDUCTION FACTORS
           14       ID        DRAINAGE AREA (MI^2)       DARF
           15       ID        0.00-0.49                  0.990
           16       ID        0.50-0.99                  0.975
           17       ID        1.00-1.99                  0.950
           18       ID        2.00-2.99                  0.925
           19       ID        3.00-3.99                  0.915
           20       ID        4.00-4.99                  0.908
           21       ID
           22       IT       5       0       0     300
           23       IO       5       0       0
           24       IN       5       0       0
           25       JR    PREC   0.990   0.975   0.950   0.925   0.915   0.908
                    *

           26       KK    U190
           27       BA   .3684
           28       PB    2.77
           29       PC       0   0.020   0.057   0.070   0.087   0.108   0.124   0.130   0.130   0.130
           30       PC   0.130   0.130   0.130   0.133   0.140   0.142   0.148   0.158   0.172   0.181
           31       PC   0.190   0.197   0.199   0.200   0.201   0.204   0.214   0.229   0.241   0.249
           32       PC   0.251   0.256   0.270   0.278   0.281   0.283   0.295   0.322   0.352   0.409
           33       PC   0.499   0.590   0.710   0.744   0.781   0.812   0.819   0.835   0.851   0.856
           34       PC   0.860   0.868   0.876   0.888   0.910   0.926   0.937   0.950   0.970   0.976
           35       PC   0.982   0.985   0.987   0.989   0.990   0.993   0.993   0.994   0.995   0.998
           36       PC   0.998   0.999   1.000
           37       LS       0    80.7
           38       UD   0.522
                    *

           39       KK    U170
           40       BA   .2521
           41       LS       0    83.0
           42       UD   0.521
                    *

           43       KK     CP1
           44       KM   COMBINE U190 AND U120 AT IRON MOUNTAIN AND TORREY PINES
           45       HC       2
                    *
```



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

           46       KK    CP1E
           47       KM   CP1E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
           48       KM   CP1S IS THE FLOW DRAINING SOUTH IN TORREY PINES
           49       DT    CP1S
           50       DI     297     302     308     323     339     348
           51       DQ     125     127     129     136     143     148
                    *

           52       KK   RCP1E
           53       KM   ROUTE TO CP2
```

```
  54          RD    2480   .0050   0.016       0    TRAP       0      50
              *

  55          KK    U150
  56          BA   .1336
  57          LS       0    83.0
  58          UD   0.322
              *

  59          KK   U150S
  60          KM   U150S IS THE FLOW DRAINING SOUTH IN JONES
  61          KM   U150E IS THE FLOW DRAINING EAST IN SHELEHEDA
  62          KM   EXISTING SD IN JONES IS FOR NUISANCE FLOW
  63          DT   U150E
  64          DI      90      91      93      97     102     104
  65          DQ      52      52      53      56      59      60
              *

  66          KK   RU150S
  67          KM   ROUTE TO CP2
  68          RD    1345   .0050   0.016       0    TRAP       0      50
              *

  69          KK   U155
  70          BA   .1294
  71          LS       0    83.4
  72          UD   0.314
              *

  73          KK     CP2
  74          KM   COMBINE CP1 U150S AND U155 AT IRON MOUNTAIN AND JONES
  75          HC       3
              *

  76          KK    CP2S
  77          KM   CP2S IS THE FLOW DRAINING SOUTH IN JONES
  78          KM   CP2E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
  79          KM   EXISTING SD IN IRON MOUNTAIN CONVEYS 46 CFS EAST
  80          DT    CP2E
  81          DI     244     250     258     277     294     302
  82          DQ     145     148     152     161     170     174
              *
1                                       HEC-1 INPUT                                                 PAGE  3

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

  83          KK   RCP2S
  84          KM   ROUTE TO CP10
  85          RD    2695   .0050   0.016       0    TRAP       0      50
              *

  86          KK    CP1S
  87          KM   RETRIEVE CP1S
  88          DR    CP1S
              *

  89          KK    U210
  90          BA   .0727
  91          LS       0    83.1
  92          UD   0.289
              *

  93          KK     CP3
  94          KM   COMBINE CP1S AND U210 AT MAGGIE AND TORREY PINES
  95          HC       2
              *

  96          KK    CP3S
  97          KM   CP3S IS THE FLOW DRAINING SOUTH IN TORREY PINES
  98          KM   CP3E IS THE FLOW DRAINING EAST IN MAGGIE
  99          DT    CP3E
 100          DI     177     177     178     181     186     192
 101          DQ      81      81      82      83      85      89
              *

 102          KK    U250
 103          BA   .0698
 104          LS       0    83.1
 105          UD   0.289
              *

 106          KK     CP4
 107          KM   COMBINE CP3S AND U250 AT BRENT AND TORREY PINES
 108          HC       2
              *

 109          KK    CP4S
 110          KM   CP4S IS THE FLOW DRAINING SOUTH IN TORREY PINES
 111          KM   CP4E IS THE FLOW DRAINING EAST IN BRENT
 112          DT    CP4E
 113          DI     145     146     147     151     155     158
 114          DQ      72      73      73      75      77      79
              *

 115          KK   RCP4S
 116          KM   ROUTE TO CP5
 117          RD    1380   .0050   0.016       0    TRAP       0      50
              *
1                                       HEC-1 INPUT                                                 PAGE  4

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

 118          KK    U230
 119          BA   .1390
```

```
 120          LS       0    83.4
 121          UD   0.328
              *

 122          KK    U330
 123          BA   .0142
 124          LS       0    85.0
 125          UD   0.188
              *

 126          KK     CP5
 127          KM   COMBINE CP4S U230 AND U330 AT HORSE AND TORREY PINES
 128          HC       3
              *

 129          KK    CP3E
 130          KM   RETRIEVE CP3E
 131          DR    CP3E
              *

 132          KK    U370
 133          BA   .0159
 134          LS       0    86.2
 135          UD   0.185
              *

 136          KK     CP6
 137          KM   COMBINE CP3E AND U370 AT MAGGIE AND MUSTANG
 138          HC       2
              *

 139          KK    CP6S
 140          KM   CP6S IS THE FLOW DRAINING SOUTH IN MUSTANG
 141          KM   CP6E IS THE FLOW DRAINING EAST IN MAGGIE
 142          DT    CP6E
 143          DI      97      97      97      99     100     101
 144          DQ      44      44      44      45      45      46
              *

 145          KK    CP4E
 146          KM   RETRIEVE CP4E
 147          DR    CP4E
              *

 148          KK    U350
 149          BA   .0163
 150          LS       0    86.3
 151          UD   0.186
              *
```



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

 152          KK     CP7
 153          KM   COMBINE CP6S CP4E AND U350 AT BRENT AND MUSTANG
 154          HC       3
              *

 155          KK    CP7S
 156          KM   CP7S IS THE FLOW DRAINING SOUTH IN MUSTANG
 157          KM   CP7E IS THE FLOW DRAINING EAST IN BRENT
 158          DT    CP7E
 159          DI     141     141     142     144     148     150
 160          DQ      70      70      71      72      74      75
              *

 161          KK    U305
 162          BA   .0093
 163          LS       0    86.7
 164          UD   0.171
              *

 165          KK     CP8
 166          KM   COMBINE CP7S AND U305 AT GUY AND MUSTANG
 167          HC       2
              *

 168          KK    CP8S
 169          KM   CP8S IS THE FLOW DRAINING SOUTH IN MUSTANG
 170          KM   CP8E IS THE FLOW DRAINING EAST IN GUY
 171          DT    CP8E
 172          DI      81      81      81      82      84      85
 173          DQ      38      38      38      39      39      40
              *

 174          KK    U310
 175          BA   .0102
 176          LS       0    87.1
 177          UD   0.171
              *

 178          KK     CP9
 179          KM   COMBINE CP5 CP8S AND U310 AT HORSE AND MUSTANG
 180          HC       3
              *

 181          KK    CP9E
 182          KM   CP9S IS THE FLOW DRAINING SOUTH IN MUSTANG
 183          KM   CP9E IS THE FLOW DRAINING EAST IN HORSE
 184          KM   EXISTING SD IN HORSE IS FOR NUISANCE FLOW
 185          DT    CP9S
 186          DI     215     219     225     236     246     251
 187          DQ     139     141     145     152     157     160
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 188          KK   RCP9E
 189          KM   ROUTE TO CP10
 190          RD    1950   .0050   0.016       0    TRAP       0      50
              *

 191          KK    CP6E
 192          KM   RETRIEVE CP6E
 193          DR    CP6E
              *

 194          KK   RCP6E
 195          KM   ROUTE TO CP10
 196          RD    4010   .0050   0.016       0    TRAP       0      50
              *

 197          KK    CP7E
 198          KM   RETRIEVE CP7E
 199          DR    CP7E
              *

 200          KK   RCP7E
 201          KM   ROUTE TO CP10
 202          RD    3370   .0050   0.016       0    TRAP       0      50
              *

 203          KK    CP8E
 204          KM   RETRIEVE CP8E
 205          DR    CP8E
              *

 206          KK   RCP8E
 207          KM   ROUTE TO CP10
 208          RD    2680    0050   0.016       0    TRAP       0      50
              *

 209          KK   DUMMY
 210          KM   COMBINE CP2S CP9E CP6E CP7E AND CP8E
 211          HC       5
              *

 212          KK    U410
 213          BA   .2013
 214          LS       0    85.7
 215          UD   0.354
              *

 216          KK    CP10
 217          KM   COMBINE DUMMY AND U410 AT HORSE AND JONES
 218          HC       2
              *
```

1 HEC-1 INPUT PAGE 7

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

 219          KK   CP10E
 220          KM   CP10S IS THE FLOW DRAINING SOUTH IN JONES
 221          KM   CP10E IS THE FLOW DRAINING EAST IN HORSE
 222          KM   EXISTING SD IN JONES CONVEYS 23 CFS SOUTH
 223          DT   CP10S
 224          DI     351     359     365     410     437     452
 225          DQ     202     206     209     234     248     257
              *

 226          KK  RCP10E
 227          KM   ROUTE TO CP11
 228          RD    2530   .0050   0.016       0    TRAP       0      50
              *

 229          KK    U440
 230          BA   .0523
 231          LS       0    80.9
 232          UD   0.290
              *

 233          KK   U440S
 234          KM   U440S IS THE FLOW DRAINING SOUTH IN BRADLEY
 235          KM   U440E IS THE FLOW DRAINING EAST IN BRENT
 236          DT   U440E
 237          DI      33      33      34      36      37      38
 238          DQ      18      18      18      19      20      21
              *

 239          KK  RU440S
 240          KM   ROUTE TO CP11
 241          RD    1345   .0050   0.016       0    TRAP       0      50
              *

 242          KK    U470
 243          BA   .2012
 244          LS       0    80.7
 245          UD   0.356
              *

 246          KK    CP11
 247          KM   COMBINE CP10E U440S AND U470 AT HORSE AND BRADLEY
 248          HC       3
              *

 249          KK   CP11E
 250          KM   CP11S IS THE FLOW DRAINING SOUTH IN BRADLEY
 251          KM   CP11E IS THE FLOW DRAINING EAST IN HORSE
```

```
          252          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
          253          DT   CP11S
          254          DI     252     259     265     278     292     298
          255          DQ     108     112     114     118     125     127
                       *
1                                        HEC-1 INPUT                                                PAGE  8

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


          256          KK    U530
          257          BA   .0131
          258          LS      0    84.0
          259          UD   0.148
                       *

          260          KK    CP12
          261          KM   COMBINE CP11E AND U530 AT HORSE AND UNICORN
          262          HC       2
                       *

          263          KK   CP12E
          264          KM   CP12S IS THE FLOW DRAINING SOUTH IN UNICORN
          265          KM   CP12E IS THE FLOW DRAINING EAST IN HORSE
          266          KM   EXISTING SD IN HORSE CONVEYS 6 CFS EAST
          267          DT   CP12S
          268          DI     148     151     154     164     171     175
          269          DQ      68      70      71      75      78      80
                       *

          270          KK  RCP12E
          271          KM   ROUTE TO CP14
          272          RD    1825   .0050   0.016       0    TRAP       0      50
                       *

          273          KK    U130
          274          BA   .0556
          275          LS      0    83.9
          276          UD   0.203
                       *

          277          KK   U130S
          278          KM   U130S IS THE FLOW DRAINING SOUTH IN DECATUR
          279          KM   U130E IS THE FLOW DRAINING EAST IN IRON MOUNTAIN
          280          DT   U130E
          281          DI      47      48      49      51      53      54
          282          DQ      26      26      26      27      28      29
                       *

          283          KK  RU130S
          284          KM   ROUTE TO CP13
          285          RD    1270   .0050   0.016       0    TRAP       0      50
                       *

          286          KK    U550
          287          BA   .0534
          288          LS      0    85.4
          289          UD   0.225
                       *
1                                        HEC-1 INPUT                                                PAGE  9

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


          290          KK    CP13
          291          KM   COMBINE U130S AND U550 AT BRENT AND DECATUR
          292          HC       2
                       *

          293          KK   CP13S
          294          KM   CP13S IS THE FLOW DRAINING SOUTH IN DECATUR
          295          KM   CP13E IS THE FLOW DRAINING EAST IN BRENT
          296          DT   CP13E
          297          DI      64      65      67      70      74      76
          298          DQ      37      37      38      41      43      44
                       *

          299          KK  RCP13S
          300          KM   ROUTE TO CP14
          301          RD    1290   .0040   0.016       0    TRAP       0      50
                       *

          302          KK   U440E
          303          KM   RETRIEVE U440E
          304          DR   U440E
                       *

          305          KK  RU440E
          306          KM   ROUTE TO CP14
          307          RD    3850   .0040   0.016       0    TRAP       0      50
                       *

          308          KK    U570
          309          BA   .1791
          310          LS      0    89.0
          311          UD   0.370
                       *

          312          KK    CP14
          313          KM   COMBINE CP12E CP13S U440E AND U570 AT HORSE AND DECATUR
          314          HC       4
                       *

          315          KK   CP14E
          316          KM   CP14S IS THE FLOW DRAINING SOUTH IN DECATUR
          317          KM   CP14E IS THE FLOW DRAINING EAST IN HORSE
```

```
 318          KM   EXISTING SD IN DECATUR CONVEYS 30 CFS SOUTH
 319          DT   CP14S
 320          DI     202     207     213     224     250     269
 321          DQ      30      30      30      30      30      30
              *

 322          KK  RCP14E
 323          KM   ROUTE TO CP15
 324          RD    2645   .0050   0.016       0    TRAP       0      50
              *
1                                      HEC-1 INPUT                                                PAGE 10

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

 325          KK    U610
 326          BA   .0479
 327          LS       0    84.2
 328          UD   0.311
              *

 329          KK    CP15
 330          KM   COMBINE CP14E AND U610 AT HORSE AND AVIARY
 331          HC       2
              *

 332          KK   CP15E
 333          KM   CP15S IS THE FLOW DRAINING SOUTH IN AVIARY
 334          KM   CP15E IS THE FLOW DRAINING EAST IN HORSE
 335          KM   ULTIMATE SD IN HORSE CONVEYS 321 CFS EAST
 336          DT   CP15S
 337          DI     177     181     186     198     235     250
 338          DQ       0       0       0       0       0       0
              *

 339          KK    CP9S
 340          KM   RETRIEVE CP9S
 341          DR    CP9S
              *

 342          KK   RCP9S
 343          KM   ROUTE TO CP16
 344          RD    4770   .0050   0.016       0    TRAP       0      50
              *

 345          KK   CP10S
 346          KM   RETRIEVE CP10S
 347          DR   CP10S
              *

 348          KK  RCP10S
 349          KM   ROUTE TO CP16
 350          RD    2755   .0050   0.016       0    TRAP       0      50
              *

 351          KK    U280
 352          BA   .2688
 353          LS       0    83.3
 354          UD   0.375
              *

 355          KK    CP16
 356          KM   COMBINE CP9S CP10S AND U280 AT GRAND TETON AND JONES
 357          HC       3
              *
1                                      HEC-1 INPUT                                                PAGE 11

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

 358          KK   RCP16
 359          KM   ROUTE TO CP17
 360          RD    4900   .0050   0.016       0    TRAP       0      50
              *

 361          KK   CP11S
 362          KM   RETRIEVE CP11S
 363          DR   CP11S
              *

 364          KK  RCP11S
 365          KM   ROUTE TO CP17
 366          RD    5215   .0050   0.016       0    TRAP       0      50
              *

 367          KK   CP12S
 368          KM   RETRIEVE CP12S
 369          DR   CP12S
              *

 370          KK  RCP12S
 371          KM   ROUTE TO CP17
 372          RD    4550   .0050   0.016       0    TRAP       0      50
              *

 373          KK   CP14S
 374          KM   RETRIEVE CP14S
 375          DR   CP14S
              *

 376          KK  RCP14S
 377          KM   ROUTE TO CP17
 378          RD    2565   .0050   0.013       0    CIRC     2.5       0
              *

 379          KK    U510
```

```
          380          BA   .4885
          381          LS       0    84.8
          382          UD   0.510
                       *

          383          KK    CP17
          384          KM   COMBINE CP16 CP11S CP12S CP14S AND U510 AT GRAND TETON AND DECATUR
          385          HC       5
                       *

          386          KK    U650
          387          BA   .0085
          388          LS       0    89.3
          389          UD   0.106
                       *
1                                        HEC-1 INPUT                                                    PAGE 12

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

          390          KK    CP18
          391          KM   COMBINE CP17 AND U650 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
          392          HC       2
                       *

          393          KK    U630
          394          BA   .0735
          395          LS       0    88.0
          396          UD   0.246
                       *

          397          KK    CP19
          398          KM   COMBINE CP18 AND U630 IN GRAND TETON BETWEEN DECATUR AND SAN MATEO
          399          HC       2
                       *

          400          KK    U620
          401          BA   .0472
          402          LS       0    88.1
          403          UD   0.246
                       *

          404          KK    CP20
          405          KM   COMBINE CP19 AND U620 AT GRAND TETON AND SAN MATEO
          406          HC       2
                       *

          407          KK   RCP20
          408          KM   ROUTE TO CP22
          409          RD    1230   .0050   0.016       0    TRAP       0      50
                       *

          410          KK   CP15S
          411          KM   RETRIEVE CP15S
          412          DR   CP15S
                       *

          413          KK  RCP15S
          414          KM   ROUTE TO CP20
          415          RD    2555   .0050   0.016       0    TRAP       0      50
                       *

          416          KK    U680
          417          BA   .1122
          418          LS       0    88.0
          419          UD   0.303
                       *

          420          KK    CP21
          421          KM   COMBINE CP15S AND U680 IN AVIARY JUST NORTH OF GRAND TETON
          422          HC       2
                       *
1                                        HEC-1 INPUT                                                    PAGE 13

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

          423          KK    U760
          424          BA   .0076
          425          LS       0    88.3
          426          UD   0.147
                       *

          427          KK   CPGTA
          428          KM   COMBINE CP20 CP21 AND U760 AT GRAND TETON AND AVIARY
          429          HC       3
                       *

          430          KK     2-3
          431          BA  0.0327
          432          LS       0    85.0
          433          UD   0.172
                       *

          434          KK  CPGTA2
          435          HC       2
                       *

          436          KK     2-1
          437          BA  0.0367
          438          LS       0    94.0
          439          UD   0.187
                       *

          440          KK     2-2
          441          BA  0.0742
```

```
 442          LS       0    91.0
 443          UD   0.215
              *

 444          KK   2-14A
 445          BA  0.0027
 446          LS       0    85.0
 447          UD   0.135
              *

 448          KK      2A
 449          HC       3
              *

 450          KK      2B
 451          HC       2
              *

 452          KK     DB1
 453          KM   PARK HIGHLANDS WEST DETENTION BASIN
 454          KO       2
 455          RS       1    ELEV      -1
 456          SV       0   0.126   2.426  10.537  24.009  38.194  52.696 113.453 137.411 170.558
 457          SE  2297.0  2298.0  2299.0  2300.0  2301.0  2302.0  2303.0  2307.0  2308.5  2310.5
 458          SQ       0      72     110     138     161     199     215     231     252    1975
```



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

 459          SE  2297.0  2300.0  2301.0  2302.0  2303.0  2305.0  2306.0  2307.0  2308.5  2310.5
 460          KO       1
              *

 461          KK     2-6
 462          BA  0.0180
 463          LS       0    94.0
 464          UD   0.158
              *

 465          KK      2C
 466          HC       2
              *

 467          KK     2-7
 468          BA  0.0156
 469          LS       0    85.0
 470          UD   0.137
              *

 471          KK      2D
 472          HC       2
              *

 473          KK     2-4
 474          BA  0.0334
 475          LS       0    94.0
 476          UD   0.137
              *

 477          KK   2-14B
 478          BA  0.0025
 479          LS       0    85.0
 480          UD   0.126
              *

 481          KK      2E
 482          HC       2
              *

 483          KK     2-5
 484          BA  0.0891
 485          LS       0    91.0
 486          UD   0.215
              *

 487          KK    2-5W
 488          DT    2-5E
 489          DI       0     100
 490          DQ       0      48
              *
```



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

 491          KK     2-9
 492          BA  0.0156
 493          LS       0    91.0
 494          UD   0.135
              *

 495          KK      2F
 496          HC       3
              *

 497          KK    2-5E
 498          DR    2-5E
              *

 499          KK    2-10
 500          BA  0.0163
 501          LS       0    91.0
 502          UD   0.132
              *

 503          KK      2G
```

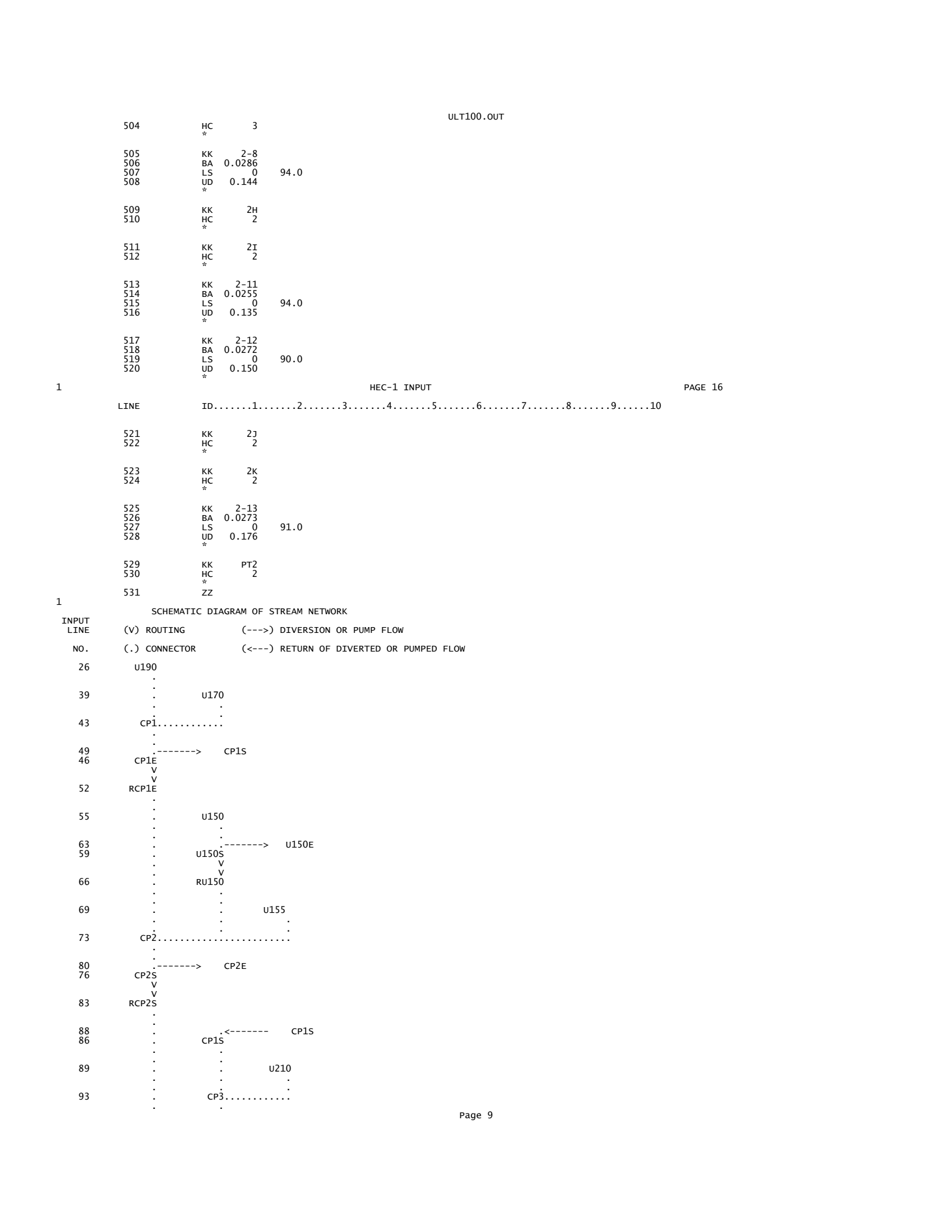
```
            504           HC       3
                          *

            505           KK     2-8
            506           BA  0.0286
            507           LS       0    94.0
            508           UD   0.144
                          *

            509           KK      2H
            510           HC       2
                          *

            511           KK      2I
            512           HC       2
                          *

            513           KK    2-11
            514           BA  0.0255
            515           LS       0    94.0
            516           UD   0.135
                          *

            517           KK    2-12
            518           BA  0.0272
            519           LS       0    90.0
            520           UD   0.150
                          *
```

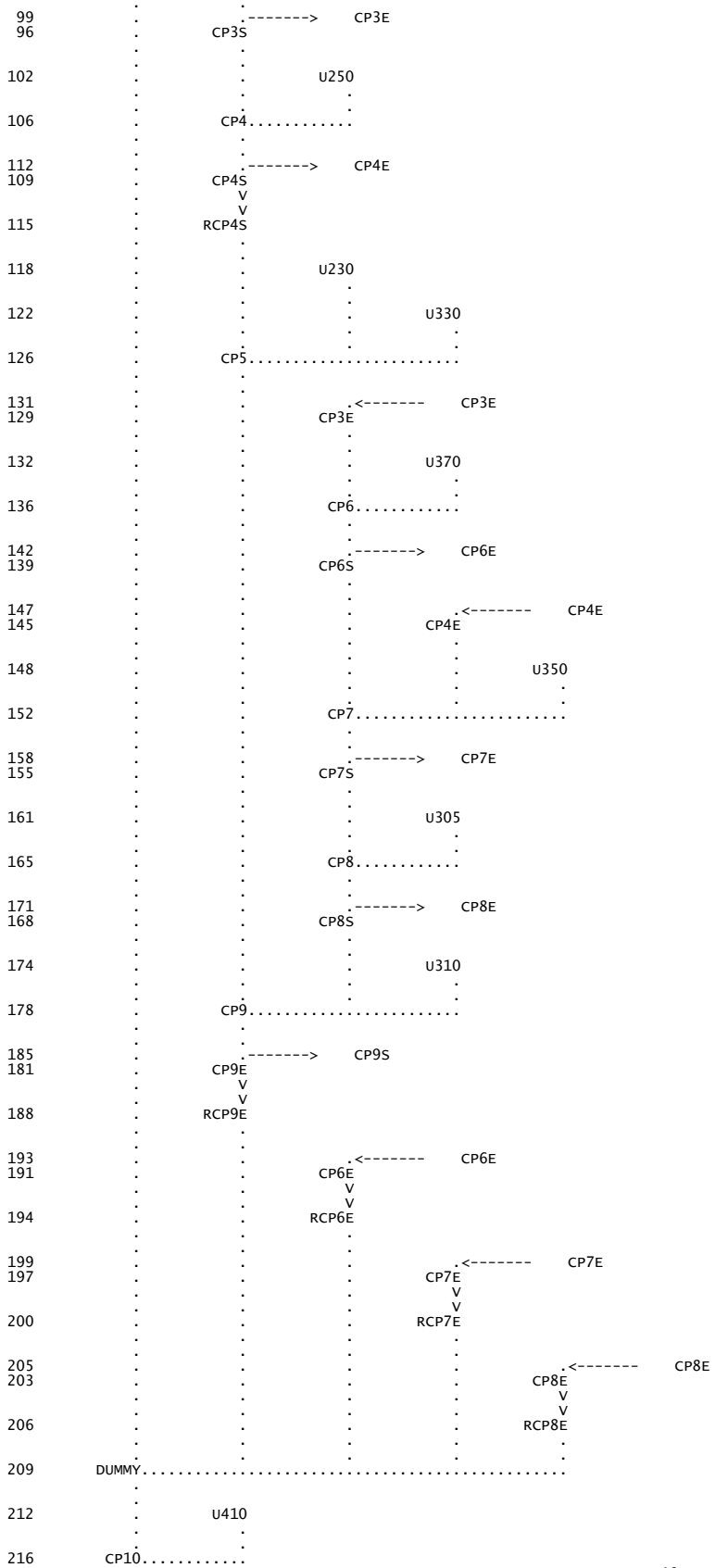


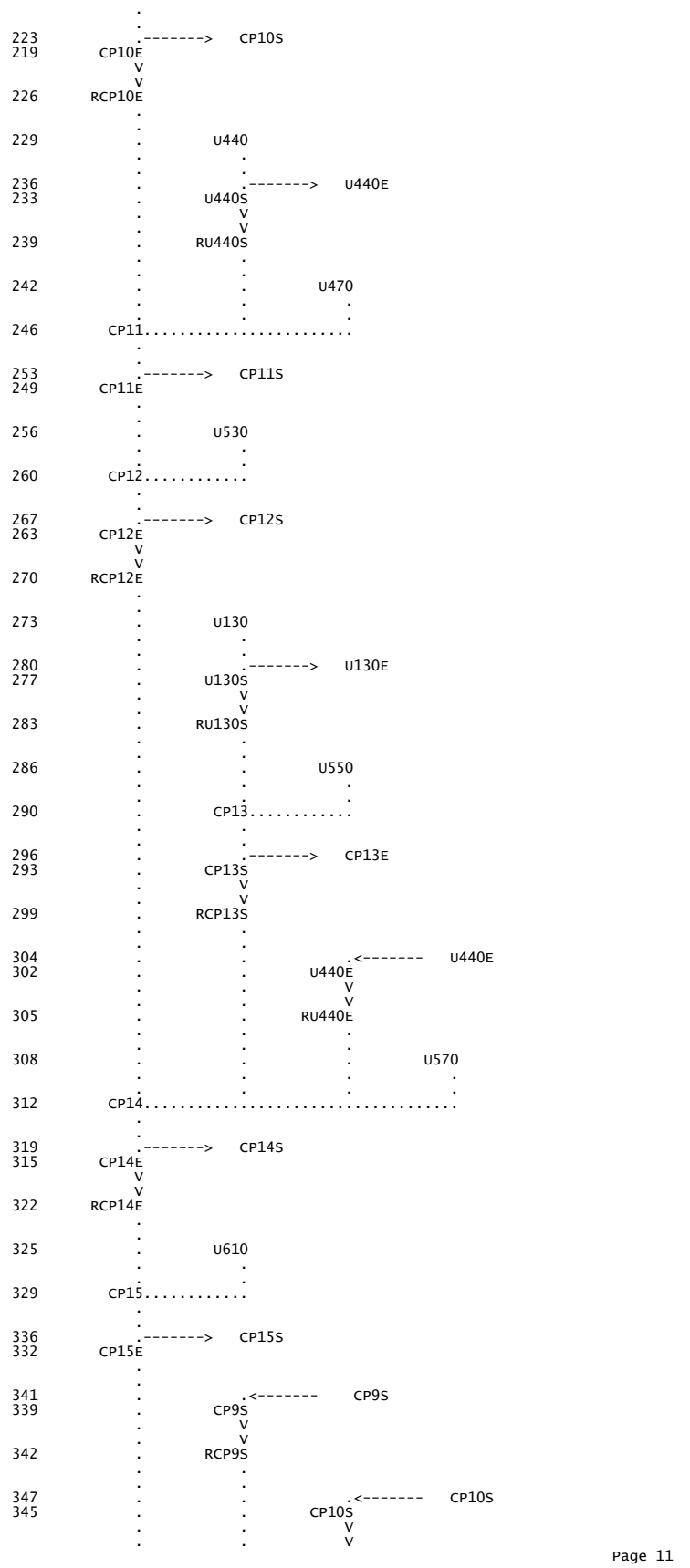
```
          LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

            521           KK      2J
            522           HC       2
                          *

            523           KK      2K
            524           HC       2
                          *

            525           KK    2-13
            526           BA  0.0273
            527           LS       0    91.0
            528           UD   0.176
                          *

            529           KK     PT2
            530           HC       2
                          *
            531           ZZ
```

