DS #: 4926

APN: 137.22.000.017

PROJECT: Summerlin West Planning Area Master Plan Update

SUBMITTAL: 2nd

SCANNED BY/DATE:

CHECKED BY/DATE:

CITY OF LAS VEGAS
NEVADA

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: January 11, 2018
TO: **Land Development Services** Department of Building & Safety				FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for: **Summerlin West Planning Area Master Plan Update**			**COPIES TO:** VTN Nevada
Cross Streets:	West of I-215 between Lake Mead Boulevard and Charleston Boulevard			The Howard Hughes Corporation
File Number:	F:\Depot\DSMemos\DS4926B.doc			Bart Anderson, P.E., DevCo
Parcel Number:	137-22-000-017			CCRFCD
Zoning Action:				CCPW
FEMA Flood Zone	YES **X**		NO	
Proposed Storm Drain	YES **X**		NO	

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	10/9/2017 & 10/25/2017	11/8/2017	Not Approved	$400.00	490518: $400
2nd Submittal	12/6/2017	12/20/2017 & 1/10/2018	See Comments Below	$400.00	492005: $400
			TOTAL FEES (LDDRS):	**$800.00**	**----**

REMARKS:

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

	is approved subject to conformance to all City standards and the following conditions:
X	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.

1. The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District (CCRFCD)* master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.
2. The site is adjacent to Clark County. Clark County Public Works concurrence is required prior to final approval of the drainage study.
3. Atkins is working on the 2018 MPU. Coordinate and verify the proposed regional flood control facilities as shown in Sheet A.6.5 with Atkins for inclusion of the Summerlin West Master Plan facilities into the ongoing 2018 MPU.
4. On Exhibit A.6.3, provide flow arrows, a scale and a north arrow as was done on A.6.2 and A.6.4.
5. The sum of percentages for curve number calculations for Basin 3-2 add up to only 98%. Revise and reflect changes accordingly.
6. In Appendix B.5 Ultimate Condition HEC-1 Model Output, the provided Q_{100} value for Basin 2-C is 906 cfs, however on the A.6.2 Beltway Channel North / V26 Basin Tributary Exhibit the table shows 786 cfs. Verify and revise accordingly.

7. Per the HEC-1 for the Alta Tributary it is shown that a portion of Basin 3-N will go to CPDB3 and CP3.7. These combination points are not shown on the Alta Tributary Exhibit A.6.3, but seem to drain to CPDB5. Verify and reflect changes accordingly.
8. Exhibits A.6.6 and A.6.7 do not provide contours or flow direction arrows. Provide as such in the next submittal.
9. The Flow Master calculation reports for all proposed RCPs have diameters that do not reflect the designed pipe sizes. Review and revise accordingly.
10. The velocity calculated for SD-F5 in the Flow Master report is 27.74 ft/s, but it is shown to be 25.74 ft/s on Exhibit A.6.5. Review and revise accordingly.
11. All proposed RCPs and RCBs Flow Master reports are included in Appendix C except fo SD-J. Provide as such in the next submittal.

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
WSP/AYS

T/R/S: T21S/R69E/22
AREA K-22

Addendum #1 to the FLOOD CONTROL MASTER PLAN UPDATE

SUMMERLIN WEST PLANNING AREA

Las Vegas, Nevada

W.O. # 7809

Prepared for:
Howard Hughes Corp.

Submitted to:
Public Works Department
City of Las Vegas

HYDROLOGIC CRITERIA AND DRAINAGE MANUAL

DRAINAGE STUDY INFORMATION FORM

Name of Development: Summerlin West Planning Area Master Plan Update Date: December 6, 2017

Location of Development: a) Descriptive (Cross Streets) North/South: I215

East/West: Between Lake Mead Blvd./Charleston Blvd.

b) Section: 3 and 4 Township: 21S Range: 69E

c) APN : 137-22-000-017

Name of Owner: The Howard Hughes Corporation

Telephone No.: (702) 791-4336 Fax No.: (702) 791-4453 E-Mail Address: chris.anderson@howardhughes.com

Address: 10801 W. Charleston Blvd. LV, NV, 89135

Contact Person-Name: William Meyer **Telephone No.:** (702)-873-7550

* **E-Mail Address:** bmeyer@vtnnv.com **Fax No.:** (702)-362-2597

Firm: VTN Nevada

Address: 2727 S. Rainbow Blvd, LV, NV, 89146

Type of Land Development/Land Disturbance Process:

☐	Rezoning	☐	Subdivision Map	☐	Clearing and Grading Only
☐	Parcel Map	☒	Planned Unit Development	☐	Other (Please specify below)
☐	Large Parcel Map	☐	Building Permit		

1. Total Owned Land Area: At Site: 5100+/- Acres Being Developed/Disturbed: +/-5100 Acres
2. Is a portion or all of the subject property located in a designated 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.): Mixed Use
5. Approximate upstream land area which drains to the subject site: +/- 11.5 sq.mi.
6. Has the site drainage been evaluated in the past? ☒ **YES** ☐ **NO** If yes, please identify documentation: 2006 Summerlin West Master Plan Update
7. If known, please briefly identify the proposed discharge point(s) of runoff from the site:
8. Briefly describe your proposed schedule for the subject project: As soon as possible

PROFESSIONAL ENGINEER-STATE OF NEVADA
WILLIAM J. MEYER
EXP: 12/31/17
CIVIL
No. 15745
12/6/17

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.

*New Required Field

**Review and concurrence of the Clark County Regional Flood Control District is required.

Revision	Date

Local Entity File No.

REFERENCE:

STANDARD FORM 1

Updated 05/01/2008

ADDENDUM #1 TO THE

FLOOD CONTROL MASTER

PLAN UPDATE

SUMMERLIN WEST PLANNING AREA

LAS VEGAS, NEVADA

W.O. # 7809

Prepared for:
Howard Hughes Corp.

Submitted to:
Public Works Department
City of Las Vegas

VTN
nevada

PROVIDING QUALITY PROFESSIONAL
SERVICES SINCE 1960

December 6, 2017
W.O. #7809

City of Las Vegas
Land Development Services
333 North Ranch Rd., 7th Floor
Las Vegas, NV 89106

Attention: Albert Sung, P.E., CFM
Flood Control Project Engineer
Department of Public Works

SUBJECT: ADDENDUM #1 TO THE DRAINAGE STUDY FOR SUMMERLIN WEST PLANNING AREA MASTER PLAN UPDATE

Mr. Sung:

This *Addendum #1 to the Drainage Study for Summerlin West Planning Area Master Plan Update (DS4926)* is being submitted to the City of Las Vegas Land Department of Public Works to address review comments dated November 11th, 2017.

Comment #1

> **Provide a copy of the zoning/planning conditions associated with this site with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.**

Response #1:

The study is conceptual in nature and zoning or planning conditions have not yet been established.

Comment #2

> **The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District* (*CCRFCD*) master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.**

Response #2: A copy of the conceptual drainage study and all associated addendums will be provided to CCRFCD.

Comment #3

> **The site is adjacent to Clark County. Clark County Public Works concurrence is required prior to final approval of the drainage study.**

Response #3: A copy of the conceptual drainage study and all associated addendums will be provided to CCPW.

Comment #4

> **Provide a letter of approval from Summerlin for the subject Summerlin West Planning Area Master Study Update in the next submittal.**

Response #4: A letter of approval from Summerlin for the subject project has been included with this submittal, and is located in Appendix D.

Comment #5

> **Provide a table showing the 2006 combination point flows versus the similar current combination point flows. Such table will provide a convenient comparison between the previous and the proposed differences.**

Response #5:

Flow comparisons for the CCRFCD facilities in and downstream of the SWPA site were included in the previous report. Since the 2006 SWPA submittal, there have been considerable changes made to the site layout. With the exception of the CCRFCD facilities downstream and in Far Hills, the revised land plan has changed the flow routing on site. Therefore, a comparison of the concentration points on site (with the exception of the flood existing flood control facilities) is not possible. Tables used for the comparison of the CCRFCD facilities as shown in the original study are included below, and the Table numbering is constant with that in the previous study.

There was a difference in flows calculated between the revised Beltway model and the previous model for the Summerlin West Basin that are located in the Village 26 watershed. Table 3.2.1 is intended to show the pertinent basin drainage parameters and the calculated flowrates. The HEC-1 model used in this study for these values is B.5.1 Beltway_SDN3.

TABLE 3.2.1 – VILLAGE 26 BASIN COMPARISON							
2006 Summerlin West MPU				2017 Summerlin West MPU			
Basin	CN	Area (sq. mi.)	Q (cfs)	Basin	CN	Area (sq. mi.)	Q (cfs)
1-1B	84.1	0.175	294	1-A	67.1	0.125	80
1-2B	86.1	0.215	365	1-B	79.7	0.184	222

The comparison presented in Table 3.2.2 below is for the Far Hills storm drain and is based on values taken from the Alta models. The SDN values are also listed in the table below.

TABLE 3.2.2 – ONSITE CCRFCD FACILITY FLOW COMPARISON						
CCRFCD ID Mile	**Ref. Conc. Pt.**	**Ref. Q (cfs)**	**Prop. Conc. Pt.**	**Prop. Q (cfs)**	**SDN**	**Reference**
APMD0089, 0061	CSWFH-5	669	CP3.8	801	3	CCRFCD MPU
APFH0024, 0019	CCSWFH-7	3392	CP3.9	2138	3	CCRFCD MPU
APFH0000	CCSFH-7	3862	CP3.10	3144	3	CCRFCD MPU
APBE0051, 0022, 0013	CSWFH-9	4060	CP3.11	3363	3	CCRFCD MPU
APAD0225	SUM5DB	2149	DB5	2135	3	CCRFCD MPU
APAD0203, 0146	CSWAA-1	2200	CP3-L	2218	3	CCRFCD MPU
APAD0115, 0073	CSWAA-2	2917	CSWAA-2	2917	3	CCRFCD MPU
APAD0044, 0018, 0000	CSWAA-3	3453	CSWAA-3	3139	4	2006 SWPA MPU
APMD0258	CRCSWFH9	5910	CRCSWFH9	5255	4	2006 SWPA MPU

Table 3.4.1 shown below is intended as a comparison for the CCRFCD facilities that convey flow to the Angle Park Detention Basin.

TABLE 3.4.1 – ANGEL PARK DETENTION BASIN TRIBUTARY COMPARISON								
ID	MILE	MPU Conc. Pt.	MPU Q (cfs)	MPU Model	SWPA Conc. Pt	SWPA Q (cfs)	DARF	SWPA Model
APMD	0133	C11A-3	6048	ALLGOW4	C11A-3	5497	0.85	Alta-SDN4
APMD	0198	C11A-3	6048	ALLGOW4	C11A-3	5497	0.85	Alta-SDN4
APMD	0208	C11A-3	6048	ALLGOW4	C11A-3	5497	0.85	Alta-SDN4
APMD	0218	C11A-3	6048	ALLGOW4	C11A-3	5497	0.85	Alta-SDN4
APMD	0230	C11A-1	5889	ALLGOW4	C11A-1	5375	0.85	Alta-SDN4
APMD	0233	C11A-1	5889	ALLGOW4	C11A-1	5375	0.85	Alta-SDN4
APMD	0237	C11A-1	5889	ALLGOW4	C11A-1	5375	0.85	Alta-SDN4
APMD	0253	C11A-1	5889	ALLGOW4	C11A-1	5375	0.85	Alta-SDN4
APNO	0004	ANGLPKIN	9199	ALLGOW5	ANGLPKIN	8867	0.77	Alta-SDN5
APNO	0001	ANGLPKIN	9199	ALLGOW5	ANGLPKIN	8867	0.77	Alta-SDN5

Table 3.4.2 shown below is intended as a comparison for the CCRFCD facilities that convey flow to the Lone Mountain Detention Basin.

TABLE 3.4.2 – LONE MOUNTAIN DETENTION BASIN TRIBUTARY AREA								
ID	**MILE**	**MPU Conc. Pt.**	**MPU Q (cfs)**	**MPU Model**	**SWPA Conc. Pt**	**SWPA Q (cfs)**	**DARF**	**SWPA Model**
GOBE	0000	CSV22-3	958	GW3SC	2-C	906	0.99	Beltway-SDN3
GOBE	0001	CSV22-3	958	GW3SC	2-C	906	0.99	Beltway-SDN3
GOL3	0100	CRCSV223	1162	ALLGOW3	CRCSV223	1269	0.91	Beltway-SDN3
GOL3	0077	CRCSV223	1162	ALLGOW3	CRCSV223	1269	0.91	Beltway-SDN3
GOL3	0010	CRCLMT1R	3186	ALLGOW4	CRCLMT1R	3317	0.89	Beltway-SDN3
GOL3	0000	CLMT5	3508	GW3SC	CLMT5	3702	0.89	Beltway-SDN3
GOLM	0226	CUVB2	2961	ALLGOW3	CUVB2	2867	0.95	Beltway-SDN3
GOLM	0174	CCLMT5	6173	GW3SC	CCLMT5	5223	0.87	Beltway-SDN4
GOLM	0162	CGABW	6323	GW3SC	CGABW	5360	0.87	Beltway-SDN4
GOLM	0146	LMTNDB	7252	ALLGOW4	LMTNIN	6026	0.86	Beltway-SDN4
GOLM	0145	LMTNDB	190	ALLGOW4	LMTNDB	186	0.86	Beltway-SDN4

Facilities GOL3000, GOL30010, GOL30077, and GOL30100 are all higher than the original MPU values; however, these flowrates are roughly only a 5-percent increase in the flowrate.

Comment #6

> **Provide a discussion of the phasing plans of *Summerlin West Planning Area*. It appears that *Area 1* will be included as the first phase, please discuss the sequence of future phasing. Technical drainage studies will be required for infrastructures and the subsequent Area 1, Area 2, etc. onsite developments.**

Response #6:

The current priorities and location for the infrastructure projects are as shown below:

1. FGH Connector Road – located adjacent to Village 24 - located in Section 33
2. Carriage Hill South – located in Area 1
3. Beltway sewer – located in Area 1
4. 3435 Water Line – located in Area 1

A copy of the preliminary final map is included in Appendix D that illustrates these locations.

Note that as the project progresses these priorities area l may change. Also note that the included figure is PRELIMINARY and is intended for informational use only.

Comment #7

> **In *Figure A.6.1 Overall Drainage Basin Map*, provide labeled contours and identify the proposed study limits. Show the discharging points of each tributary. For example, CP1.4 of *V26 Tributary* etc. Also, identify the location of the existing *DB5 Detention Basin* and the proposed *Grand Park Detention Basin* on the map.**

Response #7:

Figure A.6.1 Overall Drainage Map has been revised to include labeled contours, project limits, discharge points for each tributary, and labels for the existing DB5 Detention Basin and proposed Grand Park Detention Basin. Figures have been included in Appendix A.

Comment #8

In *Figures A.6.2, A.6.3 and A.6.4 (Tributary maps)*, provide labeled contours and show the downstream detention basins. Also, please differentiated the labels for the combination points and lot IDs more clearly and adjust overlapping labels.

Response #8:

The tributary maps have been revised accordingly. Figures have been included in Appendix A.

Comment #9

In *Figure A.5.2 Overall Soil Map*, check that the legend matches the exhibit. For example, the soil numbers in the legend are red but on the exhibit, they appear black. The black labels are difficult to read when overlapped with the other labels.

Response #9:

The soil numbers shown on *Figure A.5.2 Overall Soil Map* have been revised to match the legend. Figures have been included in Appendix A.

Comment #10

In *Figure A.6.5 Regional Flood Control Facilities Map*, make sure the legend matches the exhibit. For example, the legend shows a black dot for the concentration points but the exhibit appears to have pink dots. Also, please use a different line type or color to differentiate between the Basin Boundary and the Existing Storm Drain Alignment.

Response #10:

Figure A.6.5 Regional Flood Control Facilities Map has been revised accordingly. Figures have been included in Appendix A.

Comment #11

Provide an exhibit or adjust existing exhibits to show all basins included in the HEC – 1 models. For example, Beltway Channel North/V26 Basin Tributary as shown in figure A.6.2 is the upstream portion of the HEC-1 model. Provide an exhibit that shows all basins and basin interaction (flow direction/combination points) for the entire HEC-1 model so that the model can be properly evaluated. Please also show the CCRFCD flood control systems that these basins ultimately drain to on this exhibit.

Response #11:

See Figure A.6.8 CCRFCD Regional facility Map.

Comment #12

Check the graphic scale on all exhibits for accuracy. For example, Figure A.6.1 Overall Drainage Basin Map and A.6.7 Area 1 Flood Control Facilities Map show a graphic scale of 1" = 1' which does not seem to be correct.

Response #12:

The graphic scales have been revised. Figures have been included in Appendix A.

Comment #13

Clarify why soil numbers 294, 351, 151, and 263 do not appear in the "Soil Comparison 7809" table but appear in the soils report and on the overall soil map.
Response #13:

Soil values 151, 263, and 351 are all within the Area of Interest (AOI) used to select the soil report in the *Web Soil Survey* web page from the U.S. Department of Agriculture. Soil Type 294 is listed as a Rock outcrop. The hydrologic soil type used for this soil was a Type D. As such a comparison isn't necessary.

Comment #14

In *Appendix B.4*, provide the CN computations in a legible format. The current format is too small to read.

Response #14:

The CN computations have been reformatted for legibility. CN computations have been included in Appendix B.

Comment #15

In *Figure A.6.5 Regional Flood Control Facilities Map*, concentration point CPDBA-B appears to be a detention basin. If this is the Grand Park Detention Basin discussed in the report, please clearly label it and if not please clarify and provide discussion.

Response #15:

Concentration Point CPDBA-B corresponds to the Grand Park Detention Basin. The Grand Park Detention Basin has been labeled on Figure A.6.5 as requested.

Comment #16

Provide the precipitation calculations used to derive the PB (precipitation) values in the HEC-1 models. Additionally, in Appendix B.2 CCRFCFD Supplemental Documentation please circle or highlight values used form each table and figure as applicable to calculating the precipitation including marking the site location on Figures 506 and 503.

Response #16:

Figures showing the drainage basins for both the overall Summerlin West site and the Area 1 site are included in Appendix A of this letter. Additionally, copies of Figures 503 and 506 of the HCCDM are included in Appendix B showing the approximate location of the Summerlin West site. Tables have been created for both the Summerlin West overall precipitation calculations, and are included in Appendix B.

Comment #17

Soil Comparison 7809 table, in the second table please clarify what "100-yr Old" and "100-yr New" values are supposed to represent.

Response #17:

Information shown in the Department of *Agriculture's Web Soil Survey* web page shows slightly different soils values from those previously published in the SCS Soil Survey of the Las Vegas Area 1985.

Comment #18

Beltway Channel North/Village 26 Tributary HEC-1 model basin 1-2 input UD (lag time) does not match the value provided in Standard Form 4 (Appendix B.4).

Response #18:

The previous HEC-1 model incorrectly referenced a lag time for Basin 1-2 based on a calculation using the USBR equation. This was incorrect as the basin area was less than 1 square mile. Basins 1-1 and 1-2 shown in the previous submittal have been combined to form a single basin now labeled 1-1. The revised area now meets the 1 square mile minimum required for the application on the USBR method. The revise flowrate for the new Basin 1-1 is 2108 cfs for the 100-year event. The revised HEC-1 and USBR calculations have been included in Appendix B of this letter.

Comment #19
Beltway Channel North/Village 26 Tributary HEC-1 model basin 1-6 input BA (basin area) and UD (lag time) do not match the value provided in Standard Form 4 (Appendix B.4).

Response #19:

The basin area for Basin 1-6 of 0.075 sq. mi. in the Beltway Channel North/Village 26 Tributary HEC-1 model has been revised to match the Standard Form 4. The calculated 100-year flowrate for the revised Basin 1-6 is 189 cfs. The revised HEC-1 models for both the SDN3 and SDN4 storm distributions are included in Appendix B.

Comment #20

Appendix B.1 HEC-1 Flowrate Summary for V26 Tributary Proposed Condition concentration point CP1.4 lists a Q_{100} of 3285 cfs whereas Figure A.6.2 lists CP1.4 to have Q_{100} of 3315 cfs. Please revise the values to the correct flow.

Response #20:

The proposed condition HEC-1 model labeled B.5.1 Beltway sdn3 shows a calculated flowrate of 3130 cfs, which is correctly referenced on the included Figure A.6.2.

Comments #21
Appendix B.4, cover sheets do not match contents. For example, Appendix B.4.2 Beltway North Tributary contains curve number/lag time/routing calculations for onsite DB5/Alta Tributary. Please adjust all cover sheets to match the correct contents.

Response #21:

The cover sheets included with this submittal match the correct contents.

ADDITIONAL COMMENTS

1. The precipitation calculations have been revised to more accurately reflect the accurate precipitation value at the centroid of each basin. Therefore some minor modifications to the HEC-1 models where required. The revised HEC-1 models are included in Appendix B of this letter.

2. The revised Alta-DB5 model shows a revised water surface elevation at the Angel Park Detention Basin of 2618.04 feet. This is below the CCRFCD MPU value of 2618.69 feet. The revised basin map is *Figure A.6.3: DB5/Alta Tributary Drainage Basin Map in Appendix A, and the HEC-1 model is at B.5.3 Alta-sdn310.pdf in Appendix B.*

3. The Grand Park Detention Basin is designed to contain the 10-Year event volume of 32 acre-feet in the lower pool of the facility, and 94 acre-feet for the entire 100-year event. The WSEL for the 10-Year event is at an elevation 3516.84 feet, and the WSEL for the 100-Year event is at 3526.26 feet. The revised basin map is *Figure A.6.3: DB5/Alta Tributary Drainage Basin Map in Appendix A, and the HEC-1 model is at B.5.3 Alta-sdn310.pdf in Appendix B.*

4. The SDN3 HEC-1 model for the DB5/Alta Tributary shows the water surface elevation to be at 3559.18 feet. The revisions do not have a negative impact on the flood control facilities. This conforms with the WSEL of 3559.5 feet shown in LOMR Case Number is 17-09-1166P (Effective date February 5, 2018).

5. A new subbasin has been added to the Alta-DB5 watershed. It is labeled 3-Q2 and is located adjacent to the Grand Park Detention Basin. Additionally, the Regional Facility layout has been

modified to include 2 new facilities. Labeled SD-A and SD-F these are a 60-inch RCP and a 42-inch RCP. *The revised figure A.6.5* is included in Appendix A.

Should you have any questions, please don't hesitate to contact me at (702) 873-7550.

Sincerely

William J. Meyer, P.E.
Project Manager

APPENDIX INDEX

APPENDIX A FIGURES

A.5 Summerlin West Master Plan Area Land Use and Soil Maps
- A.5.2 Overall Soil Map
- A.5.4 Precipitation Figures 503 and 506
- A.5.5 SWPA Overall Precipitation Figure
- A.5.6 Area 1 Precipitation Figure

A.6 Drainage Basin Maps
- A.6.1 Overall Drainage Basin Map
- A.6.2 Beltway Channel (North)/Village 26 Tributary
- A.6.3 DB5/Alta Tributary
- A.6.4 Red Rock Detention Basin Tributary
- A.6.5 Regional Flood Control Facility Map
- A.6.6 Area 1 Drainage Basin Map
- A.6.7 Area 1 Local Flood Control Facilities Map
- A.6.8 CCRFCD Regional Facility Map

APPENDIX B HYDROLOGICAL ANALYSES

B.1 HEC-1 Flowrate Summary

B.4 Curve Number, Subbasin Lagtime Calculations, and Routing Calculations
- B.4.1 Beltway Channel (North)/Village 26 Tributary
- B.4.2 DB5/Alta Tributary
- B.4.3 Red Rock Detention Basin Tributary
- B.4.4 Area 1
- B.4.5 USBR Routing Calculations

B.5 Ultimate Condition HEC-1 Model Output
- B.5.1 100-Year SDN3 Beltway Channel (North)/Village 26 Tributary
- B.5.2 100-Year SDN4 Beltway Channel (North)/Village 26 Tributary
- B.5.3 100-Year SDN3 DB5/Alta Tributary
- B.5.4 100-Year SDN4 DB5/Alta Tributary
- B.5.5 100-Year SDN5 DB5/Alta Tributary
- B.5.6 10-Year SDN3 DB5/Alta Tributary
- B.5.7 100-Year SDN3 Red Rock Detention Basin Tributary
- B.5.8 100-Year SDN3Area 1

APPENDIX C HYDRAULIC ANALYSES

C.1 Regional Facility Normal Depth Calculations
C.2 Area 1 Local Facility Normal Depth Calculations

APPENDIX D REFERENCE INFORMATION

D.1 City of Las Vegas Comments
D.2 The Howard Hughes Corporation Approval Letter
D.3 VTN Parcel Map

APPENDIX

APPENDIX A
FIGURES

NORTH

GRAPHIC SCALE

1500 0 750 1500 3000

1" = 1500'

SWPA BOUNDARY

PARCEL BOUNDARY

640 SOIL NUMBER

SOIL BOUNDARY

REV	DATE	BY	REVISION

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7550 FAX (702) 362-2597 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

2017 SUMMERLIN WEST PLANNING AREA

FIGURE A.5.2 OVER ALL SOIL MAP

DRAWN BY:	DESIGNED BY:	CHECKED BY:	PROJECT NO:	SCALE:	HORIZ.
SVB	SEPTEMBER 2017		7809	1"=1500'	VERT.

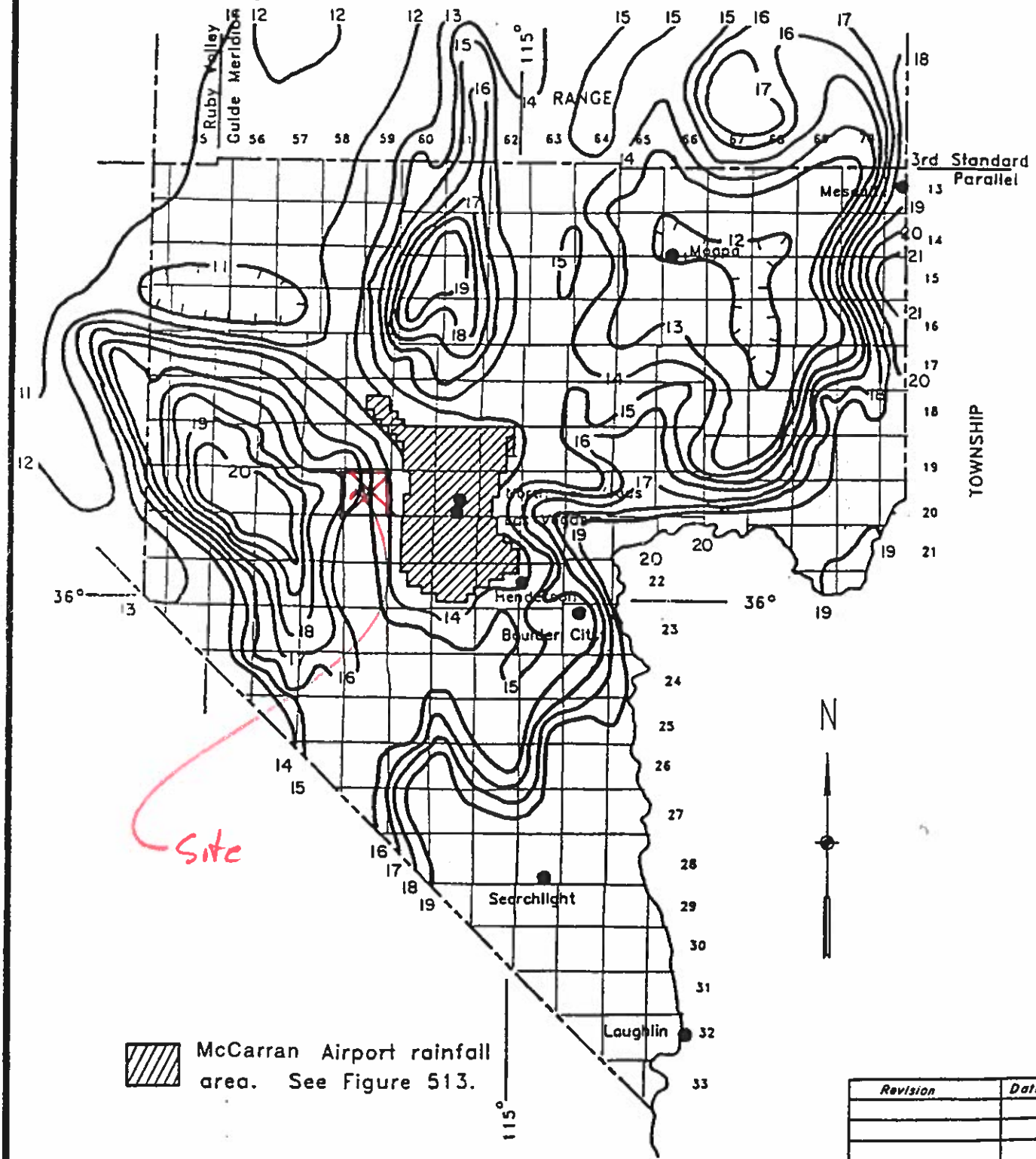
SHEET

OF SHEETS

DRAWING NO.

H:\7809\Drainage\A Figures & Exhibits\Soils Map\7809 Soils Map.dwg

RAINFALL DEPTH-DURATION-FREQUENCY
10-YEAR, 6-HOUR
(DEPTHS IN TENTHS OF INCHES)



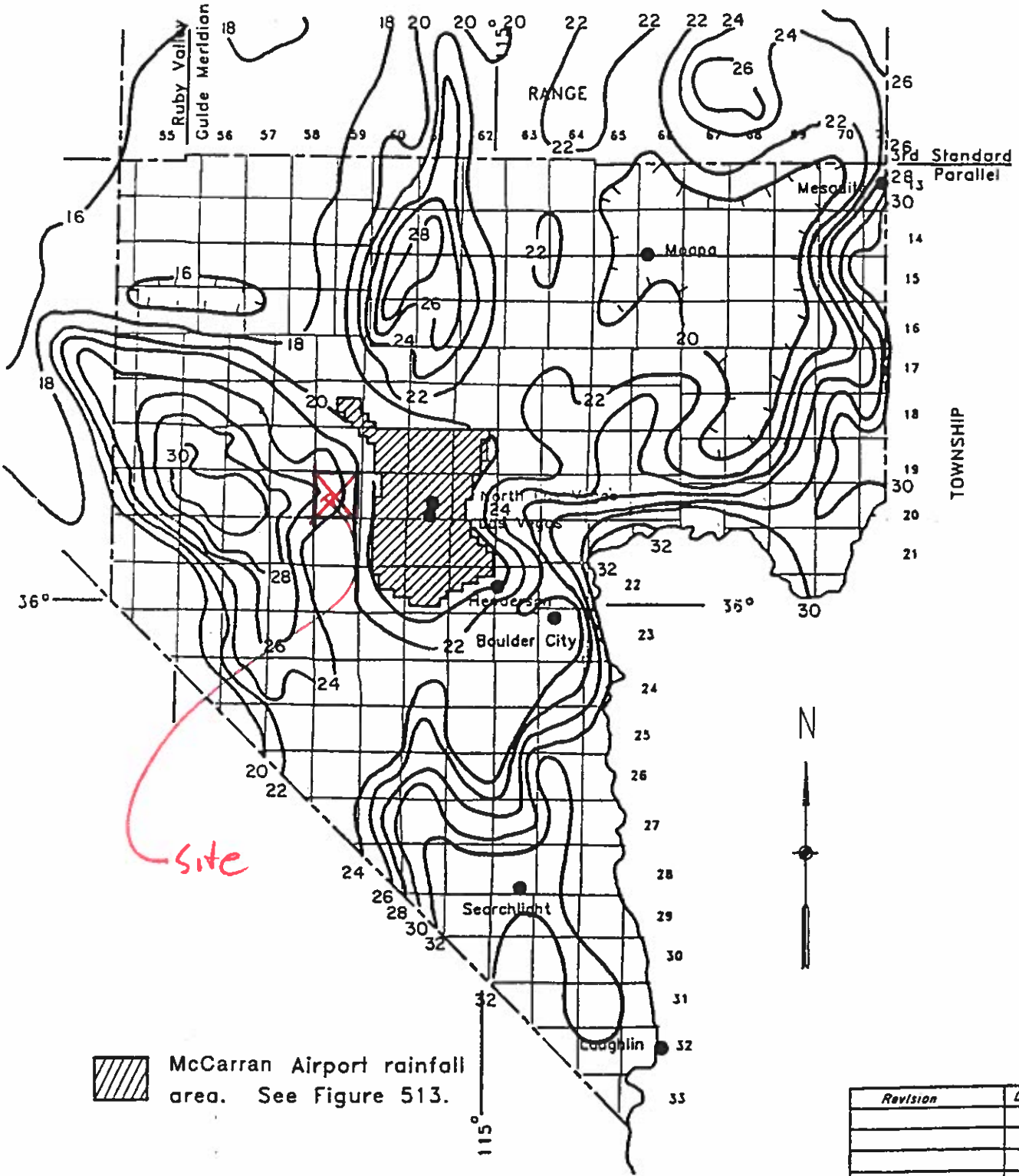
Revision	Date

WRC ENGINEERING

REFERENCE:
NOAA ATLAS 2, VOLUME VII NEVADA, 1973

FIGURE 503

RAINFALL DEPTH-DURATION-FREQUENCY
100-YEAR, 6-HOUR
(DEPTHS IN TENTHS OF INCHES)

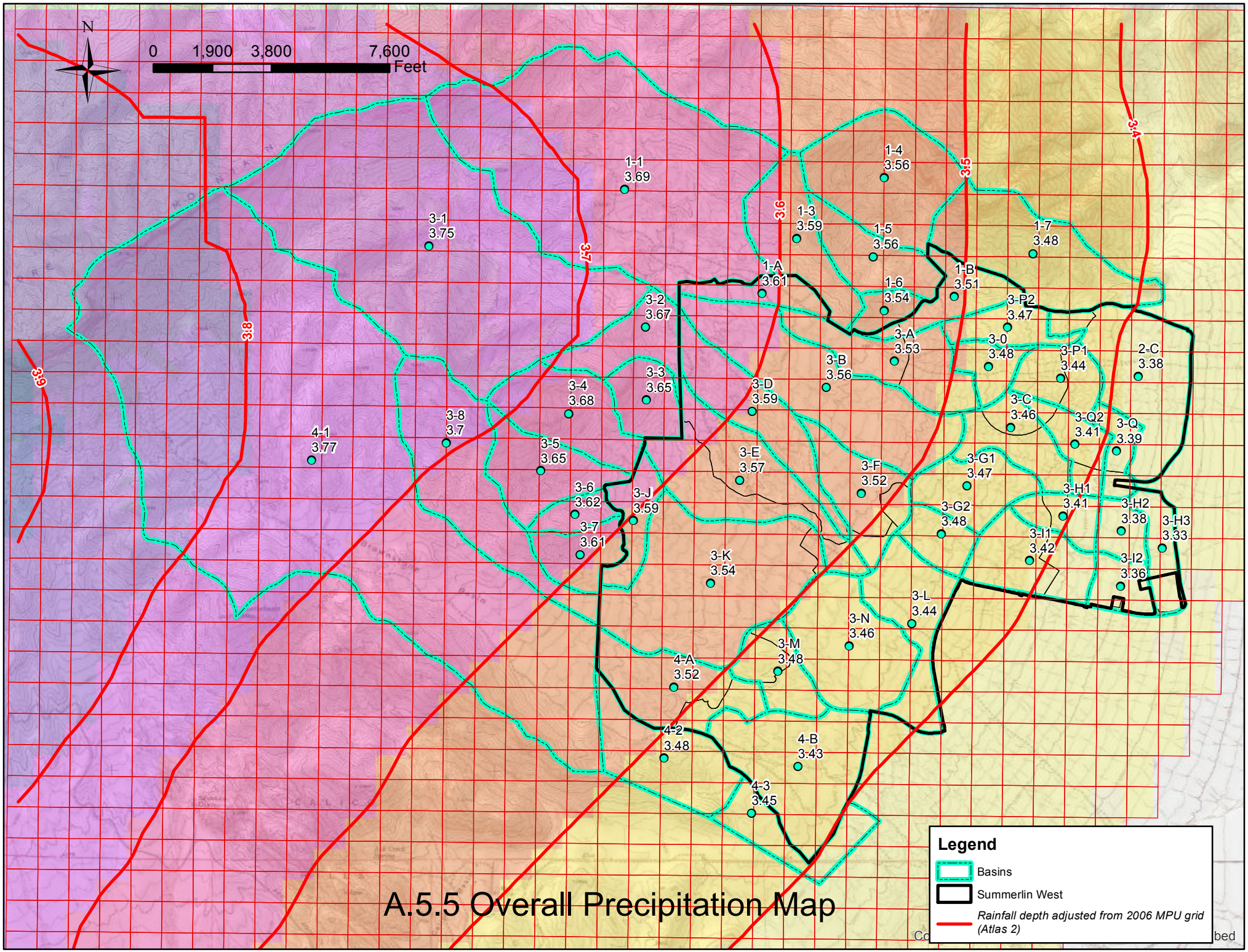


Revision	Date

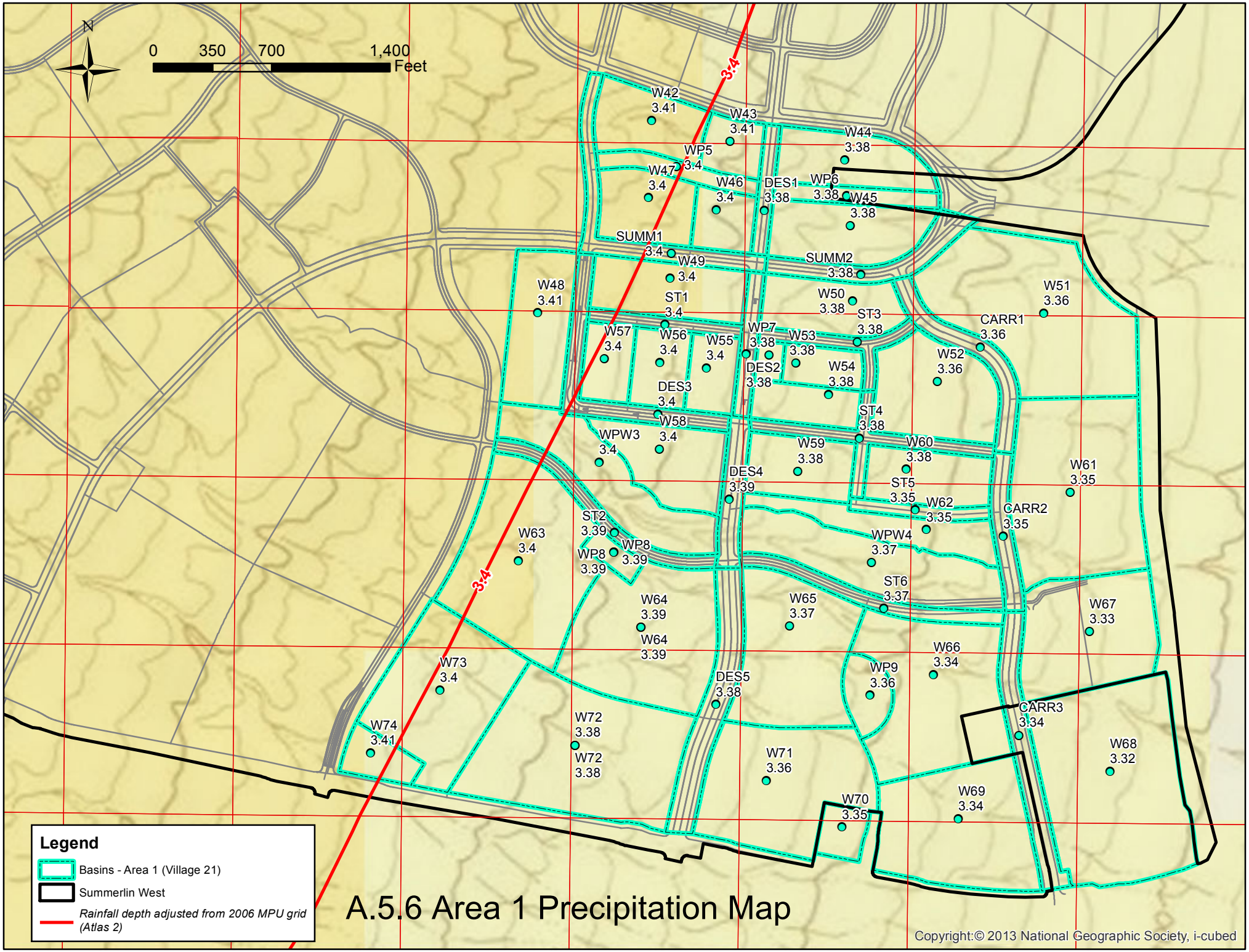
WRC ENGINEERING

REFERENCE:
NOAA ATLAS 2, VOLUME VII NEVADA, 1973

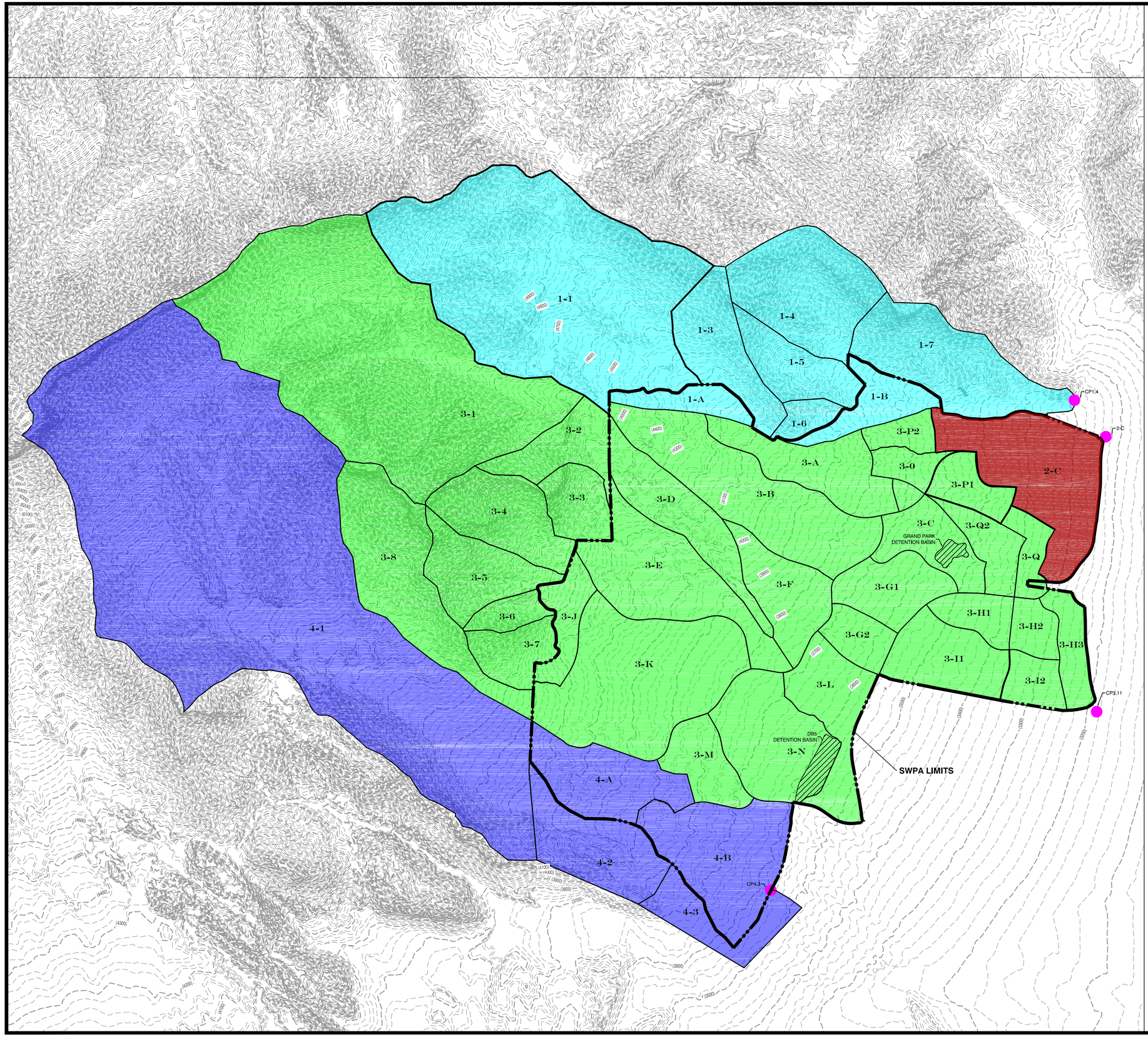
FIGURE 506



H:\7809\GIS\Rainfall\MXD\7809-2006MPU-Precipitation.mxd Date: 12/4/2017



H:\7809\GIS\Rainfall\MXD\7809-NOAA-Precipitation-Area1.mxd Date: 12/4/2017



NORTH

GRAPHIC SCALE

1500 0 750 1500 3000

1" = 1500'

V26 TRIBUTARY
(SEE FIGURE A.6.2)

BELTWAY CHANNEL
(NORTH) TRIBUTARY
(SEE FIGURE A.6.2)

DB5/ALTA TRIBUTARY
(SEE FIGURE A.6.3)

RED ROCK DETENTION
BASIN TRIBUTARY
(SEE FIGURE A.6.4)

REV	DATE	BY	REVISION

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2017 SUMMERLIN WEST PLANNING AREA

A.6.1 OVERALL DRAINAGE BASIN MAP

DRAWN BY: SVB
DESIGNED BY:
CHECKED BY:
SEPTEMBER 2017
SCALE: HORIZ VERT:
PROJECT NO: 7909

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LEGEND

- CONCENTRATION POINT
- BASIN BOUNDARY
- LOT BOUNDARY
- 1-1 OFFSITE BASIN ID
- 1-A ONSITE BASIN ID
- LM3 LOT ID

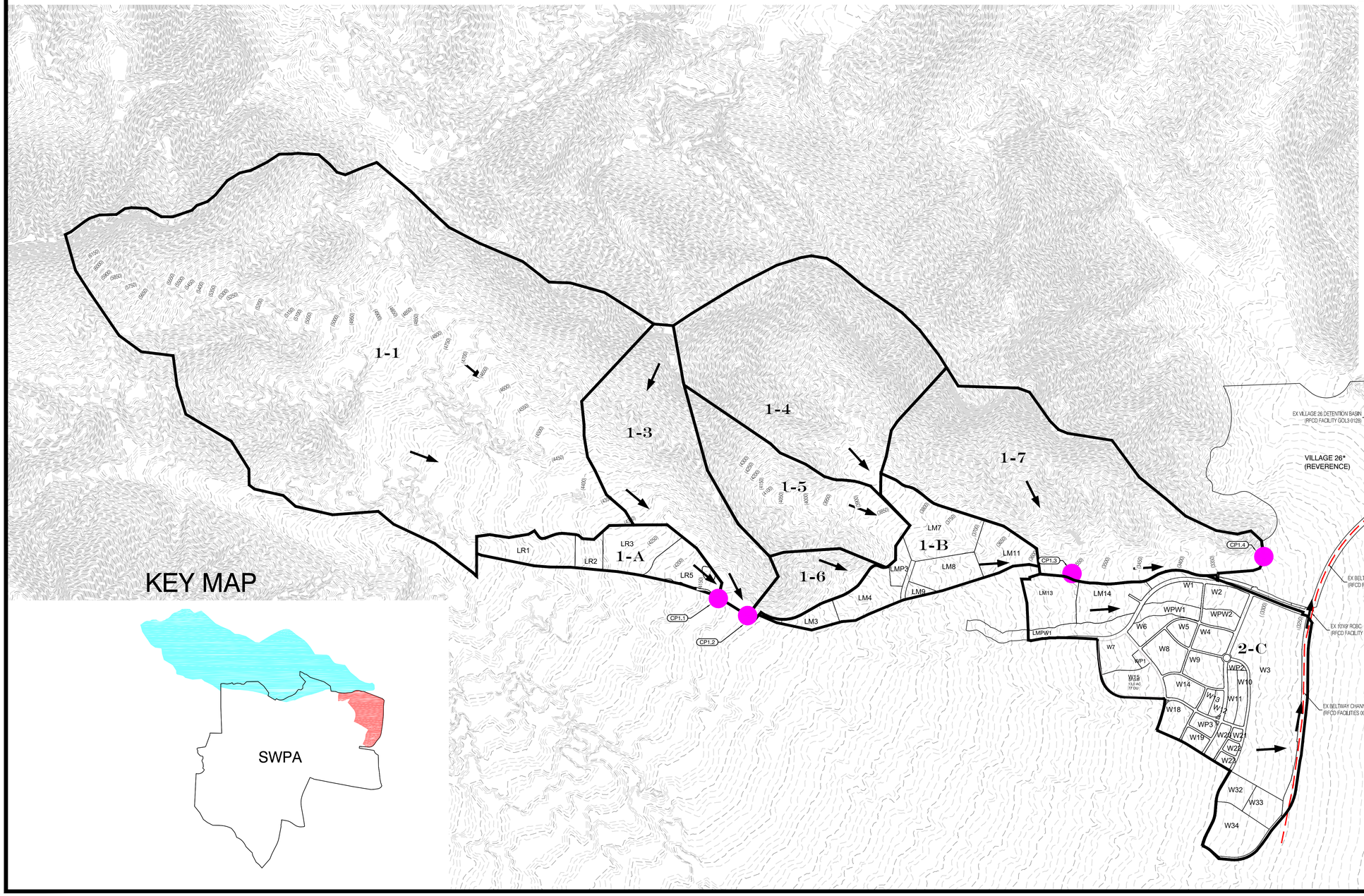
HEC-1 SUMMARY TABLE
BELTWAY CHANNEL (NORTH) TRIBUTARY
PROPOSED CONDITION

Basin / Concentration Point	Area (acre)	Q_{100} (cfs)
2-C	381.65	786

HEC-1 SUMMARY TABLE
V26 TRIBUTARY
PROPOSED CONDITION

Basin / Concentration Point	Area (acre)	Q_{100} (cfs)
1-1	1273.30	2108
1-A	79.92	80
CP1.1	-	2152
1-3	211.25	563
CP1.2		2271
1-4	347.58	1056
1-5	153.59	273
1-6	48.17	189
1-B	117.62	222
CP1.3	-	2835
1-7	354.66	955
CP1.4	-	3130

*SEE REFERENCED MDS FOR SUMMERLIN VILLAGE 26 REVERENCE BASIN MAP FOR REFERENCED BASINS (APPENDIX D)



KEY MAP

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2017 SUMMERLIN WEST
PLANNING AREA

A.6.2
BELTWAY CHANNEL NORTH
/ V26 BASIN TRIBUTARY

DRAWN BY: SVB/JYA 9/2017
DESIGNED BY: SVB 9/2017
CHECKED BY:
PROJECT NO: 7909
SCALE: HORIZ VERT

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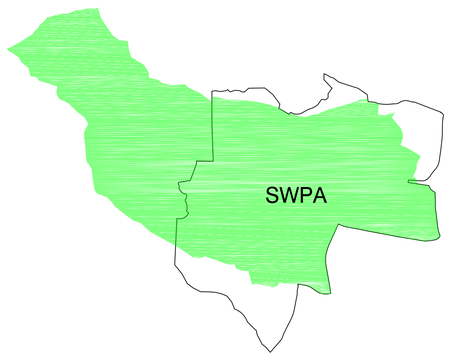
HEC-1 SUMMARY TABLE
DB5/ALTA TRIBUTARY
PROPOSED CONDITION

Basin / Concentration Point	Area (acre)	Q_{100} (cfs)	SDN	Basin / Concentration Point	Area (acre)	Q_{100} (cfs)	SDN
3-1	1422.67	2117	SDN3	3-G2	82.23	286	SDN3
3-2	144.58	403	SDN3	CP3.8	-	801	SDN3
CP3.1	-	2171	SDN3	3-A	233.21	458	SDN3
3-D	213.07	488	SDN3	3-B	446.26	853	SDN3
CP3.3	-	2317	SDN3	3-C	184.83	363	SDN3
3-3	111.16	392	SDN3	CPDBA-B	-	1561	SDN3
3-4	221.26	757	SDN3	GPDB	-	142	SDN3
3-5		625	SDN3	3-G1	110.4	476	SDN3
CP3.2	-	1666	SDN3	CP3-G1	-	529	SDN3
3-E	348.31	792	SDN3	3-Q2	95.50	341	SDN3
CP3.4		3574	SDN3	CP3-Q2	-	795	SDN3
3-6	56.74	203	SDN3	3-H1	80.61	288	SDN3
3-7	109.69	423	SDN3	CP3-H1	-	1046	SDN3
3-J	97.87	200	SDN3	3-I1	187.75	467	SDN3
CP3.5	-	689	SDN3	CP3.9	-	2138	SDN3
3-8	408.73	1113	SDN3	3-O	55.79	182	SDN3
3-K	568.98	1226	SDN3	3-P2	55.73	155	SDN3
CP3.6	-	2804	SDN3	3-P1	85.52	283	SDN3
3-N	291.64	681	SDN3	CP3-P	-	612	SDN3
3-M	123.16	362	SDN3	3-Q	65.66	197	SDN3
CPDB5	-	6833	SDN3	CP3-Q	-	804	SDN3
DB5	-	2135	SDN3	3-H2	64.21	204	SDN3
3-L	206.53	579	SDN3	CP3-H2	-	964	SDN3
CP3-L	-	2218	SDN3	3-I2	75.83	197	SDN3
RCSWAA-1	-	2217	SDN3	CP3.10A	-	1139	SDN3
SWAA-2		948	SDN3	CP3.10	-	3144	SDN3
CSWAA-2	-	2917	SDN3	3-H3	89.8	256	SDN3
SWAA-3		668	SDN3	CP3.11	-	3363	SDN3
CSWAA-3	-	3139	SDN4	ANGLPKIN	-	8867	SDN5
3-F	180.16	536	SDN3	ANGLPKDB	-	405	SDN5

LEGEND

- CONCENTRATION POINT
- BASIN BOUNDARY
- LOT BOUNDARY
- 3-A ONSITE BASIN ID
- 3-3 OFFSITE BASIN ID
- LM3 LOT ID

KEY MAP



EX BELTWAY CHANNEL (RFCD FACILITY APBE 0051)

EX 12'X8' RCAP (RFCD FACILITY APFH 0024)

EX (2) 8'X8' RCB (RFCD FACILITY APCH 0030)

EX 8'X8' RCB (RFCD FACILITY APFH 0019)

EX BELTWAY CHANNEL (RFCD FACILITY APBE 0051)

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	ADDENDUM #1 2017	JYA	

2017 SUMMERLIN WEST PLANNING AREA

A.6.3
DB5/Alta Tributary

DRAWN BY: JYA/SVB 9/2017
DESIGNED BY: JYA/SVB 9/2017
CHECKED BY:
PROJECT NO: 7809
SCALE: HORIZ. VERT.

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HEC-1 SUMMARY TABLE RED ROCK DETENTION BASIN TRIBUTARY PROPOSED CONDITION		
Basin / Concentration Point	**Area (acre)**	**Q_{100} (cfs)**
4-1	2946.46	3825
4-2	233.47	600
CP4.1	-	3899
4-3	134.55	350
CP4.2	-	3893
4-A	230.33	525
4-B	345.76	653
CP4.3	-	1175

LEGEND

- CONCENTRATION POINT
- BASIN BOUNDARY
- LOT BOUNDARY
- 1-1 OFF SITE BASIN ID
- 1-A ON SITE BASIN ID
- LM3 LOT ID
- FLOW ARROW

SWPA

GRAPHIC SCALE

1200 0 600 1200 2400

1" = 1200'

NORTH

EXISTING RED ROCK DETENTION BASIN

VILLAGE 24

REV	DATE	BY	REVISION

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2017 SUMMERLIN WEST PLANNING AREA

A.6.4
RED ROCK DETENTION BASIN TRIBUTARY

DRAWN BY: SVB 9/2017
DESIGNED BY: SVB 9/2017
CHECKED BY:
PROJECT NO: 7809
SCALE: HORIZ. VERT.

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NORTH

GRAPHIC SCALE
600 0 300 600 1200
1" = 600'

REGIONAL FLOOD CONTROL FACILITY SUMMARY TABLE						
Designation	Q (cfs)	Basin/CP	Size	Type	Velocity	Remarks
SD-A	229	1/2 3-A	60"	RCP	15.46	
SD-A1	229	1/2 3-A	60"	RCP	22.58	
SD-A2	229	1/2 3-A	60"	RCP	22.58	
SD-A3	458	3-A	5'x5'	RCB	32.81	
SD-B	142	GPDB	42"	RCP	22.32	
SD-B1	476	3-G1	5'x4'	RCB	29.51	
SD-B2	1046	CP3-H1	8'x8'	RCB	27.20	
SD-B3	1513	CP3-H1, 3-I1	8'x8'	RCB	36.93	
SD-J	795	CP3-Q2	8'x8'	RCB	14.99	
SD-F	155	3-P2	42"	RCP	23.80	
SD-F1	612	CP3-P	5'x5'	RCB	27.17	
SD-F2	804	CP3-Q	6'x5'	RCB	34.74	
SD-F3	804	CP3-Q	8'x6'	RCB	21.69	
SD-F4	964	CP3-H2	8'x6'	RCB	23.14	
SD-F5	1139	CP3.10A	8'x6'	RCB	25.74	
SD-G	426.5	1/2 3-B	5'x4'	RCB	28.19	
SD-G1	426.5	1/2 3-B	5'x4'	RCB	25.05	
SD-G2	853	3-B	6'x5'	RCB	32.68	
SD-I	268	1/2 3-F	4'x4'	RCB	20.11	
SD-I1	268	1/2 3-F	5'x4'	RCB	14.83	
SD-I2	536	3-F	5'x4'	RCB	33.58	
SD-L	286	3-G2	6'x5'	RCB	11.65	

LEGEND

- PRELIMINARY STORM DRAIN ALIGNMENT
- EXISTING STORM DRAIN ALIGNMENT
- CONCENTRATION POINT
- BASIN BOUNDARY
- 3-A ONSITE BASIN
- 3-1 OFFSITE BASIN

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2017 SUMMERLIN WEST
PLANNING AREA

A.6.5
REGIONAL FLOOD CONTROL
FACILITIES MAP

REV	DATE	BY	REVISION

DRAWN BY: SVB/JYA — SEPT 2017
DESIGNED BY: SVB/JYA — SEPT 2017
CHECKED BY: WJM — SEPT 2017
PROJECT NO: 7809 — SCALE: HORZ: VERT:

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GRAPHIC SCALE

250 0 125 250 500

1" = 250'

NORTH

LEGEND

- BASIN BOUNDARY
- W51 BASIN DESIGNATION
- CONCENTRATION POINT

HEC-1 SUMMARY TABLE
AREA 1
PROPOSED CONDITION

Basin / Concentration Point	Area (acre)	Q_{100} (cfs)	Basin / Concentration Point	Area (acre)	Q_{100} (cfs)
W63	17.40	62	SUMM2	3.45	15
WP8	1.20	4	CARR1	3.49	15
ST2	2.93	13	W52	9.11	32
W64	15.11	53	W58	6.78	24
W72	21.22	82	DES3	4.22	19
DES5	8.45	29	CDES3	-	44
W73	13.89	51	DES2	1.95	8
W74	2.41	10	CDES2	-	52
W44	4.78	19	W54	3.43	14
W45	7.22	28	W59	5.21	20
WP6	2.26	7	CW59	-	84
W42	5.65	23	ST4	3.57	16
WP5	2.25	4	CST4	-	98
CWP5	-	27	W60	5.42	20
W43	2.67	11	ST5	1.48	7
CW43	-	38	CST5	-	26
DES1	1.64	7	W62	5.33	20
CDES1	-	44	DES4	1.59	11
W47	5.43	22	WPW3	9.11	26
W46	2.95	12	CWPW3	-	38
SUMM1	4.28	17	WPW4	10.93	31
CW46	-	51	CWPW4	-	66
CSUMM1	-	95	CARR2	2.49	10
W48	7.65	26	W65	13.16	42
W57	3.09	12	ST6	2.99	13
CW57	-	38	CST6	-	54
W56	3.54	13	WP9	2.51	8
CW56	-	51	W66	15.68	54
W55	3.09	12	CW66	-	61
W49	6.78	26	W69	14.1	47
ST1	1.62	7	CARR3	4.85	19
CST1	-	187	W70	1.9	8
WP7	0.87	3	W71	14.67	53
CWP7	-	189	CW70	-	60
W53	2.54	10	W51	20.28	75
CW53	-	197	W61	18.5	61
W50	5.99	23	W67	5.73	22
ST3	2.09	10	W68	21.74	81
CST3	-	229			

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2017SUMMERLIN WEST
PLANNING AREA

A.6.6
AREA 1 LOCAL FLOOD CONTROL
DRAINAGE BASIN MAP

DRAWN BY: JYA 9/2017
DESIGNED BY: JYA 9/2017
CHECKED BY: VLM 9/2017
PROJECT NO: 7809
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GRAPHIC SCALE

1 0 0.5 1 2

1" = 1'

NORTH

LEGEND

- REGIONAL STORM DRAIN ALIGNMENT
- EXISTING STORM DRAIN ALIGNMENT
- AREA 1 LOCAL STORM DRAIN ALIGNMENT
- W51 BASIN DESIGNATION
- CONCENTRATION POINT
- (1) LOCAL FACILITY DESIGNATION

AREA 1 LOCAL FLOOD PROTECTION FACILITIES

Facility Label	Design Slope (%)	Q100 (cfs)	Tributary Basin/CP	Facility
1	4.0%	62	W63	36" RCP
2	8.7%	4	WP8	18" RCP
3	4.9%	53	W64	36" RCP
4	7.1%	82	W72	36" RCP
5	6.3%	51	W73	30" RCP
6	5.3%	10	W74	24" RCP
7	4.2%	19	W44	24" RCP
8	7.8%	7	WP6	18" RCP
9	4.8%	28	W45	30" RCP
10	1.3%	11	W43	24" RCP
11	4.4%	23	W42	30" RCP
12	4.2%	15	CWP5	30" RCP
13	1.7%	38	CW43	36" RCP
14	7.2%	22	W47	24" 4CP
15	3.1%	22	W47	30" RCP
16	3.3%	12	W46	24" RCP
17	3.1%	51	CW46	36" RCP
18	1.8%	95	CSUMM1	48" RCP
19	6.7%	26	W48	24" RCP
20	2.1%	12	W57	24" RCP
21	5.4%	38	CW57	30" RCP
22	1.0%	13	W56	30" RCP
23	5.9%	51	CW56	30" RCP
24	2.4%	26	W49	30" RCP
25	2.8%	33	CW56	30" RCP
26	1.9%	12	W55	24" RCP
27	7.8%	187	CST1	42" RCP
28	9.0%	3	WP7	18" RCP
29	5.3%	189	CWP7	48" RCP
30	2.9%	10	W53	24" RCP
31	5.9%	197	CW53	48" RCP
32	7.3%	23	W50	24" RCP
33	6.6%	229	CST3	48" RCP
34	5.8%	32	W52	30" RCP
35A	5.6%	24	W58	24" RCP
35B	5.6%	44	CDES3	30" RCP
35C	5.6%	52	CDES2	30" RCP
36	4.6%	14	W54	24" RCP
37	1.0%	20	W59	30" RCP
38	6.0%	98	CST4	36" RCP
39	6.1%	26	CST5	24" RCP
40	6.1%	20	W62	24" RCP
41	6.2%	38	CWPW3	24" RCP
42	4.9%	66	CWPW4	36" RCP
43	5.0%	42	W65	30" RCP
44	5.0%	54	CST6	36" RCP
45	5.0%	61	CW66	36" RCP
46	4.2%	47	W69	30" RCP
47	1.2%	8	W70	24" RCP
48	2.3%	53	W71	36" RCP
49	11.8%	75	W51	30" RCP
50	2.0%	61	W61	36" RCP
51	8.5%	22	W67	24" RCP
52	12.0%	81	W68	36" RCP

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2017 SUMMERLIN WEST PLANNING AREA

A.6.7 AREA 1 LOCAL FLOOD CONTROL FACILITIES MAP

DRAWN BY: JYA 9/2017
DESIGNED BY: JYA 9/2017
CHECKED BY: VJM 9/2017
PROJECT NO: 7809
SCALE: #### HORIZ. #### VERT.

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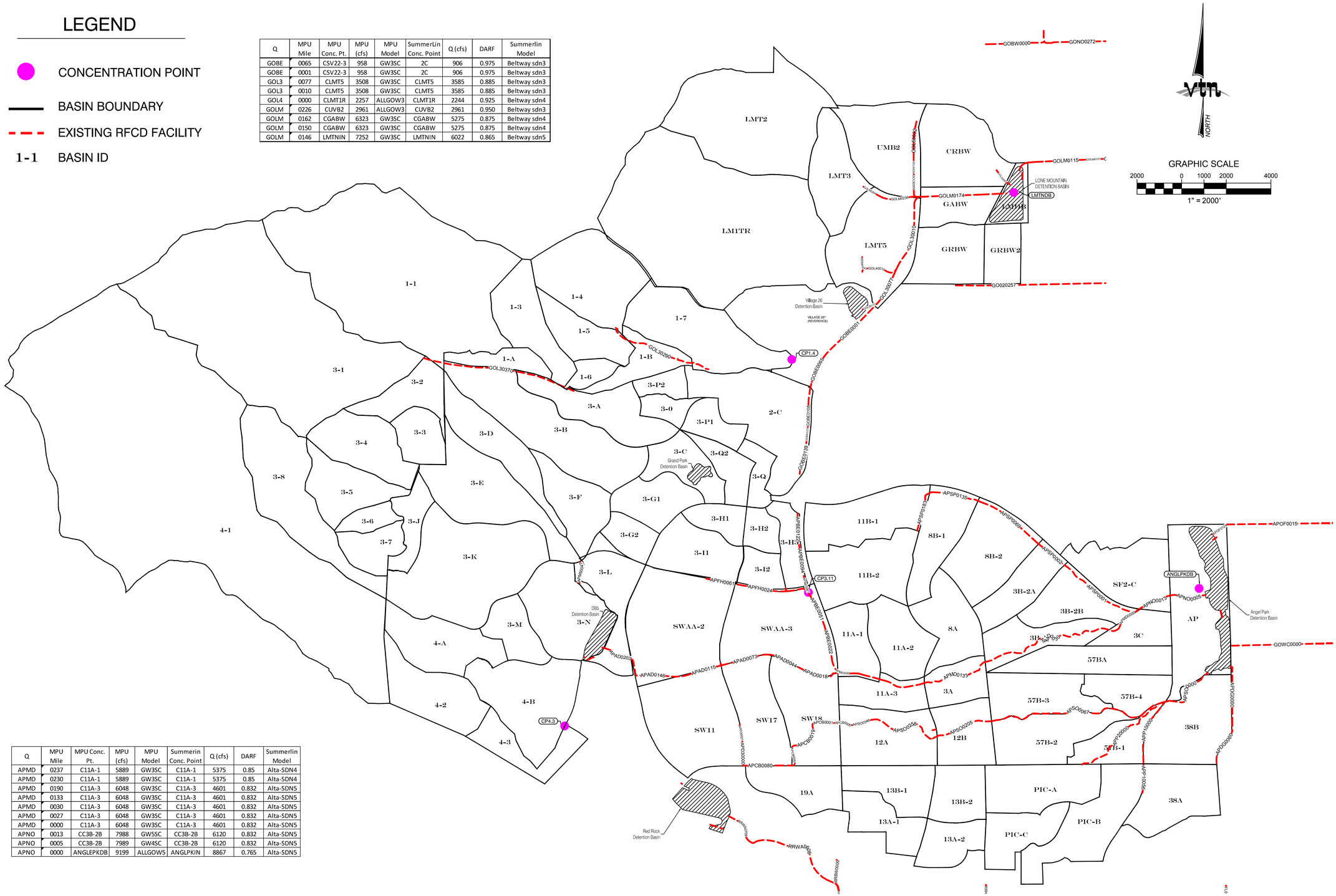
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LEGEND

- CONCENTRATION POINT
- BASIN BOUNDARY
- EXISTING RFCD FACILITY
- 1-1 BASIN ID

Q	MPU Mile	MPU Conc. Pt.	MPU (cfs)	MPU Model	SummerLin Conc. Point	Q (cfs)	DARF	Summerlin Model
GOBE	0065	CSV22-3	958	GW3SC	2C	906	0.975	Beltway sdn3
GOBE	0001	CSV22-3	958	GW3SC	2C	906	0.975	Beltway sdn3
GOL3	0077	CLMT5	3508	GW3SC	CLMT5	3585	0.885	Beltway sdn3
GOL3	0010	CLMT5	3508	GW3SC	CLMT5	3585	0.885	Beltway sdn3
GOL4	0000	CLMT1R	2257	ALLGOW3	CLMT1R	2244	0.925	Beltway sdn4
GOLM	0226	CUVB2	2961	ALLGOW3	CUVB2	2961	0.950	Beltway sdn3
GOLM	0162	CGABW	6323	GW3SC	CGABW	5275	0.875	Beltway sdn4
GOLM	0150	CGABW	6323	GW3SC	CGABW	5275	0.875	Beltway sdn4
GOLM	0146	LMTNIN	7252	GW3SC	LMTNIN	6022	0.865	Beltway sdn5

Q	MPU Mile	MPU Conc. Pt.	MPU (cfs)	MPU Model	Summerin Conc. Point	Q (cfs)	DARF	Summerlin Model
APMD	0237	C11A-1	5889	GW3SC	C11A-1	5375	0.85	Alta-SDN4
APMD	0230	C11A-1	5889	GW3SC	C11A-1	5375	0.85	Alta-SDN4
APMD	0190	C11A-3	6048	GW3SC	C11A-3	4601	0.832	Alta-SDN5
APMD	0133	C11A-3	6048	GW3SC	C11A-3	4601	0.832	Alta-SDN5
APMD	0030	C11A-3	6048	GW3SC	C11A-3	4601	0.832	Alta-SDN5
APMD	0027	C11A-3	6048	GW3SC	C11A-3	4601	0.832	Alta-SDN5
APMD	0000	C11A-3	6048	GW3SC	C11A-3	4601	0.832	Alta-SDN5
APNO	0013	CC3B-2B	7988	GW5SC	CC3B-2B	6120	0.832	Alta-SDN5
APNO	0005	CC3B-2B	7989	GW4SC	CC3B-2B	6120	0.832	Alta-SDN5
APNO	0000	ANGLEPKDB	9199	ALLGOW5	ANGLPKIN	8867	0.765	Alta-SDN5



GRAPHIC SCALE

2000 0 1000 2000 4000

1" = 2000'

NORTH

REV	DATE	BY	REVISION

THE HOWARD HUGHES CORPORATION
10801 WEST CHARLESTON BLVD, 3RD FLOOR
LAS VEGAS, NEVADA 89165

2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89146-5148
PH. (702) 873-7500 FAX (702) 362-2597 WEB WWW.VTNNV.COM
CONSULTING ENGINEERS ● PLANNERS ● LAND SURVEYORS

2017 SUMMERLIN WEST PLANNING AREA

A.6.8 OVERALL CCRFCD FACILITY MAP

DRAWN BY: JYA
DATE: 11/2017
DESIGNED BY:
CHECKED BY:
SCALE: HORZ. VERT.
PROJECT NO: 7809

SHEET
OF SHEETS
DRAWING NO.

H:\7809\Drainage\2_ADD1\A Figures & Exhibits\A.6.8 Overall CCRFCD Facility Map\A.6.8 Overall CCRFCD Facility Map.dwg

APPENDIX B
HYDROLOGIC ANALYSIS

B.1 HEC-1 FLOWRATE SUMMARY

HEC-1 SUMMARY TABLE V26 TRIBUTARY PROPOSED CONDITION		
Basin / Concentration Point	**Area (acre)**	**Q_{100} (cfs)**
1-1	1273.30	2108
1-A	79.92	80
CP1.1	-	2152
1-3	211.25	563
CP1.2		2271
1-4	347.58	1056
1-5	153.59	273
1-6	48.17	189
1-B	117.62	222
CP1.3	-	2835
1-7	354.66	955
CP1.4	-	3130

HEC-1 SUMMARY TABLE BELTWAY CHANNEL (NORTH) TRIBUTARY PROPOSED CONDITION		
Basin / Concentration Point	**Area (acre)**	**Q_{100} (cfs)**
2-C	381.65	786

HEC-1 SUMMARY TABLE DB5/ALTA TRIBUTARY PROPOSED CONDITION							
Basin / Concentration Point	**Area (acre)**	**Q_{100} (cfs)**	**SDN**	**Basin / Concentration Point**	**Area (acre)**	**Q_{100} (cfs)**	**SDN**
3-1	1422.67	2117	SDN3	3-G2	82.23	286	SDN3
3-2	144.58	403	SDN3	CP3.8	-	801	SDN3
CP3.1	-	2171	SDN3	3-A	233.21	458	SDN3
3-D	213.07	488	SDN3	3-B	446.26	853	SDN3
CP3.3	-	2317	SDN3	3-C	184.83	363	SDN3
3-3	111.16	392	SDN3	CPDBA-B	-	1561	SDN3
3-4	221.26	757	SDN3	GPDB	-	142	SDN3
3-5		625	SDN3	3-G1	110.4	476	SDN3
CP3.2	-	1666	SDN3	CP3-G1	-	529	SDN3
3-E	348.31	792	SDN3	3-Q2	95.50	341	SDN3
CP3.4	-	3574	SDN3	CP3-Q2	-	795	SDN3
3-6	56.74	203	SDN3	3-H1	80.61	288	SDN3
3-7	109.69	423	SDN3	CP3-H1	-	1046	SDN3
3-J	97.87	200	SDN3	3-I1	187.75	467	SDN3
CP3.5	-	689	SDN3	CP3.9	-	2138	SDN3
3-8	408.73	1113	SDN3	3-O	55.79	182	SDN3
3-K	568.98	1226	SDN3	3-P2	55.73	155	SDN3
CP3.6	-	2804	SDN3	3-P1	85.52	283	SDN3
3-N	291.64	681	SDN3	CP3-P	-	612	SDN3
3-M	123.16	362	SDN3	3-Q	65.66	197	SDN3
CPDB5	-	6833	SDN3	CP3-Q	-	804	SDN3
DB5	-	2135	SDN3	3-H2	64.21	204	SDN3
3-L	206.53	579	SDN3	CP3-H2	-	964	SDN3
CP3-L	-	2218	SDN3	3-I2	75.83	197	SDN3
RCSWAA-1	-	2217	SDN3	CP3.10A	-	1139	SDN3
SWAA-2		948	SDN3	CP3.10	-	3144	SDN3
CSWAA-2	-	2917	SDN3	3-H3	89.8	256	SDN3
SWAA-3		668	SDN3	CP3.11	-	3363	SDN3
CSWAA-3	-	3139	SDN4	ANGLPKIN	-	8867	SDN5
3-F	180.16	536	SDN3	ANGLPKDB	-	405	SDN5

HEC-1 SUMMARY TABLE RED ROCK DETENTION BASIN TRIBUTARY PROPOSED CONDITION		
Basin / Concentration Point	**Area (acre)**	**Q_{100} (cfs)**
4-1	2946.46	3825
4-2	233.47	600
CP4.1	-	3899
4-3	134.55	350
CP4.2	-	3893
4-A	230.33	525
4-B	345.76	653
CP4.3	-	1175

HEC-1 SUMMARY TABLE AREA 1 PROPOSED CONDITION					
Basin / Concentration Point	**Area (acre)**	**Q_{100} (cfs)**	**Basin / Concentration Point**	**Area (acre)**	**Q_{100} (cfs)**
W63	17.40	62	SUMM2	3.45	15
WP8	1.20	4	CARR1	3.49	15
ST2	2.93	13	W52	9.11	32
W64	15.11	53	W58	6.78	24
W72	21.22	82	DES3	4.22	19
DES5	8.45	29	CDES3	-	44
W73	13.89	51	DES2	1.95	8
W74	2.41	10	CDES2	-	52
W44	4.78	19	W54	3.43	14
W45	7.22	28	W59	5.21	20
WP6	2.26	7	CW59	-	84
W42	5.65	23	ST4	3.57	16
WP5	2.25	4	CST4	-	98
CWP5	-	27	W60	5.42	20
W43	2.67	11	ST5	1.48	7
CW43	-	38	CST5	-	26
DES1	1.64	7	W62	5.33	20
CDES1	-	44	DES4	1.59	11
W47	5.43	22	WPW3	9.11	26
W46	2.95	12	CWPW3	-	38
SUMM1	4.28	17	WPW4	10.93	31
CW46	-	51	CWPW4	-	66
CSUMM1	-	95	CARR2	2.49	10
W48	7.65	26	W65	13.16	42
W57	3.09	12	ST6	2.99	13
CW57	-	38	CST6	-	54
W56	3.54	13	WP9	2.51	8
CW56	-	51	W66	15.68	54
W55	3.09	12	CW66	-	61
W49	6.78	26	W69	14.1	47
ST1	1.62	7	CARR3	4.85	19
CST1	-	187	W70	1.9	8
WP7	0.87	3	W71	14.67	53
CWP7	-	189	CW70	-	60
W53	2.54	10	W51	20.28	75
CW53	-	197	W61	18.5	61
W50	5.99	23	W67	5.73	22
ST3	2.09	10	W68	21.74	81
CST3	-	229			

B.4 CURVE NUMBER, SUBBASIN LAGTIME, AND ROUTING CALCULATIONS

B.4.1 BELTWAY CHANNEL (NORTH) / VILLAGE 26 TRIBUTARY

STANDARD FORM 4

DEVELOPMENT: Summerlin

W.O. # 7809 **CALCULATED BY:** SVB

V1 applies to the first 500 feet of travel distance
V2 applies to the remaining travel distance

Existing:		Developed	
$V1 = 148 * S^{1/2}$	$V2 = 294 * S^{1/2}$	$V1 = 202 * S^{1/2}$	$V2 = 306 * S^{1/2}$

$$T_i = \frac{1.8(1.1 - k)L^{1/2}}{S^{1/3}} \qquad T_t = \frac{L}{60V}$$

$$k = 0.0132C_n - 0.39 \qquad T_c = T_i + T_t$$

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc CHECK (URBANIZED BASINS)		FINAL Tc	LAG TIME	REMARKS
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	V1 fps (9a)	V2 fps (9b)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	TLAG Hr.	
EXISTING CONDITION																	
1-1	87.0	0.758	1273.30	1.990													OVER 1 MI^2
1-3	84.3	0.722	211.25	0.330	500	48.0	4.19	6213	13.2	5.4	10.7	10.46	6713	47.29	14.65	0.146	
1-4	88.0	0.772	347.58	0.543	500	44.0	3.74	5402	24.1	7.3	14.4	6.81	5902	42.79	10.56	0.106	
1-5	78.3	0.643	153.59	0.240	500	64.0	4.60	4955	3.1	2.6	5.2	17.46	5455	40.31	22.06	0.221	
1-6	88.0	0.772	48.17	0.075	100	32.0	1.86	1780	22.2	7.0	13.8	2.74	1880	20.44	10.00	0.100	ORIGINAL TC WAS 4.6 MIN
1-7	86.6	0.753	354.66	0.554	100	50.0	1.70	9501	19.1	6.5	12.8	12.98	9601	63.34	14.68	0.147	
3-1	87.0	0.758	1422.67	2.223													OVER 1 MI^2
3-2	83.9	0.717	144.58	0.226	440	59.0	3.71	5695	23.3	7.1	14.2	7.27	6135	44.08	10.99	0.110	THIS IS EXACT SAME BASIN AS DB54-5
3-3	88.0	0.771	111.16	0.174	500	64.0	3.31	3019	17.2	6.1	12.2	4.80	3519	29.55	8.10	0.081	
3-4	88.0	0.771	221.26	0.346	170	85.0	1.75	5808	22.7	7.1	14.0	7.49	5978	43.21	9.25	0.092	
3-5	87.7	0.768	187.91	0.294	500	72.0	3.22	5108	26.6	7.6	15.2	6.15	5608	41.16	9.37	0.094	
3-6	88.0	0.771	56.74	0.089	460	52.0	3.40	2956	23.7	7.2	14.3	4.02	3416	28.98	7.42	0.074	
3-7	87.2	0.761	109.69	0.171	100	77.0	1.43	2770	30.5	8.2	16.2	3.35	2870	25.94	4.78	0.048	
3-8	87.8	0.769	408.73	0.639	500	64.0	3.33	10844	15.5	5.8	11.6	16.30	11344	73.02	19.64	0.196	
4-1	87.6	0.766	2946.48	4.604													OVER 1 MI^2
4-2	85.4	0.737	233.47	0.365	225	8.0	4.90	5288	8.2	4.2	8.4	11.43	5513	40.63	16.32	0.163	
4-3	85.1	0.733	134.55	0.210	100	6.0	3.63	4263	6.5	3.8	7.5	10.62	4363	34.24	14.25	0.143	

TRAVEL TIME CALCULATIONS

DEVELOPMENT: Summerlin
W.O. # 7809 **CALCULATED BY:** SVB

$$Velocity = CS^{1/2}$$

C1 applies to the first 500 feet of travel distance
C2 applies to the remaining travel distance

Existing:		Developed	
C1=14.8	C2=29.4	C1=20.2	C2=30.6

					First 500 feet		Remaining Travel Distance	
Basin	**Length** (ft)	**High Elev** (ft)	**Low Elev** (ft)	**Slope** (ft/ft)	**C1**	**V1** (fps)	**C2**	**V2** (fps)
EXISTING CONDITION								
1-1	11284							
1-3	6213	4880	4060	0.132	14.8	5.4	29.4	10.7
1-4	5402	5200	3900	0.241	14.8	7.3	29.4	14.4
1-5	4955	3955	3800	0.031	14.8	2.6	29.4	5.2
1-6	1780	4245	3850	0.222	14.8	7.0	29.4	13.8
1-7	9501	5100	3290	0.191	14.8	6.5	29.4	12.8
3-1	14144							
3-2	5695	5640	4315	0.233	14.8	7.1	29.4	14.2
3-3	3019	4680	4160	0.172	14.8	6.1	29.4	12.2
3-4	5808	5680	4360	0.227	14.8	7.1	29.4	14.0
3-5	5108	5680	4320	0.266	14.8	7.6	29.4	15.2
3-6	2956	5000	4300	0.237	14.8	7.2	29.4	14.3
3-7	2770	5160	4315	0.305	14.8	8.2	29.4	16.2
3-8	10844	6000	4315	0.155	14.8	5.8	29.4	11.6
4-1	23488							
4-2	5288	4190	3755	0.082	14.8	4.2	29.4	8.4
4-3	4263	3795	3520	0.065	14.8	3.8	29.4	7.5

CURVE NUMBERS FOR SOILS - W.O. #7809

Soil # 112 Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes			
Soil	Percent	Group	Existing$_1$
Arizo	100%	A	63
Total	**100%**		**63**

Soil # 155 Cave gravelly fine sandy loam, 4 to 15 percent slopes			
Soil	Percent	Group	Existing$_1$
Cave	100%	D	88
Total	**100%**		**88**

Soil # 191 Dalian very cobbly fine sandy loam, 2 to 8 percent slopes			
Soil	Percent	Group	Existing$_1$
Dalian	100%	A	63
Total	**100%**		**63**

Soil # 294 Rock outcrop, sand stone			
Soil	Percent	Group	Existing$_1$
Rock outcrop	90%	D	88
Nupper	5%	D	88
Moentria	5%	D	88
Total	**100%**		**88**

Soil # 320 Boxspring - Zeheme - Rock outcrop association			
Soil	Percent	Group	Existing$_1$
Boxspring	50%	D	88
Zeheme	33%	D	88
Rock Outcrop	15%	D	88
Typic Haplocalcids	2%	D	88
Total	**100%**		**88**

Soil # 323 Boxspring - Scrapy - Rock Outcrop Association			
Soil	Percent	Group	Existing$_1$
Boxspring	40%	D	88
Scrapy	30%	D	88
Rock outcrop	15%	D	88
Lithic calciustolls	9%	D	88
Typic Haplustolls	6%	D	88
Total	**100%**		**88**

Soil # 351 Seralin extremeely gravelly loam, 30 to 75 percent slopes			
Soil	Percent	Group	Existing$_1$
Seralin	85%	D	88
Potosi	7%	D	88

Lithic Torriorthents	4%	D	88
Rock Outcrop	4%	D	88
Total	**100%**		**88**

Soil # 360 Rock outcrop - St. Thomas Complex			
Soil	Percent	Group	Existing$_1$
Rock outcrop	50%	D	88
St. Thomas	35%	D	88
Weiser	10%	A	63
Bracken	5%	A	63
Total	**100%**		**85**

Soil # 502 Canutio-Cave gravelly fine sandy loams, 2 to 8 percent slopes			
Soil	Percent	Group	Existing$_1$
Canutio	55%	A	63
Cave	40%	D	88
Arizo	5%	D	88
Total	**100%**		**75**

Soil # 640 Rock outcrop, sand stone			
Soil	Percent	Group	Existing$_1$
Rock outcrop	90%	D	88
Moentria	5%	D	88
Nupper	5%	D	88
Total	**100%**		**88**

Soil # 731 Purob-Irongold association			
Soil	Percent	Group	Existing$_1$
Purob	60%	D	88
Irongold	25%	D	88
Typic torriorthents	5%	A	63
Arizo	3%	A	63
Purob	3%	D	88
Typic haplocalcids	2%	B	77
Xeric haplocambids	1%	A	63
Aridic calcixerolls	1%	A	63
Total	**100%**		**86**

1-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual

* Desert Shrub in Poor Hydrologic

Curve Number calculations for basins

Basin	Type	Soil Percentage	1	CN Value
EXISTING CONDITION				
1-1	155 (25%)	23%	88	**87.0**
	191 (10%)	4%	63	
	320 (30%)	41%	88	
	323 (30%)	29%	88	
	351 (1%)	1%	88	
	640 (4%)	2%	88	
1-3	191 (15%)	15%	63	**84.3**
	320 (85%)	85%	88	
1-4	320 (94%	94%	88	**88.0**
	502 (6%)	6%	88	
1-5	155 (2%)	2%	88	**78.3**
	320 (23%)	23%	88	
	502 (75%)	75%	75	
1-6	155 (9%)	9%	88	**88.0**
	320 (91%)	91%	88	
1-7	155 (1%)	1%	88	**86.6**
	320 (88%)	88%	88	
	502 (11%)	11%	75	
3-1	112 (4%)	4%	63	**87.0**
	323 (90%)	90%	88	
	351 (6%)	6%	88	
3-2	112 (8%)	8%	63	**83.9**
	323 (65%)	65%	88	
	640 (7%)	7%	88	
	731 (18%)	18%	86	
3-3	323 (65%)	65%	88	**88.0**
	640 (34%)	34%	88	
	731 (1%)	1%	86	
3-4	323 (99%)	99%	88	**88.0**
	731 (1%)	1%	86	
3-5	323 (85%)	85%	88	**87.7**
	731 (15%)	15%	86	
3-6	323 (99%)	99%	88	**88.0**
	731 (1%)	1%	86	
3-7	323 (60%)	60%	88	**87.2**
	731 (40%)	40%	86	
3-8	323 (90%)	90%	88	**87.8**
	731 (10%)	10%	86	
4-1	294 (8%)	8%	88	**87.6**
	320 (2%)	2%	88	
	323 (54%)	54%	88	
	351 (4%)	4%	88	
	360 (4%)	4%	85	
	731 (14%)	14%	86	
	640 (14%)	14%	88	
4-2	360 (60%)	60%	85	**85.4**
	731 (40%)	40%	86	

4-3	360 (92%)	92%	85	**85.1**
	731 (8%)	8%	86	

STANDARD FORM 4

DEVELOPMENT: Summerlin

W.O. # 7809 **CALCULATED BY:** SVB

V1 applies to the first 500 feet of travel distance
V2 applies to the remaining travel distance

Existing:		Developed	
$V1 = 148 * S^{1/2}$	$V2 = 294 * S^{1/2}$	$V1 = 202 * S^{1/2}$	$V2 = 306 * S^{1/2}$

$$T_i = \frac{1.8(1.1 - k)L^{1/2}}{S^{1/3}} \qquad T_t = \frac{L}{60V}$$

$$k = 0.0132 C_n - 0.39 \qquad T_c = T_i + T_t$$

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc CHECK (URBANIZED BASINS)		FINAL Tc	LAG TIME	REMARKS
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	V1 fps (9a)	V2 fps (9b)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	TLAG Hr.	
DEVELOPED CONDITION ONSITE																	
2-C	92.5	0.831	381.65	0.5963	100	1.0	4.85	5685	1.7	2.7	4.0	24.65	5785	42.14	29.50	0.295	

TRAVEL TIME CALCULATIONS

DEVELOPMENT: Summerlin
W.O. # 7809 **CALCULATED BY:** SVB

$$Velocity = CS^{1/2}$$

C1 applies to the first 500 feet of travel distance
C2 applies to the remaining travel distance

Existing:		Developed	
C1=14.8	C2=29.4	C1=20.2	C2=30.6

					First 500 feet		Remaining Travel Distance	
Basin	**Length** (ft)	**High Elev** (ft)	**Low Elev** (ft)	**Slope** (ft/ft)	**C1**	**V1** (fps)	**C2**	**V2** (fps)
DEVELOPED CONDITION ONSITE								
2-C	5685	3330	3232	0.017	20.2	2.7	30.6	4.0

CURVE NUMBERS FOR SOILS - W.O. #7809

Soil # 112 Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Arizo	100%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**

Soil # 152 Cave gravelly fine sandy loam, 0 to 4 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo))	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Cave	100%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 155 Cave gravelly fine sandy loam, 4 to 15 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo))	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Cave	100%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 156 Vace - Wechech association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Vace and Similar	45%	D	88	98	94	93	92	91	87	85	89	95
Wechech and Similar	25%	D	88	98	94	93	92	91	87	85	89	95
Wechech, steep, and similar	15%	D	88	98	94	93	92	91	87	85	89	95
Weiser	8%	B	77	98	86	88	87	84	75	70	79	92
Irongold	4%	D	88	98	94	93	92	91	87	85	89	95
Commski	2%	B	77	98	86	88	87	84	75	70	79	92
Threelakes	1%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**87**	**98**	**94**	**93**	**92**	**91**	**86**	**84**	**88**	**95**

Soil # 191 Dalian very cobbly fine sandy loam, 2 to 8 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Dalian	100%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**

Soil # 294 Rock outcrop, sand stone												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 320 Boxspring - Zeheme - Rock outcrop association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Boxspring	50%	D	88	98	94	93	92	91	87	85	89	95
Zeheme	33%	D	88	98	94	93	92	91	87	85	89	95
Rock Outcrop	15%	D	88	98	94	93	92	91	87	85	89	95
Typic Haplocalcids	2%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 323 Boxspring - Scrapy - Rock Outcrop Association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Boxspring	40%	D	88	98	94	93	92	91	87	85	89	95
Scrapy	30%	D	88	98	94	93	92	91	87	85	89	95
Rock outcrop	15%	D	88	98	94	93	92	91	87	85	89	95
Lithic calciustolls	9%	D	88	98	94	93	92	91	87	85	89	95
Typic Haplustolls	6%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 351 Seralin extremeely gravelly loam, 30 to 75 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Seralin	85%	D	88	98	94	93	92	91	87	85	89	95
Potosi	7%	D	88	98	94	93	92	91	87	85	89	95
Lithic Torriorthents	4%	D	88	98	94	93	92	91	87	85	89	95
Rock Outcrop	4%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**		**95**

Soil # 360 Rock outcrop - St. Thomas Complex												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Rock outcrop	50%	D	88	98	94	93	92	91	87	85	89	95
St. Thomas	35%	D	88	98	94	93	92	91	87	85	89	95
Weiser	10%	A	63	98	77	81	80	76	61	54	68	89
Bracken	5%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**85**	**98**	**92**	**92**	**91**	**89**	**84**	**81**	**86**	**95**

Soil # 502 Canutio-Cave gravelly fine sandy loams, 2 to 8 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Canutio	55%	A	63	98	77	81	80	76	61	54	68	89
Cave	40%	D	88	98	94	93	92	91	87	85	89	95
Arizo	5%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**75**	**98**	**85**	**87**	**86**	**83**	**73**	**68**	**78**	**92**

Soil # 640 Rock outcrop, sand stone												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 731 Purob-Irongold association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Purob	60%	D	88	98	94	93	92	91	87	85	89	95
Irongold	25%	D	88	98	94	93	92	91	87	85	89	95
Typic torriorthents	5%	A	63	98	77	81	80	76	61	54	68	89
Arizo	3%	A	63	98	77	81	80	76	61	54	68	89
Purob	3%	D	88	98	94	93	92	91	87	85	89	95
Typic haplocalcids	2%	B	77	98	86	88	87	84	75	70	79	92
Xeric haplocambids	1%	A	63	98	77	81	80	76	61	54	68	89
Aridic calcixerolls	1%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**86**	**98**	**93**	**92**	**91**	**90**	**85**	**82**	**87**	**95**

1-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 4 of 4
* Desert Shrub in Poor Hydrologic Condition
2-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page1 of 4
* Streets and Roads
3-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Newly Graded Areas
4-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Apartments / Condos **(MF/SFA-MU > 10 UNITS per ACRE)**
5-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Townhouses / 6,000 sq ft lots or less **(SF/SFA 7-10 UNITS per ACRE)**
6-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 7,000 sq ft lots **(SF/SFA 5-7 UNITS per ACRE)**
7-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 10,000 sq ft lots **(SF LOW 3-5 UNITS Per ACRE)**
8-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 20,000 sq ft lots **(SF ESTATE 1.5-3 UNITS per ACRE)**
9-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Open spaces in poor condition (grass cover < 50%)
10-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Commercial and Business

#REF!