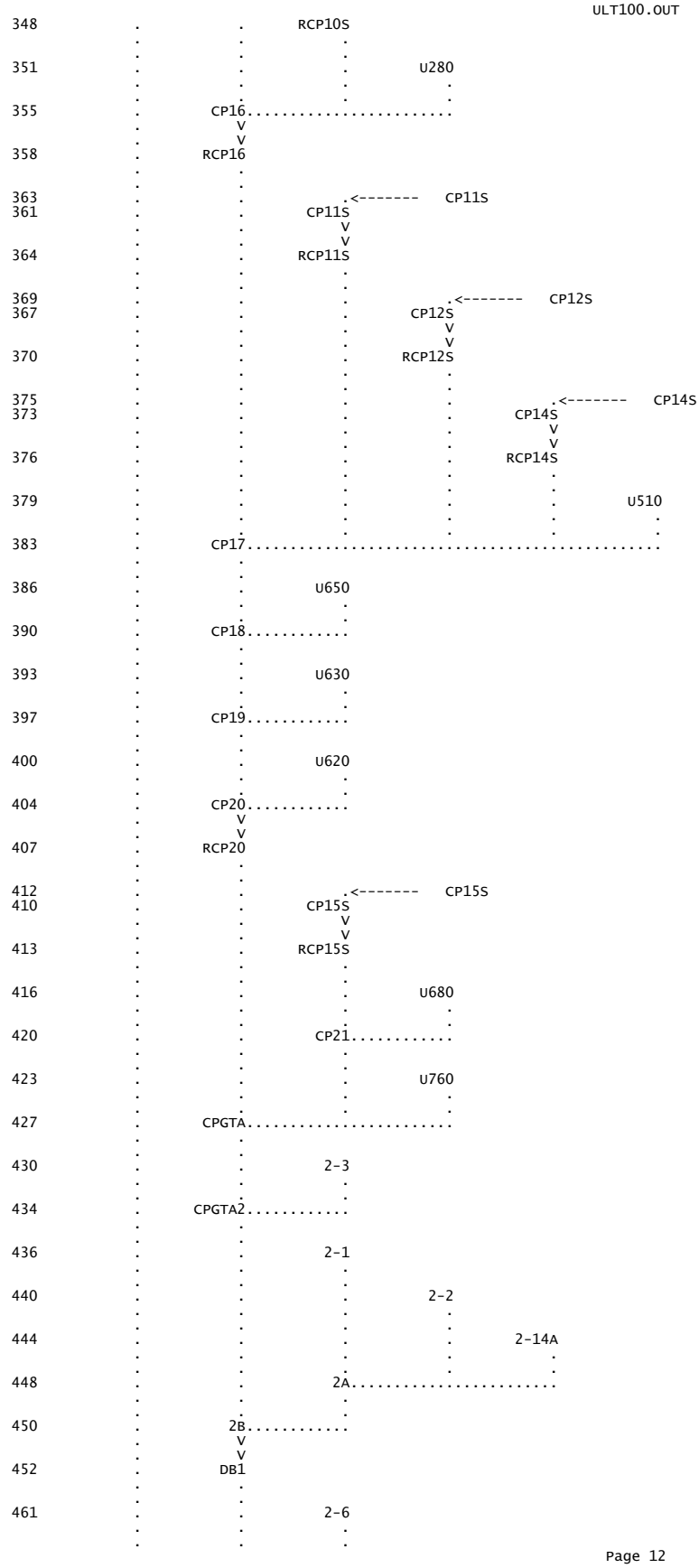
1

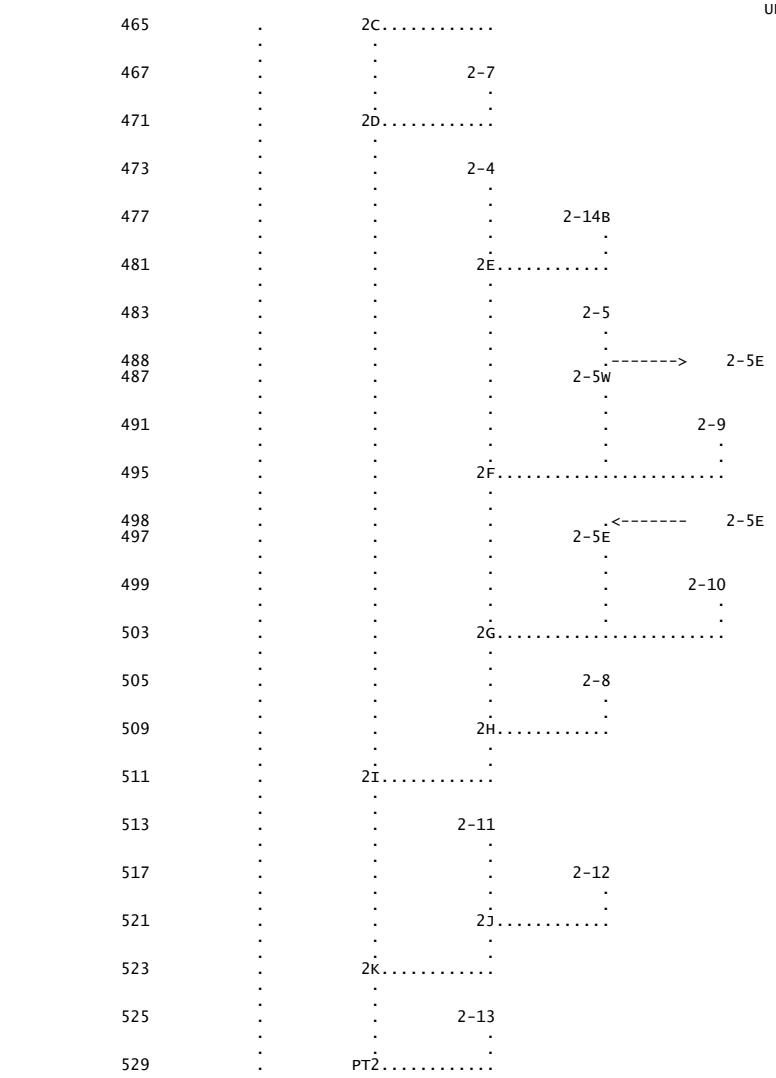
SCHEMATIC DIAGRAM OF STREAM NETWORK




99
96
CP3S
CP3E
102
U250
106
CP4
112
CP4E
109
CP4S
115
RCP4S
118
U230
122
U330
126
CP5
131
CP3E
129
132
U370
136
CP6
142
CP6E
139
CP6S
147
CP4E
145
148
U350
152
CP7
158
CP7E
155
CP7S
161
U305
165
CP8
171
CP8E
168
CP8S
174
U310
178
CP9
185
CP9S
181
CP9E
188
RCP9E
193
CP6E
191
194
RCP6E
199
CP7E
197
200
RCP7E
205
CP8E
203
206
RCP8E
209
DUMMY
212
U410
216
CP10


223
CP10S
219
CP10E
226
RCP10E
229
U44O
236
U44OE
233
U44OS
239
RU44OS
242
U47O
246
CP11
253
CP11S
249
CP11E
256
U53O
260
CP12
267
CP12S
263
CP12E
270
RCP12E
273
U13O
280
U13OE
277
U13OS
283
RU13OS
286
U55O
290
CP13
296
CP13E
293
CP13S
299
RCP13S
304
U44OE
302
U44OE
305
RU44OE
308
U57O
312
CP14
319
CP14S
315
CP14E
322
RCP14E
325
U61O
329
CP15
336
CP15S
332
CP15E
341
CP9S
339
CP9S
342
RCP9S
347
CP10S
345
CP10S


RCP10S
U280
CP16
RCP16
CP11S
RCP11S
CP12S
RCP12S
CP14S
RCP14S
U510
CP17
U650
CP18
U630
CP19
U620
CP20
RCP20
CP15S
RCP15S
U680
CP21
U760
CPGTA
2-3
CPGTA2
2-1
2-2
2-14A
2A
2B
DB1
2-6



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*               JUN   1998              *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   27JUN14  TIME  14:27:58   *
*                                       *
*****************************************
```

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

SLATER HANIFAN GROUP, INC.
PARK HIGHLANDS - GRAND TETON REGIONAL FLOOD CONTROL FACILITY
SUPPLEMENT NO. 1 UPDATE NO. 1 TO THE TECHNICAL DRAINAGE STUDY
ULTIMATE CONDITION

RETURN PERIOD ------- 100-YEAR
DISTRIBUTION -------- 6-HOUR SDN3
PROJECT NO. --------- CBH1201.000
FILENAME ------------ ULT100.H1
DATE ---------------- JULY 2014
MODELED BY ---------- KC

SIX HOUR DEPTH-AREA REDUCTION FACTORS

DRAINAGE AREA (MI^2)	DARF
0.00-0.49	0.990
0.50-0.99	0.975
1.00-1.99	0.950
2.00-2.99	0.925
3.00-3.99	0.915
4.00-4.99	0.908

23 IO OUTPUT CONTROL VARIABLES
IPRNT 5 PRINT CONTROL

```
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1    0  STARTING DATE
                    ITIME         0000  STARTING TIME
                       NQ          300  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2    0  ENDING DATE
                   NDTIME         0055  ENDING TIME
                   ICENT            19  CENTURY MARK

                COMPUTATION INTERVAL      .08 HOURS
                    TOTAL TIME BASE    24.92 HOURS

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

     JP          MULTI-PLAN OPTION
                    NPLAN           1  NUMBER OF PLANS

     JR          MULTI-RATIO OPTION
                 RATIOS OF PRECIPITATION
                 .99       .98       .95       .93       .92       .91


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


            **************
            *            *
 452 KK     *       DB1  *
            *            *
            **************

 454 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           2  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

 460 KO          OUTPUT CONTROL VARIABLES
                    IPRNT           1  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 455 RS          STORAGE ROUTING
                    NSTPS           1  NUMBER OF SUBREACHES
                     ITYP        ELEV  TYPE OF INITIAL CONDITION
                   RSVRIC       -1.00  INITIAL CONDITION
                        X         .00 WORKING R AND D COEFFICIENT

 456 SV            STORAGE          .0        .1       2.4      10.5      24.0      38.2      52.7     113.5     137.4     170.6

 457 SE          ELEVATION     2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2307.00   2308.50   2310.50

 458 SQ          DISCHARGE          0.       72.      110.      138.      161.      199.      215.      231.      252.     1975.

 459 SE          ELEVATION     2297.00   2300.00   2301.00   2302.00   2303.00   2305.00   2306.00   2307.00   2308.50   2310.50

                                                      ***

                                        COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00       .13      2.43     10.54     24.01     38.19     52.70     83.07     98.26    113.45
          OUTFLOW        .00     24.00     48.00     72.00    110.00    138.00    161.00    199.00    215.00    231.00
        ELEVATION    2297.00   2298.00   2299.00   2300.00   2301.00   2302.00   2303.00   2305.00   2306.00   2307.00

          STORAGE     137.41    170.56
          OUTFLOW     252.00   1975.00
        ELEVATION    2308.50   2310.50
```

****

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .99

****

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	206.	89.4	2305.4	1		1640	201	50.	3.0	2299.1
1		0005	2	0.	.0	2297.0	1		0825	102	204.	88.0	2305.3	1		1645	202	49.	2.7	2299.0
1		0010	3	0.	.0	2297.0	1		0830	103	203.	86.6	2305.2	1		1650	203	47.	2.4	2299.0
1		0015	4	0.	.0	2297.0	1		0835	104	201.	85.3	2305.1	1		1655	204	44.	2.0	2298.8
1		0020	5	0.	.0	2297.0	1		0840	105	200.	83.9	2305.1	1		1700	205	41.	1.7	2298.7
1		0025	6	1.	.0	2297.0	1		0845	106	198.	82.5	2305.0	1		1705	206	38.	1.5	2298.6
1		0030	7	3.	.0	2297.1	1		0850	107	197.	81.2	2304.9	1		1710	207	35.	1.2	2298.5
1		0035	8	5.	.0	2297.2	1		0855	108	195.	79.9	2304.8	1		1715	208	33.	1.0	2298.4
1		0040	9	6.	.0	2297.3	1		0900	109	193.	78.5	2304.7	1		1720	209	31.	.8	2298.3
1		0045	10	7.	.0	2297.3	1		0905	110	192.	77.2	2304.6	1		1725	210	29.	.6	2298.2
1		0050	11	6.	.0	2297.2	1		0910	111	190.	75.9	2304.5	1		1730	211	27.	.4	2298.1
1		0055	12	5.	.0	2297.2	1		0915	112	188.	74.6	2304.4	1		1735	212	25.	.2	2298.0
1		0100	13	4.	.0	2297.2	1		0920	113	187.	73.3	2304.4	1		1740	213	13.	.1	2297.5

1	0105	14	3.	.0	2297.1	*	1	0925	114	185.	72.0	2304.3	*	1	1745	214	3.	.0	2297.1
1	0110	15	3.	.0	2297.1	*	1	0930	115	184.	70.8	2304.2	*	1	1750	215	1.	.0	2297.0
1	0115	16	4.	.0	2297.2	*	1	0935	116	182.	69.5	2304.1	*	1	1755	216	0.	.0	2297.0
1	0120	17	5.	.0	2297.2	*	1	0940	117	180.	68.3	2304.0	*	1	1800	217	0.	.0	2297.0
1	0125	18	6.	.0	2297.2	*	1	0945	118	179.	67.0	2303.9	*	1	1805	218	0.	.0	2297.0
1	0130	19	8.	.0	2297.3	*	1	0950	119	177.	65.8	2303.9	*	1	1810	219	0.	.0	2297.0
1	0135	20	11.	.1	2297.5	*	1	0955	120	176.	64.6	2303.8	*	1	1815	220	0.	.0	2297.0
1	0140	21	16.	.1	2297.7	*	1	1000	121	174.	63.4	2303.7	*	1	1820	221	0.	.0	2297.0
1	0145	22	21.	.1	2297.9	*	1	1005	122	173.	62.2	2303.6	*	1	1825	222	0.	.0	2297.0
1	0150	23	24.	.1	2298.0	*	1	1010	123	171.	61.0	2303.5	*	1	1830	223	0.	.0	2297.0
1	0155	24	24.	.2	2298.0	*	1	1015	124	170.	59.8	2303.5	*	1	1835	224	0.	.0	2297.0
1	0200	25	25.	.2	2298.0	*	1	1020	125	168.	58.7	2303.4	*	1	1840	225	0.	.0	2297.0
1	0205	26	25.	.2	2298.0	*	1	1025	126	167.	57.5	2303.3	*	1	1845	226	0.	.0	2297.0
1	0210	27	25.	.2	2298.0	*	1	1030	127	166.	56.4	2303.2	*	1	1850	227	0.	.0	2297.0
1	0215	28	25.	.2	2298.0	*	1	1035	128	164.	55.2	2303.2	*	1	1855	228	0.	.0	2297.0
1	0220	29	25.	.3	2298.1	*	1	1040	129	163.	54.1	2303.1	*	1	1900	229	0.	.0	2297.0
1	0225	30	26.	.4	2298.1	*	1	1045	130	161.	53.0	2303.0	*	1	1905	230	0.	.0	2297.0
1	0230	31	28.	.5	2298.2	*	1	1050	131	160.	51.9	2302.9	*	1	1910	231	0.	.0	2297.0
1	0235	32	29.	.6	2298.2	*	1	1055	132	158.	50.8	2302.9	*	1	1915	232	0.	.0	2297.0
1	0240	33	31.	.8	2298.3	*	1	1100	133	156.	49.7	2302.8	*	1	1920	233	0.	.0	2297.0
1	0245	34	33.	1.0	2298.4	*	1	1105	134	155.	48.6	2302.7	*	1	1925	234	0.	.0	2297.0
1	0250	35	35.	1.2	2298.5	*	1	1110	135	153.	47.6	2302.6	*	1	1930	235	0.	.0	2297.0
1	0255	36	38.	1.4	2298.6	*	1	1115	136	151.	46.5	2302.6	*	1	1935	236	0.	.0	2297.0
1	0300	37	40.	1.7	2298.7	*	1	1120	137	150.	45.5	2302.5	*	1	1940	237	0.	.0	2297.0
1	0305	38	42.	1.9	2298.8	*	1	1125	138	148.	44.5	2302.4	*	1	1945	238	0.	.0	2297.0
1	0310	39	46.	2.2	2298.9	*	1	1130	139	146.	43.5	2302.4	*	1	1950	239	0.	.0	2297.0
1	0315	40	49.	2.7	2299.0	*	1	1135	140	145.	42.5	2302.3	*	1	1955	240	0.	.0	2297.0
1	0320	41	51.	3.5	2299.1	*	1	1140	141	143.	41.5	2302.2	*	1	2000	241	0.	.0	2297.0
1	0325	42	55.	4.9	2299.3	*	1	1145	142	142.	40.5	2302.2	*	1	2005	242	0.	.0	2297.0
1	0330	43	62.	7.2	2299.6	*	1	1150	143	140.	39.5	2302.1	*	1	2010	243	0.	.0	2297.0
1	0335	44	71.	10.3	2300.0	*	1	1155	144	139.	38.6	2302.0	*	1	2015	244	0.	.0	2297.0
1	0340	45	83.	14.3	2300.3	*	1	1200	145	137.	37.6	2302.0	*	1	2020	245	0.	.0	2297.0
1	0345	46	95.	18.9	2300.6	*	1	1205	146	135.	36.7	2301.9	*	1	2025	246	0.	.0	2297.0
1	0350	47	110.	23.8	2301.0	*	1	1210	147	133.	35.7	2301.8	*	1	2030	247	0.	.0	2297.0
1	0355	48	121.	29.5	2301.4	*	1	1215	148	131.	34.8	2301.8	*	1	2035	248	0.	.0	2297.0
1	0400	49	134.	36.0	2301.8	*	1	1220	149	130.	33.9	2301.7	*	1	2040	249	0.	.0	2297.0
1	0405	50	146.	43.1	2302.3	*	1	1225	150	128.	33.1	2301.6	*	1	2045	250	0.	.0	2297.0
1	0410	51	157.	50.3	2302.8	*	1	1230	151	126.	32.2	2301.6	*	1	2050	251	0.	.0	2297.0
1	0415	52	167.	57.2	2303.3	*	1	1235	152	124.	31.3	2301.5	*	1	2055	252	0.	.0	2297.0
1	0420	53	175.	63.7	2303.7	*	1	1240	153	123.	30.5	2301.5	*	1	2100	253	0.	.0	2297.0
1	0425	54	182.	69.6	2304.1	*	1	1245	154	121.	29.6	2301.4	*	1	2105	254	0.	.0	2297.0
1	0430	55	189.	75.1	2304.5	*	1	1250	155	119.	28.8	2301.3	*	1	2110	255	0.	.0	2297.0
1	0435	56	195.	80.1	2304.8	*	1	1255	156	118.	28.0	2301.3	*	1	2115	256	0.	.0	2297.0
1	0440	57	201.	84.7	2305.1	*	1	1300	157	116.	27.2	2301.2	*	1	2120	257	0.	.0	2297.0
1	0445	58	205.	89.0	2305.4	*	1	1305	158	115.	26.4	2301.2	*	1	2125	258	0.	.0	2297.0
1	0450	59	209.	93.0	2305.7	*	1	1310	159	113.	25.6	2301.1	*	1	2130	259	0.	.0	2297.0
1	0455	60	213.	96.7	2305.9	*	1	1315	160	112.	24.8	2301.1	*	1	2135	260	0.	.0	2297.0
1	0500	61	217.	100.2	2306.1	*	1	1320	161	110.	24.1	2301.0	*	1	2140	261	0.	.0	2297.0
1	0505	62	220.	103.3	2306.3	*	1	1325	162	108.	23.3	2300.9	*	1	2145	262	0.	.0	2297.0
1	0510	63	223.	106.1	2306.5	*	1	1330	163	106.	22.6	2300.9	*	1	2150	263	0.	.0	2297.0
1	0515	64	226.	108.6	2306.7	*	1	1335	164	104.	21.8	2300.8	*	1	2155	264	0.	.0	2297.0
1	0520	65	228.	110.8	2306.8	*	1	1340	165	102.	21.1	2300.8	*	1	2200	265	0.	.0	2297.0
1	0525	66	230.	112.8	2307.0	*	1	1345	166	100.	20.4	2300.7	*	1	2205	266	0.	.0	2297.0
1	0530	67	232.	114.6	2307.1	*	1	1350	167	98.	19.8	2300.7	*	1	2210	267	0.	.0	2297.0
1	0535	68	233.	116.2	2307.2	*	1	1355	168	96.	19.1	2300.6	*	1	2215	268	0.	.0	2297.0
1	0540	69	235.	117.5	2307.3	*	1	1400	169	94.	18.4	2300.6	*	1	2220	269	0.	.0	2297.0
1	0545	70	235.	118.5	2307.3	*	1	1405	170	92.	17.8	2300.5	*	1	2225	270	0.	.0	2297.0
1	0550	71	236.	119.2	2307.4	*	1	1410	171	91.	17.2	2300.5	*	1	2230	271	0.	.0	2297.0
1	0555	72	236.	119.5	2307.4	*	1	1415	172	89.	16.5	2300.4	*	1	2235	272	0.	.0	2297.0
1	0600	73	236.	119.7	2307.4	*	1	1420	173	87.	15.9	2300.4	*	1	2240	273	0.	.0	2297.0
1	0605	74	236.	119.6	2307.4	*	1	1425	174	86.	15.3	2300.4	*	1	2245	274	0.	.0	2297.0
1	0610	75	236.	119.4	2307.4	*	1	1430	175	84.	14.8	2300.3	*	1	2250	275	0.	.0	2297.0
1	0615	76	236.	119.1	2307.4	*	1	1435	176	82.	14.2	2300.3	*	1	2255	276	0.	.0	2297.0
1	0620	77	235.	118.6	2307.3	*	1	1440	177	81.	13.6	2300.2	*	1	2300	277	0.	.0	2297.0
1	0625	78	235.	117.9	2307.3	*	1	1445	178	79.	13.1	2300.2	*	1	2305	278	0.	.0	2297.0
1	0630	79	234.	117.2	2307.2	*	1	1450	179	78.	12.5	2300.1	*	1	2310	279	0.	.0	2297.0
1	0635	80	234.	116.3	2307.2	*	1	1455	180	76.	12.0	2300.1	*	1	2315	280	0.	.0	2297.0
1	0640	81	233.	115.4	2307.1	*	1	1500	181	75.	11.5	2300.1	*	1	2320	281	0.	.0	2297.0
1	0645	82	232.	114.4	2307.1	*	1	1505	182	73.	11.0	2300.0	*	1	2325	282	0.	.0	2297.0
1	0650	83	231.	113.3	2307.0	*	1	1510	183	72.	10.5	2300.0	*	1	2330	283	0.	.0	2297.0
1	0655	84	230.	112.2	2306.9	*	1	1515	184	70.	10.0	2299.9	*	1	2335	284	0.	.0	2297.0
1	0700	85	228.	111.0	2306.8	*	1	1520	185	69.	9.5	2299.9	*	1	2340	285	0.	.0	2297.0
1	0705	86	227.	109.8	2306.8	*	1	1525	186	68.	9.0	2299.8	*	1	2345	286	0.	.0	2297.0
1	0710	87	226.	108.5	2306.7	*	1	1530	187	66.	8.6	2299.8	*	1	2350	287	0.	.0	2297.0
1	0715	88	224.	107.3	2306.6	*	1	1535	188	65.	8.1	2299.7	*	1	2355	288	0.	.0	2297.0
1	0720	89	223.	105.9	2306.5	*	1	1540	189	64.	7.7	2299.6	*	2	0000	289	0.	.0	2297.0
1	0725	90	222.	104.6	2306.4	*	1	1545	190	62.	7.3	2299.6	*	2	0005	290	0.	.0	2297.0
1	0730	91	220.	103.3	2306.3	*	1	1550	191	61.	6.8	2299.5	*	2	0010	291	0.	.0	2297.0
1	0735	92	219.	101.9	2306.2	*	1	1555	192	60.	6.4	2299.5	*	2	0015	292	0.	.0	2297.0
1	0740	93	217.	100.5	2306.1	*	1	1600	193	59.	6.0	2299.4	*	2	0020	293	0.	.0	2297.0
1	0745	94	216.	99.1	2306.1	*	1	1605	194	57.	5.6	2299.4	*	2	0025	294	0.	.0	2297.0
1	0750	95	214.	97.8	2306.0	*	1	1610	195	56.	5.2	2299.3	*	2	0030	295	0.	.0	2297.0
1	0755	96	213.	96.4	2305.9	*	1	1615	196	55.	4.8	2299.3	*	2	0035	296	0.	.0	2297.0
1	0800	97	212.	95.0	2305.8	*	1	1620	197	54.	4.5	2299.2	*	2	0040	297	0.	.0	2297.0
1	0805	98	210.	93.6	2305.7	*	1	1625	198	53.	4.1	2299.2	*	2	0045	298	0.	.0	2297.0
1	0810	99	209.	92.2	2305.6	*	1	1630	199	52.	3.7	2299.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	207.	90.8	2305.5	*	1	1635	200	51.	3.4	2299.1	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 236.	6.00		210.	89.	86.	86.
		(INCHES)	1.694	2.875	2.875	2.875
		(AC-FT)	104.	177.	177.	177.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
120.	6.00	94.	32.	30.	30.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				

2307.39 6.00 2305.75 2300.59 2300.46 2300.46

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .98

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	203.	86.7	2305.2	1		1640	201	47.	2.4	2299.0
1		0005	2	0.	.0	2297.0	1		0825	102	201.	85.3	2305.1	1		1645	202	44.	2.1	2298.8
1		0010	3	0.	.0	2297.0	1		0830	103	200.	83.9	2305.1	1		1650	203	41.	1.8	2298.7
1		0015	4	0.	.0	2297.0	1		0835	104	198.	82.6	2305.0	1		1655	204	38.	1.5	2298.6
1		0020	5	0.	.0	2297.0	1		0840	105	197.	81.3	2304.9	1		1700	205	36.	1.2	2298.5
1		0025	6	1.	.0	2297.0	1		0845	106	195.	79.9	2304.8	1		1705	206	33.	1.0	2298.4
1		0030	7	2.	.0	2297.1	1		0850	107	193.	78.6	2304.7	1		1710	207	31.	.8	2298.3
1		0035	8	4.	.0	2297.2	1		0855	108	192.	77.3	2304.6	1		1715	208	29.	.6	2298.2
1		0040	9	6.	.0	2297.2	1		0900	109	190.	76.0	2304.5	1		1720	209	27.	.4	2298.1
1		0045	10	6.	.0	2297.3	1		0905	110	188.	74.7	2304.4	1		1725	210	25.	.2	2298.0
1		0050	11	5.	.0	2297.2	1		0910	111	187.	73.4	2304.4	1		1730	211	14.	.1	2297.6
1		0055	12	4.	.0	2297.2	1		0915	112	185.	72.1	2304.3	1		1735	212	3.	.0	2297.1
1		0100	13	4.	.0	2297.2	1		0920	113	184.	70.8	2304.2	1		1740	213	1.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	182.	69.6	2304.1	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	181.	68.3	2304.0	1		1750	215	0.	.0	2297.0
1		0115	16	4.	.0	2297.1	1		0935	116	179.	67.1	2303.9	1		1755	216	0.	.0	2297.0
1		0120	17	4.	.0	2297.2	1		0940	117	177.	65.9	2303.9	1		1800	217	0.	.0	2297.0
1		0125	18	6.	.0	2297.2	1		0945	118	176.	64.7	2303.8	1		1805	218	0.	.0	2297.0
1		0130	19	7.	.0	2297.3	1		0950	119	174.	63.5	2303.7	1		1810	219	0.	.0	2297.0
1		0135	20	11.	.1	2297.5	1		0955	120	173.	62.3	2303.6	1		1815	220	0.	.0	2297.0
1		0140	21	15.	.1	2297.6	1		1000	121	171.	61.1	2303.6	1		1820	221	0.	.0	2297.0
1		0145	22	20.	.1	2297.8	1		1005	122	170.	59.9	2303.5	1		1825	222	0.	.0	2297.0
1		0150	23	23.	.1	2298.0	1		1010	123	169.	58.7	2303.4	1		1830	223	0.	.0	2297.0
1		0155	24	24.	.1	2298.0	1		1015	124	167.	57.6	2303.3	1		1835	224	0.	.0	2297.0
1		0200	25	24.	.2	2298.0	1		1020	125	166.	56.4	2303.2	1		1840	225	0.	.0	2297.0
1		0205	26	24.	.2	2298.0	1		1025	126	164.	55.3	2303.2	1		1845	226	0.	.0	2297.0
1		0210	27	24.	.2	2298.0	1		1030	127	163.	54.2	2303.1	1		1850	227	0.	.0	2297.0
1		0215	28	24.	.2	2298.0	1		1035	128	161.	53.1	2303.0	1		1855	228	0.	.0	2297.0
1		0220	29	25.	.2	2298.0	1		1040	129	160.	52.0	2302.9	1		1900	229	0.	.0	2297.0
1		0225	30	26.	.3	2298.1	1		1045	130	158.	50.9	2302.9	1		1905	230	0.	.0	2297.0
1		0230	31	27.	.4	2298.1	1		1050	131	156.	49.8	2302.8	1		1910	231	0.	.0	2297.0
1		0235	32	28.	.6	2298.2	1		1055	132	155.	48.7	2302.7	1		1915	232	0.	.0	2297.0
1		0240	33	30.	.7	2298.3	1		1100	133	153.	47.6	2302.7	1		1920	233	0.	.0	2297.0
1		0245	34	32.	.9	2298.3	1		1105	134	151.	46.6	2302.6	1		1925	234	0.	.0	2297.0
1		0250	35	34.	1.1	2298.4	1		1110	135	150.	45.6	2302.5	1		1930	235	0.	.0	2297.0
1		0255	36	36.	1.3	2298.5	1		1115	136	148.	44.5	2302.4	1		1935	236	0.	.0	2297.0
1		0300	37	39.	1.5	2298.6	1		1120	137	146.	43.5	2302.4	1		1940	237	0.	.0	2297.0
1		0305	38	41.	1.7	2298.7	1		1125	138	145.	42.5	2302.3	1		1945	238	0.	.0	2297.0
1		0310	39	44.	2.0	2298.8	1		1130	139	143.	41.5	2302.2	1		1950	239	0.	.0	2297.0
1		0315	40	48.	2.5	2299.0	1		1135	140	142.	40.5	2302.2	1		1955	240	0.	.0	2297.0
1		0320	41	51.	3.3	2299.1	1		1140	141	140.	39.6	2302.1	1		2000	241	0.	.0	2297.0
1		0325	42	55.	4.6	2299.3	1		1145	142	139.	38.6	2302.0	1		2005	242	0.	.0	2297.0
1		0330	43	61.	6.8	2299.5	1		1150	143	137.	37.7	2302.0	1		2010	243	0.	.0	2297.0
1		0335	44	70.	9.9	2299.9	1		1155	144	135.	36.7	2301.9	1		2015	244	0.	.0	2297.0
1		0340	45	81.	13.8	2300.2	1		1200	145	133.	35.8	2301.8	1		2020	245	0.	.0	2297.0
1		0345	46	94.	18.2	2300.6	1		1205	146	131.	34.9	2301.8	1		2025	246	0.	.0	2297.0
1		0350	47	107.	23.0	2300.9	1		1210	147	130.	34.0	2301.7	1		2030	247	0.	.0	2297.0
1		0355	48	119.	28.4	2301.3	1		1215	148	128.	33.1	2301.6	1		2035	248	0.	.0	2297.0
1		0400	49	131.	34.7	2301.8	1		1220	149	126.	32.2	2301.6	1		2040	249	0.	.0	2297.0
1		0405	50	143.	41.6	2302.2	1		1225	150	125.	31.4	2301.5	1		2045	250	0.	.0	2297.0
1		0410	51	155.	48.7	2302.7	1		1230	151	123.	30.5	2301.5	1		2050	251	0.	.0	2297.0
1		0415	52	164.	55.5	2303.2	1		1235	152	121.	29.7	2301.4	1		2055	252	0.	.0	2297.0
1		0420	53	172.	61.8	2303.6	1		1240	153	120.	28.8	2301.3	1		2100	253	0.	.0	2297.0
1		0425	54	180.	67.6	2304.0	1		1245	154	118.	28.0	2301.3	1		2105	254	0.	.0	2297.0
1		0430	55	186.	72.9	2304.3	1		1250	155	116.	27.2	2301.2	1		2110	255	0.	.0	2297.0
1		0435	56	192.	77.7	2304.6	1		1255	156	115.	26.4	2301.2	1		2115	256	0.	.0	2297.0
1		0440	57	198.	82.3	2304.9	1		1300	157	113.	25.6	2301.1	1		2120	257	0.	.0	2297.0
1		0445	58	203.	86.6	2305.2	1		1305	158	112.	24.9	2301.1	1		2125	258	0.	.0	2297.0
1		0450	59	207.	90.5	2305.5	1		1310	159	110.	24.1	2301.0	1		2130	259	0.	.0	2297.0
1		0455	60	211.	94.1	2305.7	1		1315	160	108.	23.4	2301.0	1		2135	260	0.	.0	2297.0
1		0500	61	214.	97.5	2305.9	1		1320	161	106.	22.6	2300.9	1		2140	261	0.	.0	2297.0
1		0505	62	217.	100.5	2306.1	1		1325	162	104.	21.9	2300.8	1		2145	262	0.	.0	2297.0
1		0510	63	220.	103.3	2306.3	1		1330	163	102.	21.2	2300.8	1		2150	263	0.	.0	2297.0
1		0515	64	223.	105.7	2306.5	1		1335	164	100.	20.5	2300.7	1		2155	264	0.	.0	2297.0
1		0520	65	225.	107.9	2306.6	1		1340	165	98.	19.8	2300.7	1		2200	265	0.	.0	2297.0
1		0525	66	227.	109.9	2306.8	1		1345	166	96.	19.1	2300.6	1		2205	266	0.	.0	2297.0
1		0530	67	229.	111.7	2306.9	1		1350	167	94.	18.5	2300.6	1		2210	267	0.	.0	2297.0
1		0535	68	231.	113.2	2307.0	1		1355	168	93.	17.8	2300.5	1		2215	268	0.	.0	2297.0
1		0540	69	232.	114.5	2307.1	1		1400	169	91.	17.2	2300.5	1		2220	269	0.	.0	2297.0
1		0545	70	233.	115.4	2307.1	1		1405	170	89.	16.6	2300.4	1		2225	270	0.	.0	2297.0
1		0550	71	233.	116.1	2307.2	1		1410	171	87.	16.0	2300.4	1		2230	271	0.	.0	2297.0
1		0555	72	234.	116.4	2307.2	1		1415	172	86.	15.4	2300.4	1		2235	272	0.	.0	2297.0
1		0600	73	234.	116.6	2307.2	1		1420	173	84.	14.8	2300.3	1		2240	273	0.	.0	2297.0
1		0605	74	234.	116.5	2307.2	1		1425	174	82.	14.2	2300.3	1		2245	274	0.	.0	2297.0
1		0610	75	233.	116.3	2307.2	1		1430	175	81.	13.7	2300.2	1		2250	275	0.	.0	2297.0
1		0615	76	233.	116.0	2307.2	1		1435	176	79.	13.1	2300.2	1		2255	276	0.	.0	2297.0
1		0620	77	233.	115.5	2307.1	1		1440	177	78.	12.6	2300.2	1		2300	277	0.	.0	2297.0
1		0625	78	232.	114.8	2307.1	1		1445	178	76.	12.0	2300.1	1		2305	278	0.	.0	2297.0
1		0630	79	232.	114.1	2307.0	1		1450	179	75.	11.5	2300.1	1		2310	279	0.	.0	2297.0
1		0635	80	231.	113.2	2307.0	1		1455	180	73.	11.0	2300.0	1		2315	280	0.	.0	2297.0
1		0640	81	230.	112.3	2306.9	1		1500	181	72.	10.5	2300.0	1		2320	281	0.	.0	2297.0
1		0645	82	229.	111.3	2306.9	1		1505	182	70.	10.0	2299.9	1		2325	282	0.	.0	2297.0
1		0650	83	228.	110.3	2306.8	1		1510	183	69.	9.5	2299.9	1		2330	283	0.	.0	2297.0
1		0655	84	226.	109.2	2306.7	1		1515	184	68.	9.1	2299.8	1		2335	284	0.	.0	2297.0
1		0700	85	225.	108.0	2306.6	1		1520	185	66.	8.6	2299.8	1		2340	285	0.	.0	2297.0
1		0705	86	224.	106.8	2306.6	1		1525	186	65.	8.2	2299.7	1		2345	286	0.	.0	2297.0
1		0710	87	223.	105.5	2306.5	1		1530	187	64.	7.7	2299.7	1		2350	287	0.	.0	2297.0
1		0715	88	221.	104.3	2306.4	1		1535	188	62.	7.3	2299.6	1		2355	288	0.	.0	2297.0
1		0720	89	220.	103.0	2306.3	1		1540	189	61.	6.9	2299.5	2		0000	289	0.	.0	2297.0
1		0725	90	219.	101.7	2306.2	1		1545	190	60.	6.4	2299.5	2		0005	290	0.	.0	2297.0
1		0730	91	217.	100.3	2306.1	1		1550	191	59.	6.0	2299.4	2		0010	291	0.	.0	2297.0
1		0735	92	216.	99.0	2306.0	1		1555	192	57.	5.6	2299.4	2		0015	292	0.	.0	2297.0

1	0740	93	214.	97.6	2306.0	*	1	1600	193	56.	5.2	2299.3	*	2	0020	293	0.	.0	2297.0
1	0745	94	213.	96.3	2305.9	*	1	1605	194	55.	4.9	2299.3	*	2	0025	294	0.	.0	2297.0
1	0750	95	211.	94.9	2305.8	*	1	1610	195	54.	4.5	2299.3	*	2	0030	295	0.	.0	2297.0
1	0755	96	210.	93.5	2305.7	*	1	1615	196	53.	4.1	2299.2	*	2	0035	296	0.	.0	2297.0
1	0800	97	209.	92.2	2305.6	*	1	1620	197	52.	3.7	2299.2	*	2	0040	297	0.	.0	2297.0
1	0805	98	207.	90.8	2305.5	*	1	1625	198	51.	3.4	2299.1	*	2	0045	298	0.	.0	2297.0
1	0810	99	206.	89.4	2305.4	*	1	1630	199	50.	3.0	2299.1	*	2	0050	299	0.	.0	2297.0
1	0815	100	204.	88.0	2305.3	*	1	1635	200	49.	2.7	2299.0	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 234.	6.00	207.	87.	84.	84.
		(INCHES) 1.671	2.810	2.810	2.810
		(AC-FT) 103.	173.	173.	173.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
117.	6.00	92.	30.	29.	29.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2307.19	6.00	2305.57	2300.49	2300.37	2300.37

CUMULATIVE AREA = 1.15 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .95

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	198.	82.4	2305.0	1		1640	201	38.	1.5	2298.6
1		0005	2	0.	.0	2297.0	1		0825	102	196.	81.1	2304.9	1		1645	202	35.	1.2	2298.5
1		0010	3	0.	.0	2297.0	1		0830	103	195.	79.8	2304.8	1		1650	203	33.	1.0	2298.4
1		0015	4	0.	.0	2297.0	1		0835	104	193.	78.4	2304.7	1		1655	204	31.	.8	2298.3
1		0020	5	0.	.0	2297.0	1		0840	105	192.	77.1	2304.6	1		1700	205	29.	.6	2298.2
1		0025	6	1.	.0	2297.0	1		0845	106	190.	75.8	2304.5	1		1705	206	27.	.4	2298.1
1		0030	7	2.	.0	2297.1	1		0850	107	188.	74.5	2304.4	1		1710	207	25.	.2	2298.0
1		0035	8	4.	.0	2297.2	1		0855	108	187.	73.3	2304.4	1		1715	208	12.	.1	2297.5
1		0040	9	5.	.0	2297.2	1		0900	109	185.	72.0	2304.3	1		1720	209	3.	.0	2297.1
1		0045	10	6.	.0	2297.2	1		0905	110	184.	70.7	2304.2	1		1725	210	1.	.0	2297.0
1		0050	11	5.	.0	2297.2	1		0910	111	182.	69.5	2304.1	1		1730	211	0.	.0	2297.0
1		0055	12	4.	.0	2297.2	1		0915	112	180.	68.2	2304.0	1		1735	212	0.	.0	2297.0
1		0100	13	3.	.0	2297.1	1		0920	113	179.	67.0	2303.9	1		1740	213	0.	.0	2297.0
1		0105	14	3.	.0	2297.1	1		0925	114	177.	65.8	2303.9	1		1745	214	0.	.0	2297.0
1		0110	15	3.	.0	2297.1	1		0930	115	176.	64.6	2303.8	1		1750	215	0.	.0	2297.0
1		0115	16	3.	.0	2297.1	1		0935	116	174.	63.4	2303.7	1		1755	216	0.	.0	2297.0
1		0120	17	4.	.0	2297.2	1		0940	117	173.	62.2	2303.6	1		1800	217	0.	.0	2297.0
1		0125	18	5.	.0	2297.2	1		0945	118	171.	61.0	2303.5	1		1805	218	0.	.0	2297.0
1		0130	19	7.	.0	2297.3	1		0950	119	170.	59.8	2303.5	1		1810	219	0.	.0	2297.0
1		0135	20	10.	.1	2297.4	1		0955	120	168.	58.6	2303.4	1		1815	220	0.	.0	2297.0
1		0140	21	14.	.1	2297.6	1		1000	121	167.	57.5	2303.3	1		1820	221	0.	.0	2297.0
1		0145	22	18.	.1	2297.7	1		1005	122	166.	56.3	2303.2	1		1825	222	0.	.0	2297.0
1		0150	23	21.	.1	2297.9	1		1010	123	164.	55.2	2303.2	1		1830	223	0.	.0	2297.0
1		0155	24	23.	.1	2298.0	1		1015	124	163.	54.1	2303.1	1		1835	224	0.	.0	2297.0
1		0200	25	24.	.1	2298.0	1		1020	125	161.	53.0	2303.0	1		1840	225	0.	.0	2297.0
1		0205	26	23.	.1	2298.0	1		1025	126	160.	51.9	2302.9	1		1845	226	0.	.0	2297.0
1		0210	27	22.	.1	2297.9	1		1030	127	158.	50.8	2302.9	1		1850	227	0.	.0	2297.0
1		0215	28	23.	.1	2298.0	1		1035	128	156.	49.7	2302.8	1		1855	228	0.	.0	2297.0
1		0220	29	24.	.1	2298.0	1		1040	129	155.	48.6	2302.7	1		1900	229	0.	.0	2297.0
1		0225	30	25.	.2	2298.0	1		1045	130	153.	47.6	2302.6	1		1905	230	0.	.0	2297.0
1		0230	31	26.	.3	2298.1	1		1050	131	151.	46.5	2302.6	1		1910	231	0.	.0	2297.0
1		0235	32	27.	.4	2298.1	1		1055	132	150.	45.5	2302.5	1		1915	232	0.	.0	2297.0
1		0240	33	29.	.6	2298.2	1		1100	133	148.	44.4	2302.4	1		1920	233	0.	.0	2297.0
1		0245	34	30.	.7	2298.3	1		1105	134	146.	43.4	2302.4	1		1925	234	0.	.0	2297.0
1		0250	35	32.	.9	2298.3	1		1110	135	145.	42.4	2302.3	1		1930	235	0.	.0	2297.0
1		0255	36	34.	1.1	2298.4	1		1115	136	143.	41.4	2302.2	1		1935	236	0.	.0	2297.0
1		0300	37	36.	1.3	2298.5	1		1120	137	142.	40.5	2302.2	1		1940	237	0.	.0	2297.0
1		0305	38	39.	1.5	2298.6	1		1125	138	140.	39.5	2302.1	1		1945	238	0.	.0	2297.0
1		0310	39	41.	1.8	2298.7	1		1130	139	139.	38.5	2302.0	1		1950	239	0.	.0	2297.0
1		0315	40	46.	2.2	2298.9	1		1135	140	137.	37.6	2302.0	1		1955	240	0.	.0	2297.0
1		0320	41	50.	2.9	2299.1	1		1140	141	135.	36.6	2301.9	1		2000	241	0.	.0	2297.0
1		0325	42	53.	4.2	2299.2	1		1145	142	133.	35.7	2301.8	1		2005	242	0.	.0	2297.0
1		0330	43	59.	6.3	2299.5	1		1150	143	131.	34.8	2301.8	1		2010	243	0.	.0	2297.0
1		0335	44	68.	9.2	2299.8	1		1155	144	130.	33.9	2301.7	1		2015	244	0.	.0	2297.0
1		0340	45	79.	12.9	2300.2	1		1200	145	128.	33.0	2301.6	1		2020	245	0.	.0	2297.0
1		0345	46	90.	17.1	2300.5	1		1205	146	126.	32.2	2301.6	1		2025	246	0.	.0	2297.0
1		0350	47	103.	21.6	2300.8	1		1210	147	124.	31.3	2301.5	1		2030	247	0.	.0	2297.0
1		0355	48	116.	26.8	2301.2	1		1215	148	123.	30.4	2301.5	1		2035	248	0.	.0	2297.0
1		0400	49	127.	32.8	2301.6	1		1220	149	121.	29.6	2301.4	1		2040	249	0.	.0	2297.0
1		0405	50	140.	39.4	2302.1	1		1225	150	119.	28.8	2301.3	1		2045	250	0.	.0	2297.0
1		0410	51	151.	46.2	2302.6	1		1230	151	118.	28.0	2301.3	1		2050	251	0.	.0	2297.0
1		0415	52	161.	52.7	2303.0	1		1235	152	116.	27.2	2301.2	1		2055	252	0.	.0	2297.0
1		0420	53	169.	58.8	2303.4	1		1240	153	115.	26.4	2301.2	1		2100	253	0.	.0	2297.0
1		0425	54	176.	64.4	2303.8	1		1245	154	113.	25.6	2301.1	1		2105	254	0.	.0	2297.0
1		0430	55	182.	69.4	2304.1	1		1250	155	112.	24.8	2301.1	1		2110	255	0.	.0	2297.0
1		0435	56	188.	74.2	2304.4	1		1255	156	110.	24.0	2301.0	1		2115	256	0.	.0	2297.0
1		0440	57	193.	78.6	2304.7	1		1300	157	108.	23.3	2300.9	1		2120	257	0.	.0	2297.0
1		0445	58	199.	82.8	2305.0	1		1305	158	106.	22.5	2300.9	1		2125	258	0.	.0	2297.0
1		0450	59	203.	86.6	2305.2	1		1310	159	104.	21.8	2300.8	1		2130	259	0.	.0	2297.0
1		0455	60	206.	90.1	2305.5	1		1315	160	102.	21.1	2300.8	1		2135	260	0.	.0	2297.0
1		0500	61	210.	93.4	2305.7	1		1320	161	100.	20.4	2300.7	1		2140	261	0.	.0	2297.0
1		0505	62	213.	96.3	2305.9	1		1325	162	98.	19.7	2300.7	1		2145	262	0.	.0	2297.0
1		0510	63	216.	98.9	2306.0	1		1330	163	96.	19.1	2300.6	1		2150	263	0.	.0	2297.0
1		0515	64	218.	101.3	2306.2	1		1335	164	94.	18.4	2300.6	1		2155	264	0.	.0	2297.0
1		0520	65	220.	103.4	2306.3	1		1340	165	92.	17.8	2300.5	1		2200	265	0.	.0	2297.0

1	0525	66	222.	105.3	2306.5	*	1	1345	166	91.	17.1	2300.5	*	1	2205	266	0.	.0	2297.0
1	0530	67	224.	107.0	2306.6	*	1	1350	167	89.	16.5	2300.4	*	1	2210	267	0.	.0	2297.0
1	0535	68	226.	108.5	2306.7	*	1	1355	168	87.	15.9	2300.4	*	1	2215	268	0.	.0	2297.0
1	0540	69	227.	109.7	2306.8	*	1	1400	169	86.	15.3	2300.4	*	1	2220	269	0.	.0	2297.0
1	0545	70	228.	110.6	2306.8	*	1	1405	170	84.	14.7	2300.3	*	1	2225	270	0.	.0	2297.0
1	0550	71	229.	111.2	2306.9	*	1	1410	171	82.	14.2	2300.3	*	1	2230	271	0.	.0	2297.0
1	0555	72	229.	111.6	2306.9	*	1	1415	172	81.	13.6	2300.2	*	1	2235	272	0.	.0	2297.0
1	0600	73	229.	111.7	2306.9	*	1	1420	173	79.	13.1	2300.2	*	1	2240	273	0.	.0	2297.0
1	0605	74	229.	111.6	2306.9	*	1	1425	174	78.	12.5	2300.1	*	1	2245	274	0.	.0	2297.0
1	0610	75	229.	111.4	2306.9	*	1	1430	175	76.	12.0	2300.1	*	1	2250	275	0.	.0	2297.0
1	0615	76	229.	111.1	2306.8	*	1	1435	176	75.	11.5	2300.1	*	1	2255	276	0.	.0	2297.0
1	0620	77	228.	110.6	2306.8	*	1	1440	177	73.	11.0	2300.0	*	1	2300	277	0.	.0	2297.0
1	0625	78	227.	110.0	2306.8	*	1	1445	178	72.	10.5	2300.0	*	1	2305	278	0.	.0	2297.0
1	0630	79	227.	109.2	2306.7	*	1	1450	179	70.	10.0	2299.9	*	1	2310	279	0.	.0	2297.0
1	0635	80	226.	108.4	2306.7	*	1	1455	180	69.	9.5	2299.9	*	1	2315	280	0.	.0	2297.0
1	0640	81	225.	107.5	2306.6	*	1	1500	181	68.	9.0	2299.8	*	1	2320	281	0.	.0	2297.0
1	0645	82	224.	106.5	2306.5	*	1	1505	182	66.	8.6	2299.8	*	1	2325	282	0.	.0	2297.0
1	0650	83	223.	105.5	2306.5	*	1	1510	183	65.	8.1	2299.7	*	1	2330	283	0.	.0	2297.0
1	0655	84	221.	104.4	2306.4	*	1	1515	184	64.	7.7	2299.6	*	1	2335	284	0.	.0	2297.0
1	0700	85	220.	103.3	2306.3	*	1	1520	185	62.	7.2	2299.6	*	1	2340	285	0.	.0	2297.0
1	0705	86	219.	102.1	2306.3	*	1	1525	186	61.	6.8	2299.5	*	1	2345	286	0.	.0	2297.0
1	0710	87	218.	100.9	2306.2	*	1	1530	187	60.	6.4	2299.5	*	1	2350	287	0.	.0	2297.0
1	0715	88	216.	99.6	2306.1	*	1	1535	188	59.	6.0	2299.4	*	1	2355	288	0.	.0	2297.0
1	0720	89	215.	98.4	2306.0	*	1	1540	189	57.	5.6	2299.4	*	2	0000	289	0.	.0	2297.0
1	0725	90	214.	97.1	2305.9	*	1	1545	190	56.	5.2	2299.3	*	2	0005	290	0.	.0	2297.0
1	0730	91	212.	95.8	2305.8	*	1	1550	191	55.	4.8	2299.3	*	2	0010	291	0.	.0	2297.0
1	0735	92	211.	94.5	2305.7	*	1	1555	192	54.	4.4	2299.2	*	2	0015	292	0.	.0	2297.0
1	0740	93	210.	93.1	2305.7	*	1	1600	193	53.	4.1	2299.2	*	2	0020	293	0.	.0	2297.0
1	0745	94	208.	91.8	2305.6	*	1	1605	194	52.	3.7	2299.2	*	2	0025	294	0.	.0	2297.0
1	0750	95	207.	90.5	2305.5	*	1	1610	195	51.	3.4	2299.1	*	2	0030	295	0.	.0	2297.0
1	0755	96	205.	89.1	2305.4	*	1	1615	196	50.	3.0	2299.1	*	2	0035	296	0.	.0	2297.0
1	0800	97	204.	87.8	2305.3	*	1	1620	197	49.	2.7	2299.0	*	2	0040	297	0.	.0	2297.0
1	0805	98	203.	86.4	2305.2	*	1	1625	198	47.	2.3	2299.0	*	2	0045	298	0.	.0	2297.0
1	0810	99	201.	85.1	2305.1	*	1	1630	199	44.	2.0	2298.8	*	2	0050	299	0.	.0	2297.0
1	0815	100	200.	83.7	2305.0	*	1	1635	200	41.	1.7	2298.7	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 229.	6.00		202.	84.	81.	81.
		(INCHES)	1.633	2.708	2.708	2.708
		(AC-FT)	100.	166.	166.	166.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