Curve Number calculations for basins

Basin	Total Area	Subbasin	Area	%Area	Type	Soil Percentage	1	2	3	4	5	6	7	8	9	10	Weighted CN Value	Composite CN Value	CN Value
	(ACRE)	**DEVELOPED CONDITION ONSITE**																	
2-C	**381.65**	**W3**	93.80	24.58%	152	7%										100%	**23.2**	**92.5**	**94.5**
					155	76%										100%			
					502	17%										100%			
		W32	7.71	2.02%	502	100%										100%	**1.9**		**92.0**
		W33	9.29	2.43%	502	100%										100%	**2.2**		**92.0**
		W34	20.57	5.39%	156	65%										100%	**5.1**		**94.0**
					502	35%										100%			
		UNNAMED	12.9	3.38%													**3.2**		**94.5**
		W1	9.12	2.39%	155	100%				95%						5%	**2.2**		**93.1**
		W2	9.22	2.42%	155	100%				95%						5%	**2.2**		**93.1**
		W4	7.99	2.09%	155	100%				95%						5%	**1.9**		**93.1**
		W5	4.81	1.26%	155	100%					100%						**1.2**		**92.0**
		W6	6.96	1.82%	155	100%					100%						**1.7**		**92.0**
		W8	10.9	2.86%	155	100%					100%						**2.6**		**92.0**
		W9	10.22	2.68%	155	100%				95%						5%	**2.5**		**93.1**
		W10	4.84	1.27%	155	100%				100%							**1.2**		**93.0**
		W11	4.89	1.28%	155	100%				95%						5%	**1.2**		**93.1**
		W12	2.47	0.65%	155	100%				95%						5%	**0.6**		**93.1**
		W13	2.35	0.62%	155	100%				100%							**0.6**		**93.0**
		W14	8.00	2.10%	155	100%				100%							**1.9**		**93.0**
		W18	7.58	1.99%	155	100%										100%	**1.9**		**95.0**
		W19	3.42	0.90%	155	100%				95%						5%	**0.8**		**93.1**
		W20	3.65	0.96%	155	100%				95%						5%	**0.9**		**93.1**
		W21	1.19	0.31%	155	100%				100%							**0.3**		**93.0**
		W22	1.57	0.41%	155	100%				100%							**0.4**		**93.0**
		W23	1.72	0.45%	155	31%				100%							**0.4**		**88.9**
					502	69%				100%							**0.0**		
		WPW1	7.33	1.92%	155	100%									100%		**1.7**		**89.0**

WPW2	5.51	1.44%	155	100%									100%		**1.3**		**89.0**
WP2	1.20	0.31%	155	100%									100%		**0.3**		**89.0**
WP3	3.60	0.94%	155	100%									100%		**0.8**		**89.0**
LM14	21.56	5.65%	155	100%								100%			**4.8**		**85.0**
LMPW1	11.59	3.04%	155	100%											**2.7**		**88.0**
LM13	23.10	6.05%	155	100%								100%			**5.1**		**85.0**
W7	10.90	2.86%	155	100%						100%					**2.6**		**91.0**
WP1	1.41	0.37%	155	100%	100%					100%					**0.3**		**88.0**
W15	13.00	3.41%	155	100%											**3.1**		**91.0**
ROADS	37.28	9.77%	NA	100%		100%									**9.6**		**98.0**

B.4.2 DB5/ALTA TRIBUTARY

STANDARD FORM 4

DEVELOPMENT: Summerlin

W.O. # 7809 **CALCULATED BY:** SVB/JYA

V1 applies to the first 500 feet of travel distance V2 applies to the remaining travel distance	
Existing:	**Developed**
$V1 = 148 * S^{1/2}$ $V2 = 294 * S^{1/2}$	$V1 = 202 * S^{1/2}$ $V2 = 306 * S^{1/2}$

$$T_i = \frac{1.8(1.1-k)L^{1/2}}{S^{1/3}} \qquad T_t = \frac{L}{60V}$$

$$k = 0.0132C_n - 0.39 \qquad T_c = T_i + T_t$$

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc CHECK (URBANIZED BASINS)		FINAL Tc	LAG TIME	REMARKS
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	V1 fps (9a)	V2 fps (9b)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	TLAG Hr.	
DEVELOPED CONDITION ONSITE																	
3-A	81.5	0.686	233.21	0.3644	100	1.0	7.46	7330	6.8	5.3	8.0	15.84	7430	51.28	23.29	0.233	
3-B	83.1	0.707	446.26	0.6973	100	1.0	7.07	10232	7.9	5.7	8.6	20.28	10332	67.40	27.35	0.274	
3-C	87.0	0.759	141.56	0.2212	100	1.0	6.14	6330	6.4	5.1	7.8	14.15	6430	45.72	20.29	0.203	
3-D	84.6	0.727	213.07	0.3329	100	1.0	6.72	8248	8.8	6.0	9.1	15.59	8348	56.38	22.31	0.223	
3-E	85.8	0.743	348.31	0.5442	100	1.0	6.42	8060	6.8	5.3	8.0	17.34	8160	55.33	23.76	0.238	
3-F	88.9	0.784	180.16	0.2815	100	1.0	5.69	4535	7.6	5.6	8.4	9.49	4635	35.75	15.18	0.152	
3-G1	90.0	0.798	153.95	0.2406	100	1.0	5.43	3050	5.5	4.7	7.2	7.70	3150	27.50	13.13	0.131	
3-G2	93.2	0.841	82.23	0.1285	100	1.0	4.67	2410	5.9	4.9	7.4	5.99	2510	23.94	10.65	0.107	
3-H1	92.2	0.827	80.61	0.1260	100	1.0	4.92	1406	6.4	5.1	7.7	3.58	1506	18.37	8.50	0.085	
3-H2	92.4	0.830	64.21	0.1003	100	1.0	4.86	3390	5.3	4.7	7.1	8.62	3490	29.39	13.48	0.135	
3-H3	94.3	0.854	89.80	0.1403	100	1.0	4.42	4697	2.8	3.4	5.1	16.22	4797	36.65	20.64	0.206	
3-I1	88.8	0.782	187.75	0.2934	100	1.0	5.73	5255	3.9	4.0	6.0	15.20	5355	39.75	20.93	0.209	
3-I2	90.5	0.805	75.83	0.1185	100	1.0	5.31	5255	3.9	4.0	6.0	15.20	5355	39.75	20.51	0.205	
3-J	78.6	0.647	97.87	0.1529	100	1.0	8.15	3340	5.1	4.6	6.9	8.63	3440	29.11	16.78	0.168	
3-K	87.6	0.766	568.98	0.8890	100	1.0	6.01	9699	5.3	4.6	7.0	23.60	9799	64.44	29.61	0.296	
3-L	88.4	0.777	206.53	0.3227	100	1.0	5.81	3441	3.9	4.0	6.1	10.17	3541	29.67	15.98	0.160	
3-M	88.8	0.782	123.16	0.1924	100	1.0	5.72	3727	5.9	4.9	7.4	8.93	3827	31.26	14.66	0.147	
3-N	88.9	0.784	291.64	0.4557	100	1.0	5.69	7430	3.9	4.0	6.0	21.19	7530	51.83	26.88	0.269	
3-O	93.3	0.842	55.79	0.0872	100	1.0	4.64	3204	6.3	5.1	7.7	7.53	3304	28.36	12.17	0.122	
3-P1	93.0	0.837	85.52	0.1336	100	1.0	4.73	2850	6.3	5.1	7.7	6.73	2950	26.39	11.47	0.115	
3-P2	87.2	0.760	55.73	0.0871	100	1.0	6.11	4385	8.5	5.9	8.9	8.66	4485	34.92	14.77	0.148	
3-Q	91.7	0.820	65.66	0.1026	100	1.0	5.04	3730	3.6	3.8	5.8	11.42	3830	31.28	16.45	0.165	
3-Q2	92.1	0.826	95.50	0.1492	100	1.0	4.93	1406	6.4	5.1	7.7	3.58	1506	18.37	8.51	0.085	

TRAVEL TIME CALCULATIONS

DEVELOPMENT: Summerlin
W.O. # 7809
CALCULATED BY: SVB/JYA

$$Velocity = CS^{1/2}$$

C1 applies to the first 500 feet of travel distance
C2 applies to the remaining travel distance

Existing:		Developed	
C1=14.8	C2=29.4	C1=20.2	C2=30.6

					First 500 feet		Remaining Travel Distance	
Basin	**Length** (ft)	**High Elev** (ft)	**Low Elev** (ft)	**Slope** (ft/ft)	**C1**	**V1** (fps)	**C2**	**V2** (fps)
DEVELOPED CONDITION ONSITE								
3-A	7330	4244	3745	0.068	20.2	5.3	30.6	8.0
3-B	10232	4530	3718	0.079	20.2	5.7	30.6	8.6
3-C	6330	3737	3330	0.064	20.2	5.1	30.6	7.8
3-D	8248	4488	3760	0.088	20.2	6.0	30.6	9.1
3-E	8060	4310	3760	0.068	20.2	5.3	30.6	8.0
3-F	4535	4050	3707	0.076	20.2	5.6	30.6	8.4
3-G1	3050	3740	3573	0.055	20.2	4.7	30.6	7.2
3-G2	2410	3715	3573	0.059	20.2	4.9	30.6	7.4
3-H1	1406	3540	3450	0.064	20.2	5.1	30.6	7.7
3-H2	3390	3450	3270	0.053	20.2	4.7	30.6	7.1
3-H3	4697	3315	3185	0.028	20.2	3.4	30.6	5.1
3-I1	5255	3555	3350	0.039	20.2	4.0	30.6	6.0
3-I2	4125	3350	3230	0.029	20.2	3.4	30.6	5.2
3-J	3340	4356	4184	0.051	20.2	4.6	30.6	6.9
3-K	9699	4302	3790	0.053	20.2	4.6	30.6	7.0
3-L	3441	3705	3570	0.039	20.2	4.0	30.6	6.1
3-M	3727	3885	3665	0.059	20.2	4.9	30.6	7.4
3-N	7430	3768	3478	0.039	20.2	4.0	30.6	6.0
3-O	3204	3786	3585	0.063	20.2	5.1	30.6	7.7
3-P1	2850	3633	3453	0.063	20.2	5.1	30.6	7.7
3-P2	4385	3814	3440	0.085	20.2	5.9	30.6	8.9
3-Q	3730	3440	3305	0.036	20.2	3.8	30.6	5.8
3-Q2	1406	3540	3450	0.064	20.2	5.1	30.6	7.7

CURVE NUMBERS FOR SOILS - W.O. #7809

Soil # 112 Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Arizo	100%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**	**81**	**46**

Soil # 152 Cave gravelly fine sandy loam, 0 to 4 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Cave	100%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 155 Cave gravelly fine sandy loam, 4 to 15 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Cave	100%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 156 Vace - Wechech association														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Vace and Similar	45%	D	88	98	94	93	92	91	87	85	89	95	93	82
Wechech and Similar	25%	D	88	98	94	93	92	91	87	85	89	95	93	82
Wechech, steep, and similar	15%	D	88	98	94	93	92	91	87	85	89	95	93	82
Weiser	8%	B	77	98	86	88	87	84	75	70	79	92	88	65
Irongold	4%	D	88	98	94	93	92	91	87	85	89	95	93	82
Commski	2%	B	77	98	86	88	87	84	75	70	79	92	88	65
Threelakes	1%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**87**	**98**	**94**	**93**	**92**	**91**	**86**	**84**	**88**	**95**	**93**	**80**

Soil # 191 Dalian very cobbly fine sandy loam, 2 to 8 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Dalian	100%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**	**81**	**46**

Soil # 294 Rock outcrop, sand stone														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95	93	82
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 320 Boxspring - Zeheme - Rock outcrop association														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Boxspring	50%	D	88	98	94	93	92	91	87	85	89	95	93	82
Zeheme	33%	D	88	98	94	93	92	91	87	85	89	95	93	82
Rock Outcrop	15%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic Haplocalcids	2%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 323 Boxspring - Scrapy - Rock Outcrop Association														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Boxspring	40%	D	88	98	94	93	92	91	87	85	89	95	93	82
Scrapy	30%	D	88	98	94	93	92	91	87	85	89	95	93	82
Rock outcrop	15%	D	88	98	94	93	92	91	87	85	89	95	93	82
Lithic calciustolls	9%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic Haplustolls	6%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 351 Seralin extremeely gravelly loam, 30 to 75 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Seralin	85%	D	88	98	94	93	92	91	87	85	89	95	93	82
Potosi	7%	D	88	98	94	93	92	91	87	85	89	95	93	82
Lithic Torriorthents	4%	D	88	98	94	93	92	91	87	85	89	95	93	82
Rock Outcrop	4%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**		**95**	**93**	**82**
Total		**100%**		**0**	**0**									

Soil # 360 Rock outcrop - St. Thomas Complex														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Rock outcrop	50%	D	88	98	94	93	92	91	87	85	89	95	93	82
St. Thomas	35%	D	88	98	94	93	92	91	87	85	89	95	93	82
Weiser	10%	A	63	98	77	81	80	76	61	54	68	89	81	46
Bracken	5%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**85**	**98**	**92**	**92**	**91**	**89**	**84**	**81**	**86**	**95**	**92**	**77**

Soil # 502 Canutio-Cave gravelly fine sandy loams, 2 to 8 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Canutio	55%	A	63	98	77	81	80	76	61	54	68	89	81	46
Cave	40%	D	88	98	94	93	92	91	87	85	89	95	93	82
Arizo	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**75**	**98**	**85**	**87**	**86**	**83**	**73**	**68**	**78**	**92**	**87**	**63**

Soil # 640 Rock outcrop, sand stone														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95	93	82
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 731 Purob-Irongold association

Soil	Percent	Group	Existing[1]	Impervious[2]	Newly Graded Areas[3]	Residential[4] (Apartment/Condo)	Residential[5] (6,000 Ft^2 or Less)	Residential[6] (7,000 Ft^2)	Residential[7] (10,000 Ft^2)	Residential[8] (20,000 Ft^2)	Open Space[9] (Poor Condition)	Urban Districts[10] (Comercial and Business)	Industrial[11]	Residential[12] (80,000 sq FT)
Purob	60%	D	88	98	94	93	92	91	87	85	89	95	93	82
Irongold	25%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic torriorthents	5%	A	63	98	77	81	80	76	61	54	68	89	81	46
Arizo	3%	A	63	98	77	81	80	76	61	54	68	89	81	46
Purob	3%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic haplocalcids	2%	B	77	98	86	88	87	84	75	70	79	92	88	65
Xeric haplocambids	1%	A	63	98	77	81	80	76	61	54	68	89	81	46
Aridic calcixerolls	1%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**86**	**98**	**93**	**92**	**91**	**90**	**85**	**82**	**87**	**95**	**92**	**79**

1-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 4 of 4
* Desert Shrub in Poor Hydrologic Condition
2-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page1 of 4
* Streets and Roads
3-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Newly Graded Areas
4-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Apartments / Condos **(MF/SFA-MU > 10 UNITS per ACRE)**
5-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Townhouses / 6,000 sq ft lots or less **(SF/SFA 7-10 UNITS per ACRE)**
6-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 7,000 sq ft lots **(SF/SFA 5-7 UNITS per ACRE)**
7-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 10,000 sq ft lots **(SF LOW 3-5 UNITS Per ACRE)**
8-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 20,000 sq ft lots **(SF ESTATE 1.5-3 UNITS per ACRE)**
9-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Open spaces in poor condition (grass cover < 50%)
10-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Commercial and Business
11-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Industrial
12-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602a
* 80,000 sq ft lots **(SF ESTATE 0-.5 UNITS per ACRE)**

Curve Number calculations for basins

Basin	Total Area	Subbasin	Area	%Area	Type	Soil Percentage	1	2	3	4	5	6	7	8	9	10	11	12	Weighted CN	Composite CN	CN Value
	(ACRE)	**DEVELOPED CONDITION ONSITE**																			
3-A	233.21	**LM1**	16.52	7.08%	731	72%								100%					5.3	81.5	74.2
					191	28%								100%							
		LM2	10.91	4.68%	731	100%			100%										4.4		93.0
		LM3	40.45	17.34%	155	18%								100%					12.7		73.3
					191	33%								100%							
					731	49%								100%							
		LM4	7.03	3.01%	155	100%								100%					2.6		85.0
		LM5	38.45	16.49%	155	73%							100%						13.7		83.1
					191	1%							100%								
					502	26%							100%								
		LM6	39.36	16.88%	156	3%							100%						13.4		79.2
					191	7%							100%								
					502	35%							100%								
					731	55%							100%								
		LM10	16.83	7.22%	155	7%						100%							6.1		85.0
					156	18%						100%									
					502	75%						100%									
		LM17	13.84	5.93%	155	52%					100%								5.3		89.1
					502	48%					100%										
		LMP1	3.11	1.33%	731	100%									100%				1.2		87.0
		LMP2	1.41	0.60%	191	100%									100%				0.4		68.0
		LMP5	0.49	0.21%	155	9%									100%				0.2		79.0
					502	91%									100%						
		LR4	20.22	8.67%	191	27%	100%												6.9		79.8
					731	73%	100%														
		LR5	10.69	4.58%	191	9%								100%					3.6		79.5
					731	91%								100%							
		ROADS	13.90	5.96%	NA	100%		100%											5.8		98.0
3-B	446.26	**LR1**	65.59	14.70%	112	11%	4%							96%					11.6	83.1	79.2
					731	89%	7%							93%							
		LR2	2.61	0.58%	731	100%			100%										0.5		93.0
		LR3	2.28	0.51%	731	100%								100%					0.4		82.0
		LR6	20.49	4.59%	112	67%												100%	2.6		57.0
					731	30%												100%			
					640	3%												100%			
		LR7	26.41	5.92%	112	8%								100%					4.9		82.2
					731	95%								100%							
		LR8	44.88	10.06%	731	100%								100%					8.2		82.0
		LR10	34.73	7.78%	731	100%							100%						6.6		85.0
		LR11	16.51	3.70%	731	100%							100%						3.1		85.0
		LR12	11.54	2.59%	731	100%							100%						2.2		85.0
		LR13	31.51	7.06%	731	100%							100%						6.0		85.0
		LR14	31.19	6.99%	731	100%							100%						5.9		85.0
		LR15	21.72	4.87%	731	100%							100%						4.1		85.0
		LRG1	109.78	24.60%	731	100%									100%				21.4		87.0
		LRP2	1.68	0.38%	112	93%									100%				0.3		69.4
					731	5%									100%						
					640	2%									100%						
		LRP3	0.97	0.22%	731	100%									100%				0.2		87.0
		UNNAMED	11.21	2.51%	112	33%	100%												2.0		79.7
					640	66%	100%														
					731	1%	100%														
		ROADS	13.16	2.95%	NA	100%		100%											2.9		98.0
		GP5	11.04	5.97%	156	100%							100%						5.1		86.0
					502	86%							100%								

3-C	184.83	GP6	9.09	4.92%	156	9%							100%						3.7	87.0	74.9
					155	5%							100%								
		GP7	14.38	7.78%	502	46%							100%						6.2		80.0
					156	54%							100%								
		GP8	9.09	4.92%	502	28%							100%						4.1		82.4
					156	72%							100%								
		GP9	5.76	3.12%	502	78%							100%						2.4		75.9
					156	22%							100%								
		GP13	12.81	6.93%	156	100%							100%						6.0		86.0
		GP14	19.04	10.30%	156	95%							100%						8.9		86.1
					152	5%							100%								
		GPP1	3.64	1.97%	156	73%								100%					1.7		88.3
					152	27%								100%							
		GPPW1	80.36	43.48%	731	12%								100%					38.6		88.8
					152	88%								100%							
		ROADS	19.62	10.62%	NA	100%		100%											10.4		98.0
3-D	213.07	LR1	2.07	0.97%	112	100%								100%					0.5	84.6	54.0
		LR6	7.58	3.56%	112	58%												100%	2.1		60.2
					731	31%												100%			
					640	11%												100%			
		LR7	10.64	4.99%	731	100%								100%					4.1		82.0
		LR9	20.09	9.43%	731	90%												100%	7.5		79.3
					640	10%												100%			
		LR16	5.79	2.72%	731	71%										100%			2.6		95.0
					640	29%										100%					
		LR26	0.50	0.23%	731	100%										100%			0.2		95.0
		LRG1	17.71	8.31%	731	100%								100%					7.2		87.0
		LRG2	6.83	3.21%	731	95%								100%					2.8		87.1
					640	5%								100%							
		LRPR1	6.95	3.26%	731	100%	100%												2.8		86.0
		LRPR2	5.15	2.42%	731	21%	100%												2.1		87.6
					640	79%	100%														
		LRPR5	1.28	0.60%	731	100%	100%												0.5		86.0
		LRPW1	7.98	3.75%	112	39%								100%					3.0		80.1
					640	24%								100%							
					731	37%								100%							
		LRPW2	3.63	1.70%	112	44%								100%					1.4		79.8
					640	56%								100%							
		LRPW3	39.34	18.46%	731	94%								100%					16.1		87.1
					640	6%								100%							
		UNNAMED	77.04	36.16%	640	79%	100%												31.7		87.6
					731	21%	100%														
		LR9	46.60	13.38%	731	89%												100%	10.6		79.3
					640	11%												100%			
		LR16	16.37	4.70%	731	91%										100%			4.5		95.0
					640	9%										100%					
		LR18	8.47	2.43%	323	100%			100%										2.3		94.0
		LR19	43.72	12.55%	731	11%								100%					10.6		84.7
					640	4%								100%							
					323	85%								100%							
		LR20	26.62	7.64%	731	38%								100%					6.4		83.9
					323	62%								100%							
		LR21	60.47	17.36%	731	88%								100%					14.3		82.4
					323	12%								100%							
		LR25	8.27	2.37%	731	100%										100%			2.3		95.0
		LR26	0.68	0.20%	156	100%										100%			0.2		95.0
3-E	348.31	LR27	1.65	0.47%	731	58%										100%			0.5	85.8	95.0
					156	42%										100%			0.0		
		LR28	10.37	2.98%	731	89%				95%						5%			2.7		91.6
					502	11%				95%						5%					
		LRG2	9.33	2.68%	731	79%								100%					2.3		87.4
					640	21%								100%							
		LRP1	0.78	0.22%	323	100%								100%					0.2		89.0
		LRPR3	23.98	6.88%	731	3%	100%												6.1		88.0
					640	97%	100%														
		LRPR4	5.44	1.56%	731	100%	100%												1.3		86.0
		LRPR5	4.58	1.31%	731	100%	100%												1.1		86.0
		LRPW3	6.04	1.73%	731	80%								100%					1.5		85.2
					502	20%								100%							
		LRPW4	63.21	18.15%	731	93%								100%					15.8		87.1
					640	6%								100%							
					323	1%								100%							
		UB1	3.68	1.06%	323	100%								100%					0.9		85.0
		ROADS	8.05	2.31%	NA	100%		100%											2.3		98.0
3-F	180.16	LR12	20.49	11.37%	731	100%							100%						9.7	88.9	85.0
		LR17	22.55	12.52%	731	100%										100%			11.9		95.0
		LR26	14.71	8.16%	731	16%										100%			7.8		95.0
					156	84%										100%					
		LR27	4.72	2.62%	731	1%										100%			2.5		95.0
					156	99%										100%					
		LRG1	111.39	61.83%	731	94%								100%					53.8		87.1
					156	6%								100%							
		LRP4	2.41	1.34%	156	51%								100%					1.2		88.0
					731	49%								100%							
		ROADS	3.89	2.16%	NA	100%		100%											2.1		98.0
		GP1	16.88	15.29%	731	100%					100%								13.8		90.0
		GP2	14.87	13.47%	731	100%							100%						11.4		85.0
		GP3	15.98	14.47%	731	100%			100%										13.5		93.0

3-G1	110.40	GP4	15.02	13.60%	731	61%							100%						11.6	90.0	85.4
					156	39%							100%								
		GP10	6.51	5.90%	731	100%						100%							5.3		90.0
		GP11	9.82	8.89%	731	92%						100%							8.0		90.1
					156	8%						100%									
		GP12	9.77	8.85%	731	40%							100%						7.8		88.6
					156	60%							100%								
		GPSC1	10.99	9.95%	731	92%		50%							50%				9.2		92.5
					156	8%		50%							50%						
		ROADS	10.56	9.57%	NA	100%		100%											9.4		98.0
3-G2	82.23	LR34	7.74	9.41%	731	57%				95%							5%		8.7	93.2	92.6
					156	43%				95%							5%				
		LR35	6.18	7.52%	731	16%				100%									7.0		92.8
					156	84%				100%											
		LR36	1.95	2.37%	156	100%				100%									2.2		93.0
		LR37	6.59	8.01%	156	100%				100%									7.5		93.0
		LR38	3.50	4.26%	731	9%					100%								3.9		91.9
					156	91%					100%										
		LR39	4.36	5.30%	156	100%					100%								4.9		92.0
		LR40	6.03	7.33%	731	100%					100%								6.7		91.0
		LR41	11.63	14.14%	731	29%					100%								13.0		91.7
					156	71%					100%										
		LR42	9.13	11.10%	731	100%				95%							5%		10.2		92.2
		LR43	9.75	11.86%	731	100%				100%									10.9		92.0
		ROADS	15.37	18.69%	NA	100%		100%											18.3		98.0
3-H1	80.61	GP18	13.55	16.81%	156	16%						100%							15.3		91.0
					152	84%						100%									
		GPPW2	9.56	11.86%	156	100%	100%												10.3		87.0
		W48	9.28	11.51%	156	16%				100%									10.7		93.0
					152	84%				100%											
		W49	8.18	10.15%	152	100%											100%		9.6		95.0
		W55	3.21	3.98%	152	100%				95%							5%		3.7		93.1
		W56	3.39	4.21%	152	100%				95%							5%		3.9		93.1
		W57	3.21	3.98%	152	100%				95%							5%		3.7		92.1
		W58	7.56	9.38%	156	59%					100%								8.6		92.0
					152	41%					100%										
		WPW3	9.21	11.43%	156	100%	100%												9.9		87.0
		ROADS	13.46	16.70%	NA	100%		100%											16.4		98.0
3-H2	64.21	W50	7.36	11.46%	156	73%											100%		10.9		95.0
					152	27%											100%				
		W52	10.39	16.18%	152	100%					100%								14.9		92.0
		W53	2.65	4.13%	152	100%				95%							5%		3.8		93.1
		W54	3.58	5.58%	152	100%				95%							5%		5.2		93.1
		W59	5.53	8.61%	156	57%				95%							5%		8.0		93.1
					152	43%				95%							5%				
		W60	6.34	9.87%	156	51%					100%								9.1		92.0
					152	49%					100%										
		W62	5.73	8.92%	156	100%					100%								8.2		92.0
		WPW4	11.06	17.23%	156	100%	100%												15.0		87.0
		WP7	2.32	3.61%	152	100%									100%				3.2		89.0
		ROADS	9.25	14.40%	NA	100%		100%											14.1		98.0
3-H3	89.80	W51	21.47	23.91%	156	46%											100%		22.7	94.3	95.0
					152	54%											100%				
		W61	18.33	20.41%	156	100%					100%								18.8		92.0
		W67	12.26	13.65%	156	43%											100%		13.0		95.0
					152	57%											100%				
		W68	21.79	24.26%	156	94%											100%		23.1		95.0
					152	6%											100%				
		WPW5	0.91	1.01%	156	100%	100%												0.9		87.0
		UNNAMED	9.52	10.60%															9.8		92.8
		ROADS	5.52	6.15%	NA	100%		100%											6.0		98.0
3-I1	187.75	GP19	24.12	12.85%	731	29%							100%						11.0	88.8	85.7
					156	71%							100%								
		GP20	22.16	11.80%	156	100%							100%						10.2		86.0
		GP21	30.13	16.05%	156	100%							100%						13.8		86.0
		GP22	21.08	11.23%	156	100%							100%						9.7		86.0
		GPP2	1.34	0.71%	156	100%									100%				0.6		88.0
		W63	17.89	9.53%	156	100%							100%						8.2		86.0
		W64	15.87	8.45%	156	100%							100%						7.3		86.0
		W72	20.97	11.17%	156	100%											100%		10.6		95.0
		W73	13.88	7.39%	156	100%			100%										6.9		94.0
		W74	2.41	1.28%	156	100%			100%										1.2		94.0
		WP8	1.18	0.63%	156	100%									100%				0.6		88.0
		ROADS	16.7	8.91%	NA	100%		100%											8.7		98.0
3-I2	75.83	W65	13.92	18.36%	156	100%							100%						15.8	90.5	86.0
		W66	15.32	20.20%	156	100%							100%						17.4		86.0
		W69	15.5	20.44%	156	100%					100%								18.8		92.0
		W70	1.90	2.51%	156	100%											100%		2.4		95.0
		W71	15.07	19.87%	156	100%					100%								18.3		92.0
		WP9	2.51	3.31%	156	100%									100%				2.9		88.0
		ROADS	11.61	15.31%	NA	100%		100%											15.0		98.0
3-J	97.87	LR18	0.09	0.09%	323	100%			100%										0.1	78.6	94.0
		UB1	58.93	60.21%	731	83%								100%					49.7		82.5
					323	17%								100%							
		UB2	33.25	33.97%	731	100%								100%					27.9		82.0
		UBP1	1.07	1.09%	731	100%									100%				1.0		87.0
		ROADS	4.53	4.63%	NA	100%															0.0
		LR22	10.00	1.76%	731	100%			100%										1.6		93.0

		LR23	42.65	7.50%	731	100%							100%						6.4	85.0
		LR24	11.93	2.10%	731	100%				100%									1.9	92.0
		UB3	26.49	4.66%	731	100%										100%			4.4	95.0
		UB6	34.51	6.07%	731	100%							100%						5.2	85.0
		UB7	37.99	6.68%	731	100%							100%						5.7	85.0
		UB8	15.84	2.78%	731	100%						100%							2.5	90.0
		UB9	22.89	4.02%	731	100%							100%						3.4	85.0
		UB10	42.23	7.42%	731	100%							100%						6.3	85.0
		UB11	5.99	1.05%	731	100%							100%						0.9	85.0
3-K	568.98	UB12	30.37	5.34%	731	100%							100%						4.5	85.0
		UB13	48.06	8.45%	731	100%							100%						7.2	85.0
		UB15	6.51	1.14%	731	100%							100%						1.0	85.0
		UB17	0.14	0.02%	731	100%							100%						0.0	85.0
		UBG1	105.19	18.49%	731	100%								100%					16.1	87.0
		UBG2	7.75	1.36%	731	100%								100%					1.2	87.0
		UBG3	46.62	8.19%	731	100%								100%					7.1	87.0
		UBG4	5.65	0.99%	731	100%								100%					0.9	87.0
		UBPW1	2.98	0.52%	731	100%								100%					0.5	87.0
		UBPW2	20.37	3.58%	731	100%								100%					3.1	87.0
		ROADS	44.82	7.88%	NA	100%		100%											7.7	98.0
		BW34	35.84	17.35%	731	24%						100%							15.1	87.2
					502	44%						100%								
					156	32%						100%								
		BW35	15.83	7.66%	502	52%						100%							6.7	86.8
					156	48%						100%								
		BWP6	1.94	0.94%	502	52%								100%					0.8	82.8
					156	48%								100%						
		BWPW6	2.8	1.36%	731	100%								100%					1.2	87.0
		LR30	22.03	10.67%	502	30%				100%									9.7	91.2
					156	70%				100%										
3-L	206.53	LR31	6.60	3.20%	156	100%				100%									3.0	93.0
		LR32	10.27	4.97%	156	100%				100%									4.6	93.0
		LR33	6.68	3.23%	156	100%				100%									3.0	93.0
		LRP4	1.13	0.55%	156	51%								100%					0.5	87.5
					731	49%								100%						
		BW36	28.38	13.74%	731	42%							100%						10.7	78.0
					502	58%							100%							
		BW38	22.17	10.73%	731	49%						100%							9.3	86.4
					502	51%						100%								
		BW39	31.53	15.27%	731	100%						100%							13.7	90.0
		ROADS	21.33	10.33%	NA	100%		100%											10.1	98.0
		BW3	16.06	13.04%	731	100%						100%							11.7	90.0
		BW4	10.68	8.67%	731	100%						100%							7.8	90.0
		BW5	5.40	4.38%	731	100%						100%							3.9	90.0
		BW6	4.74	3.85%	731	100%						100%							3.5	90.0
		BW7	2.49	2.02%	731	100%										100%			1.9	95.0
3-M	123.16	BW8	8.46	6.87%	731	100%				100%									6.3	92.0
		BW24	16.71	13.57%	731	100%							100%						11.5	85.0
		BWP4	1.1	0.89%	731	100%								100%					0.8	87.0
		BWPW10	1.2	0.97%	731	100%								100%					0.8	87.0
		UB16	18.52	15.04%	731	100%							100%						12.8	85.0
		UBG4	27.07	21.98%	731	100%								100%					19.1	87.0
		ROADS	10.73	8.71%	NA	100%		100%											8.5	98.0
		BW25	13.49	4.63%	731	100%							100%						3.9	85.0
		BW26	18.67	6.40%	731	100%						100%							5.8	90.0
		BW27	16.99	5.83%	731	100%							100%						5.0	85.0
		BW28	25.35	8.69%	731	100%							100%						7.4	85.0
		BW29	18.51	6.35%	731	100%							100%						5.4	85.0
		BW30	1.97	0.68%	731	100%							100%						0.6	85.0
		BW31	3.90	1.34%	731	100%										100%			1.3	95.0
		BW32	17.76	6.09%	731	100%										100%			5.8	95.0
		BW33	29.12	9.98%	731	100%							100%						8.5	85.0
		BW37	38.76	13.29%	731	63%			100%										12.0	90.0
					502	37%			100%											
3-N	291.64	BWP5	1.08	0.37%	731	100%								100%					0.3	87.0
		BWP7	9.71	3.33%	731	100%								100%					2.9	87.0
		BWPW1	7.94	2.72%	731	100%								100%					2.4	87.0
		BWPW2	5.02	1.72%	731	100%								100%					1.5	87.0
		BWPW3	3.46	1.19%	731	100%								100%					1.0	87.0
		BWPW4	3.49	1.20%	731	100%								100%					1.0	87.0
		BWPW5	6.76	2.32%	731	100%								100%					2.0	87.0
		BWPW6	2.81	0.96%	731	100%								100%					0.8	87.0
		BWSC1	37.86	12.98%	731	100%		50%						50%					12.0	92.5
		LR29	12.46	4.27%	731	78%						100%							3.9	90.2
					502	22%						100%								
		ROADS	16.53	5.67%	NA	100%		100%											5.6	98.0
		LM15	5.88	10.54%	155	100%				95%						5%			9.8	93.1
		LM16	6.59	11.81%	155	68%				95%						5%			10.8	91.2
					502	32%				95%						5%				
		LM18	5.44	9.75%	155	100%										100%			9.3	95.0
3-O	55.79	LM19	11.70	20.97%	155	52%										100%			19.6	93.6
					502	48%										100%				
		LMSC1	16.16	28.96%	155	88%		50%						50%					26.9	92.8
					502	12%		50%						50%						
		LMP6	3.85	6.90%	155	100%								100%					6.1	89.0
		ROADS	6.17	11.06%	NA	100%		100%											10.8	98.0
		WSC1	50.81	59.42%	155	77%		50%						50%					54.8	92.2
					502	23%		50%						50%						
		W16	7.20	8.42%	155	100%					100%								7.7	92.0
3-P1	85.52	W17	7.00	8.19%	155	100%					100%								7.5	92.0

		W28	8.80	10.29%	155	60%					100%								**9.5**		**92.0**
					156	40%					100%										
		ROADS	11.70	13.69%	NA	100%													**13.4**		**98.0**
3-P2	**55.72652**	**LM9**	13.38	24.02%	155	100%							100%						**20.9**	**87.2**	**87.0**
		LM12	21.60	38.76%	155	100%							100%						**33.7**		**87.0**
		LMPW1	5.99	10.74%	155	100%	100%												**9.5**		**88.0**
		LMPW2	4.51	8.10%	155	100%	100%												**7.1**		**88.0**
		LM8	4.59	8.23%	155	95%								100%					**7.0**		**85.0**
					502	5%								100%							
		LM11	4.24	7.60%	155	48%								100%					**6.5**		**85.0**
					502	52%								100%							
		ROADS	1.42	2.55%	NA	100%		100%											**2.5**		**98.0**
3-Q	**65.66**	**W24**	2.80	4.26%	502	100%				100%									**3.7**	**91.7**	**87.0**
		W25	1.82	2.77%	155	4%				95%						5%			**2.4**		**87.5**
					502	96%				95%						5%					
		W26	3.50	5.33%	155	27%				95%						5%			**4.7**		**88.8**
					502	73%				95%						5%					
		W27	3.54	5.39%	155	38%					100%								**4.8**		**88.3**
					502	62%					100%										
		W29	3.84	5.85%	502	100%					100%								**5.0**		**86.0**
		W30	3.36	5.12%	502	100%				95%						5%			**4.5**		**87.3**
		W31	4.74	7.22%	502	100%				95%						5%			**6.3**		**87.3**
		W35	9.17	13.97%	156	76%										100%			**13.2**		**94.3**
					502	24%										100%					
		W36	6.43	9.79%	156	14%				95%						5%			**8.6**		**88.1**
					502	86%				95%						5%					
		W44	6.85	10.43%	156	100%										100%			**9.9**		**95.0**
		W45	7.92	12.06%	156	100%										100%			**11.5**		**95.0**
		WP6	2.3	3.55%	156	100%									100%				**3.1**		**88.0**
		ROADS	9.36	14.25%	NA	100%													**13.97**		**98.0**
3-Q2	**95.50**	**WP5**	2.3	2.41%	156	100%									100%				**2.1**	**92.1**	**88.0**
		W37	3.37	3.53%	156	25%				95%						5%			**3.1**		**88.7**
					502	75%				95%						5%					
		W38	5.92	6.20%	156	36%				95%						5%			**5.5**		**89.4**
					502	64%				95%						5%					
		W39	6.24	6.53%	156	28%				95%						5%			**5.8**		**88.9**
					502	72%				95%						5%					
		W40	4.15	4.35%	156	100%										100%			**4.1**		**95.0**
		W41	4.49	4.70%	156	100%										100%			**4.5**		**95.0**
		W42	5.93	6.21%	156	100%										100%			**5.9**		**95.0**
		W43	2.79	2.92%	156	100%										100%			**2.8**		**95.0**
		W46	3.08	3.23%	156	100%										100%			**3.1**		**95.0**
		W47	5.73	6.00%	156	87%										100%			**5.7**		**95.0**
					152	13%										100%					
		GP15	7.58	7.94%	156	18%					100%								**6.9**		**87.1**
					502	82%					100%										
		GP16	5.35	5.60%	156	22%					100%								**4.9**		**87.3**
					502	78%					100%										
		GP17	11.76	12.31%	156	66%				100%									**11.2**		**91.0**
					502	34%				100%											
		WSC1	16.94	17.74%	155	77%		50%							50%				**16.4**		**92.2**
					502	23%		50%							50%						
		ROADS	**9.87**	**10.34%**	NA	100%													**10.1**		98

B.4.3 RED ROCK DETENTION BASIN TRIBUTARY

STANDARD FORM 4

DEVELOPMENT: Summerlin

W.O. # 7809 **CALCULATED BY:** SVB

V1 applies to the first 500 feet of travel distance
V2 applies to the remaining travel distance

Existing:		Developed	
$V1 = 148 * S^{1/2}$	$V2 = 294 * S^{1/2}$	$V1 = 202 * S^{1/2}$	$V2 = 306 * S^{1/2}$

$$T_i = \frac{1.8(1.1 - k)L^{1/2}}{S^{1/3}} \qquad T_t = \frac{L}{60V}$$

$$k = 0.0132 C_n - 0.39 \qquad T_c = T_i + T_t$$

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc CHECK (URBANIZED BASINS)		FINAL Tc	LAG TIME	REMARKS
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	V1 fps (9a)	V2 fps (9b)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	TLAG Hr.	
DEVELOPED CONDITION ONSITE																	
4-A	84.6	0.727	230.33	0.3599	100	1.0	6.71	6399	7.2	5.4	8.2	13.52	6499	46.11	20.24	0.202	
4-B	86.3	0.750	345.76	0.5403	200	1.0	8.92	8180	3.6	3.8	5.8	24.20	8380	56.56	33.12	0.331	

TRAVEL TIME CALCULATIONS

DEVELOPMENT: Summerlin
W.O. # 7809 **CALCULATED BY:** SVB

$$Velocity = CS^{1/2}$$

C1 applies to the first 500 feet of travel distance
C2 applies to the remaining travel distance

Existing:		Developed	
C1=14.8	C2=29.4	C1=20.2	C2=30.6

					First 500 feet		Remaining Travel Distance	
Basin	**Length** (ft)	**High Elev** (ft)	**Low Elev** (ft)	**Slope** (ft/ft)	**C1**	**V1** (fps)	**C2**	**V2** (fps)
DEVELOPED CONDITION ONSITE								
4-A	6399	4260	3800	0.072	20.2	5.4	30.6	8.2
4-B	8180	3850	3555	0.036	20.2	3.8	30.6	5.8

CURVE NUMBERS FOR SOILS - W.O. #7809

Soil # 112 Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Arizo	100%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**

Soil # 152 Cave gravelly fine sandy loam, 0 to 4 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo))	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Cave	100%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 155 Cave gravelly fine sandy loam, 4 to 15 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo))	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Cave	100%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 156 Vace - Wechech association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Vace and Similar	45%	D	88	98	94	93	92	91	87	85	89	95
Wechech and Similar	25%	D	88	98	94	93	92	91	87	85	89	95
Wechech, steep, and similar	15%	D	88	98	94	93	92	91	87	85	89	95
Weiser	8%	B	77	98	86	88	87	84	75	70	79	92
Irongold	4%	D	88	98	94	93	92	91	87	85	89	95
Commski	2%	B	77	98	86	88	87	84	75	70	79	92
Threelakes	1%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**87**	**98**	**94**	**93**	**92**	**91**	**86**	**84**	**88**	**95**

Soil # 191 Dalian very cobbly fine sandy loam, 2 to 8 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Dalian	100%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**

Soil # 294 Rock outcrop, sand stone												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 320 Boxspring - Zeheme - Rock outcrop association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Boxspring	50%	D	88	98	94	93	92	91	87	85	89	95
Zeheme	33%	D	88	98	94	93	92	91	87	85	89	95
Rock Outcrop	15%	D	88	98	94	93	92	91	87	85	89	95
Typic Haplocalcids	2%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 323 Boxspring - Scrapy - Rock Outcrop Association												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Boxspring	40%	D	88	98	94	93	92	91	87	85	89	95
Scrapy	30%	D	88	98	94	93	92	91	87	85	89	95
Rock outcrop	15%	D	88	98	94	93	92	91	87	85	89	95
Lithic calciustolls	9%	D	88	98	94	93	92	91	87	85	89	95
Typic Haplustolls	6%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 351 Seralin extremeely gravelly loam, 30 to 75 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Seralin	85%	D	88	98	94	93	92	91	87	85	89	95
Potosi	7%	D	88	98	94	93	92	91	87	85	89	95
Lithic Torriorthents	4%	D	88	98	94	93	92	91	87	85	89	95
Rock Outcrop	4%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**		**95**

Soil # 360 Rock outcrop - St. Thomas Complex												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)
Rock outcrop	50%	D	88	98	94	93	92	91	87	85	89	95
St. Thomas	35%	D	88	98	94	93	92	91	87	85	89	95
Weiser	10%	A	63	98	77	81	80	76	61	54	68	89
Bracken	5%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**85**	**98**	**92**	**92**	**91**	**89**	**84**	**81**	**86**	**95**

Soil # 502 Canutio-Cave gravelly fine sandy loams, 2 to 8 percent slopes												
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)

Canutio	55%	A	63	98	77	81	80	76	61	54	68	89
Cave	40%	D	88	98	94	93	92	91	87	85	89	95
Arizo	5%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**75**	**98**	**85**	**87**	**86**	**83**	**73**	**68**	**78**	**92**

Soil # 640 Rock outcrop, sand stone												
Soil	Percent	Group	$Existing_1$	$Impervious_2$	$Newly\ Graded\ Areas_3$	$Residential_{4\ (Apartment/Condo)}$	$Residential_{5\ (6,000\ Ft^2\ or\ Less)}$	$Residential_{6\ (7,000\ Ft^2)}$	$Residential_{7\ (10,000\ Ft^2)}$	$Residential_{8\ (20,000\ Ft^2)}$	$Open\ Space_{9\ (Poor\ Condition)}$	$Urban\ Districts_{10\ (Comercial\ and\ Business)}$
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**

Soil # 731 Purob-Irongold association												
Soil	Percent	Group	$Existing_1$	$Impervious_2$	$Newly\ Graded\ Areas_3$	$Residential_{4\ (Apartment/Condo)}$	$Residential_{5\ (6,000\ Ft^2\ or\ Less)}$	$Residential_{6\ (7,000\ Ft^2)}$	$Residential_{7\ (10,000\ Ft^2)}$	$Residential_{8\ (20,000\ Ft^2)}$	$Open\ Space_{9\ (Poor\ Condition)}$	$Urban\ Districts_{10\ (Comercial\ and\ Business)}$
Purob	60%	D	88	98	94	93	92	91	87	85	89	95
Irongold	25%	D	88	98	94	93	92	91	87	85	89	95
Typic torriorthents	5%	A	63	98	77	81	80	76	61	54	68	89
Arizo	3%	A	63	98	77	81	80	76	61	54	68	89
Purob	3%	D	88	98	94	93	92	91	87	85	89	95
Typic haplocalcids	2%	B	77	98	86	88	87	84	75	70	79	92
Xeric haplocambids	1%	A	63	98	77	81	80	76	61	54	68	89
Aridic calcixerolls	1%	A	63	98	77	81	80	76	61	54	68	89
Total	**100%**		**86**	**98**	**93**	**92**	**91**	**90**	**85**	**82**	**87**	**95**

1-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 4 of 4
* Desert Shrub in Poor Hydrologic Condition
2-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page1 of 4
* Streets and Roads
3-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Newly Graded Areas
4-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Apartments / Condos **(MF/SFA-MU > 10 UNITS per ACRE)**
5-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Townhouses / 6,000 sq ft lots or less **(SF/SFA 7-10 UNITS per ACRE)**
6-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 7,000 sq ft lots **(SF/SFA 5-7 UNITS per ACRE)**
7-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 10,000 sq ft lots **(SF LOW 3-5 UNITS Per ACRE)**
8-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 20,000 sq ft lots **(SF ESTATE 1.5-3 UNITS per ACRE)**
9-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Open spaces in poor condition (grass cover < 50%)
10-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Commercial and Business

Curve Number calculations for basins

Basin	Total Area	Subbasin	Area	%Area	Type	Soil Percentage	1	2	3	4	5	6	7	8	9	10	Weighted CN Value	Composite CN Value	CN Value
	(ACRE)	**DEVELOPED CONDITION ONSITE**																	
		BW1	23.57	10.23%	731	100%							100%				**8.7**		**85.0**
		BW2	26.05	11.31%	731	100%							100%				**9.6**		**85.0**
		UB3	5.43	2.36%	731	100%										100%	**2.2**		**95.0**
		UB4	28.86	12.53%	731	100%								100%			**10.3**		**82.0**
		UB5	53.23	23.11%	731	100%								100%			**19.0**		**82.0**
		UB14	29.35	12.74%	731	100%							100%				**10.8**		**85.0**
4-A	**230.33**	**UB15**	13.01	5.65%	731	100%							100%				**4.8**	**84.6**	**85.0**
		UB17	5.66	2.46%	731	100%							100%				**2.1**		**85.0**
		UBG4	16.16	7.02%	731	100%									100%		**6.1**		**87.0**
		UBG5	3.22	1.40%	731	100%									100%		**1.2**		**87.0**
		UBPW3	8.12	3.53%	731	100%									100%		**3.1**		**87.0**
		UBPW4	16.31	7.08%	731	100%									100%		**6.2**		**87.0**
		ROADS	1.36	0.59%	NA	100%		100%									**0.6**		**98.0**
		BW1	12.33	3.57%	731	100%							100%				**3.0**		**85.0**
		BW9	12.28	3.55%	731	100%				100%							**3.3**		**92.0**
		BW10	8.98	2.60%	731	100%										100%	**2.5**		**95.0**
		BW11	9.96	2.88%	731	100%						100%					**2.6**		**90.0**
		BW12	17.02	4.92%	731	100%						100%					**4.4**		**90.0**
		BW13	22.41	6.48%	731	100%						100%					**5.8**		**90.0**
		BW15	23.74	6.87%	731	100%								100%			**5.6**		**82.0**
		BW16	29.19	8.44%	731	100%								100%			**6.9**		**82.0**
		BW17	43.27	12.51%	731	100%								100%			**10.3**		**82.0**
		BW18	13.57	3.92%	731	100%							100%				**3.3**		**85.0**
		BW19	41.25	11.93%	731	100%							100%				**10.1**		**85.0**
4-B	**345.76**	**BW20**	29.55	8.55%	731	100%							100%				**7.3**	**86.3**	**85.0**
		BW22	22.39	6.48%	731	100%							100%				**5.5**		**85.0**
		BWP2	3.26	0.94%	731	100%									100%		**0.8**		**87.0**
		BWP3	0.53	0.15%	731	100%									100%		**0.1**		**87.0**

BWP8	2.76	0.80%	731	100%									100%		**0.7**		**87.0**
BWP9	1.74	0.50%	731	100%									100%		**0.4**		**87.0**
BWP1	5.17	1.50%	731	100%									100%		**1.3**		**87.0**
BWP10	1.85	0.54%	731	100%									100%		**0.5**		**87.0**
BWPW7	4.32	1.25%	731	100%									100%		**1.1**		**87.0**
BWPW8	14.97	4.33%	731	100%									100%		**3.8**		**87.0**
BWPW9	3.87	1.12%	731	100%									100%		**1.0**		**87.0**
UNNAMED	1.68	0.49%	731	100%											**0.4**		**82.0**
ROADS	19.67	5.69%	NA	100%		100%									**5.6**		**98.0**

B.4.4 AREA 1

STANDARD FORM 4

DEVELOPMENT: Summerlin West Area 1

W.O. # 7809 **CALCULATED BY:** JYA

V1 applies to the first 500 feet of travel distance
V2 applies to the remaining travel distance

Existing:		Developed	
$V1 = 148 * S^{1/2}$	$V2 = 294 * S^{1/2}$	$V1 = 202 * S^{1/2}$	$V2 = 306 * S^{1/2}$

$$T_i = \frac{1.8(1.1-k)L^{1/2}}{S^{1/3}} \qquad T_t = \frac{L}{60V}$$

$$k = 0.0132C_n - 0.39 \qquad T_c = T_i + T_t$$

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc CHECK (URBANIZED BASINS)		FINAL Tc	LAG TIME	REMARKS
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	V1 fps (9a)	V2 fps (9b)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	TLAG Hr.	
DEVELOPED CONDITION ONSITE																	
W42	95.0	0.864	5.65	0.0088	100	1.0	4.25	785	7.6	5.6	8.5	2.05	885	14.92	6.30	0.063	
W43	95.0	0.864	2.67	0.0042	100	1.0	4.25	462	6.3	5.1	7.7	1.52	562	13.12	5.77	0.058	
W44	95.0	0.864	4.78	0.0075	100	1.0	4.25	1020	7.8	5.7	8.6	2.48	1120	16.22	6.73	0.067	
W45	95.0	0.864	7.22	0.0113	100	1.0	4.25	1290	5.0	4.5	6.8	3.78	1390	17.72	8.03	0.080	
W46	95.0	0.864	2.95	0.0046	100	1.0	4.25	636	4.1	4.1	6.2	2.41	736	14.09	6.65	0.067	
W47	95.0	0.864	5.43	0.0085	100	1.0	4.25	721	6.1	5.0	7.6	2.16	821	14.56	6.41	0.064	
W48	93.0	0.838	7.65	0.0119	100	1.0	4.72	1233	2.4	3.1	4.7	5.29	1333	17.41	10.02	0.100	
W49	95.0	0.864	6.78	0.0106	100	1.0	4.25	1240	4.8	4.4	6.7	3.71	1340	17.44	7.96	0.080	
W50	95.0	0.864	5.99	0.0094	100	1.0	4.25	1100	4.3	4.2	6.3	3.58	1200	16.67	7.82	0.078	
W51	95.0	0.864	20.28	0.0317	100	1.0	4.25	1700	4.5	4.3	6.5	5.01	1800	20.00	9.26	0.093	
W52	92.0	0.824	9.11	0.0142	100	1.0	4.96	1026	4.5	4.3	6.5	3.30	1126	16.26	8.26	0.083	
W53	93.1	0.839	2.54	0.0040	100	1.0	4.70	558	4.1	4.1	6.2	2.19	658	13.66	6.89	0.069	
W54	93.1	0.839	3.43	0.0054	100	1.0	4.70	779	5.3	4.6	7.0	2.46	879	14.88	7.16	0.072	
W55	93.1	0.839	3.09	0.0048	100	1.0	4.70	644	2.8	3.4	5.1	2.94	744	14.13	7.64	0.076	
W56	93.1	0.839	3.54	0.0055	100	1.0	4.70	587	3.2	3.6	5.5	2.56	687	13.82	7.26	0.073	
W57	93.1	0.839	3.09	0.0048	100	1.0	4.70	555	4.0	4.0	6.1	2.22	655	13.64	6.92	0.069	
W58	92.0	0.824	6.78	0.0106	100	1.0	4.96	1027	5.5	4.7	7.1	3.00	1127	16.26	7.96	0.080	
W59	93.1	0.839	5.21	0.0081	100	1.0	4.70	867	5.1	4.6	6.9	2.72	967	15.37	7.42	0.074	
W60	92.0	0.824	5.42	0.0085	100	1.0	4.96	1010	4.8	4.4	6.7	3.17	1110	16.17	8.13	0.081	
W61	92.0	0.824	18.50	0.0289	100	1.0	4.96	1599	3.2	3.6	5.5	5.66	1699	19.44	10.62	0.106	
W62	92.0	0.824	5.33	0.0083	100	1.0	4.96	1579	5.6	4.8	7.3	4.21	1679	19.33	9.17	0.092	
W63	92.0	0.824	17.40	0.0272	100	1.0	4.96	1100	4.5	4.3	6.5	3.50	1200	16.67	8.46	0.085	
W64	92.0	0.824	15.11	0.0236	100	1.0	4.96	1350	5.8	4.9	7.4	3.64	1450	18.06	8.60	0.086	
W65	91.0	0.811	13.16	0.0206	100	1.0	5.20	1596	3.3	3.7	5.6	5.54	1696	19.42	10.74	0.107	
W66	91.0	0.811	15.68	0.0245	100	1.0	5.20	1039	4.1	4.1	6.2	3.47	1139	16.33	8.67	0.087	
W67	95.0	0.864	5.73	0.0090	100	1.0	4.25	1099	2.9	3.4	5.2	4.33	1199	16.66	8.58	0.086	
W68	95.0	0.864	21.74	0.0340	100	1.0	4.25	1480	3.8	3.9	6.0	4.86	1580	18.78	9.11	0.091	
W69	92.0	0.824	14.10	0.0220	100	1.0	4.96	1614	3.7	3.9	5.9	5.33	1714	19.52	10.29	0.103	
W70	95.0	0.864	1.90	0.0030	100	1.0	4.25	511	2.7	3.3	5.1	2.53	611	13.39	6.78	0.068	
W71	92.0	0.824	14.67	0.0229	100	1.0	4.96	1240	4.4	4.3	6.4	3.87	1340	17.44	8.83	0.088	
W72	95.0	0.864	21.22	0.0332	100	1.0	4.25	1545	6.5	5.2	7.8	3.84	1645	19.14	8.09	0.081	
W73	94.0	0.851	13.89	0.0217	100	1.0	4.49	1148	3.0	3.5	5.3	4.38	1248	16.93	8.87	0.089	
W74	94.0	0.851	2.41	0.0038	100	1.0	4.49	504	4.0	4.0	6.1	2.08	604	13.36	6.57	0.066	
WPW3	88.0	0.772	9.11	0.0142	100	1.0	5.91	1556	5.8	3.6	7.1	4.83	1656	19.20	10.74	0.107	
WPW4	88.0	0.772	10.93	0.0171	100	1.0	5.91	1604	5.5	3.5	6.9	5.05	1704	19.47	10.96	0.110	
WPW5	88.0	0.772	0.91	0.0014	100	1.0	5.91	704	4.8	3.3	6.5	3.09	804	14.47	9.00	0.090	
WP5	88.0	0.772	2.25	0.0035	100	1.0	5.91	896	6.5	5.1	7.8	2.47	996	15.53	8.38	0.084	
WP6	88.0	0.772	2.26	0.0035	100	1.0	5.91	990	8.1	5.7	8.7	2.39	1090	16.06	8.30	0.083	
WP7	89.0	0.785	0.87	0.0014	100	1.0	5.67	389	3.9	4.0	6.0	1.63	489	12.72	7.31	0.073	
WP8	88.0	0.772	1.20	0.0019	100	1.0	5.91	408	4.7	4.4	6.6	1.56	508	12.82	7.47	0.075	
WP9	88.0	0.772	2.51	0.0039	100	1.0	5.91	308	1.3	2.3	3.5	2.23	408	12.27	8.14	0.081	
SUMM1	98.0	0.904	4.28	0.0067	40	2.0	1.77	2080	2.9	3.4	5.2	7.50	2120	21.78	9.27	0.093	
SUMM2	98.0	0.904	3.45	0.0054	40	2.0	1.77	1370	6.2	5.0	7.6	3.56	1410	17.83	5.33	0.053	

STANDARD FORM 4

DEVELOPMENT: Summerlin West Area 1

W.O. # 7809 **CALCULATED BY:** JYA

V1 applies to the first 500 feet of travel distance
V2 applies to the remaining travel distance

Existing:		Developed	
$V1 = 148 * S^{1/2}$	$V2 = 294 * S^{1/2}$	$V1 = 202 * S^{1/2}$	$V2 = 306 * S^{1/2}$

$$T_i = \frac{1.8(1.1-k)L^{1/2}}{S^{1/3}} \qquad T_t = \frac{L}{60V}$$

$$k = 0.0132 C_n - 0.39 \qquad T_c = T_i + T_t$$

SUB-BASIN DATA					INITIAL/OVERLAND TIME (Ti)			TRAVEL TIME (Tt)					Tc CHECK (URBANIZED BASINS)		FINAL Tc	LAG TIME	REMARKS
DESIG. (1)	Cn	K (2)	AREA Ac. (3)	AREA Mi^2	LENGTH Ft (4)	SLOPE % (5)	Ti Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	V1 fps (9a)	V2 fps (9b)	Tt Min. (10)	TOTAL LENGTH (11)	Tc Min. (12)	Min.	TLAG Hr.	
DES1	98.0	0.904	1.64	0.0026	35	2.0	1.66	775	1.3	2.3	3.5	4.95	810	14.50	6.61	0.066	
DES2	98.0	0.904	1.95	0.0030	35	2.0	1.66	855	1.8	2.7	4.1	4.57	890	14.94	6.23	0.062	
DES3	98.0	0.904	4.22	0.0066	35	2.0	1.66	995	7.0	5.4	8.1	2.57	1030	15.72	4.23	0.042	
DES4	98.0	0.904	2.72	0.0043	35	2.0	1.66	900	1.1	2.1	3.2	5.98	935	15.19	7.64	0.076	
DES5	98.0	0.904	8.45	0.0132	32	2.0	1.59	1620	1.2	2.2	3.4	9.20	1652	19.18	10.79	0.108	
CARR1	98.0	0.904	3.49	0.0055	24	2.0	1.37	1315	3.4	3.7	5.7	4.63	1339	17.44	6.00	0.060	
CARR2	98.0	0.904	2.49	0.0039	24	2.0	1.37	980	1.5	2.5	3.8	5.45	1004	15.58	6.82	0.068	
CARR3	98.0	0.904	4.85	0.0076	30	2.0	1.54	1685	2.1	2.9	4.4	7.34	1715	19.53	8.88	0.089	
ST1	98.0	0.904	1.62	0.0025	20	2.0	1.25	910	6.0	5.0	7.5	2.59	930	15.17	3.84	0.038	
ST2	98.0	0.904	2.93	0.0046	24	2.0	1.37	1555	5.8	4.9	7.4	4.10	1579	18.77	5.48	0.055	
ST3	98.0	0.904	2.09	0.0033	20	2.0	1.25	985	6.1	5.0	7.6	2.74	1005	15.58	4.00	0.040	
ST4	98.0	0.904	3.57	0.0056	20	2.0	1.25	1465	5.5	4.7	7.2	4.01	1485	18.25	5.27	0.053	
ST5	98.0	0.904	1.48	0.0023	20	2.0	1.25	850	5.9	4.9	7.4	2.49	870	14.83	3.74	0.037	
ST6	98.0	0.904	2.99	0.0047	24	2.0	1.37	1615	5.3	4.6	7.0	4.45	1639	19.11	5.82	0.058	
X3	88.4	0.777	8.23	0.0129	110	2.0	4.84	3215	1.4	2.4	3.6	15.99	3325	28.47	20.83	0.208	
X12	88.2	0.774	1.38	0.0022	50	2.0	3.29	1395	4.7	4.4	6.6	4.17	1445	18.03	7.46	0.075	
															Tc Min (DEV)= 5 min		
															Tc Min (UNDEV)= 10 min		

TRAVEL TIME CALCULATIONS

DEVELOPMENT: Summerlin West Area 1

W.O. # 7809 **CALCULATED BY:** JYA

$$Velocity = CS^{1/2}$$

C1 applies to the first 500 feet of travel distance
C2 applies to the remaining travel distance

Existing:		Developed	
C1=14.8	C2=29.4	C1=20.2	C2=30.6

					First 500 feet		Remaining Travel Distance	
Basin	**Length** (ft)	**High Elev** (ft)	**Low Elev** (ft)	**Slope** (ft/ft)	**C1**	**V1** (fps)	**C2**	**V2** (fps)
DEVELOPED CONDITION ONSITE								
W42	785	3470	3410	0.076	20.2	5.6	30.6	8.5
W43	462	3416	3387	0.063	20.2	5.1	30.6	7.7
W44	1020	3395	3315	0.078	20.2	5.7	30.6	8.6
W45	1290	3383	3319	0.050	20.2	4.5	30.6	6.8
W46	636	3408	3382	0.041	20.2	4.1	30.6	6.2
W47	721	3453	3409	0.061	20.2	5.0	30.6	7.6
W48	1233	3458	3429	0.024	20.2	3.1	30.6	4.7
W49	1240	3436	3376	0.048	20.2	4.4	30.6	6.7
W50	1100	3369	3322	0.043	20.2	4.2	30.6	6.3
W51	1700	3314	3237	0.045	20.2	4.3	30.6	6.5
W52	1026	3326	3280	0.045	20.2	4.3	30.6	6.5
W53	558	3358	3335	0.041	20.2	4.1	30.6	6.2
W54	779	3371	3330	0.053	20.2	4.6	30.6	7.0
W55	644	3389	3371	0.028	20.2	3.4	30.6	5.1
W56	587	3408	3389	0.032	20.2	3.6	30.6	5.5
W57	555	3433	3411	0.040	20.2	4.0	30.6	6.1
W58	1027	3422	3366	0.055	20.2	4.7	30.6	7.1
W59	867	3366	3322	0.051	20.2	4.6	30.6	6.9
W60	1010	3323	3275	0.048	20.2	4.4	30.6	6.7
W61	1599	3274	3223	0.032	20.2	3.6	30.6	5.5
W62	1579	3363	3274	0.056	20.2	4.8	30.6	7.3
W63	1100	3449	3400	0.045	20.2	4.3	30.6	6.5
W64	1350	3401	3323	0.058	20.2	4.9	30.6	7.4
W65	1596	3357	3304	0.033	20.2	3.7	30.6	5.6
W66	1039	3308	3265	0.041	20.2	4.1	30.6	6.2
W67	1099	3257	3225	0.029	20.2	3.4	30.6	5.2
W68	1480	3253	3197	0.038	20.2	3.9	30.6	6.0
W69	1614	3295	3236	0.037	20.2	3.9	30.6	5.9
W70	511	3313	3299	0.027	20.2	3.3	30.6	5.1
W71	1240	3347	3292	0.044	20.2	4.3	30.6	6.4
W72	1545	3402	3301	0.065	20.2	5.2	30.6	7.8
W73	1148	3447	3412	0.030	20.2	3.5	30.6	5.3
W74	504	3453	3433	0.040	20.2	4.0	30.6	6.1
WPW3	1556	3450	3360	0.058	14.8	3.6	29.4	7.1
WPW4	1604	3357	3268	0.055	14.8	3.5	29.4	6.9
WPW5	704	3258	3224	0.048	14.8	3.3	29.4	6.5
WP5	896	3443	3385	0.065	20.2	5.1	30.6	7.8
WP6	990	3395	3315	0.081	20.2	5.7	30.6	8.7
WP7	389	3375	3360	0.039	20.2	4.0	30.6	6.0
WP8	408	3409	3390	0.047	20.2	4.4	30.6	6.6
WP9	308	3303	3299	0.013	20.2	2.3	30.6	3.5
SUMM1	2080	3445	3385	0.029	20.2	3.4	30.6	5.2
SUMM2	1370	3385	3300	0.062	20.2	5.0	30.6	7.6

TRAVEL TIME CALCULATIONS

DEVELOPMENT: Summerlin West Area 1

W.O. # 7809 **CALCULATED BY:** JYA

$$Velocity = CS^{1/2}$$

C1 applies to the first 500 feet of travel distance
C2 applies to the remaining travel distance

Existing:		Developed	
C1=14.8	C2=29.4	C1=20.2	C2=30.6

					First 500 feet		Remaining Travel Distance	
Basin	**Length** (ft)	**High Elev** (ft)	**Low Elev** (ft)	**Slope** (ft/ft)	**C1**	**V1** (fps)	**C2**	**V2** (fps)
DES1	775	3395	3385	0.013	20.2	2.3	30.6	3.5
DES2	855	3385	3370	0.018	20.2	2.7	30.6	4.1
DES3	995	3445	3375	0.070	20.2	5.4	30.6	8.1
DES4	900	3370	3360	0.011	20.2	2.1	30.6	3.2
DES5	1620	3360	3340	0.012	20.2	2.2	30.6	3.4
CARR1	1315	3320	3275	0.034	20.2	3.7	30.6	5.7
CARR2	980	3280	3265	0.015	20.2	2.5	30.6	3.8
CARR3	1685	3265	3230	0.021	20.2	2.9	30.6	4.4
ST1	910	3435	3380	0.060	20.2	5.0	30.6	7.5
ST2	1555	3450	3360	0.058	20.2	4.9	30.6	7.4
ST3	985	3375	3315	0.061	20.2	5.0	30.6	7.6
ST4	1465	3365	3285	0.055	20.2	4.7	30.6	7.2
ST5	850	3325	3275	0.059	20.2	4.9	30.6	7.4
ST6	1615	3355	3270	0.053	20.2	4.6	30.6	7.0
X3	3215	3235	3190	0.014	20.2	2.4	30.6	3.6
X12	1395	3300	3235	0.047	20.2	4.4	30.6	6.6

CURVE NUMBERS FOR SOILS - W.O. #7809

Soil # 112 Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Arizo	100%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**	**81**	**46**

Soil # 152 Cave gravelly fine sandy loam, 0 to 4 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo))	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Cave	100%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 155 Cave gravelly fine sandy loam, 4 to 15 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo))	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Cave	100%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 156 Vace - Wechech association														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Vace and Similar	45%	D	88	98	94	93	92	91	87	85	89	95	93	82
Wechech and Similar	25%	D	88	98	94	93	92	91	87	85	89	95	93	82
Wechech, steep, and similar	15%	D	88	98	94	93	92	91	87	85	89	95	93	82
Weiser	8%	B	77	98	86	88	87	84	75	70	79	92	88	65
Irongold	4%	D	88	98	94	93	92	91	87	85	89	95	93	82
Commski	2%	B	77	98	86	88	87	84	75	70	79	92	88	65
Threelakes	1%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**87**	**98**	**94**	**93**	**92**	**91**	**86**	**84**	**88**	**95**	**93**	**80**

Soil # 191 Dalian very cobbly fine sandy loam, 2 to 8 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Dalian	100%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**63**	**98**	**77**	**81**	**80**	**76**	**61**	**54**	**68**	**89**	**81**	**46**

Soil # 294 Rock outcrop, sand stone														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95	93	82
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 320 Boxspring - Zeheme - Rock outcrop association														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Boxspring	50%	D	88	98	94	93	92	91	87	85	89	95	93	82
Zeheme	33%	D	88	98	94	93	92	91	87	85	89	95	93	82
Rock Outcrop	15%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic Haplocalcids	2%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 323 Boxspring - Scrapy - Rock Outcrop Association														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Boxspring	40%	D	88	98	94	93	92	91	87	85	89	95	93	82
Scrapy	30%	D	88	98	94	93	92	91	87	85	89	95	93	82
Rock outcrop	15%	D	88	98	94	93	92	91	87	85	89	95	93	82
Lithic calciustolls	9%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic Haplustolls	6%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 351 Seralin extremely gravelly loam, 30 to 75 percent slopes														
Soil	Percent	Group	Existing$_1$	Impervious$_2$	Newly Graded Areas$_3$	Residential$_4$ (Apartment/Condo)	Residential$_5$ (6,000 Ft^2 or Less)	Residential$_6$ (7,000 Ft^2)	Residential$_7$ (10,000 Ft^2)	Residential$_8$ (20,000 Ft^2)	Open Space$_9$ (Poor Condition)	Urban Districts$_{10}$ (Comercial and Business)	Industrial$_{11}$	Residential$_{(80,000\ sq\ FT)}$
Seralin	85%	D	88	98	94	93	92	91	87	85	89	95	93	82
Potosi	7%	D	88	98	94	93	92	91	87	85	89	95	93	82
Lithic Torriorthents	4%	D	88	98	94	93	92	91	87	85	89	95	93	82
Rock Outcrop	4%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**		**95**	**93**	**82**

Soil #236 Glencarb very fine sandy loam, saline.									
Soil		Percent	Group	Existing$_1$	Parks$_2$				
Glencarb		85%	B						
McCarran		5%	B						

Land		10%	C											
Total		**100%**		**0**	**0**									

Soil # 360 Rock outcrop - St. Thomas Complex														
Soil	Percent	Group	Existing[1]	Impervious[2]	Newly Graded Areas[3]	Residential[4] (Apartment/Condo)	Residential[5] (6,000 Ft^2 or Less)	Residential[6] (7,000 Ft^2)	Residential[7] (10,000 Ft^2)	Residential[8] (20,000 Ft^2)	Open Space[9] (Poor Condition)	Urban Districts[10] (Comercial and Business)	Industrial[11]	Residential[(80,000 sq FT)]
Rock outcrop	50%	D	88	98	94	93	92	91	87	85	89	95	93	82
St. Thomas	35%	D	88	98	94	93	92	91	87	85	89	95	93	82
Weiser	10%	A	63	98	77	81	80	76	61	54	68	89	81	46
Bracken	5%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**85**	**98**	**92**	**92**	**91**	**89**	**84**	**81**	**86**	**95**	**92**	**77**

Soil # 502 Canutio-Cave gravelly fine sandy loams, 2 to 8 percent slopes														
Soil	Percent	Group	Existing[1]	Impervious[2]	Newly Graded Areas[3]	Residential[4] (Apartment/Condo)	Residential[5] (6,000 Ft^2 or Less)	Residential[6] (7,000 Ft^2)	Residential[7] (10,000 Ft^2)	Residential[8] (20,000 Ft^2)	Open Space[9] (Poor Condition)	Urban Districts[10] (Comercial and Business)	Industrial[11]	Residential[(80,000 sq FT)]
Canutio	55%	A	63	98	77	81	80	76	61	54	68	89	81	46
Cave	40%	D	88	98	94	93	92	91	87	85	89	95	93	82
Arizo	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**75**	**98**	**85**	**87**	**86**	**83**	**73**	**68**	**78**	**92**	**87**	**63**

Soil # 640 Rock outcrop, sand stone														
Soil	Percent	Group	Existing[1]	Impervious[2]	Newly Graded Areas[3]	Residential[4] (Apartment/Condo)	Residential[5] (6,000 Ft^2 or Less)	Residential[6] (7,000 Ft^2)	Residential[7] (10,000 Ft^2)	Residential[8] (20,000 Ft^2)	Open Space[9] (Poor Condition)	Urban Districts[10] (Comercial and Business)	Industrial[11]	Residential[(80,000 sq FT)]
Rock outcrop	90%	D	88	98	94	93	92	91	87	85	89	95	93	82
Moentria	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Nupper	5%	D	88	98	94	93	92	91	87	85	89	95	93	82
Total	**100%**		**88**	**98**	**94**	**93**	**92**	**91**	**87**	**85**	**89**	**95**	**93**	**82**

Soil # 731 Purob-Irongold association														
Soil	Percent	Group	Existing[1]	Impervious[2]	Newly Graded Areas[3]	Residential[4] (Apartment/Condo)	Residential[5] (6,000 Ft^2 or Less)	Residential[6] (7,000 Ft^2)	Residential[7] (10,000 Ft^2)	Residential[8] (20,000 Ft^2)	Open Space[9] (Poor Condition)	Urban Districts[10] (Comercial and Business)	Industrial[11]	Residential[(80,000 sq FT)]
Purob	60%	D	88	98	94	93	92	91	87	85	89	95	93	82
Irongold	25%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic torriorthents	5%	A	63	98	77	81	80	76	61	54	68	89	81	46
Arizo	3%	A	63	98	77	81	80	76	61	54	68	89	81	46
Purob	3%	D	88	98	94	93	92	91	87	85	89	95	93	82
Typic haplocalcids	2%	B	77	98	86	88	87	84	75	70	79	92	88	65
Xeric haplocambids	1%	A	63	98	77	81	80	76	61	54	68	89	81	46
Aridic calcixerolls	1%	A	63	98	77	81	80	76	61	54	68	89	81	46
Total	**100%**		**86**	**98**	**93**	**92**	**91**	**90**	**85**	**82**	**87**	**95**	**92**	**79**

1-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 4 of 4
* Desert Shrub in Poor Hydrologic Condition
2-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page1 of 4
* Streets and Roads
3-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Newly Graded Areas
4-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Apartments / Condos **(MF/SFA-MU > 10 UNITS per ACRE)**
5-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* Townhouses / 6,000 sq ft lots or less **(SF/SFA 7-10 UNITS per ACRE)**
6-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 7,000 sq ft lots **(SF/SFA 5-7 UNITS per ACRE)**
7-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 10,000 sq ft lots **(SF LOW 3-5 UNITS Per ACRE)**
8-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602A
* 20,000 sq ft lots **(SF ESTATE 1.5-3 UNITS per ACRE)**
9-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Open spaces in poor condition (grass cover < 50%)
10-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Commercial and Business
Referenced from Table 602A, Apartments / Condos
Referenced from Table 602 (1 of 4), Urban District, Commercial and business
Referenced from Table 602 (1 of 4), Open Space, Good Condition

11-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602 page 1 of 4
* Industrial
12-Referenced Clark County's Hydrologic Criteria and Drainage Design Manual Table 602a
* 80,000 sq ft lots **(SF ESTATE 0-.5 UNITS per ACRE)**

Curve Number calculations for basins

Basin	Type	Soil Percentage	1	2	3	4	5	6	7	8	9	10	11	12	CN Value
DEVELOPED CONDITION ONSITE															
W42	156	100%										100%			**95.0**
W43	156	100%										100%			**95.0**
W44	156	100%										100%			**95.0**
W45	156	100%										100%			**95.0**
W46	152	7%										100%			**95.0**
	156	100%										100%			
W47	156	87%										100%			**95.0**
	152	13%										100%			
W48	156	16%				100%									**93.0**
	152	84%				100%									
W49	152	100%										100%			**95.0**
W50	156	73%										100%			**95.0**
	152	27%										100%			
W51	156	46%										100%			**95.0**
	152	54%										100%			
W52	152	100%					100%								**92.0**
W53	152	100%				95%						5%			**93.1**
W54	152	100%				95%						5%			**93.1**
W55	152	100%				95%						5%			**93.1**
W56	152	100%				95%						5%			**93.1**
W57	152	100%				95%						5%			**93.1**
W58	156	59%					100%								**92.0**
	152	41%					100%								
W59	156	57%				95%						5%			**93.1**
	152	43%				95%						5%			
W60	156	51%					100%								**92.0**
	152	49%					100%								
W61	156	100%					100%								**92.0**
W62	156	100%					100%								**92.0**
W63	156	100%					100%								**92.0**
W64	156	100%					100%								**92.0**
W65	156	100%						100%							**91.0**
W66	156	100%						100%							**91.0**
W67	156	51%										100%			**95.0**
	152	49%										100%			
W68	156	94%										100%			**95.0**
	152	6%										100%			
W69	156	100%					100%								**92.0**
W70	156	100%										100%			**95.0**
W71	156	100%					100%								**92.0**
W72	156	100%										100%			**95.0**
W73	156	100%			100%										**94.0**
W74	156	100%			100%										**94.0**
WPW3	156	100%									100%				**88.0**
WPW4	156	100%									100%				**88.0**
WPW5	156	100%									100%				**88.0**
WP5	156	100%									100%				**88.0**
WP6	156	100%									100%				**88.0**
WP7	152	100%									100%				**89.0**
WP8	156	100%									100%				**88.0**
WP9	156	100%									100%				**88.0**
SUMM1	156	90%		100%											**98.0**
	152	10%		100%											
SUMM2	156	100%		100%											**98.0**
DES1	156	100%		100%											**98.0**
DES2	152	100%		100%											**98.0**
DES3	152	100%		100%											**98.0**
DES4	152	20%		100%											**98.0**
	156	80%		100%											
DES5	156	100%		100%											**98.0**
CARR1	156	50%		100%											**98.0**
	152	50%		100%											
CARR2	156	90%		100%											**98.0**
	152	10%		100%											
CARR3	156	95%		100%											**98.0**
	152	5%		100%											
ST1	152	100%		100%											**98.0**
ST2	156	100%		100%											**98.0**
ST3	156	50%		100%											**98.0**
	152	50%		100%											
ST4	152	90%		100%											**98.0**
	156	10%		100%											

ST5	156	100%		100%											**98.0**
ST6	156	100%		100%											**98.0**
X3	156	60%									100%				**88.4**
	152	40%									100%				
X12	156	80%									100%				**88.2**
	152	20%									100%				

B.4.5 USBR ROUTING CALCULATIONS TRIBUTARY

USBR ROUTING CALCULATIONS

$$TLAG = 20K_n(\frac{LL_c}{S^{0.5}})^{0.33}$$

4-1		
Kn	0.05	
L	4.448501	MILE
Lc	2.681387	MILE
S	678.88	FT/MI
TLAG=	0.772722	<-- 2008 MPU IS 0.725

3-1		
Kn	0.05	
L	2.86	MILE
Lc	1.62	MILE
S	573	FT/MI
TLAG=	0.581628	<--2008 MPU IS 0.495

1-1		
Kn	0.05	
L	2.02	MILE
Lc	1.1348	MILE
S	495.0495	FT/MI
TLAG=	0.472359	

E-NORTH		
Kn	0.05	
L	2.88	MILE
Lc	1.55	MILE
S	270.3	FT/MI
TLAG=	0.650361	

B.5 ULTIMATE CONDITION HEC-1 MODEL OUTPUT

B.5.1 100-YEAR SDN3 BELTWAY CHANNEL NORTH/VILLAGE 26 TRIBUTARY

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *             JUN   1998               *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   05DEC17  TIME  15:30:56  *
 *                                      *
 ****************************************
```

```
****************************************
*                                      *
*    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
 *** FREE ***
             1          ID    INPUT FILE DATE = JULY 2017
             2          ID    DESIGN STORM = 100-YEAR 6-HR STORM
             3          ID    STORM DISTRIBUTION = SDN #3
             4          ID    MODELED BY VTN (SVB/WJM)
             5          ID    RESPONSE TO COMMENTS
             6          ID
             7          ID
             8          ID
             9          ID    ************************************************************************
            10          ID    * HYDROLOGIC MODEL:3 REFERENCE FILES ARE USED                          *
            11          ID    * 2017 SUMMERLIN MASTER PLAN BASINS - REMAKE OF SUMMERLIN              *
            12          ID    * CCRFCD 2008 MASTER PLAN UPDATE GOWAN WATERSHED  *
            13          ID    *                                                                      *
            14          ID    ************************************************************************
            15          ID    *                                                                      *
            16          ID    * REMAKE OF HYDROLOGIC MODEL:                                         *
            17          ID    * SUMMERLIN VILLAGE 26 - RESPONSE TO COMMENTS                         *
            18          ID    * DATED NOVEMBER 2015 START ON PAGE 31/175                           *
            19          ID    * HEC-1 TITLE - SUMMERLIN VILLAGE 26 REVERENCE                       *
            20          ID    *                                                                      *
            21          ID    *                                                                      *
            22          ID    *                                                                      *
            23          ID    * ************************************************************************
            24          ID
            25          ID
            26          ID
            27          ID
            28          ID                          AREA    DARF
            29          ID                          SQ. MI.
            30          ID                          0-0.5   0.99
            31          ID                          0.5-1   0.975
            32          ID                          1-2     0.95
            33          ID                          2-3     0.925
            34          ID                          3-4     0.915
            35          ID                          4-5     0.908
            36          ID                          5-6     0.903
            37          ID                          6-7     0.895
            38          ID                          7-8     0.885
            39          ID
            40          ID
            41          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
            42          ID
            43          ID  100-YEAR,  6-HOUR STORM,  SDN3
            44          ID
            45          IT       5       0       0     650
            46          IO       5       0       0
            47          IN       5       0       0
            48          JR    PREC    0.99   0.975    0.95   0.925   0.915   0.908   0.903   0.895   0.885
                        *
```

1 HEC-1 INPUT PAGE 2

```
          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
            49          KK     1-1
            50          KM   PORTION OF 2008 MPU BASIN 30
            51          BA   1.990
            52          PB    3.70
            53          PC       0    0.02   0.057    0.07   0.087   0.108   0.124    0.13    0.13    0.13
            54          PC    0.13    0.13    0.13   0.133    0.14   0.142   0.148   0.158   0.172   0.181
            55          PC    0.19   0.197   0.199     0.2   0.201   0.204   0.214   0.229   0.241   0.249
            56          PC   0.251   0.256    0.27   0.278   0.281   0.283   0.295   0.322   0.352   0.409
            57          PC   0.499    0.59    0.71   0.744   0.781   0.812   0.819   0.835   0.851   0.856
            58          PC    0.86   0.868   0.876   0.888    0.91   0.926   0.937    0.95    0.97   0.976
            59          PC   0.982   0.985   0.987   0.989    0.99   0.993   0.993   0.994   0.995   0.998
            60          PC   0.998   0.999       1
```

```
  61          LS       0    87.0
  62          UD   0.472
              *

  63          KK    R1-1
  64          KM   REFERENCED FROM 2008 MPU SEE 30
  65          KM   ROUTE R1-1 THROUGH 1-A TO CP1.1
  66          KM   PORTION OF FACILITY GOL30370 (NATURAL WASH)
  67          RD    5700   0.085   0.030       0    TRAP     450       0
              *

  68          KK     1-A
  69          KM   PORTION OF 2008 MPU BASIN 30
  70          BA  0.1249
  71          PB    3.61
  72          LS       0    67.1
  73          UD   0.229
              *

  74          KK   CP1.1
  75          KM   COMBINE R1-1 and 1-A
  76          HC       2
              *

  77          KK  RCP1.1
  78          KM   ROUTE RCP1.1 THROUGH 1-3 TO CP1.2
  79          KM   PORTION OF FACILITY GOL30370 (NATURAL WASH)
  80          RD     830   0.085   0.030       0    TRAP     450       0
              *

  81          KK     1-3
  82          KM   PORTION OF 2008 MPU BASIN 30
  83          BA   0.330
  84          PB    3.59
  85          LS       0    84.3
  86          UD   0.146
              *
```



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

  87          KK   CP1.2
  88          KM   COMBINE RCP1-1 and 1-3
  89          HC       2
              *

  90          KK  RCP1.2
  91          KM   ROUTE RCP1.2 THROUGH 1-B TO CP1.3
  92          KM   PORTION OF FACILITY GOL30289 (CONC CHANNEL)
  93          RD    6100  0.0795   0.013       0    TRAP      50       2
              *

  94          KK     1-6
  95          KM   PORTION OF 2008 MPU BASIN SV26-1
  96          BA  0.0753
  97          PB    3.54
  98          LS       0    88.0
  99          UD    0.01
              *

 100          KK    R1-6
 101          KM   ROUTE 1-6 THROUGH 1-B TO CP1.3
 102          KM   PORTION OF FACILITY GOL30289 (CONC CHANNEL)
 103          RD    3600  0.0795   0.013       0    TRAP      50       2
              *

 104          KK     1-B
 105          KM   PORTION OF 2008 MPU BASIN SV26-1
 106          BA  0.1838
 107          PB    3.51
 108          LS       0    79.7
 109          UD   0.198
              *

 110          KK    R1-B
 111          KM   ROUTE 1-B TO CP1.3
 112          KM   PORTION OF FACILITY GOL30289 (CONC CHANNEL)
 113          RD     650  0.0795   0.013       0    TRAP      50       2
              *

 114          KK     1-5
 115          KM   PORTION OF 2008 MPU BASIN SV26-1
 116          BA  0.2400
 117          PB    3.56
 118          LS       0    78.3
 119          UD   0.221
              *

 120          KK    R1-5
 121          KM   ROUTE R1-5 THROUGH 1-B TO CP1.3
 122          KM   PORTION OF FACILITY GOL30290 (NATURAL WASH)
 123          RD    3600   0.225   0.030       0    TRAP     363       0
              *
```



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

 124          KK     1-4
 125          KM   PORTION OF 2008 MPU BASIN SV26-1
 126          BA  0.5431
 127          PB    3.56
 128          LS       0    88.0
 129          UD   0.106
              *
```

```
 130          KK    R1-4
 131          KM   ROUTE R1-4 THROUGH 1-B TO CP1.3
 132          KM   FACILITY GOL30290 (NATURAL WASH)
 133          RD    4850   0.225   0.030       0    TRAP     363       0
              *

 134          KK   CP1.3
 135          KM   COMBINE RCP1.2, R1-4, R1-5, R1-B and R1-6
 136          HC       5
              *

 137          KK  RCP1.3
 138          KM   ROUTE RCP1.3 THROUGH 1-7 TO CP1.4
 139          KM   FACILITY GOL30216 (CONC CHANNEL)
 140          RD    3800  0.0608   0.013       0    TRAP      50       2
              *

 141          KK     1-7
 142          KM   PORTION OF 2008 MPU BASIN SV26-1
 143          BA  0.5542
 144          PB    3.48
 145          LS       0    86.6
 146          UD   0.147
              *

 147          KK   CP1.4
 148          KM   COMBINES 1-7 AND RCP1.3
 149          HC       2
              *
              * START SUMMERLIN VILLAGE 26 DATED NOVEMBER 2015 BY G.C. WALLACE
              *

 150          KK    1-3P
 151          PB    3.36
 152          BA  0.0258
 153          LS       0    94.9
 154          UD   0.084

 155          KK     CP4
 156          KM   PREVIOUSLY CALLED CP4 IN VILLAGE 26 STUDY
 157          KM   COMBINE 1-3P CP1.3
 158          HC       2
              *
1                                        HEC-1 INPUT                                                PAGE  5

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

 159          KK    RCP4
 160          KM   THIS IS RCSV26-1 IN THE 2008 MPU
 161          KM   ROUTE CSV26-1 TO VILLAGE 26 DETENTION BASIN
 162          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BRANCH 3
 163          KM   FACILITY # = GOL3 0137
 164          KM   LINING = RCB
 165          RD    4334   0.005   0.015       0    TRAP      14       0
              *

 166          KK   1-12P
 167          PB    3.32
 168          BA  0.1814
 169          LS       0    83.8
 170          UD   0.234
              *

 171          KK     CP5
 172          KM   COMBINE CP4 AND 1-12P
 173          HC       2
              *

 174          KK    1-14
 175          PB    3.31
 176          BA  0.0016
 177          LS       0    86.3
 178          UD   0.100
              *

 179          KK    1-15
 180          PB    3.32
 181          BA  0.0057
 182          LS       0    86.1
 183          UD   0.100
              *

 184          KK    1-16
 185          PB    3.31
 186          BA  0.0030
 187          LS       0    86.3
 188          UD   0.100
              *

 189          KK    1-17
 190          PB    3.28
 191          BA  0.0039
 192          LS       0    86.3
 193          UD   0.100
              *
1                                        HEC-1 INPUT                                                PAGE  6

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

 194          KK    1-18
 195          PB    3.28
 196          BA  0.0038
 197          LS       0    86.3
```

```
 198          UD   0.100
              *

 199          KK    CP5B
 200          KM   COMBINE CP5, 1-14, 1-15, 1-16, 1-17, AND 1-18 AT DETENTION BASIN
              * KO    1
 201          HC       6
              *

 202          KK    EXDB
              * KO    1
 203          KM   DETENTION BASIN CHEYENNE AND BELTWAY
 204          KM   LOW FLOW OUTLET IS 66" PIPE
 205          RS       1    STOR       0
 206          SV       0    0.07    0.80   12.71   18.75   25.05   85.95   95.04  124.21  135.14
 207          SV  200.27  243.11  258.06  273.36  289.00  304.99
 208          SE    2990    2991    2992    2995    2996    2997    3005    3006    3009    3010
 209          SE    3015    3018    3019    3020    3021    3022
 210          SL  2993.7   22.31     0.7     0.5
 211          SS  3021.9     200     2.6     1.5
              *

 212          KK     2-C
 213          KM   PORTION OF 2008 MPU BASIN SV22-3
 214          BA  0.5963
 215          PB    3.41
 216          LS       0    92.5
 217          UD   0.295
              *

 218          KK    R2-C
 219          KM   THIS IS RCSV22-3
 220          KM  ROUTE CSV22-3 TO CRCSV223 FROM THE 2008 MPU
 221          KM  FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BELTWAY BRANCH
 222          KM  FACILITY # = GOBE 0000, 0001, 0065
 223          KM  LINING = CONCRETE
 224          RD    4605   0.065   0.015       0    TRAP      20       2
              *

 225          KKCRCSV223
 226          KM   COMBINE RCP2.1, AND EXDB
 227          HC       2
              *
              * RE-START SUMMERLIN VILLAGE 26 DATED NOVEMBER 2015 BY G.C. WALLACE
              *
1                                      HEC-1 INPUT                                          PAGE  7

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

 228          KK    1-4R
 229          PB    3.44
 230          BA  0.0536
 231          LS       0    86.3
 232          UD   0.100
              *

 233          KK    1-5R
 234          PB    3.42
 235          BA  0.0343
 236          LS       0    86.3
 237          UD   0.100
              *

 238          KK     CP6
 239          KM   COMBINBE 1-4R AND 1-5R
 240          HC       2
              *

 241          KK      R8
 242          KM   ROUTE CP6 THROUGH 1-11P TO CP9
 243          KM   ASSUME RCP
 244          KM     LEN   SLOPE      n           SHAPE    DAMETER
 245          RD    1800  0.0610   0.013       0    CIRC       4
              *

 246          KK    1-6R
 247          PB    3.43
 248          BA  0.0152
 249          LS       0    86.3
 250          UD   0.100
              *

 251          KK    1-7R
 252          PB    3.44
 253          BA  0.0271
 254          LS       0    86.3
 255          UD   0.100
              *

 256          KK     CP7
 257          KM   COMBINE 1-6R AND 1-7R
 258          HC       2
              *

 259          KK      R9
 260          KM   ROUTE CP7 THROUGH 1-11P TO CP9
 261          KM   ASSUME RCP
 262          KM     LEN    SLOPE     n             SHAPE     DIAMETER
 263          RD    3150  0.0400   0.013       0    CIRC     4.5
              *
1                                      HEC-1 INPUT                                          PAGE  8

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

```
 264          KK    1-8R
 265          PB    3.42
 266          BA  0.0025
 267          LS       0    86.3
 268          UD   0.100
              *

 269          KK   1-10R
 270          PB    3.41
 271          BA  0.0556
 272          LS       0    86.1
 273          UD   0.100
              *

 274          KK     CP8
 275          KM   COMBINE 1-8R AND 1-10R
 276          HC       2
              *

 277          KK     R10
 278          KM   ASSUME RCP
 279          KM     LEN   SLOPE      n             SHAPE     DIAMETER
 280          RD    2900  0.0400   0.013       0    CIRC     4.5
              *

 281          KK   1-11P
 282          PB    3.38
 283          BA  0.1775
 284          LS       0    81.7
 285          UD   0.214
              *

 286          KK     CP9
 287          KM   COMBINE CP6, CP7, CP8, AND 1-11P
 288          HC       4
              *

 289          KK    1-13
 290          PB    3.34
 291          BA  0.0008
 292          LS       0    86.3
 293          UD   0.100
              *

 294          KK    CP10
 295          KM   COMBINE CP9, 1-13
 296          HC       2
              *
              * END SUMMERLIN VILLAGE 26 DATED NOVEMBER 2015 BY G.C. WALLACE
              * BEGIN 2008 MPU
              *
```



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

 297          KK RSV26-3
 298          KM   ROUTE SV26-3 TO CLMT1R
 299          KM   NATURAL WASH
 300          KM   TRAVEL LENGTH = 1,200
 301          KM   SLOPE = 3.3%
 302          KM   N = 0.040
 303          KM   HYDRAULIC RADIUS = 1.5
 304          KM   VELOCITY = 14.2
 305          RM       0   0.024    0.15
              *
              * END OF G.C. WALLACE'S HYDROLOGY
              *

 306          KK   LMT1R
 307          BA   1.945
 308          PB    3.45
 309          LS       0    87.7
 310          UD   0.447
              *

 311          KK  CLMT1R
 312          KM   COMBINE RSV26-3 AND LMT1R
 313          HC       2
              *

 314          KK RCLMT1R
 315          KM   ROUTE CLMT1R TO CRCLMT1R
 316          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BRANCH 4
 317          KM   FACILITY # = GOL4 0000, 0010, 0025
 318          KM   LINING = RCB
 319          RD    3000   0.025   0.015       0    TRAP      16       0
              *

 320          KKCRCLMT1R
 321          KM   COMBINE RCRCSV22 AND RCLMT1R
 322          HC       2
              *

 323          KKRCRCLMT1
 324          KM   ROUTE CRCLMT1R TO CLMT5
 325          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BRANCH 3
 326          KM   FACILITY # = GOL3 0000, 0010, 0068
 327          KM   LINING = CONCRETE
 328          RD    3640   0.027   0.015       0    TRAP      20       0
              *

 329          KK    LMT5
 330          BA   0.539
 331          PB    3.26
 332          LS       0    88.2
```

```
 333          UD   0.158
              *
```



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

 334          KK   CLMT5
 335          KM   COMBINE LMT5 AND RCRCLMT1
 336          HC       2
              *

 337          KK    LMT2
 338          BA   0.985
 339          PB    3.41
 340          LS       0    95.6
 341          UD   0.175
              *

 342          KK   RLMT2
 343          KM   ROUTE LMT2 TO CLMT3
 344          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM
 345          KM   FACILITY # = GOLM 0264, 0277
 346          KM   LINING = CONCRETE
 347          RD    4430    0.05   0.015       0    TRAP      20       2
              *

 348          KK    LMT3
 349          BA   0.328
 350          PB    3.32
 351          LS       0    90.8
 352          UD   0.107
              *

 353          KK   CLMT3
 354          KM   COMBINE RLMT2 AND LMT3
 355          HC       2
              *

 356          KK  RCLMT3
 357          KM   ROUTE CLMT3 TO CUVB2
 358          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM
 359          KM   FACILITY # = GOLM 0230, 0233, 0236, 0252, 0260, 0262, 0264
 360          KM   LINING = CONCRETE
 361          RD    2490   0.036   0.015       0    TRAP      15       0
              *

 362          KK    UVB2
 363          BA   0.450
 364          PB    3.26
 365          LS       0    89.9
 366          UD   0.275
              *

 367          KK   CUVB2
 368          KM   COMBINE  RCLMT3 AND UVB2
 369          HC       2
              *
```



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

 370          KK  CCLMT5
 371          KM   COMBINE  CUVB2 AND CLMT5
 372          HC       2
              *

 373          KK RCCLMT5
 374          KM   ROUTE CCLMT5 TO CGABW
 375          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM
 376          KM   FACILITY # = GOLM 0150, 0162, 0174
 377          KM   LINING = CONCRETE
 378          RD    3820   0.032   0.015       0    TRAP      28       0
              *

 379          KK    GABW
 380          BA   0.204
 381          PB    3.17
 382          LS       0    84.6
 383          UD   0.238
              *

 384          KK   CGABW
 385          KM   COMBINE RCCLMT5 AND GABW
 386          HC       2
              *

 387          KK    CRBW
 388          BA   0.437
 389          PB    3.17
 390          LS       0    84.6
 391          UD   0.315
              *

 392          KK   CCRBW
 393          KM   COMBINE CRBW AND CGABW
 394          HC       2
              *

 395          KK    GRBW
 396          BA   0.300
 397          PB    3.17
 398          LS       0    89.7
 399          UD   0.231
              *
```

```
            400           KK   GRBW2
            401           BA   0.158
            402           PB    3.10
            403           LS       0    84.7
            404           UD   0.219
                          *
1                                                  HEC-1 INPUT                                                  PAGE 12

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


            405           KK    LMDB
            406           BA   0.120
            407           PB    3.10
            408           LS       0    80.1
            409           UD   0.244
                          *

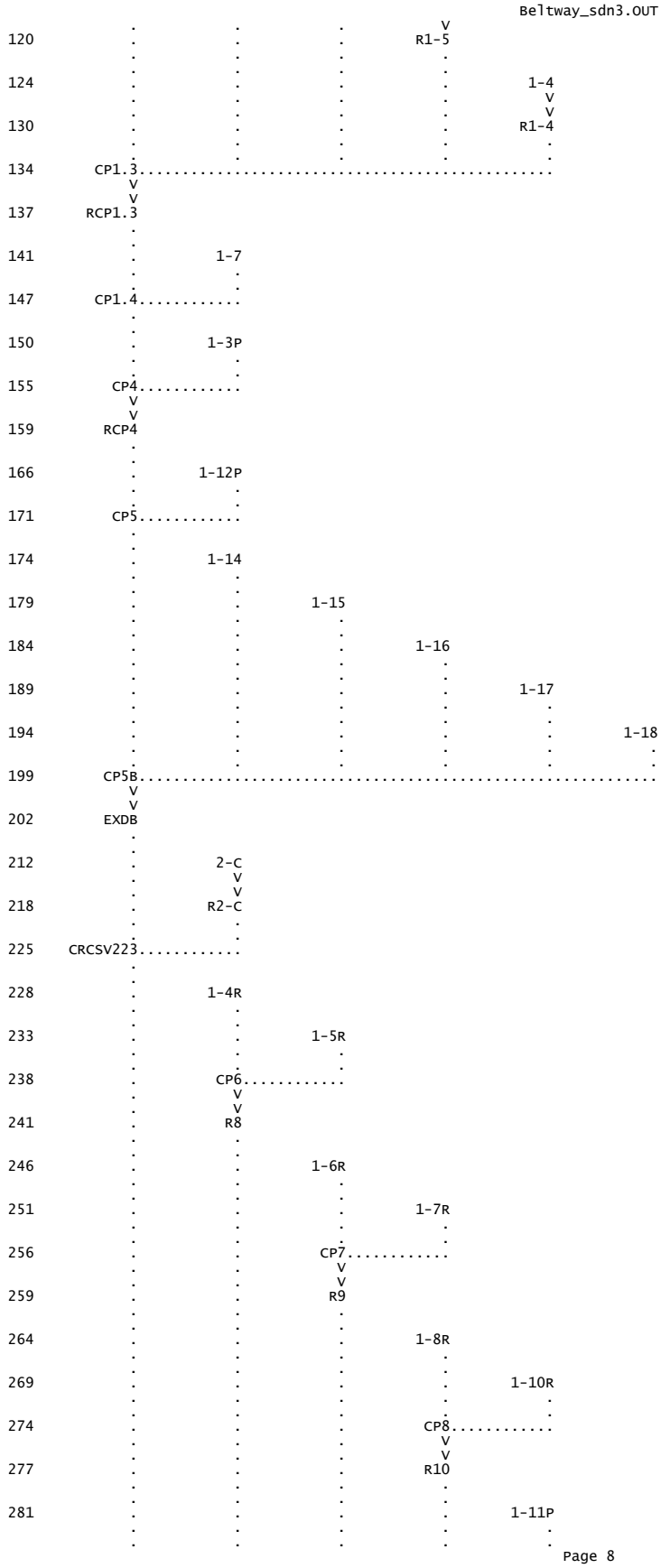
            410           KK  LMTNIN
            411           KM   COMBINE LMDB, GRBW, GRBW2, AND CCRBW
            412           KM   TOTAL INFLOW TO LONE MOUNTAIN DETENTION BASIN
                          * KO 1
            413           HC       4
                          *

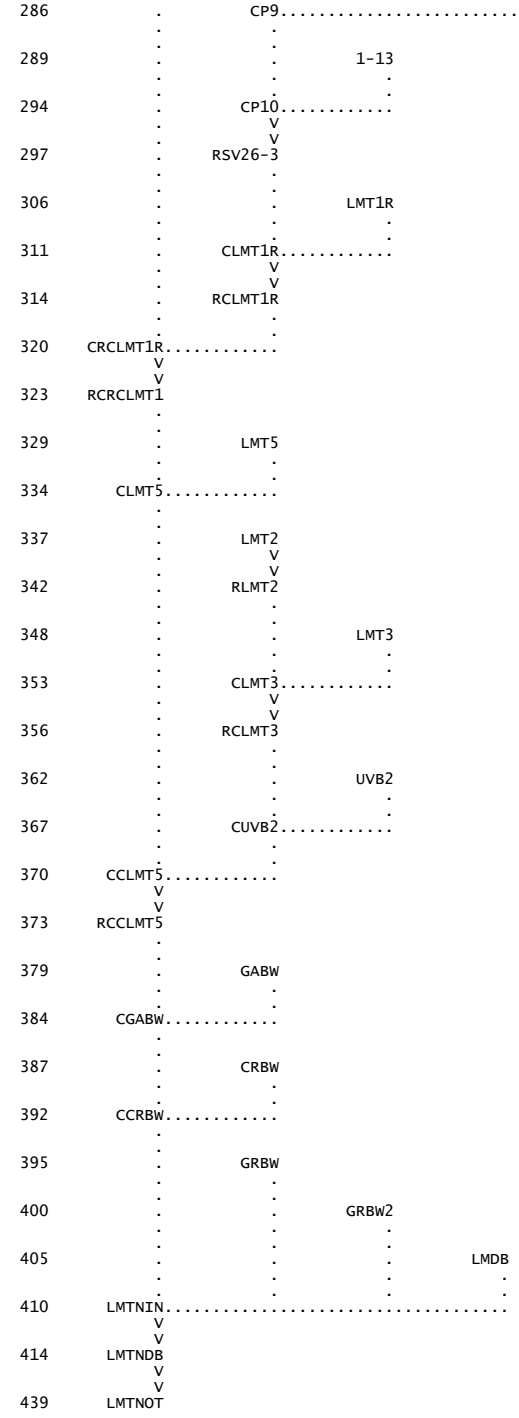
            414           KK  LMTNDB
            415           KM   LONE MOUNTAIN DETENTION BASIN
            416           KM   FACILITY = GOWAN/LONE MTN. SYSTEM
            417           KM   FACILITY # = GOLM 0146
            418           KM   TYPE OF FACILITY = DETENTION BASIN
            419           KM   STORAGE VOLUME = 888.02 ACRE-FEET
            420           KM   OUTLET = 36" ORIFICE PLATE
            421           KM   100-YEAR DISCHARGE =
            422           KM   SPILLWAY LENGTH = 825'
            423           KM   SPILLWAY HEIGHT =
            424           KM   SPILLWAY CREST ELEVATION = 2652.57'
            425           KM   SPILLWAY TYPE = LABYRINTH
            426           KM   PMF DISCHARGE =
            427           KM   TOP OF EMBANKMENT ELEVATION = 2658'
            428           KM   INFORMATION REFERENCED FROM "ALEXANDER ROAD/HUALAPUI WAY ROAD IMPROVEMENTS
            429           KM   PROJECT: CHEYENE AVENUE TO CIMARRON ROAD" PLANS BY THE CITY OF LAS VEGAS
            430           KM   DEPARTMENT OF PUBLIC WORKS: ENGINEERING DESIGN SECTION (8-12-2004)
            431           KO       3
            432           RS       1    STOR      -1
            433           SV       0    1.48    6.45   32.97   130.6  238.38  377.17  558.09  769.02   888.0
            434           SV  901.46  946.59   992.2 1038.33    1085 1132.17
            435           SE    2621    2622    2623    2625    2630    2635    2640    2645    2650   2652.
            436           SE    2653    2654    2655    2656    2657    2658
            437           SQ       0       0      24      56      96     120     144     163     182     188
            438           SQ     200     300     600     800   20000   31600
                          *

            439           KK  LMTNOT
            440           KM   ROUTE LMTNDB TO CLV15-C
            441           KM   FACILITY = GOWAN - LONE MOUNTAIN SYSTEM
            442           KM   FACILITY # = GOLM 0000,0049,060,0075,0101,0115,0140,0142,0144,0145
            443           KM   LINING = RCP
            444           RD    9240  0.0308   0.015       0    CIRC       4
                          *
            445           ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    49            1-1
                  V
                  V
    63           R1-1
                  .
                  .
    68            .         1-A
                  .           .
                  .           .
    74           CP1.1.........
                  V
                  V
    77          RCP1.1
                  .
                  .
    81            .         1-3
                  .           .
                  .           .
    87           CP1.2.........
                  V
                  V
    90          RCP1.2
                  .
                  .
    94            .         1-6
                  .           V
                  .           V
   100            .        R1-6
                  .           .
                  .           .
   104            .           .         1-B
                  .           .           V
                  .           .           V
   110            .           .        R1-B
                  .           .           .
                  .           .           .
   114            .           .           .         1-5
                  .           .           .           V
```


R1-5
1-4
R1-4
CP1.3
RCP1.3
1-7
CP1.4
1-3P
CP4
RCP4
1-12P
CP5
1-14
1-15
1-16
1-17
1-18
CP5B
EXDB
2-C
R2-C
CRCSV223
1-4R
1-5R
CP6
R8
1-6R
1-7R
CP7
R9
1-8R
1-10R
CP8
R10
1-11P



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN   1998                *
 *           VERSION 4.1                 *
 *                                       *
 *  RUN DATE   05DEC17  TIME  15:30:56   *
 *                                       *
 *****************************************
```

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

INPUT FILE DATE = JULY 2017
DESIGN STORM = 100-YEAR 6-HR STORM

STORM DISTRIBUTION = SDN #3
MODELED BY VTN (SVB/WJM)
RESPONSE TO COMMENTS

```
**************************************************************************
* HYDROLOGIC MODEL:3 REFERENCE FILES ARE USED                            *
* 2017 SUMMERLIN MASTER PLAN BASINS - REMAKE OF SUMMERLIN                *
* CCRFCD 2008 MASTER PLAN UPDATE GOWAN WATERSHED  *
*                                                                        *
**************************************************************************
*                                                                        *
* REMAKE OF HYDROLOGIC MODEL:                                            *
* SUMMERLIN VILLAGE 26 - RESPONSE TO COMMENTS                            *
* DATED NOVEMBER 2015 START ON PAGE 31/175                               *
* HEC-1 TITLE - SUMMERLIN VILLAGE 26 REVERENCE                           *
*                                                                        *
*                                                                        *
*                                                                        *
* **********************************************************************
```

AREA SQ. MI.	DARF
0-0.5	0.99
0.5-1	0.975
1-2	0.95
2-3	0.925
3-4	0.915
4-5	0.908
5-6	0.903
6-7	0.895
7-8	0.885

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN3

```
 46 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         650  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      3    0  ENDING DATE
                    NDTIME        0605  ENDING TIME
                     ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE   54.08 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       .90       .89       .88

WARNING --- ROUTED OUTFLOW (    713.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    785.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    839.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    875.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    896.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    904.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    902.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    891.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    872.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    847.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    817.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    784.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    748.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    710.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (    735.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE
```

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 WARNING --- ROUTED OUTFLOW (    779.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    808.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    824.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    828.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    823.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    810.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    790.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    765.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    737.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE

 WARNING --- ROUTED OUTFLOW (    705.) IS GREATER THAN MAXIMUM OUTFLOW (    683.) IN STORAGE-OUTFLOW TABLE
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
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      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).