112.	6.00		87.	29.	28.	28.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
2306.88	6.00		2305.29	2300.35	2300.23	2300.23

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .93

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE		DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1	0000		1	0.	.0	2297.0	*	1	0820		101	193.	78.0	2304.7	*	1	1640		201	30.	.7	2298.3
1	0005		2	0.	.0	2297.0	*	1	0825		102	191.	76.7	2304.6	*	1	1645		202	28.	.5	2298.2
1	0010		3	0.	.0	2297.0	*	1	0830		103	189.	75.4	2304.5	*	1	1650		203	26.	.3	2298.1
1	0015		4	0.	.0	2297.0	*	1	0835		104	188.	74.1	2304.4	*	1	1655		204	24.	.1	2298.0
1	0020		5	0.	.0	2297.0	*	1	0840		105	186.	72.9	2304.3	*	1	1700		205	7.	.0	2297.3
1	0025		6	1.	.0	2297.0	*	1	0845		106	185.	71.6	2304.2	*	1	1705		206	1.	.0	2297.1
1	0030		7	2.	.0	2297.1	*	1	0850		107	183.	70.3	2304.2	*	1	1710		207	0.	.0	2297.0
1	0035		8	4.	.0	2297.1	*	1	0855		108	182.	69.1	2304.1	*	1	1715		208	0.	.0	2297.0
1	0040		9	5.	.0	2297.2	*	1	0900		109	180.	67.9	2304.0	*	1	1720		209	0.	.0	2297.0
1	0045		10	5.	.0	2297.2	*	1	0905		110	178.	66.6	2303.9	*	1	1725		210	0.	.0	2297.0
1	0050		11	4.	.0	2297.2	*	1	0910		111	177.	65.4	2303.8	*	1	1730		211	0.	.0	2297.0
1	0055		12	3.	.0	2297.1	*	1	0915		112	175.	64.2	2303.8	*	1	1735		212	0.	.0	2297.0
1	0100		13	3.	.0	2297.1	*	1	0920		113	174.	63.0	2303.7	*	1	1740		213	0.	.0	2297.0
1	0105		14	2.	.0	2297.1	*	1	0925		114	172.	61.8	2303.6	*	1	1745		214	0.	.0	2297.0
1	0110		15	2.	.0	2297.1	*	1	0930		115	171.	60.6	2303.5	*	1	1750		215	0.	.0	2297.0
1	0115		16	3.	.0	2297.1	*	1	0935		116	169.	59.5	2303.4	*	1	1755		216	0.	.0	2297.0
1	0120		17	4.	.0	2297.1	*	1	0940		117	168.	58.3	2303.4	*	1	1800		217	0.	.0	2297.0
1	0125		18	4.	.0	2297.2	*	1	0945		118	167.	57.2	2303.3	*	1	1805		218	0.	.0	2297.0
1	0130		19	6.	.0	2297.3	*	1	0950		119	165.	56.0	2303.2	*	1	1810		219	0.	.0	2297.0
1	0135		20	9.	.0	2297.4	*	1	0955		120	164.	54.9	2303.1	*	1	1815		220	0.	.0	2297.0
1	0140		21	13.	.1	2297.5	*	1	1000		121	162.	53.8	2303.1	*	1	1820		221	0.	.0	2297.0
1	0145		22	16.	.1	2297.7	*	1	1005		122	161.	52.6	2303.0	*	1	1825		222	0.	.0	2297.0
1	0150		23	19.	.1	2297.8	*	1	1010		123	159.	51.5	2302.9	*	1	1830		223	0.	.0	2297.0
1	0155		24	21.	.1	2297.9	*	1	1015		124	157.	50.5	2302.8	*	1	1835		224	0.	.0	2297.0
1	0200		25	22.	.1	2297.9	*	1	1020		125	156.	49.4	2302.8	*	1	1840		225	0.	.0	2297.0
1	0205		26	21.	.1	2297.9	*	1	1025		126	154.	48.3	2302.7	*	1	1845		226	0.	.0	2297.0
1	0210		27	20.	.1	2297.8	*	1	1030		127	152.	47.3	2302.6	*	1	1850		227	0.	.0	2297.0
1	0215		28	21.	.1	2297.9	*	1	1035		128	151.	46.2	2302.6	*	1	1855		228	0.	.0	2297.0
1	0220		29	24.	.1	2298.0	*	1	1040		129	149.	45.2	2302.5	*	1	1900		229	0.	.0	2297.0
1	0225		30	25.	.2	2298.0	*	1	1045		130	147.	44.2	2302.4	*	1	1905		230	0.	.0	2297.0
1	0230		31	25.	.3	2298.1	*	1	1050		131	146.	43.2	2302.3	*	1	1910		231	0.	.0	2297.0
1	0235		32	27.	.4	2298.1	*	1	1055		132	144.	42.2	2302.3	*	1	1915		232	0.	.0	2297.0
1	0240		33	28.	.5	2298.2	*	1	1100		133	143.	41.2	2302.2	*	1	1920		233	0.	.0	2297.0
1	0245		34	29.	.6	2298.2	*	1	1105		134	141.	40.2	2302.1	*	1	1925		234	0.	.0	2297.0
1	0250		35	31.	.8	2298.3	*	1	1110		135	140.	39.2	2302.1	*	1	1930		235	0.	.0	2297.0
1	0255		36	33.	1.0	2298.4	*	1	1115		136	138.	38.3	2302.0	*	1	1935		236	0.	.0	2297.0
1	0300		37	35.	1.1	2298.4	*	1	1120		137	136.	37.3	2301.9	*	1	1940		237	0.	.0	2297.0
1	0305		38	36.	1.3	2298.5	*	1	1125		138	134.	36.4	2301.9	*	1	1945		238	0.	.0	2297.0

1	0310	39	39.	1.6	2298.6	*	1	1130	139	133.	35.5	2301.8	*	1	1950	239	0.	.0	2297.0
1	0315	40	43.	2.0	2298.8	*	1	1135	140	131.	34.6	2301.7	*	1	1955	240	0.	.0	2297.0
1	0320	41	49.	2.6	2299.0	*	1	1140	141	129.	33.7	2301.7	*	1	2000	241	0.	.0	2297.0
1	0325	42	52.	3.8	2299.2	*	1	1145	142	127.	32.8	2301.6	*	1	2005	242	0.	.0	2297.0
1	0330	43	58.	5.8	2299.4	*	1	1150	143	126.	31.9	2301.6	*	1	2010	243	0.	.0	2297.0
1	0335	44	66.	8.5	2299.8	*	1	1155	144	124.	31.1	2301.5	*	1	2015	244	0.	.0	2297.0
1	0340	45	76.	12.1	2300.1	*	1	1200	145	122.	30.2	2301.4	*	1	2020	245	0.	.0	2297.0
1	0345	46	87.	16.0	2300.4	*	1	1205	146	121.	29.4	2301.4	*	1	2025	246	0.	.0	2297.0
1	0350	47	100.	20.3	2300.7	*	1	1210	147	119.	28.5	2301.3	*	1	2030	247	0.	.0	2297.0
1	0355	48	112.	25.2	2301.1	*	1	1215	148	117.	27.7	2301.3	*	1	2035	248	0.	.0	2297.0
1	0400	49	123.	30.8	2301.5	*	1	1220	149	116.	26.9	2301.2	*	1	2040	249	0.	.0	2297.0
1	0405	50	136.	37.1	2301.9	*	1	1225	150	114.	26.1	2301.1	*	1	2045	250	0.	.0	2297.0
1	0410	51	147.	43.6	2302.4	*	1	1230	151	113.	25.4	2301.1	*	1	2050	251	0.	.0	2297.0
1	0415	52	156.	49.8	2302.8	*	1	1235	152	111.	24.6	2301.0	*	1	2055	252	0.	.0	2297.0
1	0420	53	165.	55.6	2303.2	*	1	1240	153	109.	23.8	2301.0	*	1	2100	253	0.	.0	2297.0
1	0425	54	171.	61.0	2303.5	*	1	1245	154	107.	23.1	2300.9	*	1	2105	254	0.	.0	2297.0
1	0430	55	177.	65.9	2303.9	*	1	1250	155	105.	22.3	2300.9	*	1	2110	255	0.	.0	2297.0
1	0435	56	183.	70.4	2304.2	*	1	1255	156	103.	21.6	2300.8	*	1	2115	256	0.	.0	2297.0
1	0440	57	189.	74.7	2304.5	*	1	1300	157	101.	20.9	2300.8	*	1	2120	257	0.	.0	2297.0
1	0445	58	194.	78.8	2304.7	*	1	1305	158	99.	20.2	2300.7	*	1	2125	258	0.	.0	2297.0
1	0450	59	198.	82.5	2305.0	*	1	1310	159	97.	19.6	2300.7	*	1	2130	259	0.	.0	2297.0
1	0455	60	202.	85.9	2305.2	*	1	1315	160	96.	18.9	2300.6	*	1	2135	260	0.	.0	2297.0
1	0500	61	205.	89.0	2305.4	*	1	1320	161	94.	18.2	2300.6	*	1	2140	261	0.	.0	2297.0
1	0505	62	208.	91.8	2305.6	*	1	1325	162	92.	17.6	2300.5	*	1	2145	262	0.	.0	2297.0
1	0510	63	211.	94.3	2305.7	*	1	1330	163	90.	17.0	2300.5	*	1	2150	263	0.	.0	2297.0
1	0515	64	213.	96.6	2305.9	*	1	1335	164	88.	16.4	2300.4	*	1	2155	264	0.	.0	2297.0
1	0520	65	215.	98.6	2306.0	*	1	1340	165	87.	15.8	2300.4	*	1	2200	265	0.	.0	2297.0
1	0525	66	217.	100.5	2306.1	*	1	1345	166	85.	15.2	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	219.	102.1	2306.3	*	1	1350	167	83.	14.6	2300.3	*	1	2210	267	0.	.0	2297.0
1	0535	68	221.	103.6	2306.3	*	1	1355	168	82.	14.0	2300.3	*	1	2215	268	0.	.0	2297.0
1	0540	69	222.	104.7	2306.4	*	1	1400	169	80.	13.5	2300.2	*	1	2220	269	0.	.0	2297.0
1	0545	70	223.	105.6	2306.5	*	1	1405	170	79.	12.9	2300.2	*	1	2225	270	0.	.0	2297.0
1	0550	71	223.	106.1	2306.5	*	1	1410	171	77.	12.4	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	224.	106.4	2306.5	*	1	1415	172	76.	11.8	2300.1	*	1	2235	272	0.	.0	2297.0
1	0600	73	224.	106.6	2306.5	*	1	1420	173	74.	11.3	2300.1	*	1	2240	273	0.	.0	2297.0
1	0605	74	224.	106.5	2306.5	*	1	1425	174	73.	10.8	2300.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	224.	106.3	2306.5	*	1	1430	175	71.	10.3	2300.0	*	1	2250	275	0.	.0	2297.0
1	0615	76	223.	106.0	2306.5	*	1	1435	176	70.	9.8	2299.9	*	1	2255	276	0.	.0	2297.0
1	0620	77	223.	105.5	2306.5	*	1	1440	177	69.	9.4	2299.9	*	1	2300	277	0.	.0	2297.0
1	0625	78	222.	104.9	2306.4	*	1	1445	178	67.	8.9	2299.8	*	1	2305	278	0.	.0	2297.0
1	0630	79	221.	104.2	2306.4	*	1	1450	179	66.	8.4	2299.7	*	1	2310	279	0.	.0	2297.0
1	0635	80	220.	103.4	2306.3	*	1	1455	180	64.	8.0	2299.7	*	1	2315	280	0.	.0	2297.0
1	0640	81	219.	102.5	2306.3	*	1	1500	181	63.	7.5	2299.6	*	1	2320	281	0.	.0	2297.0
1	0645	82	218.	101.5	2306.2	*	1	1505	182	62.	7.1	2299.6	*	1	2325	282	0.	.0	2297.0
1	0650	83	217.	100.5	2306.1	*	1	1510	183	61.	6.7	2299.5	*	1	2330	283	0.	.0	2297.0
1	0655	84	216.	99.5	2306.1	*	1	1515	184	59.	6.3	2299.5	*	1	2335	284	0.	.0	2297.0
1	0700	85	215.	98.3	2306.0	*	1	1520	185	58.	5.9	2299.4	*	1	2340	285	0.	.0	2297.0
1	0705	86	214.	97.2	2305.9	*	1	1525	186	57.	5.5	2299.4	*	1	2345	286	0.	.0	2297.0
1	0710	87	213.	96.0	2305.9	*	1	1530	187	56.	5.1	2299.3	*	1	2350	287	0.	.0	2297.0
1	0715	88	211.	94.8	2305.8	*	1	1535	188	55.	4.7	2299.3	*	1	2355	288	0.	.0	2297.0
1	0720	89	210.	93.5	2305.7	*	1	1540	189	54.	4.3	2299.2	*	2	0000	289	0.	.0	2297.0
1	0725	90	209.	92.3	2305.6	*	1	1545	190	53.	4.0	2299.2	*	2	0005	290	0.	.0	2297.0
1	0730	91	207.	91.0	2305.5	*	1	1550	191	52.	3.6	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	206.	89.7	2305.4	*	1	1555	192	50.	3.3	2299.1	*	2	0015	292	0.	.0	2297.0
1	0740	93	205.	88.5	2305.4	*	1	1600	193	49.	2.9	2299.1	*	2	0020	293	0.	.0	2297.0
1	0745	94	203.	87.1	2305.3	*	1	1605	194	48.	2.6	2299.0	*	2	0025	294	0.	.0	2297.0
1	0750	95	202.	85.8	2305.2	*	1	1610	195	46.	2.3	2298.9	*	2	0030	295	0.	.0	2297.0
1	0755	96	201.	84.5	2305.1	*	1	1615	196	43.	1.9	2298.8	*	2	0035	296	0.	.0	2297.0
1	0800	97	199.	83.2	2305.0	*	1	1620	197	40.	1.7	2298.7	*	2	0040	297	0.	.0	2297.0
1	0805	98	198.	81.9	2304.9	*	1	1625	198	37.	1.4	2298.6	*	2	0045	298	0.	.0	2297.0
1	0810	99	196.	80.6	2304.8	*	1	1630	199	35.	1.1	2298.4	*	2	0050	299	0.	.0	2297.0
1	0815	100	194.	79.3	2304.8	*	1	1635	200	32.	.9	2298.3	*	2	0055	300	0.	.0	2297.0

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 224.	6.00		197.	81.	78.	78.
		(INCHES)	1.592	2.600	2.600	2.600
		(AC-FT)	98.	160.	160.	160.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
107.	6.00	83.	27.	26.	26.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2306.55	6.00	2305.00	2300.20	2300.08	2300.08

CUMULATIVE AREA = 1.15 SQ MI

HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .92

DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	190.	76.2	2304.5	1		1640	201	27.	.4	2298.1
1		0005	2	0.	.0	2297.0	1		0825	102	189.	75.0	2304.5	1		1645	202	25.	.3	2298.1
1		0010	3	0.	.0	2297.0	1		0830	103	187.	73.7	2304.4	1		1650	203	20.	.1	2297.8
1		0015	4	0.	.0	2297.0	1		0835	104	186.	72.4	2304.3	1		1655	204	4.	.0	2297.2
1		0020	5	0.	.0	2297.0	1		0840	105	184.	71.2	2304.2	1		1700	205	1.	.0	2297.0
1		0025	6	1.	.0	2297.0	1		0845	106	183.	69.9	2304.1	1		1705	206	0.	.0	2297.0
1		0030	7	2.	.0	2297.1	1		0850	107	181.	68.7	2304.1	1		1710	207	0.	.0	2297.0
1		0035	8	3.	.0	2297.1	1		0855	108	179.	67.4	2304.0	1		1715	208	0.	.0	2297.0
1		0040	9	5.	.0	2297.2	1		0900	109	178.	66.2	2303.9	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	1		0905	110	176.	65.0	2303.8	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	1		0910	111	175.	63.8	2303.7	1		1730	211	0.	.0	2297.0

1	0055	12	3.	.0	2297.1	*	1	0915	112	173.	62.6	2303.7	*	1	1735	212	0.	.0	2297.0
1	0100	13	2.	.0	2297.1	*	1	0920	113	172.	61.4	2303.6	*	1	1740	213	0.	.0	2297.0
1	0105	14	2.	.0	2297.1	*	1	0925	114	170.	60.2	2303.5	*	1	1745	214	0.	.0	2297.0
1	0110	15	2.	.0	2297.1	*	1	0930	115	169.	59.1	2303.4	*	1	1750	215	0.	.0	2297.0
1	0115	16	3.	.0	2297.1	*	1	0935	116	168.	57.9	2303.3	*	1	1755	216	0.	.0	2297.0
1	0120	17	3.	.0	2297.1	*	1	0940	117	166.	56.8	2303.3	*	1	1800	217	0.	.0	2297.0
1	0125	18	4.	.0	2297.2	*	1	0945	118	165.	55.6	2303.2	*	1	1805	218	0.	.0	2297.0
1	0130	19	6.	.0	2297.2	*	1	0950	119	163.	54.5	2303.1	*	1	1810	219	0.	.0	2297.0
1	0135	20	9.	.0	2297.4	*	1	0955	120	162.	53.4	2303.0	*	1	1815	220	0.	.0	2297.0
1	0140	21	12.	.1	2297.5	*	1	1000	121	160.	52.3	2303.0	*	1	1820	221	0.	.0	2297.0
1	0145	22	16.	.1	2297.7	*	1	1005	122	159.	51.2	2302.9	*	1	1825	222	0.	.0	2297.0
1	0150	23	19.	.1	2297.8	*	1	1010	123	157.	50.1	2302.8	*	1	1830	223	0.	.0	2297.0
1	0155	24	21.	.1	2297.9	*	1	1015	124	155.	49.0	2302.7	*	1	1835	224	0.	.0	2297.0
1	0200	25	21.	.1	2297.9	*	1	1020	125	153.	48.0	2302.7	*	1	1840	225	0.	.0	2297.0
1	0205	26	20.	.1	2297.8	*	1	1025	126	152.	46.9	2302.6	*	1	1845	226	0.	.0	2297.0
1	0210	27	20.	.1	2297.8	*	1	1030	127	150.	45.9	2302.5	*	1	1850	227	0.	.0	2297.0
1	0215	28	20.	.1	2297.8	*	1	1035	128	149.	44.8	2302.5	*	1	1855	228	0.	.0	2297.0
1	0220	29	24.	.1	2298.0	*	1	1040	129	147.	43.8	2302.4	*	1	1900	229	0.	.0	2297.0
1	0225	30	24.	.2	2298.0	*	1	1045	130	145.	42.8	2302.3	*	1	1905	230	0.	.0	2297.0
1	0230	31	25.	.2	2298.1	*	1	1050	131	144.	41.8	2302.3	*	1	1910	231	0.	.0	2297.0
1	0235	32	26.	.3	2298.1	*	1	1055	132	142.	40.8	2302.2	*	1	1915	232	0.	.0	2297.0
1	0240	33	27.	.5	2298.1	*	1	1100	133	141.	39.9	2302.1	*	1	1920	233	0.	.0	2297.0
1	0245	34	29.	.6	2298.2	*	1	1105	134	139.	38.9	2302.0	*	1	1925	234	0.	.0	2297.0
1	0250	35	30.	.7	2298.3	*	1	1110	135	138.	38.0	2302.0	*	1	1930	235	0.	.0	2297.0
1	0255	36	32.	.9	2298.3	*	1	1115	136	136.	37.0	2301.9	*	1	1935	236	0.	.0	2297.0
1	0300	37	34.	1.1	2298.4	*	1	1120	137	134.	36.1	2301.9	*	1	1940	237	0.	.0	2297.0
1	0305	38	36.	1.2	2298.5	*	1	1125	138	132.	35.2	2301.8	*	1	1945	238	0.	.0	2297.0
1	0310	39	38.	1.5	2298.6	*	1	1130	139	130.	34.3	2301.7	*	1	1950	239	0.	.0	2297.0
1	0315	40	42.	1.9	2298.8	*	1	1135	140	128.	33.4	2301.7	*	1	1955	240	0.	.0	2297.0
1	0320	41	48.	2.5	2299.0	*	1	1140	141	127.	32.5	2301.6	*	1	2000	241	0.	.0	2297.0
1	0325	42	52.	3.7	2299.2	*	1	1145	142	125.	31.6	2301.5	*	1	2005	242	0.	.0	2297.0
1	0330	43	57.	5.6	2299.4	*	1	1150	143	123.	30.8	2301.5	*	1	2010	243	0.	.0	2297.0
1	0335	44	65.	8.3	2299.7	*	1	1155	144	122.	29.9	2301.4	*	1	2015	244	0.	.0	2297.0
1	0340	45	75.	11.7	2300.1	*	1	1200	145	120.	29.1	2301.4	*	1	2020	245	0.	.0	2297.0
1	0345	46	86.	15.6	2300.4	*	1	1205	146	118.	28.3	2301.3	*	1	2025	246	0.	.0	2297.0
1	0350	47	98.	19.8	2300.7	*	1	1210	147	117.	27.5	2301.2	*	1	2030	247	0.	.0	2297.0
1	0355	48	111.	24.6	2301.0	*	1	1215	148	115.	26.7	2301.2	*	1	2035	248	0.	.0	2297.0
1	0400	49	122.	30.0	2301.4	*	1	1220	149	114.	25.9	2301.1	*	1	2040	249	0.	.0	2297.0
1	0405	50	134.	36.2	2301.9	*	1	1225	150	112.	25.1	2301.1	*	1	2045	250	0.	.0	2297.0
1	0410	51	145.	42.6	2302.3	*	1	1230	151	111.	24.3	2301.0	*	1	2050	251	0.	.0	2297.0
1	0415	52	155.	48.7	2302.7	*	1	1235	152	109.	23.6	2301.0	*	1	2055	252	0.	.0	2297.0
1	0420	53	163.	54.4	2303.1	*	1	1240	153	107.	22.8	2300.9	*	1	2100	253	0.	.0	2297.0
1	0425	54	170.	59.6	2303.5	*	1	1245	154	105.	22.1	2300.9	*	1	2105	254	0.	.0	2297.0
1	0430	55	176.	64.5	2303.8	*	1	1250	155	103.	21.4	2300.8	*	1	2110	255	0.	.0	2297.0
1	0435	56	181.	69.0	2304.1	*	1	1255	156	101.	20.7	2300.8	*	1	2115	256	0.	.0	2297.0
1	0440	57	187.	73.3	2304.4	*	1	1300	157	99.	20.0	2300.7	*	1	2120	257	0.	.0	2297.0
1	0445	58	192.	77.2	2304.6	*	1	1305	158	97.	19.3	2300.7	*	1	2125	258	0.	.0	2297.0
1	0450	59	196.	80.9	2304.9	*	1	1310	159	95.	18.7	2300.6	*	1	2130	259	0.	.0	2297.0
1	0455	60	200.	84.3	2305.1	*	1	1315	160	93.	18.0	2300.6	*	1	2135	260	0.	.0	2297.0
1	0500	61	203.	87.3	2305.3	*	1	1320	161	91.	17.4	2300.5	*	1	2140	261	0.	.0	2297.0
1	0505	62	206.	90.1	2305.5	*	1	1325	162	90.	16.8	2300.5	*	1	2145	262	0.	.0	2297.0
1	0510	63	209.	92.5	2305.6	*	1	1330	163	88.	16.2	2300.4	*	1	2150	263	0.	.0	2297.0
1	0515	64	211.	94.7	2305.8	*	1	1335	164	86.	15.6	2300.4	*	1	2155	264	0.	.0	2297.0
1	0520	65	213.	96.7	2305.9	*	1	1340	165	85.	15.0	2300.3	*	1	2200	265	0.	.0	2297.0
1	0525	66	215.	98.6	2306.0	*	1	1345	166	83.	14.4	2300.3	*	1	2205	266	0.	.0	2297.0
1	0530	67	217.	100.2	2306.1	*	1	1350	167	81.	13.8	2300.2	*	1	2210	267	0.	.0	2297.0
1	0535	68	219.	101.6	2306.2	*	1	1355	168	80.	13.3	2300.2	*	1	2215	268	0.	.0	2297.0
1	0540	69	220.	102.8	2306.3	*	1	1400	169	78.	12.7	2300.2	*	1	2220	269	0.	.0	2297.0
1	0545	70	221.	103.6	2306.3	*	1	1405	170	77.	12.2	2300.1	*	1	2225	270	0.	.0	2297.0
1	0550	71	221.	104.1	2306.4	*	1	1410	171	75.	11.7	2300.1	*	1	2230	271	0.	.0	2297.0
1	0555	72	221.	104.4	2306.4	*	1	1415	172	74.	11.2	2300.0	*	1	2235	272	0.	.0	2297.0
1	0600	73	222.	104.5	2306.4	*	1	1420	173	72.	10.7	2300.0	*	1	2240	273	0.	.0	2297.0
1	0605	74	222.	104.5	2306.4	*	1	1425	174	71.	10.2	2300.0	*	1	2245	274	0.	.0	2297.0
1	0610	75	221.	104.3	2306.4	*	1	1430	175	69.	9.7	2299.9	*	1	2250	275	0.	.0	2297.0
1	0615	76	221.	104.0	2306.4	*	1	1435	176	68.	9.2	2299.8	*	1	2255	276	0.	.0	2297.0
1	0620	77	221.	103.5	2306.3	*	1	1440	177	67.	8.7	2299.8	*	1	2300	277	0.	.0	2297.0
1	0625	78	220.	102.9	2306.3	*	1	1445	178	65.	8.3	2299.7	*	1	2305	278	0.	.0	2297.0
1	0630	79	219.	102.2	2306.3	*	1	1450	179	64.	7.8	2299.7	*	1	2310	279	0.	.0	2297.0
1	0635	80	218.	101.4	2306.2	*	1	1455	180	63.	7.4	2299.6	*	1	2315	280	0.	.0	2297.0
1	0640	81	217.	100.5	2306.1	*	1	1500	181	61.	7.0	2299.6	*	1	2320	281	0.	.0	2297.0
1	0645	82	216.	99.6	2306.1	*	1	1505	182	60.	6.6	2299.5	*	1	2325	282	0.	.0	2297.0
1	0650	83	215.	98.5	2306.0	*	1	1510	183	59.	6.1	2299.5	*	1	2330	283	0.	.0	2297.0
1	0655	84	214.	97.5	2305.9	*	1	1515	184	58.	5.7	2299.4	*	1	2335	284	0.	.0	2297.0
1	0700	85	213.	96.4	2305.9	*	1	1520	185	57.	5.4	2299.4	*	1	2340	285	0.	.0	2297.0
1	0705	86	212.	95.2	2305.8	*	1	1525	186	56.	5.0	2299.3	*	1	2345	286	0.	.0	2297.0
1	0710	87	211.	94.1	2305.7	*	1	1530	187	54.	4.6	2299.3	*	1	2350	287	0.	.0	2297.0
1	0715	88	209.	92.9	2305.6	*	1	1535	188	53.	4.2	2299.2	*	1	2355	288	0.	.0	2297.0
1	0720	89	208.	91.6	2305.6	*	1	1540	189	52.	3.9	2299.2	*	2	0000	289	0.	.0	2297.0
1	0725	90	207.	90.4	2305.5	*	1	1545	190	51.	3.5	2299.1	*	2	0005	290	0.	.0	2297.0
1	0730	91	205.	89.1	2305.4	*	1	1550	191	50.	3.1	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	204.	87.9	2305.3	*	1	1555	192	49.	2.8	2299.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	203.	86.6	2305.2	*	1	1600	193	48.	2.5	2299.0	*	2	0020	293	0.	.0	2297.0
1	0745	94	201.	85.3	2305.1	*	1	1605	194	45.	2.2	2298.9	*	2	0025	294	0.	.0	2297.0
1	0750	95	200.	84.0	2305.1	*	1	1610	195	42.	1.9	2298.7	*	2	0030	295	0.	.0	2297.0
1	0755	96	199.	82.7	2305.0	*	1	1615	196	39.	1.6	2298.6	*	2	0035	296	0.	.0	2297.0
1	0800	97	197.	81.4	2304.9	*	1	1620	197	36.	1.3	2298.5	*	2	0040	297	0.	.0	2297.0
1	0805	98	195.	80.1	2304.8	*	1	1625	198	34.	1.1	2298.4	*	2	0045	298	0.	.0	2297.0
1	0810	99	194.	78.8	2304.7	*	1	1630	199	31.	.8	2298.3	*	2	0050	299	0.	.0	2297.0
1	0815	100	192.	77.5	2304.6	*	1	1635	200	29.	.6	2298.2	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 222.	6.00		195.	79.	76.	76.
		(INCHES)	1.576	2.557	2.557	2.557
		(AC-FT)	97.	157.	157.	157.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
105.	6.00	81.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE

+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
2306.41	6.00	2304.88	2300.14	2300.02	2300.02

CUMULATIVE AREA = 1.15 SQ MI

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HYDROGRAPH AT STATION DB1
PLAN 1, RATIO = .91

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DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE	DA	MON	HRMN	ORD	OUTFLOW	STORAGE	STAGE
1		0000	1	0.	.0	2297.0	1		0820	101	189.	75.0	2304.5	1		1640	201	26.	.3	2298.1
1		0005	2	0.	.0	2297.0	1		0825	102	187.	73.8	2304.4	1		1645	202	21.	.1	2297.9
1		0010	3	0.	.0	2297.0	1		0830	103	186.	72.5	2304.3	1		1650	203	4.	.0	2297.2
1		0015	4	0.	.0	2297.0	1		0835	104	184.	71.2	2304.2	1		1655	204	1.	.0	2297.0
1		0020	5	0.	.0	2297.0	1		0840	105	183.	70.0	2304.1	1		1700	205	0.	.0	2297.0
1		0025	6	1.	.0	2297.0	1		0845	106	181.	68.8	2304.1	1		1705	206	0.	.0	2297.0
1		0030	7	2.	.0	2297.1	1		0850	107	180.	67.5	2304.0	1		1710	207	0.	.0	2297.0
1		0035	8	3.	.0	2297.1	1		0855	108	178.	66.3	2303.9	1		1715	208	0.	.0	2297.0
1		0040	9	4.	.0	2297.2	1		0900	109	177.	65.1	2303.8	1		1720	209	0.	.0	2297.0
1		0045	10	5.	.0	2297.2	1		0905	110	175.	63.9	2303.7	1		1725	210	0.	.0	2297.0
1		0050	11	4.	.0	2297.2	1		0910	111	174.	62.7	2303.7	1		1730	211	0.	.0	2297.0
1		0055	12	3.	.0	2297.1	1		0915	112	172.	61.5	2303.6	1		1735	212	0.	.0	2297.0
1		0100	13	2.	.0	2297.1	1		0920	113	171.	60.3	2303.5	1		1740	213	0.	.0	2297.0
1		0105	14	2.	.0	2297.1	1		0925	114	169.	59.2	2303.4	1		1745	214	0.	.0	2297.0
1		0110	15	2.	.0	2297.1	1		0930	115	168.	58.0	2303.4	1		1750	215	0.	.0	2297.0
1		0115	16	2.	.0	2297.1	1		0935	116	166.	56.9	2303.3	1		1755	216	0.	.0	2297.0
1		0120	17	3.	.0	2297.1	1		0940	117	165.	55.7	2303.2	1		1800	217	0.	.0	2297.0
1		0125	18	4.	.0	2297.2	1		0945	118	163.	54.6	2303.1	1		1805	218	0.	.0	2297.0
1		0130	19	6.	.0	2297.2	1		0950	119	162.	53.5	2303.1	1		1810	219	0.	.0	2297.0
1		0135	20	8.	.0	2297.4	1		0955	120	160.	52.4	2303.0	1		1815	220	0.	.0	2297.0
1		0140	21	12.	.1	2297.5	1		1000	121	159.	51.3	2302.9	1		1820	221	0.	.0	2297.0
1		0145	22	15.	.1	2297.6	1		1005	122	157.	50.2	2302.8	1		1825	222	0.	.0	2297.0
1		0150	23	18.	.1	2297.8	1		1010	123	155.	49.1	2302.8	1		1830	223	0.	.0	2297.0
1		0155	24	20.	.1	2297.8	1		1015	124	154.	48.0	2302.7	1		1835	224	0.	.0	2297.0
1		0200	25	20.	.1	2297.8	1		1020	125	152.	47.0	2302.6	1		1840	225	0.	.0	2297.0
1		0205	26	20.	.1	2297.8	1		1025	126	150.	46.0	2302.5	1		1845	226	0.	.0	2297.0
1		0210	27	19.	.1	2297.8	1		1030	127	149.	44.9	2302.5	1		1850	227	0.	.0	2297.0
1		0215	28	20.	.1	2297.8	1		1035	128	147.	43.9	2302.4	1		1855	228	0.	.0	2297.0
1		0220	29	23.	.1	2298.0	1		1040	129	145.	42.9	2302.3	1		1900	229	0.	.0	2297.0
1		0225	30	24.	.2	2298.0	1		1045	130	144.	41.9	2302.3	1		1905	230	0.	.0	2297.0
1		0230	31	25.	.2	2298.0	1		1050	131	142.	40.9	2302.2	1		1910	231	0.	.0	2297.0
1		0235	32	26.	.3	2298.1	1		1055	132	141.	39.9	2302.1	1		1915	232	0.	.0	2297.0
1		0240	33	27.	.4	2298.1	1		1100	133	139.	39.0	2302.1	1		1920	233	0.	.0	2297.0
1		0245	34	28.	.6	2298.2	1		1105	134	138.	38.0	2302.0	1		1925	234	0.	.0	2297.0
1		0250	35	30.	.7	2298.3	1		1110	135	136.	37.1	2301.9	1		1930	235	0.	.0	2297.0
1		0255	36	32.	.9	2298.3	1		1115	136	134.	36.2	2301.9	1		1935	236	0.	.0	2297.0
1		0300	37	33.	1.0	2298.4	1		1120	137	132.	35.2	2301.8	1		1940	237	0.	.0	2297.0
1		0305	38	35.	1.2	2298.5	1		1125	138	130.	34.3	2301.7	1		1945	238	0.	.0	2297.0
1		0310	39	38.	1.4	2298.6	1		1130	139	129.	33.4	2301.7	1		1950	239	0.	.0	2297.0
1		0315	40	41.	1.8	2298.7	1		1135	140	127.	32.6	2301.6	1		1955	240	0.	.0	2297.0
1		0320	41	48.	2.4	2299.0	1		1140	141	125.	31.7	2301.5	1		2000	241	0.	.0	2297.0
1		0325	42	51.	3.6	2299.1	1		1145	142	123.	30.8	2301.5	1		2005	242	0.	.0	2297.0
1		0330	43	57.	5.4	2299.4	1		1150	143	122.	30.0	2301.4	1		2010	243	0.	.0	2297.0
1		0335	44	65.	8.1	2299.7	1		1155	144	120.	29.2	2301.4	1		2015	244	0.	.0	2297.0
1		0340	45	75.	11.5	2300.1	1		1200	145	119.	28.3	2301.3	1		2020	245	0.	.0	2297.0
1		0345	46	85.	15.3	2300.4	1		1205	146	117.	27.5	2301.2	1		2025	246	0.	.0	2297.0
1		0350	47	97.	19.5	2300.7	1		1210	147	115.	26.7	2301.2	1		2030	247	0.	.0	2297.0
1		0355	48	110.	24.1	2301.0	1		1215	148	114.	25.9	2301.1	1		2035	248	0.	.0	2297.0
1		0400	49	121.	29.5	2301.4	1		1220	149	112.	25.2	2301.1	1		2040	249	0.	.0	2297.0
1		0405	50	133.	35.6	2301.8	1		1225	150	111.	24.4	2301.0	1		2045	250	0.	.0	2297.0
1		0410	51	144.	41.9	2302.3	1		1230	151	109.	23.6	2301.0	1		2050	251	0.	.0	2297.0
1		0415	52	153.	47.9	2302.7	1		1235	152	107.	22.9	2300.9	1		2055	252	0.	.0	2297.0
1		0420	53	162.	53.5	2303.1	1		1240	153	105.	22.2	2300.9	1		2100	253	0.	.0	2297.0
1		0425	54	169.	58.8	2303.4	1		1245	154	103.	21.4	2300.8	1		2105	254	0.	.0	2297.0
1		0430	55	175.	63.6	2303.7	1		1250	155	101.	20.7	2300.8	1		2110	255	0.	.0	2297.0
1		0435	56	180.	68.1	2304.0	1		1255	156	99.	20.1	2300.7	1		2115	256	0.	.0	2297.0
1		0440	57	186.	72.3	2304.3	1		1300	157	97.	19.4	2300.7	1		2120	257	0.	.0	2297.0
1		0445	58	190.	76.2	2304.5	1		1305	158	95.	18.7	2300.6	1		2125	258	0.	.0	2297.0
1		0450	59	195.	79.8	2304.8	1		1310	159	93.	18.1	2300.6	1		2130	259	0.	.0	2297.0
1		0455	60	199.	83.2	2305.0	1		1315	160	91.	17.4	2300.5	1		2135	260	0.	.0	2297.0
1		0500	61	202.	86.2	2305.2	1		1320	161	90.	16.8	2300.5	1		2140	261	0.	.0	2297.0
1		0505	62	205.	88.9	2305.4	1		1325	162	88.	16.2	2300.4	1		2145	262	0.	.0	2297.0
1		0510	63	208.	91.3	2305.5	1		1330	163	86.	15.6	2300.4	1		2150	263	0.	.0	2297.0
1		0515	64	210.	93.5	2305.7	1		1335	164	85.	15.0	2300.3	1		2155	264	0.	.0	2297.0
1		0520	65	212.	95.5	2305.8	1		1340	165	83.	14.4	2300.3	1		2200	265	0.	.0	2297.0
1		0525	66	214.	97.3	2305.9	1		1345	166	81.	13.9	2300.2	1		2205	266	0.	.0	2297.0
1		0530	67	216.	98.9	2306.0	1		1350	167	80.	13.3	2300.2	1		2210	267	0.	.0	2297.0
1		0535	68	217.	100.3	2306.1	1		1355	168	78.	12.8	2300.2	1		2215	268	0.	.0	2297.0
1		0540	69	218.	101.4	2306.2	1		1400	169	77.	12.2	2300.1	1		2220	269	0.	.0	2297.0
1		0545	70	219.	102.2	2306.3	1		1405	170	75.	11.7	2300.1	1		2225	270	0.	.0	2297.0
1		0550	71	220.	102.7	2306.3	1		1410	171	74.	11.2	2300.0	1		2230	271	0.	.0	2297.0
1		0555	72	220.	103.0	2306.3	1		1415	172	72.	10.7	2300.0	1		2235	272	0.	.0	2297.0
1		0600	73	220.	103.1	2306.3	1		1420	173	71.	10.2	2300.0	1		2240	273	0.	.0	2297.0
1		0605	74	220.	103.1	2306.3	1		1425	174	70.	9.7	2299.9	1		2245	274	0.	.0	2297.0
1		0610	75	220.	102.9	2306.3	1		1430	175	68.	9.2	2299.8	1		2250	275	0.	.0	2297.0
1		0615	76	220.	102.6	2306.3	1		1435	176	67.	8.8	2299.8	1		2255	276	0.	.0	2297.0
1		0620	77	219.	102.1	2306.3	1		1440	177	65.	8.3	2299.7	1		2300	277	0.	.0	2297.0
1		0625	78	218.	101.5	2306.2	1		1445	178	64.	7.9	2299.7	1		2305	278	0.	.0	2297.0
1		0630	79	218.	100.8	2306.2	1		1450	179	63.	7.4	2299.6	1		2310	279	0.	.0	2297.0
1		0635	80	217.	100.0	2306.1	1		1455	180	62.	7.0	2299.6	1		2315	280	0.	.0	2297.0
1		0640	81	216.	99.1	2306.1	1		1500	181	60.	6.6	2299.5	1		2320	281	0.	.0	2297.0
1		0645	82	215.	98.2	2306.0	1		1505	182	59.	6.2	2299.5	1		2325	282	0.	.0	2297.0
1		0650	83	214.	97.2	2305.9	1		1510	183	58.	5.8	2299.4	1		2330	283	0.	.0	2297.0
1		0655	84	213.	96.1	2305.9	1		1515	184	57.	5.4	2299.4	1		2335	284	0.	.0	2297.0
1		0700	85	212.	95.0	2305.8	1		1520	185	56.	5.0	2299.3	1		2340	285	0.	.0	2297.0
1		0705	86	210.	93.9	2305.7	1		1525	186	54.	4.6	2299.3	1		2345	286	0.	.0	2297.0
1		0710	87	209.	92.7	2305.6	1		1530	187	53.	4.2	2299.2	1		2350	287	0.	.0	2297.0
1		0715	88	208.	91.5	2305.6	1		1535	188	52.	3.9	2299.2	1		2355	288	0.	.0	2297.0
1		0720	89	207.	90.3	2305.5	1		1540	189	51.	3.5	2299.1	2		0000	289	0.	.0	2297.0
1		0725	90	205.	89.1	2305.4	1		1545	190	50.	3.2	2299.1	2		0005	290	0.	.0	2297.0

1	0730	91	204.	87.8	2305.3	*	1	1550	191	49.	2.8	2299.1	*	2	0010	291	0.	.0	2297.0
1	0735	92	203.	86.6	2305.2	*	1	1555	192	48.	2.5	2299.0	*	2	0015	292	0.	.0	2297.0
1	0740	93	201.	85.3	2305.1	*	1	1600	193	45.	2.2	2298.9	*	2	0020	293	0.	.0	2297.0
1	0745	94	200.	84.0	2305.1	*	1	1605	194	42.	1.9	2298.8	*	2	0025	294	0.	.0	2297.0
1	0750	95	199.	82.7	2305.0	*	1	1610	195	39.	1.6	2298.6	*	2	0030	295	0.	.0	2297.0
1	0755	96	197.	81.4	2304.9	*	1	1615	196	37.	1.3	2298.5	*	2	0035	296	0.	.0	2297.0