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


           **************
           *            *
 414 KK    *    LMTNDB  *
           *            *
           **************

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

              HYDROGRAPH ROUTING DATA

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

 433 SV            STORAGE          .0       1.5       6.4      33.0     130.6     238.4     377.2     558.1     769.0     888.0
                                  901.5     946.6     992.2    1038.3    1085.0    1132.2

 435 SE          ELEVATION     2621.00   2622.00   2623.00   2625.00   2630.00   2635.00   2640.00   2645.00   2650.00   2652.00
                               2653.00   2654.00   2655.00   2656.00   2657.00   2658.00

 437 SQ          DISCHARGE          0.        0.       24.       56.       96.      120.      144.      163.      182.      188.
                                  200.      300.      600.      800.    20000.    31600.

                                                                 ***

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN      800. TO    20000.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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

                          HYDROGRAPH AT STATION   LMTNDB
                            FOR PLAN 1, RATIO =  .99

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     54.08-HR
+   (CFS)       (HR)
                  (CFS)
+     451.     10.75                  396.        248.        192.         192.
                (INCHES)       .344        .861       1.501        1.501
                 (AC-FT)      196.        491.        856.         856.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     54.08-HR
+  (AC-FT)      (HR)
      970.     10.75                  961.        867.        652.         652.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     54.08-HR
+   (FEET)      (HR)
   2654.50     10.75               2654.32     2652.04     2646.50      2646.50

                         CUMULATIVE AREA =   10.70 SQ MI


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

                          HYDROGRAPH AT STATION   LMTNDB
```

FOR PLAN 1, RATIO = .98

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 415.	11.25	359.	235.	186.	186.
		(INCHES) .312	.817	1.457	1.457
		(AC-FT) 178.	466.	831.	831.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
964.	11.25	955.	861.	649.	649.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2654.39	11.25	2654.18	2651.91	2646.41	2646.41

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .95

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 339.	12.00	297.	215.	177.	177.
		(INCHES) .258	.748	1.385	1.385
		(AC-FT) 147.	426.	790.	790.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
953.	12.00	942.	850.	642.	642.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2654.13	12.00	2653.90	2651.65	2646.23	2646.23

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .93

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 272.	12.58	246.	199.	169.	169.
		(INCHES) .214	.693	1.325	1.325
		(AC-FT) 122.	395.	756.	756.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
934.	12.58	922.	833.	629.	629.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2653.72	12.50	2653.46	2651.25	2645.91	2645.91

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .92

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 251.	12.67	226.	194.	166.	166.
		(INCHES) .197	.673	1.303	1.303
		(AC-FT) 112.	384.	743.	743.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
924.	12.67	913.	824.	622.	622.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2653.51	12.67	2653.18	2651.05	2645.73	2645.73

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .91

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 237.	12.83	214.	190.	165.	165.
		(INCHES) .186	.662	1.289	1.289
		(AC-FT) 106.	377.	735.	735.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
918.	12.83	906.	818.	617.	617.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2653.37	12.83	2652.95	2650.91	2645.61	2645.61

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .90

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 225.	12.83	206.	188.	163.	163.
		(INCHES) .179	.654	1.280	1.280
		(AC-FT) 102.	373.	730.	730.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
913.	12.83	901.	813.	613.	613.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2653.25	12.83	2652.77	2650.79	2645.51	2645.51

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .89

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 205.	13.00	194.	185.	161.	161.
		(INCHES) .169	.642	1.265	1.265
		(AC-FT) 96.	366.	722.	722.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
904.	13.00	891.	805.	606.	606.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2653.05	13.00	2652.41	2650.58	2645.32	2645.32

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 190.	13.00	188.	182.	160.	160.
		(INCHES) .163	.634	1.252	1.252
		(AC-FT) 93.	362.	714.	714.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
890.	13.00	878.	792.	595.	595.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2652.18	13.00	2651.85	2650.25	2645.03	2645.03

CUMULATIVE AREA = 10.70 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		RATIO 1 .99	RATIO 2 .98	RATIO 3 .95	RATIO 4 .93	RATIO 5 .92	RATIO 6 .91	RATIO 7 .90	RATIO 8 .89	RATIO 9 .88
HYDROGRAPH AT													
+	1-1	1.99	1	FLOW	2315.	2267.	2188.	2108.	2077.	2055.	2039.	2014.	1982.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	R1-1	1.99	1	FLOW	2321.	2273.	2193.	2113.	2081.	2059.	2043.	2018.	1986.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	1-A	.12	1	FLOW	80.	77.	72.	67.	65.	64.	63.	61.	60.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CP1.1	2.11	1	FLOW	2365.	2316.	2234.	2152.	2119.	2096.	2080.	2053.	2021.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	RCP1.1	2.11	1	FLOW	2351.	2302.	2220.	2137.	2104.	2080.	2067.	2040.	2005.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	1-3	.33	1	FLOW	563.	551.	530.	510.	501.	496.	492.	485.	477.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP1.2	2.44	1	FLOW	2498.	2446.	2358.	2271.	2236.	2211.	2196.	2168.	2131.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	RCP1.2	2.44	1	FLOW	2476.	2425.	2334.	2255.	2209.	2195.	2173.	2141.	2108.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.08	4.00	4.08
HYDROGRAPH AT													
+	1-6	.08	1	FLOW	189.	185.	179.	173.	171.	169.	168.	166.	163.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R1-6	.08	1	FLOW	157.	154.	149.	144.	143.	141.	140.	139.	140.
				TIME	3.50	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	1-B	.18	1	FLOW	222.	216.	207.	198.	194.	192.	190.	187.	183.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	R1-B	.18	1	FLOW	222.	216.	207.	198.	194.	192.	190.	187.	183.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	1-5	.24	1	FLOW	273.	266.	254.	242.	238.	234.	232.	228.	224.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	R1-5	.24	1	FLOW	277.	269.	257.	245.	240.	237.	224.	221.	225.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	1-4	.54	1	FLOW	1078.	1056.	1020.	984.	969.	959.	952.	940.	926.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R1-4	.54	1	FLOW	1038.	1016.	979.	939.	924.	914.	907.	897.	884.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67	3.67
5 COMBINED AT													
+	CP1.3	3.49	1	FLOW	3183.	3113.	2997.	2887.	2835.	2810.	2779.	2737.	2690.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	RCP1.3	3.49	1	FLOW	3171.	3101.	2984.	2872.	2820.	2792.	2761.	2721.	2675.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	1-7	.55	1	FLOW	975.	955.	921.	887.	874.	864.	857.	847.	833.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP1.4	4.04	1	FLOW	3603.	3513.	3363.	3225.	3168.	3130.	3096.	3050.	3001.
				TIME	3.67	3.67	3.67	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	1-3P	.03	1	FLOW	62.	61.	59.	57.	57.	56.	56.	55.	55.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP4	4.07	1	FLOW	3635.	3545.	3394.	3241.	3183.	3145.	3110.	3064.	3015.
				TIME	3.67	3.67	3.67	3.67	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RCP4	4.07	1	FLOW	3624.	3535.	3386.	3237.	3179.	3142.	3106.	3057.	3009.
				TIME	3.75	3.75	3.75	3.75	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	1-12P	.18	1	FLOW	227.	221.	213.	204.	200.	198.	196.	193.	190.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CP5	4.25	1	FLOW	3834.	3740.	3583.	3426.	3364.	3322.	3285.	3234.	3178.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	1-14	.00	1	FLOW	3.	3.	3.	3.	2.	2.	2.	2.	2.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

HYDROGRAPH AT													
+	1-15	.01	1	FLOW	10.	10.	9.	9.	9.	9.	9.	9.	8.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	1-16	.00	1	FLOW	5.	5.	5.	5.	5.	5.	5.	4.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	1-17	.00	1	FLOW	7.	7.	6.	6.	6.	6.	6.	6.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	1-18	.00	1	FLOW	7.	6.	6.	6.	6.	6.	6.	6.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
6 COMBINED AT													
+	CP5B	4.27	1	FLOW	3849.	3755.	3598.	3441.	3378.	3336.	3299.	3247.	3192.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	EXDB	4.27	1	FLOW	904.	828.	677.	656.	651.	649.	646.	643.	638.
				TIME	5.42	5.50	5.58	5.58	5.58	5.58	5.58	5.58	5.58
			** PEAK STAGES IN FEET **										
			1	STAGE	3022.90	3022.59	3021.98	3021.12	3020.75	3020.52	3020.34	3020.03	3019.69
				TIME	5.42	5.50	5.58	5.58	5.58	5.58	5.58	5.58	5.58
HYDROGRAPH AT													
+	2-C	.60	1	FLOW	923.	906.	879.	851.	840.	833.	827.	818.	807.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	R2-C	.60	1	FLOW	923.	909.	882.	854.	840.	837.	833.	818.	811.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	CRCSV223	4.86	1	FLOW	1386.	1365.	1329.	1293.	1274.	1269.	1262.	1243.	1232.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	1-4R	.05	1	FLOW	98.	96.	93.	89.	88.	87.	86.	85.	84.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	1-5R	.03	1	FLOW	62.	61.	59.	57.	56.	55.	55.	54.	53.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP6	.09	1	FLOW	161.	157.	152.	146.	144.	142.	141.	139.	137.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R8	.09	1	FLOW	154.	151.	145.	140.	137.	136.	135.	133.	131.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.50
HYDROGRAPH AT													
+	1-6R	.02	1	FLOW	28.	27.	26.	25.	25.	25.	24.	24.	24.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	1-7R	.03	1	FLOW	50.	49.	47.	45.	44.	44.	44.	43.	42.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP7	.04	1	FLOW	77.	76.	73.	70.	69.	68.	68.	67.	66.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R9	.04	1	FLOW	75.	73.	71.	68.	68.	67.	66.	65.	65.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	1-8R	.00	1	FLOW	5.	4.	4.	4.	4.	4.	4.	4.	4.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	1-10R	.06	1	FLOW	100.	98.	94.	91.	89.	88.	88.	86.	85.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP8	.06	1	FLOW	105.	102.	99.	95.	93.	92.	92.	90.	89.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R10	.06	1	FLOW	101.	98.	95.	91.	90.	89.	89.	87.	86.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	1-11P	.18	1	FLOW	215.	210.	201.	193.	189.	187.	185.	182.	179.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
4 COMBINED AT													
+	CP9	.37	1	FLOW	536.	523.	504.	484.	476.	470.	466.	459.	452.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	1-13	.00	1	FLOW	1.	1.	1.	1.	1.	1.	1.	1.	1.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP10	.37	1	FLOW	537.	524.	505.	485.	477.	472.	467.	461.	453.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													

+	RSV26-3	.37	1	FLOW	529.	517.	497.	477.	469.	463.	459.	453.	446.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	LMT1R	1.95	1	FLOW	2158.	2114.	2040.	1966.	1937.	1916.	1902.	1878.	1849.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	CLMT1R	2.31	1	FLOW	2468.	2416.	2330.	2244.	2210.	2186.	2169.	2142.	2108.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RCLMT1R	2.31	1	FLOW	2455.	2403.	2318.	2232.	2197.	2174.	2157.	2130.	2095.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT													
+	CRCLMT1R	7.17	1	FLOW	3824.	3757.	3636.	3514.	3460.	3430.	3409.	3364.	3317.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RCRCLMT1	7.17	1	FLOW	3810.	3740.	3622.	3500.	3447.	3416.	3393.	3347.	3301.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	LMT5	.54	1	FLOW	897.	879.	848.	818.	805.	797.	791.	781.	769.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CLMT5	7.71	1	FLOW	4287.	4206.	4064.	3925.	3866.	3832.	3805.	3754.	3702.
				TIME	3.75	3.75	3.75	3.83	3.83	3.75	3.83	3.83	3.83
HYDROGRAPH AT													
+	LMT2	.99	1	FLOW	2043.	2010.	1954.	1899.	1876.	1861.	1849.	1832.	1809.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RLMT2	.99	1	FLOW	1957.	1931.	1874.	1818.	1796.	1785.	1770.	1752.	1736.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	LMT3	.33	1	FLOW	646.	634.	613.	593.	585.	579.	575.	569.	560.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CLMT3	1.31	1	FLOW	2581.	2544.	2468.	2392.	2363.	2346.	2328.	2303.	2279.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCLMT3	1.31	1	FLOW	2545.	2510.	2431.	2357.	2328.	2310.	2292.	2268.	2245.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	UVB2	.45	1	FLOW	635.	622.	601.	581.	572.	566.	562.	556.	547.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CUVB2	1.76	1	FLOW	3105.	3058.	2961.	2867.	2831.	2808.	2786.	2756.	2725.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CCLMT5	9.48	1	FLOW	7068.	6924.	6705.	6479.	6386.	6323.	6284.	6207.	6119.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RCCLMT5	9.48	1	FLOW	7000.	6861.	6640.	6415.	6323.	6260.	6218.	6141.	6055.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	GABW	.20	1	FLOW	244.	238.	229.	219.	216.	213.	211.	208.	204.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CGABW	9.68	1	FLOW	7243.	7099.	6869.	6634.	6538.	6473.	6429.	6349.	6260.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	CRBW	.44	1	FLOW	461.	450.	432.	415.	407.	403.	399.	393.	386.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	CCRBW	10.12	1	FLOW	7680.	7525.	7278.	7026.	6923.	6853.	6805.	6720.	6624.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	GRBW	.30	1	FLOW	436.	427.	413.	399.	393.	389.	386.	382.	376.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	GRBW2	.16	1	FLOW	188.	183.	176.	169.	166.	164.	163.	160.	158.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	LMDB	.12	1	FLOW	112.	109.	104.	99.	97.	96.	95.	93.	91.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
4 COMBINED AT													
+	LMTNIN	10.70	1	FLOW	8415.	8244.	7971.	7692.	7579.	7502.	7449.	7355.	7248.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	LMTNDB	10.70	1	FLOW	451.	415.	339.	272.	251.	237.	225.	205.	190.
				TIME	10.75	11.25	12.00	12.58	12.67	12.83	12.83	13.00	13.00
				** PEAK STAGES IN FEET **									
			1	STAGE	2654.50	2654.39	2654.13	2653.72	2653.51	2653.37	2653.25	2653.05	2652.18
				TIME	10.75	11.25	12.00	12.50	12.67	12.83	12.83	13.00	13.00

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 ROUTED TO
+                LMTNOT     10.70     1   FLOW         451.     415.     339.     272.     251.     237.     225.     205.     190.
                                            TIME        10.83    11.33    12.08    12.67    12.75    12.92    13.00    13.08    13.08
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
               R1-1  MANE         5.00   2320.53    240.00      2.33       5.00   2320.53    240.00        2.33

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2472E+03 EXCESS= .0000E+00 OUTFLOW= .2474E+03 BASIN STORAGE= .2765E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2272.68    240.00      2.28       5.00   2272.68    240.00        2.28

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2419E+03 EXCESS= .0000E+00 OUTFLOW= .2421E+03 BASIN STORAGE= .2740E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2192.95    240.00      2.20       5.00   2192.95    240.00        2.20

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2331E+03 EXCESS= .0000E+00 OUTFLOW= .2332E+03 BASIN STORAGE= .2696E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2113.26    240.00      2.11       5.00   2113.26    240.00        2.11

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2242E+03 EXCESS= .0000E+00 OUTFLOW= .2244E+03 BASIN STORAGE= .2652E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2081.40    240.00      2.08       5.00   2081.40    240.00        2.08

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2207E+03 EXCESS= .0000E+00 OUTFLOW= .2209E+03 BASIN STORAGE= .2551E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2059.10    240.00      2.06       5.00   2059.10    240.00        2.06

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2183E+03 EXCESS= .0000E+00 OUTFLOW= .2185E+03 BASIN STORAGE= .2538E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2043.17    240.00      2.04       5.00   2043.17    240.00        2.04

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2165E+03 EXCESS= .0000E+00 OUTFLOW= .2167E+03 BASIN STORAGE= .2530E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   2017.69    240.00      2.02       5.00   2017.69    240.00        2.02

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2137E+03 EXCESS= .0000E+00 OUTFLOW= .2139E+03 BASIN STORAGE= .2516E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
               R1-1  MANE         5.00   1985.86    240.00      1.98       5.00   1985.86    240.00        1.98

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2102E+03 EXCESS= .0000E+00 OUTFLOW= .2104E+03 BASIN STORAGE= .2498E-01 PERCENT ERROR=   -.1

           FOR PLAN = 1  RATIO=  .00
             RCP1.1  MANE         1.13   2357.36    241.63      2.25       5.00   2351.33    240.00        2.25

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2534E+03 EXCESS= .0000E+00 OUTFLOW= .2534E+03 BASIN STORAGE= .2971E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP1.1  MANE         1.14   2310.52    241.39      2.20       5.00   2302.09    240.00        2.20

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2479E+03 EXCESS= .0000E+00 OUTFLOW= .2479E+03 BASIN STORAGE= .2951E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP1.1  MANE         1.16   2228.67    241.41      2.12       5.00   2219.60    240.00        2.12

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2387E+03 EXCESS= .0000E+00 OUTFLOW= .2387E+03 BASIN STORAGE= .2999E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
             RCP1.1  MANE         1.18   2146.44    241.52      2.04       5.00   2136.77    240.00        2.04

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2295E+03 EXCESS= .0000E+00 OUTFLOW= .2295E+03 BASIN STORAGE= .2991E-02 PERCENT ERROR=    .0

           FOR PLAN = 1  RATIO=  .00
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     RCP1.1  MANE         1.19   2112.10    241.82      2.00      5.00   2103.73    240.00        2.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2259E+03 EXCESS= .0000E+00 OUTFLOW= .2259E+03 BASIN STORAGE= .2947E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.1  MANE         1.19   2090.12    241.68      1.98      5.00   2080.35    240.00        1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2234E+03 EXCESS= .0000E+00 OUTFLOW= .2234E+03 BASIN STORAGE= .2943E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.1  MANE         1.19   2076.21    241.25      1.96      5.00   2066.83    240.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2215E+03 EXCESS= .0000E+00 OUTFLOW= .2215E+03 BASIN STORAGE= .3245E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.1  MANE         1.20   2049.95    241.28      1.94      5.00   2040.28    240.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2186E+03 EXCESS= .0000E+00 OUTFLOW= .2186E+03 BASIN STORAGE= .3025E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.1  MANE         1.21   2015.65    241.62      1.91      5.00   2004.69    240.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2150E+03 EXCESS= .0000E+00 OUTFLOW= .2150E+03 BASIN STORAGE= .3050E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.32   2482.28    243.24      2.22      5.00   2475.72    240.00        2.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2889E+03 EXCESS= .0000E+00 OUTFLOW= .2889E+03 BASIN STORAGE= .4270E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.33   2431.74    242.80      2.17      5.00   2424.72    240.00        2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2825E+03 EXCESS= .0000E+00 OUTFLOW= .2825E+03 BASIN STORAGE= .4453E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.37   2343.66    243.69      2.09      5.00   2334.03    240.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2720E+03 EXCESS= .0000E+00 OUTFLOW= .2720E+03 BASIN STORAGE= .4316E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.40   2256.30    242.30      2.01      5.00   2255.04    240.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2615E+03 EXCESS= .0000E+00 OUTFLOW= .2616E+03 BASIN STORAGE= .4092E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.41   2222.11    243.68      1.97      5.00   2209.43    240.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2573E+03 EXCESS= .0000E+00 OUTFLOW= .2573E+03 BASIN STORAGE= .4921E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.42   2197.41    244.68      1.95      5.00   2194.61    240.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2545E+03 EXCESS= .0000E+00 OUTFLOW= .2545E+03 BASIN STORAGE= .3735E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.43   2183.61    242.84      1.94      5.00   2173.20    245.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2523E+03 EXCESS= .0000E+00 OUTFLOW= .2523E+03 BASIN STORAGE= .4198E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.44   2155.85    243.99      1.91      5.00   2140.64    240.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2489E+03 EXCESS= .0000E+00 OUTFLOW= .2490E+03 BASIN STORAGE= .4120E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP1.2  MANE         2.46   2118.57    243.10      1.88      5.00   2107.70    245.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2448E+03 EXCESS= .0000E+00 OUTFLOW= .2448E+03 BASIN STORAGE= .4919E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
      R1-6  MANE         3.25    165.38    211.25      2.27      5.00    156.98    210.00        2.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9107E+01 EXCESS= .0000E+00 OUTFLOW= .9129E+01 BASIN STORAGE= .3483E-02 PERCENT ERROR=   -.3

   FOR PLAN = 1  RATIO=  .00
      R1-6  MANE         3.25    161.95    211.25      2.22      5.00    153.75    215.00        2.23
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .8913E+01 EXCESS= .0000E+00 OUTFLOW= .8934E+01 BASIN STORAGE= .3456E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.25	156.68	214.50	2.14	5.00	149.10	215.00	2.15	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8591E+01 EXCESS= .0000E+00 OUTFLOW= .8612E+01 BASIN STORAGE= .3411E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.25	151.71	214.50	2.06	5.00	144.45	215.00	2.07	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8271E+01 EXCESS= .0000E+00 OUTFLOW= .8291E+01 BASIN STORAGE= .3366E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.25	149.72	214.50	2.03	5.00	142.58	215.00	2.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8143E+01 EXCESS= .0000E+00 OUTFLOW= .8163E+01 BASIN STORAGE= .3347E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.25	148.32	214.50	2.01	5.00	141.27	215.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8053E+01 EXCESS= .0000E+00 OUTFLOW= .8073E+01 BASIN STORAGE= .3334E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.25	147.32	214.50	1.99	5.00	140.33	215.00	2.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7989E+01 EXCESS= .0000E+00 OUTFLOW= .8009E+01 BASIN STORAGE= .3325E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.25	145.72	214.50	1.97	5.00	138.83	215.00	1.98	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7888E+01 EXCESS= .0000E+00 OUTFLOW= .7907E+01 BASIN STORAGE= .3310E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-6	MANE	3.00	156.04	213.00	1.95	5.00	139.60	215.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7821E+01 EXCESS= .0000E+00 OUTFLOW= .7841E+01 BASIN STORAGE= .2754E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.60	221.75	220.03	1.60	5.00	221.75	220.00	1.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1564E+02 EXCESS= .0000E+00 OUTFLOW= .1564E+02 BASIN STORAGE= .3975E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.61	216.15	219.66	1.55	5.00	216.04	220.00	1.56	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1523E+02 EXCESS= .0000E+00 OUTFLOW= .1523E+02 BASIN STORAGE= .4109E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.61	206.90	220.11	1.49	5.00	206.89	220.00	1.49	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1456E+02 EXCESS= .0000E+00 OUTFLOW= .1456E+02 BASIN STORAGE= .3994E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.63	197.82	220.03	1.42	5.00	197.80	220.00	1.42	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1390E+02 EXCESS= .0000E+00 OUTFLOW= .1390E+02 BASIN STORAGE= .4156E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.63	194.01	219.65	1.39	5.00	193.99	220.00	1.39	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1364E+02 EXCESS= .0000E+00 OUTFLOW= .1364E+02 BASIN STORAGE= .4231E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.63	191.59	220.08	1.37	5.00	191.56	220.00	1.37	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1345E+02 EXCESS= .0000E+00 OUTFLOW= .1345E+02 BASIN STORAGE= .4159E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.63	189.67	220.21	1.36	5.00	189.65	220.00	1.36	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1332E+02 EXCESS= .0000E+00 OUTFLOW= .1332E+02 BASIN STORAGE= .4024E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.64	186.80	220.18	1.34	5.00	186.76	220.00	1.34	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1311E+02 EXCESS= .0000E+00 OUTFLOW= .1311E+02 BASIN STORAGE= .4117E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-B	MANE	.64	183.17	219.83	1.31	5.00	183.13	220.00	1.31	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1285E+02 EXCESS= .0000E+00 OUTFLOW= .1285E+02 BASIN STORAGE= .4159E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	276.81	225.00	1.54	5.00	276.81	225.00	1.54	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1967E+02 EXCESS= .0000E+00 OUTFLOW= .1971E+02 BASIN STORAGE= .8594E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	269.43	225.00	1.50	5.00	269.43	225.00	1.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1914E+02 EXCESS= .0000E+00 OUTFLOW= .1919E+02 BASIN STORAGE= .8512E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	257.15	225.00	1.43	5.00	257.15	225.00	1.43	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1828E+02 EXCESS= .0000E+00 OUTFLOW= .1833E+02 BASIN STORAGE= .8372E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	244.90	225.00	1.36	5.00	244.90	225.00	1.36	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1742E+02 EXCESS= .0000E+00 OUTFLOW= .1747E+02 BASIN STORAGE= .1215E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	240.02	225.00	1.34	5.00	240.02	225.00	1.34	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1708E+02 EXCESS= .0000E+00 OUTFLOW= .1713E+02 BASIN STORAGE= .1207E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	236.60	225.00	1.32	5.00	236.60	225.00	1.32	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1685E+02 EXCESS= .0000E+00 OUTFLOW= .1689E+02 BASIN STORAGE= .1201E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	4.75	228.66	228.00	1.30	5.00	224.40	225.00	1.30	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1666E+02 EXCESS= .0000E+00 OUTFLOW= .1670E+02 BASIN STORAGE= .9331E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	4.75	225.18	228.00	1.28	5.00	220.63	225.00	1.28	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1639E+02 EXCESS= .0000E+00 OUTFLOW= .1643E+02 BASIN STORAGE= .9280E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-5	MANE	5.00	225.40	225.00	1.26	5.00	225.40	225.00	1.26	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1607E+02 EXCESS= .0000E+00 OUTFLOW= .1612E+02 BASIN STORAGE= .1180E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.50	1088.32	217.00	2.30	5.00	1037.88	215.00	2.30	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6641E+02 EXCESS= .0000E+00 OUTFLOW= .6659E+02 BASIN STORAGE= .1621E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.50	1066.41	217.00	2.25	5.00	1015.86	215.00	2.25	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6500E+02 EXCESS= .0000E+00 OUTFLOW= .6517E+02 BASIN STORAGE= .1610E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.50	1029.84	217.00	2.17	5.00	979.15	215.00	2.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6266E+02 EXCESS= .0000E+00 OUTFLOW= .6282E+02 BASIN STORAGE= .1592E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.75	1004.02	217.50	2.09	5.00	938.77	215.00	2.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6031E+02 EXCESS= .0000E+00 OUTFLOW= .6050E+02 BASIN STORAGE= .1313E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.75	989.46	217.50	2.06	5.00	924.12	215.00	2.06	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5938E+02 EXCESS= .0000E+00 OUTFLOW= .5956E+02 BASIN STORAGE= .1306E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.75	979.26	217.50	2.03	5.00	913.87	215.00	2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5873E+02 EXCESS= .0000E+00 OUTFLOW= .5891E+02 BASIN STORAGE= .1301E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.75	971.97	217.50	2.02	5.00	906.54	215.00	2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5826E+02 EXCESS= .0000E+00 OUTFLOW= .5844E+02 BASIN STORAGE= .1297E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.75	948.31	217.50	1.99	5.00	896.75	220.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5752E+02 EXCESS= .0000E+00 OUTFLOW= .5767E+02 BASIN STORAGE= .1227E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R1-4	MANE	3.75	933.69	217.50	1.96	5.00	884.34	220.00	1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5659E+02 EXCESS= .0000E+00 OUTFLOW= .5675E+02 BASIN STORAGE= .1221E-01 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.44	3178.43	235.74	2.15	5.00	3171.34	235.00	2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4000E+03 EXCESS= .0000E+00 OUTFLOW= .4000E+03 BASIN STORAGE= .2647E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.45	3109.17	236.23	2.10	5.00	3100.61	235.00	2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3912E+03 EXCESS= .0000E+00 OUTFLOW= .3912E+03 BASIN STORAGE= .2551E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.47	2992.18	236.61	2.02	5.00	2983.69	235.00	2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3763E+03 EXCESS= .0000E+00 OUTFLOW= .3763E+03 BASIN STORAGE= .3079E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.49	2880.71	236.88	1.95	5.00	2871.59	235.00	1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3619E+03 EXCESS= .0000E+00 OUTFLOW= .3619E+03 BASIN STORAGE= .3056E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.50	2827.91	236.96	1.91	5.00	2819.94	235.00	1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3557E+03 EXCESS= .0000E+00 OUTFLOW= .3557E+03 BASIN STORAGE= .2560E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.50	2806.36	236.24	1.89	5.00	2791.50	235.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3520E+03 EXCESS= .0000E+00 OUTFLOW= .3520E+03 BASIN STORAGE= .2532E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.51	2771.02	237.20	1.88	5.00	2761.05	235.00	1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3490E+03 EXCESS= .0000E+00 OUTFLOW= .3490E+03 BASIN STORAGE= .2743E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.52	2733.26	237.00	1.85	5.00	2720.66	235.00	1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3439E+03 EXCESS= .0000E+00 OUTFLOW= .3439E+03 BASIN STORAGE= .2740E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP1.3	MANE	1.53	2687.06	236.97	1.82	5.00	2674.76	235.00	1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3383E+03 EXCESS= .0000E+00 OUTFLOW= .3383E+03 BASIN STORAGE= .2539E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP4	MANE	1.92	3635.96	222.87	2.15	5.00	3624.43	225.00	2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4660E+03 EXCESS= .0000E+00 OUTFLOW= .4660E+03 BASIN STORAGE= .5974E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP4	MANE	1.94	3546.69	223.17	2.10	5.00	3535.13	225.00	2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4557E+03 EXCESS= .0000E+00 OUTFLOW= .4557E+03 BASIN STORAGE= .6129E-02 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          1.97   3396.72    223.14      2.02      5.00   3386.11    225.00        2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4384E+03 EXCESS= .0000E+00 OUTFLOW= .4384E+03 BASIN STORAGE= .6193E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          2.01   3245.60    223.29      1.94      5.00   3237.47    225.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4216E+03 EXCESS= .0000E+00 OUTFLOW= .4216E+03 BASIN STORAGE= .6042E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          2.03   3181.51    222.87      1.91      5.00   3179.33    230.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4145E+03 EXCESS= .0000E+00 OUTFLOW= .4145E+03 BASIN STORAGE= .5932E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          2.04   3143.39    223.95      1.89      5.00   3141.90    230.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4102E+03 EXCESS= .0000E+00 OUTFLOW= .4102E+03 BASIN STORAGE= .7294E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          2.04   3107.97    222.90      1.87      5.00   3105.53    230.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4067E+03 EXCESS= .0000E+00 OUTFLOW= .4067E+03 BASIN STORAGE= .6564E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          2.06   3059.44    224.24      1.85      5.00   3057.16    230.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4008E+03 EXCESS= .0000E+00 OUTFLOW= .4008E+03 BASIN STORAGE= .5744E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE          2.07   3010.49    231.89      1.82      5.00   3009.00    230.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3943E+03 EXCESS= .0000E+00 OUTFLOW= .3943E+03 BASIN STORAGE= .6122E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.33    929.81    224.03      2.57      5.00    923.36    225.00        2.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8161E+02 EXCESS= .0000E+00 OUTFLOW= .8163E+02 BASIN STORAGE= .1797E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.35    908.78    225.38      2.52      5.00    908.59    225.00        2.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8005E+02 EXCESS= .0000E+00 OUTFLOW= .8007E+02 BASIN STORAGE= .2373E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.37    882.05    225.35      2.44      5.00    881.64    225.00        2.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7746E+02 EXCESS= .0000E+00 OUTFLOW= .7747E+02 BASIN STORAGE= .2358E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.40    854.76    225.36      2.36      5.00    854.22    225.00        2.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7489E+02 EXCESS= .0000E+00 OUTFLOW= .7490E+02 BASIN STORAGE= .2318E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.41    844.90    223.94      2.32      5.00    840.25    225.00        2.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7379E+02 EXCESS= .0000E+00 OUTFLOW= .7380E+02 BASIN STORAGE= .2404E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.42    840.53    224.63      2.30      5.00    837.40    225.00        2.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7313E+02 EXCESS= .0000E+00 OUTFLOW= .7315E+02 BASIN STORAGE= .1958E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.42    833.08    225.13      2.28      5.00    832.66    225.00        2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7263E+02 EXCESS= .0000E+00 OUTFLOW= .7264E+02 BASIN STORAGE= .2392E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE          2.43    820.22    223.51      2.26      5.00    818.08    225.00        2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7174E+02 EXCESS= .0000E+00 OUTFLOW= .7175E+02 BASIN STORAGE= .1896E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE         2.44    814.03    224.52      2.22      5.00    810.61    225.00        2.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7074E+02 EXCESS= .0000E+00 OUTFLOW= .7075E+02 BASIN STORAGE= .1977E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .94    160.11    211.79      2.03      5.00    154.20    210.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9530E+01 EXCESS= .0000E+00 OUTFLOW= .9530E+01 BASIN STORAGE= .1067E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .94    156.71    211.76      1.99      5.00    150.81    210.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9317E+01 EXCESS= .0000E+00 OUTFLOW= .9317E+01 BASIN STORAGE= .1090E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .95    151.06    211.44      1.91      5.00    145.05    210.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8963E+01 EXCESS= .0000E+00 OUTFLOW= .8963E+01 BASIN STORAGE= .1053E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .96    145.39    211.15      1.84      5.00    139.61    210.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8611E+01 EXCESS= .0000E+00 OUTFLOW= .8611E+01 BASIN STORAGE= .9922E-04 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .96    143.15    211.82      1.81      5.00    137.49    210.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8471E+01 EXCESS= .0000E+00 OUTFLOW= .8471E+01 BASIN STORAGE= .1115E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .96    141.55    211.33      1.79      5.00    135.75    210.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8372E+01 EXCESS= .0000E+00 OUTFLOW= .8372E+01 BASIN STORAGE= .1122E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .96    140.44    211.67      1.77      5.00    134.70    210.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8302E+01 EXCESS= .0000E+00 OUTFLOW= .8302E+01 BASIN STORAGE= .9977E-04 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .96    138.60    211.26      1.75      5.00    132.91    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8191E+01 EXCESS= .0000E+00 OUTFLOW= .8191E+01 BASIN STORAGE= .9797E-04 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE          .97    136.33    211.96      1.72      5.00    130.94    210.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8053E+01 EXCESS= .0000E+00 OUTFLOW= .8053E+01 BASIN STORAGE= .1090E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R9  MANE         2.21     76.93    212.31      2.04      5.00     75.47    215.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4596E+01 EXCESS= .0000E+00 OUTFLOW= .4596E+01 BASIN STORAGE= .2595E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R9  MANE         2.22     75.26    213.23      1.99      5.00     73.40    215.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4489E+01 EXCESS= .0000E+00 OUTFLOW= .4490E+01 BASIN STORAGE= .2812E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R9  MANE         2.24     72.56    212.57      1.92      5.00     71.48    215.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4322E+01 EXCESS= .0000E+00 OUTFLOW= .4322E+01 BASIN STORAGE= .2466E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R9  MANE         2.25     69.84    214.21      1.84      5.00     68.31    215.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4153E+01 EXCESS= .0000E+00 OUTFLOW= .4153E+01 BASIN STORAGE= .2135E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R9  MANE         2.26     68.76    212.62      1.81      5.00     67.89    215.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4085E+01 EXCESS= .0000E+00 OUTFLOW= .4086E+01 BASIN STORAGE= .2521E-03 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.27     68.00    213.09      1.79      5.00     66.62    215.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4036E+01 EXCESS= .0000E+00 OUTFLOW= .4036E+01 BASIN STORAGE= .2151E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.27     67.47    213.44      1.77      5.00     65.81    215.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4002E+01 EXCESS= .0000E+00 OUTFLOW= .4002E+01 BASIN STORAGE= .2832E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.28     66.61    213.99      1.75      5.00     65.02    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3947E+01 EXCESS= .0000E+00 OUTFLOW= .3948E+01 BASIN STORAGE= .2381E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.28     65.51    212.41      1.72      5.00     64.73    215.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3885E+01 EXCESS= .0000E+00 OUTFLOW= .3885E+01 BASIN STORAGE= .2784E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.92    103.90    212.84      2.00      5.00    100.78    215.00        2.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6191E+01 EXCESS= .0000E+00 OUTFLOW= .6192E+01 BASIN STORAGE= .2091E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.93    101.67    213.77      1.95      5.00     98.13    215.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6053E+01 EXCESS= .0000E+00 OUTFLOW= .6053E+01 BASIN STORAGE= .2135E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.94     97.99    213.43      1.88      5.00     94.64    215.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5822E+01 EXCESS= .0000E+00 OUTFLOW= .5822E+01 BASIN STORAGE= .2429E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.96     94.30    213.13      1.80      5.00     91.49    215.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5592E+01 EXCESS= .0000E+00 OUTFLOW= .5592E+01 BASIN STORAGE= .1982E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.96     92.87    213.81      1.77      5.00     89.82    215.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5499E+01 EXCESS= .0000E+00 OUTFLOW= .5500E+01 BASIN STORAGE= .2235E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.97     91.75    212.32      1.75      5.00     89.29    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5434E+01 EXCESS= .0000E+00 OUTFLOW= .5434E+01 BASIN STORAGE= .1907E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.97     91.04    212.67      1.74      5.00     88.71    215.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5388E+01 EXCESS= .0000E+00 OUTFLOW= .5389E+01 BASIN STORAGE= .2367E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.97     89.90    213.22      1.72      5.00     87.20    215.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5317E+01 EXCESS= .0000E+00 OUTFLOW= .5317E+01 BASIN STORAGE= .1970E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R10  MANE        1.98     88.50    213.93      1.69      5.00     85.76    215.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5226E+01 EXCESS= .0000E+00 OUTFLOW= .5227E+01 BASIN STORAGE= .2213E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               RCLMT1R  MANE        1.01   2459.54    230.45      2.11      5.00   2454.67    230.00        2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2606E+03 EXCESS= .0000E+00 OUTFLOW= .2606E+03 BASIN STORAGE= .2556E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               RCLMT1R  MANE        1.02   2409.22    231.38      2.07      5.00   2403.24    230.00        2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2549E+03 EXCESS= .0000E+00 OUTFLOW= .2549E+03 BASIN STORAGE= .2988E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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RCLMT1R	MANE	1.03	2323.71	230.62	1.99	5.00	2317.53	230.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2454E+03 EXCESS= .0000E+00 OUTFLOW= .2454E+03 BASIN STORAGE= .2935E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT1R	MANE	1.05	2241.11	230.96	1.91	5.00	2232.22	230.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2360E+03 EXCESS= .0000E+00 OUTFLOW= .2360E+03 BASIN STORAGE= .2714E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT1R	MANE	1.06	2205.69	231.32	1.88	5.00	2197.47	230.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2323E+03 EXCESS= .0000E+00 OUTFLOW= .2323E+03 BASIN STORAGE= .2850E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT1R	MANE	1.06	2182.20	231.27	1.86	5.00	2173.50	230.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2296E+03 EXCESS= .0000E+00 OUTFLOW= .2296E+03 BASIN STORAGE= .2711E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT1R	MANE	1.06	2165.50	230.95	1.85	5.00	2156.98	230.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2278E+03 EXCESS= .0000E+00 OUTFLOW= .2278E+03 BASIN STORAGE= .3007E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT1R	MANE	1.07	2139.22	231.05	1.82	5.00	2130.05	230.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2248E+03 EXCESS= .0000E+00 OUTFLOW= .2248E+03 BASIN STORAGE= .2850E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT1R	MANE	1.08	2102.54	231.45	1.79	5.00	2095.00	230.00	1.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2211E+03 EXCESS= .0000E+00 OUTFLOW= .2211E+03 BASIN STORAGE= .2848E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.10	3816.04	230.93	2.14	5.00	3810.00	230.00	2.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8193E+03 EXCESS= .0000E+00 OUTFLOW= .8193E+03 BASIN STORAGE= .3300E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.11	3743.98	230.36	2.09	5.00	3740.18	230.00	2.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8014E+03 EXCESS= .0000E+00 OUTFLOW= .8014E+03 BASIN STORAGE= .3361E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.12	3629.68	231.14	2.02	5.00	3622.16	230.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7714E+03 EXCESS= .0000E+00 OUTFLOW= .7714E+03 BASIN STORAGE= .3339E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.14	3505.83	230.90	1.94	5.00	3500.07	230.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7419E+03 EXCESS= .0000E+00 OUTFLOW= .7419E+03 BASIN STORAGE= .3366E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.14	3453.43	231.20	1.91	5.00	3446.73	230.00	1.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7294E+03 EXCESS= .0000E+00 OUTFLOW= .7294E+03 BASIN STORAGE= .3290E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.15	3420.97	230.86	1.89	5.00	3416.27	230.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7217E+03 EXCESS= .0000E+00 OUTFLOW= .7218E+03 BASIN STORAGE= .3311E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.15	3399.58	231.41	1.87	5.00	3393.31	230.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7158E+03 EXCESS= .0000E+00 OUTFLOW= .7158E+03 BASIN STORAGE= .3296E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.16	3352.65	231.51	1.84	5.00	3347.05	230.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7057E+03 EXCESS= .0000E+00 OUTFLOW= .7057E+03 BASIN STORAGE= .3368E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCLMT1	MANE	1.16	3306.32	230.48	1.81	5.00	3300.91	230.00	1.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6942E+03 EXCESS= .0000E+00 OUTFLOW= .6942E+03 BASIN STORAGE= .3308E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.88	2013.80	217.57	2.88	5.00	1956.66	215.00	2.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1513E+03 EXCESS= .0000E+00 OUTFLOW= .1513E+03 BASIN STORAGE= .2388E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.89	1997.70	216.89	2.83	5.00	1930.78	215.00	2.83	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1487E+03 EXCESS= .0000E+00 OUTFLOW= .1487E+03 BASIN STORAGE= .2194E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.90	1938.86	217.05	2.75	5.00	1874.14	215.00	2.75	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1443E+03 EXCESS= .0000E+00 OUTFLOW= .1443E+03 BASIN STORAGE= .2106E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.92	1879.22	217.24	2.66	5.00	1817.52	215.00	2.66	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1398E+03 EXCESS= .0000E+00 OUTFLOW= .1399E+03 BASIN STORAGE= .1994E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.93	1834.40	216.18	2.63	5.00	1796.48	215.00	2.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1381E+03 EXCESS= .0000E+00 OUTFLOW= .1381E+03 BASIN STORAGE= .2078E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.94	1842.30	216.78	2.61	5.00	1785.16	215.00	2.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1369E+03 EXCESS= .0000E+00 OUTFLOW= .1369E+03 BASIN STORAGE= .2366E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.94	1831.02	217.22	2.59	5.00	1770.38	215.00	2.59	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+03 EXCESS= .0000E+00 OUTFLOW= .1360E+03 BASIN STORAGE= .2035E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.95	1796.82	217.93	2.56	5.00	1751.63	215.00	2.56	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1346E+03 EXCESS= .0000E+00 OUTFLOW= .1346E+03 BASIN STORAGE= .2250E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RLMT2	MANE	1.95	1793.82	216.88	2.53	5.00	1735.83	215.00	2.53	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1328E+03 EXCESS= .0000E+00 OUTFLOW= .1329E+03 BASIN STORAGE= .2323E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.72	2566.13	215.93	2.74	5.00	2545.12	215.00	2.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1919E+03 EXCESS= .0000E+00 OUTFLOW= .1919E+03 BASIN STORAGE= .1914E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.72	2536.32	215.75	2.69	5.00	2509.53	215.00	2.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1884E+03 EXCESS= .0000E+00 OUTFLOW= .1884E+03 BASIN STORAGE= .1873E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.73	2450.99	215.44	2.61	5.00	2431.31	215.00	2.61	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1826E+03 EXCESS= .0000E+00 OUTFLOW= .1826E+03 BASIN STORAGE= .1878E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.74	2379.52	215.92	2.53	5.00	2356.86	215.00	2.53	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1769E+03 EXCESS= .0000E+00 OUTFLOW= .1769E+03 BASIN STORAGE= .1853E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.75	2347.78	215.48	2.49	5.00	2327.72	215.00	2.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1746E+03 EXCESS= .0000E+00 OUTFLOW= .1746E+03 BASIN STORAGE= .1884E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.75	2327.67	216.09	2.47	5.00	2310.11	215.00	2.47	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1730E+03 EXCESS= .0000E+00 OUTFLOW= .1730E+03 BASIN STORAGE= .1876E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.75	2312.40	216.03	2.45	5.00	2292.32	215.00	2.46	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1718E+03 EXCESS= .0000E+00 OUTFLOW= .1718E+03 BASIN STORAGE= .2110E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.75	2286.87	215.45	2.43	5.00	2268.03	215.00	2.43	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1700E+03 EXCESS= .0000E+00 OUTFLOW= .1700E+03 BASIN STORAGE= .1863E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCLMT3	MANE	.76	2267.53	215.58	2.39	5.00	2244.58	215.00	2.40	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1677E+03 EXCESS= .0000E+00 OUTFLOW= .1677E+03 BASIN STORAGE= .2008E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	.98	7054.95	220.81	2.22	5.00	6999.68	220.00	2.22	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1123E+04 EXCESS= .0000E+00 OUTFLOW= .1123E+04 BASIN STORAGE= .3859E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	.99	6901.38	220.64	2.17	5.00	6860.65	220.00	2.18	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1099E+04 EXCESS= .0000E+00 OUTFLOW= .1099E+04 BASIN STORAGE= .3735E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.00	6687.17	221.50	2.10	5.00	6640.08	220.00	2.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1059E+04 EXCESS= .0000E+00 OUTFLOW= .1059E+04 BASIN STORAGE= .3827E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.02	6463.56	221.51	2.02	5.00	6414.68	220.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1020E+04 EXCESS= .0000E+00 OUTFLOW= .1020E+04 BASIN STORAGE= .3833E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.02	6366.95	220.75	1.99	5.00	6322.68	220.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1004E+04 EXCESS= .0000E+00 OUTFLOW= .1004E+04 BASIN STORAGE= .3772E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.03	6307.54	221.62	1.97	5.00	6260.45	220.00	1.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9933E+03 EXCESS= .0000E+00 OUTFLOW= .9933E+03 BASIN STORAGE= .3743E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.03	6280.34	221.15	1.95	5.00	6217.71	220.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9855E+03 EXCESS= .0000E+00 OUTFLOW= .9855E+03 BASIN STORAGE= .3741E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.03	6202.78	221.21	1.92	5.00	6141.04	220.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9723E+03 EXCESS= .0000E+00 OUTFLOW= .9723E+03 BASIN STORAGE= .3873E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCLMT5	MANE	1.04	6109.20	221.44	1.89	5.00	6055.03	220.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9569E+03 EXCESS= .0000E+00 OUTFLOW= .9569E+03 BASIN STORAGE= .3761E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	451.02	650.00	1.50	5.00	451.02	650.00	1.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8569E+03 EXCESS= .0000E+00 OUTFLOW= .8554E+03 BASIN STORAGE= .1568E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	415.49	680.00	1.45	5.00	415.49	680.00	1.45	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8315E+03 EXCESS= .0000E+00 OUTFLOW= .8300E+03 BASIN STORAGE= .1568E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	339.07	725.00	1.38	5.00	339.07	725.00	1.38	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7904E+03 EXCESS= .0000E+00 OUTFLOW= .7889E+03 BASIN STORAGE= .1565E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	271.91	760.00	1.32	5.00	271.91	760.00	1.32	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7563E+03 EXCESS= .0000E+00 OUTFLOW= .7548E+03 BASIN STORAGE= .1551E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	250.97	765.00	1.30	5.00	250.97	765.00	1.30	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7436E+03 EXCESS= .0000E+00 OUTFLOW= .7421E+03 BASIN STORAGE= .1543E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	236.69	775.00	1.29	5.00	236.69	775.00	1.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7359E+03 EXCESS= .0000E+00 OUTFLOW= .7343E+03 BASIN STORAGE= .1537E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	225.44	780.00	1.28	5.00	225.44	780.00	1.28	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7304E+03 EXCESS= .0000E+00 OUTFLOW= .7289E+03 BASIN STORAGE= .1532E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	204.79	785.00	1.26	5.00	204.79	785.00	1.26	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7221E+03 EXCESS= .0000E+00 OUTFLOW= .7206E+03 BASIN STORAGE= .1523E+01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

LMTNOT	MANE	5.00	190.17	785.00	1.25	5.00	190.17	785.00	1.25	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7149E+03 EXCESS= .0000E+00 OUTFLOW= .7134E+03 BASIN STORAGE= .1508E+01 PERCENT ERROR= .0

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

B.5.2 100-YEAR SDN 4 BELTWAY CHANNEL NORTH/VILLAGE 26 TRIBUTARY

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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   06DEC17  TIME  09:34:11  *                    *           (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
 *** FREE ***
              1          ID    INPUT FILE DATE = JULY 2017
              2          ID    DESIGN STORM = 100-YEAR 6-HR STORM
              3          ID    STORM DISTRIBUTION = SDN #3
              4          ID    MODELED BY VTN (SVB/WJM)
              5          ID    RESPONSE TO COMMENTS
              6          ID
              7          ID
              8          ID
              9          ID    ************************************************************************
             10          ID    * HYDROLOGIC MODEL:3 REFERENCE FILES ARE USED                          *
             11          ID    * 2017 SUMMERLIN MASTER PLAN BASINS - REMAKE OF SUMMERLIN              *
             12          ID    * CCRFCD 2008 MASTER PLAN UPDATE GOWAN WATERSHED  *
             13          ID    *                                                                      *
             14          ID    ************************************************************************
             15          ID    *                                                                      *
             16          ID    * REMAKE OF HYDROLOGIC MODEL:                                         *
             17          ID    * SUMMERLIN VILLAGE 26 - RESPONSE TO COMMENTS                         *
             18          ID    * DATED NOVEMBER 2015 START ON PAGE 31/175                           *
             19          ID    * HEC-1 TITLE - SUMMERLIN VILLAGE 26 REVERENCE                       *
             20          ID    *                                                                      *
             21          ID    *                                                                      *
             22          ID    *                                                                      *
             23          ID    * ************************************************************************
             24          ID
             25          ID
             26          ID
             27          ID                          AREA    DARF
             28          ID                          SQ. MI.
             29          ID                          8-9     0.875
             30          ID                          9-10    0.865
             31          ID                          10-11   0.857
             32          ID                          11-12   0.85
             33          ID
             34          ID
             35          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
             36          ID
             37          ID  100-YEAR,  6-HOUR STORM,  SDN3
             38          ID
             39          IT       5       0       0     650
             40          IO       5       0       0
             41          IN       5       0       0
             42          JR    PREC   0.875   0.865   0.857    0.85
                         *

             43          KK     1-1
             44          KM   PORTION OF 2008 MPU BASIN 30
             45          BA   1.990
             46          PB    3.70
             47          PC       0    0.02   0.058   0.075   0.099   0.126   0.137   0.145   0.149   0.151
             48          PC   0.155   0.156   0.159   0.162   0.169   0.172   0.179   0.189   0.201   0.211
             49          PC    0.22   0.228   0.232    0.24   0.246   0.252    0.26   0.269   0.276   0.283
             50          PC   0.286   0.292   0.302   0.312   0.321   0.332   0.352   0.376   0.415   0.462
             51          PC    0.53    0.61    0.71   0.732   0.756   0.782   0.799   0.813   0.823    0.83
1                                                HEC-1 INPUT                                                    PAGE  2

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

             52          PC   0.835   0.844   0.851   0.864   0.885   0.908   0.924   0.944   0.968   0.973
             53          PC   0.978   0.982   0.984   0.986   0.988   0.991   0.992   0.993   0.994   0.997
             54          PC   0.998   0.999       1
             55          LS       0    87.0
             56          UD   0.472
                         *

             57          KK    R1-1
             58          KM   REFERENCED FROM 2008 MPU SEE 30
```

```
 59          KM   ROUTE R1-1 THROUGH 1-A TO CP1.1
 60          KM   PORTION OF FACILITY GOL30370 (NATURAL WASH)
 61          RD    5700   0.085   0.030       0    TRAP     450       0
             *

 62          KK     1-A
 63          KM   PORTION OF 2008 MPU BASIN 30
 64          BA  0.1249
 65          PB    3.61
 66          LS       0    67.1
 67          UD   0.229
             *

 68          KK   CP1.1
 69          KM   COMBINE R1-1 and 1-A
 70          HC       2
             *

 71          KK  RCP1.1
 72          KM   ROUTE RCP1.1 THROUGH 1-3 TO CP1.2
 73          KM   PORTION OF FACILITY GOL30370 (NATURAL WASH)
 74          RD     830   0.085   0.030       0    TRAP     450       0
             *

 75          KK     1-3
 76          KM   PORTION OF 2008 MPU BASIN 30
 77          BA   0.330
 78          PB    3.59
 79          LS       0    84.3
 80          UD   0.146
             *

 81          KK   CP1.2
 82          KM   COMBINE RCP1-1 and 1-3
 83          HC       2
             *

 84          KK  RCP1.2
 85          KM   ROUTE RCP1.2 THROUGH 1-B TO CP1.3
 86          KM   PORTION OF FACILITY GOL30289 (CONC CHANNEL)
 87          RD    6100  0.0795   0.013       0    TRAP      50       2
             *
```



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

 88          KK     1-6
 89          KM   PORTION OF 2008 MPU BASIN SV26-1
 90          BA  0.0753
 91          PB    3.54
 92          LS       0    88.0
 93          UD    0.01
             *

 94          KK    R1-6
 95          KM   ROUTE 1-6 THROUGH 1-B TO CP1.3
 96          KM   PORTION OF FACILITY GOL30289 (CONC CHANNEL)
 97          RD    3600  0.0795   0.013       0    TRAP      50       2
             *

 98          KK     1-B
 99          KM   PORTION OF 2008 MPU BASIN SV26-1
100          BA  0.1838
101          PB    3.51
102          LS       0    79.7
103          UD   0.198
             *

104          KK    R1-B
105          KM   ROUTE 1-B TO CP1.3
106          KM   PORTION OF FACILITY GOL30289 (CONC CHANNEL)
107          RD     650  0.0795   0.013       0    TRAP      50       2
             *

108          KK     1-5
109          KM   PORTION OF 2008 MPU BASIN SV26-1
110          BA  0.2400
111          PB    3.56
112          LS       0    78.3
113          UD   0.221
             *

114          KK    R1-5
115          KM   ROUTE R1-5 THROUGH 1-B TO CP1.3
116          KM   PORTION OF FACILITY GOL30290 (NATURAL WASH)
117          RD    3600   0.225   0.030       0    TRAP     363       0
             *

118          KK     1-4
119          KM   PORTION OF 2008 MPU BASIN SV26-1
120          BA  0.5431
121          PB    3.56
122          LS       0    88.0
123          UD   0.106
             *
```



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

124          KK    R1-4
125          KM   ROUTE R1-4 THROUGH 1-B TO CP1.3
126          KM   FACILITY GOL30290 (NATURAL WASH)
127          RD    4850   0.225   0.030       0    TRAP     363       0
             *
```

```
 128          KK   CP1.3
 129          KM   COMBINE RCP1.2, R1-4, R1-5, R1-B and R1-6
 130          HC       5
              *

 131          KK  RCP1.3
 132          KM   ROUTE RCP1.3 THROUGH 1-7 TO CP1.4
 133          KM   FACILITY GOL30216 (CONC CHANNEL)
 134          RD    3800  0.0608   0.013       0    TRAP      50       2
              *

 135          KK     1-7
 136          KM   PORTION OF 2008 MPU BASIN SV26-1
 137          BA  0.5542
 138          PB    3.48
 139          LS       0    86.6
 140          UD   0.147
              *

 141          KK   CP1.4
 142          KM   COMBINES 1-7 AND RCP1.3
 143          HC       2
              *
              * START SUMMERLIN VILLAGE 26 DATED NOVEMBER 2015 BY G.C. WALLACE
              *

 144          KK    1-3P
 145          PB    3.36
 146          BA  0.0258
 147          LS       0    94.9
 148          UD   0.084

 149          KK     CP4
 150          KM   PREVIOUSLY CALLED CP4 IN VILLAGE 26 STUDY
 151          KM   COMBINE 1-3P CP1.3
 152          HC       2
              *

 153          KK    RCP4
 154          KM   THIS IS RCSV26-1 IN THE 2008 MPU
 155          KM   ROUTE CSV26-1 TO VILLAGE 26 DETENTION BASIN
 156          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BRANCH 3
 157          KM   FACILITY # = GOL3 0137
 158          KM   LINING = RCB
 159          RD    4334   0.005   0.015       0    TRAP      14       0
              *
1                                      HEC-1 INPUT                                          PAGE  5

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

 160          KK   1-12P
 161          PB    3.32
 162          BA  0.1814
 163          LS       0    83.8
 164          UD   0.234
              *

 165          KK     CP5
 166          KM   COMBINE CP4 AND 1-12P
 167          HC       2
              *

 168          KK    1-14
 169          PB    3.31
 170          BA  0.0016
 171          LS       0    86.3
 172          UD   0.100
              *

 173          KK    1-15
 174          PB    3.32
 175          BA  0.0057
 176          LS       0    86.1
 177          UD   0.100
              *

 178          KK    1-16
 179          PB    3.31
 180          BA  0.0030
 181          LS       0    86.3
 182          UD   0.100
              *

 183          KK    1-17
 184          PB    3.28
 185          BA  0.0039
 186          LS       0    86.3
 187          UD   0.100
              *

 188          KK    1-18
 189          PB    3.28
 190          BA  0.0038
 191          LS       0    86.3
 192          UD   0.100
              *

 193          KK    CP5B
 194          KM   COMBINE CP5, 1-14, 1-15, 1-16, 1-17, AND 1-18 AT DETENTION BASIN
              * KO    1
 195          HC       6
              *
1                                      HEC-1 INPUT                                          PAGE  6
```

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

 196          KK    EXDB
              * KO     1
 197          KM   DETENTION BASIN CHEYENNE AND BELTWAY
 198          KM   LOW FLOW OUTLET IS 66" PIPE
 199          RS       1    STOR       0
 200          SV       0    0.07    0.80   12.71   18.75   25.05   85.95   95.04  124.21  135.14
 201          SV  200.27  243.11  258.06  273.36  289.00  304.99
 202          SE    2990    2991    2992    2995    2996    2997    3005    3006    3009    3010
 203          SE    3015    3018    3019    3020    3021    3022
 204          SL  2993.7   22.31     0.7     0.5
 205          SS  3021.9     200     2.6     1.5
              *

 206          KK     2-C
 207          KM   PORTION OF 2008 MPU BASIN SV22-3
 208          BA  0.5963
 209          PB    3.41
 210          LS       0    92.5
 211          UD   0.295
              *

 212          KK    R2-C
 213          KM   THIS IS RCSV22-3
 214          KM  ROUTE CSV22-3 TO CRCSV223 FROM THE 2008 MPU
 215          KM  FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BELTWAY BRANCH
 216          KM  FACILITY # = GOBE 0000, 0001, 0065
 217          KM  LINING = CONCRETE
 218          RD    4605   0.065   0.015       0    TRAP      20       2
              *

 219          KKCRCSV223
 220          KM   COMBINE RCP2.1, AND EXDB
 221          HC       2
              *
              * RE-START SUMMERLIN VILLAGE 26 DATED NOVEMBER 2015 BY G.C. WALLACE
              *

 222          KK    1-4R
 223          PB    3.44
 224          BA  0.0536
 225          LS       0    86.3
 226          UD   0.100
              *

 227          KK    1-5R
 228          PB    3.42
 229          BA  0.0343
 230          LS       0    86.3
 231          UD   0.100
              *
1                                        HEC-1 INPUT                                                PAGE  7

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

 232          KK     CP6
 233          KM   COMBINBE 1-4R AND 1-5R
 234          HC       2
              *

 235          KK      R8
 236          KM   ROUTE CP6 THROUGH 1-11P TO CP9
 237          KM   ASSUME RCP
 238          KM     LEN   SLOPE      n           SHAPE    DAMETER
 239          RD    1800  0.0610   0.013       0    CIRC       4
              *

 240          KK    1-6R
 241          PB    3.43
 242          BA  0.0152
 243          LS       0    86.3
 244          UD   0.100
              *

 245          KK    1-7R
 246          PB    3.44
 247          BA  0.0271
 248          LS       0    86.3
 249          UD   0.100
              *

 250          KK     CP7
 251          KM   COMBINE 1-6R AND 1-7R
 252          HC       2
              *

 253          KK      R9
 254          KM   ROUTE CP7 THROUGH 1-11P TO CP9
 255          KM   ASSUME RCP
 256          KM     LEN    SLOPE     n             SHAPE     DIAMETER
 257          RD    3150  0.0400   0.013       0    CIRC     4.5
              *

 258          KK    1-8R
 259          PB    3.42
 260          BA  0.0025
 261          LS       0    86.3
 262          UD   0.100
              *

 263          KK   1-10R
 264          PB    3.41
 265          BA  0.0556
```

```
 266          LS       0    86.1
 267          UD   0.100
              *
1                                      HEC-1 INPUT                                                PAGE  8

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


 268          KK     CP8
 269          KM   COMBINE 1-8R AND 1-10R
 270          HC       2
              *

 271          KK     R10
 272          KM   ASSUME RCP
 273          KM     LEN   SLOPE      n             SHAPE     DIAMETER
 274          RD    2900  0.0400   0.013       0    CIRC     4.5
              *

 275          KK   1-11P
 276          PB    3.38
 277          BA  0.1775
 278          LS       0    81.7
 279          UD   0.214
              *

 280          KK     CP9
 281          KM   COMBINE CP6, CP7, CP8, AND 1-11P
 282          HC       4
              *

 283          KK    1-13
 284          PB    3.34
 285          BA  0.0008
 286          LS       0    86.3
 287          UD   0.100
              *

 288          KK    CP10
 289          KM   COMBINE CP9, 1-13
 290          HC       2
              *
              * END SUMMERLIN VILLAGE 26 DATED NOVEMBER 2015 BY G.C. WALLACE
              * BEGIN 2008 MPU
              *

 291          KK RSV26-3
 292          KM   ROUTE SV26-3 TO CLMT1R
 293          KM   NATURAL WASH
 294          KM   TRAVEL LENGTH = 1,200
 295          KM   SLOPE = 3.3%
 296          KM   N = 0.040
 297          KM   HYDRAULIC RADIUS = 1.5
 298          KM   VELOCITY = 14.2
 299          RM       0   0.024    0.15
              *
              * END OF G.C. WALLACE'S HYDROLOGY
              *
1                                      HEC-1 INPUT                                                PAGE  9

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


 300          KK   LMT1R
 301          BA   1.945
 302          PB    3.45
 303          LS       0    87.7
 304          UD   0.447
              *

 305          KK  CLMT1R
 306          KM   COMBINE RSV26-3 AND LMT1R
 307          HC       2
              *

 308          KK RCLMT1R
 309          KM   ROUTE CLMT1R TO CRCLMT1R
 310          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BRANCH 4
 311          KM   FACILITY # = GOL4 0000, 0010, 0025
 312          KM   LINING = RCB
 313          RD    3000   0.025   0.015       0    TRAP      16       0
              *

 314          KKCRCLMT1R
 315          KM   COMBINE RCRCSV22 AND RCLMT1R
 316          HC       2
              *

 317          KKRCRCLMT1
 318          KM   ROUTE CRCLMT1R TO CLMT5
 319          KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BRANCH 3
 320          KM   FACILITY # = GOL3 0000, 0010, 0068
 321          KM   LINING = CONCRETE
 322          RD    3640   0.027   0.015       0    TRAP      20       0
              *

 323          KK    LMT5
 324          BA   0.539
 325          PB    3.26
 326          LS       0    88.2
 327          UD   0.158
              *

 328          KK   CLMT5
 329          KM   COMBINE LMT5 AND RCRCLMT1
 330          HC       2
```

```
                *

 331            KK    LMT2
 332            BA   0.985
 333            PB    3.41
 334            LS       0    95.6
 335            UD   0.175
                *
1                                       HEC-1 INPUT                                                 PAGE 10

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

 336            KK   RLMT2
 337            KM   ROUTE LMT2 TO CLMT3
 338            KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM
 339            KM   FACILITY # = GOLM 0264, 0277
 340            KM   LINING = CONCRETE
 341            RD    4430    0.05   0.015       0    TRAP      20       2
                *

 342            KK    LMT3
 343            BA   0.328
 344            PB    3.32
 345            LS       0    90.8
 346            UD   0.107
                *

 347            KK   CLMT3
 348            KM   COMBINE RLMT2 AND LMT3
 349            HC       2
                *

 350            KK  RCLMT3
 351            KM   ROUTE CLMT3 TO CUVB2
 352            KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM
 353            KM   FACILITY # = GOLM 0230, 0233, 0236, 0252, 0260, 0262, 0264
 354            KM   LINING = CONCRETE
 355            RD    2490   0.036   0.015       0    TRAP      15       0
                *

 356            KK    UVB2
 357            BA   0.450
 358            PB    3.26
 359            LS       0    89.9
 360            UD   0.275
                *

 361            KK   CUVB2
 362            KM   COMBINE  RCLMT3 AND UVB2
 363            HC       2
                *

 364            KK  CCLMT5
 365            KM   COMBINE  CUVB2 AND CLMT5
 366            HC       2
                *

 367            KK RCCLMT5
 368            KM   ROUTE CCLMT5 TO CGABW
 369            KM   FACILITY = GOWAN/LONE MOUNTAIN SYSTEM
 370            KM   FACILITY # = GOLM 0150, 0162, 0174
 371            KM   LINING = CONCRETE
 372            RD    3820   0.032   0.015       0    TRAP      28       0
                *
1                                       HEC-1 INPUT                                                 PAGE 11

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

 373            KK    GABW
 374            BA   0.204
 375            PB    3.17
 376            LS       0    84.6
 377            UD   0.238
                *

 378            KK   CGABW
 379            KM   COMBINE RCCLMT5 AND GABW
 380            HC       2
                *

 381            KK    CRBW
 382            BA   0.437
 383            PB    3.17
 384            LS       0    84.6
 385            UD   0.315
                *

 386            KK   CCRBW
 387            KM   COMBINE CRBW AND CGABW
 388            HC       2
                *

 389            KK    GRBW
 390            BA   0.300
 391            PB    3.17
 392            LS       0    89.7
 393            UD   0.231
                *

 394            KK   GRBW2
 395            BA   0.158
 396            PB    3.10
 397            LS       0    84.7
 398            UD   0.219
```

```
                *

            399           KK    LMDB
            400           BA   0.120
            401           PB    3.10
            402           LS       0    80.1
            403           UD   0.244
                          *

            404           KK  LMTNIN
            405           KM   COMBINE LMDB, GRBW, GRBW2, AND CCRBW
            406           KM   TOTAL INFLOW TO LONE MOUNTAIN DETENTION BASIN
                          * KO 1
            407           HC       4
                          *
1                                                HEC-1 INPUT                                                    PAGE 12

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

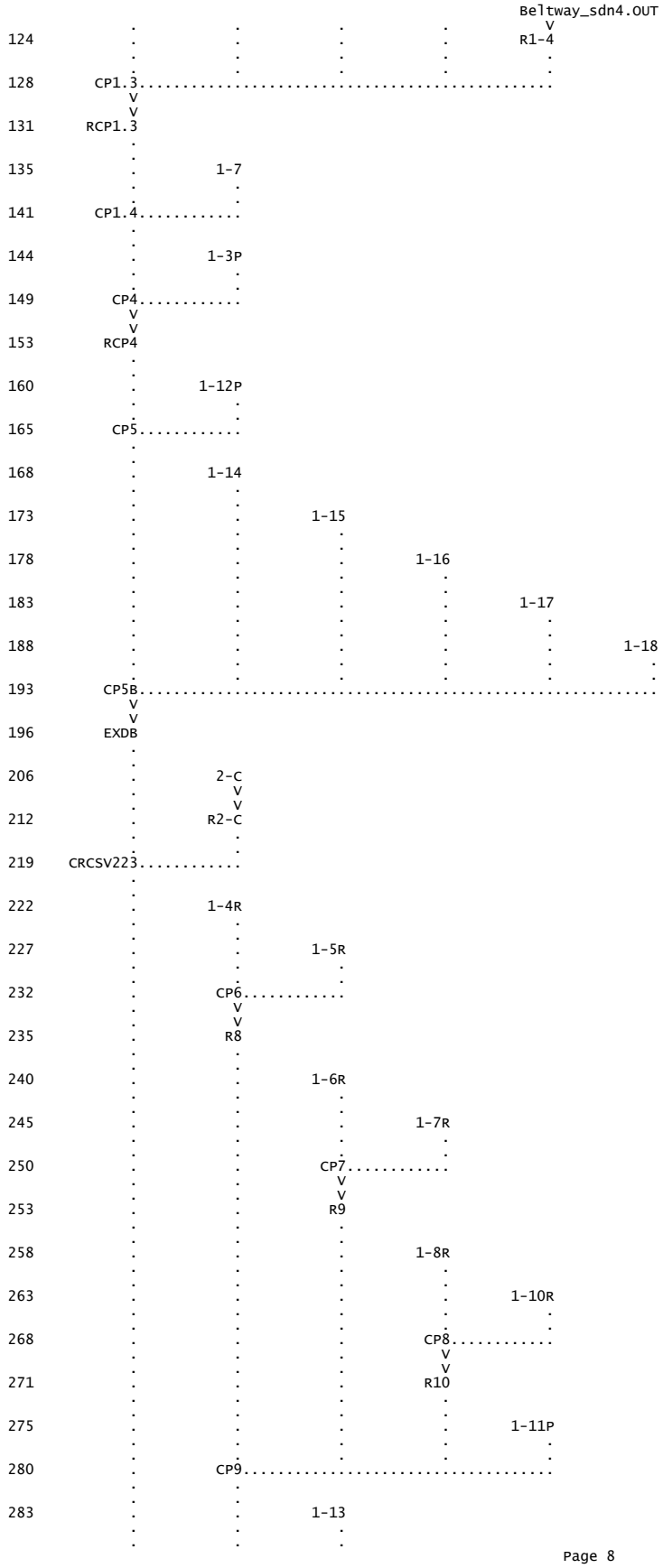

            408           KK  LMTNDB
            409           KM   LONE MOUNTAIN DETENTION BASIN
            410           KM   FACILITY = GOWAN/LONE MTN. SYSTEM
            411           KM   FACILITY # = GOLM 0146
            412           KM   TYPE OF FACILITY = DETENTION BASIN
            413           KM   STORAGE VOLUME = 888.02 ACRE-FEET
            414           KM   OUTLET = 36" ORIFICE PLATE
            415           KM   100-YEAR DISCHARGE =
            416           KM   SPILLWAY LENGTH = 825'
            417           KM   SPILLWAY HEIGHT =
            418           KM   SPILLWAY CREST ELEVATION = 2652.57'
            419           KM   SPILLWAY TYPE = LABYRINTH
            420           KM   PMF DISCHARGE =
            421           KM   TOP OF EMBANKMENT ELEVATION = 2658'
            422           KM   INFORMATION REFERENCED FROM "ALEXANDER ROAD/HUALAPUI WAY ROAD IMPROVEMENTS
            423           KM   PROJECT: CHEYENE AVENUE TO CIMARRON ROAD" PLANS BY THE CITY OF LAS VEGAS
            424           KM   DEPARTMENT OF PUBLIC WORKS: ENGINEERING DESIGN SECTION (8-12-2004)
            425           KO       3
            426           RS       1    STOR      -1
            427           SV       0    1.48    6.45   32.97   130.6  238.38  377.17  558.09  769.02   888.0
            428           SV  901.46  946.59   992.2 1038.33    1085 1132.17
            429           SE    2621    2622    2623    2625    2630    2635    2640    2645    2650   2652.
            430           SE    2653    2654    2655    2656    2657    2658
            431           SQ       0       0      24      56      96     120     144     163     182     188
            432           SQ     200     300     600     800   20000   31600
                          *

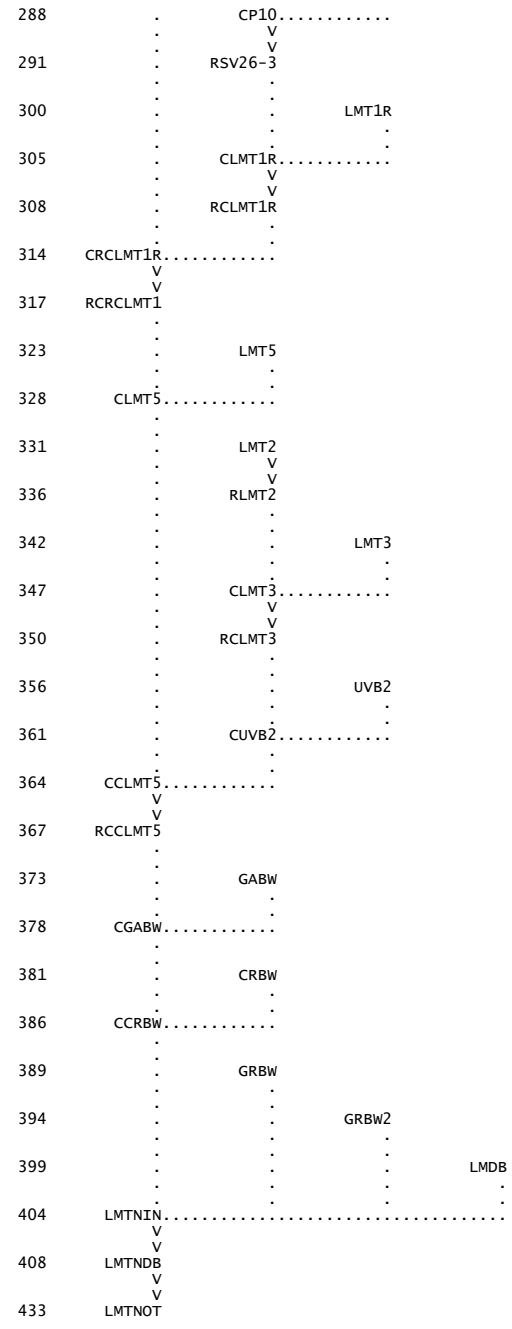
            433           KK  LMTNOT
            434           KM   ROUTE LMTNDB TO CLV15-C
            435           KM   FACILITY = GOWAN - LONE MOUNTAIN SYSTEM
            436           KM   FACILITY # = GOLM 0000,0049,060,0075,0101,0115,0140,0142,0144,0145
            437           KM   LINING = RCP
            438           RD    9240  0.0308   0.015       0    CIRC       4
                          *
            439           ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

    43          1-1
                  V
                  V
    57         R1-1
                  .
                  .
    62            .          1-A
                  .            .
                  .            .
    68         CP1.1............
                  V
                  V
    71        RCP1.1
                  .
                  .
    75            .          1-3
                  .            .
                  .            .
    81         CP1.2............
                  V
                  V
    84        RCP1.2
                  .
                  .
    88            .          1-6
                  .            V
                  .            V
    94            .         R1-6
                  .            .
                  .            .
    98            .            .         1-B
                  .            .           V
                  .            .           V
   104            .            .        R1-B
                  .            .           .
                  .            .           .
   108            .            .           .         1-5
                  .            .           .           V
                  .            .           .           V
   114            .            .           .        R1-5
                  .            .           .           .
                  .            .           .           .
   118            .            .           .           .         1-4
                  .            .           .           .           V
```


R1-4
CP1.3
RCP1.3
1-7
CP1.4
1-3P
CP4
RCP4
1-12P
CP5
1-14
1-15
1-16
1-17
1-18
CP5B
EXDB
2-C
R2-C
CRCSV223
1-4R
1-5R
CP6
R8
1-6R
1-7R
CP7
R9
1-8R
1-10R
CP8
R10
1-11P
CP9
1-13



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN   1998               *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   06DEC17  TIME  09:34:11   *
*                                       *
*****************************************
```

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

INPUT FILE DATE = JULY 2017
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #3
MODELED BY VTN (SVB/WJM)
RESPONSE TO COMMENTS

```
*************************************************************************
* HYDROLOGIC MODEL:3 REFERENCE FILES ARE USED                           *
* 2017 SUMMERLIN MASTER PLAN BASINS - REMAKE OF SUMMERLIN               *
* CCRFCD 2008 MASTER PLAN UPDATE GOWAN WATERSHED  *                     *
*                                                                       *
*************************************************************************
*                                                                       *
* REMAKE OF HYDROLOGIC MODEL:                                           *
* SUMMERLIN VILLAGE 26 - RESPONSE TO COMMENTS                           *
* DATED NOVEMBER 2015 START ON PAGE 31/175                              *
* HEC-1 TITLE - SUMMERLIN VILLAGE 26 REVERENCE                          *
*                                                                       *
*                                                                       *
*                                                                       *
* *********************************************************************
```

	AREA SQ. MI.	DARF
8-9		0.875
9-10		0.865
10-11		0.857
11-12		0.85

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN3

```
 40 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         650  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      3    0  ENDING DATE
                    NDTIME        0605  ENDING TIME
                    ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL     .08 HOURS
                       TOTAL TIME BASE   54.08 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
                    .88       .87       .86       .85
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RSV26-3.
      ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).


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


          **************
          *            *
408 KK    *    LMTNDB  *
          *            *
          **************

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

             HYDROGRAPH ROUTING DATA

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

427 SV            STORAGE          .0       1.5       6.4      33.0     130.6     238.4     377.2     558.1     769.0     888.0
                                 901.5     946.6     992.2    1038.3    1085.0    1132.2

429 SE          ELEVATION     2621.00   2622.00   2623.00   2625.00   2630.00   2635.00   2640.00   2645.00   2650.00   2652.00
                              2653.00   2654.00   2655.00   2656.00   2657.00   2658.00

431 SQ          DISCHARGE          0.        0.       24.       56.       96.      120.      144.      163.      182.      188.
                                 200.      300.      600.      800.    20000.    31600.
```

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 800. TO 20000.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 187.	12.83	187.	181.	159.	159.
		(INCHES) .162	.630	1.246	1.246
		(AC-FT) 93.	360.	710.	710.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
874.	12.83	862.	776.	581.	581.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2651.77	12.83	2651.56	2649.92	2644.72	2644.72

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .87

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 187.	12.75	186.	180.	158.	158.
		(INCHES) .162	.627	1.236	1.236
		(AC-FT) 92.	357.	705.	705.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
859.	12.75	847.	761.	567.	567.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2651.52	12.75	2651.31	2649.63	2644.40	2644.40

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .86

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 186.	12.67	185.	179.	157.	157.
		(INCHES) .161	.624	1.228	1.228
		(AC-FT) 92.	356.	700.	700.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
848.	12.67	835.	749.	557.	557.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2651.32	12.67	2651.11	2649.39	2644.14	2644.14

CUMULATIVE AREA = 10.70 SQ MI

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

HYDROGRAPH AT STATION LMTNDB
FOR PLAN 1, RATIO = .85

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	54.08-HR
+ (CFS)	(HR)				
		(CFS)			
+ 185.	12.58	185.	179.	156.	156.
		(INCHES) .161	.621	1.221	1.221
		(AC-FT) 92.	354.	697.	697.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (AC-FT)	(HR)				
837.	12.58	825.	739.	548.	548.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	54.08-HR
+ (FEET)	(HR)				
2651.15	12.58	2650.94	2649.17	2643.92	2643.92

CUMULATIVE AREA = 10.70 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 .88	RATIO 2 .87	RATIO 3 .86	RATIO 4 .85
HYDROGRAPH AT								
+	1-1	1.99	1	FLOW	1672.	1645.	1624.	1605.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	R1-1	1.99	1	FLOW	1685.	1658.	1637.	1618.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	1-A	.12	1	FLOW	51.	49.	48.	47.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	CP1.1	2.11	1	FLOW	1715.	1687.	1665.	1646.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
+	RCP1.1	2.11	1	FLOW	1707.	1679.	1656.	1637.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	1-3	.33	1	FLOW	399.	392.	387.	382.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP1.2	2.44	1	FLOW	1824.	1794.	1770.	1750.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
+	RCP1.2	2.44	1	FLOW	1808.	1782.	1754.	1739.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	1-6	.08	1	FLOW	136.	134.	132.	131.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	R1-6	.08	1	FLOW	115.	114.	112.	111.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	1-B	.18	1	FLOW	156.	153.	150.	148.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R1-B	.18	1	FLOW	152.	149.	147.	145.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	1-5	.24	1	FLOW	187.	183.	180.	177.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	R1-5	.24	1	FLOW	191.	187.	183.	180.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	1-4	.54	1	FLOW	784.	772.	762.	753.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	R1-4	.54	1	FLOW	726.	716.	707.	700.
				TIME	3.67	3.67	3.67	3.67
5 COMBINED AT								
+	CP1.3	3.49	1	FLOW	2305.	2270.	2234.	2210.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RCP1.3	3.49	1	FLOW	2295.	2262.	2227.	2205.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	1-7	.55	1	FLOW	696.	684.	675.	667.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP1.4	4.04	1	FLOW	2619.	2570.	2530.	2492.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	1-3P	.03	1	FLOW	46.	45.	45.	44.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP4	4.07	1	FLOW	2640.	2590.	2551.	2513.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RCP4	4.07	1	FLOW	2610.	2563.	2522.	2488.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								

+	1-12P	.18	1	FLOW	159.	156.	154.	152.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	CP5	4.25	1	FLOW	2752.	2706.	2659.	2623.
				TIME	3.75	3.67	3.75	3.75
HYDROGRAPH AT								
+	1-14	.00	1	FLOW	2.	2.	2.	2.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-15	.01	1	FLOW	7.	7.	7.	7.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-16	.00	1	FLOW	4.	4.	4.	4.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-17	.00	1	FLOW	5.	5.	5.	5.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-18	.00	1	FLOW	5.	5.	5.	4.
				TIME	3.50	3.50	3.50	3.50
6 COMBINED AT								
+	CP5B	4.27	1	FLOW	2764.	2719.	2669.	2633.
				TIME	3.67	3.67	3.75	3.75
ROUTED TO								
+	EXDB	4.27	1	FLOW	626.	621.	618.	614.
				TIME	5.75	5.67	5.67	5.67
			** PEAK STAGES IN FEET **					
			1	STAGE	3018.65	3018.31	3018.02	3017.77
				TIME	5.75	5.67	5.67	5.67
HYDROGRAPH AT								
+	2-C	.60	1	FLOW	679.	670.	662.	656.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	R2-C	.60	1	FLOW	676.	662.	655.	653.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	CRCSV223	4.86	1	FLOW	1096.	1077.	1065.	1060.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	1-4R	.05	1	FLOW	71.	70.	69.	68.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-5R	.03	1	FLOW	45.	44.	44.	43.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP6	.09	1	FLOW	116.	114.	113.	111.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	R8	.09	1	FLOW	111.	109.	107.	106.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-6R	.02	1	FLOW	20.	20.	19.	19.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-7R	.03	1	FLOW	36.	35.	35.	34.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP7	.04	1	FLOW	56.	55.	54.	54.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	R9	.04	1	FLOW	54.	52.	52.	51.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	1-8R	.00	1	FLOW	3.	3.	3.	3.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	1-10R	.06	1	FLOW	72.	71.	70.	69.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP8	.06	1	FLOW	75.	74.	73.	72.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	R10	.06	1	FLOW	72.	70.	69.	69.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	1-11P	.18	1	FLOW	148.	146.	143.	141.
				TIME	3.67	3.67	3.67	3.67
4 COMBINED AT								
+	CP9	.37	1	FLOW	380.	372.	367.	363.
				TIME	3.58	3.58	3.58	3.58

HYDROGRAPH AT								
+	1-13	.00	1	FLOW	1.	1.	1.	1.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP10	.37	1	FLOW	381.	373.	368.	364.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RSV26-3	.37	1	FLOW	378.	370.	365.	361.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	LMT1R	1.95	1	FLOW	1565.	1540.	1520.	1502.
				TIME	3.83	3.83	3.83	3.83
2 COMBINED AT								
+	CLMT1R	2.31	1	FLOW	1776.	1747.	1724.	1704.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RCLMT1R	2.31	1	FLOW	1771.	1743.	1720.	1699.
				TIME	3.83	3.83	3.83	3.83
2 COMBINED AT								
+	CRCLMT1R	7.17	1	FLOW	2848.	2802.	2771.	2745.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RCRCLMT1	7.17	1	FLOW	2845.	2797.	2766.	2740.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	LMT5	.54	1	FLOW	643.	633.	625.	618.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CLMT5	7.71	1	FLOW	3182.	3126.	3088.	3058.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	LMT2	.99	1	FLOW	1503.	1484.	1469.	1456.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RLMT2	.99	1	FLOW	1440.	1427.	1405.	1396.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	LMT3	.33	1	FLOW	473.	466.	460.	455.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CLMT3	1.31	1	FLOW	1883.	1864.	1837.	1823.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCLMT3	1.31	1	FLOW	1856.	1837.	1811.	1799.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	UVB2	.45	1	FLOW	460.	453.	448.	443.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	CUVB2	1.76	1	FLOW	2274.	2248.	2217.	2200.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CCLMT5	9.48	1	FLOW	5223.	5149.	5087.	5032.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RCCLMT5	9.48	1	FLOW	5189.	5116.	5053.	4998.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	GABW	.20	1	FLOW	171.	168.	165.	163.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	CGABW	9.68	1	FLOW	5360.	5284.	5218.	5161.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	CRBW	.44	1	FLOW	323.	317.	312.	308.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	CCRBW	10.12	1	FLOW	5675.	5593.	5523.	5461.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	GRBW	.30	1	FLOW	311.	307.	303.	299.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	GRBW2	.16	1	FLOW	131.	128.	127.	125.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	LMDB	.12	1	FLOW	77.	75.	74.	73.
				TIME	3.67	3.67	3.67	3.67

4 COMBINED AT

```
+                 LMTNIN      10.70     1   FLOW         6194.     6104.     6026.     5958.
                                           TIME          3.67      3.67      3.67      3.67

 ROUTED TO
+                 LMTNDB      10.70     1   FLOW          187.      187.      186.      185.
                                           TIME         12.83     12.75     12.67     12.58

                                       ** PEAK STAGES IN FEET **
                                       1   STAGE      2651.77   2651.52   2651.32   2651.15
                                           TIME         12.83     12.75     12.67     12.58

 ROUTED TO
+                 LMTNOT      10.70     1   FLOW          187.      187.      186.      185.
                                           TIME         12.92     12.83     12.75     12.67
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
              R1-1  MANE          5.00   1685.28    240.00      1.95      5.00   1685.28    240.00        1.95

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2068E+03 EXCESS= .0000E+00 OUTFLOW= .2069E+03 BASIN STORAGE= .2776E-01 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-1  MANE          5.00   1658.31    240.00      1.92      5.00   1658.31    240.00        1.92

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2033E+03 EXCESS= .0000E+00 OUTFLOW= .2034E+03 BASIN STORAGE= .2703E-01 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-1  MANE          5.00   1636.75    240.00      1.89      5.00   1636.75    240.00        1.89

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2005E+03 EXCESS= .0000E+00 OUTFLOW= .2006E+03 BASIN STORAGE= .2688E-01 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-1  MANE          5.00   1617.88    240.00      1.87      5.00   1617.88    240.00        1.87

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1981E+03 EXCESS= .0000E+00 OUTFLOW= .1982E+03 BASIN STORAGE= .2675E-01 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RCP1.1  MANE        1.29   1711.53    241.23      1.87      5.00   1707.03    240.00        1.87

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2114E+03 EXCESS= .0000E+00 OUTFLOW= .2114E+03 BASIN STORAGE= .3248E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.1  MANE        1.30   1681.59    240.22      1.84      5.00   1678.62    240.00        1.84

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2078E+03 EXCESS= .0000E+00 OUTFLOW= .2078E+03 BASIN STORAGE= .3260E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.1  MANE        1.31   1659.90    241.49      1.82      5.00   1656.38    240.00        1.82

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2049E+03 EXCESS= .0000E+00 OUTFLOW= .2049E+03 BASIN STORAGE= .3054E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.1  MANE        1.31   1642.82    241.31      1.79      5.00   1637.22    240.00        1.79

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2024E+03 EXCESS= .0000E+00 OUTFLOW= .2024E+03 BASIN STORAGE= .3052E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.2  MANE        2.60   1814.37    241.74      1.85      5.00   1808.23    240.00        1.84

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2406E+03 EXCESS= .0000E+00 OUTFLOW= .2406E+03 BASIN STORAGE= .3851E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.2  MANE        2.62   1788.89    240.61      1.81      5.00   1781.95    240.00        1.81

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2365E+03 EXCESS= .0000E+00 OUTFLOW= .2365E+03 BASIN STORAGE= .4448E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.2  MANE        2.63   1760.84    241.79      1.79      5.00   1753.88    240.00        1.79

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2331E+03 EXCESS= .0000E+00 OUTFLOW= .2332E+03 BASIN STORAGE= .4388E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP1.2  MANE        2.64   1741.98    240.18      1.77      5.00   1739.43    240.00        1.77

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2303E+03 EXCESS= .0000E+00 OUTFLOW= .2303E+03 BASIN STORAGE= .4500E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
              R1-6  MANE         3.75    126.94    213.75      1.92      5.00    115.41    215.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7699E+01 EXCESS= .0000E+00 OUTFLOW= .7706E+01 BASIN STORAGE= .2864E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-6  MANE         3.75    125.05    213.75      1.89      5.00    113.79    215.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7571E+01 EXCESS= .0000E+00 OUTFLOW= .7578E+01 BASIN STORAGE= .2848E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-6  MANE         3.75    123.54    213.75      1.86      5.00    112.50    215.00        1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7469E+01 EXCESS= .0000E+00 OUTFLOW= .7476E+01 BASIN STORAGE= .2836E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-6  MANE         3.75    122.21    213.75      1.84      5.00    111.36    215.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7380E+01 EXCESS= .0000E+00 OUTFLOW= .7387E+01 BASIN STORAGE= .2825E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R1-B  MANE          .68    155.65    216.32      1.28      5.00    152.43    215.00        1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1259E+02 EXCESS= .0000E+00 OUTFLOW= .1259E+02 BASIN STORAGE= .4183E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R1-B  MANE          .69    152.61    215.89      1.26      5.00    149.16    215.00        1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1233E+02 EXCESS= .0000E+00 OUTFLOW= .1233E+02 BASIN STORAGE= .4263E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R1-B  MANE          .69    150.11    215.83      1.24      5.00    146.71    215.00        1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1213E+02 EXCESS= .0000E+00 OUTFLOW= .1213E+02 BASIN STORAGE= .3977E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R1-B  MANE          .70    147.81    216.31      1.22      5.00    144.58    215.00        1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1195E+02 EXCESS= .0000E+00 OUTFLOW= .1195E+02 BASIN STORAGE= .4215E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R1-5  MANE         5.00    190.65    225.00      1.23      5.00    190.65    225.00        1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1574E+02 EXCESS= .0000E+00 OUTFLOW= .1576E+02 BASIN STORAGE= .1118E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R1-5  MANE         5.00    186.56    225.00      1.21      5.00    186.56    225.00        1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1541E+02 EXCESS= .0000E+00 OUTFLOW= .1543E+02 BASIN STORAGE= .1111E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R1-5  MANE         5.00    183.30    225.00      1.18      5.00    183.30    225.00        1.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1515E+02 EXCESS= .0000E+00 OUTFLOW= .1517E+02 BASIN STORAGE= .1104E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R1-5  MANE         5.00    180.44    225.00      1.17      5.00    180.44    225.00        1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1491E+02 EXCESS= .0000E+00 OUTFLOW= .1494E+02 BASIN STORAGE= .1099E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R1-4  MANE         4.75    769.37    218.50      1.92      5.00    726.20    220.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5565E+02 EXCESS= .0000E+00 OUTFLOW= .5574E+02 BASIN STORAGE= .1428E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R1-4  MANE         4.75    757.85    218.50      1.89      5.00    715.81    220.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5473E+02 EXCESS= .0000E+00 OUTFLOW= .5482E+02 BASIN STORAGE= .1348E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R1-4  MANE         4.75    748.62    218.50      1.87      5.00    707.49    220.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5399E+02 EXCESS= .0000E+00 OUTFLOW= .5408E+02 BASIN STORAGE= .1343E-01 PERCENT ERROR=   -.2
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          FOR PLAN = 1  RATIO=  .00
              R1-4  MANE         4.75    740.54    218.50      1.84      5.00    700.19    220.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5335E+02 EXCESS= .0000E+00 OUTFLOW= .5343E+02 BASIN STORAGE= .1338E-01 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
            RCP1.3  MANE         1.62   2304.46    237.85      1.79      5.00   2295.16    240.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3323E+03 EXCESS= .0000E+00 OUTFLOW= .3323E+03 BASIN STORAGE= .3055E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP1.3  MANE         1.63   2269.75    237.57      1.76      5.00   2261.60    240.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3266E+03 EXCESS= .0000E+00 OUTFLOW= .3266E+03 BASIN STORAGE= .2671E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP1.3  MANE         1.64   2234.10    237.32      1.73      5.00   2227.41    240.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3219E+03 EXCESS= .0000E+00 OUTFLOW= .3219E+03 BASIN STORAGE= .2670E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP1.3  MANE         1.64   2212.51    238.27      1.71      5.00   2205.47    240.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3181E+03 EXCESS= .0000E+00 OUTFLOW= .3181E+03 BASIN STORAGE= .3131E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE         2.18   2628.04    222.72      1.79      5.00   2610.03    225.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3873E+03 EXCESS= .0000E+00 OUTFLOW= .3873E+03 BASIN STORAGE= .5899E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE         2.20   2578.93    222.22      1.75      5.00   2563.13    225.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3807E+03 EXCESS= .0000E+00 OUTFLOW= .3807E+03 BASIN STORAGE= .7317E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE         2.21   2539.09    223.60      1.73      5.00   2521.86    225.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3752E+03 EXCESS= .0000E+00 OUTFLOW= .3752E+03 BASIN STORAGE= .6123E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP4  MANE         2.23   2501.34    222.71      1.71      5.00   2487.56    225.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3706E+03 EXCESS= .0000E+00 OUTFLOW= .3706E+03 BASIN STORAGE= .6628E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE         2.59    676.64    224.97      2.19      5.00    676.34    225.00        2.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6974E+02 EXCESS= .0000E+00 OUTFLOW= .6975E+02 BASIN STORAGE= .1859E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE         2.60    666.26    223.43      2.16      5.00    661.61    225.00        2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6864E+02 EXCESS= .0000E+00 OUTFLOW= .6865E+02 BASIN STORAGE= .1967E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE         2.61    659.32    224.28      2.13      5.00    654.60    225.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6785E+02 EXCESS= .0000E+00 OUTFLOW= .6786E+02 BASIN STORAGE= .2175E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R2-C  MANE         2.62    653.16    225.03      2.11      5.00    653.13    225.00        2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6716E+02 EXCESS= .0000E+00 OUTFLOW= .6717E+02 BASIN STORAGE= .1804E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE         1.00    115.53    211.02      1.69      5.00    111.00    210.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7913E+01 EXCESS= .0000E+00 OUTFLOW= .7913E+01 BASIN STORAGE= .1101E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
                R8  MANE         1.00    113.17    211.72      1.66      5.00    108.89    210.00        1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7775E+01 EXCESS= .0000E+00 OUTFLOW= .7775E+01 BASIN STORAGE= .1030E-03 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
               R8  MANE         1.01    111.92    211.29      1.63      5.00    107.40    210.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7664E+01 EXCESS= .0000E+00 OUTFLOW= .7664E+01 BASIN STORAGE= .1012E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R8  MANE         1.01    110.28    211.80      1.61      5.00    106.14    210.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7567E+01 EXCESS= .0000E+00 OUTFLOW= .7567E+01 BASIN STORAGE= .1018E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.36     55.49    212.41      1.69      5.00     53.95    215.00        1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3819E+01 EXCESS= .0000E+00 OUTFLOW= .3819E+01 BASIN STORAGE= .2458E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.37     54.30    213.12      1.66      5.00     52.49    215.00        1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3747E+01 EXCESS= .0000E+00 OUTFLOW= .3747E+01 BASIN STORAGE= .2917E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.37     53.34    213.70      1.64      5.00     51.52    215.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3694E+01 EXCESS= .0000E+00 OUTFLOW= .3694E+01 BASIN STORAGE= .2427E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R9  MANE         2.38     52.51    214.21      1.62      5.00     51.11    215.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3648E+01 EXCESS= .0000E+00 OUTFLOW= .3648E+01 BASIN STORAGE= .2056E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R10  MANE         2.05     74.42    212.86      1.66      5.00     71.54    215.00        1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5136E+01 EXCESS= .0000E+00 OUTFLOW= .5136E+01 BASIN STORAGE= .2082E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R10  MANE         2.05     72.89    213.57      1.63      5.00     69.74    215.00        1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5043E+01 EXCESS= .0000E+00 OUTFLOW= .5043E+01 BASIN STORAGE= .2327E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R10  MANE         2.06     72.57    212.10      1.61      5.00     69.20    215.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4973E+01 EXCESS= .0000E+00 OUTFLOW= .4974E+01 BASIN STORAGE= .1911E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R10  MANE         2.06     71.45    212.61      1.58      5.00     68.69    215.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4909E+01 EXCESS= .0000E+00 OUTFLOW= .4909E+01 BASIN STORAGE= .2312E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCLMT1R  MANE         1.15   1772.11    230.55      1.76      5.00   1770.68    230.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2173E+03 EXCESS= .0000E+00 OUTFLOW= .2173E+03 BASIN STORAGE= .2550E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCLMT1R  MANE         1.16   1743.47    230.92      1.73      5.00   1742.60    230.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2136E+03 EXCESS= .0000E+00 OUTFLOW= .2136E+03 BASIN STORAGE= .2598E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCLMT1R  MANE         1.17   1720.70    230.98      1.71      5.00   1719.67    230.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2106E+03 EXCESS= .0000E+00 OUTFLOW= .2107E+03 BASIN STORAGE= .3022E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCLMT1R  MANE         1.17   1700.29    230.89      1.69      5.00   1699.35    230.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2081E+03 EXCESS= .0000E+00 OUTFLOW= .2081E+03 BASIN STORAGE= .3010E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCLMT1  MANE         1.24   2846.34    230.12      1.78      5.00   2845.22    230.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6823E+03 EXCESS= .0000E+00 OUTFLOW= .6823E+03 BASIN STORAGE= .3307E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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          RCRCLMT1  MANE         1.25   2799.22    230.37      1.75      5.00   2796.63    230.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6704E+03 EXCESS= .0000E+00 OUTFLOW= .6704E+03 BASIN STORAGE= .3392E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCLMT1  MANE         1.25   2767.78    230.17      1.73      5.00   2766.05    230.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6610E+03 EXCESS= .0000E+00 OUTFLOW= .6610E+03 BASIN STORAGE= .3280E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCLMT1  MANE         1.26   2740.00    229.77      1.71      5.00   2739.90    230.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6530E+03 EXCESS= .0000E+00 OUTFLOW= .6530E+03 BASIN STORAGE= .3356E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RLMT2  MANE         2.08   1465.08    216.25      2.50      5.00   1439.71    215.00        2.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1311E+03 EXCESS= .0000E+00 OUTFLOW= .1311E+03 BASIN STORAGE= .2484E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RLMT2  MANE         2.09   1466.01    217.16      2.46      5.00   1427.49    215.00        2.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1293E+03 EXCESS= .0000E+00 OUTFLOW= .1293E+03 BASIN STORAGE= .2614E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RLMT2  MANE         2.10   1432.90    217.90      2.43      5.00   1405.33    215.00        2.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1279E+03 EXCESS= .0000E+00 OUTFLOW= .1279E+03 BASIN STORAGE= .2052E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RLMT2  MANE         2.10   1423.67    216.46      2.41      5.00   1395.68    215.00        2.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1267E+03 EXCESS= .0000E+00 OUTFLOW= .1267E+03 BASIN STORAGE= .2360E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCLMT3  MANE          .82   1870.76    215.56      2.36      5.00   1856.19    215.00        2.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1654E+03 EXCESS= .0000E+00 OUTFLOW= .1654E+03 BASIN STORAGE= .2195E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCLMT3  MANE          .82   1852.75    215.60      2.33      5.00   1836.92    215.00        2.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1631E+03 EXCESS= .0000E+00 OUTFLOW= .1631E+03 BASIN STORAGE= .2131E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCLMT3  MANE          .82   1822.81    216.05      2.30      5.00   1810.69    215.00        2.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1612E+03 EXCESS= .0000E+00 OUTFLOW= .1613E+03 BASIN STORAGE= .1904E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCLMT3  MANE          .83   1814.18    215.88      2.28      5.00   1798.82    215.00        2.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1596E+03 EXCESS= .0000E+00 OUTFLOW= .1596E+03 BASIN STORAGE= .1956E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCCLMT5  MANE         1.11   5200.34    221.50      1.86      5.00   5189.22    220.00        1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9411E+03 EXCESS= .0000E+00 OUTFLOW= .9411E+03 BASIN STORAGE= .3852E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCCLMT5  MANE         1.11   5122.85    220.56      1.83      5.00   5116.48    220.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9253E+03 EXCESS= .0000E+00 OUTFLOW= .9253E+03 BASIN STORAGE= .3783E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCCLMT5  MANE         1.12   5061.36    220.50      1.81      5.00   5052.86    220.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9130E+03 EXCESS= .0000E+00 OUTFLOW= .9130E+03 BASIN STORAGE= .3845E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCCLMT5  MANE         1.12   5010.00    221.47      1.79      5.00   4997.54    220.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9022E+03 EXCESS= .0000E+00 OUTFLOW= .9022E+03 BASIN STORAGE= .3870E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              LMTNOT  MANE         5.00    187.32    780.00      1.24      5.00    187.32    780.00        1.24
```

```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .7110E+03 EXCESS= .0000E+00 OUTFLOW= .7095E+03 BASIN STORAGE= .1487E+01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            LMTNOT  MANE          5.00    186.56    770.00      1.23      5.00    186.56    770.00        1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7054E+03 EXCESS= .0000E+00 OUTFLOW= .7040E+03 BASIN STORAGE= .1469E+01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            LMTNOT  MANE          5.00    185.96    765.00      1.23      5.00    185.96    765.00        1.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7009E+03 EXCESS= .0000E+00 OUTFLOW= .6995E+03 BASIN STORAGE= .1455E+01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            LMTNOT  MANE          5.00    185.44    765.00      1.22      5.00    185.44    765.00        1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6970E+03 EXCESS= .0000E+00 OUTFLOW= .6955E+03 BASIN STORAGE= .1443E+01 PERCENT ERROR=    .0



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

B.5.3 100-YEAR SDN 3 DB5/ALTA TRIBUTARY

```
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   05DEC17  TIME  16:24:53  *                    *           (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
 *** FREE ***
              1          ID   THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
              2          ID   TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
              3          ID   DOWNSTREAM HOLDING FACILITIES
              4          ID
              5          ID   MODELED BY VTN, NEVADA SVB/JYA
              6          ID   MAY 9, 2017
              7          ID
              8          ID
              9          ID    CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
             10          ID    GOWAN WATERSHED (ALL)
             11          ID    RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
             12          ID    INPUT FILE = ALT1-SDN3.DAT
             13          ID    INPUT FILE DATE = MAY 5, 2008
             14          ID    DESIGN STORM = 100-YEAR 6-HR STORM
             15          ID    STORM DISTRIBUTION = SDN #5
             16          ID    MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
             17          ID    CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
             18          ID    STORM CENTERING = FULL WATERSHEDCP
             19          ID
             20          ID    REFERENCED HYDROLOGIC MODELS:
             21          ID    CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
             22          ID    NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
             23          ID    RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
             24          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
             25          ID    3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
             26          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
             27          ID    SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
             28          ID    MASTER PLAN UPDATE (G.C. WALLACE 2006)
             29          ID    GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
             30          ID    (G.C. WALLACE 2007)
             31          ID    LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
             32          ID    FROM G.C. WALLACE ON JANUARY 31, 2008)
             33          ID    US 95/RANCHO FIS RESTUDY (PBS&J 1998)
             34          ID    JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
             35          ID
             36          ID                          AREA    DARF
             37          ID                          SQ. MI.
             38          ID                          0-0.5   0.99
             39          ID                          0.5-1   0.975
             40          ID                          1-2     0.95
             41          ID                          2-3     0.925
             42          ID                          3-4     0.915
             43          ID                          4-5     0.908
             44          ID                          5-6     0.903
             45          ID                          6-7     0.895
             46          ID                          7-8     0.885
             47          ID
             48          ID
             49          ID
             50          ID
             51          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
             52          ID
             53          ID  100-YEAR,  6-HOUR STORM,  SDN3
1                                                  HEC-1 INPUT                                                    PAGE  2

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

             54          ID
             55          IT       5       0       0     300
             56          IO       5       0       0
             57          IN       5       0       0
             58          ID         0-0.5    0.5-1   1-2     2-3     3-4     4-5     5-6     6-7     7-8
             59          JR    PREC    0.99   0.975    0.95   0.925   0.915   0.908   0.903   0.895   0.885
                         *

             60          KK     3-1
```

```
 61          KM   COMPARE TO MPU BASIN DB54-1 (CURVE NUMBER CHANGED FROM 87.2)
 62          BA    2.22
 63          PB    3.75
 64          PC       0    0.02   0.057    0.07   0.087   0.108   0.124    0.13    0.13   0.130
 65          PC    0.13    0.13    0.13   0.133    0.14   0.142   0.148   0.158   0.172   0.181
 66          PC    0.19   0.197   0.199     0.2   0.201   0.204   0.214   0.229   0.241   0.249
 67          PC   0.251   0.256    0.27   0.278   0.281   0.283   0.295   0.322   0.352   0.409
 68          PC   0.499    0.59    0.71   0.744   0.781   0.812   0.819   0.835   0.851   0.856
 69          PC    0.86   0.868   0.876   0.888    0.91   0.926   0.937    0.95    0.97   0.976
 70          PC   0.982   0.985   0.987   0.989    0.99   0.993   0.993   0.994   0.995   0.998
 71          PC   0.998   0.999       1
 72          LS       0    87.0
 73          UD   0.582
             *

 74          KK    R3-1
 75          KM   ROUTE R3-1 THROUGH 3-2
 76          KM   EXISTING NATURAL WASH
 77          RD    3322   0.092   0.030       0    TRAP     125       0
             *

 78          KK     3-2
 79          KM   COMPARE TO MPU BASIN DB54-5 (CURVE NUMBER CHANGED FROM 85.2)
 80          BA   0.226
 81          PB    3.67
 82          LS       0    83.9
 83          UD   0.110
             *

 84          KK   CP3.1
 85          KM   COMBINE R3-1 AND 3-2
 86          HC       2
             *

 87          KK  RCP3.1
 88          KM   ROUTE CP3.1 TO CP3.3 THROUGH 3-E VIA
 89          KM   (PORTION OF FACILITY APM50059)
 90          RD    7900   0.070   0.013       0    TRAP     125       2
             *

 91          KK     3-D
 92          KM   PORTION OF BASINS DB54-6R (PB=3.56)
 93          BA  0.3329
 94          PB    3.59
 95          LS       0    84.6
 96          UD   0.223
             *
```



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

 97          KK   CP3.3
 98          KM   COMBINE 3-D, RCP3.1,
 99          HC       2
             *

100          KK  RCP3.3
101          KM   ROUTE CP3.3 TO CP3.4 THROUGH 3-E VIA A
102          KM   (PORTION OF FACILITY APM50059)
103          RD    1000   0.070   0.013       0    TRAP     125       2
             *

104          KK     3-3
105          KM   PORTION OF MPU BASIN DB54-3
106          BA  0.1737
107          PB    3.65
108          LS       0    88.0
109          UD   0.081
             *

110          KK    R3-3
111          KM   ROUTE R3-3 THROUGH A PORTION OF 3-E TO CP3.2
112          KM   NATURAL WASH
113          RD    2233   0.054   0.030       0    TRAP     100       0
             *

114          KK     3-4
115          KM   PORTION OF MPU BASIN DB54-3
116          BA  0.3457
117          PB    3.68
118          LS       0    88.0
119          UD   0.092
             *

120          KK    R3-4
121          KM   ROUTE R3-4 THROUGH A PORTION OF 3-E TO CP3.2
122          KM   NATURAL WASH
123          RD    3300   0.097   0.030       0    TRAP     100       0
             *

124          KK     3-5
125          KM   COMPARE TO MPU BASIN DB54-2 (SLIGHTLY LARGER PORTION OF DB54-4)
126          BA  0.2936
127          PB    3.65
128          LS       0    87.7
129          UD   0.094
             *

130          KK    R3-5
131          KM   ROUTE R3-5 THROUGH A PORTION OF 3-E TO CP3.2
132          KM   (PORTION OF FACILITY APM50057)
133          RD    4400   0.068   0.013       0    TRAP      50       2
             *
```

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

 134          KK   CP3.2
 135          KM   COMBINE R3-5 , R3-4 AND R3-3
 136          HC       3
              *

 137          KK  RCP3.2
 138          KM   ROUTE RCP3.2 THROUGH A PORTION OF 3-E TO CP3.4
 139          KM   (PORTION OF FACILITY APM50057)
 140          RD    5500   0.068   0.013       0    TRAP      50       2
              *

 141          KK     3-E
 142          KM   PORTION OF BASINS DB54-4 (PB=3.60) AND DB54-6R (PB=3.56)
 143          BA  0.5442
 144          PB    3.57
 145          LS       0    85.8
 146          UD   0.238
              *

 147          KK   CP3.4
 148          KM   COMBINE 3-E, RCP3.2 AND RCP3.3
 149          HC       3
              *

 150          KK  RCP3.4
 151          KM   ROUTE RCP3.4 THROUGH A PORTION OF 3-N TO CPDB3
 152          KM   (FACILITIES APM50056, APM50047 AND APM50008)
 153          RD    3365   0.052   0.013       0    TRAP      80       2
              *

 154          KK     3-6
 155          KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
 156          BA  0.0887
 157          PB    3.62
 158          LS       0    88.0
 159          UD   0.074
              *

 160          KK    R3-6
 161          KM   ROUTE 3-6 THROUGH A PORTION OF 3-J AND A PORTION OF 3-K TO CP3.5
 162          KM   EXISTING NATURAL WASHES
 163          RD    4500   0.080   0.030       0    TRAP     100       0
              *

 164          KK     3-7
 165          KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
 166          BA  0.1714
 167          PB    3.61
 168          LS       0    87.2
 169          UD   0.048
              *
```



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

 170          KK    R3-7
 171          KM   ROUTE 3-7 THROUGH A PORTION OF 3-K TO CP3.5
 172          KM   PORTION OF FACILITY ID APM50213
 173          RD    4340   0.073   0.013       0    TRAP      50       2
              *

 174          KK     3-J
 175          KM   PORTION OF MPU BASIN DB55-4
 176          BA  0.1529
 177          PB    3.59
 178          LS       0    78.6
 179          UD   0.168
              *

 180          KK    R3-J
 181          KM   ROUTE 3-J THROUGH A PORTION OF 3-K TO CP3.5
 182          KM   NATURAL WASHES
 183          RD    2700   0.074   0.030       0    TRAP     100       0
              *

 184          KK   CP3.5
 185          KM   COMBINE R3-J, R3-7 AND R3-6
 186          HC       3
              *

 187          KK  RCP3.5
 188          KM   ROUTE CP3.5 THROUGH A PORTION OF 3-K TO CP3.6
 189          KM   PORTION OF FACILITY ID APM50213
 190          RD    2100   0.073   0.013       0    TRAP      50       2
              *

 191          KK     3-8
 192          KM   COMPARE TO MPU BASIN DB55-1
 193          BA  0.6386
 194          PB    3.70
 195          LS       0    87.8
 196          UD   0.196
              *

 197          KK    R3-8
 198          KM   ROUTE 3-8 THROUGH A PORTION OF 3-K TO CP3.6
 199          KM   FACILITY ID APM50212
 200          RD    6695   0.075   0.013       0    TRAP      30       2
              *

 201          KK     3-K
 202          KM   COMPARE TO MPU BASIN DB55-7
```

```
 203          BA  0.8890
 204          PB    3.54
 205          LS       0    87.6
 206          UD   0.296
              *
1                                      HEC-1 INPUT                                                    PAGE  6

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


 207          KK   CP3.6
 208          KM   COMBINE 3-K, R3-8 AND RCP3.5
 209          HC       3
              *

 210          KK  RCP3.6
 211          KM   ROUTE CP3.6 THROUGH A PORTION OF 3-N TO CPDB3
 212          KM   FACILITY ID APM500009
 213          RD    4180   0.058   0.013       0    TRAP      50       2
              *

 214          KK     3-N
 215          KM   COMPARE TO MPU BASIN DB55-8
 216          BA  0.4557
 217          PB    3.46
 218          LS       0    88.9
 219          UD   0.269
              *

 220          KK     3-M
 221          KM   COMPARE TO MPU BASIN DB55-8
 222          BA  0.1924
 223          PB    3.48
 224          LS       0    88.8
 225          UD   0.147
              *

 226          KK    R3-M
 227          KM   ROUTE 3-M THROUGH A PORTION OF 3-N TO CP3.7
 228          KM   FACILITY ID PORTION OF APM500009
 229          RD    4500  0.0528   0.013       0    TRAP       7       0
              *

 230          KK   CPDB5
 231          KM    COMBINE 3-M, 3-N, RCP3.6 AND RCP3.4
 232          KM    TOTAL INFLOW TO SUMMERLIN #5 DETENTION BASIN
 233          KO       0
 234          HC       4
              *

 235          KK     DB5
 236          KM    SUMMERLIN DETENTION BASIN 5
 237          KM    FACILITY = ANGEL PARK - MIDDLE 5 BRANCH
 238          KM    FACILITY # = APM5 0000
 239          KM    STORAGE VOLUME = 384.1 ACRE-FEET
 240          KM    OUTLET = 2: 7' x 5.5' RCBS
 241          KM    100-YEAR DISCHARGE = 2,150 CFS
 242          KM    SPILLWAY LENGTH = 453.6'
 243          KM    SPILLWAY HEIGHT =
 244          KM    SPILLWAY CREST ELEVATION = 3563'
 245          KM    SPILLWAY TYPE = CONCRETE BROAD CRESTED WEIR
 246          KM    PMF DISCHARGE = 12,153 CFS
 247          KM    TOP OF EMBANKMENT ELEVATION = 3569'
 248          KM    DETENTION BASIN PARAMETERS REFERENCED FROM "DETENTION BASIN NO. 5
1                                      HEC-1 INPUT                                                    PAGE  7

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

 249          KM    EXPANSION AND DIVERSION BERM" PLANS BY G.C. WALLACE (5-23-2001)
 250          KM    STAGE-STORAGE-DISCHARGE CURVE REFERENCED FROM "2006 SUMMERLIN WEST
 251          KM    CONCEPTUAL DRAINAGE STUDY MASTER PLAN AMENDMENT: EXISTING OFFSITE/PROPOSED
 252          KM    ONSITE DRAINAGE CONDITION" HYDROLOGIC MODEL DATED 8-7-2006 AND SUBMITTED
 253          KM    WITH THE SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
 254          KM    CONTROL MASTER PLAN UPDATE BY G.C. WALLACE (08-2006)
 255          KO       0
 256          RS       1    STOR      -1
 257          SV       0    1.73    4.55    8.45   13.08    18.2   23.81   29.96    36.7   43.93
 258          SV   59.55   77.49   99.82  127.17  159.39  196.38  240.07  384.05  405.65  535.25
 259          SQ       0     192     276     391     505     616     725     813     900     982
 260          SQ    1176    1368    1534    1683    1804    1920    2033    2315    3725   23201
 261          SE  3532.5    3535    3536    3537    3538    3539    3540    3541    3542    3543
 262          SE    3543    3547    3549    3551    3553    3555    3557    3563    3564    3569
 263          SS    3563   435.6       3     1.5
              *

 264          KK     3-L
 265          KM   COMPARE TO MPU BASIN SWAA-1
 266          BA  0.3227
 267          PB    3.44
 268          LS       0    88.4
 269          UD   0.160
              *

 270          KK   CP3-L
 271          KM   COMBINE 3-L AND DB3
 272          KM   THIS IS CSWAA-1 IN GOWAN MPU HEC-1
 273          HC       2
              *
              * END OF SECTION MODELED BY VTN, NEVADA SVB
              * TIE VTN SECTION TO 2008 MPU HEC-1
              *

 274          KKRCSWAA-1
 275          KM  ROUTE CSWAA-1 TO CSWAA-2
 276          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 277          KM  FACILITY # = APAD 0115, 0146
```

```
 278          KM  LINING = RCB
 279          RD    4640   0.044   0.015       0    TRAP      10       0
              *

 280          KK  SWAA-2
 281          BA   0.700
 282          PB    3.39
 283          LS       0    90.9
 284          UD   0.346
              *

 285          KK CSWAA-2
 286          KM  COMBINE RCSWAA-1 AND SWAA-2
 287          HC       2
              *
```



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

 288          KKRCSWAA-2
 289          KM  ROUTE CSWAA-2 TO CSWAA-3
 290          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 291          KM  FACILITY # = APAD 0000, 0018, 0044, 0073
 292          KM  LINING = RCB
 293          RD    6120   0.035   0.015       0    TRAP      11       0
              *

 294          KK  SWAA-3
 295          BA   0.581
 296          PB    3.31
 297          LS       0    87.8
 298          UD   0.361
              *

 299          KK CSWAA-3
 300          KM  COMBINE RCSWAA-2 AND SWAA-3
 301          HC       2
              *
              * THE FOLLOWING SECTION OF HYDROLOGY IS NOT PART OF THE 2008 MPU
              * THIS SECTION IS MODELED BASED ON THE 2017 CONDITION OF THE SUMMERLIN MASTER PL
              * MODELED BY VTN, NEVADA SVB
              *
              *

 302          KK     3-F
 303          KM   COMPARE TO MPU BASIN SWFH-5
 304          BA  0.2815
 305          PB    3.52
 306          LS       0    88.9
 307          UD   0.152
              *

 308          KK    R3-F
 309          KM   ROUTE 3-F THROUGH 3-G2 TO CP3.8
 310          KM   LINING RCB
 311          RD    2650   0.055   0.013       0    TRAP       6       0
              *

 312          KK    3-G2
 313          KM   COMPARE TO MPU BASIN SWFH-6
 314          BA  0.1285
 315          PB    3.48
 316          LS       0    93.2
 317          UD   0.107
              *

 318          KK   CP3.8
 319          KM   COMBINES 3-F AND 3-G2
 320          HC       2
              *
```



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

 321          KK  RCP3.8
 322          KM   ROUTE CP3.8 TO CP3.9
 323          KM   FACILITIES APD6000 AND APDF0000
 324          RD    4500   0.075   0.013       0    TRAP      12       0
              *

 325          KK     3-A
 326          KM   COMPARE TO MPU BASIN SWFH-1
 327          BA  0.3644
 328          PB    3.53
 329          LS       0    81.5
 330          UD   0.233
              *

 331          KK    R3-A
 332          KM   ROUTE 3-A THROUGH STORM DRAIN TO CPDBA-B
 333          RD    3000   0.032   0.013       0    TRAP       5       0
              *

 334          KK     3-B
 335          KM   COMPARE TO MPU BASIN SWFH-1
 336          BA  0.6973
 337          PB    3.56
 338          LS       0    83.1
 339          UD   0.274
              *

 340          KK    R3-B
 341          KM   ROUTE 3-B THROUGH STORM DRAIN TO CPDBA-B
 342          RD    3000   0.024   0.013       0    TRAP       5       0
```

```
                *

  343           KK     3-C
  344           KM   COMPARE TO MPU BASIN SWFH-2
  345           BA  0.2212
  346           PB    3.46
  347           LS       0    88.4
  348           UD   0.200
                *

  349           KK CPDBA-B
  350           KO       0
  351           KM   COMBINE 3-A, 3-B, AND 3-C
  352           KM   PROPOSED BASINS CONTRIBUTING TO NEW DETENTION BASINS
  353           HC       3
                *

  354           KK    GPDB
  355           KM  VILLAGE 22 DETENTION BASIN
  356           KM  FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BELTWAY 2 BRANCH
  357           KM  FACILITY # = 0001
  358           KM  STORAGE VOLUME = 123 AC-FT
  359           KM  OUTLET = 60" RCP
  360           KM  100-YEAR DISCHARGE =
1                                       HEC-1 INPUT                                                 PAGE 10

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

  361           KM  SPILLWAY LENGTH = 1053'
  362           KM  SPILLWAY HEIGHT =
  363           KM  SPILLWAY CREST ELEVATION = 1007.9'
  364           KM  SPILLWAY TYPE =
  365           KM  PMF DISCHARGE =
  366           KM  TOP OF EMBANKMENT ELEVATION =
  367           KM  INFORMATION REFERENCED FROM "SUMMERLIN VILLAGE 26 ULTIMATE/PROPOSED
  368           KM  CONDITIONS" HYDRAOLOGIC MODEL BY G.C. WALLACE INC. (9-5-06)
  369           KM  ELEVATIONS WITHIN THE STAGE-STORAGE-DISCHARGE CURVE WERE REDUCED BY 1000'
  370           KM  IN ORDER FOR THE HYDROLOGIC MODEL TO RUN
  371           KO       3
  372           RS       1    STOR       0
  373           SV    6.54   12.78   19.92   28.03   37.17   46.61   59.93   75.75   94.29  115.85
  374           SV  129.61
  375           SE      10      12      14      16      18      20      22      24      26      28
  376           SE      30
  377           SQ       0   26.06   58.28   78.18   93.97  107.45  119.43  130.31  140.35  149.71
  378           SQ  158.53
                *

  379           KK    3-G1
  380           KM   COMPARE TO MPU BASIN SWFH-6
  381           BA  0.2406
  382           PB    3.47
  383           LS       0      90
  384           UD   0.131
                *

  385           KK   R3-G1
  386           KM   ROUTE 3-G1 TO CP3-G1
  387           KM   LINING RCB
  388           RD    1000   0.044   0.013       0    TRAP       6       0
                *

  389           KK  CP3-G1
  390           KM   COMBINE 3-G1, AND GPDB
  391           HC       2
                *

  392           KK RCP3-G1
  393           KM   ROUTE 3P3-G1 TO CP3-Q2
  394           KM   LINING RCB
  395           RD    1950   0.044   0.013       0    TRAP       8       0
                *

  396           KK    3-Q2
  397           KM   COMPARE TO MPU BASIN SV22-2
  398           BA  0.1492
  399           PB    3.41
  400           LS       0    92.1
  401           UD   0.085
                *
1                                       HEC-1 INPUT                                                 PAGE 11

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


  402           KK  CP3-Q2
  403           KM   COMBINE CP3-G1, AND 3-Q2
  404           HC       2
                *

  405           KK RCP3-Q2
  406           KM   ROUTE 3P3-G1 TO CP3-Q2
  407           KM   LINING RCB
  408           RD    1750   0.044   0.013       0    TRAP       8       0
                *

  409           KK    3-H1
  410           KM   COMPARE TO MPU BASIN SWFH-9
  411           BA  0.1260
  412           PB    3.41
  413           LS       0    92.2
  414           UD   0.085
                *

  415           KK  CP3-H1
  416           KM   COMBINE RCP3-Q2, AND 3-H1
```

```
 417          HC       2
              *

 418          KK RCP3-H1
 419          KM   ROUTE CP3-H1 TO CP3.9
 420          KM   LINING RCB
 421          RD    1725   0.044   0.013       0    TRAP       8       0
              *

 422          KK    3-I1
 423          KM   COMPARE TO MPU BASIN SWFH-7
 424          BA  0.2934
 425          PB    3.42
 426          LS       0    88.8
 427          UD   0.209
              *

 428          KK   CP3.9
 429          KM   COMBINE CP3.8, CP3-H1 AND C-I1
 430          HC       3
              *

 431          KK    RCP9
 432          KM   ROUTE CP3.9 TO CP3.10
 433          RD    2390   0.027   0.013       0    TRAP       6       0
              *

 434          KK     3-O
 435          KM   COMPARE TO MPU BASIN SV22-2
 436          BA  0.0872
 437          PB    3.39
 438          LS       0    93.3
 439          UD   0.122
              *
1                                        HEC-1 INPUT                                                PAGE 12

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

 440          KK    R3-O
 441          KM   ROUTE 3-O TO CP3-P
 442          KM   LINING RCB
 443          RD    3260   0.028   0.013       0    TRAP       4       0
              *

 444          KK    3-P2
 445          KM   COMPARE TO MPU BASIN SV22-2
 446          BA  0.0871
 447          PB    3.47
 448          LS       0    87.2
 449          UD   0.148
              *

 450          KK   R3-P2
 451          KM   ROUTE 3-P2 TO CP3-P
 452          KM   LINING RCB
 453          RD    3260   0.028   0.013       0    TRAP       4       0
              *

 454          KK    3-P1
 455          KM   COMPARE TO MPU BASIN SV22-2
 456          BA  0.1336
 457          PB    3.44
 458          LS       0    93.0
 459          UD   0.115
              *

 460          KK   CP3-P
 461          HC       3
              *

 462          KK  RCP3-P
 463          KM   ROUTE CP3-P THROUGH STORM DRAIN TO CP3-Q
 464          RD    2750   0.033   0.013       0    TRAP      10       0
              *

 465          KK     3-Q
 466          KM   COMPARE TO MPU BASIN SV22-2
 467          BA  0.1026
 468          PB    3.39
 469          LS       0    91.7
 470          UD   0.165
              *

 471          KK   CP3-Q
 472          KM   COMBINES CP3-P AND 3-Q
 473          HC       2
              *
1                                        HEC-1 INPUT                                                PAGE 13

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

 474          KK  RCP3-Q
 475          KM   ROUTE CP3-Q THROUGH STORM DRAIN TO CP3-H2
 476          KM   LINING RCB
 477          RD    3000   0.015   0.013       0    TRAP      20       0
              *

 478          KK    3-H2
 479          BA  0.1003
 480          PB    3.38
 481          LS       0    92.4
 482          UD   0.135
              *
```

```
 483          KK  CP3-H2
 484          HC       2
              *

 485          KK  RCPH-2
 486          KM   ROUTE CP3-H2 TO CP3.10A
 487          KM   LINING RCB
 488          RD    1725   0.019   0.013       0    TRAP      20       0
              *

 489          KK    3-I2
 490          KM   COMPARE TO MPU BASIN SWFH-7
 491          BA  0.1185
 492          PB    3.36
 493          LS       0    90.5
 494          UD   0.205
              *

 495          KK CP3.10A
 496          KM   COMBINE CP3-H2 and 3-I2
 497          HC       2
              *

 498          KK  CP3.10
 499          KM   COMBINE CP3.9 AND CP3.10A
 500          HC       2
              *

 501          KK RCP3.10
 502          KM   ROUTE CP3.10  TO CP3.11
 503          KM   FACILITIES APFH0000
 504          KM   LINING RCB
 505          RD    1000  0.0350   0.013       0    TRAP      16       0
              *

 506          KK    3-H3
 507          KM   COMPARE TO MPU BASIN SWFH-9
 508          BA  0.1403
 509          PB    3.33
 510          LS       0    94.3
 511          UD   0.206
              *
```



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

 512          KK  CP3.11
 513          KM   COMBINE 3-H3 AND RCP3.10
 514          KM   THIS IS CSWFH-9 IN 2008 MPU HEC-1
 515          HC       2
              *
              * END OF SECTION MODELED BY VTN, NEVADA
              * TIE VTN SECTION TO 2008 MPU HEC-1
              *

 516          KKRCSHFH-9
 517          KM  ROUTE CSWFH-9 TO CRCSWFH9
 518          KM  FACILITY = ANGEL PARK - BELTWAY BRANCH
 519          KM  FACILITY # = APBE 0000, 0013, 0022, 0051
 520          KM  LINING = CONCRETE
 521          RD    4338  0.0181   0.015       0    TRAP      20       2
              *

 522          KKCRCSWFH9
 523          KM  COMBINE RCSWFH9 AND CSWAA-3
 524          HC       2
              *
              * END OF G.C. WALLACE'S HYDROLOGIC MODEL
              *

 525          KKRCRCSWFH
 526          KM  ROUTE CRCSWFH9 TO C11A-1
 527          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 528          KM  FACILITY # = APMD 0230,0233,0237,0247,0248,0253,0258
 529          KM  LINING = CONCRETE
 530          RD    1418    0.04   0.015       0    TRAP      76       2
              *

 531          KK   11A-1
 532          BA   0.208
 533          PB    3.25
 534          LS       0    85.3
 535          UD   0.292
              *

 536          KK  C11A-1
 537          KM  COMBINE RCRCSWFH AND 11A-1
 538          KM  ANGEL PARK MIDDLE BRANCH @ PAVILLION CENTER DRIVE
 539          HC       2
              *

 540          KK RC11A-1
 541          KM  ROUTE C11A-1 TO C11A-3
 542          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 543          KM  FACILITY # = APMD 0190,0195,0198,0208,0218,0227
 544          KM  LINING = CONCRETE
 545          RD    2065  0.0281   0.015       0    TRAP      62       2
              *
```



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

 546          KK   11A-3
 547          BA   0.195
```

```
 548          PB    3.21
 549          LS       0    89.3
 550          UD   0.229
              *

 551          KK  C11A-3
 552          KM  COMBINE RC11A-1 AND 11A-3
 553          KM  ANGEL PARK MIDDLE BRANCH @ TOWN CENTER DRIVE
 554          HC       2
              *

 555          KK RC11A-3
 556          KM  ROUTE C11A-3 TO C3A
 557          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 558          KM  FACILITY # = APMD 0132, 0133
 559          KM  LENGTH = 3,164
 560          KM  SLOPE = 3.0%
 561          KM  N = 0.040
 562          KM  HYDRAULIC RADIUS = 1.5
 563          KM  VELOCITY =  13.5
 564          KM  NATURAL WASH
 565          RM       1   0.065    0.15
              *

 566          KK      3A
 567          BA   0.178
 568          PB    3.15
 569          LS       0    84.0
 570          UD   0.244
              *

 571          KK     C3A
 572          KM  COMBINE RCC11A-3 AND 3A
 573          KM  ANGEL PARK MIDDLE BRANCH @ HUALAPAI WAY
 574          HC       2
              *

 575          KK    RC3A
 576          KM  ROUTE C3A TO C3B-1
 577          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 578          KM  FACILITY # = APMD 0027, 0030
 579          KM  LENGTH = 6,500
 580          KM  SLOPE = 3.0%
 581          KM  N = 0.040
 582          KM  HYDRAULIC RADIUS = 1.5
 583          KM  VELOCITY =  13.5
 584          KM  NATURAL WASH
 585          RM       2   0.133    0.15
              *
1                                        HEC-1 INPUT                                                PAGE 16

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

 586          KK    3B-1
 587          BA   0.258
 588          PB    3.04
 589          LS       0    82.0
 590          UD   0.257
              *

 591          KK   C3B-1
 592          KM  COMBINE RC3A AND 3B-1
 593          HC       2
              *

 594          KK  RC3B-1
 595          KM  ROUTE C3B-1 TO CC3B-2B
 596          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 597          KM  FACILITY # = APMD 0000,0027,0030
 598          KM  LINING = UNLINED
 599          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
 600          RD     940   0.029    0.04       0    TRAP     100       3
              *

 601          KK   11B-2
 602          BA   0.441
 603          PB    3.25
 604          LS       0    85.7
 605          UD   0.423
              *

 606          KK  R11B-2
 607          KM  ROUTE 11B-2 TO C11B-1
 608          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 609          KM  FACILITY # = APSP 0177,0183
 610          KM  LINING = CONCRETE
 611          RD    1900   0.017   0.015       0    TRAP      10       2
              *

 612          KK   11B-1
 613          BA   0.394
 614          PB    3.26
 615          LS       0    87.2
 616          UD   0.267
              *

 617          KK  C11B-1
 618          KM  COMBINE R11B-2 AND 11B-1
 619          KM  ANGEL PARK-SUMMERLIN PARKWAY @ ANASAZI DRIVE
 620          HC       2
              *
1                                        HEC-1 INPUT                                                PAGE 17

        LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
 621          KK RC11B-1
 622          KM  ROUTE C11B-1 TO C8B-1
 623          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 624          KM  FACILITY # = APSP 0135,0177
 625          KM  LINING = CONCRETE
 626          RD    2150   0.024   0.015       0    TRAP      10       2
              *

 627          KK    8B-1
 628          BA   0.304
 629          PB    3.17
 630          LS       0    87.8
 631          UD   0.288
              *

 632          KK   C8B-1
 633          KM  COMBINE RC11B-1 AND 8B-1
 634          KM  ANGEL PARK-SUMMERLIN PARKWAY @ CRESTDALE DRIVE
 635          HC       2
              *

 636          KK  RC8B-1
 637          KM  ROUTE C8B-1 TO C8B-2
 638          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 639          KM  FACILITY # = APSP 0066,0069,0133
 640          KM  LINING = CONCRETE
 641          RD    3575   0.024   0.015       0    TRAP      10       2
              *

 642          KK    8B-2
 643          BA   0.420
 644          PB    3.10
 645          LS       0    93.7
 646          UD   0.336
              *

 647          KK   C8B-2
 648          KM  COMBINE 8B-2 AND RC8B-1
 649          KM  ANGEL PARK-SUMMERLIN PARKWAY @ TOWN CENTER DRIVE
 650          HC       2
              *

 651          KK  RC8B-2
 652          KM  ROUTE C8B-2 TO CC3B-2A
 653          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 654          KM  FACILITY # = APSP 0002
 655          KM  LINING = UNLINED
 656          RD    1424   0.035   0.025       0    TRAP      50       3
              *
```



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

 657          KK   11A-2
 658          BA   0.290
 659          PB    3.20
 660          LS       0    88.3
 661          UD   0.194
              *

 662          KK  R11A-2
 663          KM  ROUTE 11A-2 TO C8A
 664          KM  TOWN CENTER DRIVE AND HUALAPAI WAY
 665          RD    2900   0.017   0.016       0    TRAP       0      50
              *

 666          KK      8A
 667          BA   0.306
 668          PB    3.16
 669          LS       0    86.0
 670          UD   0.239
              *

 671          KK     C8A
 672          KM  COMBINE 8A AND R11A-2
 673          HC       2
              *

 674          KK    RC8A
 675          KM  ROUTE C8A TO C3B-2A
 676          KM  NATURAL WASH
 677          KM  TRAVEL LENGTH = 4,500
 678          KM  SLOPE = 2.8%
 679          KM  N = 0.040
 680          KM  HYDRAULIC RADIUS = 1.5
 681          KM  VELOCITY =  13.1
 682          RM       1   0.096    0.15
              *

 683          KK   3B-2A
 684          BA   0.243
 685          PB    3.06
 686          LS       0    88.5
 687          UD   0.213
              *

 688          KK  C3B-2A
 689          KM  COMBINE 3B-2A AND RC8A
 690          HC       2
              *

 691          KK CC3B-2A
 692          KM  COMBINE C3B-2A AND RC8B-2
 693          HC       2
```

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                *
1                                       HEC-1 INPUT                                                 PAGE 19

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

           694      KKRCC3B-2A
           695      KM  ROUTE CC3B-2A TO C3B-2B
           696      KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
           697      KM  FACILITY # = APSP 0001
           698      KM  LINING = UNLINED
           699      RD    3924    0.03   0.025       0    TRAP      20       2
                    *
           700      KK   3B-2B
           701      BA   0.273
           702      PB    2.99
           703      LS       0    85.1
           704      UD   0.309
                    *
           705      KK  C3B-2B
           706      KM  COMBINE RCC3B-2A AND 3B-2B
           707      HC       2
                    *
           708      KK CC3B-2B
           709      KM  COMBINE RC3B-1 AND C3B-2B
           710      HC       2
                    *
           711      KKRCC3B-2B
           712      KM  ROUTE CC3B-2B TO CSF2-C
           713      KM  FACILITY = ANGEL PARK NORTH
           714      KM  FACILITY # = APNO 0012,0013,0015 APSP 0000
           715      KM  LINING = UNLINED (NATURAL WASH)
           716      KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
           717      RD    1854   0.025    0.04       0    TRAP     100       3
                    *
           718      KK   SF2-C
           719      BA   0.388
           720      PB    2.91
           721      LS       0    84.2
           722      UD   0.443
                    *
           723      KK  CSF2-C
           724      KM  COMBINE SF2-C AND RCC3B-2B
           725      HC       2
                    *
           726      KK RCSF2-C
           727      KM  ROUTE CSF2-C TO ANGLPKIN
           728      KM  FACILITY = ANGEL PARK NORTH
           729      KM  FACILITY # = APNO 0005
           730      KM  LINING = UNLINED (NATURAL WASH)
           731      KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
           732      RD    1559    0.02    0.04       0    TRAP     100       3
                    *
1                                       HEC-1 INPUT                                                 PAGE 20

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

           733      KK    SW11
           734      BA   0.589
           735      PB    3.34
           736      LS       0    87.8
           737      UD   0.311
                    *
           738      KK   RSW11
           739      KM  ROUTE SW11 TO CSW17
           740      KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
           741      KM  FACILITY # = APCB 0064, 0080
           742      KM  LINING = RCB
           743      RD    2338  0.0167   0.015       0    TRAP       7       0
                    *
           744      KK    SW17
           745      BA   0.356
           746      PB    3.30
           747      LS       0    87.8
           748      UD   0.271
                    *
           749      KK   CSW17
           750      KM  COMBINE RSW11 AND SW17
           751      HC       2
                    *
           752      KK  RCSW17
           753      KM  ROUTE CSW17 TO CSW18
           754      KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
           755      KM  FACILITY # = APCB 0000,0001,0019,0050
           756      KM  LINING = RCB
           757      RD    3600   0.014   0.015       0    TRAP      11       0
                    *
           758      KK    SW18
           759      BA   0.405
           760      PB    3.27
           761      LS       0    86.8
           762      UD   0.271
                    *
```

```
 763           KK   CSW18
 764           KM  COMBINE RCSW17 AND SW18
 765           HC       2
               *

 766           KK  RCSW18
 767           KM  ROUTE CSW18 TO C12A
 768           KM  FACILITY = ANGEL PARK SOUTH
 769           KM  FACILITY # = APSO 0254,0255,0258,0345,0346; APCB 0000
 770           KM  NATURAL WASH
 771           KM  LENGTH = 5,200
 772           KM  SLOPE = 1.4%
1                                        HEC-1 INPUT                                                    PAGE 21

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

 773           KM  N = 0.040
 774           KM  HYDRAULIC RADIUS = 1.5
 775           KM  VELOCITY =  9.2
 776           RM       2   0.157    0.15
               *

 777           KK     12A
 778           BA   0.392
 779           PB    3.20
 780           LS       0    91.2
 781           UD   0.264
               *

 782           KK    C12A
 783           KM  COMBINE 12A AND RCSW18
 784           HC       2
               *

 785           KK   RC12A
 786           KM  ROUTE THRU 12B
 787           KM  FACILITY = ANGEL PARK SOUTH
 788           KM  FACILITY # = APSO 0204, 0205
 789           KM  NATURAL WASH
 790           KM  LENGTH = 2,600
 791           KM  SLOPE = 3.5%
 792           KM  N = 0.040
 793           KM  HYDRAULIC RADIUS = 1.5
 794           KM  VELOCITY = 14.5
 795           RM       1    0.05    0.15
               *

 796           KK     12B
 797           BA   0.260
 798           PB    3.13
 799           LS       0    91.0
 800           UD   0.233
               *

 801           KK    C12B
 802           KM  COMBINE 12B AND RC12A
 803           HC       2
               *

 804           KK   RC12B
 805           KM  ROUTE C12B TO C57B-3
 806           KM  FACILITY = ANGEL PARK SOUTH
 807           KM  FACILITY # = APSO 0067
 808           KM  NATURAL WASH
 809           KM  LENGTH = 6,000
 810           KM  SLOPE = 2.3%
 811           KM  N = 0.040
 812           KM  HYDRAULIC RADIUS = 1.5
 813           KM  VELOCITY =  11.8
 814           RM       2   0.141    0.15
               *
1                                        HEC-1 INPUT                                                    PAGE 22

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

 815           KK   57B-3
 816           BA   0.310
 817           PB    3.04
 818           LS       0    82.1
 819           UD   0.332
               *

 820           KK  C57B-3
 821           KM  COMBINE RC12B AND 57B-3
 822           HC       2
               *

 823           KK RC57B-3
 824           KM  ROUTE C57B-3 TO C57B-2
 825           KM  FACILITY = ANGEL PARK SOUTH
 826           KM  FACILITY # = APSO 0067
 827           KM  NATURAL WASH
 828           KM  LENGTH = 1,300
 829           KM  SLOPE = 1.7%
 830           KM  N = 0.040
 831           KM  HYDRAULIC RADIUS = 1.5
 832           KM  VELOCITY =  10.2
 833           RM       0   0.035    0.15
               *

 834           KK   57B-2
 835           BA   0.362
 836           PB    3.02
 837           LS       0    84.1
```

```
 838          UD   0.332
              *

 839          KK  C57B-2
 840          KM  COMBINE 57B-2 AND RC57B-3
 841          HC       2
              *

 842          KK RC57B-2
 843          KM  ROUTE C57B-2 TO CC57B-1
 844          KM  FACILITY = ANGEL PARK SOUTH
 845          KM  FACILITY # = APSO 0067
 846          KM  NATURAL WASH
 847          KM  LENGTH = 1,000
 848          KM  SLOPE = 1.8%
 849          KM  N = 0.040
 850          KM  HYDRAULIC RADIUS = 1.5
 851          KM  VELOCITY =  10.5
 852          RM       0   0.027    0.15
              *
1                                      HEC-1 INPUT                                                PAGE 23

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

 853          KK   13B-1
 854          BA   0.249
 855          PB    3.19
 856          LS       0    91.6
 857          UD   0.284
              *

 858          KK RC13B-1
 859          KM  ROUTE 13B-1 TO C13B-2
 860          KM  GRIFFITH PARK DRIVE AND HUALAPAI WAY
 861          RD    3000   0.018   0.016       0    TRAP       0      50
              *

 862          KK   13B-2
 863          BA   0.216
 864          PB    3.14
 865          LS       0    89.7
 866          UD   0.231
              *

 867          KK  C13B-2
 868          KM  COMBINE 13B-2 AND RC13B-1
 869          KM  HUALAPAI WAY AND LOCAL FACILITY
 870          HC       2
              *

 871          KK RC13B-2
 872          KM  ROUTE C13B-2 TO CCPIC-A
 873          KM  LINING = GRASS
 874          RD    4900   0.021    0.03       0    TRAP      40       6
              *

 875          KK     19A
 876          BA   0.253
 877          PB    3.25
 878          LS       0    89.9
 879          UD   0.351
              *

 880          KK    R19A
 881          KM  ROUTE 19A TO C13A-1
 882          KM  UNNAMED ROAD
 883          RD    4300   0.021   0.016       0    TRAP       0      50
              *

 884          KK   13A-1
 885          BA   0.224
 886          PB    3.19
 887          LS       0    91.4
 888          UD   0.302
              *
1                                      HEC-1 INPUT                                                PAGE 24

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

 889          KK  C13A-1
 890          KM  COMBINE 13A-1 AND R19A
 891          KM  TOWN CENTER DRIVE AND SWALE
 892          HC       2
              *

 893          KK RC13A-1
 894          KM  ROUTE C13A-1 TO C13A-2
 895          KM  NATURAL WASH
 896          KM  TRAVEL LENGTH = 2,800
 897          KM  SLOPE = 2.1%
 898          KM  N = 0.040
 899          KM  HYDRAULIC RADIUS = 1.5
 900          KM  VELOCITY = 11.4
 901          RM       1   0.068    0.15
              *

 902          KK   13A-2
 903          BA   0.188
 904          PB    3.15
 905          LS       0    90.0
 906          UD   0.236
              *

 907          KK  C13A-2
```

```
 908          KM  COMBINE 13A-2 AND RC13A-1
 909          HC       2
              *

 910          KK RC13A-2
 911          KM  ROUTE C13A-2 TO CPIC-C
 912          KM  LINING = GRASS
 913          RD    5200   0.015    0.03       0    TRAP      40       4
              *

 914          KK   PIC-C
 915          BA   0.243
 916          PB    3.08
 917          LS       0    90.4
 918          UD   0.373
              *

 919          KK  CPIC-C
 920          KM  COMBINE PIC-C AND RC13A-2
 921          HC       2
              *

 922          KK RCPIC-C
 923          KM  ROUTE CPIC-C TO CPIC-A
 924          KM  LINING = GRASS
 925          RD    2200   0.025    0.03       0    TRAP      40       4
              *
1                                      HEC-1 INPUT                                                PAGE 25

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

 926          KK   PIC-A
 927          BA   0.359
 928          PB    3.03
 929          LS       0    91.1
 930          UD   0.499
              *

 931          KK  CPIC-A
 932          KM  COMBINE RCPIC-C AND PIC-A
 933          HC       2
              *

 934          KK CCPIC-A
 935          KM  COMBINE CPIC-A AND RC13B-2
 936          HC       2
              *

 937          KKRCCPIC-A
 938          KM  ROUTE CCPIC-A TO C57B-1
 939          KM  FACILITY = ANGEL PARK - PECCOLE 2
 940          KM  FACILITY # = APP2 0000
 941          KM  LINING = GRASS
 942          RD    4793   0.021    0.03       0    TRAP      10       2
              *

 943          KK   57B-1
 944          BA   0.197
 945          PB    2.92
 946          LS       0    85.5
 947          UD   0.277
              *

 948          KK  C57B-1
 949          KM  COMBINE 57B-1 AND RCCPIC-A
 950          HC       2
              *

 951          KK CC57B-1
 952          KM  COMBINE C57B-1 AND RC57B-2
 953          HC       2
              *

 954          KKRCC57B-1
 955          KM  ROUTE CC57B-1 TO C57B-4
 956          KM  FACILITY = ANGEL PARK - SOUTH BRANCH
 957          KM  FACILITY # = APSO 0050
 958          KM  LINING = NATURAL WASH
 959          RD     300  0.0184    0.04       0    TRAP     100       3
              *
1                                      HEC-1 INPUT                                                PAGE 26

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

 960          KK   57B-4
 961          BA   0.200
 962          PB    2.91
 963          LS       0    90.0
 964          UD   0.233
              *

 965          KK  C57B-4
 966          KM  COMBINE RCC57B-1 AND 57B-4
 967          HC       2
              *

 968          KK   PIC-B
 969          BA   0.441
 970          PB    2.98
 971          LS       0    91.1
 972          UD   0.471
              *

 973          KK  RPIC-B
```

```
 974          KM  ROUTE PIC-B TO CC57B-4
 975          KM  FACILITY = ANGEL PARK - PECCOLE 1
 976          KM  FACILITY # = APP1 0000
 977          KM  LINING = RCP
 978          RD    2982   0.024   0.013       0    CIRC       6
              *

 979          KK CC57B-4
 980          KM  COMBINE RPIC-B AND C57B-4
 981          HC       2
              *

 982          KKRCC57B-4
 983          KM  ROUTE CC57B-4 TO ANGLPKIN
 984          KM  FACILITY = ANGEL PARK SOUTH
 985          KM  FACILITY # = APSO 0000, 0020
 986          KM  LINING = RCB
 987          RD    2857  0.0162   0.015       0    TRAP      24       0
              *

 988          KK     38A
 989          BA   0.353
 990          PB    2.86
 991          LS       0    91.6
 992          UD   0.399
              *

 993          KK    R38A
 994          KM  ROUTE 38A TO C38B
 995          KM  FACILITY = ANGEL PARK - DURANGO
 996          KM  FACILITY # = APDG 0000,0060
 997          KM  LINING = RCP
 998          RD    4500  0.0096   0.015       0    CIRC       6
              *
1                                      HEC-1 INPUT                                                PAGE 27

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

 999          KK     38B
1000          BA   0.440
1001          PB    2.82
1002          LS       0    92.9
1003          UD   0.375
              *

1004          KK    C38B
1005          KM  COMBINE 38B AND R38A
1006          KM  DUCHARME AND DURANGO
1007          HC       2
              *

1008          KK    57BA
1009          BA   0.317
1010          PB    2.96
1011          LS       0    78.2
1012          UD   0.436
              *

1013          KK   R57BA
1014          KM  ROUTE 57BA TO C3C
1015          KM  RAMPART BOULEVARD
1016          RD     500    0.02   0.016       0    TRAP       0      50
              *

1017          KK      3C
1018          BA   0.153
1019          PB    2.90
1020          LS       0    93.1
1021          UD   0.246
              *

1022          KK     C3C
1023          KM  COMBINE 3C AND R57BA
1024          KM  RAMPART AND REGENT LAS VEGAS
1025          HC       2
              *

1026          KK    RC3C
1027          KM  ROUTE C3C TO ANGLPKIN
1028          KM  LINING = UNLINED
1029          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
1030          RD    2300  0.0326    0.04       0    TRAP      50       4
              *

1031          KK      AP
1032          BA   0.668
1033          PB    2.81
1034          LS       0    81.6
1035          UD   0.392
              *
1                                      HEC-1 INPUT                                                PAGE 28

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

1036          KKANGLPKIN
1037          KM  COMBINE AP,RC3C,C38B,RCC57B-4, AND RCSF2-2
1038          KM  TOTAL INFLOW TO ANGEL PARK DETENTION BASIN
              * KO1
1039          HC       5
              *

1040          KKANGLPKDB
1041          KM  ANGEL PARK DETENTION BASIN
1042          KM  FACILITY = ANGEL PARK NORTH
```

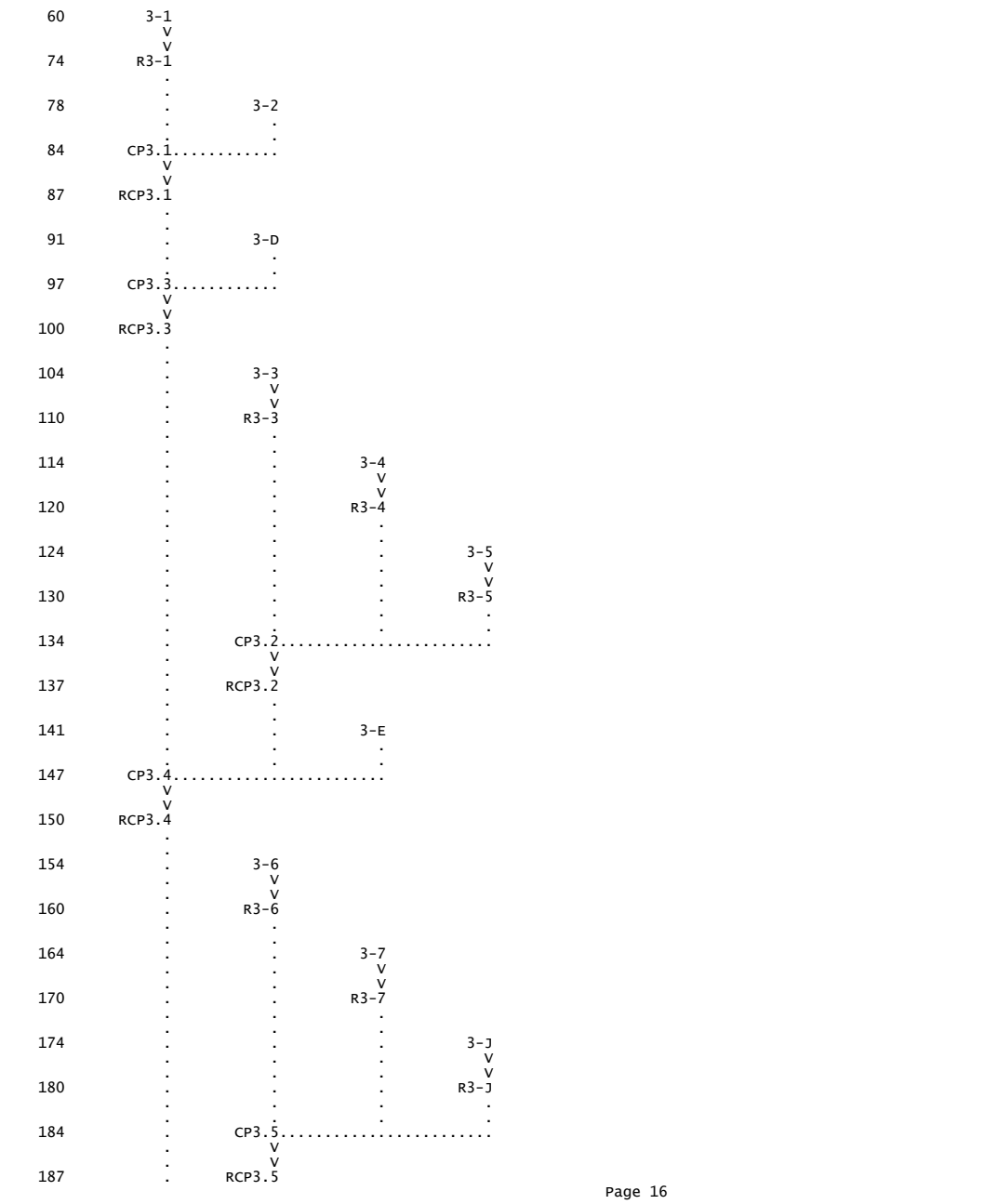
```
1043          KM  FACILITY # = APNO 0000,0001
1044          KM  STORAGE VOLUME = 1512 AC-FT (2002 MPU VOLUME = 1400 AC-FT; 8% INCREASE)
1045          KM  OUTLET = 54" RCP
1046          KM  100-YEAR DISCHARGE =
1047          KM  SPILLWAY LENGTH =
1048          KM  SPILLWAY HEIGHT =
1049          KM  SPILLWAY CREST ELEVATION = 2619'
1050          KM  SPILLWAY TYPE =
1051          KM  PMF DISCHARGE =
1052          KM  TOP OF EMBANKMENT ELEVATION =
1053          KO       3
1054          RS       1    STOR      -1
1055          SV       0    10.8    43.2   113.4  222.48  411.48  640.44  910.44 1239.84  1470.9
1056          SV    1512 1554.12 1596.24 1640.52  1684.8 1730.16 1775.52 1823.04 1875.96  1919.1
1057          SE    2576    2580    2585    2590    2595    2600    2605    2610    2616    2618
1058          SE    2619  2619.5    2620  2620.5    2621  2621.5    2622  2622.5    2623  2623.5
1059          SQ       0      89     194     232     285     316     343     370     392     405
1060          SQ     407    1852    4491    7909   11955   16545   21620   27137   33064   39373
              *
1061          ZZ
1
```

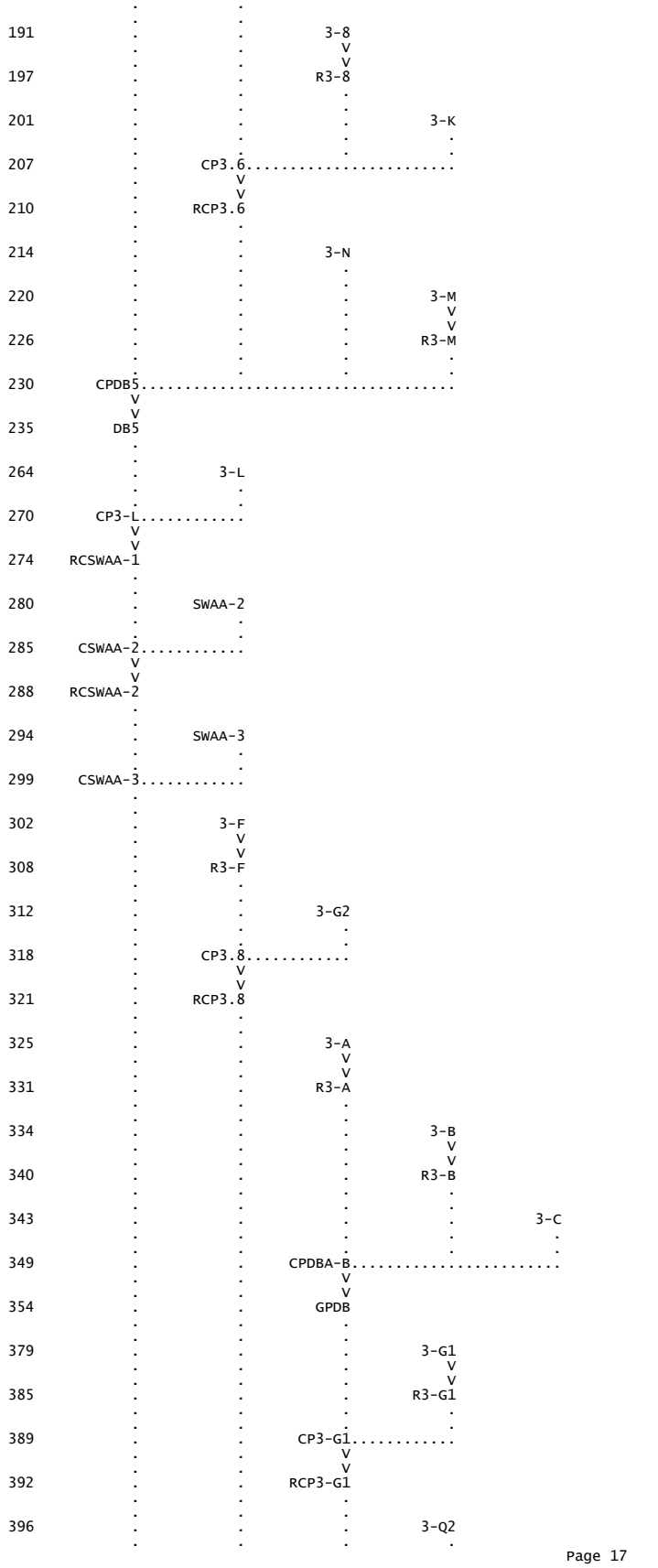
SCHEMATIC DIAGRAM OF STREAM NETWORK

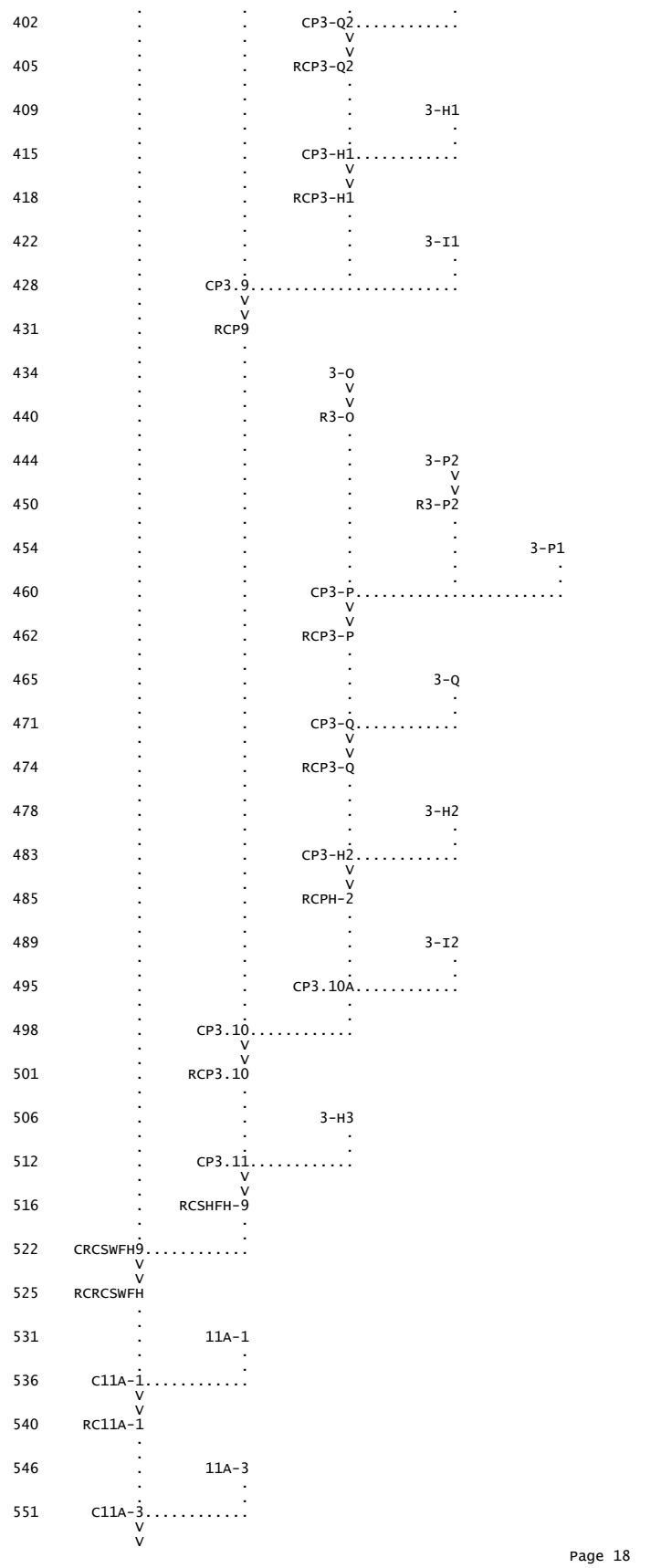
INPUT LINE NO.

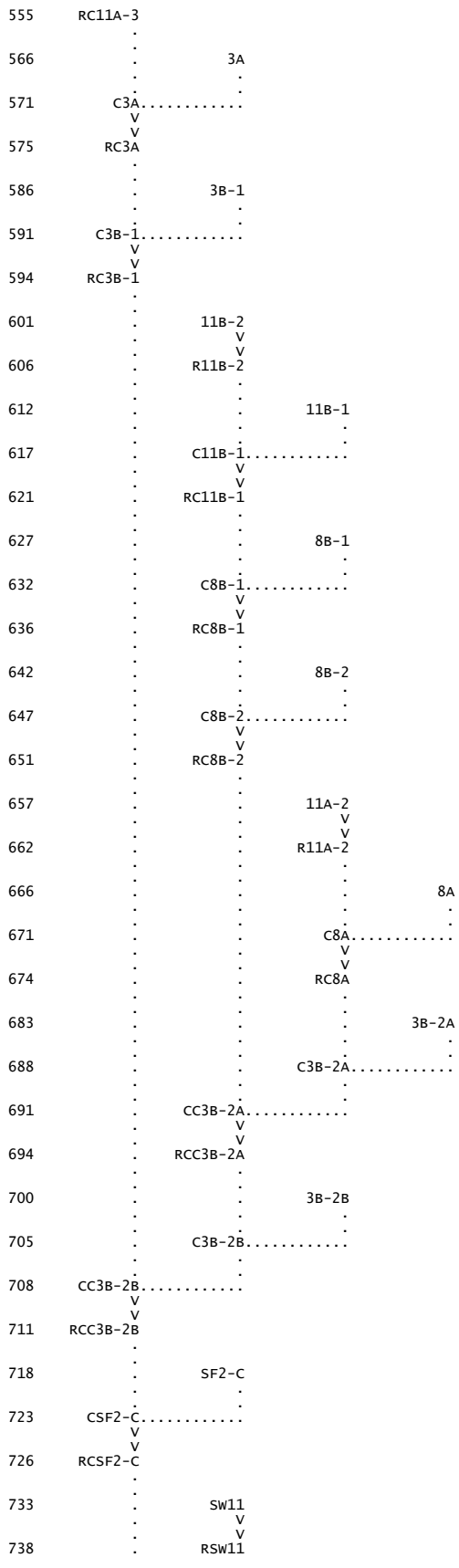
(V) ROUTING (---->) DIVERSION OR PUMP FLOW

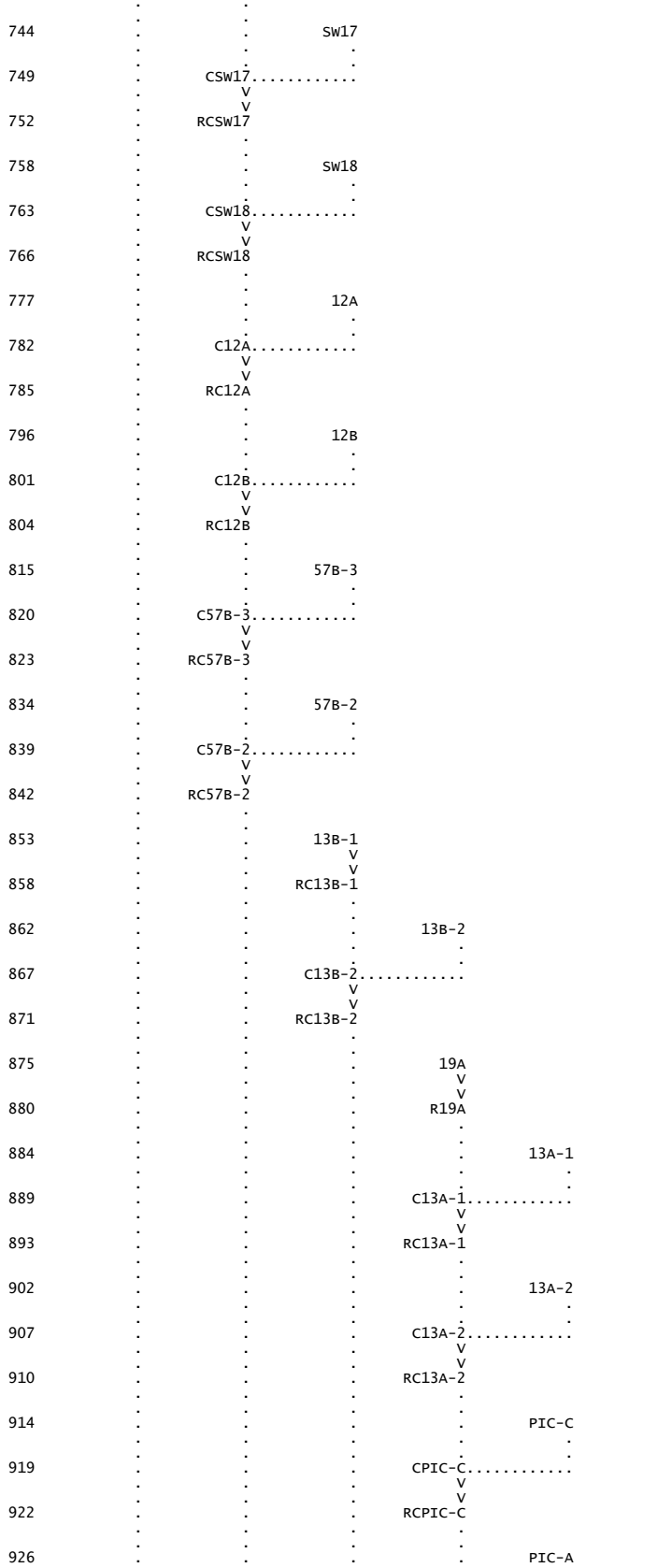
(.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

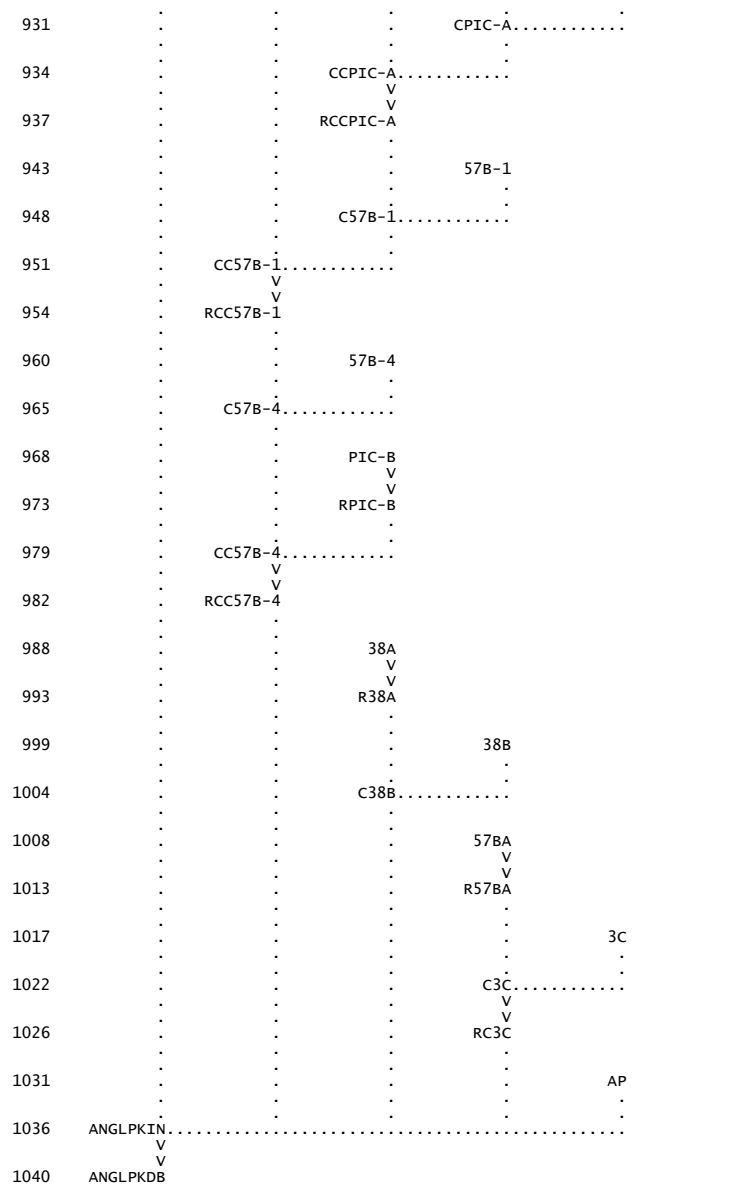



191 3-8
197 R3-8
201 3-K
207 CP3.6
210 RCP3.6
214 3-N
220 3-M
226 R3-M
230 CPDB5
235 DB5
264 3-L
270 CP3-L
274 RCSWAA-1
280 SWAA-2
285 CSWAA-2
288 RCSWAA-2
294 SWAA-3
299 CSWAA-3
302 3-F
308 R3-F
312 3-G2
318 CP3.8
321 RCP3.8
325 3-A
331 R3-A
334 3-B
340 R3-B
343 3-C
349 CPDBA-B
354 GPDB
379 3-G1
385 R3-G1
389 CP3-G1
392 RCP3-G1
396 3-Q2


CP3-Q2
RCP3-Q2
3-H1
CP3-H1
RCP3-H1
3-I1
CP3.9
RCP9
3-O
R3-O
3-P2
R3-P2
3-P1
CP3-P
RCP3-P
3-Q
CP3-Q
RCP3-Q
3-H2
CP3-H2
RCPH-2
3-I2
CP3.10A
CP3.10
RCP3.10
3-H3
CP3.11
RCSHFH-9
CRCSWFH9
RCRCSWFH
11A-1
C11A-1
RC11A-1
11A-3
C11A-3


RC11A-3
3A
C3A
RC3A
3B-1
C3B-1
RC3B-1
11B-2
R11B-2
11B-1
C11B-1
RC11B-1
8B-1
C8B-1
RC8B-1
8B-2
C8B-2
RC8B-2
11A-2
R11A-2
8A
C8A
RC8A
3B-2A
C3B-2A
CC3B-2A
RCC3B-2A
3B-2B
C3B-2B
CC3B-2B
RCC3B-2B
SF2-C
CSF2-C
RCSF2-C
SW11
RSW11


744 SW17
749 CSW17
752 RCSW17
758 SW18
763 CSW18
766 RCSW18
777 12A
782 C12A
785 RC12A
796 12B
801 C12B
804 RC12B
815 57B-3
820 C57B-3
823 RC57B-3
834 57B-2
839 C57B-2
842 RC57B-2
853 13B-1
858 RC13B-1
862 13B-2
867 C13B-2
871 RC13B-2
875 19A
880 R19A
884 13A-1
889 C13A-1
893 RC13A-1
902 13A-2
907 C13A-2
910 RC13A-2
914 PIC-C
919 CPIC-C
922 RCPIC-C
926 PIC-A



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1**********

*

* FLOOD HYDROGRAPH PACKAGE (HEC-1) *

* JUN 1998 *

* VERSION 4.1 *

*

* RUN DATE 05DEC17 TIME 16:24:53 *

*

****

****

*

* U.S. ARMY CORPS OF ENGINEERS *

* HYDROLOGIC ENGINEERING CENTER *

* 609 SECOND STREET *

* DAVIS, CALIFORNIA 95616 *

* (916) 756-1104 *

*

****

THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
DOWNSTREAM HOLDING FACILITIES

MODELED BY VTN, NEVADA SVB/JYA
MAY 9, 2017

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
GOWAN WATERSHED (ALL)
RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
INPUT FILE = ALT1-SDN3.DAT
INPUT FILE DATE = MAY 5, 2008
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #5
MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)

CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
STORM CENTERING = FULL WATERSHEDCP

REFERENCED HYDROLOGIC MODELS:
CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT (G.C. WALLACE 2007)
LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED FROM G.C. WALLACE ON JANUARY 31, 2008)
US 95/RANCHO FIS RESTUDY (PBS&J 1998)
JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA SQ. MI.	DARF
0-0.5	0.99
0.5-1	0.975
1-2	0.95
2-3	0.925
3-4	0.915
4-5	0.908
5-6	0.903
6-7	0.895
7-8	0.885

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN3

```
 56 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                               0-0.5    0.5-1   1-2     2-3     3-4     4-5     5-6     6-7     7-8

    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       .90       .89       .88


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


               **************
               *            *
 230 KK        *     CPDB5  *
               *            *
               **************

 233 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE


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


               **************
               *            *
 235 KK        *       DB5  *
               *            *
               **************

 255 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE
```

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


          **************
          *            *
349 KK    *   CPDBA-B  *
          *            *
          **************

350 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE


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


          **************
          *            *
354 KK    *      GPDB  *
          *            *
          **************

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

               HYDROGRAPH ROUTING DATA

372 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                         X         .00 WORKING R AND D COEFFICIENT

373 SV            STORAGE         6.5      12.8      19.9      28.0      37.2      46.6      59.9      75.8      94.3     115.8
                                129.6

375 SE          ELEVATION       10.00     12.00     14.00     16.00     18.00     20.00     22.00     24.00     26.00     28.00
                                30.00

377 SQ          DISCHARGE          0.       26.       58.       78.       94.      107.      119.      130.      140.      150.
                                 159.

                                                                ***

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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .99

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     145.      5.42              135.          62.         60.          60.
                         (INCHES)      .978       1.805       1.805        1.805
                          (AC-FT)       67.        123.        123.         123.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
      104.      5.42               85.          35.         34.          34.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
     26.93      5.42             24.95       16.13       15.90        15.90

                        CUMULATIVE AREA =    1.28 SQ MI


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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .98

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     144.      5.42              134.          61.         58.          58.
                         (INCHES)      .968       1.761       1.761        1.761
                          (AC-FT)       66.        120.        120.         120.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
      102.      5.42               83.          34.         32.          32.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
     26.68      5.42             24.68       15.94       15.72        15.72

                        CUMULATIVE AREA =    1.28 SQ MI


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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .95
```

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 142.	5.42		131.	58.	56.	56.
		(INCHES)	.950	1.687	1.687	1.687
		(AC-FT)	65.	115.	115.	115.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
97.	5.42		79.	32.	31.	31.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
26.26	5.42		24.22	15.63	15.42	15.42

CUMULATIVE AREA = 1.28 SQ MI

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

HYDROGRAPH AT STATION GPDB
FOR PLAN 1, RATIO = .93

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 139.	5.42		129.	56.	54.	54.
		(INCHES)	.932	1.614	1.614	1.614
		(AC-FT)	64.	110.	110.	110.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
93.	5.42		75.	30.	29.	29.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
25.83	5.42		23.74	15.33	15.13	15.13

CUMULATIVE AREA = 1.28 SQ MI

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

HYDROGRAPH AT STATION GPDB
FOR PLAN 1, RATIO = .92

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 139.	5.33		128.	55.	53.	53.
		(INCHES)	.925	1.584	1.584	1.584
		(AC-FT)	63.	108.	108.	108.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
91.	5.42		73.	29.	28.	28.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
25.64	5.42		23.55	15.21	15.02	15.02

CUMULATIVE AREA = 1.28 SQ MI

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

HYDROGRAPH AT STATION GPDB
FOR PLAN 1, RATIO = .91

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 138.	5.33		127.	54.	52.	52.
		(INCHES)	.919	1.564	1.564	1.564
		(AC-FT)	63.	107.	107.	107.

PEAK STORAGE	TIME		MAXIMUM AVERAGE STORAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)					
90.	5.33		72.	29.	28.	28.

PEAK STAGE	TIME		MAXIMUM AVERAGE STAGE			
			6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)					
25.50	5.33		23.42	15.13	14.94	14.94

CUMULATIVE AREA = 1.28 SQ MI

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

HYDROGRAPH AT STATION GPDB
FOR PLAN 1, RATIO = .90

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW

			6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)					
		(CFS)				
+ 137.	5.33		126.	53.	51.	51.
		(INCHES)	.916	1.549	1.549	1.549
		(AC-FT)	63.	106.	106.	106.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
89.	5.33	71.	29.	27.	27.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
25.41	5.33	23.32	15.07	14.88	14.88

CUMULATIVE AREA = 1.28 SQ MI

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

HYDROGRAPH AT STATION GPDB
FOR PLAN 1, RATIO = .89

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 137.	5.33	125.	53.	51.	51.
		(INCHES) .909	1.526	1.526	1.526
		(AC-FT) 62.	104.	104.	104.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
87.	5.33	70.	28.	27.	27.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
25.26	5.33	23.16	14.97	14.79	14.79

CUMULATIVE AREA = 1.28 SQ MI

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

HYDROGRAPH AT STATION GPDB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 136.	5.33	124.	52.	50.	50.
		(INCHES) .901	1.497	1.497	1.497
		(AC-FT) 62.	102.	102.	102.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
86.	5.33	68.	27.	26.	26.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
25.07	5.33	22.96	14.86	14.68	14.68

CUMULATIVE AREA = 1.28 SQ MI

***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
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***** WARNING ***** POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.

ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).

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          **************
          *            *
1040 KK   *  ANGLPKDB  *
          *            *
          **************

1053 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

1054 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC       -1.00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

1055 SV            STORAGE          .0      10.8      43.2     113.4     222.5     411.5     640.4     910.4    1239.8    1470.9
                                 1512.0    1554.1    1596.2    1640.5    1684.8    1730.2    1775.5    1823.0    1876.0    1919.1

1057 SE          ELEVATION     2576.00   2580.00   2585.00   2590.00   2595.00   2600.00   2605.00   2610.00   2616.00   2618.00
                               2619.00   2619.50   2620.00   2620.50   2621.00   2621.50   2622.00   2622.50   2623.00   2623.50

1059 SQ          DISCHARGE          0.       89.      194.      232.      285.      316.      343.      370.      392.      405.
                                  407.     1852.     4491.     7909.    11955.    16545.    21620.    27137.    33064.    39373.

                                                                                                                      ***

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

                         HYDROGRAPH AT STATION ANGLPKDB
                           FOR PLAN 1, RATIO =  .99

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+    5226.      5.50               1798.         718.         692.          692.
                (INCHES)           .737        1.178        1.179         1.179
                 (AC-FT)           892.        1425.        1425.         1425.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1606.      5.50               1541.        1193.        1149.         1149.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   2620.11      5.50            2619.29      2613.08      2611.73       2611.73

                         CUMULATIVE AREA =   22.67 SQ MI

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

                         HYDROGRAPH AT STATION ANGLPKDB
                           FOR PLAN 1, RATIO =  .98

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+    4831.      5.58               1698.         693.         668.          668.
                (INCHES)           .696        1.137        1.137         1.137
                 (AC-FT)           842.        1374.        1375.         1375.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1601.      5.58               1538.        1189.        1145.         1145.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   2620.05      5.58            2619.24      2613.00      2611.65       2611.65

                         CUMULATIVE AREA =   22.67 SQ MI

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

                         HYDROGRAPH AT STATION ANGLPKDB
                           FOR PLAN 1, RATIO =  .95

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+    4213.      5.67               1533.         651.         627.          627.
                (INCHES)           .629        1.067        1.067         1.067
                 (AC-FT)           760.        1290.        1291.         1291.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1592.      5.67               1533.        1182.        1138.         1138.
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  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   2619.95      5.67           2619.17      2612.86      2611.51      2611.51

                          CUMULATIVE AREA =   22.67 SQ MI


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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                        (CFS)
+    3583.      5.83          1368.         608.         586.          586.
                     (INCHES)      .561         .998         .998         .998
                      (AC-FT)      678.        1207.        1207.        1207.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1582.      5.83          1528.        1174.        1131.         1131.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   2619.83      5.83           2619.09      2612.72      2611.37      2611.37

                          CUMULATIVE AREA =   22.67 SQ MI


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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .92

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                        (CFS)
+    3364.      5.83          1306.         592.         571.          571.
                     (INCHES)      .535         .972         .972         .972
                      (AC-FT)      648.        1175.        1175.        1175.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1578.      5.83          1526.        1171.        1128.         1128.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   2619.79      5.83           2619.06      2612.66      2611.31      2611.31

                          CUMULATIVE AREA =   22.67 SQ MI


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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .91

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                        (CFS)
+    3196.      5.92          1258.         580.         559.          559.
                     (INCHES)      .516         .951         .952         .952
                      (AC-FT)      624.        1150.        1151.        1151.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1576.      5.92          1524.        1169.        1126.         1126.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
   2619.75      5.92           2619.03      2612.61      2611.27      2611.27

                          CUMULATIVE AREA =   22.67 SQ MI


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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                        (CFS)
+    3085.      6.00          1224.         571.         550.          550.
                     (INCHES)      .502         .937         .937         .937
                      (AC-FT)      607.        1133.        1133.        1133.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
     1574.      6.00          1523.        1168.        1125.         1125.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
```

		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2619.73	6.00	2619.01	2612.58	2611.24	2611.24

CUMULATIVE AREA = 22.67 SQ MI

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

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .89

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 2920.	6.08	1175.	559.	538.	538.
		(INCHES) .482	.916	.916	.916
		(AC-FT) 583.	1108.	1108.	1108.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1571.	6.08	1521.	1165.	1122.	1122.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2619.70	6.08	2618.98	2612.53	2611.19	2611.19

CUMULATIVE AREA = 22.67 SQ MI

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

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .88

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 2735.	6.17	1108.	542.	522.	522.
		(INCHES) .454	.888	.888	.888
		(AC-FT) 549.	1074.	1074.	1074.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1568.	6.17	1519.	1162.	1119.	1119.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2619.67	6.17	2618.94	2612.47	2611.13	2611.13

CUMULATIVE AREA = 22.67 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 .99	RATIO 2 .98	RATIO 3 .95	RATIO 4 .93	RATIO 5 .92	RATIO 6 .91	RATIO 7 .90	RATIO 8 .89	RATIO 9 .88
HYDROGRAPH AT													
+	3-1	2.22	1	FLOW	2324.	2276.	2196.	2117.	2085.	2063.	2047.	2021.	1989.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	R3-1	2.22	1	FLOW	2311.	2269.	2184.	2104.	2077.	2050.	2038.	2013.	1981.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT													
+	3-2	.23	1	FLOW	403.	394.	380.	366.	360.	356.	353.	348.	342.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3.1	2.45	1	FLOW	2384.	2340.	2253.	2171.	2143.	2115.	2102.	2077.	2043.
				TIME	4.00	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO													
+	RCP3.1	2.45	1	FLOW	2378.	2339.	2257.	2160.	2145.	2103.	2084.	2064.	2041.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT													
+	3-D	.33	1	FLOW	488.	477.	459.	442.	434.	429.	426.	420.	413.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CP3.3	2.78	1	FLOW	2549.	2507.	2419.	2317.	2299.	2256.	2236.	2213.	2188.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
ROUTED TO													
+	RCP3.3	2.78	1	FLOW	2547.	2503.	2416.	2314.	2295.	2252.	2232.	2210.	2184.
				TIME	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
HYDROGRAPH AT													
+	3-3	.17	1	FLOW	392.	384.	371.	358.	353.	350.	347.	343.	338.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													

+	R3-3	.17	1	FLOW	368.	363.	351.	340.	335.	332.	329.	325.	321.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-4	.35	1	FLOW	757.	742.	717.	692.	682.	675.	670.	662.	652.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R3-4	.35	1	FLOW	730.	716.	692.	670.	660.	654.	649.	641.	632.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-5	.29	1	FLOW	625.	613.	592.	571.	563.	557.	553.	546.	538.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R3-5	.29	1	FLOW	601.	587.	566.	546.	542.	537.	529.	525.	517.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CP3.2	.81	1	FLOW	1699.	1666.	1609.	1556.	1538.	1522.	1508.	1492.	1469.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3.2	.81	1	FLOW	1650.	1594.	1539.	1484.	1484.	1453.	1435.	1429.	1397.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-E	.54	1	FLOW	809.	792.	763.	734.	723.	715.	709.	700.	688.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT													
+	CP3.4	4.14	1	FLOW	4071.	3957.	3811.	3670.	3635.	3574.	3546.	3515.	3435.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RCP3.4	4.14	1	FLOW	4009.	3888.	3742.	3605.	3565.	3506.	3476.	3448.	3362.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	3-6	.09	1	FLOW	203.	199.	193.	186.	183.	181.	180.	178.	175.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R3-6	.09	1	FLOW	188.	184.	179.	173.	171.	169.	168.	163.	161.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	3-7	.17	1	FLOW	423.	415.	401.	387.	381.	377.	374.	370.	364.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	R3-7	.17	1	FLOW	357.	348.	334.	323.	319.	316.	314.	310.	306.
				TIME	3.50	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-J	.15	1	FLOW	200.	195.	186.	178.	174.	172.	170.	167.	164.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-J	.15	1	FLOW	194.	189.	178.	169.	166.	164.	162.	159.	158.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT													
+	CP3.5	.41	1	FLOW	689.	674.	648.	624.	613.	606.	601.	594.	584.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3.5	.41	1	FLOW	668.	651.	627.	601.	591.	583.	578.	571.	561.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-8	.64	1	FLOW	1136.	1113.	1075.	1037.	1021.	1011.	1003.	991.	976.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-8	.64	1	FLOW	1119.	1102.	1065.	1029.	1013.	998.	990.	981.	966.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	3-K	.89	1	FLOW	1252.	1226.	1184.	1142.	1125.	1113.	1104.	1091.	1074.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
3 COMBINED AT													
+	CP3.6	1.94	1	FLOW	2960.	2906.	2804.	2703.	2663.	2631.	2608.	2579.	2540.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RCP3.6	1.94	1	FLOW	2899.	2844.	2738.	2637.	2602.	2564.	2547.	2509.	2478.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	3-N	.46	1	FLOW	681.	668.	645.	623.	613.	607.	603.	595.	586.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	3-M	.19	1	FLOW	362.	355.	344.	332.	327.	324.	321.	318.	313.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-M	.19	1	FLOW	351.	344.	332.	320.	316.	313.	311.	306.	302.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
4 COMBINED AT													
+	CPDB5	6.72	1	FLOW	7905.	7710.	7426.	7156.	7068.	6962.	6906.	6833.	6702.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

ROUTED TO													
+	DB5	6.72	1	FLOW	2272.	2250.	2214.	2178.	2164.	2153.	2146.	2135.	2121.
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.00	5.00
			** PEAK STAGES IN FEET **										
			1	STAGE	3562.09	3561.62	3560.85	3560.08	3559.79	3559.56	3559.40	3559.18	3558.88
				TIME	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.00	5.00
HYDROGRAPH AT													
+	3-L	.32	1	FLOW	579.	567.	548.	528.	521.	515.	511.	505.	498.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3-L	7.05	1	FLOW	2379.	2355.	2317.	2278.	2264.	2252.	2245.	2233.	2218.
				TIME	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
ROUTED TO													
+	RCSWAA-1	7.05	1	FLOW	2377.	2354.	2315.	2277.	2262.	2251.	2244.	2232.	2217.
				TIME	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
HYDROGRAPH AT													
+	SWAA-2	.70	1	FLOW	967.	948.	918.	887.	875.	867.	861.	851.	839.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	CSWAA-2	7.75	1	FLOW	3210.	3168.	3097.	3028.	3001.	2980.	2967.	2946.	2917.
				TIME	3.75	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RCSWAA-2	7.75	1	FLOW	3201.	3161.	3095.	3025.	2998.	2977.	2962.	2942.	2911.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	SWAA-3	.58	1	FLOW	682.	668.	644.	620.	611.	604.	599.	592.	582.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	CSWAA-3	8.33	1	FLOW	3881.	3827.	3738.	3645.	3607.	3580.	3561.	3533.	3493.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	3-F	.28	1	FLOW	536.	525.	508.	490.	483.	478.	475.	469.	462.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-F	.28	1	FLOW	528.	518.	499.	483.	475.	470.	467.	461.	455.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-G2	.13	1	FLOW	286.	281.	272.	264.	261.	258.	257.	254.	251.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP3.8	.41	1	FLOW	801.	787.	760.	736.	725.	718.	713.	705.	696.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3.8	.41	1	FLOW	787.	772.	745.	721.	711.	704.	699.	692.	680.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-A	.36	1	FLOW	458.	447.	429.	411.	403.	398.	395.	389.	381.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	R3-A	.36	1	FLOW	452.	441.	423.	404.	398.	393.	389.	383.	375.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	3-B	.70	1	FLOW	873.	853.	819.	785.	771.	762.	755.	744.	731.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	R3-B	.70	1	FLOW	866.	845.	812.	779.	767.	757.	751.	740.	728.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	3-C	.22	1	FLOW	363.	355.	343.	331.	326.	322.	320.	316.	311.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
3 COMBINED AT													
+	CPDBA-B	1.28	1	FLOW	1662.	1624.	1561.	1497.	1472.	1454.	1441.	1422.	1395.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	GPDB	1.28	1	FLOW	145.	144.	142.	139.	139.	138.	137.	137.	136.
				TIME	5.42	5.42	5.42	5.42	5.33	5.33	5.33	5.33	5.33
			** PEAK STAGES IN FEET **										
			1	STAGE	26.93	26.68	26.26	25.83	25.64	25.50	25.41	25.26	25.07
				TIME	5.42	5.42	5.42	5.42	5.42	5.33	5.33	5.33	5.33
HYDROGRAPH AT													
+	3-G1	.24	1	FLOW	476.	467.	452.	437.	431.	427.	424.	419.	413.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-G1	.24	1	FLOW	474.	465.	450.	435.	429.	425.	422.	417.	411.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3-G1	1.52	1	FLOW	557.	546.	529.	511.	503.	498.	494.	489.	481.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													

+	RCP3-G1	1.52	1	FLOW	551.	541.	523.	505.	497.	492.	488.	482.	475.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-Q2	.15	1	FLOW	341.	334.	324.	314.	310.	307.	305.	302.	298.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP3-Q2	1.67	1	FLOW	836.	821.	795.	769.	757.	750.	745.	736.	725.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3-Q2	1.67	1	FLOW	835.	821.	794.	767.	756.	749.	743.	735.	723.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-H1	.13	1	FLOW	288.	283.	275.	266.	263.	260.	258.	256.	252.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CP3-H1	1.80	1	FLOW	1103.	1082.	1046.	1009.	994.	984.	976.	965.	949.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCP3-H1	1.80	1	FLOW	1084.	1062.	1026.	991.	978.	968.	961.	950.	936.
				TIME	3.50	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-I1	.29	1	FLOW	467.	458.	442.	427.	421.	417.	413.	409.	402.
				TIME	3.58	3.58	3.67	3.67	3.67	3.67	3.67	3.67	3.67
3 COMBINED AT													
+	CP3.9	2.50	1	FLOW	2333.	2288.	2213.	2138.	2109.	2087.	2072.	2049.	2017.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP9	2.50	1	FLOW	2320.	2273.	2200.	2123.	2095.	2072.	2059.	2034.	2002.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-O	.09	1	FLOW	182.	179.	174.	169.	167.	165.	164.	162.	160.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-O	.09	1	FLOW	181.	177.	172.	167.	165.	163.	162.	161.	159.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-P2	.09	1	FLOW	155.	152.	147.	142.	139.	138.	137.	135.	133.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R3-P2	.09	1	FLOW	150.	147.	142.	137.	134.	133.	132.	130.	128.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-P1	.13	1	FLOW	283.	278.	270.	262.	258.	256.	254.	252.	248.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CP3-P	.31	1	FLOW	612.	601.	582.	564.	556.	551.	547.	542.	534.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3-P	.31	1	FLOW	606.	594.	577.	557.	550.	546.	540.	535.	528.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-Q	.10	1	FLOW	197.	194.	188.	182.	179.	178.	176.	174.	172.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3-Q	.41	1	FLOW	804.	788.	764.	739.	729.	724.	716.	710.	700.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3-Q	.41	1	FLOW	779.	764.	739.	715.	703.	700.	693.	685.	676.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-H2	.10	1	FLOW	204.	200.	194.	188.	186.	184.	183.	181.	178.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3-H2	.51	1	FLOW	983.	964.	933.	903.	889.	883.	876.	866.	854.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCPH-2	.51	1	FLOW	965.	945.	915.	885.	871.	865.	857.	847.	836.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT													
+	3-I2	.12	1	FLOW	197.	193.	187.	181.	178.	176.	175.	173.	171.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3.10A	.63	1	FLOW	1163.	1139.	1102.	1065.	1049.	1041.	1032.	1020.	1007.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3.10	3.13	1	FLOW	3482.	3412.	3302.	3189.	3144.	3114.	3091.	3055.	3009.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCP3.10	3.13	1	FLOW	3467.	3397.	3286.	3174.	3129.	3099.	3075.	3040.	2994.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58