1	0800	97	195.	80.2	2304.8	*	1	1620	197	34.	1.1	2298.4	*	2	0040	297	0.	.0	2297.0
1	0805	98	194.	78.9	2304.7	*	1	1625	198	32.	.9	2298.3	*	2	0045	298	0.	.0	2297.0
1	0810	99	192.	77.6	2304.6	*	1	1630	199	29.	.7	2298.2	*	2	0050	299	0.	.0	2297.0
1	0815	100	191.	76.3	2304.6	*	1	1635	200	27.	.5	2298.1	*	2	0055	300	0.	.0	2297.0
						*							*						

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PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 220.	6.00	194.	78.	75.	75.
	(INCHES)	1.565	2.528	2.528	2.528
	(AC-FT)	96.	155.	155.	155.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
103.	6.00	80.	26.	25.	25.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2306.32	6.00	2304.80	2300.10	2299.98	2299.98

CUMULATIVE AREA = 1.15 SQ MI

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PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .99	RATIO 2 .98	RATIO 3 .95	RATIO 4 .93	RATIO 5 .92	RATIO 6 .91
HYDROGRAPH AT										
+	U190	.37	1	FLOW	196.	191.	182.	173.	170.	167.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	U170	.25	1	FLOW	152.	148.	141.	135.	132.	130.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
2 COMBINED AT										
+	CP1	.62	1	FLOW	348.	339.	323.	308.	302.	297.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO										
+	CP1S	.62	1	FLOW	148.	143.	136.	129.	127.	125.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	CP1E	.62	1	FLOW	200.	196.	187.	179.	175.	172.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO										
+	RCP1E	.62	1	FLOW	199.	194.	185.	177.	172.	169.
				TIME	4.08	4.08	4.08	4.08	4.08	4.17
HYDROGRAPH AT										
+	U150	.13	1	FLOW	104.	102.	97.	93.	91.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	U150E	.13	1	FLOW	60.	59.	56.	53.	52.	52.
				TIME	3.75	3.75	3.75	3.75	3.58	3.58
HYDROGRAPH AT										
+	U150S	.13	1	FLOW	44.	43.	41.	40.	39.	38.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	RU150	.13	1	FLOW	43.	42.	40.	38.	37.	36.
				TIME	3.83	3.83	3.92	3.92	3.83	3.92
HYDROGRAPH AT										
+	U155	.13	1	FLOW	104.	102.	97.	93.	91.	90.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT										
+	CP2	.88	1	FLOW	302.	294.	277.	258.	250.	244.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO										
+	CP2E	.88	1	FLOW	174.	170.	161.	152.	148.	145.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	CP2S	.88	1	FLOW	128.	124.	116.	106.	102.	99.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO										
+	RCP2S	.88	1	FLOW	126.	122.	115.	105.	100.	97.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT										
+	CP1S	.00	1	FLOW	148.	143.	136.	129.	127.	125.

				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT											
+	U210	.07	1	FLOW	60.	58.	56.	53.	52.	52.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CP3	.07	1	FLOW	192.	186.	181.	178.	177.	177.
				TIME	3.92	3.92	3.75	3.75	3.75	3.75
DIVERSION TO											
+	CP3E	.07	1	FLOW	89.	85.	83.	82.	81.	81.
				TIME	3.92	3.92	3.75	3.75	3.75	3.50
HYDROGRAPH AT											
+	CP3S	.07	1	FLOW	103.	101.	98.	96.	96.	96.
				TIME	3.92	3.92	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	U250	.07	1	FLOW	57.	56.	53.	51.	50.	49.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT											
+	CP4	.14	1	FLOW	158.	155.	151.	147.	146.	145.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO											
+	CP4E	.14	1	FLOW	79.	77.	75.	73.	73.	72.
				TIME	3.75	3.75	3.75	3.75	3.75	3.58
HYDROGRAPH AT											
+	CP4S	.14	1	FLOW	79.	78.	76.	74.	73.	73.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO											
+	RCP4S	.14	1	FLOW	79.	78.	76.	74.	73.	72.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT											
+	U230	.14	1	FLOW	110.	107.	102.	98.	96.	94.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT											
+	U330	.01	1	FLOW	15.	15.	14.	14.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CP5	.30	1	FLOW	199.	194.	187.	179.	175.	173.
				TIME	3.75	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT											
+	CP3E	.00	1	FLOW	89.	85.	83.	82.	81.	81.
				TIME	3.92	3.92	3.75	3.75	3.75	3.50
HYDROGRAPH AT											
+	U370	.02	1	FLOW	18.	18.	17.	16.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CP6	.02	1	FLOW	101.	100.	99.	97.	97.	97.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
DIVERSION TO											
+	CP6E	.02	1	FLOW	46.	45.	45.	44.	44.	44.
				TIME	3.67	3.67	3.67	3.58	3.58	3.33
HYDROGRAPH AT											
+	CP6S	.02	1	FLOW	55.	55.	54.	53.	53.	53.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
HYDROGRAPH AT											
+	CP4E	.00	1	FLOW	79.	77.	75.	73.	73.	72.
				TIME	3.75	3.75	3.75	3.75	3.75	3.58
HYDROGRAPH AT											
+	U350	.02	1	FLOW	19.	18.	17.	17.	16.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	CP7	.03	1	FLOW	150.	148.	144.	142.	141.	141.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
DIVERSION TO											
+	CP7E	.03	1	FLOW	75.	74.	72.	71.	70.	70.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
HYDROGRAPH AT											
+	CP7S	.03	1	FLOW	75.	74.	72.	71.	71.	71.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
HYDROGRAPH AT											
+	U305	.01	1	FLOW	11.	11.	11.	10.	10.	10.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	CP8	.04	1	FLOW	85.	84.	82.	81.	81.	81.
				TIME	3.67	3.67	3.58	3.58	3.58	3.58
DIVERSION TO											
+	CP8E	.04	1	FLOW	40.	39.	39.	38.	38.	38.
				TIME	3.67	3.67	3.58	3.58	3.50	3.50
HYDROGRAPH AT											
+	CP8S	.04	1	FLOW	45.	45.	43.	43.	43.	43.
				TIME	3.67	3.67	3.58	3.58	3.58	3.58

HYDROGRAPH AT										
+	U310	.01	1	FLOW	13.	12.	12.	11.	11.	11.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CP9	.35	1	FLOW	251.	246.	236.	225.	219.	215.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	CP9S	.35	1	FLOW	160.	157.	152.	145.	141.	139.
				TIME	3.75	3.75	3.75	3.75	3.75	3.67
HYDROGRAPH AT										
+	CP9E	.35	1	FLOW	91.	89.	84.	80.	78.	76.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	RCP9E	.35	1	FLOW	89.	86.	81.	76.	74.	72.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	CP6E	.00	1	FLOW	46.	45.	45.	44.	44.	44.
				TIME	3.67	3.67	3.67	3.58	3.58	3.33
ROUTED TO										
+	RCP6E	.00	1	FLOW	47.	47.	48.	48.	49.	49.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	CP7E	.00	1	FLOW	75.	74.	72.	71.	70.	70.
				TIME	3.67	3.67	3.67	3.58	3.58	3.58
ROUTED TO										
+	RCP7E	.00	1	FLOW	85.	85.	85.	81.	80.	78.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	CP8E	.00	1	FLOW	40.	39.	39.	38.	38.	38.
				TIME	3.67	3.67	3.58	3.58	3.50	3.50
ROUTED TO										
+	RCP8E	.00	1	FLOW	40.	39.	39.	38.	38.	38.
				TIME	3.67	3.67	3.58	3.58	3.58	3.58
5 COMBINED AT										
+	DUMMY	1.23	1	FLOW	340.	326.	304.	275.	267.	262.
				TIME	4.08	4.08	4.08	4.17	4.17	4.17
HYDROGRAPH AT										
+	U410	.20	1	FLOW	169.	165.	158.	152.	149.	147.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT										
+	CP10	1.43	1	FLOW	452.	437.	410.	366.	359.	351.
				TIME	4.08	4.08	4.08	3.83	3.83	3.92
DIVERSION TO										
+	CP10S	1.43	1	FLOW	257.	248.	234.	210.	206.	202.
				TIME	4.08	4.08	4.08	3.83	3.83	3.92
HYDROGRAPH AT										
+	CP10E	1.43	1	FLOW	195.	189.	176.	157.	153.	149.
				TIME	4.08	4.08	4.08	3.83	3.83	3.92
ROUTED TO										
+	RCP10E	1.43	1	FLOW	188.	182.	171.	155.	152.	147.
				TIME	4.25	4.25	4.25	4.00	4.00	4.00
HYDROGRAPH AT										
+	U440	.05	1	FLOW	38.	37.	36.	34.	33.	33.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
DIVERSION TO										
+	U440E	.05	1	FLOW	21.	20.	19.	18.	18.	18.
				TIME	3.75	3.75	3.75	3.50	3.58	3.58
HYDROGRAPH AT										
+	U440S	.05	1	FLOW	17.	17.	17.	16.	15.	15.
				TIME	3.67	3.75	3.75	3.75	3.75	3.75
ROUTED TO										
+	RU440S	.05	1	FLOW	17.	17.	17.	15.	14.	14.
				TIME	3.83	3.83	3.83	3.83	3.83	3.92
HYDROGRAPH AT										
+	U470	.20	1	FLOW	132.	129.	123.	117.	114.	113.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT										
+	CP11	1.69	1	FLOW	298.	292.	278.	265.	259.	252.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO										
+	CP11S	1.69	1	FLOW	127.	125.	118.	114.	112.	108.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	CP11E	1.69	1	FLOW	171.	167.	160.	151.	147.	144.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	U530	.01	1	FLOW	15.	14.	14.	13.	13.	13.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CP12	1.70	1	FLOW	175.	171.	164.	154.	151.	148.

				TIME	4.00	4.00	4.00	4.00	4.00	4.00
DIVERSION TO										
+	CP12S	1.70	1	FLOW	80.	78.	75.	71.	70.	68.
				TIME	4.00	4.00	4.00	4.00	4.00	3.92
HYDROGRAPH AT										
+	CP12E	1.70	1	FLOW	95.	93.	89.	83.	81.	80.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO										
+	RCP12E	1.70	1	FLOW	95.	92.	88.	82.	78.	74.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	U130	.06	1	FLOW	54.	53.	51.	49.	48.	47.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO										
+	U130E	.06	1	FLOW	29.	28.	27.	26.	26.	26.
				TIME	3.67	3.67	3.67	3.50	3.50	3.50
HYDROGRAPH AT										
+	U130S	.06	1	FLOW	25.	25.	24.	23.	22.	21.
				TIME	3.58	3.67	3.67	3.67	3.67	3.67
ROUTED TO										
+	RU130S	.06	1	FLOW	25.	25.	24.	22.	21.	21.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	U550	.05	1	FLOW	55.	53.	51.	49.	48.	48.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CP13	.11	1	FLOW	76.	74.	70.	67.	65.	64.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75
DIVERSION TO										
+	CP13E	.11	1	FLOW	44.	43.	41.	38.	37.	37.
				TIME	3.67	3.67	3.75	3.75	3.75	3.58
HYDROGRAPH AT										
+	CP13S	.11	1	FLOW	32.	31.	29.	29.	28.	27.
				TIME	3.67	3.67	3.75	3.75	3.75	3.75
ROUTED TO										
+	RCP13S	.11	1	FLOW	32.	31.	29.	29.	28.	26.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT										
+	U440E	.00	1	FLOW	21.	20.	19.	18.	18.	18.
				TIME	3.75	3.75	3.75	3.50	3.58	3.58
ROUTED TO										
+	RU440E	.00	1	FLOW	21.	21.	21.	21.	21.	21.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT										
+	U570	.18	1	FLOW	170.	167.	161.	155.	152.	151.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
4 COMBINED AT										
+	CP14	1.99	1	FLOW	269.	250.	224.	213.	207.	202.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
DIVERSION TO										
+	CP14S	1.99	1	FLOW	30.	30.	30.	30.	30.	30.
				TIME	3.33	3.33	3.33	3.33	3.42	3.42
HYDROGRAPH AT										
+	CP14E	1.99	1	FLOW	239.	220.	194.	183.	177.	172.
				TIME	4.00	4.00	4.08	4.08	4.08	4.08
ROUTED TO										
+	RCP14E	1.99	1	FLOW	232.	217.	184.	172.	168.	164.
				TIME	4.17	4.17	4.25	4.25	4.25	4.25
HYDROGRAPH AT										
+	U610	.05	1	FLOW	40.	39.	38.	36.	35.	35.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
+	CP15	2.03	1	FLOW	250.	235.	198.	186.	181.	177.
				TIME	4.17	4.17	4.25	4.25	4.25	4.25
DIVERSION TO										
+	CP15S	2.03	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT										
+	CP15E	2.03	1	FLOW	250.	235.	198.	186.	181.	177.
				TIME	4.17	4.17	4.25	4.25	4.25	4.25
HYDROGRAPH AT										
+	CP9S	.00	1	FLOW	160.	157.	152.	145.	141.	139.
				TIME	3.75	3.75	3.75	3.75	3.75	3.67
ROUTED TO										
+	RCP9S	.00	1	FLOW	164.	162.	159.	155.	152.	150.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT										
+	CP10S	.00	1	FLOW	257.	248.	234.	210.	206.	202.
				TIME	4.08	4.08	4.08	3.83	3.83	3.92

ROUTED TO										
+	RCP10S	.00	1	FLOW	248.	236.	223.	209.	208.	207.
				TIME	4.25	4.25	4.33	4.00	3.83	3.83
HYDROGRAPH AT										
+	U280	.27	1	FLOW	197.	192.	184.	176.	173.	170.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83
3 COMBINED AT										
+	CP16	.27	1	FLOW	558.	549.	536.	525.	519.	514.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO										
+	RCP16	.27	1	FLOW	563.	555.	541.	522.	514.	510.
				TIME	4.08	4.08	4.08	4.08	4.17	4.17
HYDROGRAPH AT										
+	CP11S	.00	1	FLOW	127.	125.	118.	114.	112.	108.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO										
+	RCP11S	.00	1	FLOW	127.	123.	116.	112.	111.	111.
				TIME	4.33	4.33	4.33	4.08	4.08	4.17
HYDROGRAPH AT										
+	CP12S	.00	1	FLOW	80.	78.	75.	71.	70.	68.
				TIME	4.00	4.00	4.00	4.00	4.00	3.92
ROUTED TO										
+	RCP12S	.00	1	FLOW	89.	88.	86.	79.	80.	80.
				TIME	4.25	4.25	4.25	4.33	4.33	4.33
HYDROGRAPH AT										
+	CP14S	.00	1	FLOW	30.	30.	30.	30.	30.	30.
				TIME	3.33	3.33	3.33	3.33	3.42	3.42
ROUTED TO										
+	RCP14S	.00	1	FLOW	31.	31.	31.	32.	32.	32.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT										
+	U510	.49	1	FLOW	324.	316.	303.	290.	285.	281.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00
5 COMBINED AT										
+	CP17	.76	1	FLOW	1049.	1030.	997.	957.	942.	931.
				TIME	4.17	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	U650	.01	1	FLOW	13.	12.	12.	11.	11.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT										
+	CP18	.77	1	FLOW	1051.	1032.	999.	959.	943.	933.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	U630	.07	1	FLOW	82.	80.	77.	74.	73.	72.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CP19	.84	1	FLOW	1083.	1064.	1030.	989.	973.	961.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT										
+	U620	.05	1	FLOW	53.	51.	50.	48.	47.	46.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT										
+	CP20	.89	1	FLOW	1104.	1084.	1050.	1008.	991.	980.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO										
+	RCP20	.89	1	FLOW	1097.	1077.	1039.	995.	980.	971.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT										
+	CP15S	.00	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
ROUTED TO										
+	RCP15S	.00	1	FLOW	0.	0.	0.	0.	0.	0.
				TIME	.00	.00	.00	.00	.00	.00
HYDROGRAPH AT										
+	U680	.11	1	FLOW	113.	111.	107.	102.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT										
+	CP21	.11	1	FLOW	113.	111.	107.	102.	101.	100.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT										
+	U760	.01	1	FLOW	10.	10.	10.	9.	9.	9.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT										
+	CPGTA	1.01	1	FLOW	1147.	1126.	1087.	1041.	1026.	1015.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT										
+	2-3	.03	1	FLOW	37.	36.	34.	33.	32.	32.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT										
+	CPGTA2	1.04	1	FLOW	1155.	1134.	1094.	1047.	1032.	1022.

				TIME	4.08	4.08	4.17	4.17	4.17	4.17
HYDROGRAPH AT											
+	2-1	.04	1	FLOW	56.	55.	54.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-2	.07	1	FLOW	96.	94.	91.	88.	87.	86.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	2-14A	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	2A	.11	1	FLOW	155.	152.	147.	142.	140.	138.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2B	1.15	1	FLOW	1201.	1180.	1135.	1087.	1066.	1056.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO											
+	DB1	1.15	1	FLOW	236.	234.	229.	224.	222.	220.
				TIME	6.00	6.00	6.00	6.00	6.00	6.00
			** PEAK STAGES IN FEET **								
			1	STAGE	2307.39	2307.19	2306.88	2306.55	2306.41	2306.32
				TIME	6.00	6.00	6.00	6.00	6.00	6.00
HYDROGRAPH AT											
+	2-6	.02	1	FLOW	29.	29.	28.	27.	27.	27.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2C	1.17	1	FLOW	237.	234.	229.	224.	222.	220.
				TIME	6.00	6.00	6.00	6.00	6.00	6.00
HYDROGRAPH AT											
+	2-7	.02	1	FLOW	19.	18.	18.	17.	17.	16.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2D	1.19	1	FLOW	237.	234.	230.	224.	222.	221.
				TIME	5.92	5.92	5.92	5.92	5.92	5.92
HYDROGRAPH AT											
+	2-4	.03	1	FLOW	56.	55.	53.	52.	51.	51.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-14B	.00	1	FLOW	3.	3.	3.	3.	3.	3.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2E	.04	1	FLOW	59.	58.	56.	54.	54.	53.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-5	.09	1	FLOW	115.	113.	109.	106.	104.	103.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
DIVERSION TO											
+	2-5E	.09	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	2-5W	.09	1	FLOW	60.	59.	57.	55.	54.	54.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	2-9	.02	1	FLOW	24.	23.	23.	22.	22.	21.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	2F	.14	1	FLOW	142.	139.	135.	130.	129.	127.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-5E	.00	1	FLOW	55.	54.	52.	51.	50.	49.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT											
+	2-10	.02	1	FLOW	25.	24.	24.	23.	23.	22.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT											
+	2G	.16	1	FLOW	222.	218.	210.	203.	200.	198.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-8	.03	1	FLOW	48.	47.	45.	44.	43.	43.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2H	.19	1	FLOW	269.	264.	256.	247.	244.	241.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT											
+	2I	1.37	1	FLOW	389.	382.	369.	357.	352.	349.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT											
+	2-11	.03	1	FLOW	43.	42.	41.	40.	39.	39.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58

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 HYDROGRAPH AT
+                    2-12       .03     1   FLOW          39.      39.      37.      36.      35.      35.
                                            TIME        3.58     3.58     3.58     3.58     3.58     3.58

   2 COMBINED AT
+                      2J       .05     1   FLOW          82.      81.      78.      75.      74.      74.
                                            TIME        3.58     3.58     3.58     3.58     3.58     3.58

   2 COMBINED AT
+                      2K      1.42     1   FLOW         471.     462.     447.     433.     427.     423.
                                            TIME        3.58     3.58     3.58     3.58     3.58     3.58

 HYDROGRAPH AT
+                    2-13       .03     1   FLOW          39.      38.      37.      36.      35.      35.
                                            TIME        3.58     3.58     3.58     3.58     3.58     3.58

   2 COMBINED AT
+                     PT2      1.45     1   FLOW         510.     500.     484.     468.     462.     457.
                                            TIME        3.58     3.58     3.58     3.58     3.58     3.58
1
                                        SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                            (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                    INTERPOLATED TO
                                                                                    COMPUTATION INTERVAL
            ISTAQ    ELEMENT      DT        PEAK    TIME TO      VOLUME      DT        PEAK    TIME TO      VOLUME
                                                      PEAK                                        PEAK

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

          FOR PLAN = 1  RATIO=  .00
             RCP1E  MANE         1.50    199.16    246.00       .37      5.00    198.58    245.00          .37

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1218E+02 EXCESS= .0000E+00 OUTFLOW= .1219E+02 BASIN STORAGE= .2040E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP1E  MANE         1.50    194.72    247.50       .35      5.00    193.91    245.00          .35

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1154E+02 EXCESS= .0000E+00 OUTFLOW= .1155E+02 BASIN STORAGE= .2543E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP1E  MANE         1.50    186.12    247.50       .32      5.00    185.27    245.00          .32

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1044E+02 EXCESS= .0000E+00 OUTFLOW= .1045E+02 BASIN STORAGE= .2185E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP1E  MANE         1.50    177.74    247.50       .28      5.00    176.54    245.00          .28

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .9349E+01 EXCESS= .0000E+00 OUTFLOW= .9357E+01 BASIN STORAGE= .1968E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP1E  MANE         1.50    173.54    247.50       .27      5.00    172.20    245.00          .27

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .8932E+01 EXCESS= .0000E+00 OUTFLOW= .8942E+01 BASIN STORAGE= .2479E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP1E  MANE         1.25    170.56    247.50       .26      5.00    168.89    250.00          .26

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .8647E+01 EXCESS= .0000E+00 OUTFLOW= .8653E+01 BASIN STORAGE= .1793E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RU150  MANE         1.00     43.78    232.00       .22      5.00     43.29    230.00          .21

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1563E+01 EXCESS= .0000E+00 OUTFLOW= .1564E+01 BASIN STORAGE= .1132E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RU150  MANE         1.00     42.55    232.00       .21      5.00     42.13    230.00          .20

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1479E+01 EXCESS= .0000E+00 OUTFLOW= .1481E+01 BASIN STORAGE= .1107E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
             RU150  MANE          .75     40.81    232.50       .19      5.00     40.27    235.00          .19

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1351E+01 EXCESS= .0000E+00 OUTFLOW= .1351E+01 BASIN STORAGE= .9748E-03 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RU150  MANE          .75     39.33    231.75       .17      5.00     38.25    235.00          .17

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1210E+01 EXCESS= .0000E+00 OUTFLOW= .1210E+01 BASIN STORAGE= .1274E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RU150  MANE          .75     38.23    231.75       .16      5.00     36.88    230.00          .16

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1145E+01 EXCESS= .0000E+00 OUTFLOW= .1146E+01 BASIN STORAGE= .1158E-02 PERCENT ERROR=   -.1
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          FOR PLAN = 1  RATIO=  .00
             RU150  MANE          .75     37.00    231.75       .15      5.00     35.66    235.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1096E+01 EXCESS= .0000E+00 OUTFLOW= .1097E+01 BASIN STORAGE= .1046E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP2S  MANE          .75    126.72    249.00       .11      5.00    126.37    250.00         .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5163E+01 EXCESS= .0000E+00 OUTFLOW= .5166E+01 BASIN STORAGE= .2604E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP2S  MANE          .75    122.35    249.00       .10      5.00    122.19    250.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4816E+01 EXCESS= .0000E+00 OUTFLOW= .4818E+01 BASIN STORAGE= .2263E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP2S  MANE          .75    114.62    249.75       .09      5.00    114.57    250.00         .09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4149E+01 EXCESS= .0000E+00 OUTFLOW= .4149E+01 BASIN STORAGE= .2452E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP2S  MANE          .75    105.06    250.50       .07      5.00    104.78    250.00         .07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3365E+01 EXCESS= .0000E+00 OUTFLOW= .3367E+01 BASIN STORAGE= .2223E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP2S  MANE          .50    101.08    251.50       .07      5.00    100.31    250.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3070E+01 EXCESS= .0000E+00 OUTFLOW= .3063E+01 BASIN STORAGE= .2389E-02 PERCENT ERROR=    .2

          FOR PLAN = 1  RATIO=  .00
             RCP2S  MANE          .50     97.74    251.50       .06      5.00     96.82    250.00         .06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2903E+01 EXCESS= .0000E+00 OUTFLOW= .2896E+01 BASIN STORAGE= .2400E-02 PERCENT ERROR=    .1

          FOR PLAN = 1  RATIO=  .00
             RCP4S  MANE         1.00     78.69    231.00       .51      5.00     78.69    230.00         .52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3886E+01 EXCESS= .0000E+00 OUTFLOW= .3887E+01 BASIN STORAGE= .1135E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP4S  MANE         1.00     77.77    230.00       .48      5.00     77.77    230.00         .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3656E+01 EXCESS= .0000E+00 OUTFLOW= .3659E+01 BASIN STORAGE= .9282E-03 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP4S  MANE          .75     75.79    230.25       .43      5.00     75.79    230.00         .44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3286E+01 EXCESS= .0000E+00 OUTFLOW= .3287E+01 BASIN STORAGE= .1029E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP4S  MANE          .75     73.73    229.50       .39      5.00     73.66    230.00         .39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2941E+01 EXCESS= .0000E+00 OUTFLOW= .2942E+01 BASIN STORAGE= .1030E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP4S  MANE          .75     72.53    229.50       .37      5.00     72.51    230.00         .37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2810E+01 EXCESS= .0000E+00 OUTFLOW= .2810E+01 BASIN STORAGE= .1298E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP4S  MANE          .75     72.16    230.25       .36      5.00     72.14    230.00         .36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2735E+01 EXCESS= .0000E+00 OUTFLOW= .2736E+01 BASIN STORAGE= .1137E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
             RCP9E  MANE          .75     89.87    233.25       .15      5.00     88.74    235.00         .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2859E+01 EXCESS= .0000E+00 OUTFLOW= .2858E+01 BASIN STORAGE= .1397E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP9E  MANE          .75     87.47    232.50       .14      5.00     85.80    235.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2635E+01 EXCESS= .0000E+00 OUTFLOW= .2634E+01 BASIN STORAGE= .1815E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
```