HYDROGRAPH AT													
+	3-H3	.14	1	FLOW	256.	252.	245.	237.	234.	232.	231.	229.	226.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP3.11	3.27	1	FLOW	3724.	3649.	3531.	3411.	3363.	3331.	3306.	3268.	3219.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	RCSHFH-9	3.27	1	FLOW	3577.	3490.	3379.	3268.	3209.	3177.	3165.	3118.	3074.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CRCSWFH9	11.60	1	FLOW	7115.	6990.	6784.	6579.	6507.	6434.	6392.	6335.	6223.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RCRCSWFH	11.60	1	FLOW	7067.	6941.	6734.	6528.	6455.	6384.	6342.	6284.	6170.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	11A-1	.21	1	FLOW	241.	235.	227.	218.	214.	212.	210.	207.	203.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C11A-1	11.81	1	FLOW	7304.	7172.	6956.	6741.	6665.	6591.	6548.	6487.	6369.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RC11A-1	11.81	1	FLOW	7215.	7087.	6867.	6650.	6573.	6506.	6463.	6408.	6313.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	11A-3	.19	1	FLOW	285.	279.	270.	260.	257.	254.	252.	249.	245.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C11A-3	12.00	1	FLOW	7500.	7366.	7137.	6910.	6829.	6754.	6705.	6638.	6535.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.75
ROUTED TO													
+	RC11A-3	12.00	1	FLOW	7373.	7246.	7025.	6804.	6725.	6653.	6607.	6542.	6434.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	3A	.18	1	FLOW	203.	198.	190.	182.	179.	177.	176.	173.	170.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C3A	12.18	1	FLOW	7565.	7433.	7205.	6977.	6895.	6821.	6773.	6706.	6595.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RC3A	12.18	1	FLOW	7293.	7170.	6957.	6742.	6663.	6596.	6551.	6488.	6388.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	3B-1	.26	1	FLOW	248.	242.	231.	221.	216.	213.	211.	208.	204.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C3B-1	12.44	1	FLOW	7466.	7339.	7119.	6897.	6816.	6747.	6701.	6635.	6532.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	RC3B-1	12.44	1	FLOW	7433.	7307.	7083.	6857.	6775.	6706.	6659.	6593.	6494.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	11B-2	.44	1	FLOW	433.	423.	407.	391.	384.	380.	377.	371.	365.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	R11B-2	.44	1	FLOW	428.	419.	403.	387.	381.	377.	374.	368.	362.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	11B-1	.39	1	FLOW	514.	503.	485.	467.	459.	454.	451.	445.	437.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C11B-1	.84	1	FLOW	886.	867.	834.	802.	789.	780.	773.	763.	750.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RC11B-1	.84	1	FLOW	872.	853.	820.	788.	776.	767.	761.	750.	737.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.83
HYDROGRAPH AT													
+	8B-1	.30	1	FLOW	373.	366.	353.	340.	335.	331.	328.	324.	319.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C8B-1	1.14	1	FLOW	1246.	1219.	1173.	1128.	1111.	1098.	1089.	1075.	1056.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RC8B-1	1.14	1	FLOW	1222.	1195.	1152.	1110.	1090.	1081.	1071.	1055.	1040.
				TIME	3.83	3.75	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	8B-2	.42	1	FLOW	574.	564.	547.	530.	523.	518.	515.	510.	503.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													

+	C8B-2	1.56	1	FLOW	1795.	1758.	1697.	1632.	1610.	1593.	1578.	1562.	1533.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RC8B-2	1.56	1	FLOW	1774.	1736.	1681.	1618.	1593.	1582.	1565.	1547.	1522.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	11A-2	.29	1	FLOW	433.	424.	409.	394.	388.	384.	381.	376.	370.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
ROUTED TO													
+	R11A-2	.29	1	FLOW	422.	413.	393.	378.	372.	368.	365.	360.	354.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
HYDROGRAPH AT													
+	8A	.31	1	FLOW	384.	375.	361.	347.	341.	337.	335.	330.	324.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C8A	.60	1	FLOW	805.	788.	755.	725.	713.	705.	700.	690.	679.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RC8A	.60	1	FLOW	751.	734.	704.	675.	664.	657.	651.	643.	632.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	3B-2A	.24	1	FLOW	329.	322.	311.	300.	295.	292.	290.	286.	282.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C3B-2A	.84	1	FLOW	1040.	1018.	977.	939.	924.	914.	907.	895.	880.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	CC3B-2A	2.40	1	FLOW	2803.	2743.	2644.	2540.	2505.	2476.	2453.	2428.	2384.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RCC3B-2A	2.40	1	FLOW	2769.	2725.	2623.	2515.	2493.	2463.	2431.	2413.	2367.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	3B-2B	.27	1	FLOW	271.	265.	254.	244.	240.	237.	235.	231.	227.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C3B-2B	2.67	1	FLOW	3025.	2975.	2863.	2746.	2720.	2687.	2653.	2632.	2582.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT													
+	CC3B-2B	15.11	1	FLOW	10244.	10072.	9749.	9420.	9315.	9212.	9140.	9053.	8907.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	RCC3B-2B	15.11	1	FLOW	10206.	10031.	9703.	9367.	9255.	9158.	9078.	8995.	8846.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	SF2-C	.39	1	FLOW	294.	287.	275.	263.	259.	255.	253.	249.	245.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	CSF2-C	15.50	1	FLOW	10500.	10318.	9978.	9630.	9514.	9413.	9331.	9245.	9091.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	RCSF2-C	15.50	1	FLOW	10419.	10242.	9898.	9539.	9426.	9316.	9238.	9149.	8995.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	SW11	.59	1	FLOW	759.	743.	717.	691.	680.	673.	668.	660.	649.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RSW11	.59	1	FLOW	754.	738.	712.	686.	676.	668.	663.	655.	644.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	SW17	.36	1	FLOW	479.	469.	452.	436.	429.	424.	421.	416.	409.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CSW17	.94	1	FLOW	1221.	1196.	1153.	1111.	1095.	1083.	1075.	1061.	1044.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RCSW17	.94	1	FLOW	1211.	1186.	1143.	1101.	1083.	1073.	1063.	1051.	1035.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	SW18	.41	1	FLOW	519.	507.	489.	470.	463.	457.	454.	448.	440.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	CSW18	1.35	1	FLOW	1718.	1682.	1622.	1562.	1537.	1521.	1508.	1490.	1467.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RCSW18	1.35	1	FLOW	1610.	1576.	1520.	1464.	1441.	1426.	1414.	1397.	1375.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	12A	.39	1	FLOW	576.	565.	547.	529.	521.	516.	513.	507.	500.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67

2 COMBINED AT												
+	C12A	1.74	1	FLOW	2046.	2003.	1932.	1861.	1832.	1813.	1798.	1776.	1748.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RC12A	1.74	1	FLOW	2025.	1983.	1913.	1843.	1815.	1796.	1782.	1760.	1732.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	12B	.26	1	FLOW	387.	380.	367.	355.	350.	347.	344.	340.	335.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C12B	2.00	1	FLOW	2259.	2212.	2134.	2056.	2024.	2002.	1987.	1962.	1931.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RC12B	2.00	1	FLOW	2194.	2148.	2073.	1998.	1967.	1946.	1931.	1907.	1877.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	57B-3	.31	1	FLOW	267.	260.	248.	237.	233.	230.	227.	224.	219.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C57B-3	2.31	1	FLOW	2394.	2344.	2261.	2177.	2144.	2120.	2104.	2077.	2044.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	RC57B-3	2.31	1	FLOW	2375.	2325.	2242.	2158.	2125.	2101.	2085.	2058.	2025.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	57B-2	.36	1	FLOW	338.	329.	316.	302.	297.	293.	291.	286.	281.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C57B-2	2.67	1	FLOW	2626.	2570.	2477.	2384.	2347.	2321.	2302.	2273.	2236.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	RC57B-2	2.67	1	FLOW	2609.	2553.	2460.	2367.	2330.	2304.	2285.	2256.	2219.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	13B-1	.25	1	FLOW	354.	347.	336.	325.	321.	318.	315.	312.	307.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
ROUTED TO													
+	RC13B-1	.25	1	FLOW	354.	347.	336.	324.	320.	317.	314.	311.	307.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.83	3.83	3.83
HYDROGRAPH AT													
+	13B-2	.22	1	FLOW	310.	304.	294.	283.	279.	277.	274.	271.	267.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C13B-2	.47	1	FLOW	634.	622.	602.	581.	573.	567.	563.	557.	549.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RC13B-2	.47	1	FLOW	641.	628.	607.	586.	578.	572.	568.	561.	553.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	19A	.25	1	FLOW	318.	312.	301.	291.	287.	284.	282.	278.	274.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	R19A	.25	1	FLOW	319.	313.	302.	292.	288.	285.	283.	280.	276.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	13A-1	.22	1	FLOW	308.	303.	293.	283.	279.	277.	275.	272.	268.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C13A-1	.48	1	FLOW	595.	583.	564.	545.	537.	532.	528.	522.	514.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RC13A-1	.48	1	FLOW	581.	569.	551.	532.	524.	519.	515.	509.	502.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	13A-2	.19	1	FLOW	272.	267.	258.	249.	246.	243.	241.	238.	235.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C13A-2	.66	1	FLOW	782.	766.	740.	715.	704.	697.	692.	684.	673.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	RC13A-2	.66	1	FLOW	781.	765.	738.	712.	702.	694.	689.	681.	670.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	PIC-C	.24	1	FLOW	280.	274.	265.	256.	252.	250.	248.	245.	241.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT													
+	CPIC-C	.91	1	FLOW	1041.	1020.	985.	951.	937.	927.	920.	909.	895.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													

+	RCPIC-C	.91	1	FLOW	1030.	1009.	975.	940.	922.	915.	908.	896.	881.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	PIC-A	.36	1	FLOW	356.	349.	338.	326.	322.	318.	316.	312.	308.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	CPIC-A	1.27	1	FLOW	1386.	1359.	1313.	1266.	1243.	1233.	1224.	1208.	1188.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	CCPIC-A	1.73	1	FLOW	1997.	1959.	1895.	1830.	1800.	1785.	1772.	1750.	1723.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	RCCPIC-A	1.73	1	FLOW	1974.	1921.	1874.	1792.	1776.	1769.	1758.	1721.	1690.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	57B-1	.20	1	FLOW	199.	194.	186.	179.	176.	174.	172.	170.	167.
				TIME	3.67	3.67	3.67	3.67	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	C57B-1	1.93	1	FLOW	2106.	2049.	2004.	1912.	1900.	1876.	1862.	1824.	1791.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	4.00	4.00	4.00
2 COMBINED AT													
+	CC57B-1	4.60	1	FLOW	4702.	4591.	4447.	4268.	4213.	4179.	4148.	4080.	4011.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	RCC57B-1	4.60	1	FLOW	4694.	4583.	4439.	4260.	4205.	4170.	4139.	4071.	4002.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	57B-4	.20	1	FLOW	262.	257.	248.	239.	236.	233.	231.	229.	225.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C57B-4	4.80	1	FLOW	4813.	4700.	4553.	4371.	4314.	4278.	4246.	4177.	4107.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	PIC-B	.44	1	FLOW	442.	433.	419.	405.	399.	395.	392.	388.	382.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	RPIC-B	.44	1	FLOW	439.	431.	416.	402.	396.	392.	390.	385.	379.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
2 COMBINED AT													
+	CC57B-4	5.24	1	FLOW	5243.	5122.	4961.	4765.	4702.	4663.	4628.	4554.	4479.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
ROUTED TO													
+	RCC57B-4	5.24	1	FLOW	5225.	5104.	4944.	4747.	4686.	4644.	4606.	4534.	4460.
				TIME	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
HYDROGRAPH AT													
+	38A	.35	1	FLOW	374.	367.	355.	343.	338.	335.	333.	329.	324.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
ROUTED TO													
+	R38A	.35	1	FLOW	368.	364.	350.	337.	333.	331.	330.	327.	320.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	38B	.44	1	FLOW	492.	483.	467.	452.	446.	442.	439.	434.	428.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
2 COMBINED AT													
+	C38B	.79	1	FLOW	856.	842.	810.	784.	775.	769.	764.	753.	740.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	57BA	.32	1	FLOW	186.	180.	171.	163.	159.	157.	155.	152.	149.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	R57BA	.32	1	FLOW	185.	179.	171.	162.	158.	156.	154.	151.	148.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
HYDROGRAPH AT													
+	3C	.15	1	FLOW	218.	214.	207.	201.	198.	196.	195.	193.	190.
				TIME	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67	3.67
2 COMBINED AT													
+	C3C	.47	1	FLOW	358.	350.	335.	322.	316.	312.	309.	305.	299.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
ROUTED TO													
+	RC3C	.47	1	FLOW	358.	350.	336.	322.	316.	312.	310.	305.	300.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
HYDROGRAPH AT													
+	AP	.67	1	FLOW	450.	438.	418.	398.	390.	385.	381.	375.	367.
				TIME	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
5 COMBINED AT													
+	ANGLPKIN	22.67	1	FLOW	17095.	16770.	16206.	15592.	15397.	15216.	15080.	14908.	14663.
				TIME	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
ROUTED TO													
+	ANGLPKDB	22.67	1	FLOW	5226.	4831.	4213.	3583.	3364.	3196.	3085.	2920.	2735.
				TIME	5.50	5.58	5.67	5.83	5.83	5.92	6.00	6.08	6.17

** PEAK STAGES IN FEET **

1	STAGE	2620.11	2620.05	2619.95	2619.83	2619.79	2619.75	2619.73	2619.70	2619.67
	TIME	5.50	5.58	5.67	5.83	5.83	5.92	6.00	6.08	6.17

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									
R3-1	MANE	2.67	2312.79	243.40	2.37	5.00	2311.00	245.00	2.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2811E+03 EXCESS= .0000E+00 OUTFLOW= .2812E+03 BASIN STORAGE= .7057E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.70	2269.49	242.74	2.32	5.00	2269.47	245.00	2.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2751E+03 EXCESS= .0000E+00 OUTFLOW= .2751E+03 BASIN STORAGE= .7657E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.74	2185.83	243.50	2.24	5.00	2184.24	245.00	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2651E+03 EXCESS= .0000E+00 OUTFLOW= .2651E+03 BASIN STORAGE= .7911E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.78	2108.26	241.58	2.15	5.00	2104.30	245.00	2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2551E+03 EXCESS= .0000E+00 OUTFLOW= .2551E+03 BASIN STORAGE= .8044E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.79	2078.61	243.05	2.12	5.00	2077.34	245.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2511E+03 EXCESS= .0000E+00 OUTFLOW= .2511E+03 BASIN STORAGE= .7668E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.81	2053.14	241.29	2.10	5.00	2050.03	245.00	2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2483E+03 EXCESS= .0000E+00 OUTFLOW= .2483E+03 BASIN STORAGE= .7990E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.81	2040.66	242.04	2.08	5.00	2038.22	245.00	2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2463E+03 EXCESS= .0000E+00 OUTFLOW= .2464E+03 BASIN STORAGE= .6825E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.83	2014.32	243.25	2.05	5.00	2013.08	245.00	2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2432E+03 EXCESS= .0000E+00 OUTFLOW= .2432E+03 BASIN STORAGE= .6882E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
R3-1	MANE	2.85	1983.59	241.95	2.02	5.00	1980.60	245.00	2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2392E+03 EXCESS= .0000E+00 OUTFLOW= .2392E+03 BASIN STORAGE= .8923E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
RCP3.1	MANE	4.27	2378.16	243.56	2.34	5.00	2378.02	245.00	2.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3058E+03 EXCESS= .0000E+00 OUTFLOW= .3059E+03 BASIN STORAGE= .9960E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
RCP3.1	MANE	4.30	2343.19	245.31	2.29	5.00	2339.00	245.00	2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2991E+03 EXCESS= .0000E+00 OUTFLOW= .2992E+03 BASIN STORAGE= .1013E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
RCP3.1	MANE	4.37	2258.04	244.57	2.21	5.00	2256.77	245.00	2.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2882E+03 EXCESS= .0000E+00 OUTFLOW= .2883E+03 BASIN STORAGE= .1054E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00									
RCP3.1	MANE	4.43	2164.95	248.09	2.13	5.00	2160.40	245.00	2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2772E+03 EXCESS= .0000E+00 OUTFLOW= .2773E+03 BASIN STORAGE= .1127E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

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     RCP3.1  MANE         4.45   2145.36    244.88      2.09      5.00   2145.04    245.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2729E+03 EXCESS= .0000E+00 OUTFLOW= .2729E+03 BASIN STORAGE= .8730E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.1  MANE         4.47   2113.73    246.12      2.07      5.00   2102.96    245.00        2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2698E+03 EXCESS= .0000E+00 OUTFLOW= .2699E+03 BASIN STORAGE= .1048E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.1  MANE         4.48   2097.40    246.67      2.05      5.00   2084.12    245.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2676E+03 EXCESS= .0000E+00 OUTFLOW= .2677E+03 BASIN STORAGE= .9852E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.1  MANE         4.51   2071.90    247.85      2.03      5.00   2063.58    245.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2642E+03 EXCESS= .0000E+00 OUTFLOW= .2643E+03 BASIN STORAGE= .1116E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.1  MANE         4.53   2041.24    244.87      1.99      5.00   2041.06    245.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2599E+03 EXCESS= .0000E+00 OUTFLOW= .2599E+03 BASIN STORAGE= .1196E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .53   2547.78    245.12      2.31      5.00   2547.40    245.00        2.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3419E+03 EXCESS= .0000E+00 OUTFLOW= .3419E+03 BASIN STORAGE= .1117E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .53   2504.56    245.64      2.26      5.00   2503.25    245.00        2.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3345E+03 EXCESS= .0000E+00 OUTFLOW= .3345E+03 BASIN STORAGE= .1112E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .54   2416.92    245.28      2.17      5.00   2415.61    245.00        2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3221E+03 EXCESS= .0000E+00 OUTFLOW= .3221E+03 BASIN STORAGE= .1156E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .55   2315.63    245.55      2.09      5.00   2314.41    245.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3098E+03 EXCESS= .0000E+00 OUTFLOW= .3098E+03 BASIN STORAGE= .1092E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .55   2296.33    245.18      2.06      5.00   2294.98    245.00        2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3049E+03 EXCESS= .0000E+00 OUTFLOW= .3049E+03 BASIN STORAGE= .1161E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .55   2253.80    245.34      2.03      5.00   2252.10    245.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3014E+03 EXCESS= .0000E+00 OUTFLOW= .3015E+03 BASIN STORAGE= .1120E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .55   2234.08    245.63      2.02      5.00   2232.13    245.00        2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2990E+03 EXCESS= .0000E+00 OUTFLOW= .2990E+03 BASIN STORAGE= .1170E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .56   2211.77    245.47      1.99      5.00   2209.91    245.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2951E+03 EXCESS= .0000E+00 OUTFLOW= .2951E+03 BASIN STORAGE= .1093E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.3  MANE          .56   2186.72    245.42      1.96      5.00   2184.25    245.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2903E+03 EXCESS= .0000E+00 OUTFLOW= .2903E+03 BASIN STORAGE= .1175E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
      R3-3  MANE         3.25    374.88    214.50      2.38      5.00    368.11    215.00        2.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2196E+02 EXCESS= .0000E+00 OUTFLOW= .2201E+02 BASIN STORAGE= .6410E-02 PERCENT ERROR=   -.3

   FOR PLAN = 1  RATIO=  .00
      R3-3  MANE         3.50    376.36    213.50      2.33      5.00    363.09    215.00        2.33
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .2156E+02 EXCESS= .0000E+00 OUTFLOW= .2161E+02 BASIN STORAGE= .5205E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.50	363.45	213.50	2.25	5.00	351.27	215.00	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2079E+02 EXCESS= .0000E+00 OUTFLOW= .2083E+02 BASIN STORAGE= .5137E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.75	351.19	213.75	2.17	5.00	339.83	215.00	2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2003E+02 EXCESS= .0000E+00 OUTFLOW= .2008E+02 BASIN STORAGE= .6923E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.75	346.04	213.75	2.13	5.00	335.05	215.00	2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1972E+02 EXCESS= .0000E+00 OUTFLOW= .1977E+02 BASIN STORAGE= .6885E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.75	342.43	213.75	2.11	5.00	331.71	215.00	2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1951E+02 EXCESS= .0000E+00 OUTFLOW= .1955E+02 BASIN STORAGE= .6859E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.75	339.86	213.75	2.09	5.00	329.32	215.00	2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1935E+02 EXCESS= .0000E+00 OUTFLOW= .1940E+02 BASIN STORAGE= .6840E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.75	335.73	213.75	2.07	5.00	325.50	215.00	2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1911E+02 EXCESS= .0000E+00 OUTFLOW= .1915E+02 BASIN STORAGE= .6809E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	3.75	330.58	213.75	2.03	5.00	320.72	215.00	2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1880E+02 EXCESS= .0000E+00 OUTFLOW= .1885E+02 BASIN STORAGE= .6770E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.50	749.58	213.50	2.41	5.00	729.73	215.00	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4430E+02 EXCESS= .0000E+00 OUTFLOW= .4439E+02 BASIN STORAGE= .8475E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.50	734.42	213.50	2.36	5.00	715.62	215.00	2.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4337E+02 EXCESS= .0000E+00 OUTFLOW= .4346E+02 BASIN STORAGE= .8409E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.50	709.14	213.50	2.27	5.00	692.08	215.00	2.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4182E+02 EXCESS= .0000E+00 OUTFLOW= .4190E+02 BASIN STORAGE= .8298E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.75	686.66	213.75	2.19	5.00	669.65	215.00	2.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4028E+02 EXCESS= .0000E+00 OUTFLOW= .4036E+02 BASIN STORAGE= .6852E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.75	676.54	213.75	2.16	5.00	660.15	215.00	2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3967E+02 EXCESS= .0000E+00 OUTFLOW= .3974E+02 BASIN STORAGE= .6815E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.75	669.46	213.75	2.13	5.00	653.50	215.00	2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3924E+02 EXCESS= .0000E+00 OUTFLOW= .3931E+02 BASIN STORAGE= .6789E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.75	664.40	213.75	2.12	5.00	648.75	215.00	2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3893E+02 EXCESS= .0000E+00 OUTFLOW= .3900E+02 BASIN STORAGE= .6771E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.75	656.31	213.75	2.09	5.00	641.15	215.00	2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3844E+02 EXCESS= .0000E+00 OUTFLOW= .3851E+02 BASIN STORAGE= .6740E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-4	MANE	3.75	646.19	213.75	2.06	5.00	631.64	215.00	2.05	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3782E+02 EXCESS= .0000E+00 OUTFLOW= .3790E+02 BASIN STORAGE= .6703E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-5	MANE	2.92	620.66	212.92	2.35	5.00	601.40	215.00	2.35	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3678E+02 EXCESS= .0000E+00 OUTFLOW= .3681E+02 BASIN STORAGE= .3514E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	2.94	596.05	214.50	2.30	5.00	586.87	215.00	2.30	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3591E+02 EXCESS= .0000E+00 OUTFLOW= .3595E+02 BASIN STORAGE= .3501E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	2.98	577.94	214.27	2.21	5.00	566.11	215.00	2.22	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3460E+02 EXCESS= .0000E+00 OUTFLOW= .3464E+02 BASIN STORAGE= .3896E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.02	559.29	214.09	2.13	5.00	546.25	215.00	2.13	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3331E+02 EXCESS= .0000E+00 OUTFLOW= .3335E+02 BASIN STORAGE= .4267E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.03	543.67	212.22	2.10	5.00	542.35	215.00	2.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3287E+02 EXCESS= .0000E+00 OUTFLOW= .3290E+02 BASIN STORAGE= .3075E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.04	552.78	213.03	2.08	5.00	536.73	215.00	2.07	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3251E+02 EXCESS= .0000E+00 OUTFLOW= .3255E+02 BASIN STORAGE= .3961E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.05	544.85	213.62	2.06	5.00	529.47	215.00	2.06	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3220E+02 EXCESS= .0000E+00 OUTFLOW= .3223E+02 BASIN STORAGE= .3461E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.07	532.15	214.57	2.03	5.00	525.37	215.00	2.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3180E+02 EXCESS= .0000E+00 OUTFLOW= .3184E+02 BASIN STORAGE= .4047E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.08	527.35	212.70	2.00	5.00	516.83	215.00	2.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3133E+02 EXCESS= .0000E+00 OUTFLOW= .3137E+02 BASIN STORAGE= .2881E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.53	1650.92	217.37	2.38	5.00	1649.78	215.00	2.38	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1032E+03 EXCESS= .0000E+00 OUTFLOW= .1033E+03 BASIN STORAGE= .4157E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.55	1618.62	216.42	2.33	5.00	1594.49	215.00	2.33	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1009E+03 EXCESS= .0000E+00 OUTFLOW= .1010E+03 BASIN STORAGE= .4004E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.58	1563.67	216.58	2.24	5.00	1538.95	215.00	2.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9727E+02 EXCESS= .0000E+00 OUTFLOW= .9734E+02 BASIN STORAGE= .3694E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.61	1511.30	216.68	2.16	5.00	1483.77	215.00	2.16	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9369E+02 EXCESS= .0000E+00 OUTFLOW= .9374E+02 BASIN STORAGE= .4645E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.62	1496.98	217.61	2.13	5.00	1483.61	215.00	2.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9237E+02 EXCESS= .0000E+00 OUTFLOW= .9243E+02 BASIN STORAGE= .3548E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.63	1475.90	215.80	2.11	5.00	1453.02	215.00	2.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9123E+02 EXCESS= .0000E+00 OUTFLOW= .9129E+02 BASIN STORAGE= .4285E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.64	1463.67	216.55	2.09	5.00	1434.74	215.00	2.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9045E+02 EXCESS= .0000E+00 OUTFLOW= .9051E+02 BASIN STORAGE= .4974E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.65	1451.90	217.37	2.07	5.00	1429.08	215.00	2.07	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8949E+02 EXCESS= .0000E+00 OUTFLOW= .8955E+02 BASIN STORAGE= .4089E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.2	MANE	2.67	1423.59	215.94	2.03	5.00	1397.42	215.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8787E+02 EXCESS= .0000E+00 OUTFLOW= .8793E+02 BASIN STORAGE= .4247E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.40	4061.98	221.31	2.30	5.00	4009.47	220.00	2.30	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5066E+03 EXCESS= .0000E+00 OUTFLOW= .5066E+03 BASIN STORAGE= .3396E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.42	3939.15	220.87	2.25	5.00	3888.28	220.00	2.25	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4954E+03 EXCESS= .0000E+00 OUTFLOW= .4954E+03 BASIN STORAGE= .3208E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.44	3800.00	221.15	2.16	5.00	3741.68	220.00	2.16	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4771E+03 EXCESS= .0000E+00 OUTFLOW= .4771E+03 BASIN STORAGE= .3401E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.46	3665.55	221.41	2.08	5.00	3604.54	220.00	2.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4589E+03 EXCESS= .0000E+00 OUTFLOW= .4590E+03 BASIN STORAGE= .3766E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.46	3611.61	220.75	2.05	5.00	3565.47	220.00	2.05	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4521E+03 EXCESS= .0000E+00 OUTFLOW= .4521E+03 BASIN STORAGE= .3492E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.47	3546.26	220.70	2.02	5.00	3505.69	220.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4465E+03 EXCESS= .0000E+00 OUTFLOW= .4465E+03 BASIN STORAGE= .3322E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.48	3539.91	221.36	2.01	5.00	3475.62	220.00	2.01	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4428E+03 EXCESS= .0000E+00 OUTFLOW= .4429E+03 BASIN STORAGE= .3441E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.48	3490.66	222.07	1.98	5.00	3447.79	220.00	1.98	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4376E+03 EXCESS= .0000E+00 OUTFLOW= .4376E+03 BASIN STORAGE= .3157E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.4	MANE	1.49	3422.40	221.04	1.95	5.00	3362.35	220.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4299E+03 EXCESS= .0000E+00 OUTFLOW= .4299E+03 BASIN STORAGE= .3378E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-6	MANE	3.50	189.75	217.00	2.36	5.00	187.55	220.00	2.37	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1112E+02 EXCESS= .0000E+00 OUTFLOW= .1118E+02 BASIN STORAGE= .9511E-02 PERCENT ERROR= -.6

FOR PLAN = 1 RATIO= .00

R3-6	MANE	3.50	185.75	217.00	2.31	5.00	184.17	220.00	2.32	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1095E+02 BASIN STORAGE= .9455E-02 PERCENT ERROR= -.6

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          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.50    179.09    217.00      2.23      5.00    178.51    220.00        2.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1050E+02 EXCESS= .0000E+00 OUTFLOW= .1056E+02 BASIN STORAGE= .9358E-02 PERCENT ERROR=   -.6

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.50    172.86    220.50      2.15      5.00    172.80    220.00        2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1011E+02 EXCESS= .0000E+00 OUTFLOW= .1017E+02 BASIN STORAGE= .9260E-02 PERCENT ERROR=   -.7

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.50    170.63    220.50      2.12      5.00    170.50    220.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9952E+01 EXCESS= .0000E+00 OUTFLOW= .1001E+02 BASIN STORAGE= .9220E-02 PERCENT ERROR=   -.7

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.50    169.05    220.50      2.09      5.00    168.89    220.00        2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9843E+01 EXCESS= .0000E+00 OUTFLOW= .9901E+01 BASIN STORAGE= .9191E-02 PERCENT ERROR=   -.7

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.50    167.92    220.50      2.08      5.00    167.73    220.00        2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9766E+01 EXCESS= .0000E+00 OUTFLOW= .9823E+01 BASIN STORAGE= .9171E-02 PERCENT ERROR=   -.7

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.75    164.95    217.50      2.05      5.00    163.11    220.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9650E+01 EXCESS= .0000E+00 OUTFLOW= .9706E+01 BASIN STORAGE= .1162E-01 PERCENT ERROR=   -.7

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         3.75    162.38    217.50      2.02      5.00    160.80    220.00        2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9496E+01 EXCESS= .0000E+00 OUTFLOW= .9549E+01 BASIN STORAGE= .1157E-01 PERCENT ERROR=   -.7

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    374.64    214.27      2.27      5.00    356.78    210.00        2.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2068E+02 EXCESS= .0000E+00 OUTFLOW= .2072E+02 BASIN STORAGE= .3650E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    367.86    211.25      2.22      5.00    348.18    210.00        2.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2023E+02 EXCESS= .0000E+00 OUTFLOW= .2027E+02 BASIN STORAGE= .3287E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.31    363.28    211.94      2.13      5.00    334.32    210.00        2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1947E+02 EXCESS= .0000E+00 OUTFLOW= .1951E+02 BASIN STORAGE= .3053E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    341.63    211.25      2.05      5.00    323.08    210.00        2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1875E+02 EXCESS= .0000E+00 OUTFLOW= .1878E+02 BASIN STORAGE= .3202E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    336.39    211.25      2.02      5.00    318.77    215.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1845E+02 EXCESS= .0000E+00 OUTFLOW= .1849E+02 BASIN STORAGE= .3185E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    332.73    211.25      2.00      5.00    315.77    215.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1825E+02 EXCESS= .0000E+00 OUTFLOW= .1828E+02 BASIN STORAGE= .3173E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    330.11    211.25      1.98      5.00    313.63    215.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1810E+02 EXCESS= .0000E+00 OUTFLOW= .1814E+02 BASIN STORAGE= .3164E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    325.92    211.25      1.96      5.00    310.20    215.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1787E+02 EXCESS= .0000E+00 OUTFLOW= .1790E+02 BASIN STORAGE= .3150E-02 PERCENT ERROR=   -.2
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          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.25    320.69    211.25      1.93      5.00    305.91    215.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1758E+02 EXCESS= .0000E+00 OUTFLOW= .1761E+02 BASIN STORAGE= .3132E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.50    196.39    220.50      1.58      5.00    193.67    220.00        1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1289E+02 EXCESS= .0000E+00 OUTFLOW= .1290E+02 BASIN STORAGE= .7270E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.50    191.25    220.50      1.54      5.00    188.53    220.00        1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1255E+02 EXCESS= .0000E+00 OUTFLOW= .1257E+02 BASIN STORAGE= .7204E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.25    181.58    221.00      1.47      5.00    177.64    220.00        1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1197E+02 EXCESS= .0000E+00 OUTFLOW= .1198E+02 BASIN STORAGE= .5738E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.25    173.27    221.00      1.40      5.00    169.29    220.00        1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1141E+02 EXCESS= .0000E+00 OUTFLOW= .1143E+02 BASIN STORAGE= .5643E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.25    169.96    221.00      1.37      5.00    165.97    220.00        1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1119E+02 EXCESS= .0000E+00 OUTFLOW= .1121E+02 BASIN STORAGE= .5604E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.25    167.64    221.00      1.36      5.00    163.64    220.00        1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1104E+02 EXCESS= .0000E+00 OUTFLOW= .1106E+02 BASIN STORAGE= .5577E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.25    165.99    221.00      1.34      5.00    161.98    220.00        1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1093E+02 EXCESS= .0000E+00 OUTFLOW= .1095E+02 BASIN STORAGE= .5557E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.25    163.35    221.00      1.32      5.00    159.33    220.00        1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1076E+02 EXCESS= .0000E+00 OUTFLOW= .1077E+02 BASIN STORAGE= .7381E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         4.50    160.72    220.50      1.30      5.00    158.03    220.00        1.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1056E+02 EXCESS= .0000E+00 OUTFLOW= .1057E+02 BASIN STORAGE= .6787E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.31    676.64    216.73      2.04      5.00    667.61    215.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4492E+02 EXCESS= .0000E+00 OUTFLOW= .4492E+02 BASIN STORAGE= .1579E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.32    664.60    215.81      1.99      5.00    651.50    215.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4389E+02 EXCESS= .0000E+00 OUTFLOW= .4389E+02 BASIN STORAGE= .1376E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.34    643.19    216.34      1.91      5.00    627.37    215.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4213E+02 EXCESS= .0000E+00 OUTFLOW= .4213E+02 BASIN STORAGE= .1317E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.36    614.58    216.65      1.84      5.00    601.21    215.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4046E+02 EXCESS= .0000E+00 OUTFLOW= .4047E+02 BASIN STORAGE= .1402E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.37    605.86    216.59      1.81      5.00    591.24    215.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3979E+02 EXCESS= .0000E+00 OUTFLOW= .3980E+02 BASIN STORAGE= .1410E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.38    599.79    216.14      1.79      5.00    583.16    215.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3933E+02 EXCESS= .0000E+00 OUTFLOW= .3933E+02 BASIN STORAGE= .1326E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.38    590.80    216.81      1.77      5.00    577.94    215.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3899E+02 EXCESS= .0000E+00 OUTFLOW= .3899E+02 BASIN STORAGE= .1327E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.39    589.88    216.35      1.75      5.00    571.44    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3845E+02 EXCESS= .0000E+00 OUTFLOW= .3845E+02 BASIN STORAGE= .1591E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.40    579.51    216.32      1.72      5.00    561.09    215.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3783E+02 EXCESS= .0000E+00 OUTFLOW= .3783E+02 BASIN STORAGE= .1365E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.00   1126.68    219.09      2.40      5.00   1118.62    220.00        2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8172E+02 EXCESS= .0000E+00 OUTFLOW= .8176E+02 BASIN STORAGE= .4399E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.02   1103.08    220.67      2.35      5.00   1102.07    220.00        2.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8002E+02 EXCESS= .0000E+00 OUTFLOW= .8005E+02 BASIN STORAGE= .4359E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.06   1066.78    220.33      2.27      5.00   1064.96    220.00        2.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7714E+02 EXCESS= .0000E+00 OUTFLOW= .7717E+02 BASIN STORAGE= .3354E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.10   1029.53    220.05      2.18      5.00   1029.15    220.00        2.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7427E+02 EXCESS= .0000E+00 OUTFLOW= .7431E+02 BASIN STORAGE= .3631E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.12   1017.54    218.08      2.15      5.00   1013.50    220.00        2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7316E+02 EXCESS= .0000E+00 OUTFLOW= .7320E+02 BASIN STORAGE= .4008E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.13   1004.28    218.89      2.12      5.00    997.87    220.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7234E+02 EXCESS= .0000E+00 OUTFLOW= .7237E+02 BASIN STORAGE= .3339E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.14    995.00    219.47      2.11      5.00    990.40    220.00        2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7176E+02 EXCESS= .0000E+00 OUTFLOW= .7179E+02 BASIN STORAGE= .4184E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.15    983.24    220.41      2.08      5.00    981.04    220.00        2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7085E+02 EXCESS= .0000E+00 OUTFLOW= .7088E+02 BASIN STORAGE= .3387E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.17    971.99    218.45      2.05      5.00    966.45    220.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6974E+02 EXCESS= .0000E+00 OUTFLOW= .6977E+02 BASIN STORAGE= .3725E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         1.65   2928.93    220.89      2.25      5.00   2898.63    220.00        2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2328E+03 EXCESS= .0000E+00 OUTFLOW= .2328E+03 BASIN STORAGE= .3309E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         1.66   2878.56    222.36      2.20      5.00   2844.43    220.00        2.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2278E+03 EXCESS= .0000E+00 OUTFLOW= .2278E+03 BASIN STORAGE= .3642E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
```

RCP3.6	MANE	1.68	2796.23	221.93	2.12	5.00	2737.54	220.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2194E+03 EXCESS= .0000E+00 OUTFLOW= .2194E+03 BASIN STORAGE= .2980E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.70	2695.39	221.52	2.04	5.00	2636.69	220.00	2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2112E+03 EXCESS= .0000E+00 OUTFLOW= .2112E+03 BASIN STORAGE= .3209E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.71	2634.56	221.05	2.01	5.00	2601.93	220.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2078E+03 EXCESS= .0000E+00 OUTFLOW= .2078E+03 BASIN STORAGE= .2871E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.72	2622.97	222.02	1.99	5.00	2564.22	220.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2055E+03 EXCESS= .0000E+00 OUTFLOW= .2055E+03 BASIN STORAGE= .3686E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.73	2578.88	222.72	1.97	5.00	2546.81	220.00	1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2037E+03 EXCESS= .0000E+00 OUTFLOW= .2038E+03 BASIN STORAGE= .2864E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.73	2575.95	221.93	1.94	5.00	2509.49	220.00	1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2012E+03 EXCESS= .0000E+00 OUTFLOW= .2012E+03 BASIN STORAGE= .3658E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.74	2525.08	221.41	1.91	5.00	2477.97	220.00	1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1979E+03 EXCESS= .0000E+00 OUTFLOW= .1979E+03 BASIN STORAGE= .3190E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.72	359.38	216.76	2.29	5.00	351.01	215.00	2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2350E+02 EXCESS= .0000E+00 OUTFLOW= .2350E+02 BASIN STORAGE= .2061E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.73	352.46	216.75	2.24	5.00	344.16	215.00	2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2300E+02 EXCESS= .0000E+00 OUTFLOW= .2301E+02 BASIN STORAGE= .2105E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.76	337.84	216.20	2.16	5.00	332.40	215.00	2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2217E+02 EXCESS= .0000E+00 OUTFLOW= .2218E+02 BASIN STORAGE= .2005E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.78	323.27	215.68	2.08	5.00	320.38	215.00	2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2136E+02 EXCESS= .0000E+00 OUTFLOW= .2136E+02 BASIN STORAGE= .2435E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.79	323.10	216.93	2.05	5.00	315.97	215.00	2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2104E+02 EXCESS= .0000E+00 OUTFLOW= .2105E+02 BASIN STORAGE= .2177E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.80	316.85	216.01	2.03	5.00	312.67	215.00	2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2080E+02 EXCESS= .0000E+00 OUTFLOW= .2081E+02 BASIN STORAGE= .2204E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.81	317.64	216.65	2.01	5.00	310.79	215.00	2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2065E+02 EXCESS= .0000E+00 OUTFLOW= .2065E+02 BASIN STORAGE= .2463E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.81	309.90	215.86	1.99	5.00	306.47	215.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2038E+02 EXCESS= .0000E+00 OUTFLOW= .2039E+02 BASIN STORAGE= .2421E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.82	307.47	217.16	1.96	5.00	301.60	215.00	1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2007E+02 EXCESS= .0000E+00 OUTFLOW= .2007E+02 BASIN STORAGE= .2147E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.11	2378.07	296.21	2.28	5.00	2377.44	295.00	2.28	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8568E+03 EXCESS= .0000E+00 OUTFLOW= .8568E+03 BASIN STORAGE= .2854E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.11	2354.37	296.28	2.23	5.00	2353.92	295.00	2.23	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8380E+03 EXCESS= .0000E+00 OUTFLOW= .8381E+03 BASIN STORAGE= .3085E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.12	2316.02	296.00	2.15	5.00	2315.37	295.00	2.15	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8073E+03 EXCESS= .0000E+00 OUTFLOW= .8073E+03 BASIN STORAGE= .3031E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.13	2277.49	295.73	2.07	5.00	2276.92	295.00	2.07	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7766E+03 EXCESS= .0000E+00 OUTFLOW= .7766E+03 BASIN STORAGE= .3041E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.13	2262.84	295.36	2.03	5.00	2262.50	295.00	2.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7649E+03 EXCESS= .0000E+00 OUTFLOW= .7649E+03 BASIN STORAGE= .2812E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.13	2251.51	295.96	2.01	5.00	2251.01	295.00	2.01	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7558E+03 EXCESS= .0000E+00 OUTFLOW= .7558E+03 BASIN STORAGE= .2819E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.14	2243.77	295.22	1.99	5.00	2243.55	295.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7497E+03 EXCESS= .0000E+00 OUTFLOW= .7497E+03 BASIN STORAGE= .3042E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.14	2232.65	295.82	1.97	5.00	2232.19	295.00	1.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7405E+03 EXCESS= .0000E+00 OUTFLOW= .7405E+03 BASIN STORAGE= .2897E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.14	2217.17	295.50	1.94	5.00	2216.81	295.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7278E+03 EXCESS= .0000E+00 OUTFLOW= .7279E+03 BASIN STORAGE= .3007E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.44	3211.06	226.74	2.29	5.00	3201.07	230.00	2.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9463E+03 EXCESS= .0000E+00 OUTFLOW= .9463E+03 BASIN STORAGE= .4514E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.45	3170.95	226.49	2.24	5.00	3161.11	230.00	2.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9258E+03 EXCESS= .0000E+00 OUTFLOW= .9258E+03 BASIN STORAGE= .4404E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.47	3098.52	228.55	2.16	5.00	3095.37	230.00	2.16	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8920E+03 EXCESS= .0000E+00 OUTFLOW= .8921E+03 BASIN STORAGE= .4839E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.48	3026.62	227.67	2.08	5.00	3025.43	230.00	2.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8584E+03 EXCESS= .0000E+00 OUTFLOW= .8584E+03 BASIN STORAGE= .4034E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.48	2998.78	228.48	2.05	5.00	2997.54	230.00	2.05	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8455E+03 EXCESS= .0000E+00 OUTFLOW= .8455E+03 BASIN STORAGE= .4294E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.49	2977.51	230.61	2.02	5.00	2976.77	230.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8357E+03 EXCESS= .0000E+00 OUTFLOW= .8357E+03 BASIN STORAGE= .4251E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.49	2965.13	231.03	2.01	5.00	2961.82	230.00	2.01	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8289E+03 EXCESS= .0000E+00 OUTFLOW= .8289E+03 BASIN STORAGE= .4662E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.49	2941.97	230.17	1.98	5.00	2941.91	230.00	1.98	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8188E+03 EXCESS= .0000E+00 OUTFLOW= .8188E+03 BASIN STORAGE= .4343E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.50	2915.58	231.10	1.95	5.00	2911.18	230.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8049E+03 EXCESS= .0000E+00 OUTFLOW= .8049E+03 BASIN STORAGE= .4429E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.80	532.54	215.72	2.33	5.00	527.98	215.00	2.34	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3505E+02 EXCESS= .0000E+00 OUTFLOW= .3505E+02 BASIN STORAGE= .1250E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.81	522.62	215.80	2.29	5.00	517.98	215.00	2.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3432E+02 EXCESS= .0000E+00 OUTFLOW= .3432E+02 BASIN STORAGE= .1240E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.82	503.18	215.45	2.20	5.00	499.35	215.00	2.21	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3310E+02 EXCESS= .0000E+00 OUTFLOW= .3310E+02 BASIN STORAGE= .1257E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.83	486.14	215.98	2.12	5.00	482.61	215.00	2.13	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3189E+02 EXCESS= .0000E+00 OUTFLOW= .3189E+02 BASIN STORAGE= .1252E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.84	479.38	215.54	2.09	5.00	475.19	215.00	2.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3141E+02 EXCESS= .0000E+00 OUTFLOW= .3141E+02 BASIN STORAGE= .1274E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.84	474.70	215.57	2.07	5.00	470.38	215.00	2.07	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3107E+02 EXCESS= .0000E+00 OUTFLOW= .3107E+02 BASIN STORAGE= .1272E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.84	470.08	215.36	2.05	5.00	466.81	215.00	2.06	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3083E+02 EXCESS= .0000E+00 OUTFLOW= .3083E+02 BASIN STORAGE= .1167E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.85	465.44	215.53	2.03	5.00	461.29	215.00	2.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3044E+02 EXCESS= .0000E+00 OUTFLOW= .3044E+02 BASIN STORAGE= .1118E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.85	458.86	215.97	2.00	5.00	455.07	215.00	2.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2997E+02 EXCESS= .0000E+00 OUTFLOW= .2997E+02 BASIN STORAGE= .1130E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.40	792.43	215.40	2.45	5.00	787.45	215.00	2.45	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5362E+02 EXCESS= .0000E+00 OUTFLOW= .5363E+02 BASIN STORAGE= .2732E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.41	779.02	215.59	2.40	5.00	771.69	215.00	2.41	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5255E+02 EXCESS= .0000E+00 OUTFLOW= .5256E+02 BASIN STORAGE= .2496E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.43	753.28	215.70	2.32	5.00	745.07	215.00	2.32	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5074E+02 EXCESS= .0000E+00 OUTFLOW= .5075E+02 BASIN STORAGE= .2487E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.45	728.04	215.66	2.24	5.00	720.85	215.00	2.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4896E+02 EXCESS= .0000E+00 OUTFLOW= .4897E+02 BASIN STORAGE= .2717E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.46	715.84	215.45	2.21	5.00	711.23	215.00	2.21	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4824E+02 EXCESS= .0000E+00 OUTFLOW= .4825E+02 BASIN STORAGE= .2238E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.46	711.76	216.29	2.18	5.00	703.79	215.00	2.19	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4774E+02 EXCESS= .0000E+00 OUTFLOW= .4775E+02 BASIN STORAGE= .2831E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.47	703.54	215.45	2.17	5.00	699.16	215.00	2.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4738E+02 EXCESS= .0000E+00 OUTFLOW= .4739E+02 BASIN STORAGE= .2261E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.47	698.80	216.42	2.14	5.00	691.58	215.00	2.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4682E+02 EXCESS= .0000E+00 OUTFLOW= .4683E+02 BASIN STORAGE= .2772E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.48	689.50	216.10	2.11	5.00	680.19	215.00	2.11	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4612E+02 EXCESS= .0000E+00 OUTFLOW= .4613E+02 BASIN STORAGE= .2372E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.06	454.87	220.63	1.74	5.00	451.95	220.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3384E+02 EXCESS= .0000E+00 OUTFLOW= .3384E+02 BASIN STORAGE= .1529E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.07	443.89	220.66	1.70	5.00	440.96	220.00	1.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3300E+02 EXCESS= .0000E+00 OUTFLOW= .3300E+02 BASIN STORAGE= .1521E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.09	427.47	221.12	1.63	5.00	423.04	220.00	1.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3161E+02 EXCESS= .0000E+00 OUTFLOW= .3161E+02 BASIN STORAGE= .1545E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.11	407.00	221.68	1.56	5.00	404.38	220.00	1.56	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3023E+02 EXCESS= .0000E+00 OUTFLOW= .3023E+02 BASIN STORAGE= .1546E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.12	401.68	221.04	1.53	5.00	397.73	220.00	1.53	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2968E+02 EXCESS= .0000E+00 OUTFLOW= .2968E+02 BASIN STORAGE= .1372E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.12	396.58	221.05	1.51	5.00	392.68	220.00	1.51	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2930E+02 EXCESS= .0000E+00 OUTFLOW= .2930E+02 BASIN STORAGE= .1372E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.13	391.41	220.73	1.49	5.00	388.64	220.00	1.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2902E+02 EXCESS= .0000E+00 OUTFLOW= .2903E+02 BASIN STORAGE= .1501E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.13	386.44	220.91	1.47	5.00	383.11	220.00	1.47	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2859E+02 EXCESS= .0000E+00 OUTFLOW= .2859E+02 BASIN STORAGE= .1413E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.14	379.26	221.43	1.44	5.00	375.40	220.00	1.44	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2805E+02 EXCESS= .0000E+00 OUTFLOW= .2805E+02 BASIN STORAGE= .1427E-02 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .89    873.61    221.59      1.89      5.00    865.54    225.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7017E+02 EXCESS= .0000E+00 OUTFLOW= .7017E+02 BASIN STORAGE= .1541E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .90    853.01    221.00      1.84      5.00    845.18    225.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6850E+02 EXCESS= .0000E+00 OUTFLOW= .6850E+02 BASIN STORAGE= .1587E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .92    819.40    221.87      1.77      5.00    812.26    225.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6572E+02 EXCESS= .0000E+00 OUTFLOW= .6573E+02 BASIN STORAGE= .1569E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .93    785.71    221.91      1.69      5.00    779.48    225.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6297E+02 EXCESS= .0000E+00 OUTFLOW= .6297E+02 BASIN STORAGE= .1519E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .94    772.26    221.58      1.66      5.00    766.74    225.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6187E+02 EXCESS= .0000E+00 OUTFLOW= .6187E+02 BASIN STORAGE= .1700E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .94    763.03    221.73      1.64      5.00    757.44    225.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6111E+02 EXCESS= .0000E+00 OUTFLOW= .6111E+02 BASIN STORAGE= .1574E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .95    756.19    221.57      1.63      5.00    751.07    225.00        1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6056E+02 EXCESS= .0000E+00 OUTFLOW= .6056E+02 BASIN STORAGE= .1689E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .95    745.83    221.89      1.61      5.00    740.33    225.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5969E+02 EXCESS= .0000E+00 OUTFLOW= .5969E+02 BASIN STORAGE= .1492E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE          .96    732.18    221.59      1.58      5.00    727.61    225.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5861E+02 EXCESS= .0000E+00 OUTFLOW= .5861E+02 BASIN STORAGE= .1655E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .34    474.11    215.25      2.39      5.00    473.73    215.00        2.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3064E+02 EXCESS= .0000E+00 OUTFLOW= .3064E+02 BASIN STORAGE= .4662E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .34    465.15    215.17      2.34      5.00    464.68    215.00        2.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3001E+02 EXCESS= .0000E+00 OUTFLOW= .3001E+02 BASIN STORAGE= .4624E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .35    450.24    215.21      2.26      5.00    449.78    215.00        2.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2898E+02 EXCESS= .0000E+00 OUTFLOW= .2898E+02 BASIN STORAGE= .4436E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .35    435.34    215.31      2.18      5.00    435.08    215.00        2.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2794E+02 EXCESS= .0000E+00 OUTFLOW= .2794E+02 BASIN STORAGE= .4494E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .35    429.32    215.08      2.15      5.00    428.98    215.00        2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2753E+02 EXCESS= .0000E+00 OUTFLOW= .2753E+02 BASIN STORAGE= .4706E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .36    425.18    215.21      2.12      5.00    424.70    215.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2724E+02 EXCESS= .0000E+00 OUTFLOW= .2724E+02 BASIN STORAGE= .4507E-03 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .36    422.16    215.10      2.11      5.00    421.77    215.00        2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2704E+02 EXCESS= .0000E+00 OUTFLOW= .2704E+02 BASIN STORAGE= .4446E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .36    417.36    215.01      2.08      5.00    417.32    215.00        2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2671E+02 EXCESS= .0000E+00 OUTFLOW= .2671E+02 BASIN STORAGE= .4708E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .36    411.44    215.17      2.05      5.00    410.95    215.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2630E+02 EXCESS= .0000E+00 OUTFLOW= .2630E+02 BASIN STORAGE= .4500E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .70    553.72    215.43      1.90      5.00    550.75    215.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+03 EXCESS= .0000E+00 OUTFLOW= .1542E+03 BASIN STORAGE= .2232E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .70    544.37    215.68      1.85      5.00    540.81    215.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1505E+03 EXCESS= .0000E+00 OUTFLOW= .1505E+03 BASIN STORAGE= .2126E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .71    526.74    215.66      1.78      5.00    523.13    215.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1444E+03 EXCESS= .0000E+00 OUTFLOW= .1444E+03 BASIN STORAGE= .1965E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .72    508.72    215.76      1.70      5.00    505.18    215.00        1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1384E+03 EXCESS= .0000E+00 OUTFLOW= .1384E+03 BASIN STORAGE= .1815E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .73    500.87    215.59      1.67      5.00    497.25    215.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1360E+03 EXCESS= .0000E+00 OUTFLOW= .1360E+03 BASIN STORAGE= .1757E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .73    495.89    215.77      1.65      5.00    492.22    215.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1343E+03 EXCESS= .0000E+00 OUTFLOW= .1343E+03 BASIN STORAGE= .1719E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .73    492.38    215.67      1.64      5.00    488.48    215.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1331E+03 EXCESS= .0000E+00 OUTFLOW= .1331E+03 BASIN STORAGE= .1691E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .74    485.07    215.92      1.61      5.00    482.41    215.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1312E+03 EXCESS= .0000E+00 OUTFLOW= .1312E+03 BASIN STORAGE= .1647E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .74    478.42    215.83      1.58      5.00    474.83    215.00        1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1288E+03 EXCESS= .0000E+00 OUTFLOW= .1288E+03 BASIN STORAGE= .1594E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .53    835.48    215.04      1.95      5.00    835.47    215.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1743E+03 EXCESS= .0000E+00 OUTFLOW= .1743E+03 BASIN STORAGE= .2017E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .54    820.64    214.98      1.91      5.00    820.55    215.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1703E+03 EXCESS= .0000E+00 OUTFLOW= .1703E+03 BASIN STORAGE= .1921E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .54    794.22    215.05      1.83      5.00    794.19    215.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1635E+03 EXCESS= .0000E+00 OUTFLOW= .1635E+03 BASIN STORAGE= .1777E-01 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
           RCP3-Q2  MANE          .55    767.53    214.65      1.76      5.00    767.21    215.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1568E+03 EXCESS= .0000E+00 OUTFLOW= .1568E+03 BASIN STORAGE= .1639E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-Q2  MANE          .56    756.35    214.82      1.73      5.00    755.89    215.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+03 EXCESS= .0000E+00 OUTFLOW= .1542E+03 BASIN STORAGE= .1587E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-Q2  MANE          .56    748.75    215.10      1.71      5.00    748.70    215.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1523E+03 EXCESS= .0000E+00 OUTFLOW= .1523E+03 BASIN STORAGE= .1553E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-Q2  MANE          .56    743.03    214.61      1.69      5.00    743.03    215.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1510E+03 EXCESS= .0000E+00 OUTFLOW= .1510E+03 BASIN STORAGE= .1527E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-Q2  MANE          .56    734.69    215.06      1.67      5.00    734.62    215.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1489E+03 EXCESS= .0000E+00 OUTFLOW= .1489E+03 BASIN STORAGE= .1488E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-Q2  MANE          .56    723.24    214.66      1.64      5.00    723.13    215.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1462E+03 EXCESS= .0000E+00 OUTFLOW= .1462E+03 BASIN STORAGE= .1441E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .47   1102.95    210.92      2.00      5.00   1083.80    210.00        2.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1914E+03 EXCESS= .0000E+00 OUTFLOW= .1914E+03 BASIN STORAGE= .1998E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .47   1082.21    210.65      1.95      5.00   1061.89    210.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1870E+03 EXCESS= .0000E+00 OUTFLOW= .1870E+03 BASIN STORAGE= .1904E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .48   1046.42    210.63      1.87      5.00   1026.19    210.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1798E+03 EXCESS= .0000E+00 OUTFLOW= .1798E+03 BASIN STORAGE= .1762E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .49   1009.77    210.74      1.80      5.00    990.96    215.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1725E+03 EXCESS= .0000E+00 OUTFLOW= .1725E+03 BASIN STORAGE= .1625E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .49    994.18    210.58      1.77      5.00    977.51    215.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1696E+03 EXCESS= .0000E+00 OUTFLOW= .1696E+03 BASIN STORAGE= .1573E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .49    984.55    210.93      1.75      5.00    967.56    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1676E+03 EXCESS= .0000E+00 OUTFLOW= .1676E+03 BASIN STORAGE= .1539E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .49    976.36    210.64      1.73      5.00    960.57    215.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1662E+03 EXCESS= .0000E+00 OUTFLOW= .1662E+03 BASIN STORAGE= .1514E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .50    965.39    210.59      1.71      5.00    950.01    215.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1639E+03 EXCESS= .0000E+00 OUTFLOW= .1639E+03 BASIN STORAGE= .1476E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3-H1  MANE          .50    949.52    211.02      1.68      5.00    935.86    215.00        1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1610E+03 EXCESS= .0000E+00 OUTFLOW= .1610E+03 BASIN STORAGE= .1429E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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     RCP9  MANE          .50   2325.30    215.51      2.10      5.00   2319.55    215.00        2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2801E+03 EXCESS= .0000E+00 OUTFLOW= .2801E+03 BASIN STORAGE= .2873E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .50   2277.52    215.15      2.05      5.00   2273.35    215.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2739E+03 EXCESS= .0000E+00 OUTFLOW= .2739E+03 BASIN STORAGE= .2739E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .51   2205.97    215.52      1.98      5.00   2199.85    215.00        1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2636E+03 EXCESS= .0000E+00 OUTFLOW= .2636E+03 BASIN STORAGE= .2532E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .52   2130.49    215.40      1.90      5.00   2123.44    215.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2534E+03 EXCESS= .0000E+00 OUTFLOW= .2534E+03 BASIN STORAGE= .2336E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .52   2101.15    215.55      1.87      5.00   2095.15    215.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2493E+03 EXCESS= .0000E+00 OUTFLOW= .2493E+03 BASIN STORAGE= .2262E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .52   2079.58    215.41      1.85      5.00   2072.36    215.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2464E+03 EXCESS= .0000E+00 OUTFLOW= .2464E+03 BASIN STORAGE= .2212E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .52   2065.98    215.50      1.83      5.00   2058.70    215.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2444E+03 EXCESS= .0000E+00 OUTFLOW= .2444E+03 BASIN STORAGE= .2176E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .53   2041.78    215.42      1.81      5.00   2034.40    215.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2411E+03 EXCESS= .0000E+00 OUTFLOW= .2411E+03 BASIN STORAGE= .2122E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP9  MANE          .53   2006.89    215.18      1.78      5.00   2002.19    215.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2371E+03 EXCESS= .0000E+00 OUTFLOW= .2371E+03 BASIN STORAGE= .2056E-01 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.59    180.88    212.58      2.63      5.00    180.61    215.00        2.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1221E+02 EXCESS= .0000E+00 OUTFLOW= .1221E+02 BASIN STORAGE= .1699E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.60    177.66    214.06      2.58      5.00    177.50    215.00        2.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1198E+02 EXCESS= .0000E+00 OUTFLOW= .1198E+02 BASIN STORAGE= .1427E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.62    173.05    213.39      2.50      5.00    172.12    215.00        2.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1161E+02 EXCESS= .0000E+00 OUTFLOW= .1161E+02 BASIN STORAGE= .1428E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.64    167.33    212.74      2.41      5.00    166.95    215.00        2.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1122E+02 EXCESS= .0000E+00 OUTFLOW= .1122E+02 BASIN STORAGE= .1412E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.64    165.41    213.81      2.38      5.00    164.88    215.00        2.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1107E+02 EXCESS= .0000E+00 OUTFLOW= .1107E+02 BASIN STORAGE= .1682E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.65    163.92    212.92      2.36      5.00    163.34    215.00        2.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1096E+02 EXCESS= .0000E+00 OUTFLOW= .1097E+02 BASIN STORAGE= .1724E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
     R3-O  MANE          1.65    163.18    213.46      2.34      5.00    162.20    215.00        2.34
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1089E+02 EXCESS= .0000E+00 OUTFLOW= .1089E+02 BASIN STORAGE= .1483E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-O	MANE	1.66	160.91	212.68	2.32	5.00	160.70	215.00	2.32	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1077E+02 EXCESS= .0000E+00 OUTFLOW= .1077E+02 BASIN STORAGE= .1481E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-O	MANE	1.67	159.17	213.79	2.28	5.00	158.55	215.00	2.28	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1062E+02 EXCESS= .0000E+00 OUTFLOW= .1062E+02 BASIN STORAGE= .1408E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.69	153.80	216.48	2.14	5.00	150.18	215.00	2.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9948E+01 EXCESS= .0000E+00 OUTFLOW= .9950E+01 BASIN STORAGE= .1643E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.71	150.82	216.58	2.10	5.00	147.06	215.00	2.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9734E+01 EXCESS= .0000E+00 OUTFLOW= .9736E+01 BASIN STORAGE= .1638E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.73	144.56	216.22	2.02	5.00	141.79	215.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9368E+01 EXCESS= .0000E+00 OUTFLOW= .9371E+01 BASIN STORAGE= .1478E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.76	138.48	215.91	1.94	5.00	136.50	215.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9008E+01 EXCESS= .0000E+00 OUTFLOW= .9011E+01 BASIN STORAGE= .1660E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.77	136.78	217.22	1.91	5.00	134.29	215.00	1.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8868E+01 EXCESS= .0000E+00 OUTFLOW= .8871E+01 BASIN STORAGE= .1505E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.77	135.94	216.38	1.89	5.00	133.06	215.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8768E+01 EXCESS= .0000E+00 OUTFLOW= .8771E+01 BASIN STORAGE= .1505E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.78	135.00	217.05	1.87	5.00	131.79	215.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8697E+01 EXCESS= .0000E+00 OUTFLOW= .8700E+01 BASIN STORAGE= .1627E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.79	133.08	216.34	1.85	5.00	130.34	215.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8583E+01 EXCESS= .0000E+00 OUTFLOW= .8585E+01 BASIN STORAGE= .1538E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	1.80	129.94	215.91	1.82	5.00	128.13	215.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8439E+01 EXCESS= .0000E+00 OUTFLOW= .8441E+01 BASIN STORAGE= .1422E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.13	606.96	215.10	2.50	5.00	606.29	215.00	2.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4101E+02 EXCESS= .0000E+00 OUTFLOW= .4102E+02 BASIN STORAGE= .1965E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.14	594.90	215.54	2.45	5.00	593.90	215.00	2.45	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4020E+02 EXCESS= .0000E+00 OUTFLOW= .4021E+02 BASIN STORAGE= .1703E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.15	576.96	214.83	2.37	5.00	576.85	215.00	2.37	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3887E+02 EXCESS= .0000E+00 OUTFLOW= .3887E+02 BASIN STORAGE= .1813E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.17	558.57	215.29	2.29	5.00	557.02	215.00	2.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3755E+02 EXCESS= .0000E+00 OUTFLOW= .3755E+02 BASIN STORAGE= .1657E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.18	551.18	215.27	2.25	5.00	549.66	215.00	2.26	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3701E+02 EXCESS= .0000E+00 OUTFLOW= .3702E+02 BASIN STORAGE= .1676E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.18	546.19	214.88	2.23	5.00	546.09	215.00	2.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3664E+02 EXCESS= .0000E+00 OUTFLOW= .3665E+02 BASIN STORAGE= .1965E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.18	541.76	215.51	2.22	5.00	540.07	215.00	2.22	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3637E+02 EXCESS= .0000E+00 OUTFLOW= .3638E+02 BASIN STORAGE= .1971E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.19	536.74	215.21	2.19	5.00	535.40	215.00	2.19	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3595E+02 EXCESS= .0000E+00 OUTFLOW= .3596E+02 BASIN STORAGE= .1748E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.20	529.21	215.23	2.16	5.00	527.73	215.00	2.16	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3543E+02 EXCESS= .0000E+00 OUTFLOW= .3543E+02 BASIN STORAGE= .1784E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.85	793.72	216.65	2.49	5.00	779.43	215.00	2.49	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5460E+02 EXCESS= .0000E+00 OUTFLOW= .5462E+02 BASIN STORAGE= .3080E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.87	776.30	216.53	2.45	5.00	763.98	215.00	2.44	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5352E+02 EXCESS= .0000E+00 OUTFLOW= .5354E+02 BASIN STORAGE= .3267E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.89	751.40	217.23	2.36	5.00	739.04	215.00	2.36	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5174E+02 EXCESS= .0000E+00 OUTFLOW= .5176E+02 BASIN STORAGE= .3585E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.92	725.69	216.41	2.28	5.00	715.15	215.00	2.28	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4998E+02 EXCESS= .0000E+00 OUTFLOW= .4999E+02 BASIN STORAGE= .3610E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.93	712.28	217.57	2.25	5.00	703.49	215.00	2.25	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4927E+02 EXCESS= .0000E+00 OUTFLOW= .4928E+02 BASIN STORAGE= .3459E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.93	708.74	216.26	2.23	5.00	699.54	215.00	2.23	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4878E+02 EXCESS= .0000E+00 OUTFLOW= .4880E+02 BASIN STORAGE= .3800E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.94	706.08	217.13	2.21	5.00	693.20	215.00	2.21	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4842E+02 EXCESS= .0000E+00 OUTFLOW= .4843E+02 BASIN STORAGE= .3035E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.95	691.99	215.99	2.19	5.00	685.12	215.00	2.19	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4786E+02 EXCESS= .0000E+00 OUTFLOW= .4788E+02 BASIN STORAGE= .3208E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	1.96	688.58	217.23	2.15	5.00	675.93	215.00	2.15	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4716E+02 EXCESS= .0000E+00 OUTFLOW= .4718E+02 BASIN STORAGE= .3036E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.91	979.39	215.93	2.50	5.00	965.35	215.00	2.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6811E+02 EXCESS= .0000E+00 OUTFLOW= .6812E+02 BASIN STORAGE= .1649E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.92	958.84	215.79	2.45	5.00	945.40	215.00	2.45	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6676E+02 EXCESS= .0000E+00 OUTFLOW= .6676E+02 BASIN STORAGE= .1815E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.93	928.54	215.82	2.37	5.00	914.89	215.00	2.37	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6457E+02 EXCESS= .0000E+00 OUTFLOW= .6457E+02 BASIN STORAGE= .1720E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.95	898.43	215.81	2.29	5.00	884.63	215.00	2.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6236E+02 EXCESS= .0000E+00 OUTFLOW= .6236E+02 BASIN STORAGE= .1861E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.95	882.59	216.22	2.26	5.00	870.91	215.00	2.26	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6149E+02 EXCESS= .0000E+00 OUTFLOW= .6149E+02 BASIN STORAGE= .1607E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.95	878.74	215.81	2.23	5.00	864.91	215.00	2.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6088E+02 EXCESS= .0000E+00 OUTFLOW= .6088E+02 BASIN STORAGE= .1834E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.96	868.02	215.60	2.22	5.00	856.96	215.00	2.22	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6041E+02 EXCESS= .0000E+00 OUTFLOW= .6042E+02 BASIN STORAGE= .1851E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.96	858.54	215.63	2.19	5.00	847.23	215.00	2.20	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5973E+02 EXCESS= .0000E+00 OUTFLOW= .5974E+02 BASIN STORAGE= .1829E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	.97	849.93	215.83	2.16	5.00	835.94	215.00	2.16	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5885E+02 EXCESS= .0000E+00 OUTFLOW= .5886E+02 BASIN STORAGE= .1689E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.24	3476.23	215.28	2.17	5.00	3467.13	215.00	2.18	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3632E+03 EXCESS= .0000E+00 OUTFLOW= .3632E+03 BASIN STORAGE= .1653E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.25	3404.48	215.32	2.13	5.00	3396.75	215.00	2.13	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3554E+03 EXCESS= .0000E+00 OUTFLOW= .3554E+03 BASIN STORAGE= .1575E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.25	3295.73	215.18	2.05	5.00	3286.42	215.00	2.05	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3424E+03 EXCESS= .0000E+00 OUTFLOW= .3424E+03 BASIN STORAGE= .1456E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.25	3182.49	215.18	1.97	5.00	3173.50	215.00	1.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3294E+03 EXCESS= .0000E+00 OUTFLOW= .3294E+03 BASIN STORAGE= .1344E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.25	3135.57	215.12	1.94	5.00	3128.63	215.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3242E+03 EXCESS= .0000E+00 OUTFLOW= .3242E+03 BASIN STORAGE= .1301E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.25	3108.33	215.20	1.92	5.00	3098.62	215.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3206E+03 EXCESS= .0000E+00 OUTFLOW= .3206E+03 BASIN STORAGE= .1272E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.26	3084.76	215.32	1.90	5.00	3075.50	215.00	1.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3180E+03 EXCESS= .0000E+00 OUTFLOW= .3180E+03 BASIN STORAGE= .1252E-01 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
           RCP3.10  MANE          .26   3049.50    215.31      1.88      5.00   3039.88    215.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3139E+03 EXCESS= .0000E+00 OUTFLOW= .3139E+03 BASIN STORAGE= .1221E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCP3.10  MANE          .26   3002.81    215.33      1.85      5.00   2993.65    215.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3088E+03 EXCESS= .0000E+00 OUTFLOW= .3088E+03 BASIN STORAGE= .1182E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.10   3664.86    216.78      2.20      5.00   3577.23    215.00        2.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3833E+03 EXCESS= .0000E+00 OUTFLOW= .3833E+03 BASIN STORAGE= .8660E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.12   3578.94    218.26      2.15      5.00   3490.22    215.00        2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3751E+03 EXCESS= .0000E+00 OUTFLOW= .3751E+03 BASIN STORAGE= .8227E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.14   3457.42    218.53      2.07      5.00   3379.49    215.00        2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3615E+03 EXCESS= .0000E+00 OUTFLOW= .3615E+03 BASIN STORAGE= .7553E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.17   3348.62    216.75      1.99      5.00   3267.88    215.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3479E+03 EXCESS= .0000E+00 OUTFLOW= .3479E+03 BASIN STORAGE= .6915E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.18   3314.82    217.78      1.96      5.00   3208.72    215.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3425E+03 EXCESS= .0000E+00 OUTFLOW= .3425E+03 BASIN STORAGE= .6664E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.18   3265.52    218.48      1.94      5.00   3177.30    215.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3387E+03 EXCESS= .0000E+00 OUTFLOW= .3388E+03 BASIN STORAGE= .6488E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.19   3249.47    216.84      1.93      5.00   3165.41    215.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3360E+03 EXCESS= .0000E+00 OUTFLOW= .3360E+03 BASIN STORAGE= .6388E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.20   3224.67    217.68      1.90      5.00   3118.20    215.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3317E+03 EXCESS= .0000E+00 OUTFLOW= .3317E+03 BASIN STORAGE= .6223E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE          2.21   3151.99    218.79      1.87      5.00   3074.45    215.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3264E+03 EXCESS= .0000E+00 OUTFLOW= .3264E+03 BASIN STORAGE= .5990E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .56   7106.25    220.68      2.25      5.00   7067.09    220.00        2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1393E+04 EXCESS= .0000E+00 OUTFLOW= .1393E+04 BASIN STORAGE= .4181E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .56   6979.22    220.47      2.20      5.00   6941.31    220.00        2.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1363E+04 EXCESS= .0000E+00 OUTFLOW= .1363E+04 BASIN STORAGE= .3981E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .57   6777.43    220.69      2.12      5.00   6734.05    220.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1313E+04 EXCESS= .0000E+00 OUTFLOW= .1313E+04 BASIN STORAGE= .3675E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .58   6567.58    220.94      2.04      5.00   6528.37    220.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1264E+04 EXCESS= .0000E+00 OUTFLOW= .1264E+04 BASIN STORAGE= .3383E-01 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .58   6501.96    220.71      2.01      5.00   6455.22    220.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1245E+04 EXCESS= .0000E+00 OUTFLOW= .1245E+04 BASIN STORAGE= .3270E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .58   6424.56    220.49      1.99      5.00   6383.88    220.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1230E+04 EXCESS= .0000E+00 OUTFLOW= .1230E+04 BASIN STORAGE= .3190E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .58   6381.04    221.03      1.97      5.00   6342.35    220.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1220E+04 EXCESS= .0000E+00 OUTFLOW= .1220E+04 BASIN STORAGE= .3142E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .58   6332.68    220.61      1.95      5.00   6284.47    220.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1205E+04 EXCESS= .0000E+00 OUTFLOW= .1205E+04 BASIN STORAGE= .3066E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCRCSWFH  MANE          .59   6216.95    220.92      1.92      5.00   6169.67    220.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1185E+04 EXCESS= .0000E+00 OUTFLOW= .1185E+04 BASIN STORAGE= .2958E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .85   7295.04    221.06      2.24      5.00   7215.16    220.00        2.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1413E+04 EXCESS= .0000E+00 OUTFLOW= .1413E+04 BASIN STORAGE= .6223E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .86   7167.45    220.84      2.20      5.00   7086.88    220.00        2.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1383E+04 EXCESS= .0000E+00 OUTFLOW= .1383E+04 BASIN STORAGE= .5925E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .87   6945.42    221.64      2.12      5.00   6867.36    220.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1332E+04 EXCESS= .0000E+00 OUTFLOW= .1332E+04 BASIN STORAGE= .5465E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .88   6733.21    221.61      2.04      5.00   6649.88    220.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1282E+04 EXCESS= .0000E+00 OUTFLOW= .1282E+04 BASIN STORAGE= .5030E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .88   6658.11    221.67      2.00      5.00   6572.59    225.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1263E+04 EXCESS= .0000E+00 OUTFLOW= .1263E+04 BASIN STORAGE= .4862E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .88   6585.67    221.71      1.98      5.00   6506.48    225.00        1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1248E+04 EXCESS= .0000E+00 OUTFLOW= .1248E+04 BASIN STORAGE= .4744E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .89   6543.20    221.37      1.97      5.00   6462.78    225.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1238E+04 EXCESS= .0000E+00 OUTFLOW= .1238E+04 BASIN STORAGE= .4668E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .89   6484.17    221.25      1.94      5.00   6408.32    225.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1223E+04 EXCESS= .0000E+00 OUTFLOW= .1223E+04 BASIN STORAGE= .4550E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC11A-1  MANE          .89   6369.09    220.98      1.91      5.00   6312.80    225.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1202E+04 EXCESS= .0000E+00 OUTFLOW= .1202E+04 BASIN STORAGE= .4391E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .83   7449.58    235.95      2.22      5.00   7433.35    235.00        2.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1470E+04 EXCESS= .0000E+00 OUTFLOW= .1470E+04 BASIN STORAGE= .6613E-01 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .83   7327.78    235.81      2.17      5.00   7306.82    235.00        2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1438E+04 EXCESS= .0000E+00 OUTFLOW= .1438E+04 BASIN STORAGE= .6288E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .84   7104.21    235.98      2.09      5.00   7083.46    235.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1385E+04 EXCESS= .0000E+00 OUTFLOW= .1385E+04 BASIN STORAGE= .5805E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .85   6874.89    235.39      2.01      5.00   6857.11    235.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1333E+04 EXCESS= .0000E+00 OUTFLOW= .1333E+04 BASIN STORAGE= .5348E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .86   6799.03    235.58      1.98      5.00   6775.19    235.00        1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1312E+04 EXCESS= .0000E+00 OUTFLOW= .1312E+04 BASIN STORAGE= .5165E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .86   6731.30    235.63      1.96      5.00   6706.14    235.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1297E+04 EXCESS= .0000E+00 OUTFLOW= .1297E+04 BASIN STORAGE= .5048E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .86   6680.37    236.23      1.94      5.00   6659.38    235.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1287E+04 EXCESS= .0000E+00 OUTFLOW= .1287E+04 BASIN STORAGE= .4962E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .87   6615.40    236.24      1.92      5.00   6592.57    235.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1271E+04 EXCESS= .0000E+00 OUTFLOW= .1271E+04 BASIN STORAGE= .4837E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC3B-1  MANE          .87   6524.45    235.89      1.88      5.00   6493.54    235.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1249E+04 EXCESS= .0000E+00 OUTFLOW= .1249E+04 BASIN STORAGE= .4678E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.74    432.82    231.81      1.83      5.00    428.05    235.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4297E+02 EXCESS= .0000E+00 OUTFLOW= .4297E+02 BASIN STORAGE= .7517E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.76    422.64    231.68      1.78      5.00    418.53    235.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4198E+02 EXCESS= .0000E+00 OUTFLOW= .4198E+02 BASIN STORAGE= .7518E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.78    406.68    232.69      1.71      5.00    403.18    235.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4033E+02 EXCESS= .0000E+00 OUTFLOW= .4033E+02 BASIN STORAGE= .8417E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.80    390.91    231.99      1.65      5.00    387.28    235.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3870E+02 EXCESS= .0000E+00 OUTFLOW= .3870E+02 BASIN STORAGE= .7641E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.81    384.08    233.18      1.62      5.00    381.04    235.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3805E+02 EXCESS= .0000E+00 OUTFLOW= .3805E+02 BASIN STORAGE= .8572E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.81    380.16    232.20      1.60      5.00    376.74    235.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3759E+02 EXCESS= .0000E+00 OUTFLOW= .3759E+02 BASIN STORAGE= .8574E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE          1.82    376.67    232.81      1.58      5.00    373.68    235.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3727E+02 EXCESS= .0000E+00 OUTFLOW= .3727E+02 BASIN STORAGE= .7490E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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R11B-2	MANE	1.83	371.60	231.96	1.56	5.00	368.48	235.00	1.56	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3675E+02 EXCESS= .0000E+00 OUTFLOW= .3675E+02 BASIN STORAGE= .8736E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	1.84	365.07	233.20	1.54	5.00	362.28	235.00	1.53	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3611E+02 EXCESS= .0000E+00 OUTFLOW= .3611E+02 BASIN STORAGE= .7971E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.40	883.38	226.09	1.89	5.00	872.46	225.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8405E+02 EXCESS= .0000E+00 OUTFLOW= .8405E+02 BASIN STORAGE= .8520E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.41	864.78	226.22	1.84	5.00	853.32	225.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8215E+02 EXCESS= .0000E+00 OUTFLOW= .8215E+02 BASIN STORAGE= .7761E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.43	831.15	226.04	1.77	5.00	820.48	225.00	1.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7899E+02 EXCESS= .0000E+00 OUTFLOW= .7900E+02 BASIN STORAGE= .7591E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.45	798.42	227.34	1.70	5.00	788.39	225.00	1.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7585E+02 EXCESS= .0000E+00 OUTFLOW= .7586E+02 BASIN STORAGE= .8747E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.46	786.55	227.03	1.68	5.00	776.20	225.00	1.68	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7460E+02 EXCESS= .0000E+00 OUTFLOW= .7460E+02 BASIN STORAGE= .7608E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.46	779.08	226.36	1.66	5.00	767.11	225.00	1.66	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7373E+02 EXCESS= .0000E+00 OUTFLOW= .7373E+02 BASIN STORAGE= .8798E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.46	771.33	226.96	1.64	5.00	760.85	225.00	1.64	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7310E+02 EXCESS= .0000E+00 OUTFLOW= .7310E+02 BASIN STORAGE= .7538E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.47	762.60	226.40	1.62	5.00	750.48	225.00	1.62	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7211E+02 EXCESS= .0000E+00 OUTFLOW= .7211E+02 BASIN STORAGE= .8373E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.48	747.99	226.12	1.59	5.00	737.12	230.00	1.59	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7087E+02 EXCESS= .0000E+00 OUTFLOW= .7087E+02 BASIN STORAGE= .8673E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.10	1240.77	227.14	1.90	5.00	1221.66	230.00	1.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1153E+03 EXCESS= .0000E+00 OUTFLOW= .1153E+03 BASIN STORAGE= .1547E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.12	1212.24	228.67	1.86	5.00	1194.55	225.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1127E+03 EXCESS= .0000E+00 OUTFLOW= .1127E+03 BASIN STORAGE= .1282E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.14	1166.96	227.09	1.78	5.00	1152.27	230.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1084E+03 EXCESS= .0000E+00 OUTFLOW= .1084E+03 BASIN STORAGE= .1347E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.17	1123.17	227.67	1.71	5.00	1110.05	230.00	1.71	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+03 EXCESS= .0000E+00 OUTFLOW= .1041E+03 BASIN STORAGE= .1393E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.18	1105.92	228.75	1.69	5.00	1089.75	230.00	1.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1024E+03 EXCESS= .0000E+00 OUTFLOW= .1024E+03 BASIN STORAGE= .1371E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.19	1092.65	227.38	1.67	5.00	1080.77	230.00	1.67	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1012E+03 EXCESS= .0000E+00 OUTFLOW= .1012E+03 BASIN STORAGE= .1478E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.19	1084.40	227.94	1.65	5.00	1070.88	230.00	1.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1004E+03 EXCESS= .0000E+00 OUTFLOW= .1004E+03 BASIN STORAGE= .1266E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.20	1069.79	228.88	1.63	5.00	1055.43	230.00	1.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9903E+02 EXCESS= .0000E+00 OUTFLOW= .9904E+02 BASIN STORAGE= .1265E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.21	1051.40	227.91	1.60	5.00	1040.19	230.00	1.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9734E+02 EXCESS= .0000E+00 OUTFLOW= .9734E+02 BASIN STORAGE= .1560E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.25	1793.62	226.62	2.03	5.00	1774.04	230.00	2.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1688E+03 EXCESS= .0000E+00 OUTFLOW= .1688E+03 BASIN STORAGE= .1643E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.25	1756.43	227.06	1.99	5.00	1736.01	230.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1652E+03 EXCESS= .0000E+00 OUTFLOW= .1652E+03 BASIN STORAGE= .1642E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.27	1696.43	227.39	1.91	5.00	1681.17	230.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1592E+03 EXCESS= .0000E+00 OUTFLOW= .1592E+03 BASIN STORAGE= .1632E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.29	1631.27	226.73	1.84	5.00	1618.15	230.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1532E+03 EXCESS= .0000E+00 OUTFLOW= .1532E+03 BASIN STORAGE= .1801E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.29	1608.59	226.52	1.81	5.00	1593.49	230.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1509E+03 EXCESS= .0000E+00 OUTFLOW= .1509E+03 BASIN STORAGE= .1853E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.30	1592.83	227.42	1.79	5.00	1581.64	230.00	1.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1492E+03 EXCESS= .0000E+00 OUTFLOW= .1492E+03 BASIN STORAGE= .1649E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.30	1577.06	226.88	1.78	5.00	1564.58	230.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1480E+03 EXCESS= .0000E+00 OUTFLOW= .1480E+03 BASIN STORAGE= .1608E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.31	1560.43	226.40	1.76	5.00	1546.77	230.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1461E+03 EXCESS= .0000E+00 OUTFLOW= .1461E+03 BASIN STORAGE= .1804E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.32	1532.83	227.88	1.73	5.00	1522.44	230.00	1.73	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1438E+03 EXCESS= .0000E+00 OUTFLOW= .1438E+03 BASIN STORAGE= .1582E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.50	427.96	220.50	2.00	5.00	421.61	220.00	2.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3084E+02 EXCESS= .0000E+00 OUTFLOW= .3086E+02 BASIN STORAGE= .1671E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.50	418.94	220.50	1.95	5.00	412.66	220.00	1.96	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3017E+02 EXCESS= .0000E+00 OUTFLOW= .3019E+02 BASIN STORAGE= .1651E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.25	403.33	221.00	1.88	5.00	393.43	220.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2903E+02 EXCESS= .0000E+00 OUTFLOW= .2904E+02 BASIN STORAGE= .1456E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	389.43	223.25	1.81	5.00	377.89	220.00	1.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2792E+02 EXCESS= .0000E+00 OUTFLOW= .2794E+02 BASIN STORAGE= .1715E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	383.70	223.25	1.78	5.00	372.03	220.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2748E+02 EXCESS= .0000E+00 OUTFLOW= .2750E+02 BASIN STORAGE= .1701E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	379.69	223.25	1.76	5.00	367.92	220.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2717E+02 EXCESS= .0000E+00 OUTFLOW= .2719E+02 BASIN STORAGE= .1691E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	376.83	223.25	1.74	5.00	364.99	220.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2695E+02 EXCESS= .0000E+00 OUTFLOW= .2697E+02 BASIN STORAGE= .1684E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	372.24	223.25	1.72	5.00	360.30	220.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2660E+02 EXCESS= .0000E+00 OUTFLOW= .2662E+02 BASIN STORAGE= .1672E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	366.52	223.25	1.69	5.00	354.44	220.00	1.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2616E+02 EXCESS= .0000E+00 OUTFLOW= .2618E+02 BASIN STORAGE= .1658E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.49	2790.80	228.73	1.98	5.00	2769.18	230.00	1.98	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2531E+03 EXCESS= .0000E+00 OUTFLOW= .2532E+03 BASIN STORAGE= .3124E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.50	2725.89	227.87	1.94	5.00	2725.04	230.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2477E+03 EXCESS= .0000E+00 OUTFLOW= .2477E+03 BASIN STORAGE= .2796E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.54	2629.50	228.17	1.87	5.00	2622.87	230.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2385E+03 EXCESS= .0000E+00 OUTFLOW= .2385E+03 BASIN STORAGE= .3179E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.57	2528.90	228.71	1.79	5.00	2515.19	230.00	1.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2293E+03 EXCESS= .0000E+00 OUTFLOW= .2293E+03 BASIN STORAGE= .3620E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.58	2500.10	229.76	1.77	5.00	2493.37	230.00	1.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2259E+03 EXCESS= .0000E+00 OUTFLOW= .2259E+03 BASIN STORAGE= .3724E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.59	2463.34	230.66	1.75	5.00	2462.72	230.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2233E+03 EXCESS= .0000E+00 OUTFLOW= .2233E+03 BASIN STORAGE= .2905E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.60	2442.90	228.80	1.73	5.00	2430.63	230.00	1.73	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2214E+03 EXCESS= .0000E+00 OUTFLOW= .2214E+03 BASIN STORAGE= .3234E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.61	2422.44	229.57	1.71	5.00	2412.75	230.00	1.71	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2187E+03 EXCESS= .0000E+00 OUTFLOW= .2187E+03 BASIN STORAGE= .3704E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.62	2371.07	228.35	1.68	5.00	2367.37	230.00	1.68	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2150E+03 EXCESS= .0000E+00 OUTFLOW= .2151E+03 BASIN STORAGE= .3535E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.52	10212.16	235.47	2.17	5.00	10206.22	235.00	2.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1746E+04 EXCESS= .0000E+00 OUTFLOW= .1746E+04 BASIN STORAGE= .1386E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.53	10037.33	235.44	2.12	5.00	10031.22	235.00	2.12	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1708E+04 EXCESS= .0000E+00 OUTFLOW= .1708E+04 BASIN STORAGE= .1324E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.55	9706.16	235.24	2.04	5.00	9702.99	235.00	2.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1645E+04 EXCESS= .0000E+00 OUTFLOW= .1645E+04 BASIN STORAGE= .1217E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.57	9383.18	236.72	1.96	5.00	9366.83	235.00	1.96	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1582E+04 EXCESS= .0000E+00 OUTFLOW= .1582E+04 BASIN STORAGE= .1124E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.57	9290.13	236.14	1.93	5.00	9255.49	235.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1559E+04 EXCESS= .0000E+00 OUTFLOW= .1559E+04 BASIN STORAGE= .1087E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.58	9169.75	235.54	1.91	5.00	9157.96	235.00	1.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1540E+04 EXCESS= .0000E+00 OUTFLOW= .1540E+04 BASIN STORAGE= .1062E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.59	9117.44	236.24	1.90	5.00	9077.68	235.00	1.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1528E+04 EXCESS= .0000E+00 OUTFLOW= .1528E+04 BASIN STORAGE= .1046E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.59	9006.80	235.49	1.87	5.00	8995.48	235.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1509E+04 EXCESS= .0000E+00 OUTFLOW= .1509E+04 BASIN STORAGE= .1017E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.60	8861.69	236.93	1.84	5.00	8846.27	235.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1483E+04 EXCESS= .0000E+00 OUTFLOW= .1483E+04 BASIN STORAGE= .9852E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.36	10469.62	236.13	2.15	5.00	10419.39	235.00	2.15	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1776E+04 EXCESS= .0000E+00 OUTFLOW= .1776E+04 BASIN STORAGE= .1273E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.37	10292.78	236.32	2.10	5.00	10241.78	235.00	2.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1737E+04 EXCESS= .0000E+00 OUTFLOW= .1737E+04 BASIN STORAGE= .1213E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.38	9945.29	236.54	2.02	5.00	9897.91	235.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1673E+04 EXCESS= .0000E+00 OUTFLOW= .1673E+04 BASIN STORAGE= .1118E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.40	9579.48	236.90	1.95	5.00	9539.19	235.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1609E+04 EXCESS= .0000E+00 OUTFLOW= .1609E+04 BASIN STORAGE= .1031E+00 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.41	9487.03	236.58	1.92	5.00	9426.11	235.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1585E+04 EXCESS= .0000E+00 OUTFLOW= .1585E+04 BASIN STORAGE= .9987E-01 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.41   9385.58    236.11      1.89      5.00   9316.04    235.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1566E+04 EXCESS= .0000E+00 OUTFLOW= .1566E+04 BASIN STORAGE= .9747E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.42   9288.71    236.89      1.88      5.00   9237.75    235.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1553E+04 EXCESS= .0000E+00 OUTFLOW= .1553E+04 BASIN STORAGE= .9614E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.42   9224.42    236.29      1.86      5.00   9149.16    235.00        1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1535E+04 EXCESS= .0000E+00 OUTFLOW= .1535E+04 BASIN STORAGE= .9330E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.43   9073.48    236.35      1.82      5.00   8995.42    235.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1508E+04 EXCESS= .0000E+00 OUTFLOW= .1508E+04 BASIN STORAGE= .9048E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.02    755.16    226.24      2.08      5.00    753.82    225.00        2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6522E+02 EXCESS= .0000E+00 OUTFLOW= .6522E+02 BASIN STORAGE= .1654E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.03    740.95    226.07      2.03      5.00    738.42    225.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6380E+02 EXCESS= .0000E+00 OUTFLOW= .6381E+02 BASIN STORAGE= .1696E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.05    714.15    226.19      1.96      5.00    712.14    225.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6145E+02 EXCESS= .0000E+00 OUTFLOW= .6145E+02 BASIN STORAGE= .1622E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.06    686.99    226.38      1.88      5.00    685.95    225.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5911E+02 EXCESS= .0000E+00 OUTFLOW= .5911E+02 BASIN STORAGE= .1763E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.07    677.33    225.62      1.85      5.00    675.73    225.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5818E+02 EXCESS= .0000E+00 OUTFLOW= .5818E+02 BASIN STORAGE= .1832E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.07    669.72    225.52      1.83      5.00    668.38    225.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5752E+02 EXCESS= .0000E+00 OUTFLOW= .5752E+02 BASIN STORAGE= .1613E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.08    665.29    226.22      1.82      5.00    663.31    225.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5706E+02 EXCESS= .0000E+00 OUTFLOW= .5706E+02 BASIN STORAGE= .1791E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.08    656.69    226.27      1.79      5.00    654.91    225.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5631E+02 EXCESS= .0000E+00 OUTFLOW= .5632E+02 BASIN STORAGE= .1761E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.09    645.82    225.54      1.76      5.00    644.50    225.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5539E+02 EXCESS= .0000E+00 OUTFLOW= .5539E+02 BASIN STORAGE= .1816E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.65   1211.98    225.57      2.06      5.00   1210.68    225.00        2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1040E+03 EXCESS= .0000E+00 OUTFLOW= .1040E+03 BASIN STORAGE= .3928E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.66   1187.90    225.78      2.02      5.00   1185.71    225.00        2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1018E+03 EXCESS= .0000E+00 OUTFLOW= .1018E+03 BASIN STORAGE= .3507E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.68   1144.91    225.68      1.94      5.00   1143.40    225.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9799E+02 EXCESS= .0000E+00 OUTFLOW= .9800E+02 BASIN STORAGE= .3522E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.71   1102.37    225.64      1.87      5.00   1101.22    225.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9424E+02 EXCESS= .0000E+00 OUTFLOW= .9424E+02 BASIN STORAGE= .3477E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.72   1087.77    227.00      1.84      5.00   1083.30    225.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9278E+02 EXCESS= .0000E+00 OUTFLOW= .9279E+02 BASIN STORAGE= .3927E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.73   1077.08    226.26      1.82      5.00   1072.79    225.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9172E+02 EXCESS= .0000E+00 OUTFLOW= .9173E+02 BASIN STORAGE= .3817E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.73   1069.06    226.95      1.81      5.00   1062.80    225.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9100E+02 EXCESS= .0000E+00 OUTFLOW= .9101E+02 BASIN STORAGE= .3937E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.74   1055.75    226.36      1.78      5.00   1050.97    225.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8979E+02 EXCESS= .0000E+00 OUTFLOW= .8980E+02 BASIN STORAGE= .3511E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         1.75   1037.25    226.05      1.75      5.00   1034.51    225.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8830E+02 EXCESS= .0000E+00 OUTFLOW= .8831E+02 BASIN STORAGE= .3912E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    353.60    225.00      2.27      5.00    353.60    225.00        2.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3020E+02 EXCESS= .0000E+00 OUTFLOW= .3021E+02 BASIN STORAGE= .1566E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    346.83    225.00      2.23      5.00    346.83    225.00        2.23

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2960E+02 EXCESS= .0000E+00 OUTFLOW= .2961E+02 BASIN STORAGE= .1548E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    335.54    225.00      2.15      5.00    335.54    225.00        2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2860E+02 EXCESS= .0000E+00 OUTFLOW= .2861E+02 BASIN STORAGE= .1518E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    324.25    225.00      2.08      5.00    324.25    225.00        2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2760E+02 EXCESS= .0000E+00 OUTFLOW= .2762E+02 BASIN STORAGE= .1489E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    319.73    225.00      2.05      5.00    319.73    225.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2721E+02 EXCESS= .0000E+00 OUTFLOW= .2722E+02 BASIN STORAGE= .1476E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    316.57    225.00      2.03      5.00    316.57    225.00        2.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2693E+02 EXCESS= .0000E+00 OUTFLOW= .2694E+02 BASIN STORAGE= .1468E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    314.32    230.00      2.01      5.00    314.32    230.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2673E+02 EXCESS= .0000E+00 OUTFLOW= .2675E+02 BASIN STORAGE= .1462E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RC13B-1  MANE         5.00    310.89    230.00      1.99      5.00    310.89    230.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2641E+02 EXCESS= .0000E+00 OUTFLOW= .2643E+02 BASIN STORAGE= .1452E-02 PERCENT ERROR=   -.1
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          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE          5.00    306.61    230.00      1.96       5.00    306.61    230.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2602E+02 EXCESS= .0000E+00 OUTFLOW= .2603E+02 BASIN STORAGE= .1440E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    640.80    230.00      2.18       5.00    640.80    230.00        2.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5392E+02 EXCESS= .0000E+00 OUTFLOW= .5398E+02 BASIN STORAGE= .5817E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    628.20    230.00      2.13       5.00    628.20    230.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5282E+02 EXCESS= .0000E+00 OUTFLOW= .5288E+02 BASIN STORAGE= .5767E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    607.17    230.00      2.06       5.00    607.17    230.00        2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5100E+02 EXCESS= .0000E+00 OUTFLOW= .5105E+02 BASIN STORAGE= .5683E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    586.10    230.00      1.99       5.00    586.10    230.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4918E+02 EXCESS= .0000E+00 OUTFLOW= .4923E+02 BASIN STORAGE= .5597E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    578.31    230.00      1.96       5.00    578.31    230.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4845E+02 EXCESS= .0000E+00 OUTFLOW= .4850E+02 BASIN STORAGE= .7165E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    572.39    230.00      1.94       5.00    572.39    230.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4794E+02 EXCESS= .0000E+00 OUTFLOW= .4799E+02 BASIN STORAGE= .7136E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    568.15    230.00      1.92       5.00    568.15    230.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4758E+02 EXCESS= .0000E+00 OUTFLOW= .4763E+02 BASIN STORAGE= .7115E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    561.38    230.00      1.90       5.00    561.38    230.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4700E+02 EXCESS= .0000E+00 OUTFLOW= .4705E+02 BASIN STORAGE= .6748E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE          5.00    552.90    230.00      1.87       5.00    552.90    230.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4628E+02 EXCESS= .0000E+00 OUTFLOW= .4632E+02 BASIN STORAGE= .6707E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE          5.00    318.89    235.00      2.18       5.00    318.89    235.00        2.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2936E+02 EXCESS= .0000E+00 OUTFLOW= .2938E+02 BASIN STORAGE= .2006E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE          5.00    312.72    235.00      2.13       5.00    312.72    235.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2875E+02 EXCESS= .0000E+00 OUTFLOW= .2877E+02 BASIN STORAGE= .1983E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE          5.00    302.45    235.00      2.06       5.00    302.45    235.00        2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2774E+02 EXCESS= .0000E+00 OUTFLOW= .2776E+02 BASIN STORAGE= .1945E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE          5.00    292.17    235.00      1.98       5.00    292.17    235.00        1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2673E+02 EXCESS= .0000E+00 OUTFLOW= .2675E+02 BASIN STORAGE= .1906E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE          5.00    288.05    235.00      1.95       5.00    288.05    235.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2633E+02 EXCESS= .0000E+00 OUTFLOW= .2635E+02 BASIN STORAGE= .1891E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
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R19A	MANE	5.00	285.17	235.00	1.93	5.00	285.17	235.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2605E+02 EXCESS= .0000E+00 OUTFLOW= .2606E+02 BASIN STORAGE= .1880E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R19A	MANE	5.00	283.11	235.00	1.92	5.00	283.11	235.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2585E+02 EXCESS= .0000E+00 OUTFLOW= .2586E+02 BASIN STORAGE= .1872E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R19A	MANE	5.00	279.82	235.00	1.89	5.00	279.82	235.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2553E+02 EXCESS= .0000E+00 OUTFLOW= .2554E+02 BASIN STORAGE= .1860E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R19A	MANE	5.00	275.71	235.00	1.86	5.00	275.71	235.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2513E+02 EXCESS= .0000E+00 OUTFLOW= .2514E+02 BASIN STORAGE= .1844E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	780.51	235.00	2.18	5.00	780.51	235.00	2.18	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7731E+02 EXCESS= .0000E+00 OUTFLOW= .7736E+02 BASIN STORAGE= .8795E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	764.75	235.00	2.14	5.00	764.75	235.00	2.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7572E+02 EXCESS= .0000E+00 OUTFLOW= .7577E+02 BASIN STORAGE= .8721E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	738.48	235.00	2.06	5.00	738.48	235.00	2.06	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7309E+02 EXCESS= .0000E+00 OUTFLOW= .7314E+02 BASIN STORAGE= .8303E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	712.20	235.00	1.99	5.00	712.20	235.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7047E+02 EXCESS= .0000E+00 OUTFLOW= .7051E+02 BASIN STORAGE= .8180E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	701.68	235.00	1.96	5.00	701.68	235.00	1.96	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6942E+02 EXCESS= .0000E+00 OUTFLOW= .6947E+02 BASIN STORAGE= .8130E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	694.32	235.00	1.94	5.00	694.32	235.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6869E+02 EXCESS= .0000E+00 OUTFLOW= .6873E+02 BASIN STORAGE= .8095E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	689.06	235.00	1.92	5.00	689.06	235.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6817E+02 EXCESS= .0000E+00 OUTFLOW= .6821E+02 BASIN STORAGE= .7878E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	680.64	235.00	1.90	5.00	680.64	235.00	1.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6733E+02 EXCESS= .0000E+00 OUTFLOW= .6738E+02 BASIN STORAGE= .7838E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13A-2	MANE	5.00	670.12	235.00	1.87	5.00	670.12	235.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6629E+02 EXCESS= .0000E+00 OUTFLOW= .6633E+02 BASIN STORAGE= .7789E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	2.90	1036.21	237.50	2.15	5.00	1029.58	235.00	2.15	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1041E+03 EXCESS= .0000E+00 OUTFLOW= .1041E+03 BASIN STORAGE= .2599E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	2.92	1018.48	236.21	2.11	5.00	1009.34	235.00	2.11	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1020E+03 EXCESS= .0000E+00 OUTFLOW= .1020E+03 BASIN STORAGE= .2441E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	2.95	983.10	236.05	2.03	5.00	975.10	235.00	2.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9842E+02 EXCESS= .0000E+00 OUTFLOW= .9843E+02 BASIN STORAGE= .3029E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	2.99	947.55	235.94	1.96	5.00	940.20	235.00	1.96	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9487E+02 EXCESS= .0000E+00 OUTFLOW= .9488E+02 BASIN STORAGE= .2774E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	3.00	935.30	237.12	1.93	5.00	921.65	235.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9346E+02 EXCESS= .0000E+00 OUTFLOW= .9347E+02 BASIN STORAGE= .2840E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	3.01	923.69	237.96	1.91	5.00	914.93	235.00	1.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9247E+02 EXCESS= .0000E+00 OUTFLOW= .9248E+02 BASIN STORAGE= .2450E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	3.02	912.75	235.55	1.90	5.00	907.94	235.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9176E+02 EXCESS= .0000E+00 OUTFLOW= .9177E+02 BASIN STORAGE= .2737E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	3.03	906.65	236.52	1.87	5.00	895.54	235.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9064E+02 EXCESS= .0000E+00 OUTFLOW= .9064E+02 BASIN STORAGE= .3045E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPIC-C	MANE	3.05	892.96	237.75	1.84	5.00	880.60	235.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8923E+02 EXCESS= .0000E+00 OUTFLOW= .8924E+02 BASIN STORAGE= .3103E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.13	1983.36	239.55	2.14	5.00	1973.76	240.00	2.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1978E+03 EXCESS= .0000E+00 OUTFLOW= .1979E+03 BASIN STORAGE= .3981E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.15	1938.89	236.82	2.10	5.00	1921.27	240.00	2.10	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1939E+03 EXCESS= .0000E+00 OUTFLOW= .1939E+03 BASIN STORAGE= .2994E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.20	1889.16	239.25	2.03	5.00	1874.09	240.00	2.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1871E+03 EXCESS= .0000E+00 OUTFLOW= .1871E+03 BASIN STORAGE= .3573E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.24	1811.73	237.58	1.95	5.00	1792.10	240.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1805E+03 EXCESS= .0000E+00 OUTFLOW= .1805E+03 BASIN STORAGE= .3152E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.26	1795.60	238.80	1.93	5.00	1776.02	240.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1778E+03 EXCESS= .0000E+00 OUTFLOW= .1778E+03 BASIN STORAGE= .3529E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.28	1779.47	239.42	1.90	5.00	1769.23	240.00	1.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1759E+03 EXCESS= .0000E+00 OUTFLOW= .1759E+03 BASIN STORAGE= .3261E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.28	1758.35	239.96	1.89	5.00	1757.54	240.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1745E+03 EXCESS= .0000E+00 OUTFLOW= .1745E+03 BASIN STORAGE= .2864E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.30	1727.34	236.58	1.87	5.00	1721.00	240.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1723E+03 EXCESS= .0000E+00 OUTFLOW= .1723E+03 BASIN STORAGE= .3422E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	4.32	1705.19	237.71	1.84	5.00	1690.03	240.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1698E+03 EXCESS= .0000E+00 OUTFLOW= .1698E+03 BASIN STORAGE= .4075E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.36	4696.43	240.17	1.99	5.00	4693.50	240.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4889E+03 EXCESS= .0000E+00 OUTFLOW= .4889E+03 BASIN STORAGE= .8249E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.37	4585.21	240.14	1.95	5.00	4582.56	240.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4785E+03 EXCESS= .0000E+00 OUTFLOW= .4785E+03 BASIN STORAGE= .8494E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.37	4441.03	240.44	1.88	5.00	4439.00	240.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4612E+03 EXCESS= .0000E+00 OUTFLOW= .4612E+03 BASIN STORAGE= .8307E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.38	4263.77	240.41	1.81	5.00	4260.36	240.00	1.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4438E+03 EXCESS= .0000E+00 OUTFLOW= .4438E+03 BASIN STORAGE= .8574E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.38	4207.76	240.45	1.78	5.00	4205.23	240.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4371E+03 EXCESS= .0000E+00 OUTFLOW= .4371E+03 BASIN STORAGE= .8613E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.38	4173.99	240.43	1.76	5.00	4170.37	240.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4321E+03 EXCESS= .0000E+00 OUTFLOW= .4321E+03 BASIN STORAGE= .8610E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.38	4143.67	240.34	1.75	5.00	4138.73	240.00	1.75	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4285E+03 EXCESS= .0000E+00 OUTFLOW= .4285E+03 BASIN STORAGE= .8379E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.38	4075.89	240.30	1.72	5.00	4070.98	240.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4228E+03 EXCESS= .0000E+00 OUTFLOW= .4228E+03 BASIN STORAGE= .8264E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.38	4006.97	240.31	1.70	5.00	4002.45	240.00	1.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4161E+03 EXCESS= .0000E+00 OUTFLOW= .4161E+03 BASIN STORAGE= .8657E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.74	439.87	237.27	2.03	5.00	439.01	235.00	2.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4783E+02 EXCESS= .0000E+00 OUTFLOW= .4783E+02 BASIN STORAGE= .2578E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.75	432.13	236.45	1.99	5.00	430.53	235.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4685E+02 EXCESS= .0000E+00 OUTFLOW= .4685E+02 BASIN STORAGE= .2499E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.76	417.58	236.27	1.92	5.00	416.38	235.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4522E+02 EXCESS= .0000E+00 OUTFLOW= .4522E+02 BASIN STORAGE= .2493E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.78	403.10	236.14	1.85	5.00	402.16	235.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4360E+02 EXCESS= .0000E+00 OUTFLOW= .4360E+02 BASIN STORAGE= .2464E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.78	398.34	236.81	1.83	5.00	396.16	235.00	1.83	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4296E+02 EXCESS= .0000E+00 OUTFLOW= .4296E+02 BASIN STORAGE= .2533E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.78	393.51	237.29	1.81	5.00	392.22	235.00	1.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4251E+02 EXCESS= .0000E+00 OUTFLOW= .4250E+02 BASIN STORAGE= .2248E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.79	390.10	235.85	1.79	5.00	389.58	235.00	1.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4218E+02 EXCESS= .0000E+00 OUTFLOW= .4218E+02 BASIN STORAGE= .2523E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.79	386.39	236.40	1.77	5.00	385.05	235.00	1.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4167E+02 EXCESS= .0000E+00 OUTFLOW= .4167E+02 BASIN STORAGE= .2662E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.80	380.91	237.10	1.74	5.00	378.99	235.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4102E+02 EXCESS= .0000E+00 OUTFLOW= .4102E+02 BASIN STORAGE= .2250E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	.95	5230.75	240.36	1.99	5.00	5225.39	240.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5569E+03 EXCESS= .0000E+00 OUTFLOW= .5569E+03 BASIN STORAGE= .3258E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	.96	5112.86	240.70	1.95	5.00	5103.68	240.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5451E+03 EXCESS= .0000E+00 OUTFLOW= .5451E+03 BASIN STORAGE= .3352E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	.98	4953.03	240.87	1.88	5.00	4943.52	240.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5254E+03 EXCESS= .0000E+00 OUTFLOW= .5254E+03 BASIN STORAGE= .3569E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	.99	4756.99	240.82	1.81	5.00	4747.09	240.00	1.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5057E+03 EXCESS= .0000E+00 OUTFLOW= .5057E+03 BASIN STORAGE= .3477E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.00	4693.23	241.10	1.78	5.00	4685.74	240.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4980E+03 EXCESS= .0000E+00 OUTFLOW= .4981E+03 BASIN STORAGE= .3239E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.00	4655.65	240.91	1.76	5.00	4643.76	240.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4924E+03 EXCESS= .0000E+00 OUTFLOW= .4924E+03 BASIN STORAGE= .3626E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.00	4616.52	240.64	1.75	5.00	4606.15	240.00	1.75	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4883E+03 EXCESS= .0000E+00 OUTFLOW= .4884E+03 BASIN STORAGE= .3343E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.01	4544.81	241.17	1.72	5.00	4533.81	240.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4819E+03 EXCESS= .0000E+00 OUTFLOW= .4819E+03 BASIN STORAGE= .3307E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.02	4470.09	240.76	1.70	5.00	4459.73	240.00	1.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4743E+03 EXCESS= .0000E+00 OUTFLOW= .4743E+03 BASIN STORAGE= .3536E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R38A	MANE	4.40	371.82	233.33	1.97	5.00	367.72	235.00	1.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3705E+02 EXCESS= .0000E+00 OUTFLOW= .3704E+02 BASIN STORAGE= .5912E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R38A	MANE	4.42	366.20	234.24	1.93	5.00	363.58	235.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3630E+02 EXCESS= .0000E+00 OUTFLOW= .3629E+02 BASIN STORAGE= .7495E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R38A	MANE	4.45	349.81	235.80	1.86	5.00	349.76	235.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3500E+02 EXCESS= .0000E+00 OUTFLOW= .3500E+02 BASIN STORAGE= .5442E-03 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.48    340.07    232.95      1.79      5.00    336.62    235.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3377E+02 EXCESS= .0000E+00 OUTFLOW= .3377E+02 BASIN STORAGE= .5890E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.49    336.35    233.61      1.77      5.00    333.04    235.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3329E+02 EXCESS= .0000E+00 OUTFLOW= .3329E+02 BASIN STORAGE= .7849E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.50    334.09    234.08      1.75      5.00    331.35    235.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3295E+02 EXCESS= .0000E+00 OUTFLOW= .3295E+02 BASIN STORAGE= .7228E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.51    331.85    234.41      1.74      5.00    330.02    235.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3270E+02 EXCESS= .0000E+00 OUTFLOW= .3269E+02 BASIN STORAGE= .6781E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.52    326.91    234.96      1.71      5.00    326.77    235.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3229E+02 EXCESS= .0000E+00 OUTFLOW= .3229E+02 BASIN STORAGE= .5949E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.53    319.99    235.65      1.69      5.00    319.72    235.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3177E+02 EXCESS= .0000E+00 OUTFLOW= .3177E+02 BASIN STORAGE= .7877E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.09    185.09    236.35      1.09      5.00    184.77    235.00        1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1845E+02 EXCESS= .0000E+00 OUTFLOW= .1845E+02 BASIN STORAGE= .2006E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.10    179.87    235.88      1.06      5.00    179.47    235.00        1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1792E+02 EXCESS= .0000E+00 OUTFLOW= .1792E+02 BASIN STORAGE= .2150E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.12    170.79    235.52      1.01      5.00    170.52    235.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1704E+02 EXCESS= .0000E+00 OUTFLOW= .1704E+02 BASIN STORAGE= .1980E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.13    162.17    236.38       .96      5.00    161.73    235.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1618E+02 EXCESS= .0000E+00 OUTFLOW= .1618E+02 BASIN STORAGE= .1994E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.14    158.59    236.53       .94      5.00    158.22    235.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1584E+02 EXCESS= .0000E+00 OUTFLOW= .1584E+02 BASIN STORAGE= .2130E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.14    156.34    236.30       .92      5.00    155.84    235.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1560E+02 EXCESS= .0000E+00 OUTFLOW= .1560E+02 BASIN STORAGE= .2186E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.14    154.51    235.81       .91      5.00    154.13    235.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1543E+02 EXCESS= .0000E+00 OUTFLOW= .1543E+02 BASIN STORAGE= .2141E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.15    151.69    235.72       .90      5.00    151.34    235.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1516E+02 EXCESS= .0000E+00 OUTFLOW= .1516E+02 BASIN STORAGE= .2144E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R57BA  MANE         1.16    148.37    235.92       .88      5.00    147.94    235.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1482E+02 EXCESS= .0000E+00 OUTFLOW= .1482E+02 BASIN STORAGE= .2018E-03 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    358.38    230.00      1.43      5.00    358.38    230.00        1.43

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3592E+02 EXCESS= .0000E+00 OUTFLOW= .3594E+02 BASIN STORAGE= .4407E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    349.93    230.00      1.40      5.00    349.93    230.00        1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3505E+02 EXCESS= .0000E+00 OUTFLOW= .3507E+02 BASIN STORAGE= .4350E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    335.78    230.00      1.34      5.00    335.78    230.00        1.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3361E+02 EXCESS= .0000E+00 OUTFLOW= .3364E+02 BASIN STORAGE= .4259E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    321.84    230.00      1.29      5.00    321.84    230.00        1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3219E+02 EXCESS= .0000E+00 OUTFLOW= .3221E+02 BASIN STORAGE= .3966E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    316.25    230.00      1.26      5.00    316.25    230.00        1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3162E+02 EXCESS= .0000E+00 OUTFLOW= .3165E+02 BASIN STORAGE= .3929E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    312.34    230.00      1.25      5.00    312.34    230.00        1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3123E+02 EXCESS= .0000E+00 OUTFLOW= .3125E+02 BASIN STORAGE= .3902E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    309.53    230.00      1.24      5.00    309.53    230.00        1.24

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3094E+02 EXCESS= .0000E+00 OUTFLOW= .3097E+02 BASIN STORAGE= .3885E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    305.12    230.00      1.22      5.00    305.12    230.00        1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3049E+02 EXCESS= .0000E+00 OUTFLOW= .3052E+02 BASIN STORAGE= .3854E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    299.57    230.00      1.20      5.00    299.57    230.00        1.20

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2993E+02 EXCESS= .0000E+00 OUTFLOW= .2996E+02 BASIN STORAGE= .3817E-02 PERCENT ERROR=   -.1



*** NORMAL END OF HEC-1 ***
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B.5.4 100-YEAR SDN 4 DB5/ALTA TRIBUTARY

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1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *             JUN   1998               *
 *          VERSION 4.1                 *
 *                                      *
 *  RUN DATE   06DEC17  TIME  08:39:19  *
 *                                      *
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*                                      *
*    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
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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
 *** FREE ***
             1          ID   THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
             2          ID   TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
             3          ID   DOWNSTREAM HOLDING FACILITIES
             4          ID
             5          ID   MODELED BY VTN, NEVADA SVB/JYA
             6          ID   MAY 9, 2017
             7          ID
             8          ID
             9          ID    CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
            10          ID    GOWAN WATERSHED (ALL)
            11          ID    RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
            12          ID    INPUT FILE = ALT1-SDN3.DAT
            13          ID    INPUT FILE DATE = MAY 5, 2008
            14          ID    DESIGN STORM = 100-YEAR 6-HR STORM
            15          ID    STORM DISTRIBUTION = SDN #5
            16          ID    MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
            17          ID    CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
            18          ID    STORM CENTERING = FULL WATERSHEDCP
            19          ID
            20          ID    REFERENCED HYDROLOGIC MODELS:
            21          ID    CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
            22          ID    NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
            23          ID    RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
            24          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
            25          ID    3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
            26          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
            27          ID    SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
            28          ID    MASTER PLAN UPDATE (G.C. WALLACE 2006)
            29          ID    GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
            30          ID    (G.C. WALLACE 2007)
            31          ID    LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
            32          ID    FROM G.C. WALLACE ON JANUARY 31, 2008)
            33          ID    US 95/RANCHO FIS RESTUDY (PBS&J 1998)
            34          ID    JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
            35          ID
            36          ID                          AREA    DARF
            37          ID                          SQ. MI.
            38          ID                          8-9     0.875
            39          ID                          9-10    0.865
            40          ID                          10-11   0.857
            41          ID                          11-12   0.85
            42          ID
            43          ID
            44          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
            45          ID
            46          ID  100-YEAR,  6-HOUR STORM,  SDN4
            47          ID
            48          IT       5       0       0     300
            49          IO       5       0       0
            50          IN       5       0       0
            51          JR    PREC   0.875   0.865   0.857    0.85
                        *
```