RCP9E	MANE	.75	82.19	234.00	.12	5.00	81.18	235.00	.12	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2149E+01 EXCESS= .0000E+00 OUTFLOW= .2148E+01 BASIN STORAGE= .1680E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP9E	MANE	.50	77.41	234.00	.10	5.00	76.47	235.00	.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1810E+01 EXCESS= .0000E+00 OUTFLOW= .1804E+01 BASIN STORAGE= .1918E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP9E	MANE	.50	75.00	233.50	.09	5.00	73.86	235.00	.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1678E+01 EXCESS= .0000E+00 OUTFLOW= .1674E+01 BASIN STORAGE= .1712E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP9E	MANE	.50	72.58	234.00	.08	5.00	71.65	235.00	.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1571E+01 EXCESS= .0000E+00 OUTFLOW= .1566E+01 BASIN STORAGE= .1511E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	46.73	225.00	-1.00	5.00	46.73	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	47.09	225.00	-1.00	5.00	47.09	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	47.71	225.00	-1.00	5.00	47.71	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	48.32	225.00	-1.00	5.00	48.32	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	48.57	225.00	-1.00	5.00	48.57	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP6E	MANE	5.00	48.75	225.00	-1.00	5.00	48.75	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	84.98	225.00	-1.00	5.00	84.98	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	85.39	225.00	-1.00	5.00	85.39	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	84.52	225.00	-1.00	5.00	84.52	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	81.15	225.00	-1.00	5.00	81.15	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	79.59	225.00	-1.00	5.00	79.59	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP7E	MANE	5.00	78.39	225.00	-1.00	5.00	78.39	225.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	40.20	220.35	-1.00	5.00	40.14	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	39.19	220.39	-1.00	5.00	39.19	220.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	39.00	215.63	-1.00	5.00	38.92	215.00	-1.00	

FOR PLAN = 1 RATIO= .00

RCP8E	MANE	.46	38.32	210.80	-1.00	5.00	38.14	215.00	-1.00	

FOR PLAN = 1 RATIO= .00
RCP8E MANE .46 38.31 211.00 -1.00 5.00 38.00 215.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP8E MANE .46 38.31 211.00 -1.00 5.00 38.00 215.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10E MANE 1.25 190.67 253.75 .15 5.00 187.65 255.00 .15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+02 EXCESS= .0000E+00 OUTFLOW= .1125E+02 BASIN STORAGE= .1720E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
RCP10E MANE 1.25 184.52 253.75 .14 5.00 182.13 255.00 .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1064E+02 EXCESS= .0000E+00 OUTFLOW= .1065E+02 BASIN STORAGE= .2096E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
RCP10E MANE 1.00 172.26 254.00 .13 5.00 170.77 255.00 .13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9735E+01 EXCESS= .0000E+00 OUTFLOW= .9740E+01 BASIN STORAGE= .1706E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
RCP10E MANE .75 155.36 240.00 .11 5.00 155.36 240.00 .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8705E+01 EXCESS= .0000E+00 OUTFLOW= .8704E+01 BASIN STORAGE= .2380E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP10E MANE .75 152.00 240.75 .10 5.00 151.98 240.00 .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7939E+01 EXCESS= .0000E+00 OUTFLOW= .7937E+01 BASIN STORAGE= .2259E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP10E MANE 1.00 148.02 241.00 .10 5.00 147.39 240.00 .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7606E+01 EXCESS= .0000E+00 OUTFLOW= .7610E+01 BASIN STORAGE= .1871E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
RU440S MANE .75 17.02 229.50 .22 5.00 17.02 230.00 .22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6137E+00 EXCESS= .0000E+00 OUTFLOW= .6138E+00 BASIN STORAGE= .1134E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00
RU440S MANE 1.00 17.06 230.00 .21 5.00 17.06 230.00 .21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5859E+00 EXCESS= .0000E+00 OUTFLOW= .5864E+00 BASIN STORAGE= .1110E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00
RU440S MANE 1.00 16.60 232.00 .19 5.00 16.52 230.00 .19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5308E+00 EXCESS= .0000E+00 OUTFLOW= .5315E+00 BASIN STORAGE= .9713E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00
RU440S MANE 1.00 15.58 233.00 .17 5.00 15.18 230.00 .17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4626E+00 EXCESS= .0000E+00 OUTFLOW= .4636E+00 BASIN STORAGE= .1004E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00
RU440S MANE .75 14.92 232.50 .16 5.00 14.39 230.00 .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4343E+00 EXCESS= .0000E+00 OUTFLOW= .4348E+00 BASIN STORAGE= .1191E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00
RU440S MANE .75 14.44 232.50 .15 5.00 13.95 235.00 .16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4166E+00 EXCESS= .0000E+00 OUTFLOW= .4172E+00 BASIN STORAGE= .9607E-03 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00
RCP12E MANE .75 94.54 245.25 .04 5.00 94.50 245.00 .04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4033E+01 EXCESS= .0000E+00 OUTFLOW= .4035E+01 BASIN STORAGE= .1251E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00
RCP12E MANE .75 92.32 245.25 .04 5.00 92.30 245.00 .04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3624E+01 EXCESS= .0000E+00 OUTFLOW= .3624E+01 BASIN STORAGE= .1717E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.75	87.83	246.00	.03	5.00	87.67	245.00	.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2866E+01 EXCESS= .0000E+00 OUTFLOW= .2866E+01 BASIN STORAGE= .1779E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.50	82.11	245.50	.02	5.00	81.96	245.00	.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2245E+01 EXCESS= .0000E+00 OUTFLOW= .2241E+01 BASIN STORAGE= .1754E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.50	78.60	246.50	.02	5.00	77.57	245.00	.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1699E+01 EXCESS= .0000E+00 OUTFLOW= .1694E+01 BASIN STORAGE= .1478E-02 PERCENT ERROR= .2

FOR PLAN = 1 RATIO= .00

RCP12E	MANE	.50	76.61	246.50	.02	5.00	74.23	245.00	.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1560E+01 EXCESS= .0000E+00 OUTFLOW= .1556E+01 BASIN STORAGE= .1816E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RU13OS	MANE	.75	25.04	223.50	.24	5.00	24.95	225.00	.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7186E+00 EXCESS= .0000E+00 OUTFLOW= .7188E+00 BASIN STORAGE= .1182E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU13OS	MANE	1.00	24.91	224.00	.23	5.00	24.81	225.00	.23	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6842E+00 EXCESS= .0000E+00 OUTFLOW= .6852E+00 BASIN STORAGE= .9951E-03 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RU13OS	MANE	.75	23.72	224.25	.21	5.00	23.71	225.00	.21	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6210E+00 EXCESS= .0000E+00 OUTFLOW= .6214E+00 BASIN STORAGE= .9174E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU13OS	MANE	.75	22.25	225.00	.19	5.00	22.25	225.00	.19	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5565E+00 EXCESS= .0000E+00 OUTFLOW= .5568E+00 BASIN STORAGE= .1173E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RU13OS	MANE	.75	21.36	225.75	.18	5.00	21.36	225.00	.18	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5270E+00 EXCESS= .0000E+00 OUTFLOW= .5274E+00 BASIN STORAGE= .9167E-03 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RU13OS	MANE	.75	20.75	225.75	.17	5.00	20.74	225.00	.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5080E+00 EXCESS= .0000E+00 OUTFLOW= .5084E+00 BASIN STORAGE= .1166E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	31.70	228.75	.14	5.00	31.56	230.00	.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8183E+00 EXCESS= .0000E+00 OUTFLOW= .8170E+00 BASIN STORAGE= .1035E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	30.84	229.50	.13	5.00	30.77	230.00	.13	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7689E+00 EXCESS= .0000E+00 OUTFLOW= .7675E+00 BASIN STORAGE= .9829E-03 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	29.14	229.50	.12	5.00	29.10	230.00	.12	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6835E+00 EXCESS= .0000E+00 OUTFLOW= .6824E+00 BASIN STORAGE= .1407E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	28.68	229.50	.11	5.00	28.68	230.00	.11	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6247E+00 EXCESS= .0000E+00 OUTFLOW= .6230E+00 BASIN STORAGE= .1239E-02 PERCENT ERROR= .1