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

            52          KK     3-1
            53          KM   COMPARE TO MPU BASIN DB54-1 (CURVE NUMBER CHANGED FROM 87.2)
            54          BA    2.22
            55          PB    3.75
            56          PC       0    0.02   0.058   0.075   0.099   0.126   0.137   0.145   0.149   0.151
            57          PC   0.155   0.156   0.159   0.162   0.169   0.172   0.179   0.189   0.201   0.211
            58          PC    0.22   0.228   0.232    0.24   0.246   0.252    0.26   0.269   0.276   0.283
            59          PC   0.286   0.292   0.302   0.312   0.321   0.332   0.352   0.376   0.415   0.462
            60          PC    0.53    0.61    0.71   0.732   0.756   0.782   0.799   0.813   0.823    0.83
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  61          PC   0.835   0.844   0.851   0.864   0.885   0.908   0.924   0.944   0.968   0.973
  62          PC   0.978   0.982   0.984   0.986   0.988   0.991   0.992   0.993   0.994   0.997
  63          PC   0.998   0.999       1
  64          LS       0    87.0
  65          UD   0.582
              *

  66          KK    R3-1
  67          KM   ROUTE R3-1 THROUGH 3-2
  68          KM   EXISTING NATURAL WASH
  69          RD    3322   0.092   0.030       0    TRAP     125       0
              *

  70          KK     3-2
  71          KM   COMPARE TO MPU BASIN DB54-5 (CURVE NUMBER CHANGED FROM 85.2)
  72          BA   0.226
  73          PB    3.67
  74          LS       0    83.9
  75          UD   0.110
              *

  76          KK   CP3.1
  77          KM   COMBINE R3-1 AND 3-2
  78          HC       2
              *

  79          KK  RCP3.1
  80          KM   ROUTE CP3.1 TO CP3.3 THROUGH 3-E VIA
  81          KM   (PORTION OF FACILITY APM50059)
  82          RD    7900   0.070   0.013       0    TRAP     125       2
              *

  83          KK     3-D
  84          KM   PORTION OF BASINS DB54-6R (PB=3.56)
  85          BA  0.3329
  86          PB    3.59
  87          LS       0    84.6
  88          UD   0.223
              *
1                                      HEC-1 INPUT                                          PAGE  3

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

  89          KK   CP3.3
  90          KM   COMBINE 3-D, RCP3.1,
  91          HC       2
              *

  92          KK  RCP3.3
  93          KM   ROUTE CP3.3 TO CP3.4 THROUGH 3-E VIA A
  94          KM   (PORTION OF FACILITY APM50059)
  95          RD    1000   0.070   0.013       0    TRAP     125       2
              *

  96          KK     3-3
  97          KM   PORTION OF MPU BASIN DB54-3
  98          BA  0.1737
  99          PB    3.65
 100          LS       0    88.0
 101          UD   0.081
              *

 102          KK    R3-3
 103          KM   ROUTE R3-3 THROUGH A PORTION OF 3-E TO CP3.2
 104          KM   NATURAL WASH
 105          RD    2233   0.054   0.030       0    TRAP     100       0
              *

 106          KK     3-4
 107          KM   PORTION OF MPU BASIN DB54-3
 108          BA  0.3457
 109          PB    3.68
 110          LS       0    88.0
 111          UD   0.092
              *

 112          KK    R3-4
 113          KM   ROUTE R3-4 THROUGH A PORTION OF 3-E TO CP3.2
 114          KM   NATURAL WASH
 115          RD    3300   0.097   0.030       0    TRAP     100       0
              *

 116          KK     3-5
 117          KM   COMPARE TO MPU BASIN DB54-2 (SLIGHTLY LARGER PORTION OF DB54-4)
 118          BA  0.2936
 119          PB    3.65
 120          LS       0    87.7
 121          UD   0.094
              *

 122          KK    R3-5
 123          KM   ROUTE R3-5 THROUGH A PORTION OF 3-E TO CP3.2
 124          KM   (PORTION OF FACILITY APM50057)
 125          RD    4400   0.068   0.013       0    TRAP      50       2
              *
1                                      HEC-1 INPUT                                          PAGE  4

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

 126          KK   CP3.2
 127          KM   COMBINE R3-5 , R3-4 AND R3-3
 128          HC       3
              *
```

```
 129          KK  RCP3.2
 130          KM   ROUTE RCP3.2 THROUGH A PORTION OF 3-E TO CP3.4
 131          KM   (PORTION OF FACILITY APM50057)
 132          RD    5500   0.068   0.013       0    TRAP      50       2
              *

 133          KK     3-E
 134          KM   PORTION OF BASINS DB54-4 (PB=3.60) AND DB54-6R (PB=3.56)
 135          BA  0.5442
 136          PB    3.57
 137          LS       0    85.8
 138          UD   0.238
              *

 139          KK   CP3.4
 140          KM   COMBINE 3-E, RCP3.2 AND RCP3.3
 141          HC       3
              *

 142          KK  RCP3.4
 143          KM   ROUTE RCP3.4 THROUGH A PORTION OF 3-N TO CPDB3
 144          KM   (FACILITIES APM50056, APM50047 AND APM50008)
 145          RD    3365   0.052   0.013       0    TRAP      80       2
              *

 146          KK     3-6
 147          KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
 148          BA  0.0887
 149          PB    3.62
 150          LS       0    88.0
 151          UD   0.074
              *

 152          KK    R3-6
 153          KM   ROUTE 3-6 THROUGH A PORTION OF 3-J AND A PORTION OF 3-K TO CP3.5
 154          KM   EXISTING NATURAL WASHES
 155          RD    4500   0.080   0.030       0    TRAP     100       0
              *

 156          KK     3-7
 157          KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
 158          BA  0.1714
 159          PB    3.61
 160          LS       0    87.2
 161          UD   0.048
              *
1                                      HEC-1 INPUT                                          PAGE  5

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

 162          KK    R3-7
 163          KM   ROUTE 3-7 THROUGH A PORTION OF 3-K TO CP3.5
 164          KM   PORTION OF FACILITY ID APM50213
 165          RD    4340   0.073   0.013       0    TRAP      50       2
              *

 166          KK     3-J
 167          KM   PORTION OF MPU BASIN DB55-4
 168          BA  0.1529
 169          PB    3.59
 170          LS       0    78.6
 171          UD   0.168
              *

 172          KK    R3-J
 173          KM   ROUTE 3-J THROUGH A PORTION OF 3-K TO CP3.5
 174          KM   NATURAL WASHES
 175          RD    2700   0.074   0.030       0    TRAP     100       0
              *

 176          KK   CP3.5
 177          KM   COMBINE R3-J, R3-7 AND R3-6
 178          HC       3
              *

 179          KK  RCP3.5
 180          KM   ROUTE CP3.5 THROUGH A PORTION OF 3-K TO CP3.6
 181          KM   PORTION OF FACILITY ID APM50213
 182          RD    2100   0.073   0.013       0    TRAP      50       2
              *

 183          KK     3-8
 184          KM   COMPARE TO MPU BASIN DB55-1
 185          BA  0.6386
 186          PB    3.70
 187          LS       0    87.8
 188          UD   0.196
              *

 189          KK    R3-8
 190          KM   ROUTE 3-8 THROUGH A PORTION OF 3-K TO CP3.6
 191          KM   FACILITY ID APM50212
 192          RD    6695   0.075   0.013       0    TRAP      30       2
              *

 193          KK     3-K
 194          KM   COMPARE TO MPU BASIN DB55-7
 195          BA  0.8890
 196          PB    3.54
 197          LS       0    87.6
 198          UD   0.296
              *
1                                      HEC-1 INPUT                                          PAGE  6

          LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
 199          KK   CP3.6
 200          KM   COMBINE 3-K, R3-8 AND RCP3.5
 201          HC       3
              *

 202          KK  RCP3.6
 203          KM   ROUTE CP3.6 THROUGH A PORTION OF 3-N TO CPDB3
 204          KM   FACILITY ID APM500009
 205          RD    4180   0.058   0.013       0    TRAP      50       2
              *

 206          KK     3-N
 207          KM   COMPARE TO MPU BASIN DB55-8
 208          BA  0.4557
 209          PB    3.46
 210          LS       0    88.9
 211          UD   0.269
              *

 212          KK     3-M
 213          KM   COMPARE TO MPU BASIN DB55-8
 214          BA  0.1924
 215          PB    3.48
 216          LS       0    88.8
 217          UD   0.147
              *

 218          KK    R3-M
 219          KM   ROUTE 3-M THROUGH A PORTION OF 3-N TO CP3.7
 220          KM   FACILITY ID PORTION OF APM500009
 221          RD    4500  0.0528   0.013       0    TRAP       7       0
              *

 222          KK   CPDB5
 223          KM    COMBINE 3-M, 3-N, RCP3.6 AND RCP3.4
 224          KM    TOTAL INFLOW TO SUMMERLIN #5 DETENTION BASIN
 225          KO       0
 226          HC       4
              *

 227          KK     DB5
 228          KM    SUMMERLIN DETENTION BASIN 5
 229          KM    FACILITY = ANGEL PARK - MIDDLE 5 BRANCH
 230          KM    FACILITY # = APM5 0000
 231          KM    STORAGE VOLUME = 384.1 ACRE-FEET
 232          KM    OUTLET = 2: 7' x 5.5' RCBS
 233          KM    100-YEAR DISCHARGE = 2,150 CFS
 234          KM    SPILLWAY LENGTH = 453.6'
 235          KM    SPILLWAY HEIGHT =
 236          KM    SPILLWAY CREST ELEVATION = 3563'
 237          KM    SPILLWAY TYPE = CONCRETE BROAD CRESTED WEIR
 238          KM    PMF DISCHARGE = 12,153 CFS
 239          KM    TOP OF EMBANKMENT ELEVATION = 3569'
 240          KM    DETENTION BASIN PARAMETERS REFERENCED FROM "DETENTION BASIN NO. 5
1                                      HEC-1 INPUT                                                    PAGE  7

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

 241          KM    EXPANSION AND DIVERSION BERM" PLANS BY G.C. WALLACE (5-23-2001)
 242          KM    STAGE-STORAGE-DISCHARGE CURVE REFERENCED FROM "2006 SUMMERLIN WEST
 243          KM    CONCEPTUAL DRAINAGE STUDY MASTER PLAN AMENDMENT: EXISTING OFFSITE/PROPOSED
 244          KM    ONSITE DRAINAGE CONDITION" HYDROLOGIC MODEL DATED 8-7-2006 AND SUBMITTED
 245          KM    WITH THE SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
 246          KM    CONTROL MASTER PLAN UPDATE BY G.C. WALLACE (08-2006)
 247          KO       0
 248          RS       1    STOR      -1
 249          SV       0    1.73    4.55    8.45   13.08    18.2   23.81   29.96    36.7   43.93
 250          SV   59.55   77.49   99.82  127.17  159.39  196.38  240.07  384.05  405.65  535.25
 251          SQ       0     192     276     391     505     616     725     813     900     982
 252          SQ    1176    1368    1534    1683    1804    1920    2033    2315    3725   23201
 253          SE  3532.5    3535    3536    3537    3538    3539    3540    3541    3542    3543
 254          SE    3543    3547    3549    3551    3553    3555    3557    3563    3564    3569
 255          SS    3563   435.6       3     1.5
              *

 256          KK     3-L
 257          KM   COMPARE TO MPU BASIN SWAA-1
 258          BA  0.3227
 259          PB    3.44
 260          LS       0    88.4
 261          UD   0.160
              *

 262          KK   CP3-L
 263          KM   COMBINE 3-L AND DB3
 264          KM   THIS IS CSWAA-1 IN GOWAN MPU HEC-1
 265          HC       2
              *
              * END OF SECTION MODELED BY VTN, NEVADA SVB
              * TIE VTN SECTION TO 2008 MPU HEC-1
              *

 266          KKRCSWAA-1
 267          KM  ROUTE CSWAA-1 TO CSWAA-2
 268          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 269          KM  FACILITY # = APAD 0115, 0146
 270          KM  LINING = RCB
 271          RD    4640   0.044   0.015       0    TRAP      10       0
              *

 272          KK  SWAA-2
 273          BA   0.700
 274          PB    3.39
 275          LS       0    90.9
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 276          UD   0.346
              *

 277          KK CSWAA-2
 278          KM  COMBINE RCSWAA-1 AND SWAA-2
 279          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE  8

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


 280          KKRCSWAA-2
 281          KM  ROUTE CSWAA-2 TO CSWAA-3
 282          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 283          KM  FACILITY # = APAD 0000, 0018, 0044, 0073
 284          KM  LINING = RCB
 285          RD    6120   0.035   0.015       0    TRAP      11       0
              *

 286          KK  SWAA-3
 287          BA   0.581
 288          PB    3.31
 289          LS       0    87.8
 290          UD   0.361
              *

 291          KK CSWAA-3
 292          KM  COMBINE RCSWAA-2 AND SWAA-3
 293          HC       2
              *
              * THE FOLLOWING SECTION OF HYDROLOGY IS NOT PART OF THE 2008 MPU
              * THIS SECTION IS MODELED BASED ON THE 2017 CONDITION OF THE SUMMERLIN MASTER PL
              * MODELED BY VTN, NEVADA SVB
              *
              *

 294          KK     3-F
 295          KM   COMPARE TO MPU BASIN SWFH-5
 296          BA  0.2815
 297          PB    3.52
 298          LS       0    88.9
 299          UD   0.152
              *

 300          KK    R3-F
 301          KM   ROUTE 3-F THROUGH 3-G2 TO CP3.8
 302          KM   LINING RCB
 303          RD    2650   0.055   0.013       0    TRAP       6       0
              *

 304          KK    3-G2
 305          KM   COMPARE TO MPU BASIN SWFH-6
 306          BA  0.1285
 307          PB    3.48
 308          LS       0    93.2
 309          UD   0.107
              *

 310          KK   CP3.8
 311          KM   COMBINES 3-F AND 3-G2
 312          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE  9

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


 313          KK  RCP3.8
 314          KM   ROUTE CP3.8 TO CP3.9
 315          KM   FACILITIES APD6000 AND APDF0000
 316          RD    4500   0.075   0.013       0    TRAP      12       0
              *

 317          KK     3-A
 318          KM   COMPARE TO MPU BASIN SWFH-1
 319          BA  0.3644
 320          PB    3.53
 321          LS       0    81.5
 322          UD   0.233
              *

 323          KK    R3-A
 324          KM   ROUTE 3-A THROUGH STORM DRAIN TO CPDBA-B
 325          RD    3000   0.032   0.013       0    TRAP       5       0
              *

 326          KK     3-B
 327          KM   COMPARE TO MPU BASIN SWFH-1
 328          BA  0.6973
 329          PB    3.56
 330          LS       0    83.1
 331          UD   0.274
              *

 332          KK    R3-B
 333          KM   ROUTE 3-B THROUGH STORM DRAIN TO CPDBA-B
 334          RD    3000   0.024   0.013       0    TRAP       5       0
              *

 335          KK     3-C
 336          KM   COMPARE TO MPU BASIN SWFH-2
 337          BA  0.2212
 338          PB    3.46
 339          LS       0    88.4
 340          UD   0.200
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                *

 341            KK CPDBA-B
 342            KO       0
 343            KM   COMBINE 3-A, 3-B, AND 3-C
 344            KM   PROPOSED BASINS CONTRIBUTING TO NEW DETENTION BASINS
 345            HC       3
                *

 346            KK    GPDB
 347            KM  VILLAGE 22 DETENTION BASIN
 348            KM  FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BELTWAY 2 BRANCH
 349            KM  FACILITY # = 0001
 350            KM  STORAGE VOLUME = 123 AC-FT
 351            KM  OUTLET = 60" RCP
 352            KM  100-YEAR DISCHARGE =
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          LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 353            KM  SPILLWAY LENGTH = 1053'
 354            KM  SPILLWAY HEIGHT =
 355            KM  SPILLWAY CREST ELEVATION = 1007.9'
 356            KM  SPILLWAY TYPE =
 357            KM  PMF DISCHARGE =
 358            KM  TOP OF EMBANKMENT ELEVATION =
 359            KM  INFORMATION REFERENCED FROM "SUMMERLIN VILLAGE 26 ULTIMATE/PROPOSED
 360            KM  CONDITIONS" HYDRAOLOGIC MODEL BY G.C. WALLACE INC. (9-5-06)
 361            KM  ELEVATIONS WITHIN THE STAGE-STORAGE-DISCHARGE CURVE WERE REDUCED BY 1000'
 362            KM  IN ORDER FOR THE HYDROLOGIC MODEL TO RUN
 363            KO       3
 364            RS       1    STOR       0
 365            SV    6.54   12.78   19.92   28.03   37.17   46.61   59.93   75.75   94.29  115.85
 366            SV  129.61
 367            SE      10      12      14      16      18      20      22      24      26      28
 368            SE      30
 369            SQ       0   26.06   58.28   78.18   93.97  107.45  119.43  130.31  140.35  149.71
 370            SQ  158.53
                *

 371            KK    3-G1
 372            KM   COMPARE TO MPU BASIN SWFH-6
 373            BA  0.2406
 374            PB    3.47
 375            LS       0      90
 376            UD   0.131
                *

 377            KK   R3-G1
 378            KM   ROUTE 3-G1 TO CP3-G1
 379            KM   LINING RCB
 380            RD    1000   0.044   0.013       0    TRAP       6       0
                *

 381            KK  CP3-G1
 382            KM   COMBINE 3-G1, AND GPDB
 383            HC       2
                *

 384            KK RCP3-G1
 385            KM   ROUTE 3P3-G1 TO CP3-Q2
 386            KM   LINING RCB
 387            RD    1950   0.044   0.013       0    TRAP       8       0
                *

 388            KK    3-Q2
 389            KM   COMPARE TO MPU BASIN SV22-2
 390            BA  0.1492
 391            PB    3.41
 392            LS       0    92.1
 393            UD   0.085
                *
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          LINE  ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 394            KK  CP3-Q2
 395            KM   COMBINE CP3-G1, AND 3-Q2
 396            HC       2
                *

 397            KK RCP3-Q2
 398            KM   ROUTE 3P3-G1 TO CP3-Q2
 399            KM   LINING RCB
 400            RD    1750   0.044   0.013       0    TRAP       8       0
                *

 401            KK    3-H1
 402            KM   COMPARE TO MPU BASIN SWFH-9
 403            BA  0.1260
 404            PB    3.41
 405            LS       0    92.2
 406            UD   0.085
                *

 407            KK  CP3-H1
 408            KM   COMBINE RCP3-Q2, AND 3-H1
 409            HC       2
                *

 410            KK RCP3-H1
 411            KM   ROUTE CP3-H1 TO CP3.9
 412            KM   LINING RCB
 413            RD    1725   0.044   0.013       0    TRAP       8       0
                *
```

```
 414          KK    3-I1
 415          KM   COMPARE TO MPU BASIN SWFH-7
 416          BA  0.2934
 417          PB    3.42
 418          LS       0    88.8
 419          UD   0.209
              *

 420          KK   CP3.9
 421          KM   COMBINE CP3.8, CP3-H1 AND C-I1
 422          HC       3
              *

 423          KK    RCP9
 424          KM   ROUTE CP3.9 TO CP3.10
 425          RD    2390   0.027   0.013       0    TRAP       6       0
              *

 426          KK     3-O
 427          KM   COMPARE TO MPU BASIN SV22-2
 428          BA  0.0872
 429          PB    3.39
 430          LS       0    93.3
 431          UD   0.122
              *
1                                        HEC-1 INPUT                                                PAGE 12

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

 432          KK    R3-O
 433          KM   ROUTE 3-O TO CP3-P
 434          KM   LINING RCB
 435          RD    3260   0.028   0.013       0    TRAP       4       0
              *

 436          KK    3-P2
 437          KM   COMPARE TO MPU BASIN SV22-2
 438          BA  0.0871
 439          PB    3.47
 440          LS       0    87.2
 441          UD   0.148
              *

 442          KK   R3-P2
 443          KM   ROUTE 3-P2 TO CP3-P
 444          KM   LINING RCB
 445          RD    3260   0.028   0.013       0    TRAP       4       0
              *

 446          KK    3-P1
 447          KM   COMPARE TO MPU BASIN SV22-2
 448          BA  0.1336
 449          PB    3.44
 450          LS       0    93.0
 451          UD   0.115
              *

 452          KK   CP3-P
 453          HC       3
              *

 454          KK  RCP3-P
 455          KM   ROUTE CP3-P THROUGH STORM DRAIN TO CP3-Q
 456          RD    2750   0.033   0.013       0    TRAP      10       0
              *

 457          KK     3-Q
 458          KM   COMPARE TO MPU BASIN SV22-2
 459          BA  0.1026
 460          PB    3.39
 461          LS       0    91.7
 462          UD   0.165
              *

 463          KK   CP3-Q
 464          KM   COMBINES CP3-P AND 3-Q
 465          HC       2
              *
1                                        HEC-1 INPUT                                                PAGE 13

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

 466          KK  RCP3-Q
 467          KM   ROUTE CP3-Q THROUGH STORM DRAIN TO CP3-H2
 468          KM   LINING RCB
 469          RD    3000   0.015   0.013       0    TRAP      20       0
              *

 470          KK    3-H2
 471          BA  0.1003
 472          PB    3.38
 473          LS       0    92.4
 474          UD   0.135
              *

 475          KK  CP3-H2
 476          HC       2
              *

 477          KK  RCPH-2
 478          KM   ROUTE CP3-H2 TO CP3.10A
 479          KM   LINING RCB
 480          RD    1725   0.019   0.013       0    TRAP      20       0
```

```
                *

 481            KK    3-I2
 482            KM   COMPARE TO MPU BASIN SWFH-7
 483            BA  0.1185
 484            PB    3.36
 485            LS       0    90.5
 486            UD   0.205
                *

 487            KK CP3.10A
 488            KM   COMBINE CP3-H2 and 3-I2
 489            HC       2
                *

 490            KK  CP3.10
 491            KM   COMBINE CP3.9 AND CP3.10A
 492            HC       2
                *

 493            KK RCP3.10
 494            KM   ROUTE CP3.10  TO CP3.11
 495            KM   FACILITIES APFH0000
 496            KM   LINING RCB
 497            RD    1000  0.0350   0.013       0    TRAP      16       0
                *

 498            KK    3-H3
 499            KM   COMPARE TO MPU BASIN SWFH-9
 500            BA  0.1403
 501            PB    3.33
 502            LS       0    94.3
 503            UD   0.206
                *
1                                       HEC-1 INPUT                                                 PAGE 14

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

 504            KK  CP3.11
 505            KM   COMBINE 3-H3 AND RCP3.10
 506            KM   THIS IS CSWFH-9 IN 2008 MPU HEC-1
 507            HC       2
                *
                * END OF SECTION MODELED BY VTN, NEVADA
                * TIE VTN SECTION TO 2008 MPU HEC-1
                *

 508            KKRCSHFH-9
 509            KM  ROUTE CSWFH-9 TO CRCSWFH9
 510            KM  FACILITY = ANGEL PARK - BELTWAY BRANCH
 511            KM  FACILITY # = APBE 0000, 0013, 0022, 0051
 512            KM  LINING = CONCRETE
 513            RD    4338  0.0181   0.015       0    TRAP      20       2
                *

 514            KKCRCSWFH9
 515            KM  COMBINE RCSWFH9 AND CSWAA-3
 516            HC       2
                *
                * END OF G.C. WALLACE'S HYDROLOGIC MODEL
                *

 517            KKRCRCSWFH
 518            KM  ROUTE CRCSWFH9 TO C11A-1
 519            KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 520            KM  FACILITY # = APMD 0230,0233,0237,0247,0248,0253,0258
 521            KM  LINING = CONCRETE
 522            RD    1418    0.04   0.015       0    TRAP      76       2
                *

 523            KK   11A-1
 524            BA   0.208
 525            PB    3.25
 526            LS       0    85.3
 527            UD   0.292
                *

 528            KK  C11A-1
 529            KM  COMBINE RCRCSWFH AND 11A-1
 530            KM  ANGEL PARK MIDDLE BRANCH @ PAVILLION CENTER DRIVE
 531            HC       2
                *

 532            KK RC11A-1
 533            KM  ROUTE C11A-1 TO C11A-3
 534            KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 535            KM  FACILITY # = APMD 0190,0195,0198,0208,0218,0227
 536            KM  LINING = CONCRETE
 537            RD    2065  0.0281   0.015       0    TRAP      62       2
                *
1                                       HEC-1 INPUT                                                 PAGE 15

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

 538            KK   11A-3
 539            BA   0.195
 540            PB    3.21
 541            LS       0    89.3
 542            UD   0.229
                *

 543            KK  C11A-3
 544            KM  COMBINE RC11A-1 AND 11A-3
 545            KM  ANGEL PARK MIDDLE BRANCH @ TOWN CENTER DRIVE
```

```
 546          HC       2
              *

 547          KK RC11A-3
 548          KM  ROUTE C11A-3 TO C3A
 549          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 550          KM  FACILITY # = APMD 0132, 0133
 551          KM  LENGTH = 3,164
 552          KM  SLOPE = 3.0%
 553          KM  N = 0.040
 554          KM  HYDRAULIC RADIUS = 1.5
 555          KM  VELOCITY =  13.5
 556          KM  NATURAL WASH
 557          RM       1   0.065    0.15
              *

 558          KK      3A
 559          BA   0.178
 560          PB    3.15
 561          LS       0    84.0
 562          UD   0.244
              *

 563          KK     C3A
 564          KM  COMBINE RCC11A-3 AND 3A
 565          KM  ANGEL PARK MIDDLE BRANCH @ HUALAPAI WAY
 566          HC       2
              *

 567          KK    RC3A
 568          KM  ROUTE C3A TO C3B-1
 569          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 570          KM  FACILITY # = APMD 0027, 0030
 571          KM  LENGTH = 6,500
 572          KM  SLOPE = 3.0%
 573          KM  N = 0.040
 574          KM  HYDRAULIC RADIUS = 1.5
 575          KM  VELOCITY =  13.5
 576          KM  NATURAL WASH
 577          RM       2   0.133    0.15
              *
```



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

 578          KK    3B-1
 579          BA   0.258
 580          PB    3.04
 581          LS       0    82.0
 582          UD   0.257
              *

 583          KK   C3B-1
 584          KM  COMBINE RC3A AND 3B-1
 585          HC       2
              *

 586          KK  RC3B-1
 587          KM  ROUTE C3B-1 TO CC3B-2B
 588          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 589          KM  FACILITY # = APMD 0000,0027,0030
 590          KM  LINING = UNLINED
 591          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
 592          RD     940   0.029    0.04       0    TRAP     100       3
              *

 593          KK   11B-2
 594          BA   0.441
 595          PB    3.25
 596          LS       0    85.7
 597          UD   0.423
              *

 598          KK  R11B-2
 599          KM  ROUTE 11B-2 TO C11B-1
 600          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 601          KM  FACILITY # = APSP 0177,0183
 602          KM  LINING = CONCRETE
 603          RD    1900   0.017   0.015       0    TRAP      10       2
              *

 604          KK   11B-1
 605          BA   0.394
 606          PB    3.26
 607          LS       0    87.2
 608          UD   0.267
              *

 609          KK  C11B-1
 610          KM  COMBINE R11B-2 AND 11B-1
 611          KM  ANGEL PARK-SUMMERLIN PARKWAY @ ANASAZI DRIVE
 612          HC       2
              *
```



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

 613          KK RC11B-1
 614          KM  ROUTE C11B-1 TO C8B-1
 615          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 616          KM  FACILITY # = APSP 0135,0177
 617          KM  LINING = CONCRETE
 618          RD    2150   0.024   0.015       0    TRAP      10       2
              *
```

```
 619          KK    8B-1
 620          BA   0.304
 621          PB    3.17
 622          LS       0    87.8
 623          UD   0.288
              *

 624          KK   C8B-1
 625          KM  COMBINE RC11B-1 AND 8B-1
 626          KM  ANGEL PARK-SUMMERLIN PARKWAY @ CRESTDALE DRIVE
 627          HC       2
              *

 628          KK  RC8B-1
 629          KM  ROUTE C8B-1 TO C8B-2
 630          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 631          KM  FACILITY # = APSP 0066,0069,0133
 632          KM  LINING = CONCRETE
 633          RD    3575   0.024   0.015       0    TRAP      10       2
              *

 634          KK    8B-2
 635          BA   0.420
 636          PB    3.10
 637          LS       0    93.7
 638          UD   0.336
              *

 639          KK   C8B-2
 640          KM  COMBINE 8B-2 AND RC8B-1
 641          KM  ANGEL PARK-SUMMERLIN PARKWAY @ TOWN CENTER DRIVE
 642          HC       2
              *

 643          KK  RC8B-2
 644          KM  ROUTE C8B-2 TO CC3B-2A
 645          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 646          KM  FACILITY # = APSP 0002
 647          KM  LINING = UNLINED
 648          RD    1424   0.035   0.025       0    TRAP      50       3
              *
1                                        HEC-1 INPUT                                                PAGE 18

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

 649          KK   11A-2
 650          BA   0.290
 651          PB    3.20
 652          LS       0    88.3
 653          UD   0.194
              *

 654          KK  R11A-2
 655          KM  ROUTE 11A-2 TO C8A
 656          KM  TOWN CENTER DRIVE AND HUALAPAI WAY
 657          RD    2900   0.017   0.016       0    TRAP       0      50
              *

 658          KK      8A
 659          BA   0.306
 660          PB    3.16
 661          LS       0    86.0
 662          UD   0.239
              *

 663          KK     C8A
 664          KM  COMBINE 8A AND R11A-2
 665          HC       2
              *

 666          KK    RC8A
 667          KM  ROUTE C8A TO C3B-2A
 668          KM  NATURAL WASH
 669          KM  TRAVEL LENGTH = 4,500
 670          KM  SLOPE = 2.8%
 671          KM  N = 0.040
 672          KM  HYDRAULIC RADIUS = 1.5
 673          KM  VELOCITY =  13.1
 674          RM       1   0.096    0.15
              *

 675          KK   3B-2A
 676          BA   0.243
 677          PB    3.06
 678          LS       0    88.5
 679          UD   0.213
              *

 680          KK  C3B-2A
 681          KM  COMBINE 3B-2A AND RC8A
 682          HC       2
              *

 683          KK CC3B-2A
 684          KM  COMBINE C3B-2A AND RC8B-2
 685          HC       2
              *
1                                        HEC-1 INPUT                                                PAGE 19

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

 686          KKRCC3B-2A
 687          KM  ROUTE CC3B-2A TO C3B-2B
```

```
688          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
689          KM  FACILITY # = APSP 0001
690          KM  LINING = UNLINED
691          RD    3924    0.03   0.025       0    TRAP      20       2
             *

692          KK   3B-2B
693          BA   0.273
694          PB    2.99
695          LS       0    85.1
696          UD   0.309
             *

697          KK  C3B-2B
698          KM  COMBINE RCC3B-2A AND 3B-2B
699          HC       2
             *

700          KK CC3B-2B
701          KM  COMBINE RC3B-1 AND C3B-2B
702          HC       2
             *

703          KKRCC3B-2B
704          KM  ROUTE CC3B-2B TO CSF2-C
705          KM  FACILITY = ANGEL PARK NORTH
706          KM  FACILITY # = APNO 0012,0013,0015 APSP 0000
707          KM  LINING = UNLINED (NATURAL WASH)
708          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
709          RD    1854   0.025    0.04       0    TRAP     100       3
             *

710          KK   SF2-C
711          BA   0.388
712          PB    2.91
713          LS       0    84.2
714          UD   0.443
             *

715          KK  CSF2-C
716          KM  COMBINE SF2-C AND RCC3B-2B
717          HC       2
             *

718          KK RCSF2-C
719          KM  ROUTE CSF2-C TO ANGLPKIN
720          KM  FACILITY = ANGEL PARK NORTH
721          KM  FACILITY # = APNO 0005
722          KM  LINING = UNLINED (NATURAL WASH)
723          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
724          RD    1559    0.02    0.04       0    TRAP     100       3
             *
```



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

725          KK    SW11
726          BA   0.589
727          PB    3.34
728          LS       0    87.8
729          UD   0.311
             *

730          KK   RSW11
731          KM  ROUTE SW11 TO CSW17
732          KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
733          KM  FACILITY # = APCB 0064, 0080
734          KM  LINING = RCB
735          RD    2338  0.0167   0.015       0    TRAP       7       0
             *

736          KK    SW17
737          BA   0.356
738          PB    3.30
739          LS       0    87.8
740          UD   0.271
             *

741          KK   CSW17
742          KM  COMBINE RSW11 AND SW17
743          HC       2
             *

744          KK  RCSW17
745          KM  ROUTE CSW17 TO CSW18
746          KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
747          KM  FACILITY # = APCB 0000,0001,0019,0050
748          KM  LINING = RCB
749          RD    3600   0.014   0.015       0    TRAP      11       0
             *

750          KK    SW18
751          BA   0.405
752          PB    3.27
753          LS       0    86.8
754          UD   0.271
             *

755          KK   CSW18
756          KM  COMBINE RCSW17 AND SW18
757          HC       2
             *

758          KK  RCSW18
759          KM  ROUTE CSW18 TO C12A
```

```
 760          KM  FACILITY = ANGEL PARK SOUTH
 761          KM  FACILITY # = APSO 0254,0255,0258,0345,0346; APCB 0000
 762          KM  NATURAL WASH
 763          KM  LENGTH = 5,200
 764          KM  SLOPE = 1.4%
1                                        HEC-1 INPUT                                                PAGE 21

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

 765          KM  N = 0.040
 766          KM  HYDRAULIC RADIUS = 1.5
 767          KM  VELOCITY =  9.2
 768          RM       2   0.157    0.15
              *

 769          KK     12A
 770          BA   0.392
 771          PB    3.20
 772          LS       0    91.2
 773          UD   0.264
              *

 774          KK    C12A
 775          KM  COMBINE 12A AND RCSW18
 776          HC       2
              *

 777          KK   RC12A
 778          KM  ROUTE THRU 12B
 779          KM  FACILITY = ANGEL PARK SOUTH
 780          KM  FACILITY # = APSO 0204, 0205
 781          KM  NATURAL WASH
 782          KM  LENGTH = 2,600
 783          KM  SLOPE = 3.5%
 784          KM  N = 0.040
 785          KM  HYDRAULIC RADIUS = 1.5
 786          KM  VELOCITY = 14.5
 787          RM       1    0.05    0.15
              *

 788          KK     12B
 789          BA   0.260
 790          PB    3.13
 791          LS       0    91.0
 792          UD   0.233
              *

 793          KK    C12B
 794          KM  COMBINE 12B AND RC12A
 795          HC       2
              *

 796          KK   RC12B
 797          KM  ROUTE C12B TO C57B-3
 798          KM  FACILITY = ANGEL PARK SOUTH
 799          KM  FACILITY # = APSO 0067
 800          KM  NATURAL WASH
 801          KM  LENGTH = 6,000
 802          KM  SLOPE = 2.3%
 803          KM  N = 0.040
 804          KM  HYDRAULIC RADIUS = 1.5
 805          KM  VELOCITY =  11.8
 806          RM       2   0.141    0.15
              *
1                                        HEC-1 INPUT                                                PAGE 22

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

 807          KK   57B-3
 808          BA   0.310
 809          PB    3.04
 810          LS       0    82.1
 811          UD   0.332
              *

 812          KK  C57B-3
 813          KM  COMBINE RC12B AND 57B-3
 814          HC       2
              *

 815          KK RC57B-3
 816          KM  ROUTE C57B-3 TO C57B-2
 817          KM  FACILITY = ANGEL PARK SOUTH
 818          KM  FACILITY # = APSO 0067
 819          KM  NATURAL WASH
 820          KM  LENGTH = 1,300
 821          KM  SLOPE = 1.7%
 822          KM  N = 0.040
 823          KM  HYDRAULIC RADIUS = 1.5
 824          KM  VELOCITY =  10.2
 825          RM       0   0.035    0.15
              *

 826          KK   57B-2
 827          BA   0.362
 828          PB    3.02
 829          LS       0    84.1
 830          UD   0.332
              *

 831          KK  C57B-2
 832          KM  COMBINE 57B-2 AND RC57B-3
 833          HC       2
              *
```

```
 834          KK RC57B-2
 835          KM  ROUTE C57B-2 TO CC57B-1
 836          KM  FACILITY = ANGEL PARK SOUTH
 837          KM  FACILITY # = APSO 0067
 838          KM  NATURAL WASH
 839          KM  LENGTH = 1,000
 840          KM  SLOPE = 1.8%
 841          KM  N = 0.040
 842          KM  HYDRAULIC RADIUS = 1.5
 843          KM  VELOCITY =  10.5
 844          RM       0   0.027    0.15
              *
1                                      HEC-1 INPUT                                                PAGE 23

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

 845          KK   13B-1
 846          BA   0.249
 847          PB    3.19
 848          LS       0    91.6
 849          UD   0.284
              *

 850          KK RC13B-1
 851          KM  ROUTE 13B-1 TO C13B-2
 852          KM  GRIFFITH PARK DRIVE AND HUALAPAI WAY
 853          RD    3000   0.018   0.016       0    TRAP       0      50
              *

 854          KK   13B-2
 855          BA   0.216
 856          PB    3.14
 857          LS       0    89.7
 858          UD   0.231
              *

 859          KK  C13B-2
 860          KM  COMBINE 13B-2 AND RC13B-1
 861          KM  HUALAPAI WAY AND LOCAL FACILITY
 862          HC       2
              *

 863          KK RC13B-2
 864          KM  ROUTE C13B-2 TO CCPIC-A
 865          KM  LINING = GRASS
 866          RD    4900   0.021    0.03       0    TRAP      40       6
              *

 867          KK     19A
 868          BA   0.253
 869          PB    3.25
 870          LS       0    89.9
 871          UD   0.351
              *

 872          KK    R19A
 873          KM  ROUTE 19A TO C13A-1
 874          KM  UNNAMED ROAD
 875          RD    4300   0.021   0.016       0    TRAP       0      50
              *

 876          KK   13A-1
 877          BA   0.224
 878          PB    3.19
 879          LS       0    91.4
 880          UD   0.302
              *
1                                      HEC-1 INPUT                                                PAGE 24

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

 881          KK  C13A-1
 882          KM  COMBINE 13A-1 AND R19A
 883          KM  TOWN CENTER DRIVE AND SWALE
 884          HC       2
              *

 885          KK RC13A-1
 886          KM  ROUTE C13A-1 TO C13A-2
 887          KM  NATURAL WASH
 888          KM  TRAVEL LENGTH = 2,800
 889          KM  SLOPE = 2.1%
 890          KM  N = 0.040
 891          KM  HYDRAULIC RADIUS = 1.5
 892          KM  VELOCITY = 11.4
 893          RM       1   0.068    0.15
              *

 894          KK   13A-2
 895          BA   0.188
 896          PB    3.15
 897          LS       0    90.0
 898          UD   0.236
              *

 899          KK  C13A-2
 900          KM  COMBINE 13A-2 AND RC13A-1
 901          HC       2
              *

 902          KK RC13A-2
 903          KM  ROUTE C13A-2 TO CPIC-C
 904          KM  LINING = GRASS
 905          RD    5200   0.015    0.03       0    TRAP      40       4
```

```
                *

  906           KK   PIC-C
  907           BA   0.243
  908           PB    3.08
  909           LS       0    90.4
  910           UD   0.373
                *

  911           KK  CPIC-C
  912           KM  COMBINE PIC-C AND RC13A-2
  913           HC       2
                *

  914           KK RCPIC-C
  915           KM  ROUTE CPIC-C TO CPIC-A
  916           KM  LINING = GRASS
  917           RD    2200   0.025    0.03       0    TRAP      40       4
                *
1                                       HEC-1 INPUT                                                 PAGE 25

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

  918           KK   PIC-A
  919           BA   0.359
  920           PB    3.03
  921           LS       0    91.1
  922           UD   0.499
                *

  923           KK  CPIC-A
  924           KM  COMBINE RCPIC-C AND PIC-A
  925           HC       2
                *

  926           KK CCPIC-A
  927           KM  COMBINE CPIC-A AND RC13B-2
  928           HC       2
                *

  929           KKRCCPIC-A
  930           KM  ROUTE CCPIC-A TO C57B-1
  931           KM  FACILITY = ANGEL PARK - PECCOLE 2
  932           KM  FACILITY # = APP2 0000
  933           KM  LINING = GRASS
  934           RD    4793   0.021    0.03       0    TRAP      10       2
                *

  935           KK   57B-1
  936           BA   0.197
  937           PB    2.92
  938           LS       0    85.5
  939           UD   0.277
                *

  940           KK  C57B-1
  941           KM  COMBINE 57B-1 AND RCCPIC-A
  942           HC       2
                *

  943           KK CC57B-1
  944           KM  COMBINE C57B-1 AND RC57B-2
  945           HC       2
                *

  946           KKRCC57B-1
  947           KM  ROUTE CC57B-1 TO C57B-4
  948           KM  FACILITY = ANGEL PARK - SOUTH BRANCH
  949           KM  FACILITY # = APSO 0050
  950           KM  LINING = NATURAL WASH
  951           RD     300  0.0184    0.04       0    TRAP     100       3
                *
1                                       HEC-1 INPUT                                                 PAGE 26

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

  952           KK   57B-4
  953           BA   0.200
  954           PB    2.91
  955           LS       0    90.0
  956           UD   0.233
                *

  957           KK  C57B-4
  958           KM  COMBINE RCC57B-1 AND 57B-4
  959           HC       2
                *

  960           KK   PIC-B
  961           BA   0.441
  962           PB    2.98
  963           LS       0    91.1
  964           UD   0.471
                *

  965           KK  RPIC-B
  966           KM  ROUTE PIC-B TO CC57B-4
  967           KM  FACILITY = ANGEL PARK - PECCOLE 1
  968           KM  FACILITY # = APP1 0000
  969           KM  LINING = RCP
  970           RD    2982   0.024   0.013       0    CIRC       6
                *

  971           KK CC57B-4
```

```
 972          KM  COMBINE RPIC-B AND C57B-4
 973          HC       2
              *

 974          KKRCC57B-4
 975          KM  ROUTE CC57B-4 TO ANGLPKIN
 976          KM  FACILITY = ANGEL PARK SOUTH
 977          KM  FACILITY # = APSO 0000, 0020
 978          KM  LINING = RCB
 979          RD    2857  0.0162   0.015       0    TRAP      24       0
              *

 980          KK     38A
 981          BA   0.353
 982          PB    2.86
 983          LS       0    91.6
 984          UD   0.399
              *

 985          KK    R38A
 986          KM  ROUTE 38A TO C38B
 987          KM  FACILITY = ANGEL PARK - DURANGO
 988          KM  FACILITY # = APDG 0000,0060
 989          KM  LINING = RCP
 990          RD    4500  0.0096   0.015       0    CIRC       6
              *
1                                      HEC-1 INPUT                                                    PAGE 27

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

 991          KK     38B
 992          BA   0.440
 993          PB    2.82
 994          LS       0    92.9
 995          UD   0.375
              *

 996          KK    C38B
 997          KM  COMBINE 38B AND R38A
 998          KM  DUCHARME AND DURANGO
 999          HC       2
              *

1000          KK    57BA
1001          BA   0.317
1002          PB    2.96
1003          LS       0    78.2
1004          UD   0.436
              *

1005          KK   R57BA
1006          KM  ROUTE 57BA TO C3C
1007          KM  RAMPART BOULEVARD
1008          RD     500    0.02   0.016       0    TRAP       0      50
              *

1009          KK      3C
1010          BA   0.153
1011          PB    2.90
1012          LS       0    93.1
1013          UD   0.246
              *

1014          KK     C3C
1015          KM  COMBINE 3C AND R57BA
1016          KM  RAMPART AND REGENT LAS VEGAS
1017          HC       2
              *

1018          KK    RC3C
1019          KM  ROUTE C3C TO ANGLPKIN
1020          KM  LINING = UNLINED
1021          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
1022          RD    2300  0.0326    0.04       0    TRAP      50       4
              *

1023          KK      AP
1024          BA   0.668
1025          PB    2.81
1026          LS       0    81.6
1027          UD   0.392
              *
1                                      HEC-1 INPUT                                                    PAGE 28

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

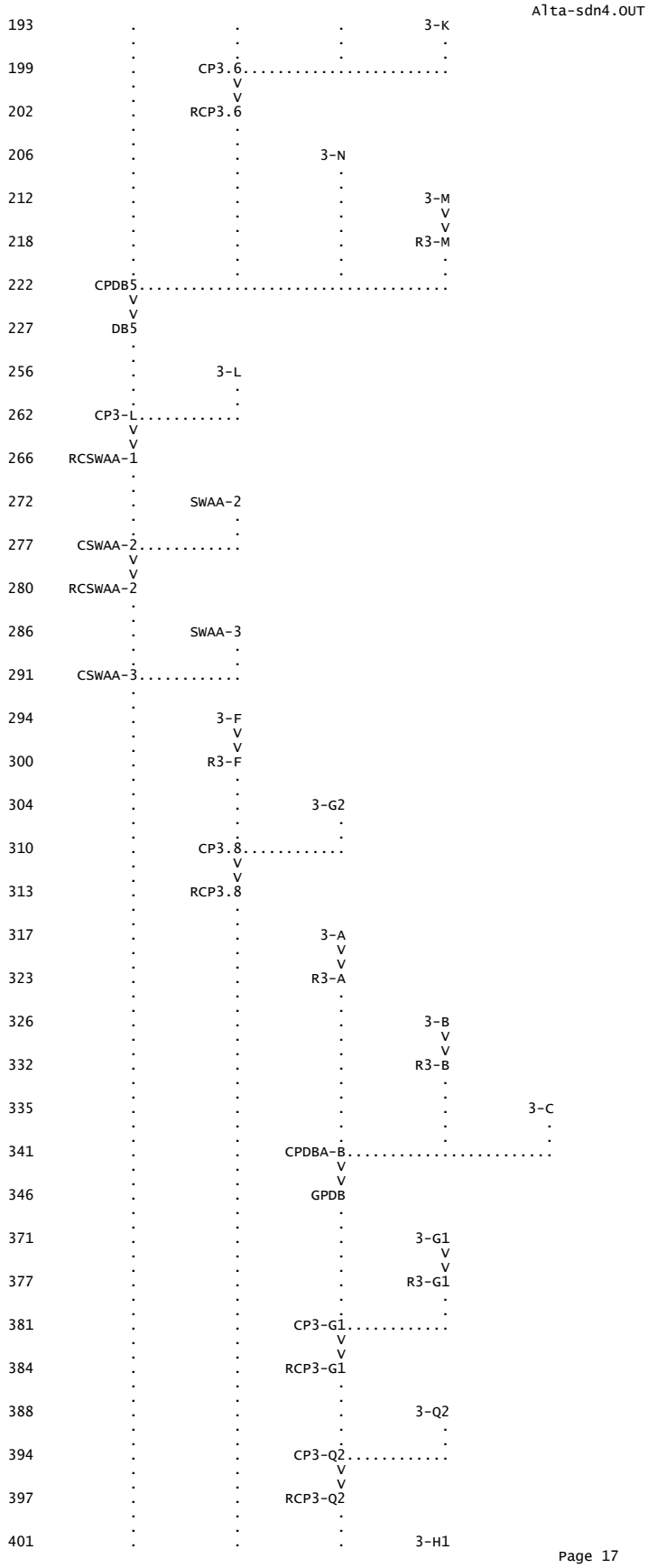
1028          KKANGLPKIN
1029          KM  COMBINE AP,RC3C,C38B,RCC57B-4, AND RCSF2-2
1030          KM  TOTAL INFLOW TO ANGEL PARK DETENTION BASIN
              * KO1
1031          HC       5
              *

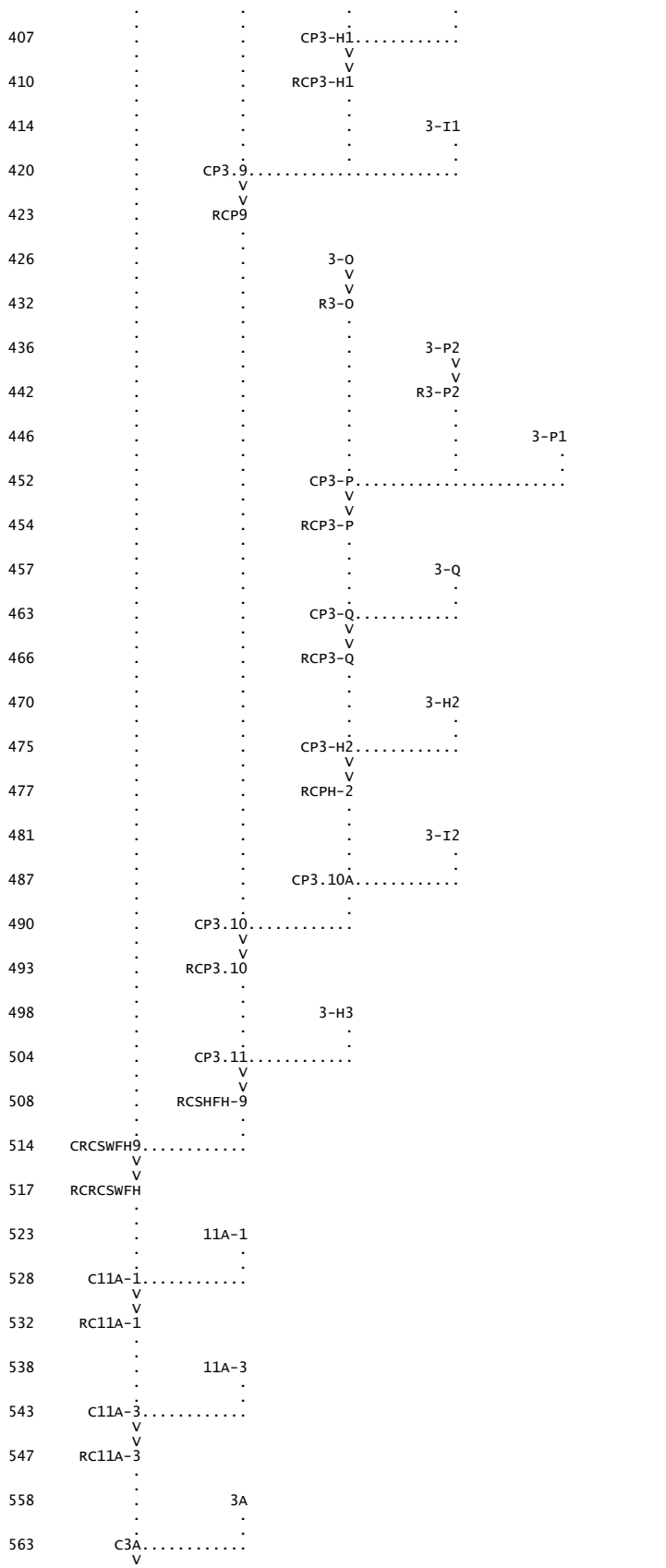
1032          KKANGLPKDB
1033          KM  ANGEL PARK DETENTION BASIN
1034          KM  FACILITY = ANGEL PARK NORTH
1035          KM  FACILITY # = APNO 0000,0001
1036          KM  STORAGE VOLUME = 1512 AC-FT (2002 MPU VOLUME = 1400 AC-FT; 8% INCREASE)
1037          KM  OUTLET = 54" RCP
1038          KM  100-YEAR DISCHARGE =
1039          KM  SPILLWAY LENGTH =
1040          KM  SPILLWAY HEIGHT =
1041          KM  SPILLWAY CREST ELEVATION = 2619'
1042          KM  SPILLWAY TYPE =
```

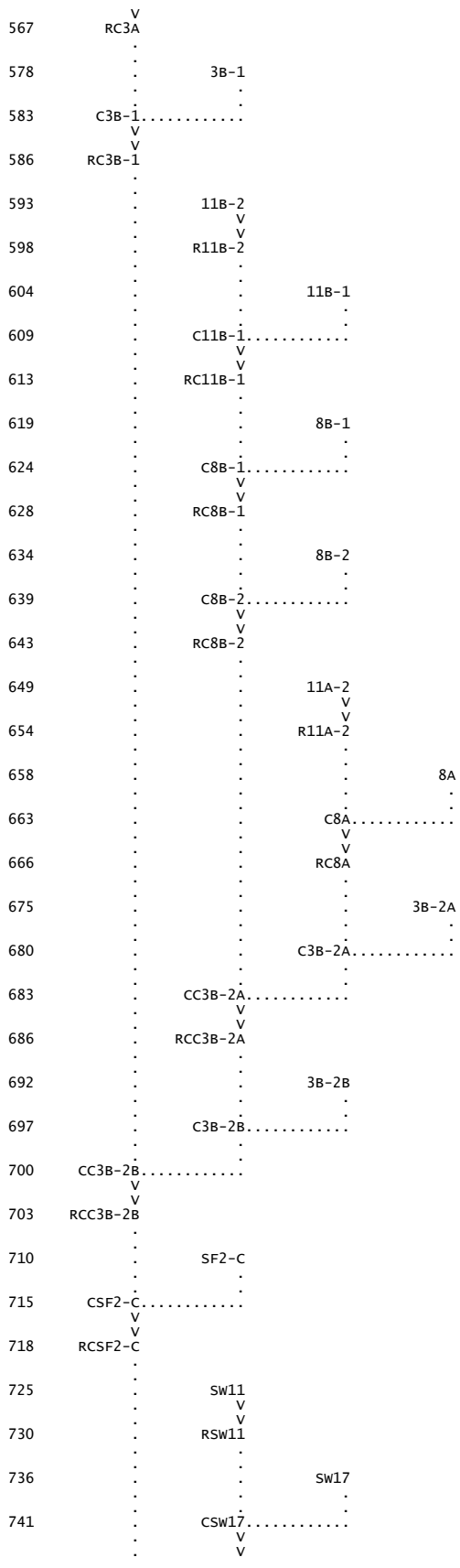
```
1043           KM  PMF DISCHARGE =
1044           KM  TOP OF EMBANKMENT ELEVATION =
1045           KO       3
1046           RS       1    STOR      -1
1047           SV       0    10.8    43.2   113.4  222.48  411.48  640.44  910.44 1239.84  1470.9
1048           SV    1512 1554.12 1596.24 1640.52  1684.8 1730.16 1775.52 1823.04 1875.96  1919.1
1049           SE    2576    2580    2585    2590    2595    2600    2605    2610    2616    2618
1050           SE    2619  2619.5    2620  2620.5    2621  2621.5    2622  2622.5    2623  2623.5
1051           SQ       0      89     194     232     285     316     343     370     392     405
1052           SQ     407    1852    4491    7909   11955   16545   21620   27137   33064   39373
               *
1053           ZZ
1
          SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

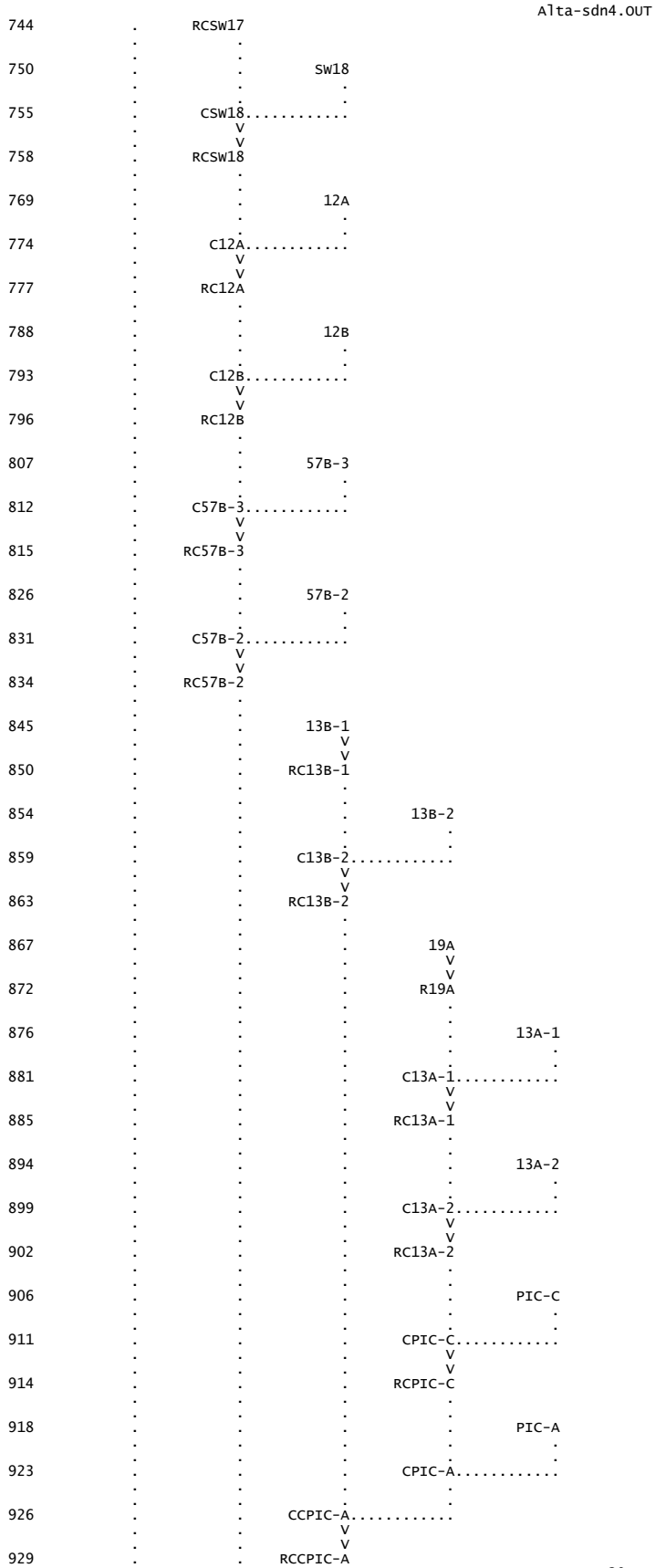
   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

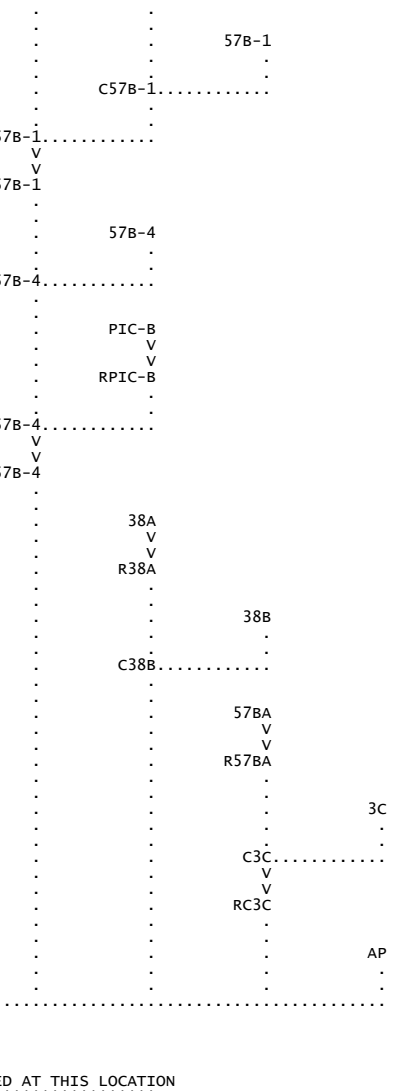
    52         3-1
               V
               V
    66        R3-1
               .
               .
    70           .         3-2
                 .           .
                 .           .
    76       CP3.1...........
               V
               V
    79       RCP3.1
               .
               .
    83           .         3-D
                 .           .
                 .           .
    89       CP3.3...........
               V
               V
    92       RCP3.3
               .
               .
    96           .         3-3
                 .           V
                 .           V
   102           .        R3-3
                 .           .
                 .           .
   106           .           .         3-4
                 .           .           V
                 .           .           V
   112           .           .        R3-4
                 .           .           .
                 .           .           .
   116           .           .           .         3-5
                 .           .           .           V
                 .           .           .           V
   122           .           .           .        R3-5
                 .           .           .           .
                 .           .           .           .
   126           .       CP3.2.......................
                 .           V
                 .           V
   129           .      RCP3.2
                 .           .
                 .           .
   133           .           .         3-E
                 .           .           .
                 .           .           .
   139       CP3.4.......................
               V
               V
   142       RCP3.4
               .
               .
   146           .         3-6
                 .           V
                 .           V
   152           .        R3-6
                 .           .
                 .           .
   156           .           .         3-7
                 .           .           V
                 .           .           V
   162           .           .        R3-7
                 .           .           .
                 .           .           .
   166           .           .           .         3-J
                 .           .           .           V
                 .           .           .           V
   172           .           .           .        R3-J
                 .           .           .           .
                 .           .           .           .
   176           .       CP3.5.......................
                 .           V
                 .           V
   179           .      RCP3.5
                 .           .
                 .           .
   183           .           .         3-8
                 .           .           V
                 .           .           V
   189           .           .        R3-8
                 .           .           .
                 .           .           .
```


193 3-K
199 CP3.6
202 RCP3.6
206 3-N
212 3-M
218 R3-M
222 CPDB5
227 DB5
256 3-L
262 CP3-L
266 RCSWAA-1
272 SWAA-2
277 CSWAA-2
280 RCSWAA-2
286 SWAA-3
291 CSWAA-3
294 3-F
300 R3-F
304 3-G2
310 CP3.8
313 RCP3.8
317 3-A
323 R3-A
326 3-B
332 R3-B
335 3-C
341 CPDBA-B
346 GPDB
371 3-G1
377 R3-G1
381 CP3-G1
384 RCP3-G1
388 3-Q2
394 CP3-Q2
397 RCP3-Q2
401 3-H1


407 CP3-H1
410 RCP3-H1
414 3-I1
420 CP3.9
423 RCP9
426 3-O
432 R3-O
436 3-P2
442 R3-P2
446 3-P1
452 CP3-P
454 RCP3-P
457 3-Q
463 CP3-Q
466 RCP3-Q
470 3-H2
475 CP3-H2
477 RCPH-2
481 3-I2
487 CP3.10A
490 CP3.10
493 RCP3.10
498 3-H3
504 CP3.11
508 RCSHFH-9
514 CRCSWFH9
517 RCRCSWFH
523 11A-1
528 C11A-1
532 RC11A-1
538 11A-3
543 C11A-3
547 RC11A-3
558 3A
563 C3A


567 RC3A
578 3B-1
583 C3B-1
586 RC3B-1
593 11B-2
598 R11B-2
604 11B-1
609 C11B-1
613 RC11B-1
619 8B-1
624 C8B-1
628 RC8B-1
634 8B-2
639 C8B-2
643 RC8B-2
649 11A-2
654 R11A-2
658 8A
663 C8A
666 RC8A
675 3B-2A
680 C3B-2A
683 CC3B-2A
686 RCC3B-2A
692 3B-2B
697 C3B-2B
700 CC3B-2B
703 RCC3B-2B
710 SF2-C
715 CSF2-C
718 RCSF2-C
725 SW11
730 RSW11
736 SW17
741 CSW17


RCSW17
SW18
CSW18
RCSW18
12A
C12A
RC12A
12B
C12B
RC12B
57B-3
C57B-3
RC57B-3
57B-2
C57B-2
RC57B-2
13B-1
RC13B-1
13B-2
C13B-2
RC13B-2
19A
R19A
13A-1
C13A-1
RC13A-1
13A-2
C13A-2
RC13A-2
PIC-C
CPIC-C
RCPIC-C
PIC-A
CPIC-A
CCPIC-A
RCCPIC-A



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              JUN   1998               *
 *            VERSION 4.1                *
 *                                       *
 *  RUN DATE   06DEC17  TIME  08:39:19   *
 *                                       *
 *****************************************
```

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

THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
DOWNSTREAM HOLDING FACILITIES

MODELED BY VTN, NEVADA SVB/JYA
MAY 9, 2017

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
GOWAN WATERSHED (ALL)
RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
INPUT FILE = ALT1-SDN3.DAT
INPUT FILE DATE = MAY 5, 2008
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #5
MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
STORM CENTERING = FULL WATERSHEDCP

REFERENCED HYDROLOGIC MODELS:
CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)

3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
MASTER PLAN UPDATE (G.C. WALLACE 2006)
GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
(G.C. WALLACE 2007)
LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
FROM G.C. WALLACE ON JANUARY 31, 2008)
US 95/RANCHO FIS RESTUDY (PBS&J 1998)
JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA SQ. MI.	DARF
8-9	0.875
9-10	0.865
10-11	0.857
11-12	0.85

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN4

```
 49 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
                    .88       .87       .86       .85


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


              **************
              *            *
222 KK        *     CPDB5  *
              *            *
              **************

225 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE


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


              **************
              *            *
227 KK        *       DB5  *
              *            *
              **************

247 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE


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


              **************
              *            *
341 KK        *   CPDBA-B  *
              *            *
              **************

342 KO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE
```

*** ***

```
          **************
          *            *
346 KK    *      GPDB  *
          *            *
          **************

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

              HYDROGRAPH ROUTING DATA

364 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

365 SV            STORAGE         6.5      12.8      19.9      28.0      37.2      46.6      59.9      75.8      94.3     115.8
                                129.6

367 SE          ELEVATION       10.00     12.00     14.00     16.00     18.00     20.00     22.00     24.00     26.00     28.00
                                30.00

369 SQ          DISCHARGE          0.       26.       58.       78.       94.      107.      119.      130.      140.      150.
                                 159.

                                                          ***

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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .88

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     134.      5.42          122.          51.          49.          49.
                       (INCHES)      .887       1.468       1.468       1.468
                        (AC-FT)       61.        100.        100.        100.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       83.      5.42           65.          26.          25.          25.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
     24.75      5.42         22.60        14.71       14.54        14.54

                        CUMULATIVE AREA =    1.28 SQ MI


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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .87

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     133.      5.42          121.          50.          48.          48.
                       (INCHES)      .879       1.439       1.439       1.439
                        (AC-FT)       60.         98.         98.         98.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       81.      5.42           64.          26.          25.          25.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
     24.57      5.42         22.40        14.60       14.43        14.43

                        CUMULATIVE AREA =    1.28 SQ MI


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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     132.      5.42          120.          49.          47.          47.
                       (INCHES)      .872       1.416       1.416       1.416
                        (AC-FT)       60.         97.         97.         97.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       80.      5.42           63.          25.          24.          24.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR       72-HR     24.92-HR
```

```
+   (FEET)      (HR)
     24.42      5.42                22.24       14.51       14.34        14.34

                        CUMULATIVE AREA =    1.28 SQ MI


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

                          HYDROGRAPH AT STATION     GPDB
                            FOR PLAN 1, RATIO =  .85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     132.      5.42              120.          48.         46.          46.
                         (INCHES)      .866       1.396       1.396        1.396
                          (AC-FT)       59.         96.         96.          96.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       78.      5.42                62.         25.         24.          24.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
     24.29      5.42              22.09       14.43       14.27        14.27

                        CUMULATIVE AREA =    1.28 SQ MI

 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).


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


            **************
            *            *
 1032 KK    *  ANGLPKDB  *
            *            *
            **************

 1045 KO      OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

              HYDROGRAPH ROUTING DATA

 1046 RS      STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       STOR  TYPE OF INITIAL CONDITION
                   RSVRIC      -1.00  INITIAL CONDITION
                        X        .00 WORKING R AND D COEFFICIENT

 1047 SV        STORAGE          .0      10.8      43.2     113.4     222.5     411.5     640.4     910.4    1239.8    1470.9
                              1512.0    1554.1    1596.2    1640.5    1684.8    1730.2    1775.5    1823.0    1876.0    1919.1

 1049 SE        ELEVATION     2576.00   2580.00   2585.00   2590.00   2595.00   2600.00   2605.00   2610.00   2616.00   2618.00
                              2619.00   2619.50   2620.00   2620.50   2621.00   2621.50   2622.00   2622.50   2623.00   2623.50

 1051 SQ        DISCHARGE        0.       89.      194.      232.      285.      316.      343.      370.      392.      405.
                               407.     1852.     4491.     7909.    11955.    16545.    21620.    27137.    33064.    39373.