FOR PLAN = 1 RATIO= .00

RCP13S	MANE	.75	27.60	230.25	.10	5.00	27.56	230.00	.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5867E+00 EXCESS= .0000E+00 OUTFLOW= .5853E+00 BASIN STORAGE= .1141E-02 PERCENT ERROR= .0

```
           FOR PLAN = 1  RATIO=  .00
             RCP13S  MANE          .75     26.49    231.00       .10      5.00     26.42    230.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5556E+00 EXCESS= .0000E+00 OUTFLOW= .5546E+00 BASIN STORAGE= .1065E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RU440E  MANE          5.00     20.99    240.00     -1.00      5.00     20.99    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RU440E  MANE          5.00     20.79    240.00     -1.00      5.00     20.79    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RU440E  MANE          5.00     20.69    240.00     -1.00      5.00     20.69    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RU440E  MANE          5.00     21.00    240.00     -1.00      5.00     21.00    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RU440E  MANE          5.00     20.99    240.00     -1.00      5.00     20.99    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RU440E  MANE          5.00     20.90    240.00     -1.00      5.00     20.90    240.00       -1.00


           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE          2.00    231.61    250.00       .14      5.00    231.61    250.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1506E+02 EXCESS= .0000E+00 OUTFLOW= .1507E+02 BASIN STORAGE= .2454E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE          2.00    217.18    250.00       .14      5.00    217.18    250.00         .14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1438E+02 EXCESS= .0000E+00 OUTFLOW= .1439E+02 BASIN STORAGE= .2351E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE          2.00    185.35    254.00       .12      5.00    184.14    255.00         .12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1283E+02 EXCESS= .0000E+00 OUTFLOW= .1283E+02 BASIN STORAGE= .2146E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE          2.00    173.53    254.00       .11      5.00    172.33    255.00         .11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1168E+02 EXCESS= .0000E+00 OUTFLOW= .1169E+02 BASIN STORAGE= .1766E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE          1.75    168.78    253.75       .10      5.00    167.96    255.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+02 EXCESS= .0000E+00 OUTFLOW= .1091E+02 BASIN STORAGE= .1839E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP14E  MANE          1.75    164.28    253.75       .10      5.00    163.75    255.00         .10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1063E+02 EXCESS= .0000E+00 OUTFLOW= .1063E+02 BASIN STORAGE= .2540E-02 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
              RCP9S  MANE          5.00    164.07    235.00     -1.00      5.00    164.07    235.00       -1.00


           FOR PLAN = 1  RATIO=  .00
              RCP9S  MANE          5.00    161.57    235.00     -1.00      5.00    161.57    235.00       -1.00


           FOR PLAN = 1  RATIO=  .00
              RCP9S  MANE          5.00    158.96    235.00     -1.00      5.00    158.96    235.00       -1.00


           FOR PLAN = 1  RATIO=  .00
              RCP9S  MANE          5.00    154.89    235.00     -1.00      5.00    154.89    235.00       -1.00


           FOR PLAN = 1  RATIO=  .00
              RCP9S  MANE          5.00    151.97    235.00     -1.00      5.00    151.97    235.00       -1.00
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FOR PLAN = 1 RATIO= .00
RCP9S MANE 5.00 149.83 235.00 -1.00 5.00 149.83 235.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10S MANE 5.00 248.04 255.00 -1.00 5.00 248.04 255.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10S MANE 5.00 235.83 255.00 -1.00 5.00 235.83 255.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10S MANE 5.00 223.19 260.00 -1.00 5.00 223.19 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10S MANE 5.00 208.91 240.00 -1.00 5.00 208.91 240.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10S MANE 5.00 207.70 230.00 -1.00 5.00 207.70 230.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP10S MANE 5.00 207.03 230.00 -1.00 5.00 207.03 230.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP16 MANE 5.00 562.50 245.00 5.39 5.00 562.50 245.00 5.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7727E+02 EXCESS= .0000E+00 OUTFLOW= .7729E+02 BASIN STORAGE= .3886E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP16 MANE 5.00 555.42 245.00 5.28 5.00 555.42 245.00 5.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7567E+02 EXCESS= .0000E+00 OUTFLOW= .7569E+02 BASIN STORAGE= .3825E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP16 MANE 5.00 541.32 245.00 5.10 5.00 541.32 245.00 5.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7315E+02 EXCESS= .0000E+00 OUTFLOW= .7317E+02 BASIN STORAGE= .3760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP16 MANE 5.00 522.35 245.00 4.92 5.00 522.35 245.00 4.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7050E+02 EXCESS= .0000E+00 OUTFLOW= .7052E+02 BASIN STORAGE= .3694E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP16 MANE 5.00 514.24 250.00 4.85 5.00 514.24 250.00 4.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6951E+02 EXCESS= .0000E+00 OUTFLOW= .6952E+02 BASIN STORAGE= .3668E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP16 MANE 5.00 509.94 250.00 4.80 5.00 509.94 250.00 4.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6883E+02 EXCESS= .0000E+00 OUTFLOW= .6885E+02 BASIN STORAGE= .3635E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP11S MANE 5.00 127.19 260.00 -1.00 5.00 127.19 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP11S MANE 5.00 123.34 260.00 -1.00 5.00 123.34 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP11S MANE 5.00 115.97 260.00 -1.00 5.00 115.97 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP11S MANE 5.00 111.56 245.00 -1.00 5.00 111.56 245.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP11S MANE 5.00 110.87 245.00 -1.00 5.00 110.87 245.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP11S MANE 5.00 110.53 250.00 -1.00 5.00 110.53 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 5.00 88.78 255.00 -1.00 5.00 88.78 255.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 5.00 88.19 255.00 -1.00 5.00 88.19 255.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 5.00 86.17 255.00 -1.00 5.00 86.17 255.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 5.00 79.16 260.00 -1.00 5.00 79.16 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 5.00 79.61 260.00 -1.00 5.00 79.61 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP12S MANE 5.00 79.53 260.00 -1.00 5.00 79.53 260.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP14S MANE 5.00 30.99 210.00 -1.00 5.00 30.99 210.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP14S MANE 5.00 31.14 210.00 -1.00 5.00 31.14 210.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP14S MANE 5.00 31.40 210.00 -1.00 5.00 31.40 210.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP14S MANE 5.00 31.69 210.00 -1.00 5.00 31.69 210.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP14S MANE 5.00 31.75 210.00 -1.00 5.00 31.75 210.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP14S MANE 5.00 31.64 210.00 -1.00 5.00 31.64 210.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP20 MANE 2.90 1097.83 249.30 3.23 5.00 1096.67 250.00 3.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1526E+03 EXCESS= .0000E+00 OUTFLOW= .1526E+03 BASIN STORAGE= .8746E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP20 MANE 2.91 1079.36 247.54 3.15 5.00 1076.73 250.00 3.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+03 EXCESS= .0000E+00 OUTFLOW= .1492E+03 BASIN STORAGE= .8611E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP20 MANE 2.94 1041.01 249.54 3.04 5.00 1039.50 250.00 3.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1437E+03 EXCESS= .0000E+00 OUTFLOW= .1437E+03 BASIN STORAGE= .8985E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP20 MANE 2.97 997.46 249.12 2.92 5.00 994.80 250.00 2.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1380E+03 EXCESS= .0000E+00 OUTFLOW= .1380E+03 BASIN STORAGE= .8491E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP20 MANE 2.98 982.29 247.18 2.87 5.00 980.39 250.00 2.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1357E+03 EXCESS= .0000E+00 OUTFLOW= .1357E+03 BASIN STORAGE= .8654E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP20 MANE 2.99 974.62 247.89 2.84 5.00 970.69 250.00 2.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1341E+03 EXCESS= .0000E+00 OUTFLOW= .1341E+03 BASIN STORAGE= .9700E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00
RCP15S MANE 5.00 .00 .00 -1.00 5.00 .00 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP15S MANE 5.00 .00 .00 -1.00 5.00 .00 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP15S MANE 5.00 .00 .00 -1.00 5.00 .00 250.00 -1.00

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RCP15S MANE 5.00 .00 .00 -1.00 5.00 .00 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP15S MANE 5.00 .00 .00 -1.00 5.00 .00 250.00 -1.00

FOR PLAN = 1 RATIO= .00
RCP15S MANE 5.00 .00 .00 -1.00 5.00 .00 250.00 -1.00

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

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2294.88 FT, 699.482 M (NAVD 88, PUBLISHED 11/01/06)
2294.98 FT, 699.511 M (ELEVATION USED FOR THESE PLANS, PRE-REVISION)

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GOVERNMENT LOTS 5, 7, 10, 12, 14, 18, 19, 21, 24, 25, & 28 THROUGH 37, INCLUSIVE, OF SECTION 18, TOGETHER WITH GOVERNMENT LOT 7 OF SECTION 19, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA.

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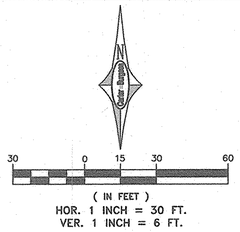

LEGEND:
PROP. ASPHALT | PROP. SIDEWALK | PROP. RIP-RAP

GEOTECHNICAL NOTE:
PROJECT COMPLIES WITH SOILS REPORT PREPARED BY: OWENS GEOTECHNICAL, INC., DATED: APRIL 26, 2006, REVISED: JULY 14, 2006, UPDATE LETTER DATED: JULY 26, 2007.
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NET EXPORT: 5,102

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6. INSTALL TEMPORARY PLUG & CAP FOR FUTURE PHASE.
7. REMOVE EX. END SECTION OR CAP & CONNECT TO EX. RCP PIPE. CONTRACTOR TO VERIFY SIZE, INVERT & LOCATION PRIOR TO CONSTRUCTION.
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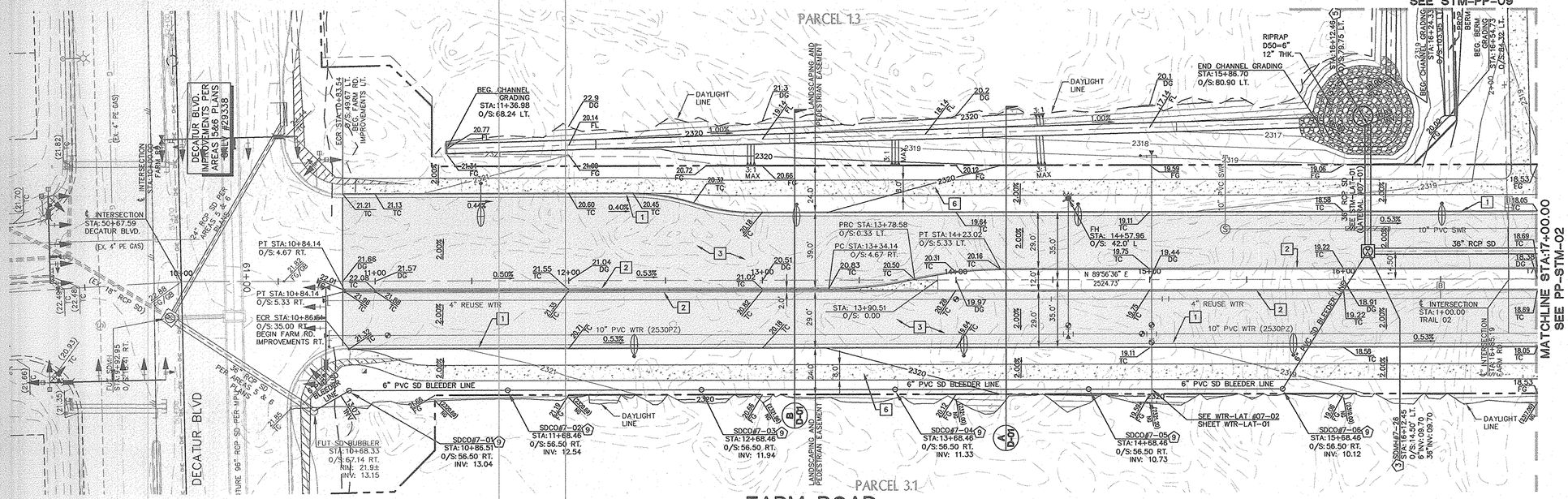
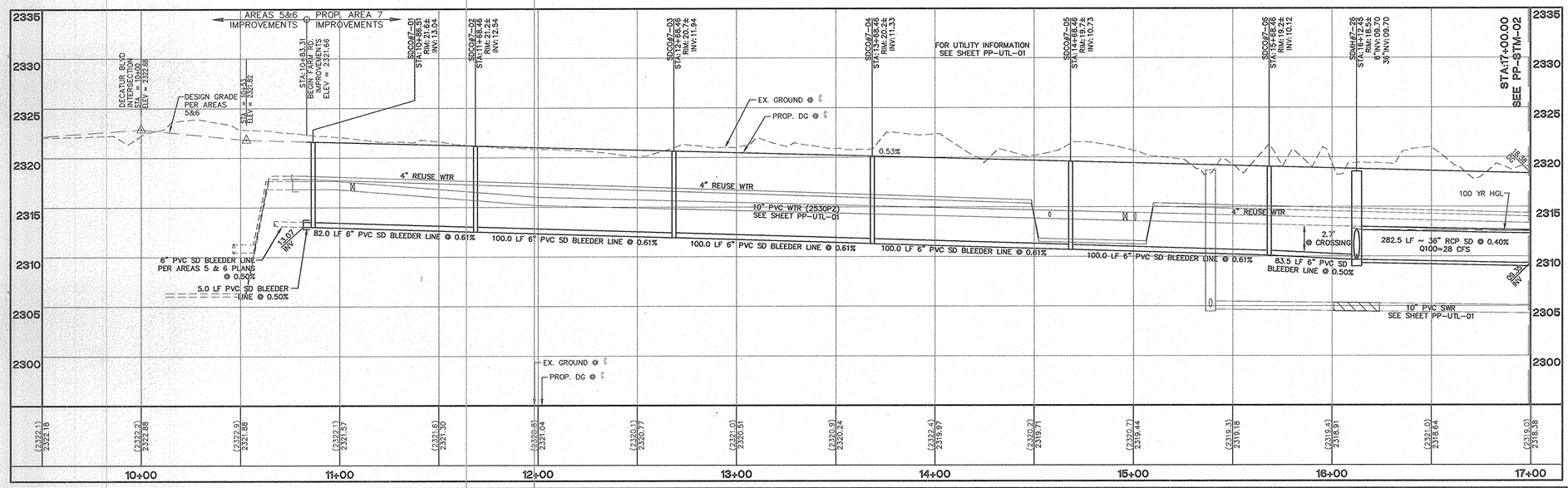
CNLV DEVELOPMENT AND FLOOD CONTROL DIVISION
MANAGER, JENNIFER E. DOODY, P.E. — DATE: 3/14/08

GRADING PLAN CERTIFICATION
JOHN P. MENG — PE #: 17540 — DATE: 3/14/08
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT CITY OF NORTH LAS VEGAS.





CarterBurgess
Consultants in Planning, Engineering, Construction Management, and Related Services
6655 Bermuda Road
Las Vegas, NV 89119
(702) 938-5400 Fax (702) 938-5454

NOVEMBER 2005 LAND INVESTORS, LLC/DRHI, INC.

STORM PLAN AND PROFILE FARM ROAD STA: 10+00.00 TO STA: 17+00.00

NORTH LAS VEGAS
600 ACRES
AREA 7

REV	DATE	BY	REVISION

DRAWN BY: WDL — 10-16-06
DESIGNED BY: JAH — 10-16-06
CHECKED BY: GBW — 10-16-06
PROJECT NO: 241594
SCALE: 1" = 30' 6'

PROFESSIONAL ENGINEER — STATE OF NEVADA — JOHN P. MENG — CIVIL — EXP. 12/31/09 — No.17540 — 3/14/08

SHEET PP-STM-01
8 OF 32 SHEETS
DRAWING NO. 29393

Drawing Name: L:\241594 - NLV SITE\DESIGN\IMPROVMTS\AREA_07\Improvement Plans\05 1594-07-PP-STM-01_04.dwg User: jacobschewsky(myj) Jan 07, 2008 - 4:46pm

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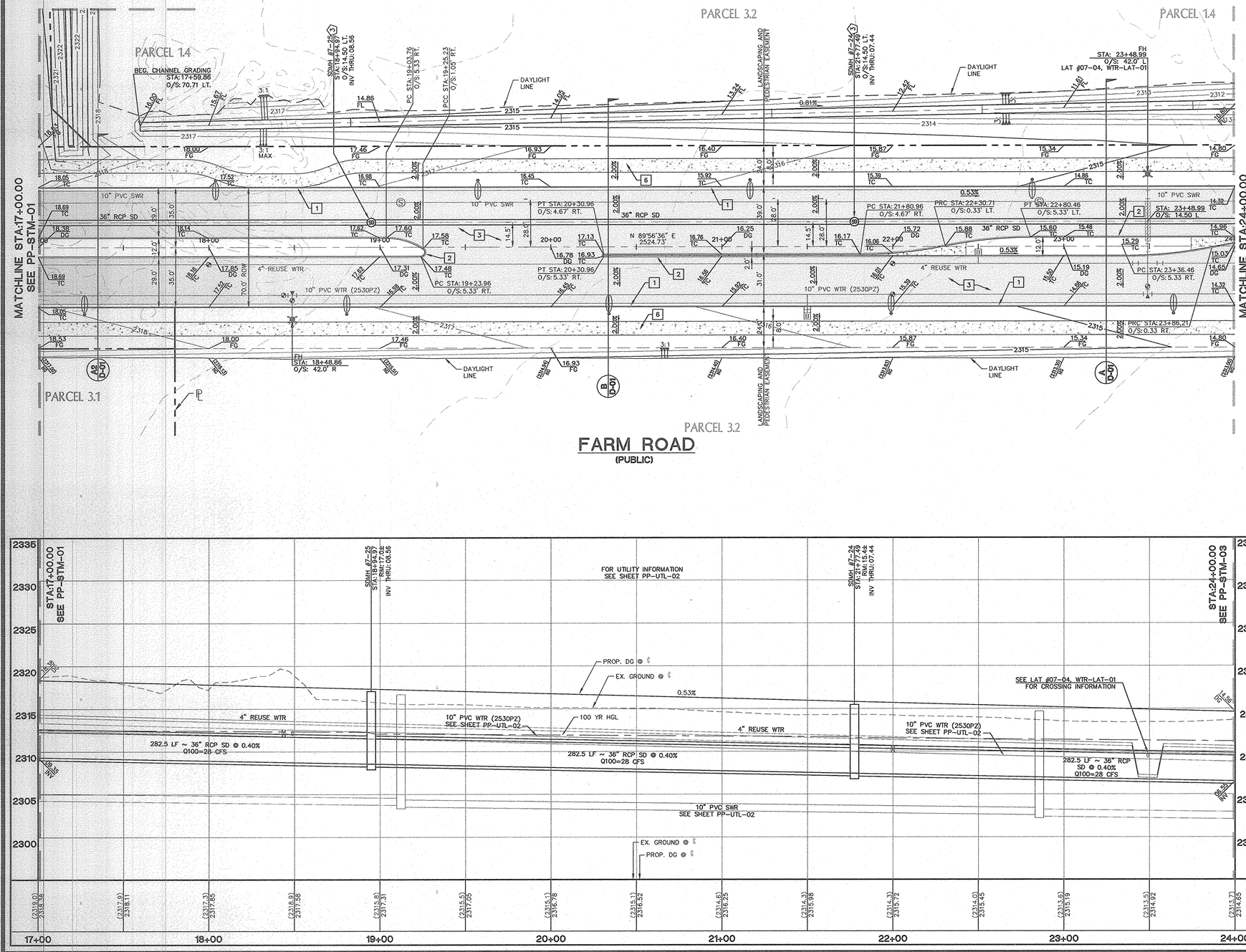
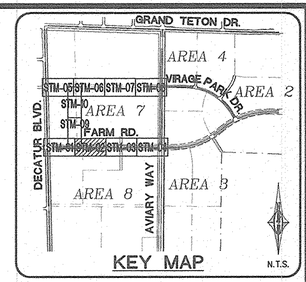
N (Grid Bearings)

30 0 15 30 60
(IN FEET)
HOR. 1 INCH = 30 FT.
VER. 1 INCH = 6 FT.





LEGEND:

PROP. ASPHALT | PROP. SIDEWALK | PROP. RIP-RAP

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MANAGER, JENNIFER L. DOODY, P.E. DATE: 3/16/08

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JOHN P. MENG PE #: 17540 DATE: 1/7/08
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REV	DATE	BY	REVISION

NOVEMBER 2006 LAND INVESTORS, LLC/DRHI, INC.

Carter-Burgess
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Las Vegas, NV 89119
(702) 938-5400 Fax (702) 938-5454
Consultants in Planning, Engineering, Construction Management, and Related Services

STORM PLAN AND PROFILE
FARM ROAD
STA: 17+00.00 TO STA: 24+00.00
NORTH LAS VEGAS
600 ACRES
AREA 7

DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO:	SCALE:
WDL 10-16-06	JAH 10-16-06	GBW 10-16-06	241594	1" = 30' 6'

PROFESSIONAL ENGINEER - STATE OF NEVADA
JOHN P. MENG CIVIL EXP. 12/31/09
No. 17540
1/7/08

SHEET
PP-STM-02
9 OF 32 SHEETS
DRAWING NO.
29393

Drawing Name: L:\241594 NLV SITE\DESIGN\WPRMTS\AREA_07\Improvement Plans\06 1694-07-PP-STM-01_24.dwg User: spaschenesky Jan 03, 2008 - 11:35am

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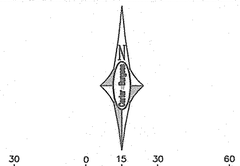

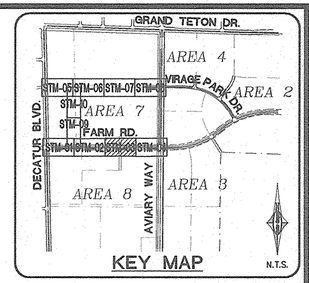

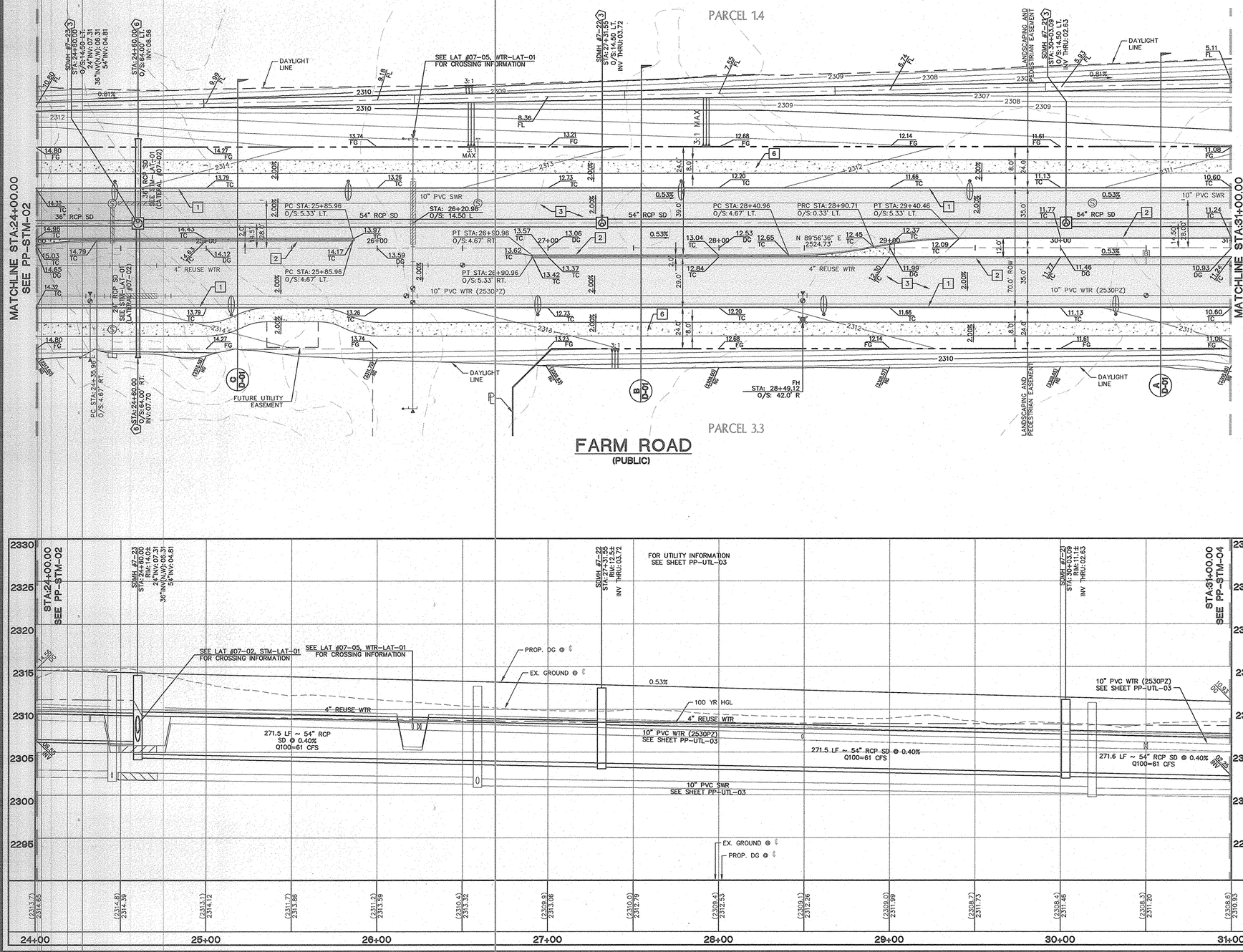

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NET EXPORT: 5,102

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– ALL RCP TO BE CLASS III, UNLESS OTHEWISE NOTED.
– NOT ALL NOTES USED ON THIS SHEET –

1. INSTALL 60" TYPE I MANHOLE CCAUSD No. 403. MANHOLES TO CONFORM TO CCAUSD No. 401 & 402.
2. INSTALL TYPE II MANHOLE PER CCAUSD No. 405. MANHOLES TO CONFORM TO CCAUSD No. 401 & 402.
3. INSTALL TYPE III MANHOLE PER CCAUSD No. 406. MANHOLES TO CONFORM TO CCAUSD No. 401 & 402.
4. INSTALL MODIFIED TYPE "C" DROP INLET, SEE SHEET D-02. DROP INLET TO CONFORM TO CCAUSD No. 413
5. INSTALL RCP END SECTION PER NDOT R-2.3.1.
6. INSTALL TEMPORARY PLUG & CAP FOR FUTURE PHASE.
7. REMOVE EX. END SECTION OR CAP & CONNECT TO EX. RCP PIPE. CONTRACTOR TO VERIFY SIZE, INVERT & LOCATION PRIOR TO CONSTRUCTION.
8. INSTALL 48" TYPE 1 MANHOLE PER CCAUSD No. 403 W/ BEEHIVE BUBBLER FRAME & GRATE PER CCAUSD No. 416.
9. INSTALL CLEANOUT.

CONSTRUCTION NOTES:

– ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH "CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS (CCAUSD)" LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.
– NOT ALL NOTES USED ON THIS SHEET –

1. CONSTRUCT "L" TYPE CURB & GUTTER PER CCAUSD No. 216.
2. CONSTRUCT "A" TYPE CURB PER CCAUSD No. 219.
3. INSTALL A.C. PAVEMENT PER STREET SECTIONS.
4. SAWCUT & MATCH EXISTING ASPHALT PAVING, CURB & GUTTER.
5. CONSTRUCT TYPICAL BUS TURN-OUT PER CCAUSD No. 234.1.
6. CONSTRUCT MEANDERING SIDEWALK PER CCAUSD No. 234.
7. CONSTRUCT CASE II SIDEWALK RAMP W/ TRUNCATED DOMES PER CCAUSD No. 235, CASE II.

GENERAL GRADING AND DRAINAGE NOTES:

1. PURSUANT TO CITY OF NORTH LAS VEGAS ORDINANCE NUMBER 1172, THE CONTRACTOR IS REQUIRED TO SECURE A GRADING PERMIT PRIOR TO COMMENCING WORK.
2. THE CONTRACTOR SHALL SECURE A PERMIT FOR ANY OFF-SITE CONSTRUCTION.
3. THE CONTRACTORS OPERATIONS SHALL NOT TRESPASS BEYOND THE PROJECT PROPERTY LINES UNLESS A PERMIT OR WRITTEN AUTHORIZATION HAS BEEN OBTAINED FROM THE PROPERTY OWNER(S) INVOLVED. COPIES OF SUCH WRITTEN AUTHORIZATION SHALL BE FURNISHED TO THE CITY OF NORTH LAS VEGAS' REPRESENTATIVE PRIOR TO START OF CONSTRUCTION.
4. THE CITY OF NORTH LAS VEGAS CONSTRUCTION SERVICES SHALL BE NOTIFIED ONE (1) WORKING DAY BEFORE ANY ON-SITE CONSTRUCTION WORK BEGINS.
5. AN APPROVED GRADING AND DRAINAGE PLAN SHALL BE ON THE JOB SITE AT ALL TIMES. DEVIATIONS FROM THE APPROVED PLAN WILL REQUIRE SUBMITTAL OF A FORMAL REVISED PLAN FOR REVIEW AND APPROVAL.
6. ALL CONSTRUCTION SURVEY CONTROL SHALL BE DONE BY A LICENSED PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH APPLICABLE STATUTES AND CODES. THE CONTRACTOR SHALL PROVIDE COMPETENT RESOURCES TO ASSURE BUILDING PAD AND BUILDING FLOOR ELEVATIONS CONFORM TO THOSE SHOWN ON THE CONSTRUCTION DRAWINGS. FURTHERMORE, THE CONTRACTOR SHALL PROVIDE THE CITY OF NORTH LAS VEGAS BUILDING DEPARTMENT WITH:
   A. CERTIFICATION OF "BUILDING FLOOR ELEVATIONS" IN CRITICAL DRAINAGE AREAS.
   B. CERTIFICATES OF "BUILDING PAD ELEVATIONS" IN NONCRITICAL AREAS.
7. THE CONTRACTOR SHALL CERTIFY TO THE CITY OF NORTH LAS VEGAS CONSTRUCTION SERVICES DIVISION THAT ALL FILLS, FOUNDATIONS AND SUBGRADES MEET THE MINIMUM COMPACTION REQUIREMENTS. CERTIFICATION SHALL BE MADE PRIOR TO POURING CONCRETE.

CNLV DEVELOPMENT AND FLOOD CONTROL DIVISION
MANAGER, JENNIFER G. DOODY, P.E. — DATE: 3/16/08

GRADING PLAN CERTIFICATION
JOHN P. MENG — PE #: 17540 — DATE: 1/7/08
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT CITY OF NORTH LAS VEGAS.

PROFESSIONAL ENGINEER – STATE OF NEVADA
JOHN P. MENG
CIVIL
EXP. 12/31/09
No. 17540
1/7/08

REV	DATE	BY	REVISION

NOVEMBER 2005 LAND INVESTORS, LLC/DRHI, INC.

Carter•Burgess
6655 Bermuda Road
Las Vegas, NV 89119
(702) 938-5400 Fax (702) 938-5464
Consultants in Planning, Engineering, Construction Management, and Related Services

STORM PLAN AND PROFILE
FARM ROAD
STA: 24+00.00 TO STA: 31+00.00
NORTH LAS VEGAS
600 ACRES
AREA 7

DRAWN BY:	DESIGNED BY:	CHECKED BY:	SCALE:
WDL 10-16-06	JAH 10-16-06	GBW 10-16-06	1" = 30' / 1" = 6'

PROJECT NO: 241594

SHEET
PP-STM-03
10 OF 32 SHEETS
DRAWING NO.
29393

Drawing Name: L:\2241594 - NLV SITE\DESIGN\WORKMTS\AREA_07\Improvement Plans\08 1594-07-PP-STM-01_04.dwg User: sockscheneskym Jan 07, 2008 - 5:00pm

Avoid overhead power line contact. It's costly.
Call before you Overhead
1-702-227-2929
NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
811
Know what's below. Call before you dig.
811 UNDERGROUND SERVICE ALERT (USA)

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BENCHMARK:

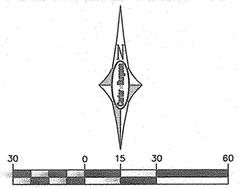
NLV9117NWS, BEING A RIVET & 2" ROUND ALUM. DISK, STAMPED NORTH LAS VEGAS BM NO. NLV9117NWS, SET IN THE TOP OF CURB, LOCATED APPROX. 29 FEET SOUTH OF THE SOUTHEAST SOUTH BCR AT THE INTERSECTION OF GRAND TETON DR. & ALIANTE PKWY.
2294.88 FT, 699.482 M (NAVD 88, PUBLISHED 11/01/06)
2294.98 FT, 699.511 M (ELEVATION USED FOR THESE PLANS, PRE-REVISION)

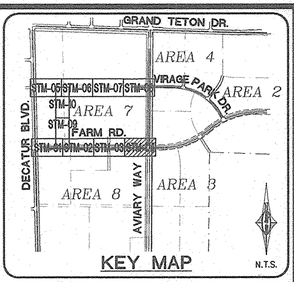
LEGAL DESCRIPTION:

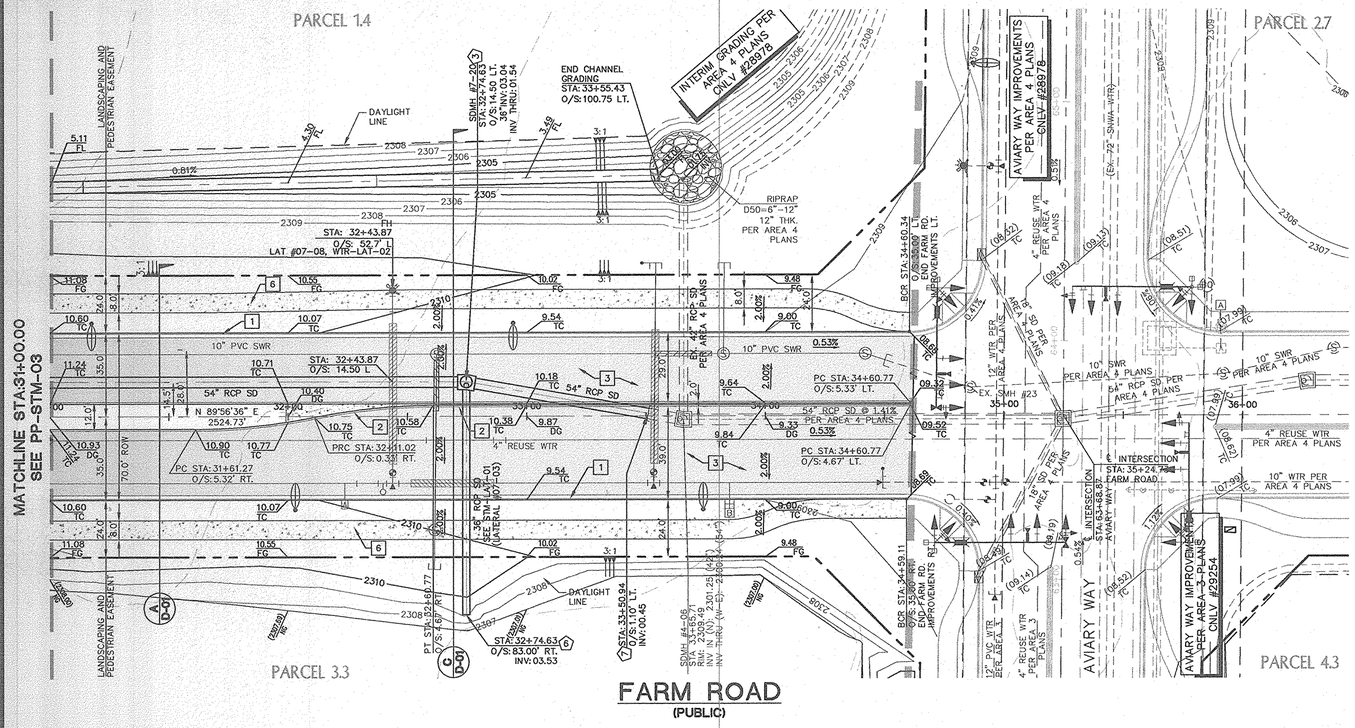
GOVERNMENT LOTS 5, 7, 10, 12, 14, 18, 19, 21, 24, 25, & 28 THROUGH 37, INCLUSIVE, OF SECTION 18, TOGETHER WITH GOVERNMENT LOT 7 OF SECTION 19, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA.

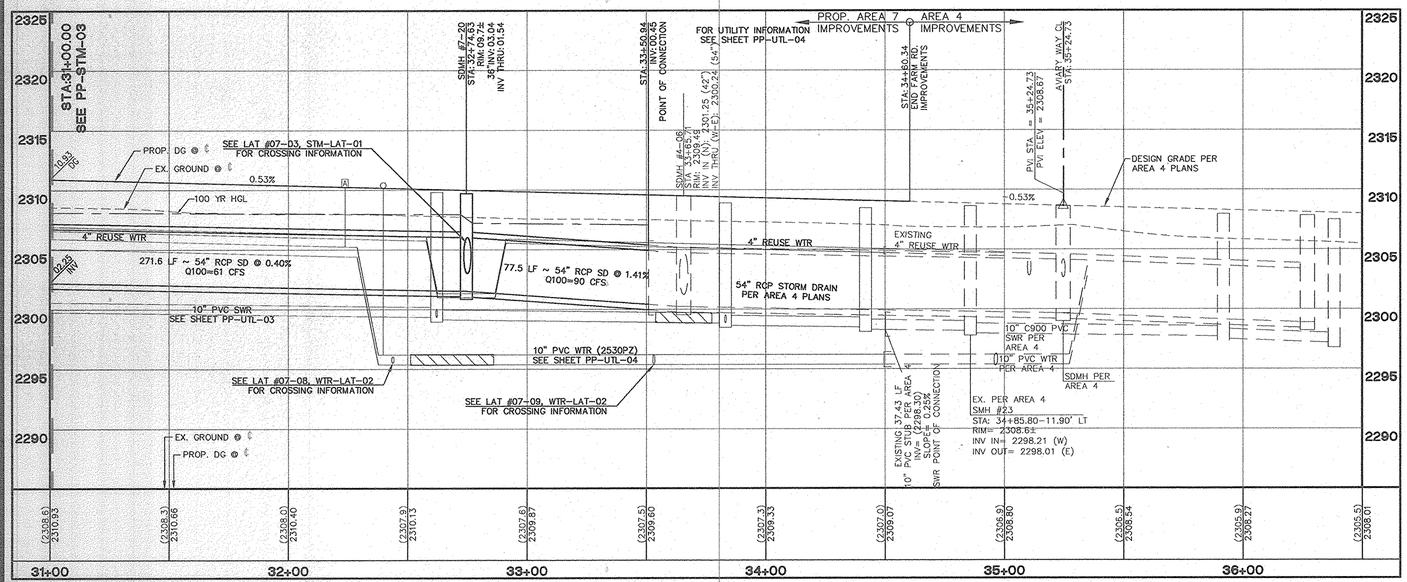
BASIS OF BEARINGS:

SOUTH 87°29'39" EAST, BEING THE SOUTH LINE OF GOVERNMENT LOT 19 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP ON FILE IN THE CLARK COUNTY RECORDER'S OFFICE, IN FILE 104, PAGE 61 OF PARCEL MAPS.









LEGEND:

PROP. ASPHALT | PROP. SIDEWALK | PROP. RIP-RAP

GEOTECHNICAL NOTE:

PROJECT COMPLIES WITH SOILS REPORT PREPARED BY: OWENS GEOTECHNICAL, INC., DATED: APRIL 26, 2006, REVISED: JULY 14, 2006, UPDATE LETTER DATED: JULY 26, 2007.
CUT TOTAL: 20,898
FILL TOTAL: 15,794
NET EXPORT: 5,102

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CNLV DEVELOPMENT AND FLOOD CONTROL DIVISION
MANAGER, JENNIFER E. DOODY, P.E. — DATE: 3/6/08

GRADING PLAN CERTIFICATION
JOHN P. MENG — PE #: 17540 — DATE: 1/7/08
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH APPROVED DRAINAGE STUDY FOR THIS SITE ON FILE AT CITY OF NORTH LAS VEGAS.

REVISION | BY | DATE | REV

NOVEMBER 2006 LAND INVESTORS, LLC/DRHI, INC.

Carter-Burgess
6655 Bermuda Road
Las Vegas, NV 89119
(702) 938-5400 Fax (702) 938-5454
Consultants in Planning, Engineering, Construction Management, and Related Services

PROFESSIONAL ENGINEER-STATE OF NEVADA
JOHN P. MENG
CIVIL
EXP. 12/31/09
No. 17540
1/7/08

STORM PLAN AND PROFILE
FARM ROAD
STA: 31+00 TO STA: 34+59.11
NORTH LAS VEGAS
600 ACRES
AREA 7

DRAWN BY:	DESIGNED BY:	CHECKED BY:	SCALE:
BMS 10-16-06	JAH 10-16-06	GBW 10-16-06	1" = 30' 6'

PROJECT NO. 241594

SHEET
PP-STM-04
11 OF 32 SHEETS
DRAWING NO.
29393

Drawing Name: L:\241594 - NLV SITE\DESIGN\WPRMTS\AREA_07\Improvement Plans\06-1594-07-PP-STM-01_04.dwg User: scockeheisym Jan. 07, 2008 - 5:01pm

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BENCHMARK

NLV9117NWS
NAVD 88 ELEV. PUBLISHED 11/01/06 699.482 METERS, 2294.88 FEET. ELEVATION USED FOR THESE PLANS, PRE-REVISION 699.511 METERS, 2294.98 FEET. RIVET AND 2" ROUND ALUMINUM DISC, STAMPED NORTH LAS VEGAS BM No. NLV9117NWS, SET IN THE TOP OF CURB, LOCATED APPROX. 29 FEET SOUTH OF THE SOUTHEAST SOUTH BCR AT THE INTERSECTION OF GRAND TETON DR. AND ALIANTE PKWY.

BASIS OF BEARINGS

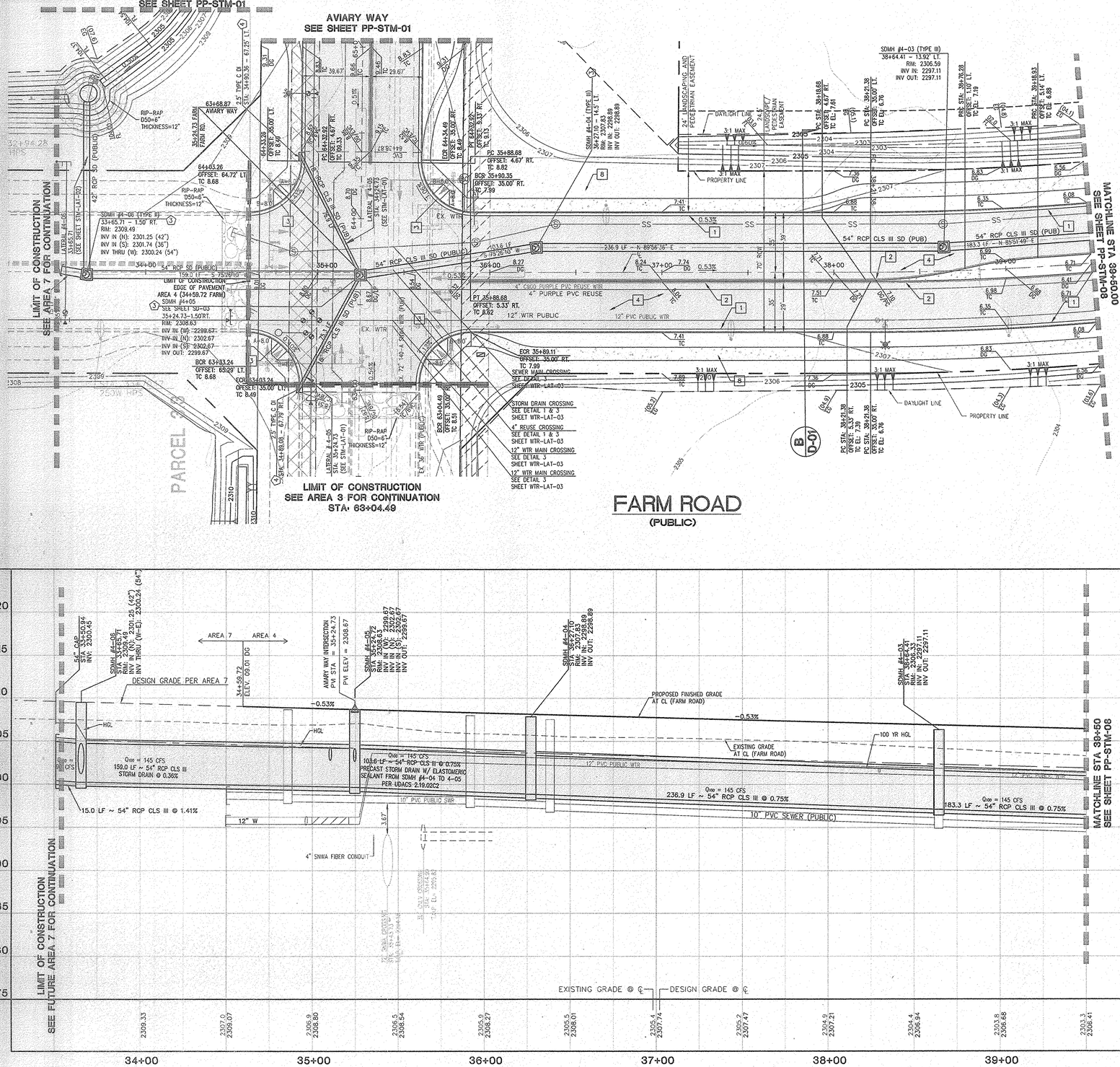
SOUTH 87°29'39" EAST, BEING THE SOUTH LINE OF GOVERNMENT LOT 19 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP ON FILE IN THE CLARK COUNTY RECORDER'S OFFICE, IN FILE 104, PAGE 61 OF PARCEL MAPS.

LEGAL DESCRIPTION

GOVERNMENT LOTS 5, 7, 10, 12, 14, 18, 19, 21, 24, 25, AND 28 THROUGH 37, INCLUSIVE, OF SECTION 18, TOGETHER WITH GOVERNMENT LOT 7 OF SECTION 19, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA.

NOTE:

FOR 72" SNWA TRANSMISSION MAIN (CONTRACT NO 140-A AND 170-B), FIBER OPTIC CONDUIT AND ALL OTHER SNWA APPURTENANCES SEE SHEETS PP-UTL-07.


SEE SHEET PP-STM-01
AVIARY WAY
SEE SHEET PP-STM-01
LIMIT OF CONSTRUCTION
SEE AREA 7 FOR CONTINUATION
LIMIT OF CONSTRUCTION
SEE AREA 3 FOR CONTINUATION
STA: 63+04.49
MATCHLINE STA 39+50.00
SEE SHEET PP-STM-08
FARM ROAD
(PUBLIC)
PARCEL 23
54" RCP CLS III SD (PUBLIC)
42" RCP SD (PUBLIC)
54" RCP SD (PUBLIC)
4" CSIO PURPLE PVC REUSE WTR
4" PURPLE PVC REUSE
12" PVC PUBLIC WTR
12" WTR PUBLIC
10" PVC SEWER (PUBLIC)
EX. WTR
EX. SS
DAYLIGHT LINE
PROPERTY LINE
24' LANDSCAPING AND PEDESTRIAN EASEMENT
STORM DRAIN CROSSING SEE DETAIL 1 & 3 SHEET WTR-LAT-03
4" REUSE CROSSING SEE DETAIL 1 & 3 SHEET WTR-LAT-03
12" WTR MAIN CROSSING SEE DETAIL 3 SHEET WTR-LAT-03
12" WTR MAIN CROSSING SEE DETAIL 3 SHEET WTR-LAT-03
SDMH #4-03 (TYPE III)
38+64.41 - 13.92' LT.
RIM: 2306.59
INV IN: 2297.11
INV OUT: 2297.11
SDMH #4-04 (TYPE III)
33+65.71 - 1.50' RT.
RIM: 2309.49
INV IN (N): 2301.25 (42")
INV IN (S): 2301.74 (36")
INV THRU (W): 2300.24 (54")
SDMH #4-05
SEE SHEET SD-03
35+24.73-1.50'RT.
RIM: 2308.63
INV IN (W): 2299.67
INV IN (N): 2302.67
INV IN (S): 2302.67
INV OUT: 2299.67
SDMH #4-06 (TYPE II)
RIM: 2309.49
INV IN (N): 2301.25 (42")
INV IN (S): 2301.74 (36")
INV THRU (W): 2300.24 (54")
SDMH #4-07
SEE SHEET SD-03
RIM: 2308.63
INV IN (E): 2299.67
INV IN (N): 2302.67
INV IN (S): 2302.67
INV OUT: 2299.67
SDMH #4-08
SEE SHEET SD-03
RIM: 2308.63
INV IN (W): 2299.67
INV IN (N): 2302.67
INV IN (S): 2302.67
INV OUT: 2299.67
SDMH #4-09
SEE SHEET SD-03
RIM: 2308.63
INV IN (W): 2299.67
INV IN (N): 2302.67
INV IN (S): 2302.67
INV OUT: 2299.67
SDMH #4-04
STA 36+27.10
RIM: 2307.83
INV IN: 2298.89
INV OUT: 2298.89
SDMH #4-03 (TYPE III)
38+64.41 - 13.92' LT.
RIM: 2306.59
INV IN: 2297.11
INV OUT: 2297.11
SDMH #4-10 (TYPE III)
34+77.10 - 14.5' LT.
RIM: 2307.83
INV IN: 2298.89
INV OUT: 2298.89
RIP-RAP D50=6" THICKNESS=12"
63+68.87 AVIARY WAY
35+70.73 FARM RD.
64+03.26 OFFSET: 64.72' LT. TC 8.68
64+33.36 OFFSET: 35.00' LT. TC 8.49
PC 64+47.70 OFFSET: 4.67' RT. TC 199.33
ECR 64+54.49 OFFSET: 35.00' RT. TC 8.49
PC 64+57.05 OFFSET: 5.33' RT. TC 8.13
PT 64+59.62 OFFSET: 5.33' RT. TC 8.13
PC 35+88.68 OFFSET: 4.67' RT. TC 8.82
ECR 35+90.35 OFFSET: 35.00' RT. TC 7.99
ECR 35+89.11 OFFSET: 35.00' RT. TC 7.99
PT 35+88.68 OFFSET: 5.33' RT. TC 8.82
ECR 63+33.24 OFFSET: 65.29' LT. TC 8.68
ECR 63+03.24 OFFSET: 35.00' LT. TC 8.49
ECR 63+04.49 OFFSET: 35.00' RT. TC 8.13
PC STA: 39+18.68 OFFSET: 4.67' RT. TC EL: 7.81
PC STA: 39+21.38 OFFSET: 35.00' LT. TC EL: 7.19
PC STA: 39+21.38 OFFSET: 35.00' RT. TC EL: 6.76
PRC STA: 39+76.28 OFFSET: 5.00' LT. TC EL: 7.19
PRC STA: 39+18.53 OFFSET: 5.44' LT. TC EL: 6.88
PC STA: 39+21.38 OFFSET: 5.33' RT. TC EL: 6.76
PC STA: 39+21.38 OFFSET: 35.00' RT. TC EL: 6.76
LATERAL #4-05 STA: 34+47.71 SEE SHEET STM-LAT-01
LATERAL #4-06 SEE SHEET STM-LAT-01
LATERAL #4-07 SEE SHEET STM-LAT-01
LATERAL #4-08 SEE SHEET STM-LAT-01
LATERAL #4-09 SEE SHEET STM-LAT-01
LATERAL #4-10 SEE SHEET STM-LAT-01
STA: 34+80.08 - 67.78' RT.
STA: 34+80.36 - 67.25' LT.
159.0 LF - S 75°27'10" W
236.9 LF - N 89°56'36" E
183.3 LF - N 89°51'49" E
103.8 LF - S 75°27'10" W
15.0 LF ~ 54" RCP CLS III @ 1.41%
159.0 LF ~ 54" RCP CLS III STORM DRAIN @ 0.36%
103.0 LF ~ 54" RCP CLS III @ 0.75% PRECAST STORM DRAIN W/ ELASTOMERIC SEALANT FROM SDMH #4-04 TO 4-05 PER UDACS 2.19.02C2
236.9 LF ~ 54" RCP CLS III @ 0.75%
183.3 LF ~ 54" RCP CLS III @ 0.75%
4" SNWA FIBER CONDUIT
EX. 72" 140-A SNWA WTR (PUB)
EX. 36" WTR (PUBLIC)
EX. 42" RCP SD (PUBLIC)
EX. 54" RCP SD (PUBLIC)
EX. 54" RCP CLS III SD (PUBLIC)
EX. 16" RCP CLS III SD (PUBLIC)
EX. 24" RCP CLS III SD (PUBLIC)
EX. 30" RCP CLS III SD (PUBLIC)
EX. 36" RCP CLS III SD (PUBLIC)
EX. 42" RCP CLS III SD (PUBLIC)
EX. 48" RCP CLS III SD (PUBLIC)
EX.

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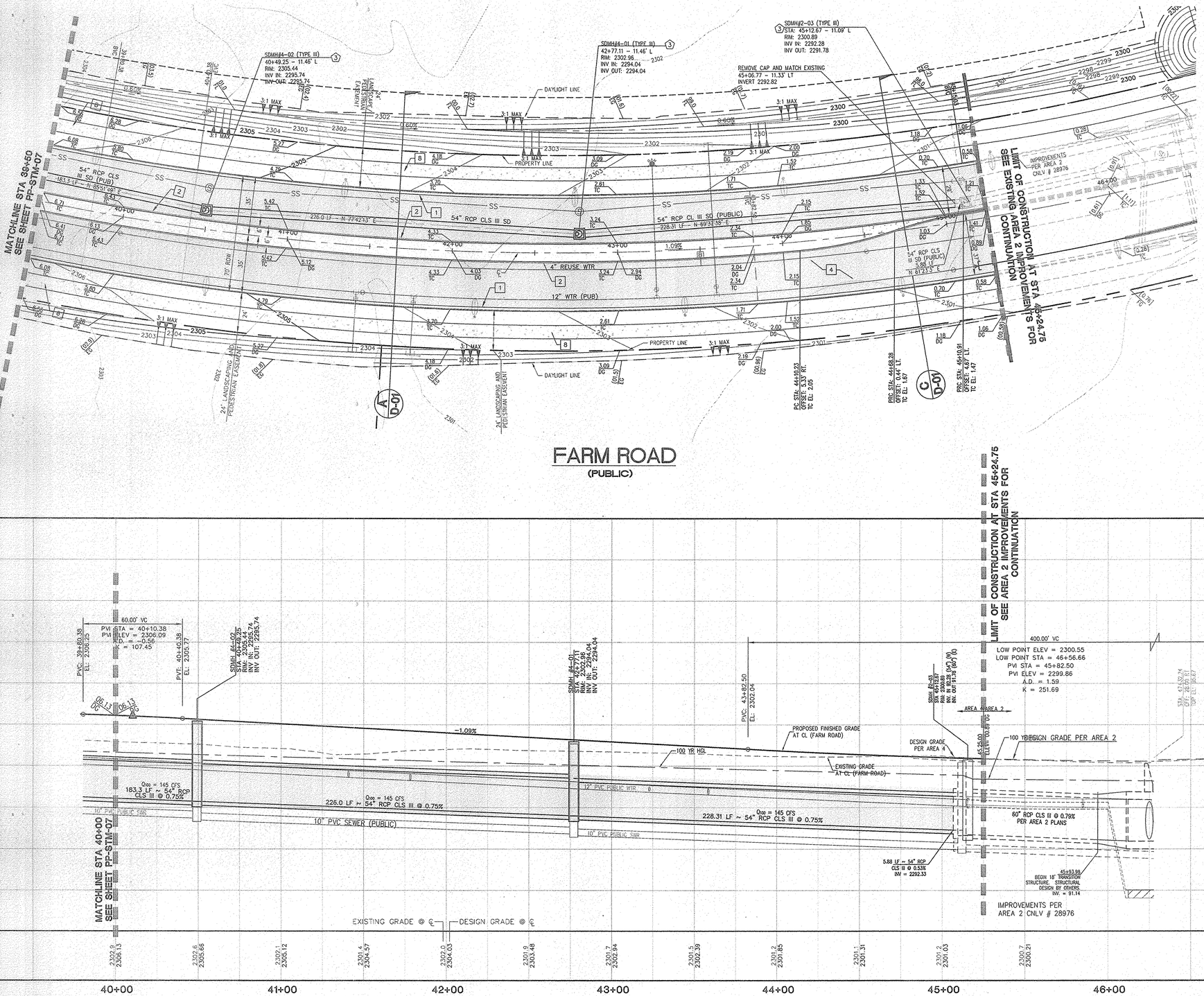

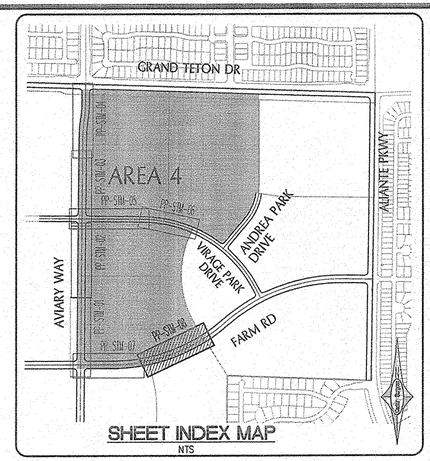

Avoid overhead power line contact. It's costly.
Call before you Overhead
1-702-227-2929
NEVADA POWER ENVIRONMENT AND SAFETY SERVICES DEPARTMENT

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BENCHMARK

NLV9117NWS
NAVD 88 ELEV. PUBLISHED 11/01/06 699.482 METERS, 2294.88 FEET. ELEVATION USED FOR THESE PLANS, PRE-REVISION 699.511 METERS, 2294.98 FEET. RIVET AND 2" ROUND ALUMINUM DISC, STAMPED NORTH LAS VEGAS BM No. NLV9117NWS, SET IN THE TOP OF CURB, LOCATED APPROX. 29 FEET SOUTH OF THE SOUTHEAST SOUTH BCR AT THE INTERSECTION OF GRAND TETON DR. AND ALIANTE PKWY.

BASIS OF BEARINGS

SOUTH 87°29'39" EAST, BEING THE SOUTH LINE OF GOVERNMENT LOT 19 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP ON FILE IN THE CLARK COUNTY RECORDER'S OFFICE, IN FILE 104, PAGE 61 OF PARCEL MAPS.

LEGAL DESCRIPTION

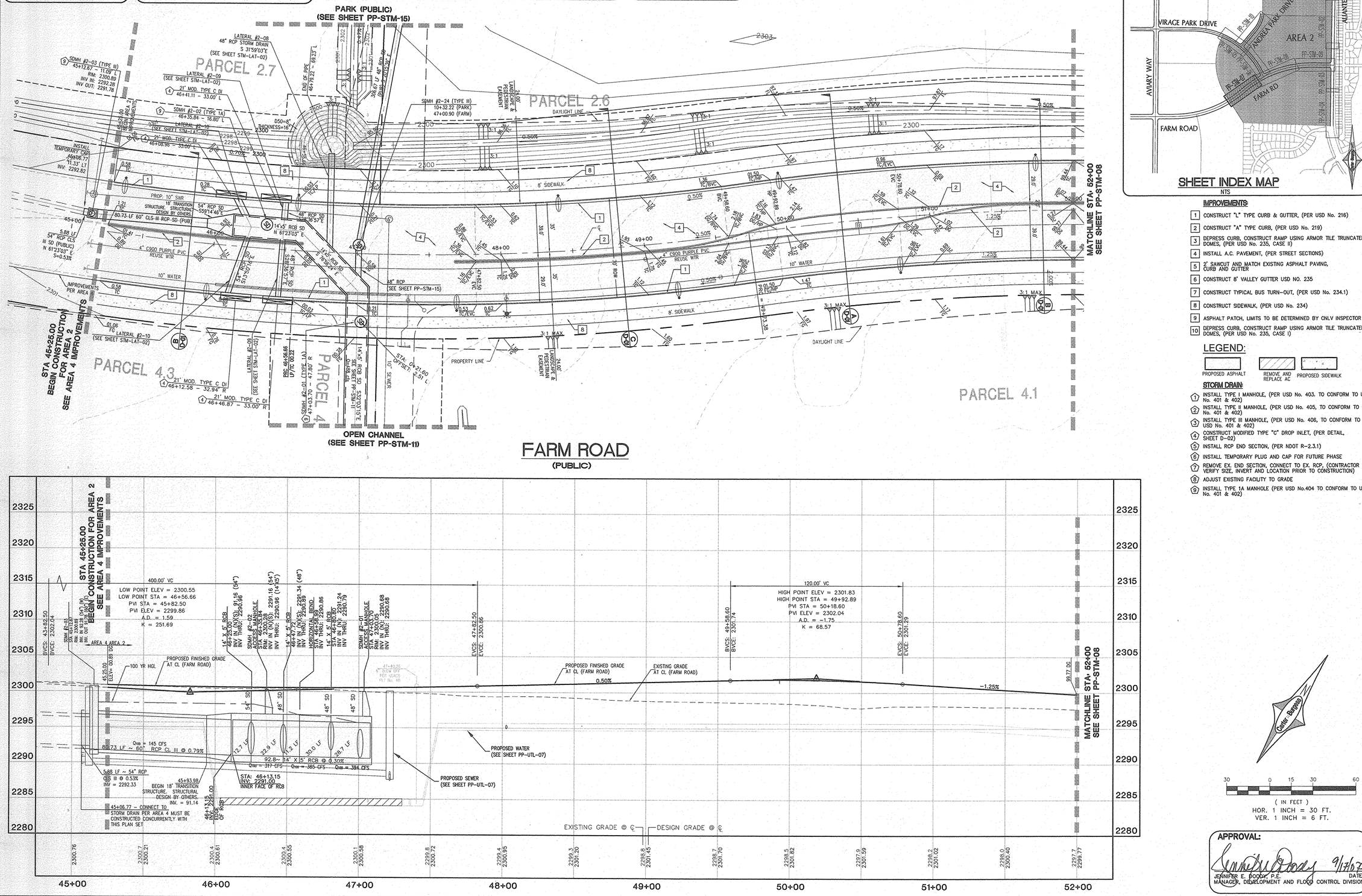
GOVERNMENT LOTS 5, 7, 10, 12, 14, 18, 19, 21, 24, 25, AND 28 THROUGH 37, INCLUSIVE, OF SECTION 18, TOGETHER WITH GOVERNMENT LOT 7 OF SECTION 19, TOWNSHIP 19 SOUTH, RANGE 61 EAST, M.D.M., CITY OF NORTH LAS VEGAS, CLARK COUNTY, NEVADA.

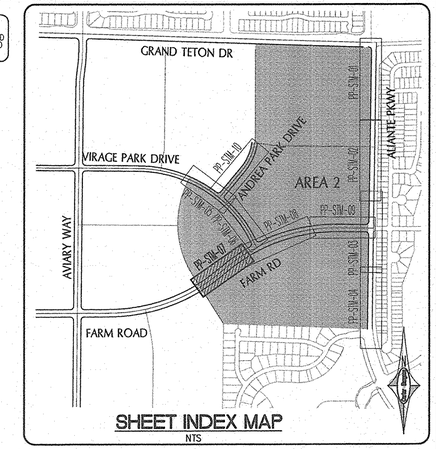
GEOTECH ENGINEER

PREPARED BY: OWENS GEOTECHNICAL, INC.
PROJECT NUMBER: E-06-022
DATE: April 26, 2006
REVISED DATE: July 14, 2006

CUT TOTAL: 20,896
FILL TOTAL: 15,794
NET: 5,102

NOTE:
STRUCTURAL DESIGNS OF THE 14' X 5' RCB AND LATERAL CONNECTION POINTS WILL BE PROVIDED BY GENEVA PIPE.





SHEET INDEX MAP

NTS

IMPROVEMENTS:

1. CONSTRUCT "L" TYPE CURB & GUTTER, (PER USD No. 216)
2. CONSTRUCT "A" TYPE CURB, (PER USD No. 219)
3. DEPRESS CURB, CONSTRUCT RAMP USING ARMOR TILE TRUNCATED DOMES, (PER USD No. 235, CASE II)
4. INSTALL A.C. PAVEMENT, (PER STREET SECTIONS)
5. 2' SAWCUT AND MATCH EXISTING ASPHALT PAVING, CURB AND GUTTER
6. CONSTRUCT 8' VALLEY GUTTER USD NO. 235
7. CONSTRUCT TYPICAL BUS TURN-OUT, (PER USD No. 234.1)
8. CONSTRUCT SIDEWALK, (PER USD No. 234)
9. ASPHALT PATCH, LIMITS TO BE DETERMINED BY CNLV INSPECTOR
10. DEPRESS CURB, CONSTRUCT RAMP USING ARMOR TILE TRUNCATED DOMES, (PER USD No. 235, CASE I)

LEGEND:

PROPOSED ASPHALT | REMOVE AND REPLACE AC | PROPOSED SIDEWALK

STORM DRAIN:

1. INSTALL TYPE I MANHOLE, (PER USD No. 403. TO CONFORM TO USD No. 401 & 402)
2. INSTALL TYPE II MANHOLE, (PER USD No. 405, TO CONFORM TO USD No. 401 & 402)
3. INSTALL TYPE III MANHOLE, (PER USD No. 406, TO CONFORM TO USD No. 401 & 402)
4. CONSTRUCT MODIFIED TYPE "C" DROP INLET, (PER DETAIL, SHEET D-02)
5. INSTALL RCP END SECTION, (PER NDOT R-2.3.1)
6. INSTALL TEMPORARY PLUG AND CAP FOR FUTURE PHASE
7. REMOVE EX. END SECTION, CONNECT TO EX. RCP, (CONTRACTOR TO VERIFY SIZE, INVERT AND LOCATION PRIOR TO CONSTRUCTION)
8. ADJUST EXISTING FACILITY TO GRADE
9. INSTALL TYPE 1A MANHOLE (PER USD No.404 TO CONFORM TO USD No. 401 & 402)

30 0 15 30 60
(IN FEET)
HOR. 1 INCH = 30 FT.
VER. 1 INCH = 6 FT.

APPROVAL:

JENNIFER E. DOOLY, P.E.
MANAGER, DEVELOPMENT AND FLOOD CONTROL DIVISION
DATE 9/17/07

REVISION | BY | DATE | REV

NOVEMBER 2005 LAND INVESTORS, LLC/DRHI, INC.

PARK HIGHLANDS

Carter Burgess
Consultants in Planning, Engineering, Construction Management, and Related Services
6655 Bermuda Road
Las Vegas, NV 89119
(702) 938-5400 Fax (702) 938-5454

ROADWAY & STORM P/P
FARM ROAD
STA 45+25.01 TO STA 52+00
NORTH LAS VEGAS
600 ACRES
AREA 2

DRAWN BY:
DESIGNED BY:
CHECKED BY: GBW
PROJECT NO: 241594
SCALE: 1" = 30' 1" = 6'

PROFESSIONAL ENGINEER STATE OF NEVADA
GLENN-BY WATANABE
EXP. 05/30/08
CIVIL
No. 16025
9/17/07

SHEET
PP-STM-07
14 OF 74 SHEETS
DRAWING NO.
28976

Drawing Name: LV241594 - NLV SITE\DESIGN\IMPROMTS\AREA_02\Improvement Plans\1594-02-PP-STM-05_10-50.dwg User: snickerhe\dynj Sep 13, 2007 - 8:12am

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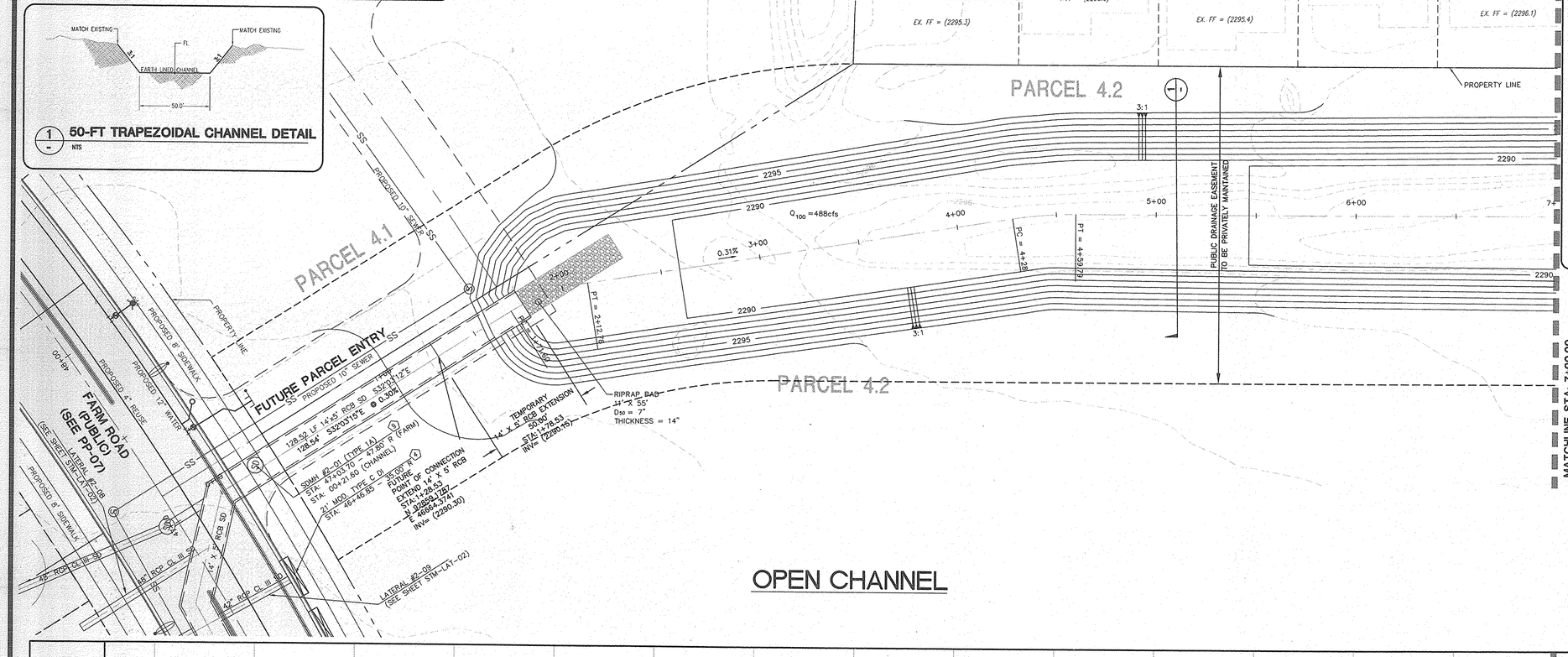
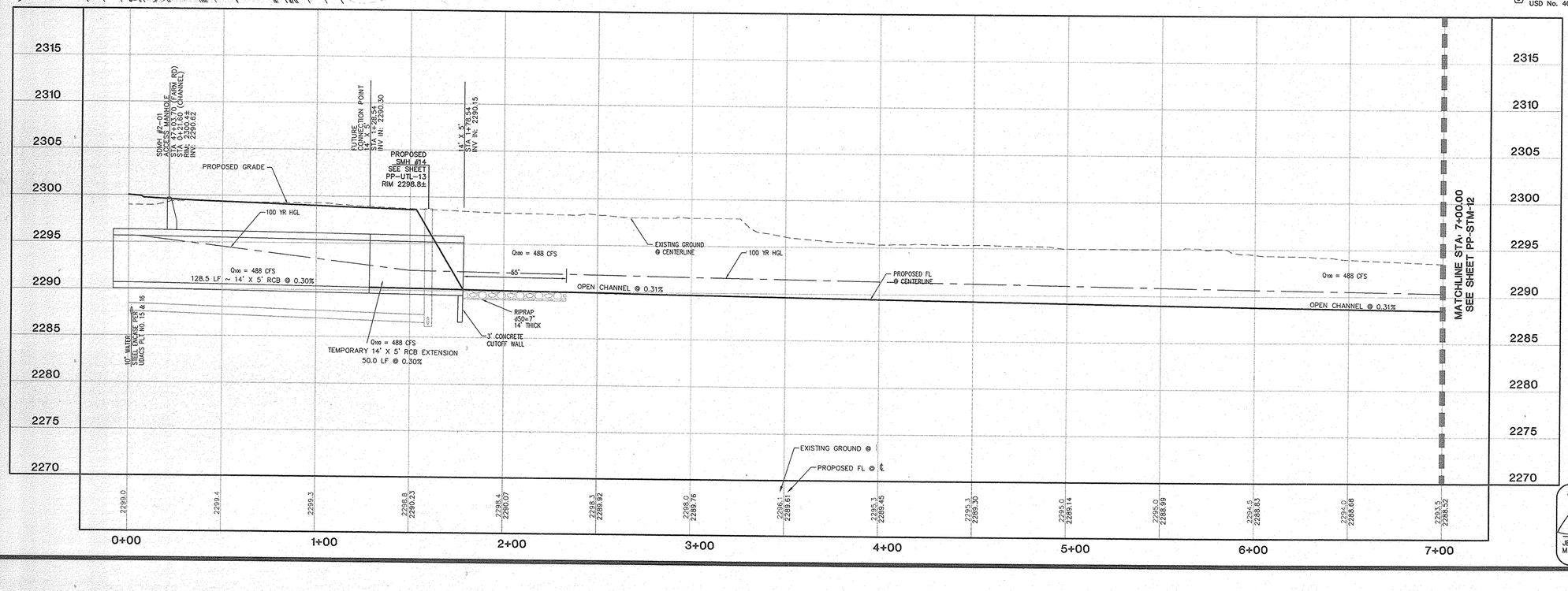
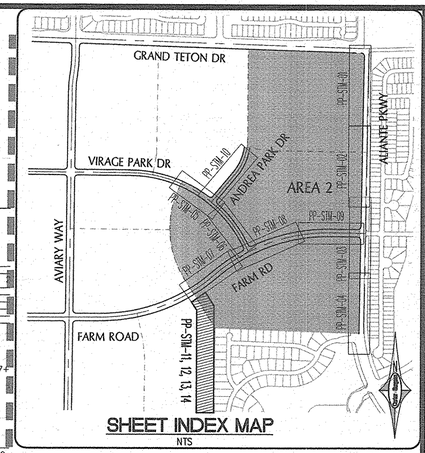
1 NTS **50-FT TRAPEZOIDAL CHANNEL DETAIL**



OPEN CHANNEL





SHEET INDEX MAP

NTS

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2. CONSTRUCT "A" TYPE CURB, (PER CC STD. DWG. No. 219)
3. DEPRESS CURB, CONSTRUCT RAMP USING ARMOR TILE TRUNCATED DOMES, (PER CC STD. DWG. No. 235, CASE II)
4. INSTALL A.C. PAVEMENT, (PER STREET SECTIONS)
5. 2' SAWCUT AND MATCH EXISTING ASPHALT PAVING, CURB AND GUTTER
6. NOT USED AT TIME OF SUBMITTAL
7. CONSTRUCT TYPICAL BUS TURN-OUT, (PER CC STD. DWG. No. 234.1)
8. CONSTRUCT SIDEWALK, (PER CC STD. DWG. No. 234)

LEGEND:

PROPOSED ASPHALT — EXISTING ASPHALT

STORM DRAIN:

1. INSTALL TYPE I MANHOLE, (PER USD No. 403. TO CONFORM TO USD No. 401 & 402)
2. INSTALL TYPE II MANHOLE, (PER USD No. 405, TO CONFORM TO USD No. 401 & 402)
3. INSTALL TYPE III MANHOLE, (PER USD No. 406, TO CONFORM TO USD No. 401 & 402)
4. CONSTRUCT MODIFIED TYPE "C" DROP INLET, (PER DETAIL, TO CONFORM TO USD No. 413)
5. INSTALL RCP END SECTION, (PER NDOT R-2.3.1)
6. INSTALL TEMPORARY PLUG AND CAP FOR FUTURE PHASE
7. REMOVE EX. END SECTION, CONNECT TO EX. RCP, (CONTRACTOR TO VERIFY SIZE, INVERT AND LOCATION PRIOR TO CONSTRUCTION)
8. ADJUST EXISTING FACILITY TO GRADE
9. INSTALL TYPE 1A MANHOLE (PER USD No.404 TO CONFORM TO USD No. 401 & 402)

Carter::Burgess

30 0 15 30 60

(IN FEET)
HOR. 1 INCH = 30 FT.
VER. 1 INCH = 6 FT.

APPROVAL:

JENNIFER E. GOODY, P.E. MANAGER, DEVELOPMENT AND FLOOD CONTROL DIVISION — DATE 9/17/07

REVISION	BY	DATE	REV

NOVEMBER 2005 LAND INVESTORS LLC/DRH, INC

Carter::Burgess
Consultants in Planning, Engineering, Construction Management, and Related Services
6655 Bermuda Road
Las Vegas, NV 89119
(702) 938-5400 Fax (702) 938-5454

OFFSITE STORM P/P
STA: 1+00 TO STA: 7+00
OPEN CHANNEL
NORTH LAS VEGAS
600 ACRES
AREA 2

DRAWN BY:
DESIGNED BY:
CHECKED BY:
PROJECT NO: 241594
SCALE: 1" = 30' HORIZ. 1" = 6' VERT.

PRELIMINARY NOT FOR CONSTRUCTION

PROFESSIONAL ENGINEER STATE OF NEVADA GLENN D. WATANABE Exp. 06/30/08 CIVIL No. 16025

SHEET **PP-STM-11**
18 OF 74 SHEETS
DRAWING NO. 28976

L:\241594 NLV SITE\DESIGN\IMPROVMTS\AREA 02\Improvement Plans\1594-02-PP-STM-11-14.dwg 3/28/2007 2:07:26 PM PDT