                                                                                ***

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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .88

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+    2608.      6.25             1030.         525.        506.         506.
                         (INCHES)      .422        .862        .862         .862
                          (AC-FT)      511.       1042.       1042.        1042.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
     1566.      6.25             1515.       1160.       1117.        1117.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
   2619.64      6.25           2618.88     2612.65     2611.30      2611.30
```

CUMULATIVE AREA = 22.67 SQ MI

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

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .87

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
2438.	6.42	965.	508.	490.	490.
	(INCHES)	.396	.834	.834	.834
	(AC-FT)	478.	1009.	1009.	1009.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
1563.	6.42	1512.	1156.	1114.	1114.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
2619.61	6.42	2618.84	2612.58	2611.24	2611.24

CUMULATIVE AREA = 22.67 SQ MI

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

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .86

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
2301.	6.50	914.	495.	477.	477.
	(INCHES)	.375	.813	.813	.813
	(AC-FT)	453.	983.	983.	983.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
1561.	6.50	1510.	1154.	1111.	1111.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
2619.58	6.50	2618.80	2612.52	2611.18	2611.18

CUMULATIVE AREA = 22.67 SQ MI

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

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .85

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
(CFS)	(HR)				
2173.	6.58	868.	484.	466.	466.
	(INCHES)	.356	.793	.793	.793
	(AC-FT)	431.	959.	959.	959.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
(AC-FT)	(HR)				
1559.	6.58	1507.	1151.	1109.	1109.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
(FEET)	(HR)				
2619.56	6.58	2618.77	2612.47	2611.13	2611.13

CUMULATIVE AREA = 22.67 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 .88	RATIO 2 .87	RATIO 3 .86	RATIO 4 .85
HYDROGRAPH AT								
	3-1	2.22	1	FLOW	1704.	1676.	1655.	1635.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
	R3-1	2.22	1	FLOW	1687.	1661.	1639.	1622.
				TIME	4.08	4.08	4.08	4.08
HYDROGRAPH AT								
	3-2	.23	1	FLOW	288.	283.	279.	276.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
	CP3.1	2.45	1	FLOW	1754.	1729.	1704.	1685.
				TIME	4.00	4.00	4.00	4.00

```
 ROUTED TO
+                RCP3.1      2.45     1   FLOW        1754.    1717.    1692.    1681.
                                          TIME         4.08     4.08     4.08     4.08

 HYDROGRAPH AT
+                  3-D        .33     1   FLOW         343.     337.     332.     328.
                                          TIME         3.67     3.67     3.67     3.67

  2 COMBINED AT
+                 CP3.3      2.78     1   FLOW        1883.    1844.    1818.    1805.
                                          TIME         4.08     4.08     4.08     4.08

 ROUTED TO
+                RCP3.3      2.78     1   FLOW        1882.    1843.    1817.    1804.
                                          TIME         4.08     4.08     4.08     4.08

 HYDROGRAPH AT
+                  3-3        .17     1   FLOW         285.     280.     277.     274.
                                          TIME         3.50     3.50     3.50     3.50

 ROUTED TO
+                  R3-3       .17     1   FLOW         270.     256.     251.     248.
                                          TIME         3.58     3.58     3.58     3.58

 HYDROGRAPH AT
+                  3-4        .35     1   FLOW         550.     542.     535.     529.
                                          TIME         3.50     3.50     3.50     3.50

 ROUTED TO
+                  R3-4       .35     1   FLOW         506.     518.     513.     490.
                                          TIME         3.58     3.58     3.58     3.58

 HYDROGRAPH AT
+                  3-5        .29     1   FLOW         454.     447.     442.     437.
                                          TIME         3.50     3.50     3.50     3.50

 ROUTED TO
+                  R3-5       .29     1   FLOW         430.     424.     419.     412.
                                          TIME         3.58     3.58     3.58     3.58

  3 COMBINED AT
+                 CP3.2       .81     1   FLOW        1207.    1197.    1183.    1150.
                                          TIME         3.58     3.58     3.58     3.58

 ROUTED TO
+                RCP3.2       .81     1   FLOW        1163.    1140.    1116.    1099.
                                          TIME         3.58     3.58     3.58     3.58

 HYDROGRAPH AT
+                  3-E        .54     1   FLOW         574.     564.     556.     550.
                                          TIME         3.67     3.67     3.67     3.67

  3 COMBINED AT
+                 CP3.4      4.14     1   FLOW        3017.    2965.    2932.    2885.
                                          TIME         3.67     3.67     3.67     3.67

 ROUTED TO
+                RCP3.4      4.14     1   FLOW        2962.    2911.    2875.    2827.
                                          TIME         3.67     3.67     3.67     3.67

 HYDROGRAPH AT
+                  3-6        .09     1   FLOW         147.     145.     143.     142.
                                          TIME         3.50     3.50     3.50     3.50

 ROUTED TO
+                  R3-6       .09     1   FLOW         132.     130.     129.     127.
                                          TIME         3.67     3.67     3.67     3.67

 HYDROGRAPH AT
+                  3-7        .17     1   FLOW         304.     300.     296.     293.
                                          TIME         3.50     3.50     3.50     3.50

 ROUTED TO
+                  R3-7       .17     1   FLOW         253.     254.     248.     243.
                                          TIME         3.50     3.50     3.58     3.50

 HYDROGRAPH AT
+                  3-J        .15     1   FLOW         139.     137.     134.     132.
                                          TIME         3.58     3.58     3.58     3.58

 ROUTED TO
+                  R3-J       .15     1   FLOW         138.     135.     133.     131.
                                          TIME         3.67     3.67     3.67     3.67

  3 COMBINED AT
+                 CP3.5       .41     1   FLOW         475.     478.     468.     455.
                                          TIME         3.58     3.58     3.58     3.58

 ROUTED TO
+                RCP3.5       .41     1   FLOW         458.     459.     450.     438.
                                          TIME         3.58     3.58     3.58     3.58

 HYDROGRAPH AT
+                  3-8        .64     1   FLOW         824.     811.     800.     791.
                                          TIME         3.58     3.58     3.58     3.58

 ROUTED TO
+                  R3-8       .64     1   FLOW         806.     791.     778.     772.
                                          TIME         3.67     3.67     3.67     3.67

 HYDROGRAPH AT
+                  3-K        .89     1   FLOW         897.     883.     871.     861.
                                          TIME         3.67     3.67     3.67     3.67

  3 COMBINED AT
```

+	CP3.6	1.94	1	FLOW	2123.	2093.	2064.	2040.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RCP3.6	1.94	1	FLOW	2084.	2051.	2022.	1999.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	3-N	.46	1	FLOW	493.	485.	479.	474.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	3-M	.19	1	FLOW	260.	256.	253.	251.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R3-M	.19	1	FLOW	252.	249.	246.	243.
				TIME	3.58	3.58	3.58	3.58
4 COMBINED AT								
+	CPDB5	6.72	1	FLOW	5762.	5668.	5593.	5516.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	DB5	6.72	1	FLOW	2056.	2043.	2032.	2020.
				TIME	5.17	5.17	5.17	5.17
			** PEAK STAGES IN FEET **					
			1	STAGE	3557.49	3557.20	3556.99	3556.77
				TIME	5.17	5.17	5.17	5.17
HYDROGRAPH AT								
+	3-L	.32	1	FLOW	416.	410.	405.	400.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP3-L	7.05	1	FLOW	2170.	2155.	2141.	2129.
				TIME	4.92	4.92	4.92	4.92
ROUTED TO								
+	RCSWAA-1	7.05	1	FLOW	2169.	2154.	2140.	2127.
				TIME	4.92	4.92	4.92	4.92
HYDROGRAPH AT								
+	SWAA-2	.70	1	FLOW	703.	692.	684.	677.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	CSWAA-2	7.75	1	FLOW	2660.	2636.	2615.	2595.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RCSWAA-2	7.75	1	FLOW	2658.	2632.	2612.	2591.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	SWAA-3	.58	1	FLOW	493.	485.	479.	473.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	CSWAA-3	8.33	1	FLOW	3139.	3106.	3079.	3054.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	3-F	.28	1	FLOW	386.	380.	375.	371.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R3-F	.28	1	FLOW	379.	374.	369.	365.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-G2	.13	1	FLOW	211.	208.	205.	204.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP3.8	.41	1	FLOW	575.	567.	560.	554.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCP3.8	.41	1	FLOW	565.	557.	549.	544.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-A	.36	1	FLOW	319.	313.	308.	304.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	R3-A	.36	1	FLOW	316.	311.	306.	302.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	3-B	.70	1	FLOW	621.	609.	600.	592.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	R3-B	.70	1	FLOW	609.	598.	589.	581.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	3-C	.22	1	FLOW	263.	259.	256.	253.
				TIME	3.58	3.58	3.58	3.58
3 COMBINED AT								
+	CPDBA-B	1.28	1	FLOW	1175.	1155.	1138.	1123.
				TIME	3.67	3.67	3.67	3.67

ROUTED TO								
+	GPDB	1.28	1	FLOW	134.	133.	132.	132.
				TIME	5.42	5.42	5.42	5.42
			** PEAK STAGES IN FEET **					
			1	STAGE	24.75	24.57	24.42	24.29
				TIME	5.42	5.42	5.42	5.42
HYDROGRAPH AT								
+	3-G1	.24	1	FLOW	341.	336.	332.	329.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R3-G1	.24	1	FLOW	340.	335.	332.	328.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP3-G1	1.52	1	FLOW	417.	411.	406.	401.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCP3-G1	1.52	1	FLOW	413.	407.	401.	396.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-Q2	.15	1	FLOW	250.	247.	244.	242.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP3-Q2	1.67	1	FLOW	622.	612.	604.	598.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	RCP3-Q2	1.67	1	FLOW	614.	604.	597.	590.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-H1	.13	1	FLOW	212.	209.	207.	205.
				TIME	3.50	3.50	3.50	3.50
2 COMBINED AT								
+	CP3-H1	1.80	1	FLOW	819.	806.	796.	788.
				TIME	3.50	3.50	3.50	3.50
ROUTED TO								
+	RCP3-H1	1.80	1	FLOW	802.	789.	779.	772.
				TIME	3.50	3.50	3.50	3.50
HYDROGRAPH AT								
+	3-I1	.29	1	FLOW	340.	335.	330.	327.
				TIME	3.58	3.58	3.58	3.58
3 COMBINED AT								
+	CP3.9	2.50	1	FLOW	1690.	1665.	1644.	1627.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCP9	2.50	1	FLOW	1681.	1655.	1634.	1618.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-O	.09	1	FLOW	132.	130.	129.	127.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R3-O	.09	1	FLOW	131.	129.	127.	127.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-P2	.09	1	FLOW	111.	109.	108.	107.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R3-P2	.09	1	FLOW	108.	106.	104.	103.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-P1	.13	1	FLOW	209.	206.	203.	202.
				TIME	3.50	3.50	3.50	3.50
3 COMBINED AT								
+	CP3-P	.31	1	FLOW	441.	434.	429.	425.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCP3-P	.31	1	FLOW	436.	429.	426.	421.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-Q	.10	1	FLOW	143.	141.	140.	138.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP3-Q	.41	1	FLOW	579.	571.	565.	560.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCP3-Q	.41	1	FLOW	562.	554.	548.	541.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-H2	.10	1	FLOW	147.	145.	144.	142.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								

+	CP3-H2	.51	1	FLOW	709.	699.	692.	683.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCPH-2	.51	1	FLOW	694.	685.	677.	669.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-I2	.12	1	FLOW	144.	142.	140.	139.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP3.10A	.63	1	FLOW	838.	827.	817.	807.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP3.10	3.13	1	FLOW	2519.	2482.	2452.	2425.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCP3.10	3.13	1	FLOW	2507.	2472.	2440.	2414.
				TIME	3.58	3.58	3.58	3.58
HYDROGRAPH AT								
+	3-H3	.14	1	FLOW	189.	187.	185.	183.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CP3.11	3.27	1	FLOW	2696.	2658.	2625.	2597.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	RCSHFH-9	3.27	1	FLOW	2581.	2548.	2518.	2480.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	CRCSWFH9	11.60	1	FLOW	5469.	5386.	5337.	5255.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RCRCSWFH	11.60	1	FLOW	5429.	5345.	5294.	5213.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	11A-1	.21	1	FLOW	170.	167.	164.	162.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C11A-1	11.81	1	FLOW	5599.	5512.	5458.	5375.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RC11A-1	11.81	1	FLOW	5524.	5440.	5382.	5301.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	11A-3	.19	1	FLOW	203.	200.	198.	195.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C11A-3	12.00	1	FLOW	5727.	5640.	5579.	5497.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RC11A-3	12.00	1	FLOW	5634.	5547.	5493.	5414.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	3A	.18	1	FLOW	143.	140.	138.	136.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C3A	12.18	1	FLOW	5764.	5675.	5619.	5538.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RC3A	12.18	1	FLOW	5573.	5490.	5438.	5365.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	3B-1	.26	1	FLOW	173.	169.	166.	164.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C3B-1	12.44	1	FLOW	5690.	5604.	5551.	5476.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RC3B-1	12.44	1	FLOW	5662.	5579.	5525.	5448.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	11B-2	.44	1	FLOW	309.	304.	300.	296.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	R11B-2	.44	1	FLOW	305.	300.	295.	292.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	11B-1	.39	1	FLOW	369.	362.	358.	353.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C11B-1	.84	1	FLOW	633.	622.	613.	606.
				TIME	3.75	3.75	3.75	3.75

ROUTED TO								
+	RC11B-1	.84	1	FLOW	626.	616.	606.	599.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	8B-1	.30	1	FLOW	269.	264.	261.	257.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C8B-1	1.14	1	FLOW	889.	874.	861.	851.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RC8B-1	1.14	1	FLOW	877.	865.	849.	843.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	8B-2	.42	1	FLOW	419.	413.	408.	404.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	C8B-2	1.56	1	FLOW	1295.	1278.	1257.	1247.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RC8B-2	1.56	1	FLOW	1276.	1258.	1237.	1227.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	11A-2	.29	1	FLOW	313.	308.	304.	300.
				TIME	3.58	3.58	3.58	3.58
ROUTED TO								
+	R11A-2	.29	1	FLOW	310.	305.	301.	297.
				TIME	3.67	3.67	3.67	3.67
HYDROGRAPH AT								
+	8A	.31	1	FLOW	271.	266.	263.	259.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C8A	.60	1	FLOW	581.	571.	563.	556.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RC8A	.60	1	FLOW	541.	532.	524.	518.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	3B-2A	.24	1	FLOW	235.	232.	228.	226.
				TIME	3.58	3.58	3.58	3.58
2 COMBINED AT								
+	C3B-2A	.84	1	FLOW	737.	725.	715.	707.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	CC3B-2A	2.40	1	FLOW	2014.	1983.	1953.	1934.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RCC3B-2A	2.40	1	FLOW	1985.	1945.	1926.	1904.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	3B-2B	.27	1	FLOW	189.	186.	183.	181.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	C3B-2B	2.67	1	FLOW	2160.	2117.	2096.	2072.
				TIME	3.83	3.83	3.83	3.83
2 COMBINED AT								
+	CC3B-2B	15.11	1	FLOW	7654.	7539.	7465.	7361.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RCC3B-2B	15.11	1	FLOW	7629.	7504.	7434.	7329.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	SF2-C	.39	1	FLOW	206.	202.	199.	196.
				TIME	3.83	3.83	3.83	3.83
2 COMBINED AT								
+	CSF2-C	15.50	1	FLOW	7834.	7706.	7632.	7525.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RCSF2-C	15.50	1	FLOW	7771.	7639.	7567.	7462.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	SW11	.59	1	FLOW	539.	530.	523.	517.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RSW11	.59	1	FLOW	538.	529.	522.	516.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	SW17	.36	1	FLOW	345.	339.	335.	331.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								

+	CSW17	.94	1	FLOW	865.	852.	840.	830.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RCSW17	.94	1	FLOW	863.	850.	837.	829.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	SW18	.41	1	FLOW	372.	366.	361.	356.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	CSW18	1.35	1	FLOW	1217.	1197.	1180.	1168.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RCSW18	1.35	1	FLOW	1144.	1125.	1110.	1097.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	12A	.39	1	FLOW	418.	412.	407.	403.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C12A	1.74	1	FLOW	1468.	1444.	1425.	1408.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RC12A	1.74	1	FLOW	1446.	1423.	1405.	1388.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	12B	.26	1	FLOW	278.	274.	270.	267.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C12B	2.00	1	FLOW	1631.	1605.	1584.	1565.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RC12B	2.00	1	FLOW	1585.	1559.	1539.	1521.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	57B-3	.31	1	FLOW	185.	181.	179.	176.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	C57B-3	2.31	1	FLOW	1723.	1695.	1673.	1653.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
+	RC57B-3	2.31	1	FLOW	1718.	1690.	1668.	1648.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	57B-2	.36	1	FLOW	237.	232.	229.	225.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	C57B-2	2.67	1	FLOW	1892.	1861.	1836.	1814.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
+	RC57B-2	2.67	1	FLOW	1887.	1856.	1831.	1809.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	13B-1	.25	1	FLOW	259.	255.	252.	249.
				TIME	3.67	3.67	3.67	3.67
ROUTED TO								
+	RC13B-1	.25	1	FLOW	258.	254.	251.	249.
				TIME	3.75	3.75	3.75	3.75
HYDROGRAPH AT								
+	13B-2	.22	1	FLOW	221.	218.	215.	213.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C13B-2	.47	1	FLOW	452.	446.	440.	436.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	RC13B-2	.47	1	FLOW	460.	453.	447.	442.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	19A	.25	1	FLOW	230.	227.	224.	222.
				TIME	3.75	3.75	3.75	3.75
ROUTED TO								
+	R19A	.25	1	FLOW	230.	226.	223.	221.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	13A-1	.22	1	FLOW	223.	220.	217.	215.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C13A-1	.48	1	FLOW	427.	421.	416.	411.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RC13A-1	.48	1	FLOW	417.	411.	406.	401.
				TIME	3.83	3.83	3.92	3.92

HYDROGRAPH AT								
+	13A-2	.19	1	FLOW	195.	192.	190.	188.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C13A-2	.66	1	FLOW	560.	551.	544.	538.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	RC13A-2	.66	1	FLOW	562.	554.	546.	540.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	PIC-C	.24	1	FLOW	203.	200.	198.	196.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	CPIC-C	.91	1	FLOW	747.	736.	726.	718.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RCPIC-C	.91	1	FLOW	744.	730.	720.	714.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	PIC-A	.36	1	FLOW	261.	257.	254.	251.
				TIME	3.92	3.92	3.92	3.92
2 COMBINED AT								
+	CPIC-A	1.27	1	FLOW	1005.	987.	974.	966.
				TIME	3.92	3.92	3.92	3.92
2 COMBINED AT								
+	CCPIC-A	1.73	1	FLOW	1445.	1421.	1404.	1390.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RCCPIC-A	1.73	1	FLOW	1417.	1396.	1391.	1382.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	57B-1	.20	1	FLOW	141.	139.	137.	135.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C57B-1	1.93	1	FLOW	1507.	1494.	1488.	1463.
				TIME	3.92	3.92	3.92	3.92
2 COMBINED AT								
+	CC57B-1	4.60	1	FLOW	3389.	3336.	3304.	3272.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
+	RCC57B-1	4.60	1	FLOW	3385.	3331.	3300.	3266.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	57B-4	.20	1	FLOW	187.	184.	182.	180.
				TIME	3.67	3.67	3.67	3.67
2 COMBINED AT								
+	C57B-4	4.80	1	FLOW	3474.	3420.	3387.	3353.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	PIC-B	.44	1	FLOW	321.	317.	313.	309.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	RPIC-B	.44	1	FLOW	321.	316.	312.	309.
				TIME	3.92	3.92	3.92	3.92
2 COMBINED AT								
+	CC57B-4	5.24	1	FLOW	3786.	3726.	3690.	3653.
				TIME	4.00	4.00	4.00	4.00
ROUTED TO								
+	RCC57B-4	5.24	1	FLOW	3777.	3718.	3681.	3641.
				TIME	4.00	4.00	4.00	4.00
HYDROGRAPH AT								
+	38A	.35	1	FLOW	271.	267.	264.	261.
				TIME	3.83	3.83	3.83	3.83
ROUTED TO								
+	R38A	.35	1	FLOW	269.	264.	259.	256.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								
+	38B	.44	1	FLOW	361.	356.	352.	348.
				TIME	3.75	3.75	3.75	3.75
2 COMBINED AT								
+	C38B	.79	1	FLOW	624.	612.	604.	597.
				TIME	3.83	3.83	3.83	3.83
HYDROGRAPH AT								
+	57BA	.32	1	FLOW	125.	122.	120.	118.
				TIME	3.92	3.92	3.92	3.92
ROUTED TO								
+	R57BA	.32	1	FLOW	125.	122.	120.	118.
				TIME	3.92	3.92	3.92	3.92
HYDROGRAPH AT								

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+                     3C       .15     1   FLOW          158.     155.     154.     152.
                                           TIME          3.67     3.67     3.67     3.67

  2 COMBINED AT
+                     C3C      .47     1   FLOW          252.     248.     244.     241.
                                           TIME          3.75     3.75     3.75     3.75

 ROUTED TO
+                    RC3C      .47     1   FLOW          253.     248.     244.     241.
                                           TIME          3.83     3.83     3.83     3.83

 HYDROGRAPH AT
+                     AP       .67     1   FLOW          309.     303.     298.     293.
                                           TIME          3.83     3.83     3.83     3.83

  5 COMBINED AT
+                ANGLPKIN     22.67     1   FLOW        12590.   12388.   12263.   12091.
                                           TIME          3.92     3.92     3.92     3.92

 ROUTED TO
+                ANGLPKDB     22.67     1   FLOW         2608.    2438.    2301.    2173.
                                           TIME          6.25     6.42     6.50     6.58

                                       ** PEAK STAGES IN FEET **
                                       1   STAGE      2619.64  2619.61  2619.58  2619.56
                                           TIME          6.25     6.42     6.50     6.58
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
              R3-1  MANE          3.03   1702.28    242.29      1.99      5.00   1687.41    245.00         1.99

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2353E+03 EXCESS= .0000E+00 OUTFLOW= .2353E+03 BASIN STORAGE= .8359E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE          3.05   1667.26    240.81      1.95      5.00   1660.73    245.00         1.95

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2313E+03 EXCESS= .0000E+00 OUTFLOW= .2313E+03 BASIN STORAGE= .8009E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE          3.06   1652.62    242.08      1.93      5.00   1638.73    245.00         1.93

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2282E+03 EXCESS= .0000E+00 OUTFLOW= .2282E+03 BASIN STORAGE= .8148E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE          3.08   1633.19    243.21      1.90      5.00   1622.46    245.00         1.90

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2254E+03 EXCESS= .0000E+00 OUTFLOW= .2254E+03 BASIN STORAGE= .8551E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP3.1  MANE        4.81   1755.14    245.23      1.96      5.00   1753.69    245.00         1.96

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2557E+03 EXCESS= .0000E+00 OUTFLOW= .2557E+03 BASIN STORAGE= .1056E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP3.1  MANE        4.84   1720.84    246.62      1.93      5.00   1716.57    245.00         1.93

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2512E+03 EXCESS= .0000E+00 OUTFLOW= .2513E+03 BASIN STORAGE= .1192E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP3.1  MANE        4.86   1694.67    243.14      1.90      5.00   1692.45    245.00         1.90

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2477E+03 EXCESS= .0000E+00 OUTFLOW= .2478E+03 BASIN STORAGE= .8925E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP3.1  MANE        4.88   1683.60    244.18      1.88      5.00   1680.53    245.00         1.88

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2448E+03 EXCESS= .0000E+00 OUTFLOW= .2449E+03 BASIN STORAGE= .1146E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP3.3  MANE         .59   1882.19    244.63      1.93      5.00   1882.14    245.00         1.93

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2857E+03 EXCESS= .0000E+00 OUTFLOW= .2857E+03 BASIN STORAGE= .1090E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP3.3  MANE         .60   1842.96    244.83      1.89      5.00   1842.85    245.00         1.89

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2805E+03 EXCESS= .0000E+00 OUTFLOW= .2805E+03 BASIN STORAGE= .1134E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
            RCP3.3  MANE          .60   1817.52    244.95      1.87      5.00   1817.46    245.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2765E+03 EXCESS= .0000E+00 OUTFLOW= .2765E+03 BASIN STORAGE= .1090E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.3  MANE          .60   1803.87    245.05      1.84      5.00   1803.80    245.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2733E+03 EXCESS= .0000E+00 OUTFLOW= .2733E+03 BASIN STORAGE= .1171E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.47    275.35    214.49      2.00      5.00    270.22    215.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1852E+02 EXCESS= .0000E+00 OUTFLOW= .1854E+02 BASIN STORAGE= .5618E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.50    258.17    215.81      1.96      5.00    255.62    215.00        1.95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1811E+02 EXCESS= .0000E+00 OUTFLOW= .1813E+02 BASIN STORAGE= .7188E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.50    253.25    216.00      1.93      5.00    250.84    215.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1787E+02 EXCESS= .0000E+00 OUTFLOW= .1789E+02 BASIN STORAGE= .6961E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.50    250.60    216.00      1.91      5.00    248.14    215.00        1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1766E+02 EXCESS= .0000E+00 OUTFLOW= .1768E+02 BASIN STORAGE= .6935E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.25    508.98    212.50      2.01      5.00    506.47    215.00        2.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3708E+02 EXCESS= .0000E+00 OUTFLOW= .3712E+02 BASIN STORAGE= .6593E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.28    529.59    214.11      1.99      5.00    517.85    215.00        1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3664E+02 EXCESS= .0000E+00 OUTFLOW= .3667E+02 BASIN STORAGE= .7387E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.30    515.36    215.18      1.96      5.00    513.17    215.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3607E+02 EXCESS= .0000E+00 OUTFLOW= .3611E+02 BASIN STORAGE= .6220E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.32    495.59    216.13      1.93      5.00    490.17    215.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3556E+02 EXCESS= .0000E+00 OUTFLOW= .3560E+02 BASIN STORAGE= .7749E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.28    445.73    213.12      1.97      5.00    430.11    215.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3080E+02 EXCESS= .0000E+00 OUTFLOW= .3082E+02 BASIN STORAGE= .3723E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.30    433.51    214.34      1.93      5.00    423.97    215.00        1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3028E+02 EXCESS= .0000E+00 OUTFLOW= .3029E+02 BASIN STORAGE= .4212E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.31    419.33    215.34      1.91      5.00    419.04    215.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2987E+02 EXCESS= .0000E+00 OUTFLOW= .2989E+02 BASIN STORAGE= .3189E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.33    424.57    212.90      1.89      5.00    412.07    215.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2952E+02 EXCESS= .0000E+00 OUTFLOW= .2954E+02 BASIN STORAGE= .4132E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         2.87   1173.32    217.76      2.00      5.00   1162.93    215.00        2.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8651E+02 EXCESS= .0000E+00 OUTFLOW= .8654E+02 BASIN STORAGE= .5036E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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     RCP3.2  MANE         2.87   1155.66    215.51      1.96      5.00   1140.24    215.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8513E+02 EXCESS= .0000E+00 OUTFLOW= .8516E+02 BASIN STORAGE= .4393E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.2  MANE         2.89   1145.05    216.46      1.94      5.00   1115.77    215.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8391E+02 EXCESS= .0000E+00 OUTFLOW= .8394E+02 BASIN STORAGE= .3548E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.2  MANE         2.92   1118.13    215.78      1.91      5.00   1099.01    215.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8272E+02 EXCESS= .0000E+00 OUTFLOW= .8274E+02 BASIN STORAGE= .4245E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.4  MANE         1.57   3005.48    221.14      1.92      5.00   2962.11    220.00        1.92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4232E+03 EXCESS= .0000E+00 OUTFLOW= .4232E+03 BASIN STORAGE= .3129E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.4  MANE         1.58   2947.69    221.02      1.88      5.00   2911.06    220.00        1.88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4156E+03 EXCESS= .0000E+00 OUTFLOW= .4156E+03 BASIN STORAGE= .3255E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.4  MANE         1.59   2911.78    221.97      1.86      5.00   2874.79    220.00        1.86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4098E+03 EXCESS= .0000E+00 OUTFLOW= .4098E+03 BASIN STORAGE= .3817E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     RCP3.4  MANE         1.60   2875.15    221.73      1.83      5.00   2827.33    220.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4046E+03 EXCESS= .0000E+00 OUTFLOW= .4047E+03 BASIN STORAGE= .3731E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
      R3-6  MANE         4.50    133.06    220.50      1.97      5.00    132.17    220.00        1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9294E+01 EXCESS= .0000E+00 OUTFLOW= .9319E+01 BASIN STORAGE= .1191E-01 PERCENT ERROR=   -.4

   FOR PLAN = 1  RATIO=  .00
      R3-6  MANE         4.50    131.17    220.50      1.94      5.00    130.24    220.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9140E+01 EXCESS= .0000E+00 OUTFLOW= .9165E+01 BASIN STORAGE= .1186E-01 PERCENT ERROR=   -.4

   FOR PLAN = 1  RATIO=  .00
      R3-6  MANE         4.50    129.65    220.50      1.91      5.00    128.69    220.00        1.91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9018E+01 EXCESS= .0000E+00 OUTFLOW= .9042E+01 BASIN STORAGE= .1182E-01 PERCENT ERROR=   -.4

   FOR PLAN = 1  RATIO=  .00
      R3-6  MANE         4.50    128.32    220.50      1.89      5.00    127.34    220.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8911E+01 EXCESS= .0000E+00 OUTFLOW= .8935E+01 BASIN STORAGE= .1179E-01 PERCENT ERROR=   -.4

   FOR PLAN = 1  RATIO=  .00
      R3-7  MANE         3.66    275.87    212.47      1.89      5.00    253.29    210.00        1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1730E+02 EXCESS= .0000E+00 OUTFLOW= .1731E+02 BASIN STORAGE= .3020E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
      R3-7  MANE         3.68    280.94    213.68      1.87      5.00    254.36    210.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1709E+02 EXCESS= .0000E+00 OUTFLOW= .1710E+02 BASIN STORAGE= .3802E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
      R3-7  MANE         3.70    257.16    210.97      1.84      5.00    247.65    215.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1677E+02 EXCESS= .0000E+00 OUTFLOW= .1679E+02 BASIN STORAGE= .2926E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
      R3-7  MANE         3.72    259.85    211.83      1.81      5.00    242.65    210.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1658E+02 EXCESS= .0000E+00 OUTFLOW= .1659E+02 BASIN STORAGE= .3965E-02 PERCENT ERROR=   -.1

   FOR PLAN = 1  RATIO=  .00
      R3-J  MANE         5.00    138.04    220.00      1.27      5.00    138.04    220.00        1.27
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1034E+02 EXCESS= .0000E+00 OUTFLOW= .1035E+02 BASIN STORAGE= .7103E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-J	MANE	5.00	135.12	220.00	1.24	5.00	135.12	220.00	1.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1012E+02 EXCESS= .0000E+00 OUTFLOW= .1013E+02 BASIN STORAGE= .7055E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-J	MANE	5.00	132.79	220.00	1.22	5.00	132.79	220.00	1.22	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9950E+01 EXCESS= .0000E+00 OUTFLOW= .9961E+01 BASIN STORAGE= .7016E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-J	MANE	5.00	130.75	220.00	1.20	5.00	130.75	220.00	1.20	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9800E+01 EXCESS= .0000E+00 OUTFLOW= .9811E+01 BASIN STORAGE= .6981E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP3.5	MANE	1.51	467.61	216.84	1.68	5.00	458.04	215.00	1.68	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3692E+02 EXCESS= .0000E+00 OUTFLOW= .3692E+02 BASIN STORAGE= .1567E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.5	MANE	1.50	473.24	216.30	1.65	5.00	459.29	215.00	1.66	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3645E+02 EXCESS= .0000E+00 OUTFLOW= .3645E+02 BASIN STORAGE= .1430E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.5	MANE	1.51	464.94	216.51	1.63	5.00	450.00	215.00	1.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3585E+02 EXCESS= .0000E+00 OUTFLOW= .3585E+02 BASIN STORAGE= .1348E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.5	MANE	1.53	446.90	217.09	1.60	5.00	437.90	215.00	1.61	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3534E+02 EXCESS= .0000E+00 OUTFLOW= .3534E+02 BASIN STORAGE= .1388E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-8	MANE	3.36	818.30	218.38	2.02	5.00	806.11	220.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6862E+02 EXCESS= .0000E+00 OUTFLOW= .6864E+02 BASIN STORAGE= .4420E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-8	MANE	3.38	795.96	219.59	1.98	5.00	791.21	220.00	1.98	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6745E+02 EXCESS= .0000E+00 OUTFLOW= .6747E+02 BASIN STORAGE= .3427E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-8	MANE	3.39	778.29	220.57	1.95	5.00	778.09	220.00	1.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6655E+02 EXCESS= .0000E+00 OUTFLOW= .6657E+02 BASIN STORAGE= .4017E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-8	MANE	3.41	781.49	218.04	1.93	5.00	771.60	220.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6578E+02 EXCESS= .0000E+00 OUTFLOW= .6580E+02 BASIN STORAGE= .3340E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.86	2105.83	221.57	1.88	5.00	2084.03	220.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1943E+03 EXCESS= .0000E+00 OUTFLOW= .1944E+03 BASIN STORAGE= .3472E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.87	2065.45	222.72	1.85	5.00	2051.04	220.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1913E+03 EXCESS= .0000E+00 OUTFLOW= .1913E+03 BASIN STORAGE= .3244E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.88	2053.49	221.98	1.82	5.00	2021.81	220.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1885E+03 EXCESS= .0000E+00 OUTFLOW= .1886E+03 BASIN STORAGE= .3042E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.6	MANE	1.89	2008.99	221.03	1.80	5.00	1998.74	220.00	1.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1862E+03 EXCESS= .0000E+00 OUTFLOW= .1862E+03 BASIN STORAGE= .3030E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.96	253.49	215.99	1.92	5.00	252.08	215.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1974E+02 EXCESS= .0000E+00 OUTFLOW= .1975E+02 BASIN STORAGE= .2509E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.98	249.77	217.31	1.89	5.00	248.50	215.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1942E+02 EXCESS= .0000E+00 OUTFLOW= .1942E+02 BASIN STORAGE= .2244E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.99	247.57	216.41	1.87	5.00	245.69	215.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1916E+02 EXCESS= .0000E+00 OUTFLOW= .1917E+02 BASIN STORAGE= .2226E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-M	MANE	1.99	243.80	215.36	1.85	5.00	242.66	215.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1894E+02 EXCESS= .0000E+00 OUTFLOW= .1894E+02 BASIN STORAGE= .2276E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.15	2168.81	295.80	1.90	5.00	2168.60	295.00	1.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7159E+03 EXCESS= .0000E+00 OUTFLOW= .7159E+03 BASIN STORAGE= .2742E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.15	2154.05	295.45	1.87	5.00	2153.60	295.00	1.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7036E+03 EXCESS= .0000E+00 OUTFLOW= .7036E+03 BASIN STORAGE= .2806E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.16	2140.05	296.22	1.85	5.00	2139.83	295.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6938E+03 EXCESS= .0000E+00 OUTFLOW= .6938E+03 BASIN STORAGE= .2759E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-1	MANE	1.16	2127.50	295.76	1.82	5.00	2127.05	295.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6851E+03 EXCESS= .0000E+00 OUTFLOW= .6851E+03 BASIN STORAGE= .2757E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.56	2657.95	230.42	1.92	5.00	2657.83	230.00	1.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7918E+03 EXCESS= .0000E+00 OUTFLOW= .7918E+03 BASIN STORAGE= .4207E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.56	2635.27	231.27	1.88	5.00	2632.20	230.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7783E+03 EXCESS= .0000E+00 OUTFLOW= .7783E+03 BASIN STORAGE= .4437E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.57	2611.82	230.46	1.86	5.00	2611.61	230.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7675E+03 EXCESS= .0000E+00 OUTFLOW= .7676E+03 BASIN STORAGE= .4355E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.57	2594.23	231.14	1.83	5.00	2591.43	230.00	1.83	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7581E+03 EXCESS= .0000E+00 OUTFLOW= .7581E+03 BASIN STORAGE= .4369E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.92	382.62	215.73	1.96	5.00	379.39	215.00	1.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2948E+02 EXCESS= .0000E+00 OUTFLOW= .2949E+02 BASIN STORAGE= .1246E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.92	375.05	215.20	1.93	5.00	373.76	215.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2901E+02 EXCESS= .0000E+00 OUTFLOW= .2901E+02 BASIN STORAGE= .1285E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.93	370.90	215.33	1.91	5.00	368.89	215.00	1.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2862E+02 EXCESS= .0000E+00 OUTFLOW= .2862E+02 BASIN STORAGE= .1251E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	.93	366.86	215.34	1.88	5.00	364.83	215.00	1.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2829E+02 EXCESS= .0000E+00 OUTFLOW= .2829E+02 BASIN STORAGE= .1259E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.60	567.08	215.61	2.08	5.00	565.05	215.00	2.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4538E+02 EXCESS= .0000E+00 OUTFLOW= .4538E+02 BASIN STORAGE= .2320E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.61	557.35	215.25	2.04	5.00	556.73	215.00	2.04	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4468E+02 EXCESS= .0000E+00 OUTFLOW= .4468E+02 BASIN STORAGE= .2608E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.61	554.44	216.31	2.02	5.00	548.97	215.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4412E+02 EXCESS= .0000E+00 OUTFLOW= .4412E+02 BASIN STORAGE= .2438E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.62	545.84	215.60	1.99	5.00	544.16	215.00	2.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4362E+02 EXCESS= .0000E+00 OUTFLOW= .4362E+02 BASIN STORAGE= .2392E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.23	316.81	220.70	1.42	5.00	315.52	220.00	1.42	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2750E+02 EXCESS= .0000E+00 OUTFLOW= .2750E+02 BASIN STORAGE= .1465E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.24	310.81	221.16	1.39	5.00	310.68	220.00	1.39	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2697E+02 EXCESS= .0000E+00 OUTFLOW= .2697E+02 BASIN STORAGE= .1558E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.24	306.09	220.05	1.37	5.00	305.87	220.00	1.37	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2654E+02 EXCESS= .0000E+00 OUTFLOW= .2654E+02 BASIN STORAGE= .1519E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.25	301.91	220.01	1.35	5.00	301.86	220.00	1.35	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2617E+02 EXCESS= .0000E+00 OUTFLOW= .2617E+02 BASIN STORAGE= .1530E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.02	619.50	221.24	1.55	5.00	609.06	220.00	1.55	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5752E+02 EXCESS= .0000E+00 OUTFLOW= .5753E+02 BASIN STORAGE= .1533E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.03	606.52	220.81	1.52	5.00	597.97	220.00	1.52	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5644E+02 EXCESS= .0000E+00 OUTFLOW= .5645E+02 BASIN STORAGE= .1482E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.04	599.61	221.10	1.49	5.00	589.17	220.00	1.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5559E+02 EXCESS= .0000E+00 OUTFLOW= .5559E+02 BASIN STORAGE= .1561E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.04	591.43	221.23	1.47	5.00	581.01	220.00	1.48	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5483E+02 EXCESS= .0000E+00 OUTFLOW= .5484E+02 BASIN STORAGE= .1499E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-G1	MANE	.39	340.37	215.06	2.02	5.00	340.24	215.00	2.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2589E+02 EXCESS= .0000E+00 OUTFLOW= .2589E+02 BASIN STORAGE= .4596E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-G1	MANE	.39	335.29	215.15	1.99	5.00	335.10	215.00	1.99	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2548E+02 EXCESS= .0000E+00 OUTFLOW= .2548E+02 BASIN STORAGE= .4486E-03 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .39    331.51    215.00      1.96      5.00    331.50    215.00        1.96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2515E+02 EXCESS= .0000E+00 OUTFLOW= .2515E+02 BASIN STORAGE= .4491E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-G1  MANE          .39    327.90    215.11      1.94      5.00    327.71    215.00        1.94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2487E+02 EXCESS= .0000E+00 OUTFLOW= .2487E+02 BASIN STORAGE= .4715E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .79    413.61    215.13      1.55      5.00    412.80    215.00        1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1263E+03 EXCESS= .0000E+00 OUTFLOW= .1263E+03 BASIN STORAGE= .1526E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .79    408.33    215.74      1.53      5.00    406.51    215.00        1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1240E+03 EXCESS= .0000E+00 OUTFLOW= .1240E+03 BASIN STORAGE= .1480E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .79    402.22    215.17      1.50      5.00    401.22    215.00        1.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1221E+03 EXCESS= .0000E+00 OUTFLOW= .1221E+03 BASIN STORAGE= .1443E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-G1  MANE          .80    397.92    215.41      1.48      5.00    396.18    215.00        1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1204E+03 EXCESS= .0000E+00 OUTFLOW= .1204E+03 BASIN STORAGE= .1411E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .60    622.22    210.87      1.61      5.00    613.63    215.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1435E+03 EXCESS= .0000E+00 OUTFLOW= .1435E+03 BASIN STORAGE= .1380E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .60    612.78    210.98      1.58      5.00    604.21    215.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1409E+03 EXCESS= .0000E+00 OUTFLOW= .1409E+03 BASIN STORAGE= .1338E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .61    604.86    210.85      1.56      5.00    597.02    215.00        1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1388E+03 EXCESS= .0000E+00 OUTFLOW= .1388E+03 BASIN STORAGE= .1304E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-Q2  MANE          .61    598.63    211.15      1.54      5.00    589.92    215.00        1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1370E+03 EXCESS= .0000E+00 OUTFLOW= .1369E+03 BASIN STORAGE= .1276E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-H1  MANE          .53    818.38    210.58      1.65      5.00    802.40    210.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1581E+03 EXCESS= .0000E+00 OUTFLOW= .1581E+03 BASIN STORAGE= .1369E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-H1  MANE          .53    805.29    210.80      1.62      5.00    789.26    210.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1553E+03 EXCESS= .0000E+00 OUTFLOW= .1553E+03 BASIN STORAGE= .1326E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-H1  MANE          .54    795.23    210.80      1.59      5.00    779.15    210.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1530E+03 EXCESS= .0000E+00 OUTFLOW= .1530E+03 BASIN STORAGE= .1293E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RCP3-H1  MANE          .54    787.94    210.57      1.57      5.00    772.10    210.00        1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1510E+03 EXCESS= .0000E+00 OUTFLOW= .1510E+03 BASIN STORAGE= .1266E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP9  MANE          .57   1682.19    215.06      1.75      5.00   1681.15    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2329E+03 EXCESS= .0000E+00 OUTFLOW= .2329E+03 BASIN STORAGE= .1970E-01 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
              RCP9  MANE          .57   1657.66    215.20      1.72      5.00   1654.91    215.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2289E+03 EXCESS= .0000E+00 OUTFLOW= .2289E+03 BASIN STORAGE= .1910E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP9  MANE          .57   1636.48    215.16      1.69      5.00   1634.19    215.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2256E+03 EXCESS= .0000E+00 OUTFLOW= .2256E+03 BASIN STORAGE= .1861E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCP9  MANE          .58   1620.49    215.49      1.67      5.00   1617.62    215.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2228E+03 EXCESS= .0000E+00 OUTFLOW= .2228E+03 BASIN STORAGE= .1822E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-O  MANE         1.81    132.72    213.25      2.25      5.00    130.89    215.00        2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1047E+02 EXCESS= .0000E+00 OUTFLOW= .1047E+02 BASIN STORAGE= .1463E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-O  MANE         1.82    130.59    212.57      2.22      5.00    129.29    215.00        2.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+02 EXCESS= .0000E+00 OUTFLOW= .1031E+02 BASIN STORAGE= .1403E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-O  MANE         1.82    129.65    213.49      2.19      5.00    127.48    215.00        2.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1019E+02 EXCESS= .0000E+00 OUTFLOW= .1020E+02 BASIN STORAGE= .1416E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-O  MANE         1.83    127.86    212.47      2.17      5.00    126.67    215.00        2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1009E+02 EXCESS= .0000E+00 OUTFLOW= .1009E+02 BASIN STORAGE= .1464E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-P2  MANE         1.93    109.02    216.64      1.79      5.00    107.69    215.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8299E+01 EXCESS= .0000E+00 OUTFLOW= .8300E+01 BASIN STORAGE= .1685E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-P2  MANE         1.95    106.49    216.09      1.76      5.00    105.59    215.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8157E+01 EXCESS= .0000E+00 OUTFLOW= .8158E+01 BASIN STORAGE= .1515E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-P2  MANE         1.96    105.45    217.21      1.73      5.00    104.34    215.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8044E+01 EXCESS= .0000E+00 OUTFLOW= .8045E+01 BASIN STORAGE= .1485E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R3-P2  MANE         1.97    104.06    216.25      1.71      5.00    103.07    215.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7946E+01 EXCESS= .0000E+00 OUTFLOW= .7947E+01 BASIN STORAGE= .1494E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-P  MANE         1.29    437.27    215.59      2.12      5.00    435.74    215.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3488E+02 EXCESS= .0000E+00 OUTFLOW= .3488E+02 BASIN STORAGE= .1619E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-P  MANE         1.30    431.14    215.55      2.09      5.00    429.49    215.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3436E+02 EXCESS= .0000E+00 OUTFLOW= .3436E+02 BASIN STORAGE= .1669E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-P  MANE         1.30    426.98    215.29      2.07      5.00    425.51    215.00        2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3394E+02 EXCESS= .0000E+00 OUTFLOW= .3395E+02 BASIN STORAGE= .1824E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-P  MANE         1.31    421.38    214.78      2.04      5.00    421.20    215.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3357E+02 EXCESS= .0000E+00 OUTFLOW= .3357E+02 BASIN STORAGE= .1763E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
            RCP3-Q  MANE         2.11    565.13    217.42      2.12      5.00    561.84    215.00        2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4641E+02 EXCESS= .0000E+00 OUTFLOW= .4642E+02 BASIN STORAGE= .3138E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-Q  MANE         2.12    557.63    216.55      2.09      5.00    553.72    215.00        2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4571E+02 EXCESS= .0000E+00 OUTFLOW= .4572E+02 BASIN STORAGE= .3030E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-Q  MANE         2.13    552.04    217.40      2.06      5.00    548.42    215.00        2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4517E+02 EXCESS= .0000E+00 OUTFLOW= .4518E+02 BASIN STORAGE= .3207E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3-Q  MANE         2.14    545.41    216.15      2.04      5.00    540.55    215.00        2.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4468E+02 EXCESS= .0000E+00 OUTFLOW= .4469E+02 BASIN STORAGE= .3404E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCPH-2  MANE         1.04    703.84    215.83      2.13      5.00    694.18    215.00        2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5794E+02 EXCESS= .0000E+00 OUTFLOW= .5795E+02 BASIN STORAGE= .1729E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCPH-2  MANE         1.05    695.74    216.02      2.09      5.00    685.15    215.00        2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5707E+02 EXCESS= .0000E+00 OUTFLOW= .5707E+02 BASIN STORAGE= .1658E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCPH-2  MANE         1.05    686.79    215.83      2.07      5.00    677.16    215.00        2.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5640E+02 EXCESS= .0000E+00 OUTFLOW= .5640E+02 BASIN STORAGE= .1750E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCPH-2  MANE         1.06    678.70    215.94      2.05      5.00    668.71    215.00        2.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5577E+02 EXCESS= .0000E+00 OUTFLOW= .5578E+02 BASIN STORAGE= .1693E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.10  MANE          .28   2511.53    215.10      1.82      5.00   2507.43    215.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3035E+03 EXCESS= .0000E+00 OUTFLOW= .3035E+03 BASIN STORAGE= .1134E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.10  MANE          .28   2478.58    215.28      1.79      5.00   2471.56    215.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2984E+03 EXCESS= .0000E+00 OUTFLOW= .2984E+03 BASIN STORAGE= .1099E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.10  MANE          .28   2446.83    215.22      1.76      5.00   2440.18    215.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2943E+03 EXCESS= .0000E+00 OUTFLOW= .2943E+03 BASIN STORAGE= .1071E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.10  MANE          .28   2420.23    215.31      1.74      5.00   2414.05    215.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2907E+03 EXCESS= .0000E+00 OUTFLOW= .2907E+03 BASIN STORAGE= .1048E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE         2.35   2634.49    218.12      1.84      5.00   2580.54    215.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3207E+03 EXCESS= .0000E+00 OUTFLOW= .3207E+03 BASIN STORAGE= .5724E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE         2.36   2603.69    216.82      1.81      5.00   2548.50    215.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3154E+03 EXCESS= .0000E+00 OUTFLOW= .3154E+03 BASIN STORAGE= .5527E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSHFH-9  MANE         2.37   2577.66    217.74      1.78      5.00   2518.13    215.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3111E+03 EXCESS= .0000E+00 OUTFLOW= .3112E+03 BASIN STORAGE= .5388E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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RCSHFH-9	MANE	2.38	2528.30	216.14	1.76	5.00	2480.42	215.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3073E+03 EXCESS= .0000E+00 OUTFLOW= .3074E+03 BASIN STORAGE= .5246E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.62	5458.87	220.83	1.88	5.00	5429.06	220.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1165E+04 EXCESS= .0000E+00 OUTFLOW= .1165E+04 BASIN STORAGE= .2838E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.62	5375.82	220.86	1.85	5.00	5345.32	220.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1146E+04 EXCESS= .0000E+00 OUTFLOW= .1146E+04 BASIN STORAGE= .2747E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.62	5324.06	221.00	1.83	5.00	5294.04	220.00	1.83	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1130E+04 EXCESS= .0000E+00 OUTFLOW= .1130E+04 BASIN STORAGE= .2681E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.63	5242.80	221.04	1.80	5.00	5212.83	220.00	1.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1116E+04 EXCESS= .0000E+00 OUTFLOW= .1116E+04 BASIN STORAGE= .2615E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	.94	5585.16	221.50	1.88	5.00	5524.18	220.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1182E+04 EXCESS= .0000E+00 OUTFLOW= .1182E+04 BASIN STORAGE= .4222E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	.94	5507.17	220.90	1.85	5.00	5440.07	220.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1162E+04 EXCESS= .0000E+00 OUTFLOW= .1162E+04 BASIN STORAGE= .4083E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	.95	5445.64	221.71	1.82	5.00	5381.63	220.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1146E+04 EXCESS= .0000E+00 OUTFLOW= .1146E+04 BASIN STORAGE= .3983E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	.95	5372.67	221.07	1.80	5.00	5301.42	220.00	1.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1132E+04 EXCESS= .0000E+00 OUTFLOW= .1132E+04 BASIN STORAGE= .3888E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	.92	5677.44	235.58	1.85	5.00	5662.31	235.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1228E+04 EXCESS= .0000E+00 OUTFLOW= .1228E+04 BASIN STORAGE= .4497E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	.92	5595.25	236.00	1.82	5.00	5578.67	235.00	1.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1207E+04 EXCESS= .0000E+00 OUTFLOW= .1207E+04 BASIN STORAGE= .4350E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	.93	5544.72	235.92	1.80	5.00	5525.11	235.00	1.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1191E+04 EXCESS= .0000E+00 OUTFLOW= .1191E+04 BASIN STORAGE= .4243E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	.93	5463.32	236.19	1.77	5.00	5447.97	235.00	1.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1176E+04 EXCESS= .0000E+00 OUTFLOW= .1176E+04 BASIN STORAGE= .4142E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	1.93	308.61	231.84	1.51	5.00	305.31	230.00	1.51	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3546E+02 EXCESS= .0000E+00 OUTFLOW= .3546E+02 BASIN STORAGE= .9062E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	1.94	302.68	233.10	1.48	5.00	299.94	230.00	1.48	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3482E+02 EXCESS= .0000E+00 OUTFLOW= .3482E+02 BASIN STORAGE= .8444E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	1.95	299.03	232.18	1.46	5.00	295.41	230.00	1.46	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3431E+02 EXCESS= .0000E+00 OUTFLOW= .3431E+02 BASIN STORAGE= .8002E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	1.96	294.73	233.08	1.44	5.00	291.86	230.00	1.44	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3386E+02 EXCESS= .0000E+00 OUTFLOW= .3386E+02 BASIN STORAGE= .8012E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.56	629.65	225.81	1.56	5.00	626.34	225.00	1.56	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6963E+02 EXCESS= .0000E+00 OUTFLOW= .6963E+02 BASIN STORAGE= .8905E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.57	618.94	227.02	1.54	5.00	615.56	225.00	1.54	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6839E+02 EXCESS= .0000E+00 OUTFLOW= .6839E+02 BASIN STORAGE= .7641E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.57	612.55	226.41	1.51	5.00	606.11	225.00	1.51	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6741E+02 EXCESS= .0000E+00 OUTFLOW= .6741E+02 BASIN STORAGE= .8753E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.58	601.96	225.71	1.49	5.00	599.37	225.00	1.49	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6654E+02 EXCESS= .0000E+00 OUTFLOW= .6654E+02 BASIN STORAGE= .8446E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.33	879.34	226.29	1.57	5.00	876.58	225.00	1.57	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9563E+02 EXCESS= .0000E+00 OUTFLOW= .9563E+02 BASIN STORAGE= .1276E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.35	866.50	225.13	1.55	5.00	865.42	225.00	1.55	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9397E+02 EXCESS= .0000E+00 OUTFLOW= .9397E+02 BASIN STORAGE= .1241E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.36	852.31	226.16	1.52	5.00	848.88	225.00	1.52	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9259E+02 EXCESS= .0000E+00 OUTFLOW= .9259E+02 BASIN STORAGE= .1241E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.36	842.75	224.58	1.51	5.00	842.53	225.00	1.51	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9146E+02 EXCESS= .0000E+00 OUTFLOW= .9146E+02 BASIN STORAGE= .1330E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.40	1292.07	226.62	1.70	5.00	1276.42	225.00	1.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1414E+03 EXCESS= .0000E+00 OUTFLOW= .1414E+03 BASIN STORAGE= .1809E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.41	1275.99	226.28	1.67	5.00	1258.09	225.00	1.67	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1391E+03 EXCESS= .0000E+00 OUTFLOW= .1392E+03 BASIN STORAGE= .1589E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.41	1254.35	226.21	1.65	5.00	1237.29	225.00	1.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1371E+03 EXCESS= .0000E+00 OUTFLOW= .1371E+03 BASIN STORAGE= .1873E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.42	1242.45	226.87	1.63	5.00	1227.32	225.00	1.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1356E+03 EXCESS= .0000E+00 OUTFLOW= .1356E+03 BASIN STORAGE= .1831E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	5.00	309.69	220.00	1.67	5.00	309.69	220.00	1.67	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2575E+02 EXCESS= .0000E+00 OUTFLOW= .2576E+02 BASIN STORAGE= .1402E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	5.00	304.59	220.00	1.64	5.00	304.59	220.00	1.64	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2531E+02 EXCESS= .0000E+00 OUTFLOW= .2532E+02 BASIN STORAGE= .1390E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	5.00	300.50	220.00	1.61	5.00	300.50	220.00	1.61	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2496E+02 EXCESS= .0000E+00 OUTFLOW= .2497E+02 BASIN STORAGE= .1381E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	5.00	296.94	220.00	1.60	5.00	296.94	220.00	1.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2466E+02 EXCESS= .0000E+00 OUTFLOW= .2467E+02 BASIN STORAGE= .1372E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.78	2000.40	227.78	1.65	5.00	1985.15	230.00	1.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2115E+03 EXCESS= .0000E+00 OUTFLOW= .2115E+03 BASIN STORAGE= .2826E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.79	1957.96	228.95	1.63	5.00	1945.11	230.00	1.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2080E+03 EXCESS= .0000E+00 OUTFLOW= .2080E+03 BASIN STORAGE= .2950E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.81	1936.51	227.34	1.60	5.00	1926.07	230.00	1.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2050E+03 EXCESS= .0000E+00 OUTFLOW= .2050E+03 BASIN STORAGE= .2912E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	2.82	1917.35	228.07	1.58	5.00	1904.45	230.00	1.58	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2027E+03 EXCESS= .0000E+00 OUTFLOW= .2027E+03 BASIN STORAGE= .3246E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.69	7634.17	233.85	1.81	5.00	7628.97	235.00	1.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+04 EXCESS= .0000E+00 OUTFLOW= .1459E+04 BASIN STORAGE= .9447E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.70	7511.92	236.88	1.78	5.00	7504.41	235.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1434E+04 EXCESS= .0000E+00 OUTFLOW= .1434E+04 BASIN STORAGE= .9145E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.71	7438.94	236.05	1.75	5.00	7433.64	235.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1414E+04 EXCESS= .0000E+00 OUTFLOW= .1414E+04 BASIN STORAGE= .8905E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC3B-2B	MANE	1.72	7329.44	235.58	1.73	5.00	7329.28	235.00	1.73	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1397E+04 EXCESS= .0000E+00 OUTFLOW= .1397E+04 BASIN STORAGE= .8714E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.51	7817.90	236.27	1.79	5.00	7770.93	235.00	1.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1483E+04 EXCESS= .0000E+00 OUTFLOW= .1483E+04 BASIN STORAGE= .8673E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.52	7688.81	236.22	1.76	5.00	7638.69	235.00	1.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1458E+04 EXCESS= .0000E+00 OUTFLOW= .1458E+04 BASIN STORAGE= .8430E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.53	7595.05	237.07	1.74	5.00	7567.08	235.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1438E+04 EXCESS= .0000E+00 OUTFLOW= .1438E+04 BASIN STORAGE= .8195E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSF2-C	MANE	1.54	7503.31	236.79	1.72	5.00	7461.84	235.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1420E+04 EXCESS= .0000E+00 OUTFLOW= .1420E+04 BASIN STORAGE= .8008E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RSW11	MANE	1.17	537.61	225.40	1.73	5.00	537.50	225.00	1.73	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5446E+02 EXCESS= .0000E+00 OUTFLOW= .5446E+02 BASIN STORAGE= .1620E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RSW11	MANE	1.18	529.38	224.50	1.70	5.00	528.94	225.00	1.71	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5354E+02 EXCESS= .0000E+00 OUTFLOW= .5354E+02 BASIN STORAGE= .1715E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RSW11	MANE	1.19	522.38	224.49	1.68	5.00	522.00	225.00	1.68	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5280E+02 EXCESS= .0000E+00 OUTFLOW= .5280E+02 BASIN STORAGE= .1703E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RSW11	MANE	1.19	515.81	224.35	1.66	5.00	515.81	225.00	1.66	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5215E+02 EXCESS= .0000E+00 OUTFLOW= .5216E+02 BASIN STORAGE= .1806E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSW17	MANE	1.89	869.30	222.94	1.72	5.00	863.33	225.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8683E+02 EXCESS= .0000E+00 OUTFLOW= .8683E+02 BASIN STORAGE= .3408E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSW17	MANE	1.90	854.93	222.47	1.69	5.00	849.84	225.00	1.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8535E+02 EXCESS= .0000E+00 OUTFLOW= .8536E+02 BASIN STORAGE= .3921E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSW17	MANE	1.91	844.46	223.68	1.67	5.00	837.30	225.00	1.67	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8418E+02 EXCESS= .0000E+00 OUTFLOW= .8418E+02 BASIN STORAGE= .3482E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSW17	MANE	1.92	833.98	222.87	1.65	5.00	828.66	225.00	1.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8314E+02 EXCESS= .0000E+00 OUTFLOW= .8315E+02 BASIN STORAGE= .3353E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC13B-1	MANE	5.00	257.82	225.00	1.93	5.00	257.82	225.00	1.93	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2562E+02 EXCESS= .0000E+00 OUTFLOW= .2563E+02 BASIN STORAGE= .1569E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC13B-1	MANE	5.00	254.38	225.00	1.90	5.00	254.38	225.00	1.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2523E+02 EXCESS= .0000E+00 OUTFLOW= .2523E+02 BASIN STORAGE= .1774E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC13B-1	MANE	5.00	251.35	225.00	1.88	5.00	251.35	225.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2491E+02 EXCESS= .0000E+00 OUTFLOW= .2492E+02 BASIN STORAGE= .1762E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC13B-1	MANE	5.00	248.69	225.00	1.86	5.00	248.69	225.00	1.86	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2464E+02 EXCESS= .0000E+00 OUTFLOW= .2464E+02 BASIN STORAGE= .1752E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC13B-2	MANE	5.00	460.31	230.00	1.84	5.00	460.31	230.00	1.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4555E+02 EXCESS= .0000E+00 OUTFLOW= .4559E+02 BASIN STORAGE= .5102E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13B-2	MANE	5.00	452.89	230.00	1.81	5.00	452.89	230.00	1.81	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4483E+02 EXCESS= .0000E+00 OUTFLOW= .4486E+02 BASIN STORAGE= .5236E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13B-2	MANE	5.00	447.25	230.00	1.79	5.00	447.25	230.00	1.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4425E+02 EXCESS= .0000E+00 OUTFLOW= .4428E+02 BASIN STORAGE= .5211E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RC13B-2	MANE	5.00	442.31	230.00	1.77	5.00	442.31	230.00	1.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4375E+02 EXCESS= .0000E+00 OUTFLOW= .4378E+02 BASIN STORAGE= .5189E-02 PERCENT ERROR= -.1

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          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    229.50    235.00      1.83      5.00    229.50    235.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2473E+02 EXCESS= .0000E+00 OUTFLOW= .2474E+02 BASIN STORAGE= .2025E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    226.08    235.00      1.80      5.00    226.08    235.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2433E+02 EXCESS= .0000E+00 OUTFLOW= .2434E+02 BASIN STORAGE= .2008E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    223.27    235.00      1.78      5.00    223.27    235.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2401E+02 EXCESS= .0000E+00 OUTFLOW= .2402E+02 BASIN STORAGE= .2229E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    220.87    235.00      1.76      5.00    220.87    235.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2374E+02 EXCESS= .0000E+00 OUTFLOW= .2374E+02 BASIN STORAGE= .2216E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RC13A-2  MANE      5.00    562.30    235.00      1.84      5.00    562.30    235.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6525E+02 EXCESS= .0000E+00 OUTFLOW= .6528E+02 BASIN STORAGE= .8893E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC13A-2  MANE      5.00    553.55    235.00      1.81      5.00    553.55    235.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6421E+02 EXCESS= .0000E+00 OUTFLOW= .6424E+02 BASIN STORAGE= .8835E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC13A-2  MANE      5.00    546.33    235.00      1.79      5.00    546.33    235.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6337E+02 EXCESS= .0000E+00 OUTFLOW= .6341E+02 BASIN STORAGE= .9465E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC13A-2  MANE      5.00    540.20    235.00      1.77      5.00    540.20    235.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6265E+02 EXCESS= .0000E+00 OUTFLOW= .6268E+02 BASIN STORAGE= .9422E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RCPIC-C  MANE      3.24    747.65    236.58      1.81      5.00    744.20    235.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8783E+02 EXCESS= .0000E+00 OUTFLOW= .8783E+02 BASIN STORAGE= .2504E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCPIC-C  MANE      3.26    735.49    237.83      1.78      5.00    729.76    235.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8641E+02 EXCESS= .0000E+00 OUTFLOW= .8642E+02 BASIN STORAGE= .2590E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCPIC-C  MANE      3.27    722.81    235.60      1.76      5.00    720.41    235.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8528E+02 EXCESS= .0000E+00 OUTFLOW= .8529E+02 BASIN STORAGE= .2612E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCPIC-C  MANE      3.28    717.97    236.49      1.74      5.00    714.38    235.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8432E+02 EXCESS= .0000E+00 OUTFLOW= .8433E+02 BASIN STORAGE= .2863E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCCPIC-A  MANE     4.56   1436.54    237.19      1.81      5.00   1416.85    240.00        1.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1669E+03 EXCESS= .0000E+00 OUTFLOW= .1670E+03 BASIN STORAGE= .2910E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCCPIC-A  MANE     4.59   1412.90    238.43      1.78      5.00   1396.42    240.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1644E+03 EXCESS= .0000E+00 OUTFLOW= .1644E+03 BASIN STORAGE= .3294E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RCCPIC-A  MANE     4.60   1400.49    239.33      1.76      5.00   1390.78    240.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1624E+03 EXCESS= .0000E+00 OUTFLOW= .1624E+03 BASIN STORAGE= .3030E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
          RCCPIC-A  MANE         4.62   1381.62    240.02      1.74      5.00   1381.60    240.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1605E+03 EXCESS= .0000E+00 OUTFLOW= .1606E+03 BASIN STORAGE= .3652E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .41   3386.23    240.41      1.67      5.00   3385.01    240.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4090E+03 EXCESS= .0000E+00 OUTFLOW= .4090E+03 BASIN STORAGE= .8511E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .41   3332.78    240.19      1.64      5.00   3331.47    240.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4023E+03 EXCESS= .0000E+00 OUTFLOW= .4023E+03 BASIN STORAGE= .8673E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .41   3300.98    240.23      1.62      5.00   3299.69    240.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3972E+03 EXCESS= .0000E+00 OUTFLOW= .3972E+03 BASIN STORAGE= .8550E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .42   3268.34    240.29      1.60      5.00   3266.45    240.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3925E+03 EXCESS= .0000E+00 OUTFLOW= .3925E+03 BASIN STORAGE= .8666E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         1.86    321.59    232.41      1.72      5.00    321.14    235.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4038E+02 EXCESS= .0000E+00 OUTFLOW= .4038E+02 BASIN STORAGE= .2416E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         1.86    317.07    233.11      1.69      5.00    316.19    235.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3974E+02 EXCESS= .0000E+00 OUTFLOW= .3974E+02 BASIN STORAGE= .2491E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         1.87    313.47    233.68      1.67      5.00    312.20    235.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3922E+02 EXCESS= .0000E+00 OUTFLOW= .3922E+02 BASIN STORAGE= .2645E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         1.87    309.58    234.19      1.65      5.00    309.08    235.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3878E+02 EXCESS= .0000E+00 OUTFLOW= .3878E+02 BASIN STORAGE= .2314E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.09   3777.50    240.11      1.67      5.00   3776.55    240.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4662E+03 EXCESS= .0000E+00 OUTFLOW= .4663E+03 BASIN STORAGE= .3361E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.09   3718.29    240.55      1.64      5.00   3717.77    240.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4586E+03 EXCESS= .0000E+00 OUTFLOW= .4586E+03 BASIN STORAGE= .3304E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.10   3681.88    240.39      1.62      5.00   3680.97    240.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4527E+03 EXCESS= .0000E+00 OUTFLOW= .4527E+03 BASIN STORAGE= .3262E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.10   3643.34    240.27      1.60      5.00   3641.35    240.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4474E+03 EXCESS= .0000E+00 OUTFLOW= .4474E+03 BASIN STORAGE= .3442E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.70    269.75    230.17      1.66      5.00    269.04    235.00        1.67

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3133E+02 EXCESS= .0000E+00 OUTFLOW= .3133E+02 BASIN STORAGE= .6744E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.71    265.73    230.86      1.64      5.00    263.62    235.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3080E+02 EXCESS= .0000E+00 OUTFLOW= .3079E+02 BASIN STORAGE= .5792E-03 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.72    262.53    231.42      1.61      5.00    259.40    235.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3038E+02 EXCESS= .0000E+00 OUTFLOW= .3037E+02 BASIN STORAGE= .8073E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         4.73    259.73    231.92      1.59      5.00    256.08    235.00        1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3002E+02 EXCESS= .0000E+00 OUTFLOW= .3002E+02 BASIN STORAGE= .7345E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.21    125.19    235.38       .86      5.00    125.10    235.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1449E+02 EXCESS= .0000E+00 OUTFLOW= .1449E+02 BASIN STORAGE= .1984E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.21    122.27    235.54       .84      5.00    122.18    235.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1416E+02 EXCESS= .0000E+00 OUTFLOW= .1416E+02 BASIN STORAGE= .2125E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.22    119.97    235.44       .82      5.00    119.87    235.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1389E+02 EXCESS= .0000E+00 OUTFLOW= .1389E+02 BASIN STORAGE= .2130E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.23    117.99    235.21       .81      5.00    117.91    235.00         .81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1366E+02 EXCESS= .0000E+00 OUTFLOW= .1366E+02 BASIN STORAGE= .2184E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    252.64    230.00      1.17      5.00    252.64    230.00        1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2937E+02 EXCESS= .0000E+00 OUTFLOW= .2939E+02 BASIN STORAGE= .4414E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    247.98    230.00      1.15      5.00    247.98    230.00        1.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2882E+02 EXCESS= .0000E+00 OUTFLOW= .2883E+02 BASIN STORAGE= .4370E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    244.23    230.00      1.13      5.00    244.23    230.00        1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2838E+02 EXCESS= .0000E+00 OUTFLOW= .2839E+02 BASIN STORAGE= .4334E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    240.99    230.00      1.12      5.00    240.99    230.00        1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2799E+02 EXCESS= .0000E+00 OUTFLOW= .2801E+02 BASIN STORAGE= .4301E-02 PERCENT ERROR=   -.1



*** NORMAL END OF HEC-1 ***
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B.5.5 100-YEAR SDN 5 DB5/ALTA TRIBUTARY

```
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   06DEC17  TIME  08:41:07  *                *          (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
 *** FREE ***
             1          ID   THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
             2          ID   TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
             3          ID   DOWNSTREAM HOLDING FACILITIES
             4          ID
             5          ID   MODELED BY VTN, NEVADA SVB/JYA
             6          ID   MAY 9, 2017
             7          ID
             8          ID
             9          ID    CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
            10          ID    GOWAN WATERSHED (ALL)
            11          ID    RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
            12          ID    INPUT FILE = ALT1-SDN3.DAT
            13          ID    INPUT FILE DATE = MAY 5, 2008
            14          ID    DESIGN STORM = 100-YEAR 6-HR STORM
            15          ID    STORM DISTRIBUTION = SDN #5
            16          ID    MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
            17          ID    CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
            18          ID    STORM CENTERING = FULL WATERSHEDCP
            19          ID
            20          ID    REFERENCED HYDROLOGIC MODELS:
            21          ID    CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
            22          ID    NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
            23          ID    RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
            24          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
            25          ID    3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
            26          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
            27          ID    SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
            28          ID    MASTER PLAN UPDATE (G.C. WALLACE 2006)
            29          ID    GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
            30          ID    (G.C. WALLACE 2007)
            31          ID    LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
            32          ID    FROM G.C. WALLACE ON JANUARY 31, 2008)
            33          ID    US 95/RANCHO FIS RESTUDY (PBS&J 1998)
            34          ID    JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
            35          ID
            36          ID                          AREA    DARF
            37          ID                          SQ. MI.
            38          ID                          12-16   0.832
            39          ID                          16-20   0.804
            40          ID                          20-30   0.765
            41          ID                          30-40   0.725
            42          ID                          40-50   0.695
            43          ID                          50-75   0.66
            44          ID                          75-100  0.62
            45          ID
            46          ID
            47          ID
            48          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
            49          ID
            50          ID  100-YEAR,  6-HOUR STORM,  SDN5
            51          ID
            52          IT       5       0       0     300
            53          IO       5       0       0
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          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
            54          IN       5       0       0
            55          JR    PREC   0.832   0.804   0.765
                        *
            56          KK     3-1
            57          KM   COMPARE TO MPU BASIN DB54-1 (CURVE NUMBER CHANGED FROM 87.2)
            58          BA    2.22
            59          PB    3.75
            60          PC       0    0.02   0.059    0.08    0.11   0.144    0.15    0.16   0.168   0.171
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 61          PC    0.18   0.182   0.187    0.19   0.197   0.202    0.21    0.22    0.23   0.241
 62          PC    0.25   0.259   0.265    0.28    0.29     0.3   0.305   0.309    0.31   0.317
 63          PC   0.321   0.327   0.333   0.346   0.361   0.381   0.408    0.43   0.477   0.514
 64          PC   0.561    0.63    0.71    0.72   0.731   0.752   0.779    0.79   0.795   0.804
 65          PC    0.81    0.82   0.826    0.84   0.859   0.889    0.91   0.938   0.966    0.97
 66          PC   0.974   0.979   0.981   0.983   0.985   0.989    0.99   0.992   0.993   0.996
 67          PC   0.997   0.999       1
 68          LS       0    87.0
 69          UD   0.582
             *

 70          KK    R3-1
 71          KM   ROUTE R3-1 THROUGH 3-2
 72          KM   EXISTING NATURAL WASH
 73          RD    3322   0.092   0.030       0    TRAP     125       0
             *

 74          KK     3-2
 75          KM   COMPARE TO MPU BASIN DB54-5 (CURVE NUMBER CHANGED FROM 85.2)
 76          BA   0.226
 77          PB    3.67
 78          LS       0    83.9
 79          UD   0.110
             *

 80          KK   CP3.1
 81          KM   COMBINE R3-1 AND 3-2
 82          HC       2
             *

 83          KK  RCP3.1
 84          KM   ROUTE CP3.1 TO CP3.3 THROUGH 3-E VIA
 85          KM   (PORTION OF FACILITY APM50059)
 86          RD    7900   0.070   0.013       0    TRAP     125       2
             *

 87          KK     3-D
 88          KM   PORTION OF BASINS DB54-6R (PB=3.56)
 89          BA  0.3329
 90          PB    3.59
 91          LS       0    84.6
 92          UD   0.223
             *
1                                      HEC-1 INPUT                                          PAGE  3

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

 93          KK   CP3.3
 94          KM   COMBINE 3-D, RCP3.1,
 95          HC       2
             *

 96          KK  RCP3.3
 97          KM   ROUTE CP3.3 TO CP3.4 THROUGH 3-E VIA A
 98          KM   (PORTION OF FACILITY APM50059)
 99          RD    1000   0.070   0.013       0    TRAP     125       2
             *

100          KK     3-3
101          KM   PORTION OF MPU BASIN DB54-3
102          BA  0.1737
103          PB    3.65
104          LS       0    88.0
105          UD   0.081
             *

106          KK    R3-3
107          KM   ROUTE R3-3 THROUGH A PORTION OF 3-E TO CP3.2
108          KM   NATURAL WASH
109          RD    2233   0.054   0.030       0    TRAP     100       0
             *

110          KK     3-4
111          KM   PORTION OF MPU BASIN DB54-3
112          BA  0.3457
113          PB    3.68
114          LS       0    88.0
115          UD   0.092
             *

116          KK    R3-4
117          KM   ROUTE R3-4 THROUGH A PORTION OF 3-E TO CP3.2
118          KM   NATURAL WASH
119          RD    3300   0.097   0.030       0    TRAP     100       0
             *

120          KK     3-5
121          KM   COMPARE TO MPU BASIN DB54-2 (SLIGHTLY LARGER PORTION OF DB54-4)
122          BA  0.2936
123          PB    3.65
124          LS       0    87.7
125          UD   0.094
             *

126          KK    R3-5
127          KM   ROUTE R3-5 THROUGH A PORTION OF 3-E TO CP3.2
128          KM   (PORTION OF FACILITY APM50057)
129          RD    4400   0.068   0.013       0    TRAP      50       2
             *
1                                      HEC-1 INPUT                                          PAGE  4

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

130          KK   CP3.2
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131           KM   COMBINE R3-5 , R3-4 AND R3-3
132           HC       3
              *

133           KK  RCP3.2
134           KM   ROUTE RCP3.2 THROUGH A PORTION OF 3-E TO CP3.4
135           KM   (PORTION OF FACILITY APM50057)
136           RD    5500   0.068   0.013       0    TRAP      50       2
              *

137           KK     3-E
138           KM   PORTION OF BASINS DB54-4 (PB=3.60) AND DB54-6R (PB=3.56)
139           BA  0.5442
140           PB    3.57
141           LS       0    85.8
142           UD   0.238
              *

143           KK   CP3.4
144           KM   COMBINE 3-E, RCP3.2 AND RCP3.3
145           HC       3
              *

146           KK  RCP3.4
147           KM   ROUTE RCP3.4 THROUGH A PORTION OF 3-N TO CPDB3
148           KM   (FACILITIES APM50056, APM50047 AND APM50008)
149           RD    3365   0.052   0.013       0    TRAP      80       2
              *

150           KK     3-6
151           KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
152           BA  0.0887
153           PB    3.62
154           LS       0    88.0
155           UD   0.074
              *

156           KK    R3-6
157           KM   ROUTE 3-6 THROUGH A PORTION OF 3-J AND A PORTION OF 3-K TO CP3.5
158           KM   EXISTING NATURAL WASHES
159           RD    4500   0.080   0.030       0    TRAP     100       0
              *

160           KK     3-7
161           KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
162           BA  0.1714
163           PB    3.61
164           LS       0    87.2
165           UD   0.048
              *
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1 HEC-1 INPUT PAGE 5

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

166           KK    R3-7
167           KM   ROUTE 3-7 THROUGH A PORTION OF 3-K TO CP3.5
168           KM   PORTION OF FACILITY ID APM50213
169           RD    4340   0.073   0.013       0    TRAP      50       2
              *

170           KK     3-J
171           KM   PORTION OF MPU BASIN DB55-4
172           BA  0.1529
173           PB    3.59
174           LS       0    78.6
175           UD   0.168
              *

176           KK    R3-J
177           KM   ROUTE 3-J THROUGH A PORTION OF 3-K TO CP3.5
178           KM   NATURAL WASHES
179           RD    2700   0.074   0.030       0    TRAP     100       0
              *

180           KK   CP3.5
181           KM   COMBINE R3-J, R3-7 AND R3-6
182           HC       3
              *

183           KK  RCP3.5
184           KM   ROUTE CP3.5 THROUGH A PORTION OF 3-K TO CP3.6
185           KM   PORTION OF FACILITY ID APM50213
186           RD    2100   0.073   0.013       0    TRAP      50       2
              *

187           KK     3-8
188           KM   COMPARE TO MPU BASIN DB55-1
189           BA  0.6386
190           PB    3.70
191           LS       0    87.8
192           UD   0.196
              *

193           KK    R3-8
194           KM   ROUTE 3-8 THROUGH A PORTION OF 3-K TO CP3.6
195           KM   FACILITY ID APM50212
196           RD    6695   0.075   0.013       0    TRAP      30       2
              *

197           KK     3-K
198           KM   COMPARE TO MPU BASIN DB55-7
199           BA  0.8890
200           PB    3.54
201           LS       0    87.6
202           UD   0.296
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                *
1                                       HEC-1 INPUT                                                    PAGE  6

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

           203      KK   CP3.6
           204      KM   COMBINE 3-K, R3-8 AND RCP3.5
           205      HC       3
                    *
           206      KK  RCP3.6
           207      KM   ROUTE CP3.6 THROUGH A PORTION OF 3-N TO CPDB3
           208      KM   FACILITY ID APM500009
           209      RD    4180   0.058   0.013       0    TRAP      50       2
                    *
           210      KK     3-N
           211      KM   COMPARE TO MPU BASIN DB55-8
           212      BA  0.4557
           213      PB    3.46
           214      LS       0    88.9
           215      UD   0.269
                    *
           216      KK     3-M
           217      KM   COMPARE TO MPU BASIN DB55-8
           218      BA  0.1924
           219      PB    3.48
           220      LS       0    88.8
           221      UD   0.147
                    *
           222      KK    R3-M
           223      KM   ROUTE 3-M THROUGH A PORTION OF 3-N TO CP3.7
           224      KM   FACILITY ID PORTION OF APM500009
           225      RD    4500  0.0528   0.013       0    TRAP       7       0
                    *
           226      KK   CPDB5
           227      KM    COMBINE 3-M, 3-N, RCP3.6 AND RCP3.4
           228      KM    TOTAL INFLOW TO SUMMERLIN #5 DETENTION BASIN
           229      KO       0
           230      HC       4
                    *
           231      KK     DB5
           232      KM    SUMMERLIN DETENTION BASIN 5
           233      KM    FACILITY = ANGEL PARK - MIDDLE 5 BRANCH
           234      KM    FACILITY # = APM5 0000
           235      KM    STORAGE VOLUME = 384.1 ACRE-FEET
           236      KM    OUTLET = 2: 7' x 5.5' RCBS
           237      KM    100-YEAR DISCHARGE = 2,150 CFS
           238      KM    SPILLWAY LENGTH = 453.6'
           239      KM    SPILLWAY HEIGHT =
           240      KM    SPILLWAY CREST ELEVATION = 3563'
           241      KM    SPILLWAY TYPE = CONCRETE BROAD CRESTED WEIR
           242      KM    PMF DISCHARGE = 12,153 CFS
           243      KM    TOP OF EMBANKMENT ELEVATION = 3569'
           244      KM    DETENTION BASIN PARAMETERS REFERENCED FROM "DETENTION BASIN NO. 5
1                                       HEC-1 INPUT                                                    PAGE  7

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

           245      KM    EXPANSION AND DIVERSION BERM" PLANS BY G.C. WALLACE (5-23-2001)
           246      KM    STAGE-STORAGE-DISCHARGE CURVE REFERENCED FROM "2006 SUMMERLIN WEST
           247      KM    CONCEPTUAL DRAINAGE STUDY MASTER PLAN AMENDMENT: EXISTING OFFSITE/PROPOSED
           248      KM    ONSITE DRAINAGE CONDITION" HYDROLOGIC MODEL DATED 8-7-2006 AND SUBMITTED
           249      KM    WITH THE SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
           250      KM    CONTROL MASTER PLAN UPDATE BY G.C. WALLACE (08-2006)
           251      KO       0
           252      RS       1    STOR      -1
           253      SV       0    1.73    4.55    8.45   13.08    18.2   23.81   29.96    36.7   43.93
           254      SV   59.55   77.49   99.82  127.17  159.39  196.38  240.07  384.05  405.65  535.25
           255      SQ       0     192     276     391     505     616     725     813     900     982
           256      SQ    1176    1368    1534    1683    1804    1920    2033    2315    3725   23201
           257      SE  3532.5    3535    3536    3537    3538    3539    3540    3541    3542    3543
           258      SE    3543    3547    3549    3551    3553    3555    3557    3563    3564    3569
           259      SS    3563   435.6       3     1.5
                    *
           260      KK     3-L
           261      KM   COMPARE TO MPU BASIN SWAA-1
           262      BA  0.3227
           263      PB    3.44
           264      LS       0    88.4
           265      UD   0.160
                    *
           266      KK   CP3-L
           267      KM   COMBINE 3-L AND DB3
           268      KM   THIS IS CSWAA-1 IN GOWAN MPU HEC-1
           269      HC       2
                    *
                    * END OF SECTION MODELED BY VTN, NEVADA SVB
                    * TIE VTN SECTION TO 2008 MPU HEC-1
                    *
           270      KKRCSWAA-1
           271      KM  ROUTE CSWAA-1 TO CSWAA-2
           272      KM  FACILITY = ANGEL PARK - ALTA DRIVE
           273      KM  FACILITY # = APAD 0115, 0146
           274      KM  LINING = RCB
           275      RD    4640   0.044   0.015       0    TRAP      10       0
                    *
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 276          KK  SWAA-2
 277          BA   0.700
 278          PB    3.39
 279          LS       0    90.9
 280          UD   0.346
              *

 281          KK CSWAA-2
 282          KM  COMBINE RCSWAA-1 AND SWAA-2
 283          HC       2
              *
1                                      HEC-1 INPUT                                                PAGE  8

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


 284          KKRCSWAA-2
 285          KM  ROUTE CSWAA-2 TO CSWAA-3
 286          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 287          KM  FACILITY # = APAD 0000, 0018, 0044, 0073
 288          KM  LINING = RCB
 289          RD    6120   0.035   0.015       0    TRAP      11       0
              *

 290          KK  SWAA-3
 291          BA   0.581
 292          PB    3.31
 293          LS       0    87.8
 294          UD   0.361
              *

 295          KK CSWAA-3
 296          KM  COMBINE RCSWAA-2 AND SWAA-3
 297          HC       2
              *
              * THE FOLLOWING SECTION OF HYDROLOGY IS NOT PART OF THE 2008 MPU
              * THIS SECTION IS MODELED BASED ON THE 2017 CONDITION OF THE SUMMERLIN MASTER PL
              * MODELED BY VTN, NEVADA SVB
              *
              *

 298          KK     3-F
 299          KM   COMPARE TO MPU BASIN SWFH-5
 300          BA  0.2815
 301          PB    3.52
 302          LS       0    88.9
 303          UD   0.152
              *

 304          KK    R3-F
 305          KM   ROUTE 3-F THROUGH 3-G2 TO CP3.8
 306          KM   LINING RCB
 307          RD    2650   0.055   0.013       0    TRAP       6       0
              *

 308          KK    3-G2
 309          KM   COMPARE TO MPU BASIN SWFH-6
 310          BA  0.1285
 311          PB    3.48
 312          LS       0    93.2
 313          UD   0.107
              *

 314          KK   CP3.8
 315          KM   COMBINES 3-F AND 3-G2
 316          HC       2
              *
1                                      HEC-1 INPUT                                                PAGE  9

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


 317          KK  RCP3.8
 318          KM   ROUTE CP3.8 TO CP3.9
 319          KM   FACILITIES APD6000 AND APDF0000
 320          RD    4500   0.075   0.013       0    TRAP      12       0
              *

 321          KK     3-A
 322          KM   COMPARE TO MPU BASIN SWFH-1
 323          BA  0.3644
 324          PB    3.53
 325          LS       0    81.5
 326          UD   0.233
              *

 327          KK    R3-A
 328          KM   ROUTE 3-A THROUGH STORM DRAIN TO CPDBA-B
 329          RD    3000   0.032   0.013       0    TRAP       5       0
              *

 330          KK     3-B
 331          KM   COMPARE TO MPU BASIN SWFH-1
 332          BA  0.6973
 333          PB    3.56
 334          LS       0    83.1
 335          UD   0.274
              *

 336          KK    R3-B
 337          KM   ROUTE 3-B THROUGH STORM DRAIN TO CPDBA-B
 338          RD    3000   0.024   0.013       0    TRAP       5       0
              *

 339          KK     3-C
 340          KM   COMPARE TO MPU BASIN SWFH-2
```

```
 341          BA  0.2212
 342          PB    3.46
 343          LS       0    88.4
 344          UD   0.200
              *

 345          KK CPDBA-B
 346          KO       0
 347          KM   COMBINE 3-A, 3-B, AND 3-C
 348          KM   PROPOSED BASINS CONTRIBUTING TO NEW DETENTION BASINS
 349          HC       3
              *

 350          KK    GPDB
 351          KM  VILLAGE 22 DETENTION BASIN
 352          KM  FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BELTWAY 2 BRANCH
 353          KM  FACILITY # = 0001
 354          KM  STORAGE VOLUME = 123 AC-FT
 355          KM  OUTLET = 60" RCP
 356          KM  100-YEAR DISCHARGE =
1                                        HEC-1 INPUT                                                    PAGE 10

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

 357          KM  SPILLWAY LENGTH = 1053'
 358          KM  SPILLWAY HEIGHT =
 359          KM  SPILLWAY CREST ELEVATION = 1007.9'
 360          KM  SPILLWAY TYPE =
 361          KM  PMF DISCHARGE =
 362          KM  TOP OF EMBANKMENT ELEVATION =
 363          KM  INFORMATION REFERENCED FROM "SUMMERLIN VILLAGE 26 ULTIMATE/PROPOSED
 364          KM  CONDITIONS" HYDRAOLOGIC MODEL BY G.C. WALLACE INC. (9-5-06)
 365          KM  ELEVATIONS WITHIN THE STAGE-STORAGE-DISCHARGE CURVE WERE REDUCED BY 1000'
 366          KM  IN ORDER FOR THE HYDROLOGIC MODEL TO RUN
 367          KO       3
 368          RS       1    STOR       0
 369          SV    6.54   12.78   19.92   28.03   37.17   46.61   59.93   75.75   94.29  115.85
 370          SV  129.61
 371          SE      10      12      14      16      18      20      22      24      26      28
 372          SE      30
 373          SQ       0   26.06   58.28   78.18   93.97  107.45  119.43  130.31  140.35  149.71
 374          SQ  158.53
              *

 375          KK    3-G1
 376          KM   COMPARE TO MPU BASIN SWFH-6
 377          BA  0.2406
 378          PB    3.47
 379          LS       0      90
 380          UD   0.131
              *

 381          KK   R3-G1
 382          KM   ROUTE 3-G1 TO CP3-G1
 383          KM   LINING RCB
 384          RD    1000   0.044   0.013       0    TRAP       6       0
              *

 385          KK  CP3-G1
 386          KM   COMBINE 3-G1, AND GPDB
 387          HC       2
              *

 388          KK RCP3-G1
 389          KM   ROUTE 3P3-G1 TO CP3-Q2
 390          KM   LINING RCB
 391          RD    1950   0.044   0.013       0    TRAP       8       0
              *

 392          KK    3-Q2
 393          KM   COMPARE TO MPU BASIN SV22-2
 394          BA  0.1492
 395          PB    3.41
 396          LS       0    92.1
 397          UD   0.085
              *
1                                        HEC-1 INPUT                                                    PAGE 11

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

 398          KK  CP3-Q2
 399          KM   COMBINE CP3-G1, AND 3-Q2
 400          HC       2
              *

 401          KK RCP3-Q2
 402          KM   ROUTE 3P3-G1 TO CP3-Q2
 403          KM   LINING RCB
 404          RD    1750   0.044   0.013       0    TRAP       8       0
              *

 405          KK    3-H1
 406          KM   COMPARE TO MPU BASIN SWFH-9
 407          BA  0.1260
 408          PB    3.41
 409          LS       0    92.2
 410          UD   0.085
              *

 411          KK  CP3-H1
 412          KM   COMBINE RCP3-Q2, AND 3-H1
 413          HC       2
              *

 414          KK RCP3-H1
```

```
 415          KM   ROUTE CP3-H1 TO CP3.9
 416          KM   LINING RCB
 417          RD    1725   0.044   0.013       0    TRAP       8       0
              *

 418          KK    3-I1
 419          KM   COMPARE TO MPU BASIN SWFH-7
 420          BA  0.2934
 421          PB    3.42
 422          LS       0    88.8
 423          UD   0.209
              *

 424          KK   CP3.9
 425          KM   COMBINE CP3.8, CP3-H1 AND C-I1
 426          HC       3
              *

 427          KK    RCP9
 428          KM   ROUTE CP3.9 TO CP3.10
 429          RD    2390   0.027   0.013       0    TRAP       6       0
              *

 430          KK     3-O
 431          KM   COMPARE TO MPU BASIN SV22-2
 432          BA  0.0872
 433          PB    3.39
 434          LS       0    93.3
 435          UD   0.122
              *
1                                        HEC-1 INPUT                                                PAGE 12

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

 436          KK    R3-O
 437          KM   ROUTE 3-O TO CP3-P
 438          KM   LINING RCB
 439          RD    3260   0.028   0.013       0    TRAP       4       0
              *

 440          KK    3-P2
 441          KM   COMPARE TO MPU BASIN SV22-2
 442          BA  0.0871
 443          PB    3.47
 444          LS       0    87.2
 445          UD   0.148
              *

 446          KK   R3-P2
 447          KM   ROUTE 3-P2 TO CP3-P
 448          KM   LINING RCB
 449          RD    3260   0.028   0.013       0    TRAP       4       0
              *

 450          KK    3-P1
 451          KM   COMPARE TO MPU BASIN SV22-2
 452          BA  0.1336
 453          PB    3.44
 454          LS       0    93.0
 455          UD   0.115
              *

 456          KK   CP3-P
 457          HC       3
              *

 458          KK  RCP3-P
 459          KM   ROUTE CP3-P THROUGH STORM DRAIN TO CP3-Q
 460          RD    2750   0.033   0.013       0    TRAP      10       0
              *

 461          KK     3-Q
 462          KM   COMPARE TO MPU BASIN SV22-2
 463          BA  0.1026
 464          PB    3.39
 465          LS       0    91.7
 466          UD   0.165
              *

 467          KK   CP3-Q
 468          KM   COMBINES CP3-P AND 3-Q
 469          HC       2
              *
1                                        HEC-1 INPUT                                                PAGE 13

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

 470          KK  RCP3-Q
 471          KM   ROUTE CP3-Q THROUGH STORM DRAIN TO CP3-H2
 472          KM   LINING RCB
 473          RD    3000   0.015   0.013       0    TRAP      20       0
              *

 474          KK    3-H2
 475          BA  0.1003
 476          PB    3.38
 477          LS       0    92.4
 478          UD   0.135
              *

 479          KK  CP3-H2
 480          HC       2
              *
```

```
 481          KK  RCPH-2
 482          KM   ROUTE CP3-H2 TO CP3.10A
 483          KM   LINING RCB
 484          RD    1725   0.019   0.013       0    TRAP      20       0
              *

 485          KK    3-I2
 486          KM   COMPARE TO MPU BASIN SWFH-7
 487          BA  0.1185
 488          PB    3.36
 489          LS       0    90.5
 490          UD   0.205
              *

 491          KK CP3.10A
 492          KM   COMBINE CP3-H2 and 3-I2
 493          HC       2
              *

 494          KK  CP3.10
 495          KM   COMBINE CP3.9 AND CP3.10A
 496          HC       2
              *

 497          KK RCP3.10
 498          KM   ROUTE CP3.10  TO CP3.11
 499          KM   FACILITIES APFH0000
 500          KM   LINING RCB
 501          RD    1000  0.0350   0.013       0    TRAP      16       0
              *

 502          KK    3-H3
 503          KM   COMPARE TO MPU BASIN SWFH-9
 504          BA  0.1403
 505          PB    3.33
 506          LS       0    94.3
 507          UD   0.206
              *
```



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

 508          KK  CP3.11
 509          KM   COMBINE 3-H3 AND RCP3.10
 510          KM   THIS IS CSWFH-9 IN 2008 MPU HEC-1
 511          HC       2
              *
              * END OF SECTION MODELED BY VTN, NEVADA
              * TIE VTN SECTION TO 2008 MPU HEC-1
              *

 512          KKRCSHFH-9
 513          KM  ROUTE CSWFH-9 TO CRCSWFH9
 514          KM  FACILITY = ANGEL PARK - BELTWAY BRANCH
 515          KM  FACILITY # = APBE 0000, 0013, 0022, 0051
 516          KM  LINING = CONCRETE
 517          RD    4338  0.0181   0.015       0    TRAP      20       2
              *

 518          KKCRCSWFH9
 519          KM  COMBINE RCSWFH9 AND CSWAA-3
 520          HC       2
              *
              * END OF G.C. WALLACE'S HYDROLOGIC MODEL
              *

 521          KKRCRCSWFH
 522          KM  ROUTE CRCSWFH9 TO C11A-1
 523          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 524          KM  FACILITY # = APMD 0230,0233,0237,0247,0248,0253,0258
 525          KM  LINING = CONCRETE
 526          RD    1418    0.04   0.015       0    TRAP      76       2
              *

 527          KK   11A-1
 528          BA   0.208
 529          PB    3.25
 530          LS       0    85.3
 531          UD   0.292
              *

 532          KK  C11A-1
 533          KM  COMBINE RCRCSWFH AND 11A-1
 534          KM  ANGEL PARK MIDDLE BRANCH @ PAVILLION CENTER DRIVE
 535          HC       2
              *

 536          KK RC11A-1
 537          KM  ROUTE C11A-1 TO C11A-3
 538          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 539          KM  FACILITY # = APMD 0190,0195,0198,0208,0218,0227
 540          KM  LINING = CONCRETE
 541          RD    2065  0.0281   0.015       0    TRAP      62       2
              *
```



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

 542          KK   11A-3
 543          BA   0.195
 544          PB    3.21
 545          LS       0    89.3
 546          UD   0.229
              *
```

```
 547          KK  C11A-3
 548          KM  COMBINE RC11A-1 AND 11A-3
 549          KM  ANGEL PARK MIDDLE BRANCH @ TOWN CENTER DRIVE
 550          HC       2
              *

 551          KK RC11A-3
 552          KM  ROUTE C11A-3 TO C3A
 553          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 554          KM  FACILITY # = APMD 0132, 0133
 555          KM  LENGTH = 3,164
 556          KM  SLOPE = 3.0%
 557          KM  N = 0.040
 558          KM  HYDRAULIC RADIUS = 1.5
 559          KM  VELOCITY =  13.5
 560          KM  NATURAL WASH
 561          RM       1   0.065    0.15
              *

 562          KK      3A
 563          BA   0.178
 564          PB    3.15
 565          LS       0    84.0
 566          UD   0.244
              *

 567          KK     C3A
 568          KM  COMBINE RCC11A-3 AND 3A
 569          KM  ANGEL PARK MIDDLE BRANCH @ HUALAPAI WAY
 570          HC       2
              *

 571          KK    RC3A
 572          KM  ROUTE C3A TO C3B-1
 573          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 574          KM  FACILITY # = APMD 0027, 0030
 575          KM  LENGTH = 6,500
 576          KM  SLOPE = 3.0%
 577          KM  N = 0.040
 578          KM  HYDRAULIC RADIUS = 1.5
 579          KM  VELOCITY =  13.5
 580          KM  NATURAL WASH
 581          RM       2   0.133    0.15
              *
1                                      HEC-1 INPUT                                                PAGE 16

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

 582          KK    3B-1
 583          BA   0.258
 584          PB    3.04
 585          LS       0    82.0
 586          UD   0.257
              *

 587          KK   C3B-1
 588          KM  COMBINE RC3A AND 3B-1
 589          HC       2
              *

 590          KK  RC3B-1
 591          KM  ROUTE C3B-1 TO CC3B-2B
 592          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 593          KM  FACILITY # = APMD 0000,0027,0030
 594          KM  LINING = UNLINED
 595          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
 596          RD     940   0.029    0.04       0    TRAP     100       3
              *

 597          KK   11B-2
 598          BA   0.441
 599          PB    3.25
 600          LS       0    85.7
 601          UD   0.423
              *

 602          KK  R11B-2
 603          KM  ROUTE 11B-2 TO C11B-1
 604          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 605          KM  FACILITY # = APSP 0177,0183
 606          KM  LINING = CONCRETE
 607          RD    1900   0.017   0.015       0    TRAP      10       2
              *

 608          KK   11B-1
 609          BA   0.394
 610          PB    3.26
 611          LS       0    87.2
 612          UD   0.267
              *

 613          KK  C11B-1
 614          KM  COMBINE R11B-2 AND 11B-1
 615          KM  ANGEL PARK-SUMMERLIN PARKWAY @ ANASAZI DRIVE
 616          HC       2
              *
1                                      HEC-1 INPUT                                                PAGE 17

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

 617          KK RC11B-1
 618          KM  ROUTE C11B-1 TO C8B-1
 619          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
```

```
 620          KM  FACILITY # = APSP 0135,0177
 621          KM  LINING = CONCRETE
 622          RD    2150   0.024   0.015       0    TRAP      10       2
              *

 623          KK    8B-1
 624          BA   0.304
 625          PB    3.17
 626          LS       0    87.8
 627          UD   0.288
              *

 628          KK   C8B-1
 629          KM  COMBINE RC11B-1 AND 8B-1
 630          KM  ANGEL PARK-SUMMERLIN PARKWAY @ CRESTDALE DRIVE
 631          HC       2
              *

 632          KK  RC8B-1
 633          KM  ROUTE C8B-1 TO C8B-2
 634          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 635          KM  FACILITY # = APSP 0066,0069,0133
 636          KM  LINING = CONCRETE
 637          RD    3575   0.024   0.015       0    TRAP      10       2
              *

 638          KK    8B-2
 639          BA   0.420
 640          PB    3.10
 641          LS       0    93.7
 642          UD   0.336
              *

 643          KK   C8B-2
 644          KM  COMBINE 8B-2 AND RC8B-1
 645          KM  ANGEL PARK-SUMMERLIN PARKWAY @ TOWN CENTER DRIVE
 646          HC       2
              *

 647          KK  RC8B-2
 648          KM  ROUTE C8B-2 TO CC3B-2A
 649          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 650          KM  FACILITY # = APSP 0002
 651          KM  LINING = UNLINED
 652          RD    1424   0.035   0.025       0    TRAP      50       3
              *
1                                      HEC-1 INPUT                                                PAGE 18

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

 653          KK   11A-2
 654          BA   0.290
 655          PB    3.20
 656          LS       0    88.3
 657          UD   0.194
              *

 658          KK  R11A-2
 659          KM  ROUTE 11A-2 TO C8A
 660          KM  TOWN CENTER DRIVE AND HUALAPAI WAY
 661          RD    2900   0.017   0.016       0    TRAP       0      50
              *

 662          KK      8A
 663          BA   0.306
 664          PB    3.16
 665          LS       0    86.0
 666          UD   0.239
              *

 667          KK     C8A
 668          KM  COMBINE 8A AND R11A-2
 669          HC       2
              *

 670          KK    RC8A
 671          KM  ROUTE C8A TO C3B-2A
 672          KM  NATURAL WASH
 673          KM  TRAVEL LENGTH = 4,500
 674          KM  SLOPE = 2.8%
 675          KM  N = 0.040
 676          KM  HYDRAULIC RADIUS = 1.5
 677          KM  VELOCITY =  13.1
 678          RM       1   0.096    0.15
              *

 679          KK   3B-2A
 680          BA   0.243
 681          PB    3.06
 682          LS       0    88.5
 683          UD   0.213
              *

 684          KK  C3B-2A
 685          KM  COMBINE 3B-2A AND RC8A
 686          HC       2
              *

 687          KK CC3B-2A
 688          KM  COMBINE C3B-2A AND RC8B-2
 689          HC       2
              *
1                                      HEC-1 INPUT                                                PAGE 19

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

```
 690          KKRCC3B-2A
 691          KM  ROUTE CC3B-2A TO C3B-2B
 692          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 693          KM  FACILITY # = APSP 0001
 694          KM  LINING = UNLINED
 695          RD    3924    0.03   0.025       0    TRAP      20       2
              *

 696          KK   3B-2B
 697          BA   0.273
 698          PB    2.99
 699          LS       0    85.1
 700          UD   0.309
              *

 701          KK  C3B-2B
 702          KM  COMBINE RCC3B-2A AND 3B-2B
 703          HC       2
              *

 704          KK CC3B-2B
 705          KM  COMBINE RC3B-1 AND C3B-2B
 706          HC       2
              *

 707          KKRCC3B-2B
 708          KM  ROUTE CC3B-2B TO CSF2-C
 709          KM  FACILITY = ANGEL PARK NORTH
 710          KM  FACILITY # = APNO 0012,0013,0015 APSP 0000
 711          KM  LINING = UNLINED (NATURAL WASH)
 712          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
 713          RD    1854   0.025    0.04       0    TRAP     100       3
              *

 714          KK   SF2-C
 715          BA   0.388
 716          PB    2.91
 717          LS       0    84.2
 718          UD   0.443
              *

 719          KK  CSF2-C
 720          KM  COMBINE SF2-C AND RCC3B-2B
 721          HC       2
              *

 722          KK RCSF2-C
 723          KM  ROUTE CSF2-C TO ANGLPKIN
 724          KM  FACILITY = ANGEL PARK NORTH
 725          KM  FACILITY # = APNO 0005
 726          KM  LINING = UNLINED (NATURAL WASH)
 727          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
 728          RD    1559    0.02    0.04       0    TRAP     100       3
              *
```



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

 729          KK    SW11
 730          BA   0.589
 731          PB    3.34
 732          LS       0    87.8
 733          UD   0.311
              *

 734          KK   RSW11
 735          KM  ROUTE SW11 TO CSW17
 736          KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
 737          KM  FACILITY # = APCB 0064, 0080
 738          KM  LINING = RCB
 739          RD    2338  0.0167   0.015       0    TRAP       7       0
              *

 740          KK    SW17
 741          BA   0.356
 742          PB    3.30
 743          LS       0    87.8
 744          UD   0.271
              *

 745          KK   CSW17
 746          KM  COMBINE RSW11 AND SW17
 747          HC       2
              *

 748          KK  RCSW17
 749          KM  ROUTE CSW17 TO CSW18
 750          KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
 751          KM  FACILITY # = APCB 0000,0001,0019,0050
 752          KM  LINING = RCB
 753          RD    3600   0.014   0.015       0    TRAP      11       0
              *

 754          KK    SW18
 755          BA   0.405
 756          PB    3.27
 757          LS       0    86.8
 758          UD   0.271
              *

 759          KK   CSW18
 760          KM  COMBINE RCSW17 AND SW18
 761          HC       2
```

```
                *

 762            KK  RCSW18
 763            KM  ROUTE CSW18 TO C12A
 764            KM  FACILITY = ANGEL PARK SOUTH
 765            KM  FACILITY # = APSO 0254,0255,0258,0345,0346; APCB 0000
 766            KM  NATURAL WASH
 767            KM  LENGTH = 5,200
 768            KM  SLOPE = 1.4%
1                                       HEC-1 INPUT                                    PAGE 21

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

 769            KM  N = 0.040
 770            KM  HYDRAULIC RADIUS = 1.5
 771            KM  VELOCITY =  9.2
 772            RM       2   0.157    0.15
                *

 773            KK     12A
 774            BA   0.392
 775            PB    3.20
 776            LS       0    91.2
 777            UD   0.264
                *

 778            KK    C12A
 779            KM  COMBINE 12A AND RCSW18
 780            HC       2
                *

 781            KK   RC12A
 782            KM  ROUTE THRU 12B
 783            KM  FACILITY = ANGEL PARK SOUTH
 784            KM  FACILITY # = APSO 0204, 0205
 785            KM  NATURAL WASH
 786            KM  LENGTH = 2,600
 787            KM  SLOPE = 3.5%
 788            KM  N = 0.040
 789            KM  HYDRAULIC RADIUS = 1.5
 790            KM  VELOCITY = 14.5
 791            RM       1    0.05    0.15
                *

 792            KK     12B
 793            BA   0.260
 794            PB    3.13
 795            LS       0    91.0
 796            UD   0.233
                *

 797            KK    C12B
 798            KM  COMBINE 12B AND RC12A
 799            HC       2
                *

 800            KK   RC12B
 801            KM  ROUTE C12B TO C57B-3
 802            KM  FACILITY = ANGEL PARK SOUTH
 803            KM  FACILITY # = APSO 0067
 804            KM  NATURAL WASH
 805            KM  LENGTH = 6,000
 806            KM  SLOPE = 2.3%
 807            KM  N = 0.040
 808            KM  HYDRAULIC RADIUS = 1.5
 809            KM  VELOCITY =  11.8
 810            RM       2   0.141    0.15
                *
1                                       HEC-1 INPUT                                    PAGE 22

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

 811            KK   57B-3
 812            BA   0.310
 813            PB    3.04
 814            LS       0    82.1
 815            UD   0.332
                *

 816            KK  C57B-3
 817            KM  COMBINE RC12B AND 57B-3
 818            HC       2
                *

 819            KK RC57B-3
 820            KM  ROUTE C57B-3 TO C57B-2
 821            KM  FACILITY = ANGEL PARK SOUTH
 822            KM  FACILITY # = APSO 0067
 823            KM  NATURAL WASH
 824            KM  LENGTH = 1,300
 825            KM  SLOPE = 1.7%
 826            KM  N = 0.040
 827            KM  HYDRAULIC RADIUS = 1.5
 828            KM  VELOCITY =  10.2
 829            RM       0   0.035    0.15
                *

 830            KK   57B-2
 831            BA   0.362
 832            PB    3.02
 833            LS       0    84.1
 834            UD   0.332
                *

 835            KK  C57B-2
```

```
 836          KM  COMBINE 57B-2 AND RC57B-3
 837          HC       2
              *

 838          KK RC57B-2
 839          KM  ROUTE C57B-2 TO CC57B-1
 840          KM  FACILITY = ANGEL PARK SOUTH
 841          KM  FACILITY # = APSO 0067
 842          KM  NATURAL WASH
 843          KM  LENGTH = 1,000
 844          KM  SLOPE = 1.8%
 845          KM  N = 0.040
 846          KM  HYDRAULIC RADIUS = 1.5
 847          KM  VELOCITY =  10.5
 848          RM       0   0.027    0.15
              *
```



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

 849          KK   13B-1
 850          BA   0.249
 851          PB    3.19
 852          LS       0    91.6
 853          UD   0.284
              *

 854          KK RC13B-1
 855          KM  ROUTE 13B-1 TO C13B-2
 856          KM  GRIFFITH PARK DRIVE AND HUALAPAI WAY
 857          RD    3000   0.018   0.016       0    TRAP       0      50
              *

 858          KK   13B-2
 859          BA   0.216
 860          PB    3.14
 861          LS       0    89.7
 862          UD   0.231
              *

 863          KK  C13B-2
 864          KM  COMBINE 13B-2 AND RC13B-1
 865          KM  HUALAPAI WAY AND LOCAL FACILITY
 866          HC       2
              *

 867          KK RC13B-2
 868          KM  ROUTE C13B-2 TO CCPIC-A
 869          KM  LINING = GRASS
 870          RD    4900   0.021    0.03       0    TRAP      40       6
              *

 871          KK     19A
 872          BA   0.253
 873          PB    3.25
 874          LS       0    89.9
 875          UD   0.351
              *

 876          KK    R19A
 877          KM  ROUTE 19A TO C13A-1
 878          KM  UNNAMED ROAD
 879          RD    4300   0.021   0.016       0    TRAP       0      50
              *

 880          KK   13A-1
 881          BA   0.224
 882          PB    3.19
 883          LS       0    91.4
 884          UD   0.302
              *
```



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

 885          KK  C13A-1
 886          KM  COMBINE 13A-1 AND R19A
 887          KM  TOWN CENTER DRIVE AND SWALE
 888          HC       2
              *

 889          KK RC13A-1
 890          KM  ROUTE C13A-1 TO C13A-2
 891          KM  NATURAL WASH
 892          KM  TRAVEL LENGTH = 2,800
 893          KM  SLOPE = 2.1%
 894          KM  N = 0.040
 895          KM  HYDRAULIC RADIUS = 1.5
 896          KM  VELOCITY = 11.4
 897          RM       1   0.068    0.15
              *

 898          KK   13A-2
 899          BA   0.188
 900          PB    3.15
 901          LS       0    90.0
 902          UD   0.236
              *

 903          KK  C13A-2
 904          KM  COMBINE 13A-2 AND RC13A-1
 905          HC       2
              *
```

```
 906          KK RC13A-2
 907          KM  ROUTE C13A-2 TO CPIC-C
 908          KM  LINING = GRASS
 909          RD    5200   0.015    0.03       0    TRAP      40       4
              *

 910          KK   PIC-C
 911          BA   0.243
 912          PB    3.08
 913          LS       0    90.4
 914          UD   0.373
              *

 915          KK  CPIC-C
 916          KM  COMBINE PIC-C AND RC13A-2
 917          HC       2
              *

 918          KK RCPIC-C
 919          KM  ROUTE CPIC-C TO CPIC-A
 920          KM  LINING = GRASS
 921          RD    2200   0.025    0.03       0    TRAP      40       4
              *
```



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

 922          KK   PIC-A
 923          BA   0.359
 924          PB    3.03
 925          LS       0    91.1
 926          UD   0.499
              *

 927          KK  CPIC-A
 928          KM  COMBINE RCPIC-C AND PIC-A
 929          HC       2
              *

 930          KK CCPIC-A
 931          KM  COMBINE CPIC-A AND RC13B-2
 932          HC       2
              *

 933          KKRCCPIC-A
 934          KM  ROUTE CCPIC-A TO C57B-1
 935          KM  FACILITY = ANGEL PARK - PECCOLE 2
 936          KM  FACILITY # = APP2 0000
 937          KM  LINING = GRASS
 938          RD    4793   0.021    0.03       0    TRAP      10       2
              *

 939          KK   57B-1
 940          BA   0.197
 941          PB    2.92
 942          LS       0    85.5
 943          UD   0.277
              *

 944          KK  C57B-1
 945          KM  COMBINE 57B-1 AND RCCPIC-A
 946          HC       2
              *

 947          KK CC57B-1
 948          KM  COMBINE C57B-1 AND RC57B-2
 949          HC       2
              *

 950          KKRCC57B-1
 951          KM  ROUTE CC57B-1 TO C57B-4
 952          KM  FACILITY = ANGEL PARK - SOUTH BRANCH
 953          KM  FACILITY # = APSO 0050
 954          KM  LINING = NATURAL WASH
 955          RD     300  0.0184    0.04       0    TRAP     100       3
              *
```



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

 956          KK   57B-4
 957          BA   0.200
 958          PB    2.91
 959          LS       0    90.0
 960          UD   0.233
              *

 961          KK  C57B-4
 962          KM  COMBINE RCC57B-1 AND 57B-4
 963          HC       2
              *

 964          KK   PIC-B
 965          BA   0.441
 966          PB    2.98
 967          LS       0    91.1
 968          UD   0.471
              *

 969          KK  RPIC-B
 970          KM  ROUTE PIC-B TO CC57B-4
 971          KM  FACILITY = ANGEL PARK - PECCOLE 1
 972          KM  FACILITY # = APP1 0000
 973          KM  LINING = RCP
```

```
 974          RD    2982   0.024   0.013       0    CIRC        6
              *

 975          KK CC57B-4
 976          KM  COMBINE RPIC-B AND C57B-4
 977          HC        2
              *

 978          KKRCC57B-4
 979          KM  ROUTE CC57B-4 TO ANGLPKIN
 980          KM  FACILITY = ANGEL PARK SOUTH
 981          KM  FACILITY # = APSO 0000, 0020
 982          KM  LINING = RCB
 983          RD    2857  0.0162   0.015       0    TRAP      24       0
              *

 984          KK     38A
 985          BA   0.353
 986          PB    2.86
 987          LS       0    91.6
 988          UD   0.399
              *

 989          KK    R38A
 990          KM  ROUTE 38A TO C38B
 991          KM  FACILITY = ANGEL PARK - DURANGO
 992          KM  FACILITY # = APDG 0000,0060
 993          KM  LINING = RCP
 994          RD    4500  0.0096   0.015       0    CIRC        6
              *
1                                        HEC-1 INPUT                                                    PAGE 27

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

 995          KK     38B
 996          BA   0.440
 997          PB    2.82
 998          LS       0    92.9
 999          UD   0.375
              *

1000          KK    C38B
1001          KM  COMBINE 38B AND R38A
1002          KM  DUCHARME AND DURANGO
1003          HC        2
              *

1004          KK    57BA
1005          BA   0.317
1006          PB    2.96
1007          LS       0    78.2
1008          UD   0.436
              *

1009          KK   R57BA
1010          KM  ROUTE 57BA TO C3C
1011          KM  RAMPART BOULEVARD
1012          RD     500    0.02   0.016       0    TRAP        0      50
              *

1013          KK      3C
1014          BA   0.153
1015          PB    2.90
1016          LS       0    93.1
1017          UD   0.246
              *

1018          KK     C3C
1019          KM  COMBINE 3C AND R57BA
1020          KM  RAMPART AND REGENT LAS VEGAS
1021          HC        2
              *

1022          KK    RC3C
1023          KM  ROUTE C3C TO ANGLPKIN
1024          KM  LINING = UNLINED
1025          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
1026          RD    2300  0.0326    0.04       0    TRAP       50       4
              *

1027          KK      AP
1028          BA   0.668
1029          PB    2.81
1030          LS       0    81.6
1031          UD   0.392
              *
1                                        HEC-1 INPUT                                                    PAGE 28

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

1032          KKANGLPKIN
1033          KM  COMBINE AP,RC3C,C38B,RCC57B-4, AND RCSF2-2
1034          KM  TOTAL INFLOW TO ANGEL PARK DETENTION BASIN
              * KO1
1035          HC        5
              *

1036          KKANGLPKDB
1037          KM  ANGEL PARK DETENTION BASIN
1038          KM  FACILITY = ANGEL PARK NORTH
1039          KM  FACILITY # = APNO 0000,0001
1040          KM  STORAGE VOLUME = 1512 AC-FT (2002 MPU VOLUME = 1400 AC-FT; 8% INCREASE)
1041          KM  OUTLET = 54" RCP
1042          KM  100-YEAR DISCHARGE =
```

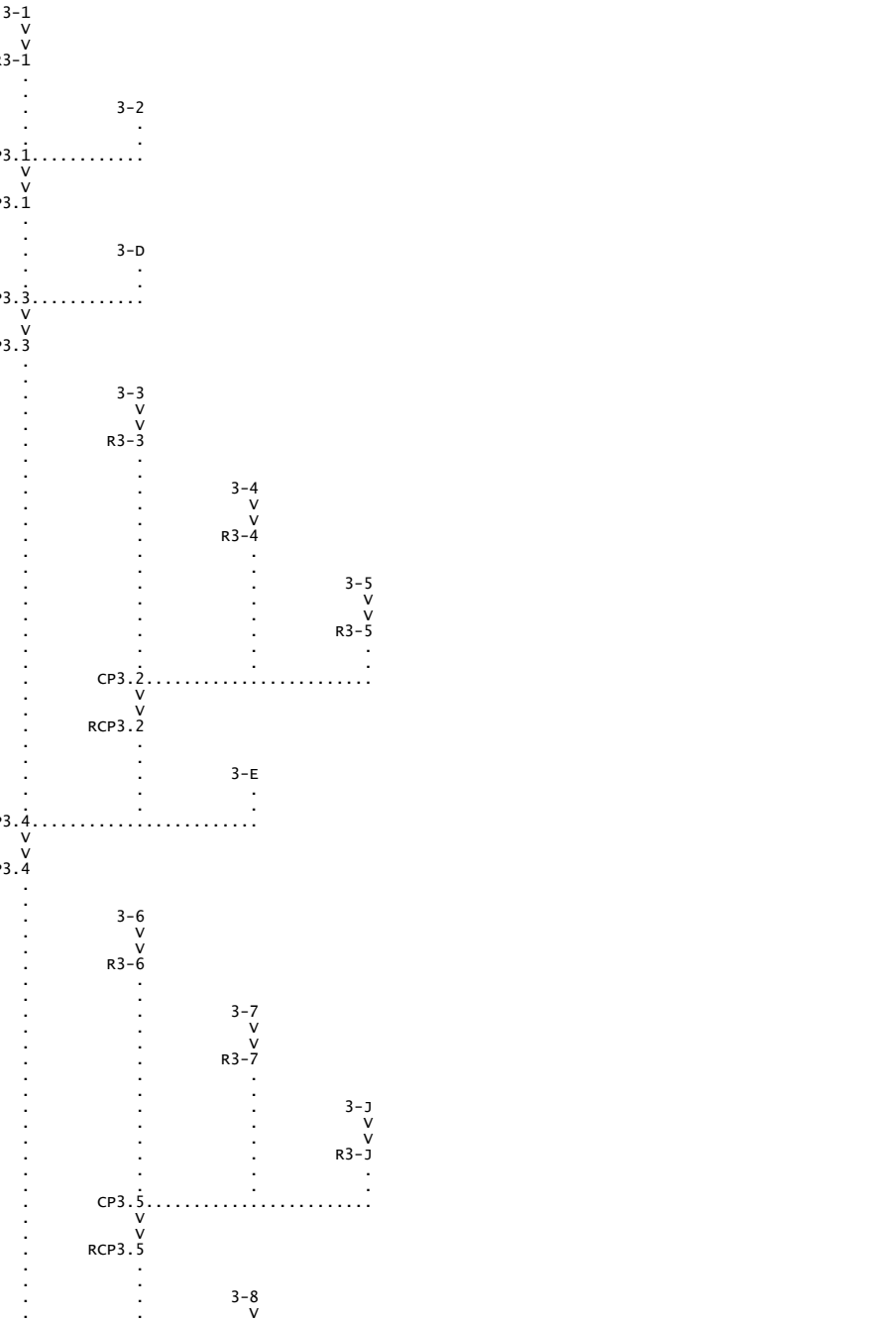
```
1043           KM  SPILLWAY LENGTH =
1044           KM  SPILLWAY HEIGHT =
1045           KM  SPILLWAY CREST ELEVATION = 2619'
1046           KM  SPILLWAY TYPE =
1047           KM  PMF DISCHARGE =
1048           KM  TOP OF EMBANKMENT ELEVATION =
1049           KO       3
1050           RS       1    STOR      -1
1051           SV       0    10.8    43.2   113.4  222.48  411.48  640.44  910.44 1239.84  1470.9
1052           SV    1512 1554.12 1596.24 1640.52  1684.8 1730.16 1775.52 1823.04 1875.96  1919.1
1053           SE    2576    2580    2585    2590    2595    2600    2605    2610    2616    2618
1054           SE    2619  2619.5    2620  2620.5    2621  2621.5    2622  2622.5    2623  2623.5
1055           SQ       0      89     194     232     285     316     343     370     392     405
1056           SQ     407    1852    4491    7909   11955   16545   21620   27137   33064   39373
               *
1057           ZZ
1
```

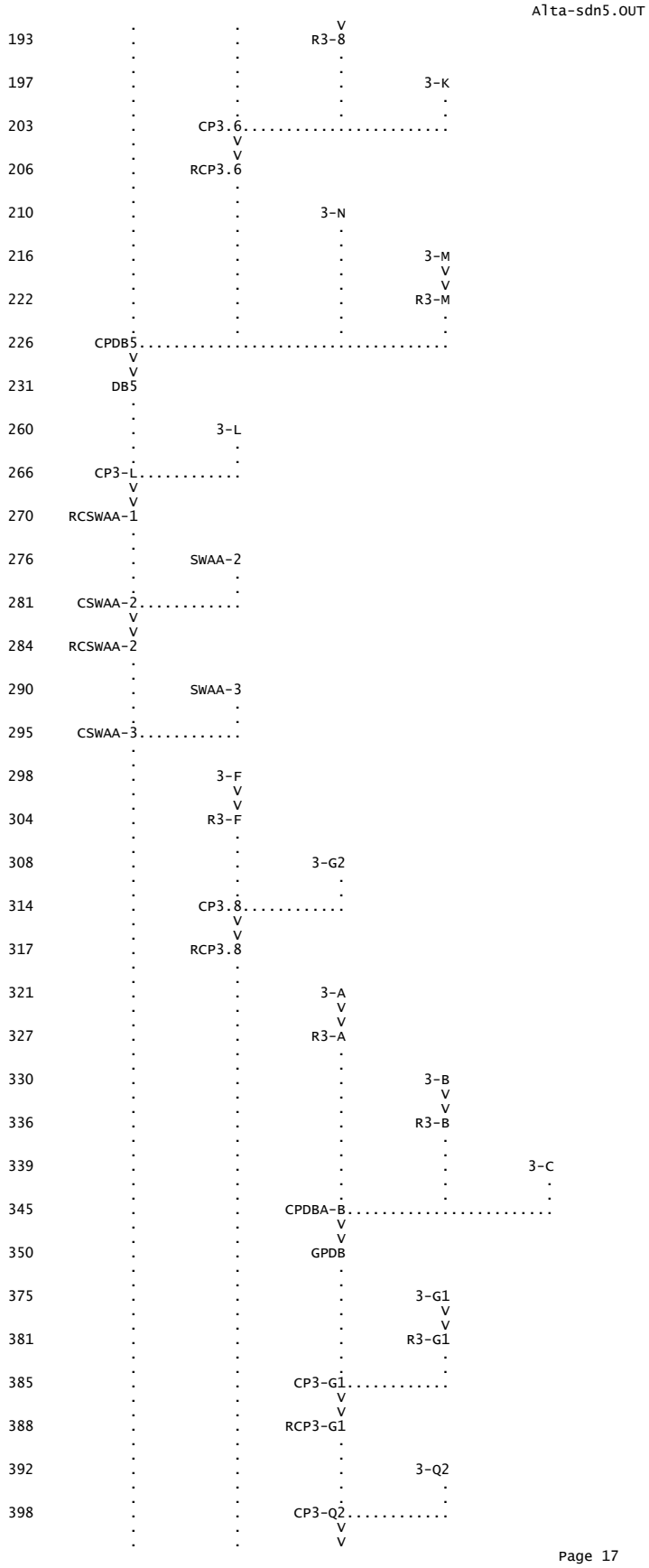
SCHEMATIC DIAGRAM OF STREAM NETWORK

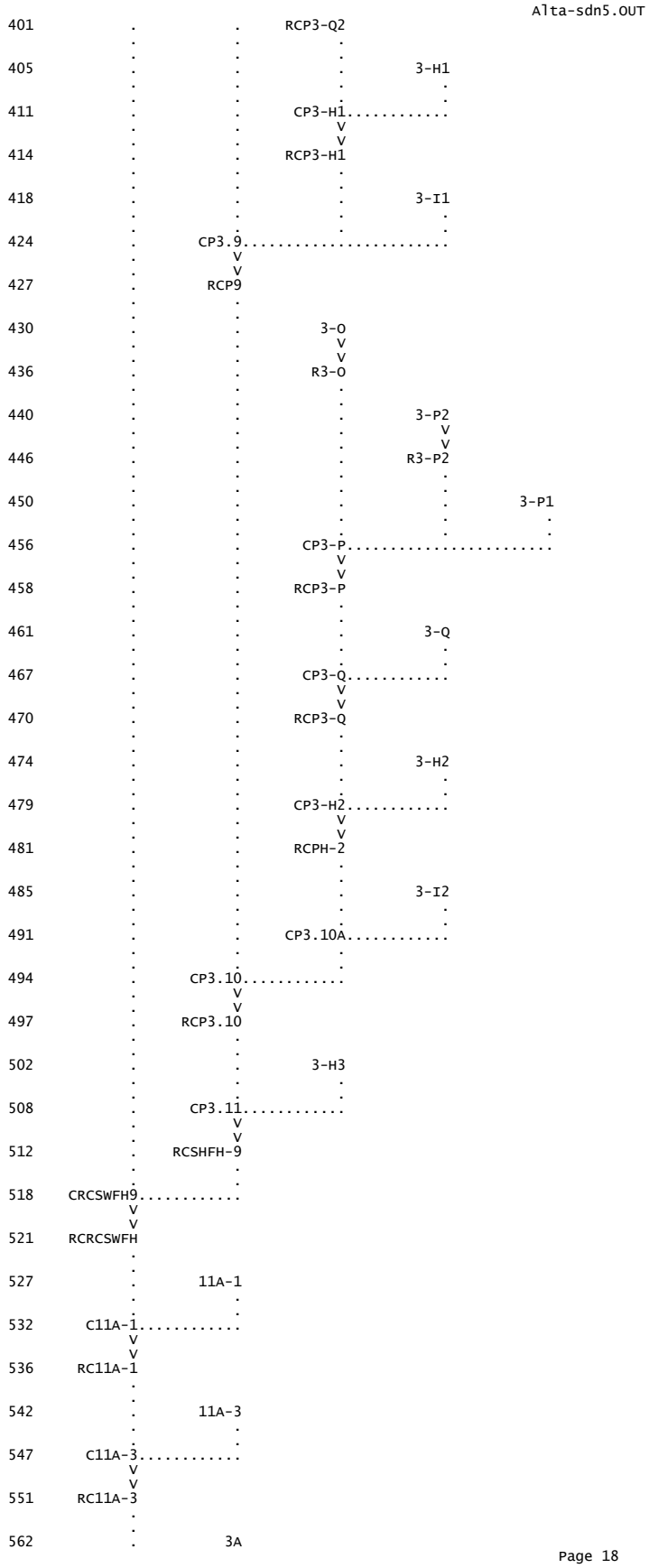
INPUT LINE NO.

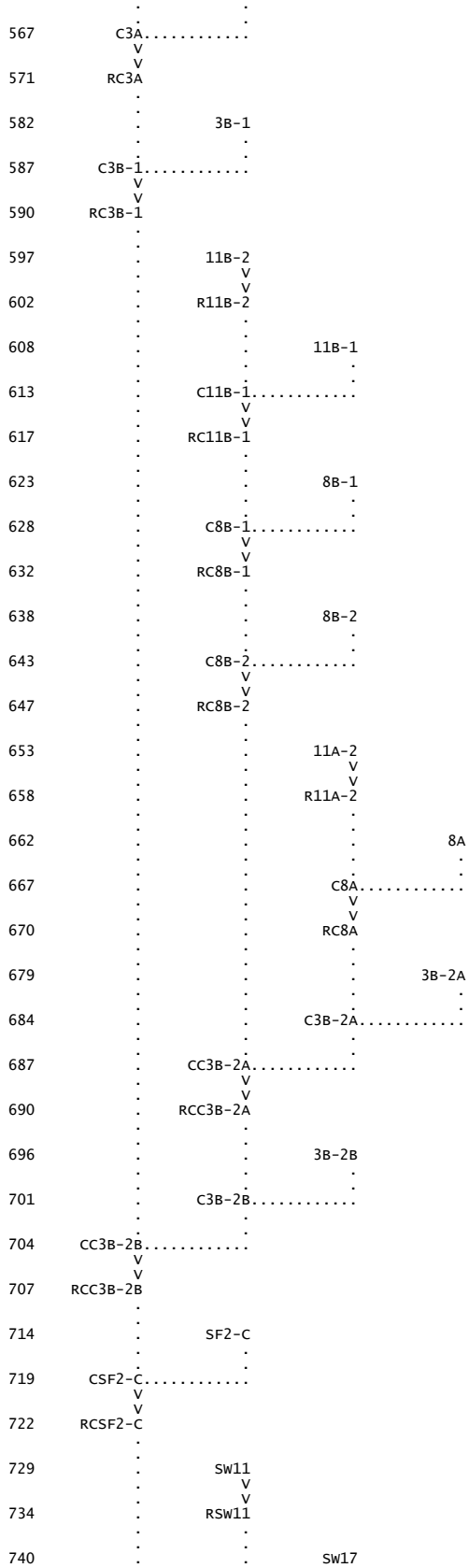
(V) ROUTING (---->) DIVERSION OR PUMP FLOW

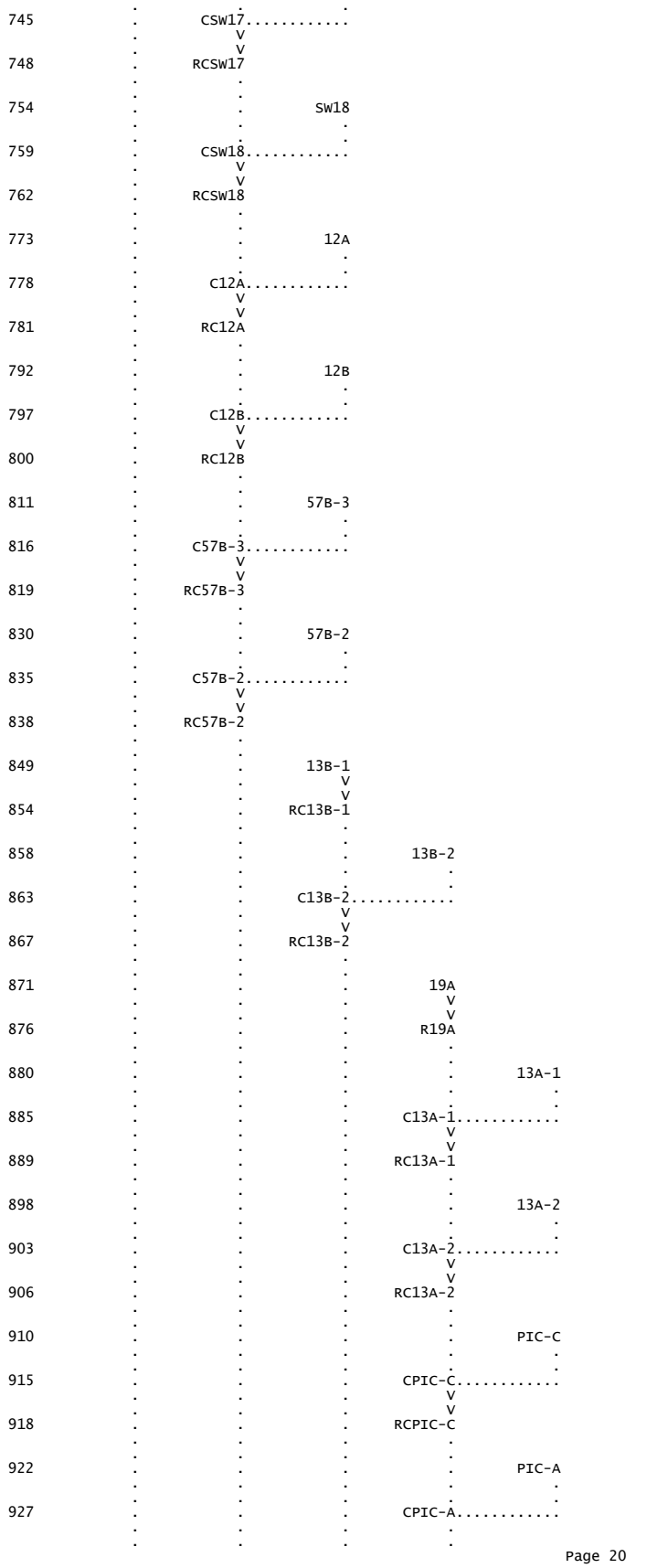
(.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

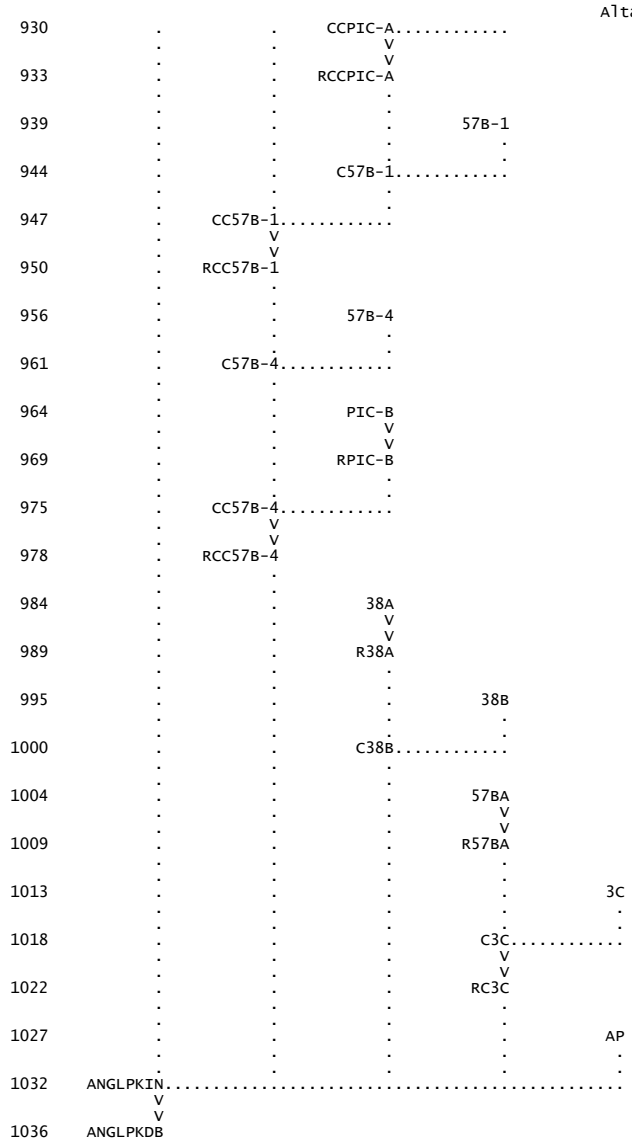



193 R3-8
197 3-K
203 CP3.6
206 RCP3.6
210 3-N
216 3-M
222 R3-M
226 CPDB5
231 DB5
260 3-L
266 CP3-L
270 RCSWAA-1
276 SWAA-2
281 CSWAA-2
284 RCSWAA-2
290 SWAA-3
295 CSWAA-3
298 3-F
304 R3-F
308 3-G2
314 CP3.8
317 RCP3.8
321 3-A
327 R3-A
330 3-B
336 R3-B
339 3-C
345 CPDBA-B
350 GPDB
375 3-G1
381 R3-G1
385 CP3-G1
388 RCP3-G1
392 3-Q2
398 CP3-Q2


RCP3-Q2
3-H1
CP3-H1
RCP3-H1
3-I1
CP3.9
RCP9
3-O
R3-O
3-P2
R3-P2
3-P1
CP3-P
RCP3-P
3-Q
CP3-Q
RCP3-Q
3-H2
CP3-H2
RCPH-2
3-I2
CP3.10A
CP3.10
RCP3.10
3-H3
CP3.11
RCSHFH-9
CRCSWFH9
RCRCSWFH
11A-1
C11A-1
RC11A-1
11A-3
C11A-3
RC11A-3
3A


567 C3A
571 RC3A
582 3B-1
587 C3B-1
590 RC3B-1
597 11B-2
602 R11B-2
608 11B-1
613 C11B-1
617 RC11B-1
623 8B-1
628 C8B-1
632 RC8B-1
638 8B-2
643 C8B-2
647 RC8B-2
653 11A-2
658 R11A-2
662 8A
667 C8A
670 RC8A
679 3B-2A
684 C3B-2A
687 CC3B-2A
690 RCC3B-2A
696 3B-2B
701 C3B-2B
704 CC3B-2B
707 RCC3B-2B
714 SF2-C
719 CSF2-C
722 RCSF2-C
729 SW11
734 RSW11
740 SW17


CSW17
RCSW17
SW18
CSW18
RCSW18
12A
C12A
RC12A
12B
C12B
RC12B
57B-3
C57B-3
RC57B-3
57B-2
C57B-2
RC57B-2
13B-1
RC13B-1
13B-2
C13B-2
RC13B-2
19A
R19A
13A-1
C13A-1
RC13A-1
13A-2
C13A-2
RC13A-2
PIC-C
CPIC-C
RCPIC-C
PIC-A
CPIC-A



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN   1998                *
 *           VERSION 4.1                 *
 *                                       *
 *  RUN DATE   06DEC17  TIME  08:41:07   *
 *                                       *
 *****************************************
```

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

THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
DOWNSTREAM HOLDING FACILITIES

MODELED BY VTN, NEVADA SVB/JYA
MAY 9, 2017

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
GOWAN WATERSHED (ALL)
RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
INPUT FILE = ALT1-SDN3.DAT
INPUT FILE DATE = MAY 5, 2008
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #5
MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
STORM CENTERING = FULL WATERSHEDCP

REFERENCED HYDROLOGIC MODELS:

CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
MASTER PLAN UPDATE (G.C. WALLACE 2006)
GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
(G.C. WALLACE 2007)
LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
FROM G.C. WALLACE ON JANUARY 31, 2008)
US 95/RANCHO FIS RESTUDY (PBS&J 1998)
JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA SQ. MI.	DARF
12-16	0.832
16-20	0.804
20-30	0.765
30-40	0.725
40-50	0.695
50-75	0.66
75-100	0.62

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN5

```
 53 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
                    .83       .80       .76


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


           **************
           *            *
226 KK     *     CPDB5  *
           *            *
           **************

229 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE


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


           **************
           *            *
231 KK     *       DB5  *
           *            *
           **************

251 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE


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


           **************
           *            *
345 KK     *   CPDBA-B  *
           *            *
```

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

  346 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE


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


          **************
          *            *
  350 KK  *      GPDB  *
          *            *
          **************

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

             HYDROGRAPH ROUTING DATA

  368 RS          STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC         .00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

  369 SV            STORAGE         6.5      12.8      19.9      28.0      37.2      46.6      59.9      75.8      94.3     115.8
                                  129.6

  371 SE          ELEVATION       10.00     12.00     14.00     16.00     18.00     20.00     22.00     24.00     26.00     28.00
                                  30.00

  373 SQ          DISCHARGE          0.       26.       58.       78.       94.      107.      119.      130.      140.      150.
                                   159.

                                                                  ***

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

                          HYDROGRAPH AT STATION     GPDB
                            FOR PLAN 1, RATIO =  .83

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+     129.      5.42                116.          46.          45.          45.
                (INCHES)       .842       1.345        1.345        1.345
                 (AC-FT)        58.          92.          92.          92.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       74.      5.42                 58.          24.          23.          23.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
     23.79      5.42               21.52       14.20        14.05        14.05

                          CUMULATIVE AREA =    1.28 SQ MI


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

                          HYDROGRAPH AT STATION     GPDB
                            FOR PLAN 1, RATIO =  .80

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+     126.      5.42                113.          44.          42.          42.
                (INCHES)       .816       1.265        1.265        1.265
                 (AC-FT)        56.          87.          87.          87.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       70.      5.42                 54.          22.          21.          21.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
     23.23      5.42               20.93       13.90        13.75        13.75

                          CUMULATIVE AREA =    1.28 SQ MI


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

                          HYDROGRAPH AT STATION     GPDB
                            FOR PLAN 1, RATIO =  .76

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+     122.      5.42                107.          40.          38.          38.
                (INCHES)       .776       1.156        1.156        1.156
                 (AC-FT)        53.          79.          79.          79.
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 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
       64.      5.42                   49.         20.         19.          19.

  PEAK STAGE    TIME                           MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
     22.46      5.42                 20.06       13.49       13.36        13.36

                         CUMULATIVE AREA =    1.28 SQ MI

 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
 ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
       ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).


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


            **************
            *            *
 1036 KK    *  ANGLPKDB  *
            *            *
            **************

 1049 KO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL          0.  HYDROGRAPH PLOT SCALE

               HYDROGRAPH ROUTING DATA

 1050 RS          STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       STOR  TYPE OF INITIAL CONDITION
                       RSVRIC      -1.00  INITIAL CONDITION
                            X        .00 WORKING R AND D COEFFICIENT

 1051 SV            STORAGE          .0      10.8      43.2     113.4     222.5     411.5     640.4     910.4    1239.8    1470.9
                                  1512.0    1554.1    1596.2    1640.5    1684.8    1730.2    1775.5    1823.0    1876.0    1919.1

 1053 SE          ELEVATION     2576.00   2580.00   2585.00   2590.00   2595.00   2600.00   2605.00   2610.00   2616.00   2618.00
                                2619.00   2619.50   2620.00   2620.50   2621.00   2621.50   2622.00   2622.50   2623.00   2623.50

 1055 SQ          DISCHARGE          0.       89.      194.      232.      285.      316.      343.      370.      392.      405.
                                  407.     1852.     4491.     7909.    11955.    16545.    21620.    27137.    33064.    39373.

                                                                 ***

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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .83

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+    1805.      6.83                 742.        454.        438.         438.
                (INCHES)            .304        .745        .745         .745
                 (AC-FT)            368.        901.        901.         901.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
     1553.      6.83                1500.       1146.       1104.        1104.

  PEAK STAGE    TIME                           MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+   (FEET)      (HR)
   2619.48      6.83              2618.66     2612.56     2611.22      2611.22

                         CUMULATIVE AREA =   22.67 SQ MI


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

                          HYDROGRAPH AT STATION ANGLPKDB
                            FOR PLAN 1, RATIO =  .80

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                  (CFS)
+    1186.      7.25                 562.        408.        393.         393.
                (INCHES)            .231        .669        .669         .669
                 (AC-FT)            279.        809.        809.         809.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR       72-HR     24.92-HR
+  (AC-FT)      (HR)
     1535.      7.25                1487.       1134.       1092.        1092.

  PEAK STAGE    TIME                           MAXIMUM AVERAGE STAGE
```

+ (FEET)	(HR)	6-HR	24-HR	72-HR	24.92-HR
2619.27	7.25	2618.47	2612.32	2610.99	2610.99

CUMULATIVE AREA = 22.67 SQ MI

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

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .76

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
	(CFS)				
+ 405.	8.17	403.	365.	351.	351.
	(INCHES)	.165	.598	.598	.598
	(AC-FT)	200.	723.	723.	723.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
1472.	8.17	1429.	1084.	1044.	1044.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2618.04	8.17	2617.64	2611.52	2610.22	2610.22

CUMULATIVE AREA = 22.67 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 .83	RATIO 2 .80	RATIO 3 .76
HYDROGRAPH AT							
+	3-1	2.22	1	FLOW	1339.	1276.	1187.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	R3-1	2.22	1	FLOW	1337.	1274.	1185.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	3-2	.23	1	FLOW	223.	212.	196.
				TIME	3.50	3.50	3.50
2 COMBINED AT							
+	CP3.1	2.45	1	FLOW	1395.	1330.	1236.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RCP3.1	2.45	1	FLOW	1403.	1333.	1238.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	3-D	.33	1	FLOW	263.	249.	230.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.3	2.78	1	FLOW	1532.	1456.	1352.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RCP3.3	2.78	1	FLOW	1526.	1450.	1346.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	3-3	.17	1	FLOW	220.	210.	196.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-3	.17	1	FLOW	196.	187.	177.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-4	.35	1	FLOW	426.	407.	380.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-4	.35	1	FLOW	388.	371.	346.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-5	.29	1	FLOW	352.	336.	313.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-5	.29	1	FLOW	323.	308.	293.
				TIME	3.58	3.58	3.58
3 COMBINED AT							
+	CP3.2	.81	1	FLOW	907.	866.	817.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3.2	.81	1	FLOW	853.	810.	771.
				TIME	3.58	3.58	3.58

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 HYDROGRAPH AT
+                    3-E       .54     1   FLOW         432.     411.     382.
                                           TIME         3.67     3.67     3.67

  3 COMBINED AT
+                  CP3.4      4.14     1   FLOW        2447.    2329.    2167.
                                           TIME         3.67     3.67     3.67

 ROUTED TO
+                RCP3.4      4.14     1   FLOW        2404.    2283.    2119.
                                           TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-6       .09     1   FLOW         114.     109.     101.
                                           TIME         3.50     3.50     3.50

 ROUTED TO
+                    R3-6      .09     1   FLOW         102.      98.      86.
                                           TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-7       .17     1   FLOW         232.     221.     207.
                                           TIME         3.50     3.50     3.50

 ROUTED TO
+                    R3-7      .17     1   FLOW         199.     189.     169.
                                           TIME         3.50     3.50     3.50

 HYDROGRAPH AT
+                    3-J       .15     1   FLOW         106.     100.      91.
                                           TIME         3.58     3.58     3.58

 ROUTED TO
+                    R3-J      .15     1   FLOW         104.      98.      88.
                                           TIME         3.67     3.67     3.67

  3 COMBINED AT
+                  CP3.5       .41     1   FLOW         361.     342.     305.
                                           TIME         3.58     3.58     3.58

 ROUTED TO
+                RCP3.5        .41     1   FLOW         350.     332.     296.
                                           TIME         3.58     3.58     3.58

 HYDROGRAPH AT
+                    3-8       .64     1   FLOW         635.     606.     565.
                                           TIME         3.58     3.58     3.58

 ROUTED TO
+                    R3-8      .64     1   FLOW         604.     577.     544.
                                           TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-K       .89     1   FLOW         697.     664.     618.
                                           TIME         3.67     3.67     3.67

  3 COMBINED AT
+                  CP3.6      1.94     1   FLOW        1619.    1544.    1438.
                                           TIME         3.67     3.67     3.67

 ROUTED TO
+                RCP3.6        1.94     1   FLOW        1605.    1529.    1416.
                                           TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-N       .46     1   FLOW         378.     360.     337.
                                           TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-M       .19     1   FLOW         198.     189.     177.
                                           TIME         3.58     3.58     3.58

 ROUTED TO
+                    R3-M      .19     1   FLOW         194.     184.     172.
                                           TIME         3.58     3.58     3.58

  4 COMBINED AT
+                  CPDB5      6.72     1   FLOW        4552.    4331.    4020.
                                           TIME         3.67     3.67     3.67

 ROUTED TO
+                    DB5       6.72     1   FLOW        1933.    1886.    1818.
                                           TIME         5.17     5.17     5.17

                                       ** PEAK STAGES IN FEET **
                                       1   STAGE     3555.24  3554.41  3553.25
                                           TIME         5.17     5.17     5.17

 HYDROGRAPH AT
+                    3-L       .32     1   FLOW         317.     303.     283.
                                           TIME         3.58     3.58     3.58

  2 COMBINED AT
+                  CP3-L       7.05     1   FLOW        2047.    1994.    1921.
                                           TIME         4.92     4.92     4.92

 ROUTED TO
+               RCSWAA-1       7.05     1   FLOW        2045.    1992.    1918.
                                           TIME         4.92     4.92     4.92

 HYDROGRAPH AT
+                SWAA-2        .70     1   FLOW         539.     516.     484.
                                           TIME         3.75     3.75     3.75

  2 COMBINED AT
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+                CSWAA-2      7.75     1   FLOW        2326.    2256.    2165.
                                          TIME         3.83     3.83     4.92

 ROUTED TO
+               RCSWAA-2      7.75     1   FLOW        2322.    2254.    2162.
                                          TIME         3.83     3.92     5.00

 HYDROGRAPH AT
+                 SWAA-3       .58     1   FLOW         380.     362.     337.
                                          TIME         3.75     3.75     3.75

  2 COMBINED AT
+                CSWAA-3      8.33     1   FLOW        2683.    2595.    2467.
                                          TIME         3.83     3.83     3.83

 HYDROGRAPH AT
+                   3-F       .28     1   FLOW         293.     280.     262.
                                          TIME         3.58     3.58     3.58

 ROUTED TO
+                  R3-F       .28     1   FLOW         289.     276.     258.
                                          TIME         3.58     3.58     3.58

 HYDROGRAPH AT
+                  3-G2       .13     1   FLOW         163.     157.     148.
                                          TIME         3.50     3.50     3.50

  2 COMBINED AT
+                 CP3.8       .41     1   FLOW         434.     416.     389.
                                          TIME         3.58     3.58     3.58

 ROUTED TO
+                RCP3.8       .41     1   FLOW         429.     411.     385.
                                          TIME         3.58     3.58     3.58

 HYDROGRAPH AT
+                   3-A       .36     1   FLOW         239.     226.     207.
                                          TIME         3.67     3.67     3.67

 ROUTED TO
+                  R3-A       .36     1   FLOW         239.     225.     206.
                                          TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                   3-B       .70     1   FLOW         476.     450.     415.
                                          TIME         3.67     3.67     3.67

 ROUTED TO
+                  R3-B       .70     1   FLOW         470.     444.     409.
                                          TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                   3-C       .22     1   FLOW         203.     194.     181.
                                          TIME         3.58     3.58     3.58

  3 COMBINED AT
+                CPDBA-B      1.28     1   FLOW         894.     845.     780.
                                          TIME         3.67     3.67     3.67

 ROUTED TO
+                  GPDB       1.28     1   FLOW         129.     126.     122.
                                          TIME         5.42     5.42     5.42

                                     ** PEAK STAGES IN FEET **
                                     1   STAGE       23.79    23.23    22.46
                                          TIME         5.42     5.42     5.42

 HYDROGRAPH AT
+                  3-G1       .24     1   FLOW         257.     246.     231.
                                          TIME         3.58     3.58     3.58

 ROUTED TO
+                 R3-G1       .24     1   FLOW         257.     246.     230.
                                          TIME         3.58     3.58     3.58

  2 COMBINED AT
+                CP3-G1      1.52     1   FLOW         335.     320.     298.
                                          TIME         3.58     3.58     3.58

 ROUTED TO
+               RCP3-G1      1.52     1   FLOW         332.     317.     295.
                                          TIME         3.58     3.58     3.58

 HYDROGRAPH AT
+                  3-Q2       .15     1   FLOW         194.     186.     175.
                                          TIME         3.50     3.50     3.50

  2 COMBINED AT
+                CP3-Q2      1.67     1   FLOW         499.     476.     443.
                                          TIME         3.50     3.50     3.50

 ROUTED TO
+               RCP3-Q2      1.67     1   FLOW         487.     464.     431.
                                          TIME         3.50     3.50     3.50

 HYDROGRAPH AT
+                  3-H1       .13     1   FLOW         164.     157.     148.
                                          TIME         3.50     3.50     3.50

  2 COMBINED AT
+                CP3-H1      1.80     1   FLOW         651.     622.     580.
                                          TIME         3.50     3.50     3.50

 ROUTED TO
+               RCP3-H1      1.80     1   FLOW         637.     607.     566.
                                          TIME         3.50     3.50     3.50
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HYDROGRAPH AT							
+	3-I1	.29	1	FLOW	263.	251.	235.
				TIME	3.58	3.58	3.58
3 COMBINED AT							
+	CP3.9	2.50	1	FLOW	1298.	1241.	1161.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP9	2.50	1	FLOW	1294.	1236.	1156.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-O	.09	1	FLOW	102.	98.	92.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-O	.09	1	FLOW	99.	95.	91.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-P2	.09	1	FLOW	84.	80.	75.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R3-P2	.09	1	FLOW	82.	78.	73.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-P1	.13	1	FLOW	162.	155.	146.
				TIME	3.50	3.50	3.50
3 COMBINED AT							
+	CP3-P	.31	1	FLOW	332.	318.	300.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3-P	.31	1	FLOW	330.	315.	298.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-Q	.10	1	FLOW	110.	105.	99.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3-Q	.41	1	FLOW	439.	420.	396.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3-Q	.41	1	FLOW	427.	407.	383.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-H2	.10	1	FLOW	111.	107.	101.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3-H2	.51	1	FLOW	539.	514.	484.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCPH-2	.51	1	FLOW	527.	503.	473.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-I2	.12	1	FLOW	111.	107.	100.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.10A	.63	1	FLOW	639.	610.	573.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.10	3.13	1	FLOW	1932.	1846.	1730.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3.10	3.13	1	FLOW	1924.	1838.	1721.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-H3	.14	1	FLOW	146.	141.	133.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.11	3.27	1	FLOW	2070.	1979.	1854.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCSHFH-9	3.27	1	FLOW	2002.	1903.	1785.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CRCSWFH9	11.60	1	FLOW	4486.	4266.	3996.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RCRCSWFH	11.60	1	FLOW	4460.	4237.	3965.
				TIME	3.67	3.67	3.67
HYDROGRAPH AT							
+	11A-1	.21	1	FLOW	132.	125.	115.
				TIME	3.67	3.67	3.67
2 COMBINED AT							

+	C11A-1	11.81	1	FLOW	4592.	4362.	4081.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RC11A-1	11.81	1	FLOW	4538.	4308.	4025.
				TIME	3.67	3.67	3.67
HYDROGRAPH AT							
+	11A-3	.19	1	FLOW	156.	149.	138.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	C11A-3	12.00	1	FLOW	4691.	4454.	4161.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RC11A-3	12.00	1	FLOW	4601.	4381.	4102.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	3A	.18	1	FLOW	107.	102.	93.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C3A	12.18	1	FLOW	4694.	4469.	4183.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC3A	12.18	1	FLOW	4534.	4331.	4066.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	3B-1	.26	1	FLOW	131.	123.	112.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C3B-1	12.44	1	FLOW	4618.	4410.	4139.
				TIME	3.92	3.92	3.92
ROUTED TO							
+	RC3B-1	12.44	1	FLOW	4605.	4396.	4121.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	11B-2	.44	1	FLOW	238.	226.	208.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	R11B-2	.44	1	FLOW	237.	225.	208.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	11B-1	.39	1	FLOW	282.	268.	249.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C11B-1	.84	1	FLOW	487.	462.	427.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RC11B-1	.84	1	FLOW	484.	459.	425.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	8B-1	.30	1	FLOW	208.	198.	184.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C8B-1	1.14	1	FLOW	680.	645.	598.
				TIME	3.67	3.67	3.75
ROUTED TO							
+	RC8B-1	1.14	1	FLOW	683.	646.	598.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	8B-2	.42	1	FLOW	324.	310.	292.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C8B-2	1.56	1	FLOW	1003.	953.	887.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC8B-2	1.56	1	FLOW	995.	943.	879.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	11A-2	.29	1	FLOW	241.	230.	214.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R11A-2	.29	1	FLOW	237.	225.	209.
				TIME	3.67	3.67	3.67
HYDROGRAPH AT							
+	8A	.31	1	FLOW	204.	194.	179.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C8A	.60	1	FLOW	441.	419.	388.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RC8A	.60	1	FLOW	413.	392.	364.
				TIME	3.75	3.75	3.75

HYDROGRAPH AT							
+	3B-2A	.24	1	FLOW	183.	174.	162.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	C3B-2A	.84	1	FLOW	555.	527.	488.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	CC3B-2A	2.40	1	FLOW	1546.	1467.	1365.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RCC3B-2A	2.40	1	FLOW	1524.	1447.	1342.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	3B-2B	.27	1	FLOW	145.	137.	126.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C3B-2B	2.67	1	FLOW	1665.	1581.	1465.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	CC3B-2B	15.11	1	FLOW	6120.	5819.	5442.
				TIME	3.83	3.83	3.92
ROUTED TO							
+	RCC3B-2B	15.11	1	FLOW	6094.	5808.	5433.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	SF2-C	.39	1	FLOW	159.	150.	138.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	CSF2-C	15.50	1	FLOW	6250.	5954.	5568.
				TIME	3.92	3.92	3.92
ROUTED TO							
+	RCSF2-C	15.50	1	FLOW	6221.	5921.	5531.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	SW11	.59	1	FLOW	418.	398.	370.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RSW11	.59	1	FLOW	410.	391.	362.
				TIME	3.67	3.67	3.67
HYDROGRAPH AT							
+	SW17	.36	1	FLOW	264.	252.	234.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	CSW17	.94	1	FLOW	674.	642.	596.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RCSW17	.94	1	FLOW	655.	625.	582.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	SW18	.41	1	FLOW	285.	271.	251.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	CSW18	1.35	1	FLOW	939.	894.	829.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RCSW18	1.35	1	FLOW	885.	841.	781.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	12A	.39	1	FLOW	320.	306.	287.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C12A	1.74	1	FLOW	1123.	1069.	995.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RC12A	1.74	1	FLOW	1117.	1063.	988.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	12B	.26	1	FLOW	212.	203.	190.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	C12B	2.00	1	FLOW	1258.	1198.	1114.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RC12B	2.00	1	FLOW	1222.	1164.	1084.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	57B-3	.31	1	FLOW	140.	131.	120.
				TIME	3.75	3.75	3.75
2 COMBINED AT							

+	C57B-3	2.31	1	FLOW	1334.	1269.	1178.
				TIME	3.92	3.92	3.92
ROUTED TO							
+	RC57B-3	2.31	1	FLOW	1332.	1268.	1178.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	57B-2	.36	1	FLOW	179.	169.	155.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C57B-2	2.67	1	FLOW	1464.	1391.	1291.
				TIME	3.92	3.92	4.00
ROUTED TO							
+	RC57B-2	2.67	1	FLOW	1467.	1395.	1295.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	13B-1	.25	1	FLOW	200.	192.	180.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RC13B-1	.25	1	FLOW	200.	192.	180.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	13B-2	.22	1	FLOW	169.	161.	151.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	C13B-2	.47	1	FLOW	349.	333.	311.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	RC13B-2	.47	1	FLOW	351.	336.	314.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	19A	.25	1	FLOW	177.	169.	158.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	R19A	.25	1	FLOW	178.	170.	159.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	13A-1	.22	1	FLOW	174.	167.	156.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C13A-1	.48	1	FLOW	329.	314.	293.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC13A-1	.48	1	FLOW	324.	310.	289.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	13A-2	.19	1	FLOW	148.	141.	132.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	C13A-2	.66	1	FLOW	434.	414.	386.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC13A-2	.66	1	FLOW	435.	415.	388.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	PIC-C	.24	1	FLOW	158.	151.	141.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	CPIC-C	.91	1	FLOW	581.	554.	515.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RCPIC-C	.91	1	FLOW	577.	551.	513.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	PIC-A	.36	1	FLOW	204.	195.	182.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	CPIC-A	1.27	1	FLOW	781.	746.	695.
				TIME	3.92	3.92	3.92
2 COMBINED AT							
+	CCPIC-A	1.73	1	FLOW	1115.	1064.	994.
				TIME	3.83	3.92	3.92
ROUTED TO							
+	RCCPIC-A	1.73	1	FLOW	1098.	1071.	995.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	57B-1	.20	1	FLOW	109.	103.	95.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C57B-1	1.93	1	FLOW	1172.	1141.	1060.
				TIME	3.92	3.92	3.92

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  2 COMBINED AT
+                CC57B-1      4.60     1   FLOW         2624.    2517.    2342.
                                           TIME          4.00     3.92     4.00

 ROUTED TO
+                RCC57B-1     4.60     1   FLOW         2623.    2515.    2341.
                                           TIME          4.00     4.00     4.00

 HYDROGRAPH AT
+                  57B-4       .20     1   FLOW          142.     136.     126.
                                           TIME          3.58     3.58     3.58

  2 COMBINED AT
+                  C57B-4     4.80     1   FLOW         2694.    2582.    2405.
                                           TIME          4.00     3.92     4.00

 HYDROGRAPH AT
+                   PIC-B       .44     1   FLOW          253.     242.     226.
                                           TIME          3.83     3.83     3.83

 ROUTED TO
+                  RPIC-B       .44     1   FLOW          250.     239.     224.
                                           TIME          3.83     3.83     3.83

  2 COMBINED AT
+                CC57B-4      5.24     1   FLOW         2940.    2821.    2619.
                                           TIME          3.92     3.92     4.00

 ROUTED TO
+                RCC57B-4     5.24     1   FLOW         2933.    2811.    2617.
                                           TIME          4.00     4.00     4.00

 HYDROGRAPH AT
+                    38A       .35     1   FLOW          212.     202.     189.
                                           TIME          3.75     3.75     3.75

 ROUTED TO
+                   R38A       .35     1   FLOW          208.     200.     190.
                                           TIME          3.83     3.83     3.83

 HYDROGRAPH AT
+                    38B       .44     1   FLOW          281.     269.     253.
                                           TIME          3.75     3.75     3.75

  2 COMBINED AT
+                   C38B       .79     1   FLOW          480.     460.     432.
                                           TIME          3.75     3.75     3.75

 HYDROGRAPH AT
+                   57BA       .32     1   FLOW           95.      88.      79.
                                           TIME          3.83     3.83     3.83

 ROUTED TO
+                  R57BA       .32     1   FLOW           94.      87.      78.
                                           TIME          3.83     3.83     3.83

 HYDROGRAPH AT
+                     3C       .15     1   FLOW          120.     115.     108.
                                           TIME          3.67     3.67     3.67

  2 COMBINED AT
+                   C3C       .47     1   FLOW          197.     186.     171.
                                           TIME          3.67     3.67     3.67

 ROUTED TO
+                   RC3C      .47     1   FLOW          197.     187.     171.
                                           TIME          3.75     3.75     3.75

 HYDROGRAPH AT
+                     AP       .67     1   FLOW          234.     219.     198.
                                           TIME          3.75     3.75     3.75

  5 COMBINED AT
+                ANGLPKIN    22.67     1   FLOW         9979.    9517.    8867.
                                           TIME          3.92     3.92     3.92

 ROUTED TO
+                ANGLPKDB    22.67     1   FLOW         1805.    1186.     405.
                                           TIME          6.83     7.25     8.17

                                       ** PEAK STAGES IN FEET **
                                       1   STAGE     2619.48  2619.27  2618.04
                                           TIME          6.83     7.25     8.17
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
              R3-1  MANE          3.33   1337.32    240.10       1.84      5.00   1337.09    240.00        1.84

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2184E+03 EXCESS= .0000E+00 OUTFLOW= .2184E+03 BASIN STORAGE= .8904E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE          3.40   1274.39    241.42       1.75      5.00   1274.36    240.00        1.75

 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2075E+03 EXCESS= .0000E+00 OUTFLOW= .2075E+03 BASIN STORAGE= .8517E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE         3.50   1185.52    241.46      1.63      5.00   1184.85    240.00        1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1924E+03 EXCESS= .0000E+00 OUTFLOW= .1924E+03 BASIN STORAGE= .7224E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.1  MANE         5.00   1402.96    240.00      1.82      5.00   1402.96    240.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2371E+03 EXCESS= .0000E+00 OUTFLOW= .2372E+03 BASIN STORAGE= .1111E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.1  MANE         5.00   1332.95    240.00      1.73      5.00   1332.95    240.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2252E+03 EXCESS= .0000E+00 OUTFLOW= .2252E+03 BASIN STORAGE= .1115E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.1  MANE         5.00   1238.40    240.00      1.60      5.00   1238.40    240.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2087E+03 EXCESS= .0000E+00 OUTFLOW= .2088E+03 BASIN STORAGE= .1132E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.3  MANE          .64   1529.94    240.48      1.79      5.00   1525.84    240.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2647E+03 EXCESS= .0000E+00 OUTFLOW= .2647E+03 BASIN STORAGE= .1113E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.3  MANE          .65   1455.08    240.67      1.70      5.00   1449.96    240.00        1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2513E+03 EXCESS= .0000E+00 OUTFLOW= .2513E+03 BASIN STORAGE= .1202E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.3  MANE          .67   1351.66    240.84      1.57      5.00   1346.15    240.00        1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2328E+03 EXCESS= .0000E+00 OUTFLOW= .2328E+03 BASIN STORAGE= .1177E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.50    198.57    216.00      1.85      5.00    196.09    215.00        1.84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1711E+02 EXCESS= .0000E+00 OUTFLOW= .1713E+02 BASIN STORAGE= .4795E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.50    190.04    216.00      1.76      5.00    187.40    215.00        1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1627E+02 EXCESS= .0000E+00 OUTFLOW= .1629E+02 BASIN STORAGE= .4723E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-3  MANE         4.75    182.81    213.75      1.64      5.00    176.63    215.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1516E+02 EXCESS= .0000E+00 OUTFLOW= .1518E+02 BASIN STORAGE= .5457E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.50    394.19    216.00      1.87      5.00    388.06    215.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3446E+02 EXCESS= .0000E+00 OUTFLOW= .3450E+02 BASIN STORAGE= .6877E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.50    377.03    216.00      1.78      5.00    370.70    215.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3278E+02 EXCESS= .0000E+00 OUTFLOW= .3281E+02 BASIN STORAGE= .6773E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-4  MANE         4.50    353.06    216.00      1.65      5.00    346.48    215.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3045E+02 EXCESS= .0000E+00 OUTFLOW= .3048E+02 BASIN STORAGE= .6624E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.60    330.37    212.50      1.83      5.00    322.60    215.00        1.82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2859E+02 EXCESS= .0000E+00 OUTFLOW= .2860E+02 BASIN STORAGE= .2899E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.66    314.80    212.51      1.74      5.00    307.63    215.00        1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2717E+02 EXCESS= .0000E+00 OUTFLOW= .2718E+02 BASIN STORAGE= .3036E-02 PERCENT ERROR=   -.1
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          FOR PLAN = 1  RATIO=  .00
              R3-5  MANE         3.76    301.77    214.18      1.61      5.00    293.39    215.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2527E+02 EXCESS= .0000E+00 OUTFLOW= .2528E+02 BASIN STORAGE= .3600E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         3.18    876.55    216.36      1.85      5.00    852.79    215.00        1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8010E+02 EXCESS= .0000E+00 OUTFLOW= .8012E+02 BASIN STORAGE= .3967E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         3.24    836.57    216.82      1.76      5.00    810.08    215.00        1.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7611E+02 EXCESS= .0000E+00 OUTFLOW= .7613E+02 BASIN STORAGE= .5074E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         3.31    791.62    218.22      1.64      5.00    771.37    215.00        1.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7088E+02 EXCESS= .0000E+00 OUTFLOW= .7090E+02 BASIN STORAGE= .4008E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.4  MANE         1.70   2413.77    220.65      1.78      5.00   2404.13    220.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3918E+03 EXCESS= .0000E+00 OUTFLOW= .3918E+03 BASIN STORAGE= .3188E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.4  MANE         1.73   2311.69    221.37      1.69      5.00   2283.44    220.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3720E+03 EXCESS= .0000E+00 OUTFLOW= .3720E+03 BASIN STORAGE= .3821E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.4  MANE         1.78   2147.95    222.13      1.56      5.00   2118.58    220.00        1.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3450E+03 EXCESS= .0000E+00 OUTFLOW= .3450E+03 BASIN STORAGE= .3144E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         4.50    104.42    220.50      1.83      5.00    102.35    220.00        1.83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8633E+01 EXCESS= .0000E+00 OUTFLOW= .8656E+01 BASIN STORAGE= .1242E-01 PERCENT ERROR=   -.4

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         4.50     99.64    220.50      1.74      5.00     97.54    220.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8209E+01 EXCESS= .0000E+00 OUTFLOW= .8230E+01 BASIN STORAGE= .1228E-01 PERCENT ERROR=   -.4

          FOR PLAN = 1  RATIO=  .00
              R3-6  MANE         4.75     91.22    223.25      1.62      5.00     86.48    220.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7648E+01 EXCESS= .0000E+00 OUTFLOW= .7668E+01 BASIN STORAGE= .9949E-02 PERCENT ERROR=   -.4

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.75    217.04    213.75      1.77      5.00    199.05    210.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1612E+02 EXCESS= .0000E+00 OUTFLOW= .1613E+02 BASIN STORAGE= .4324E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         3.75    207.37    213.75      1.68      5.00    189.14    210.00        1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1531E+02 EXCESS= .0000E+00 OUTFLOW= .1532E+02 BASIN STORAGE= .4255E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-7  MANE         4.00    187.19    212.00      1.54      5.00    169.25    210.00        1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1404E+02 EXCESS= .0000E+00 OUTFLOW= .1405E+02 BASIN STORAGE= .3680E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         5.00    104.33    220.00      1.16      5.00    104.33    220.00        1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9418E+01 EXCESS= .0000E+00 OUTFLOW= .9426E+01 BASIN STORAGE= .7554E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         5.00     97.66    220.00      1.08      5.00     97.66    220.00        1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8830E+01 EXCESS= .0000E+00 OUTFLOW= .8840E+01 BASIN STORAGE= .7399E-02 PERCENT ERROR=   -.2
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          FOR PLAN = 1  RATIO=  .00
              R3-J  MANE         5.00     88.44    220.00       .99      5.00     88.44    220.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8028E+01 EXCESS= .0000E+00 OUTFLOW= .8037E+01 BASIN STORAGE= .7175E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.66    357.83    216.43      1.55      5.00    350.13    215.00        1.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3423E+02 EXCESS= .0000E+00 OUTFLOW= .3423E+02 BASIN STORAGE= .1343E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.70    334.27    215.66      1.47      5.00    331.58    215.00        1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3240E+02 EXCESS= .0000E+00 OUTFLOW= .3240E+02 BASIN STORAGE= .1590E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.77    299.63    216.07      1.35      5.00    296.17    215.00        1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2972E+02 EXCESS= .0000E+00 OUTFLOW= .2972E+02 BASIN STORAGE= .1628E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.68    614.40    217.15      1.87      5.00    604.42    220.00        1.87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6375E+02 EXCESS= .0000E+00 OUTFLOW= .6377E+02 BASIN STORAGE= .3504E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.74    583.99    217.02      1.78      5.00    577.14    220.00        1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6062E+02 EXCESS= .0000E+00 OUTFLOW= .6063E+02 BASIN STORAGE= .3620E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.83    557.82    218.53      1.65      5.00    544.20    220.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5631E+02 EXCESS= .0000E+00 OUTFLOW= .5633E+02 BASIN STORAGE= .3950E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         2.06   1604.85    220.03      1.74      5.00   1604.63    220.00        1.74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1804E+03 EXCESS= .0000E+00 OUTFLOW= .1804E+03 BASIN STORAGE= .3066E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         2.09   1530.23    219.69      1.66      5.00   1529.39    220.00        1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1713E+03 EXCESS= .0000E+00 OUTFLOW= .1713E+03 BASIN STORAGE= .3217E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         2.15   1416.57    219.04      1.53      5.00   1416.02    220.00        1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1586E+03 EXCESS= .0000E+00 OUTFLOW= .1586E+03 BASIN STORAGE= .2912E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-M  MANE         2.19    193.75    214.86      1.79      5.00    193.66    215.00        1.79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1837E+02 EXCESS= .0000E+00 OUTFLOW= .1837E+02 BASIN STORAGE= .2336E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-M  MANE         2.23    184.01    214.37      1.70      5.00    183.84    215.00        1.70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1747E+02 EXCESS= .0000E+00 OUTFLOW= .1747E+02 BASIN STORAGE= .2092E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-M  MANE         2.29    172.45    215.65      1.58      5.00    171.52    215.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1623E+02 EXCESS= .0000E+00 OUTFLOW= .1623E+02 BASIN STORAGE= .2131E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-1  MANE         1.18   2045.79    295.69      1.77      5.00   2044.82    295.00        1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6637E+03 EXCESS= .0000E+00 OUTFLOW= .6637E+03 BASIN STORAGE= .2833E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-1  MANE         1.19   1992.76    295.23      1.68      5.00   1992.29    295.00        1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6303E+03 EXCESS= .0000E+00 OUTFLOW= .6303E+03 BASIN STORAGE= .2787E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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RCSWAA-1	MANE	1.21	1919.50	296.10	1.55	5.00	1918.50	295.00	1.55	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5843E+03 EXCESS= .0000E+00 OUTFLOW= .5843E+03 BASIN STORAGE= .2742E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.64	2325.88	231.64	1.78	5.00	2322.31	230.00	1.78	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7345E+03 EXCESS= .0000E+00 OUTFLOW= .7346E+03 BASIN STORAGE= .4703E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.66	2255.83	232.82	1.69	5.00	2253.74	235.00	1.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6979E+03 EXCESS= .0000E+00 OUTFLOW= .6979E+03 BASIN STORAGE= .4295E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSWAA-2	MANE	1.69	2165.31	297.55	1.57	5.00	2161.51	300.00	1.57	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6473E+03 EXCESS= .0000E+00 OUTFLOW= .6474E+03 BASIN STORAGE= .4721E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	1.02	289.75	216.09	1.83	5.00	289.22	215.00	1.83	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2744E+02 EXCESS= .0000E+00 OUTFLOW= .2744E+02 BASIN STORAGE= .1095E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	1.04	277.35	215.90	1.74	5.00	276.24	215.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2611E+02 EXCESS= .0000E+00 OUTFLOW= .2611E+02 BASIN STORAGE= .1277E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-F	MANE	1.07	258.51	215.34	1.62	5.00	257.75	215.00	1.62	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2427E+02 EXCESS= .0000E+00 OUTFLOW= .2427E+02 BASIN STORAGE= .1112E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.79	430.59	214.43	1.94	5.00	429.37	215.00	1.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4235E+02 EXCESS= .0000E+00 OUTFLOW= .4235E+02 BASIN STORAGE= .2464E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.82	411.83	214.59	1.85	5.00	410.98	215.00	1.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4038E+02 EXCESS= .0000E+00 OUTFLOW= .4039E+02 BASIN STORAGE= .2429E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.8	MANE	1.87	386.16	214.68	1.72	5.00	385.40	215.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3767E+02 EXCESS= .0000E+00 OUTFLOW= .3768E+02 BASIN STORAGE= .2480E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.38	239.16	217.44	1.30	5.00	238.68	220.00	1.30	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2521E+02 EXCESS= .0000E+00 OUTFLOW= .2521E+02 BASIN STORAGE= .1632E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.41	225.20	218.29	1.22	5.00	224.59	220.00	1.22	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2374E+02 EXCESS= .0000E+00 OUTFLOW= .2374E+02 BASIN STORAGE= .1562E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-A	MANE	1.46	206.42	220.04	1.12	5.00	206.42	220.00	1.12	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2172E+02 EXCESS= .0000E+00 OUTFLOW= .2172E+02 BASIN STORAGE= .1390E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.14	473.38	220.99	1.42	5.00	470.09	220.00	1.42	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5291E+02 EXCESS= .0000E+00 OUTFLOW= .5291E+02 BASIN STORAGE= .1812E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.16	447.70	221.29	1.34	5.00	444.44	220.00	1.34	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4995E+02 EXCESS= .0000E+00 OUTFLOW= .4995E+02 BASIN STORAGE= .1545E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-B	MANE	1.20	411.80	221.44	1.23	5.00	408.90	220.00	1.23	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4588E+02 EXCESS= .0000E+00 OUTFLOW= .4588E+02 BASIN STORAGE= .1760E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-G1	MANE	.44	256.75	215.10	1.88	5.00	256.75	215.00	1.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2413E+02 EXCESS= .0000E+00 OUTFLOW= .2413E+02 BASIN STORAGE= .4726E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-G1	MANE	.44	245.88	214.93	1.79	5.00	245.74	215.00	1.79	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2300E+02 EXCESS= .0000E+00 OUTFLOW= .2300E+02 BASIN STORAGE= .4488E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-G1	MANE	.45	230.27	215.10	1.67	5.00	230.26	215.00	1.67	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2142E+02 EXCESS= .0000E+00 OUTFLOW= .2142E+02 BASIN STORAGE= .4692E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-G1	MANE	.86	332.63	215.17	1.43	5.00	331.97	215.00	1.43	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1162E+03 EXCESS= .0000E+00 OUTFLOW= .1162E+03 BASIN STORAGE= .1315E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-G1	MANE	.87	317.36	215.78	1.35	5.00	316.66	215.00	1.35	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1096E+03 EXCESS= .0000E+00 OUTFLOW= .1096E+03 BASIN STORAGE= .1202E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-G1	MANE	.90	295.86	215.62	1.24	5.00	294.56	215.00	1.24	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1006E+03 EXCESS= .0000E+00 OUTFLOW= .1006E+03 BASIN STORAGE= .1059E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q2	MANE	.66	497.77	211.20	1.48	5.00	487.22	210.00	1.48	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1322E+03 EXCESS= .0000E+00 OUTFLOW= .1322E+03 BASIN STORAGE= .1189E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q2	MANE	.67	474.94	211.22	1.40	5.00	464.24	210.00	1.40	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1249E+03 EXCESS= .0000E+00 OUTFLOW= .1249E+03 BASIN STORAGE= .1088E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q2	MANE	.69	442.85	211.10	1.29	5.00	431.42	210.00	1.29	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1149E+03 EXCESS= .0000E+00 OUTFLOW= .1149E+03 BASIN STORAGE= .9584E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-H1	MANE	.58	647.78	211.00	1.52	5.00	637.03	210.00	1.52	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1459E+03 EXCESS= .0000E+00 OUTFLOW= .1459E+03 BASIN STORAGE= .1179E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-H1	MANE	.59	619.65	210.81	1.44	5.00	607.41	210.00	1.44	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1380E+03 EXCESS= .0000E+00 OUTFLOW= .1380E+03 BASIN STORAGE= .1080E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-H1	MANE	.61	578.48	210.72	1.33	5.00	566.02	210.00	1.33	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1271E+03 EXCESS= .0000E+00 OUTFLOW= .1271E+03 BASIN STORAGE= .9525E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP9	MANE	.63	1294.06	215.05	1.62	5.00	1293.66	215.00	1.62	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2156E+03 EXCESS= .0000E+00 OUTFLOW= .2156E+03 BASIN STORAGE= .1697E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP9	MANE	.64	1236.81	215.09	1.53	5.00	1236.17	215.00	1.53	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2043E+03 EXCESS= .0000E+00 OUTFLOW= .2043E+03 BASIN STORAGE= .1555E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP9	MANE	.66	1156.50	214.95	1.42	5.00	1156.41	215.00	1.42	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1889E+03 EXCESS= .0000E+00 OUTFLOW= .1889E+03 BASIN STORAGE= .1372E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-O	MANE	2.00	101.86	212.28	2.11	5.00	99.45	215.00	2.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9816E+01 EXCESS= .0000E+00 OUTFLOW= .9818E+01 BASIN STORAGE= .1483E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-O	MANE	2.04	97.53	213.70	2.02	5.00	95.22	215.00	2.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9394E+01 EXCESS= .0000E+00 OUTFLOW= .9397E+01 BASIN STORAGE= .1398E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-O	MANE	2.08	92.22	212.56	1.89	5.00	90.54	215.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8809E+01 EXCESS= .0000E+00 OUTFLOW= .8811E+01 BASIN STORAGE= .1520E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	2.16	82.10	216.03	1.66	5.00	81.65	215.00	1.65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7690E+01 EXCESS= .0000E+00 OUTFLOW= .7691E+01 BASIN STORAGE= .1573E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	2.20	78.33	215.83	1.57	5.00	77.79	215.00	1.57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7301E+01 EXCESS= .0000E+00 OUTFLOW= .7302E+01 BASIN STORAGE= .1769E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	2.27	73.03	215.26	1.46	5.00	72.79	215.00	1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6765E+01 EXCESS= .0000E+00 OUTFLOW= .6766E+01 BASIN STORAGE= .1612E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.45	330.46	212.53	1.99	5.00	329.80	215.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3262E+02 EXCESS= .0000E+00 OUTFLOW= .3262E+02 BASIN STORAGE= .1692E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.47	316.16	213.29	1.90	5.00	315.11	215.00	1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3116E+02 EXCESS= .0000E+00 OUTFLOW= .3117E+02 BASIN STORAGE= .1731E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.51	297.71	215.29	1.77	5.00	297.55	215.00	1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2914E+02 EXCESS= .0000E+00 OUTFLOW= .2914E+02 BASIN STORAGE= .1997E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	2.36	428.45	216.87	1.98	5.00	427.48	215.00	1.98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4341E+02 EXCESS= .0000E+00 OUTFLOW= .4342E+02 BASIN STORAGE= .3533E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	2.40	410.44	215.98	1.89	5.00	407.32	215.00	1.89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4145E+02 EXCESS= .0000E+00 OUTFLOW= .4146E+02 BASIN STORAGE= .3407E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	2.46	386.42	216.18	1.77	5.00	382.89	215.00	1.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3874E+02 EXCESS= .0000E+00 OUTFLOW= .3876E+02 BASIN STORAGE= .3362E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	1.16	531.90	216.44	1.99	5.00	527.26	215.00	1.99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5423E+02 EXCESS= .0000E+00 OUTFLOW= .5423E+02 BASIN STORAGE= .1951E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	1.19	508.60	215.79	1.90	5.00	503.04	215.00	1.90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5178E+02 EXCESS= .0000E+00 OUTFLOW= .5178E+02 BASIN STORAGE= .1684E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	1.22	479.50	216.30	1.78	5.00	473.47	215.00	1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4842E+02 EXCESS= .0000E+00 OUTFLOW= .4842E+02 BASIN STORAGE= .1882E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.31	1926.89	215.14	1.69	5.00	1923.98	215.00	1.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2816E+03 EXCESS= .0000E+00 OUTFLOW= .2816E+03 BASIN STORAGE= .9776E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.31	1840.58	215.35	1.60	5.00	1838.30	215.00	1.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2673E+03 EXCESS= .0000E+00 OUTFLOW= .2673E+03 BASIN STORAGE= .8952E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.32	1725.26	215.22	1.48	5.00	1721.44	215.00	1.48	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2478E+03 EXCESS= .0000E+00 OUTFLOW= .2478E+03 BASIN STORAGE= .7901E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSHFH-9	MANE	2.56	2022.02	217.84	1.71	5.00	2002.17	215.00	1.71	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2978E+03 EXCESS= .0000E+00 OUTFLOW= .2978E+03 BASIN STORAGE= .4865E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSHFH-9	MANE	2.60	1927.89	215.96	1.62	5.00	1902.61	215.00	1.62	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2828E+03 EXCESS= .0000E+00 OUTFLOW= .2828E+03 BASIN STORAGE= .4423E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSHFH-9	MANE	2.66	1805.93	218.07	1.50	5.00	1785.08	215.00	1.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2625E+03 EXCESS= .0000E+00 OUTFLOW= .2625E+03 BASIN STORAGE= .3843E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.66	4480.16	220.63	1.75	5.00	4460.00	220.00	1.75	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1082E+04 EXCESS= .0000E+00 OUTFLOW= .1082E+04 BASIN STORAGE= .2440E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.68	4258.82	220.79	1.66	5.00	4237.21	220.00	1.66	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1027E+04 EXCESS= .0000E+00 OUTFLOW= .1027E+04 BASIN STORAGE= .2230E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.69	3992.97	220.73	1.54	5.00	3965.50	220.00	1.54	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9531E+03 EXCESS= .0000E+00 OUTFLOW= .9531E+03 BASIN STORAGE= .1958E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	1.01	4578.79	221.28	1.74	5.00	4538.15	220.00	1.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1097E+04 EXCESS= .0000E+00 OUTFLOW= .1097E+04 BASIN STORAGE= .3626E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	1.03	4350.74	221.42	1.65	5.00	4308.09	220.00	1.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1042E+04 EXCESS= .0000E+00 OUTFLOW= .1042E+04 BASIN STORAGE= .3311E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	1.06	4071.22	221.70	1.53	5.00	4024.54	220.00	1.53	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9664E+03 EXCESS= .0000E+00 OUTFLOW= .9664E+03 BASIN STORAGE= .2905E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	.99	4611.37	235.93	1.72	5.00	4605.38	235.00	1.72	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1139E+04 EXCESS= .0000E+00 OUTFLOW= .1139E+04 BASIN STORAGE= .3863E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	1.01	4405.04	236.00	1.63	5.00	4396.33	235.00	1.63	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1082E+04 EXCESS= .0000E+00 OUTFLOW= .1082E+04 BASIN STORAGE= .3532E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	1.03	4127.67	235.49	1.51	5.00	4121.16	235.00	1.51	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1003E+04 EXCESS= .0000E+00 OUTFLOW= .1003E+04 BASIN STORAGE= .3108E-01 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE         2.09    237.78    228.28      1.39      5.00    237.26    230.00        1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3272E+02 EXCESS= .0000E+00 OUTFLOW= .3272E+02 BASIN STORAGE= .7907E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE         2.13    225.38    229.91      1.32      5.00    225.34    230.00        1.32

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3095E+02 EXCESS= .0000E+00 OUTFLOW= .3095E+02 BASIN STORAGE= .8096E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11B-2  MANE         2.18    208.52    229.00      1.21      5.00    207.90    230.00        1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2852E+02 EXCESS= .0000E+00 OUTFLOW= .2852E+02 BASIN STORAGE= .8984E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC11B-1  MANE        1.69    487.81    222.78      1.44      5.00    484.50    225.00        1.44

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6434E+02 EXCESS= .0000E+00 OUTFLOW= .6434E+02 BASIN STORAGE= .8682E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC11B-1  MANE        1.72    462.67    223.04      1.37      5.00    459.39    225.00        1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6094E+02 EXCESS= .0000E+00 OUTFLOW= .6094E+02 BASIN STORAGE= .8948E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC11B-1  MANE        1.76    428.32    223.18      1.26      5.00    425.34    225.00        1.26

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5625E+02 EXCESS= .0000E+00 OUTFLOW= .5625E+02 BASIN STORAGE= .9091E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC8B-1  MANE         2.53    683.97    225.39      1.46      5.00    683.27    225.00        1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8842E+02 EXCESS= .0000E+00 OUTFLOW= .8843E+02 BASIN STORAGE= .1334E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC8B-1  MANE         2.57    647.45    223.93      1.38      5.00    645.56    225.00        1.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8375E+02 EXCESS= .0000E+00 OUTFLOW= .8375E+02 BASIN STORAGE= .1258E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC8B-1  MANE         2.64    599.36    223.98      1.27      5.00    598.02    225.00        1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7738E+02 EXCESS= .0000E+00 OUTFLOW= .7738E+02 BASIN STORAGE= .1423E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC8B-2  MANE         1.53    998.50    226.77      1.58      5.00    994.93    225.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1314E+03 EXCESS= .0000E+00 OUTFLOW= .1314E+03 BASIN STORAGE= .1626E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC8B-2  MANE         1.56    950.99    226.30      1.50      5.00    943.37    225.00        1.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1248E+03 EXCESS= .0000E+00 OUTFLOW= .1248E+03 BASIN STORAGE= .1636E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RC8B-2  MANE         1.60    882.13    225.71      1.39      5.00    879.17    225.00        1.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1159E+03 EXCESS= .0000E+00 OUTFLOW= .1159E+03 BASIN STORAGE= .1574E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11A-2  MANE         5.00    236.53    220.00      1.54      5.00    236.53    220.00        1.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2388E+02 EXCESS= .0000E+00 OUTFLOW= .2389E+02 BASIN STORAGE= .1771E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11A-2  MANE         5.00    224.98    220.00      1.47      5.00    224.98    220.00        1.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2267E+02 EXCESS= .0000E+00 OUTFLOW= .2268E+02 BASIN STORAGE= .1729E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            R11A-2  MANE         5.00    208.94    220.00      1.36      5.00    208.94    220.00        1.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2101E+02 EXCESS= .0000E+00 OUTFLOW= .2101E+02 BASIN STORAGE= .1640E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
          RCC3B-2A  MANE         3.04   1536.26    227.67      1.53      5.00   1523.71    225.00        1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1962E+03 EXCESS= .0000E+00 OUTFLOW= .1962E+03 BASIN STORAGE= .3418E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2A  MANE         3.09   1454.87    225.51      1.46      5.00   1446.96    225.00        1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1862E+03 EXCESS= .0000E+00 OUTFLOW= .1863E+03 BASIN STORAGE= .3735E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2A  MANE         3.16   1358.78    227.85      1.35      5.00   1341.64    225.00        1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1727E+03 EXCESS= .0000E+00 OUTFLOW= .1728E+03 BASIN STORAGE= .3806E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2B  MANE         1.84   6126.45    232.19      1.68      5.00   6094.31    235.00        1.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1353E+04 EXCESS= .0000E+00 OUTFLOW= .1353E+04 BASIN STORAGE= .8139E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2B  MANE         1.88   5830.56    232.86      1.59      5.00   5807.92    235.00        1.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1284E+04 EXCESS= .0000E+00 OUTFLOW= .1284E+04 BASIN STORAGE= .7434E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2B  MANE         1.93   5444.13    233.01      1.48      5.00   5433.22    235.00        1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1191E+04 EXCESS= .0000E+00 OUTFLOW= .1191E+04 BASIN STORAGE= .6555E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.65   6227.87    235.73      1.66      5.00   6221.20    235.00        1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1375E+04 EXCESS= .0000E+00 OUTFLOW= .1375E+04 BASIN STORAGE= .7517E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.68   5945.40    236.69      1.58      5.00   5920.71    235.00        1.58

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1305E+04 EXCESS= .0000E+00 OUTFLOW= .1305E+04 BASIN STORAGE= .6862E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.72   5543.25    235.84      1.46      5.00   5531.17    235.00        1.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1210E+04 EXCESS= .0000E+00 OUTFLOW= .1210E+04 BASIN STORAGE= .6045E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.30    416.37    222.12      1.61      5.00    410.01    220.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5050E+02 EXCESS= .0000E+00 OUTFLOW= .5051E+02 BASIN STORAGE= .1749E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.32    397.37    221.25      1.53      5.00    390.68    220.00        1.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4795E+02 EXCESS= .0000E+00 OUTFLOW= .4795E+02 BASIN STORAGE= .1754E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.36    368.29    222.34      1.41      5.00    362.23    220.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4443E+02 EXCESS= .0000E+00 OUTFLOW= .4443E+02 BASIN STORAGE= .1741E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         2.09    669.29    223.35      1.60      5.00    655.44    225.00        1.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8051E+02 EXCESS= .0000E+00 OUTFLOW= .8051E+02 BASIN STORAGE= .3168E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         2.13    637.32    223.48      1.52      5.00    624.88    225.00        1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7643E+02 EXCESS= .0000E+00 OUTFLOW= .7644E+02 BASIN STORAGE= .3781E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         2.19    591.71    223.65      1.40      5.00    581.57    225.00        1.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7080E+02 EXCESS= .0000E+00 OUTFLOW= .7081E+02 BASIN STORAGE= .3456E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE         5.00    200.29    225.00      1.80      5.00    200.29    225.00        1.80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2393E+02 EXCESS= .0000E+00 OUTFLOW= .2393E+02 BASIN STORAGE= .1245E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE         5.00    191.65    225.00      1.72      5.00    191.65    225.00        1.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2283E+02 EXCESS= .0000E+00 OUTFLOW= .2284E+02 BASIN STORAGE= .1947E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE         5.00    179.61    225.00      1.61      5.00    179.61    225.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2131E+02 EXCESS= .0000E+00 OUTFLOW= .2132E+02 BASIN STORAGE= .1878E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE         5.00    351.46    230.00      1.71      5.00    351.46    230.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4246E+02 EXCESS= .0000E+00 OUTFLOW= .4249E+02 BASIN STORAGE= .5720E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE         5.00    335.67    230.00      1.63      5.00    335.67    230.00        1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4046E+02 EXCESS= .0000E+00 OUTFLOW= .4048E+02 BASIN STORAGE= .5576E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE         5.00    313.60    230.00      1.52      5.00    313.60    230.00        1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3769E+02 EXCESS= .0000E+00 OUTFLOW= .3772E+02 BASIN STORAGE= .5431E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    178.39    230.00      1.71      5.00    178.39    230.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2302E+02 EXCESS= .0000E+00 OUTFLOW= .2303E+02 BASIN STORAGE= .2506E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    170.16    230.00      1.62      5.00    170.16    230.00        1.62

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2192E+02 EXCESS= .0000E+00 OUTFLOW= .2192E+02 BASIN STORAGE= .2444E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R19A  MANE         5.00    158.71    230.00      1.51      5.00    158.71    230.00        1.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2039E+02 EXCESS= .0000E+00 OUTFLOW= .2039E+02 BASIN STORAGE= .2356E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC13A-2  MANE         5.00    434.94    235.00      1.71      5.00    434.94    235.00        1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6079E+02 EXCESS= .0000E+00 OUTFLOW= .6082E+02 BASIN STORAGE= .7218E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13A-2  MANE         5.00    415.26    235.00      1.63      5.00    415.26    235.00        1.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5790E+02 EXCESS= .0000E+00 OUTFLOW= .5794E+02 BASIN STORAGE= .7083E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13A-2  MANE         5.00    387.82    235.00      1.52      5.00    387.82    235.00        1.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5392E+02 EXCESS= .0000E+00 OUTFLOW= .5395E+02 BASIN STORAGE= .6890E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RCPIC-C  MANE         3.53    579.21    232.99      1.69      5.00    577.03    235.00        1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8180E+02 EXCESS= .0000E+00 OUTFLOW= .8181E+02 BASIN STORAGE= .2450E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCPIC-C  MANE         3.59    552.92    233.25      1.61      5.00    551.00    235.00        1.61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7791E+02 EXCESS= .0000E+00 OUTFLOW= .7792E+02 BASIN STORAGE= .2771E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCPIC-C  MANE         3.68    513.91    235.30      1.50      5.00    513.15    235.00        1.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7253E+02 EXCESS= .0000E+00 OUTFLOW= .7253E+02 BASIN STORAGE= .3179E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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RCCPIC-A	MANE	4.94	1115.80	237.12	1.69	5.00	1098.38	235.00	1.68	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1556E+03 EXCESS= .0000E+00 OUTFLOW= .1557E+03 BASIN STORAGE= .3676E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	5.00	1070.86	235.00	1.61	5.00	1070.86	235.00	1.61	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1483E+03 EXCESS= .0000E+00 OUTFLOW= .1483E+03 BASIN STORAGE= .3181E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCCPIC-A	MANE	5.00	994.91	235.00	1.50	5.00	994.91	235.00	1.50	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1381E+03 EXCESS= .0000E+00 OUTFLOW= .1381E+03 BASIN STORAGE= .3166E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.45	2623.64	239.82	1.55	5.00	2623.06	240.00	1.55	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3799E+03 EXCESS= .0000E+00 OUTFLOW= .3799E+03 BASIN STORAGE= .8393E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.46	2517.50	235.81	1.47	5.00	2514.53	240.00	1.47	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3610E+03 EXCESS= .0000E+00 OUTFLOW= .3610E+03 BASIN STORAGE= .8337E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-1	MANE	.47	2341.51	239.91	1.36	5.00	2341.22	240.00	1.36	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3348E+03 EXCESS= .0000E+00 OUTFLOW= .3348E+03 BASIN STORAGE= .8409E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.95	252.93	232.03	1.60	5.00	250.47	230.00	1.60	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3763E+02 EXCESS= .0000E+00 OUTFLOW= .3763E+02 BASIN STORAGE= .2632E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.97	241.55	232.20	1.52	5.00	239.09	230.00	1.52	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3584E+02 EXCESS= .0000E+00 OUTFLOW= .3584E+02 BASIN STORAGE= .2395E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RPIC-B	MANE	1.99	225.41	233.36	1.42	5.00	223.60	230.00	1.42	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3338E+02 EXCESS= .0000E+00 OUTFLOW= .3338E+02 BASIN STORAGE= .2597E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.20	2941.17	236.83	1.55	5.00	2932.66	240.00	1.55	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4331E+03 EXCESS= .0000E+00 OUTFLOW= .4331E+03 BASIN STORAGE= .3355E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.22	2822.18	237.10	1.47	5.00	2811.37	240.00	1.47	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4117E+03 EXCESS= .0000E+00 OUTFLOW= .4117E+03 BASIN STORAGE= .3587E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCC57B-4	MANE	1.26	2619.88	237.98	1.37	5.00	2616.96	240.00	1.37	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3820E+03 EXCESS= .0000E+00 OUTFLOW= .3820E+03 BASIN STORAGE= .3291E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R38A	MANE	4.93	209.60	231.90	1.55	5.00	208.15	230.00	1.55	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2916E+02 EXCESS= .0000E+00 OUTFLOW= .2916E+02 BASIN STORAGE= .8342E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R38A	MANE	4.98	200.75	229.04	1.48	5.00	200.21	230.00	1.48	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2779E+02 EXCESS= .0000E+00 OUTFLOW= .2779E+02 BASIN STORAGE= .8579E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R38A	MANE	5.00	189.51	230.00	1.38	5.00	189.51	230.00	1.38	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2589E+02 EXCESS= .0000E+00 OUTFLOW= .2589E+02 BASIN STORAGE= .6822E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R57BA	MANE	1.29	94.82	231.58	.77	5.00	94.22	230.00	.77	

```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .1308E+02 EXCESS= .0000E+00 OUTFLOW= .1308E+02 BASIN STORAGE= .2093E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.32     88.12    231.90       .72      5.00     87.44    230.00         .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1218E+02 EXCESS= .0000E+00 OUTFLOW= .1218E+02 BASIN STORAGE= .2069E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.35     79.04    231.57       .65      5.00     78.37    230.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1096E+02 EXCESS= .0000E+00 OUTFLOW= .1096E+02 BASIN STORAGE= .2207E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    197.17    225.00      1.08      5.00    197.17    225.00        1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2700E+02 EXCESS= .0000E+00 OUTFLOW= .2702E+02 BASIN STORAGE= .3462E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    186.60    225.00      1.02      5.00    186.60    225.00        1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2548E+02 EXCESS= .0000E+00 OUTFLOW= .2550E+02 BASIN STORAGE= .3908E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              RC3C  MANE         5.00    171.49    225.00       .93      5.00    171.49    225.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2340E+02 EXCESS= .0000E+00 OUTFLOW= .2341E+02 BASIN STORAGE= .3739E-02 PERCENT ERROR=   -.1


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

B.5.6 10-YEAR SDN3 DB5/ALTA TRIBUTARY

```
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   06DEC17  TIME  08:44:23  *                    *           (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
 *** FREE ***
             1          ID   THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
             2          ID   TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
             3          ID   DOWNSTREAM HOLDING FACILITIES
             4          ID
             5          ID   MODELED BY VTN, NEVADA SVB/JYA
             6          ID   MAY 9, 2017
             7          ID
             8          ID
             9          ID    CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
            10          ID    GOWAN WATERSHED (ALL)
            11          ID    RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
            12          ID    INPUT FILE = ALT1-SDN3.DAT
            13          ID    INPUT FILE DATE = MAY 5, 2008
            14          ID    DESIGN STORM = 100-YEAR 6-HR STORM
            15          ID    STORM DISTRIBUTION = SDN #5
            16          ID    MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
            17          ID    CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
            18          ID    STORM CENTERING = FULL WATERSHEDCP
            19          ID
            20          ID    REFERENCED HYDROLOGIC MODELS:
            21          ID    CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
            22          ID    NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
            23          ID    RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
            24          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
            25          ID    3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
            26          ID    CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
            27          ID    SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
            28          ID    MASTER PLAN UPDATE (G.C. WALLACE 2006)
            29          ID    GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
            30          ID    (G.C. WALLACE 2007)
            31          ID    LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
            32          ID    FROM G.C. WALLACE ON JANUARY 31, 2008)
            33          ID    US 95/RANCHO FIS RESTUDY (PBS&J 1998)
            34          ID    JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:
            35          ID
            36          ID                          AREA    DARF
            37          ID                          SQ. MI.
            38          ID                          0-0.5   0.57
            39          ID                          0.5-1   0.56
            40          ID                          1-2     0.54
            41          ID
            42          ID
            43          ID
            44          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
            45          ID
            46          ID  100-YEAR,  6-HOUR STORM,  SDN3
            47          ID
            48          IT       5       0       0     300
            49          IO       5       0       0
            50          IN       5       0       0
            51          ID         0-0.5    0.5-1   1-2     2-3     3-4     4-5     5-6     6-7     7-8
            52          JR    PREC    0.57    0.56    0.54
                        *
```



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

            53          KK     3-1
            54          KM   COMPARE TO MPU BASIN DB54-1 (CURVE NUMBER CHANGED FROM 87.2)
            55          BA    2.22
            56          PB    3.75
            57          PC       0    0.02   0.057    0.07   0.087   0.108   0.124    0.13    0.13   0.130
            58          PC    0.13    0.13    0.13   0.133    0.14   0.142   0.148   0.158   0.172   0.181
            59          PC    0.19   0.197   0.199     0.2   0.201   0.204   0.214   0.229   0.241   0.249
            60          PC   0.251   0.256    0.27   0.278   0.281   0.283   0.295   0.322   0.352   0.409
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 61          PC   0.499    0.59    0.71   0.744   0.781   0.812   0.819   0.835   0.851   0.856
 62          PC    0.86   0.868   0.876   0.888    0.91   0.926   0.937    0.95    0.97   0.976
 63          PC   0.982   0.985   0.987   0.989    0.99   0.993   0.993   0.994   0.995   0.998
 64          PC   0.998   0.999       1
 65          LS       0    87.0
 66          UD   0.582
             *

 67          KK    R3-1
 68          KM   ROUTE R3-1 THROUGH 3-2
 69          KM   EXISTING NATURAL WASH
 70          RD    3322   0.092   0.030       0    TRAP     125       0
             *

 71          KK     3-2
 72          KM   COMPARE TO MPU BASIN DB54-5 (CURVE NUMBER CHANGED FROM 85.2)
 73          BA   0.226
 74          PB    3.67
 75          LS       0    83.9
 76          UD   0.110
             *

 77          KK   CP3.1
 78          KM   COMBINE R3-1 AND 3-2
 79          HC       2
             *

 80          KK  RCP3.1
 81          KM   ROUTE CP3.1 TO CP3.3 THROUGH 3-E VIA
 82          KM   (PORTION OF FACILITY APM50059)
 83          RD    7900   0.070   0.013       0    TRAP     125       2
             *

 84          KK     3-D
 85          KM   PORTION OF BASINS DB54-6R (PB=3.56)
 86          BA  0.3329
 87          PB    3.59
 88          LS       0    84.6
 89          UD   0.223
             *
1                                      HEC-1 INPUT                                      PAGE  3

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

 90          KK   CP3.3
 91          KM   COMBINE 3-D, RCP3.1,
 92          HC       2
             *

 93          KK  RCP3.3
 94          KM   ROUTE CP3.3 TO CP3.4 THROUGH 3-E VIA A
 95          KM   (PORTION OF FACILITY APM50059)
 96          RD    1000   0.070   0.013       0    TRAP     125       2
             *

 97          KK     3-3
 98          KM   PORTION OF MPU BASIN DB54-3
 99          BA  0.1737
100          PB    3.65
101          LS       0    88.0
102          UD   0.081
             *

103          KK    R3-3
104          KM   ROUTE R3-3 THROUGH A PORTION OF 3-E TO CP3.2
105          KM   NATURAL WASH
106          RD    2233   0.054   0.030       0    TRAP     100       0
             *

107          KK     3-4
108          KM   PORTION OF MPU BASIN DB54-3
109          BA  0.3457
110          PB    3.68
111          LS       0    88.0
112          UD   0.092
             *

113          KK    R3-4
114          KM   ROUTE R3-4 THROUGH A PORTION OF 3-E TO CP3.2
115          KM   NATURAL WASH
116          RD    3300   0.097   0.030       0    TRAP     100       0
             *

117          KK     3-5
118          KM   COMPARE TO MPU BASIN DB54-2 (SLIGHTLY LARGER PORTION OF DB54-4)
119          BA  0.2936
120          PB    3.65
121          LS       0    87.7
122          UD   0.094
             *

123          KK    R3-5
124          KM   ROUTE R3-5 THROUGH A PORTION OF 3-E TO CP3.2
125          KM   (PORTION OF FACILITY APM50057)
126          RD    4400   0.068   0.013       0    TRAP      50       2
             *
1                                      HEC-1 INPUT                                      PAGE  4

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

127          KK   CP3.2
128          KM   COMBINE R3-5 , R3-4 AND R3-3
129          HC       3
             *
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```
 130          KK  RCP3.2
 131          KM   ROUTE RCP3.2 THROUGH A PORTION OF 3-E TO CP3.4
 132          KM   (PORTION OF FACILITY APM50057)
 133          RD    5500   0.068   0.013       0    TRAP      50       2
              *

 134          KK     3-E
 135          KM   PORTION OF BASINS DB54-4 (PB=3.60) AND DB54-6R (PB=3.56)
 136          BA  0.5442
 137          PB    3.57
 138          LS       0    85.8
 139          UD   0.238
              *

 140          KK   CP3.4
 141          KM   COMBINE 3-E, RCP3.2 AND RCP3.3
 142          HC       3
              *

 143          KK  RCP3.4
 144          KM   ROUTE RCP3.4 THROUGH A PORTION OF 3-N TO CPDB3
 145          KM   (FACILITIES APM50056, APM50047 AND APM50008)
 146          RD    3365   0.052   0.013       0    TRAP      80       2
              *

 147          KK     3-6
 148          KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
 149          BA  0.0887
 150          PB    3.62
 151          LS       0    88.0
 152          UD   0.074
              *

 153          KK    R3-6
 154          KM   ROUTE 3-6 THROUGH A PORTION OF 3-J AND A PORTION OF 3-K TO CP3.5
 155          KM   EXISTING NATURAL WASHES
 156          RD    4500   0.080   0.030       0    TRAP     100       0
              *

 157          KK     3-7
 158          KM   PORTION OF MPU BASIN DB55-3 AND DB55-4
 159          BA  0.1714
 160          PB    3.61
 161          LS       0    87.2
 162          UD   0.048
              *
1                                      HEC-1 INPUT                                      PAGE  5

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

 163          KK    R3-7
 164          KM   ROUTE 3-7 THROUGH A PORTION OF 3-K TO CP3.5
 165          KM   PORTION OF FACILITY ID APM50213
 166          RD    4340   0.073   0.013       0    TRAP      50       2
              *

 167          KK     3-J
 168          KM   PORTION OF MPU BASIN DB55-4
 169          BA  0.1529
 170          PB    3.59
 171          LS       0    78.6
 172          UD   0.168
              *

 173          KK    R3-J
 174          KM   ROUTE 3-J THROUGH A PORTION OF 3-K TO CP3.5
 175          KM   NATURAL WASHES
 176          RD    2700   0.074   0.030       0    TRAP     100       0
              *

 177          KK   CP3.5
 178          KM   COMBINE R3-J, R3-7 AND R3-6
 179          HC       3
              *

 180          KK  RCP3.5
 181          KM   ROUTE CP3.5 THROUGH A PORTION OF 3-K TO CP3.6
 182          KM   PORTION OF FACILITY ID APM50213
 183          RD    2100   0.073   0.013       0    TRAP      50       2
              *

 184          KK     3-8
 185          KM   COMPARE TO MPU BASIN DB55-1
 186          BA  0.6386
 187          PB    3.70
 188          LS       0    87.8
 189          UD   0.196
              *

 190          KK    R3-8
 191          KM   ROUTE 3-8 THROUGH A PORTION OF 3-K TO CP3.6
 192          KM   FACILITY ID APM50212
 193          RD    6695   0.075   0.013       0    TRAP      30       2
              *

 194          KK     3-K
 195          KM   COMPARE TO MPU BASIN DB55-7
 196          BA  0.8890
 197          PB    3.54
 198          LS       0    87.6
 199          UD   0.296
              *
1                                      HEC-1 INPUT                                      PAGE  6
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 200          KK   CP3.6
 201          KM   COMBINE 3-K, R3-8 AND RCP3.5
 202          HC       3
              *

 203          KK  RCP3.6
 204          KM   ROUTE CP3.6 THROUGH A PORTION OF 3-N TO CPDB3
 205          KM   FACILITY ID APM500009
 206          RD    4180   0.058   0.013       0    TRAP      50       2
              *

 207          KK     3-N
 208          KM   COMPARE TO MPU BASIN DB55-8
 209          BA  0.4557
 210          PB    3.46
 211          LS       0    88.9
 212          UD   0.269
              *

 213          KK     3-M
 214          KM   COMPARE TO MPU BASIN DB55-8
 215          BA  0.1924
 216          PB    3.48
 217          LS       0    88.8
 218          UD   0.147
              *

 219          KK    R3-M
 220          KM   ROUTE 3-M THROUGH A PORTION OF 3-N TO CP3.7
 221          KM   FACILITY ID PORTION OF APM500009
 222          RD    4500  0.0528   0.013       0    TRAP       7       0
              *

 223          KK   CPDB5
 224          KM    COMBINE 3-M, 3-N, RCP3.6 AND RCP3.4
 225          KM    TOTAL INFLOW TO SUMMERLIN #5 DETENTION BASIN
 226          KO       0
 227          HC       4
              *

 228          KK     DB5
 229          KM    SUMMERLIN DETENTION BASIN 5
 230          KM    FACILITY = ANGEL PARK - MIDDLE 5 BRANCH
 231          KM    FACILITY # = APM5 0000
 232          KM    STORAGE VOLUME = 384.1 ACRE-FEET
 233          KM    OUTLET = 2: 7' x 5.5' RCBS
 234          KM    100-YEAR DISCHARGE = 2,150 CFS
 235          KM    SPILLWAY LENGTH = 453.6'
 236          KM    SPILLWAY HEIGHT =
 237          KM    SPILLWAY CREST ELEVATION = 3563'
 238          KM    SPILLWAY TYPE = CONCRETE BROAD CRESTED WEIR
 239          KM    PMF DISCHARGE = 12,153 CFS
 240          KM    TOP OF EMBANKMENT ELEVATION = 3569'
 241          KM    DETENTION BASIN PARAMETERS REFERENCED FROM "DETENTION BASIN NO. 5
1                                       HEC-1 INPUT                                                PAGE  7

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

 242          KM    EXPANSION AND DIVERSION BERM" PLANS BY G.C. WALLACE (5-23-2001)
 243          KM    STAGE-STORAGE-DISCHARGE CURVE REFERENCED FROM "2006 SUMMERLIN WEST
 244          KM    CONCEPTUAL DRAINAGE STUDY MASTER PLAN AMENDMENT: EXISTING OFFSITE/PROPOSED
 245          KM    ONSITE DRAINAGE CONDITION" HYDROLOGIC MODEL DATED 8-7-2006 AND SUBMITTED
 246          KM    WITH THE SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
 247          KM    CONTROL MASTER PLAN UPDATE BY G.C. WALLACE (08-2006)
 248          KO       0
 249          RS       1    STOR      -1
 250          SV       0    1.73    4.55    8.45   13.08    18.2   23.81   29.96    36.7   43.93
 251          SV   59.55   77.49   99.82  127.17  159.39  196.38  240.07  384.05  405.65  535.25
 252          SQ       0     192     276     391     505     616     725     813     900     982
 253          SQ    1176    1368    1534    1683    1804    1920    2033    2315    3725   23201
 254          SE  3532.5    3535    3536    3537    3538    3539    3540    3541    3542    3543
 255          SE    3543    3547    3549    3551    3553    3555    3557    3563    3564    3569
 256          SS    3563   435.6       3     1.5
              *

 257          KK     3-L
 258          KM   COMPARE TO MPU BASIN SWAA-1
 259          BA  0.3227
 260          PB    3.44
 261          LS       0    88.4
 262          UD   0.160
              *

 263          KK   CP3-L
 264          KM   COMBINE 3-L AND DB3
 265          KM   THIS IS CSWAA-1 IN GOWAN MPU HEC-1
 266          HC       2
              *
              * END OF SECTION MODELED BY VTN, NEVADA SVB
              * TIE VTN SECTION TO 2008 MPU HEC-1
              *

 267          KKRCSWAA-1
 268          KM  ROUTE CSWAA-1 TO CSWAA-2
 269          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 270          KM  FACILITY # = APAD 0115, 0146
 271          KM  LINING = RCB
 272          RD    4640   0.044   0.015       0    TRAP      10       0
              *

 273          KK  SWAA-2
 274          BA   0.700
 275          PB    3.39
```

```
 276          LS       0    90.9
 277          UD   0.346
              *

 278          KK CSWAA-2
 279          KM  COMBINE RCSWAA-1 AND SWAA-2
 280          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE  8

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

 281          KKRCSWAA-2
 282          KM  ROUTE CSWAA-2 TO CSWAA-3
 283          KM  FACILITY = ANGEL PARK - ALTA DRIVE
 284          KM  FACILITY # = APAD 0000, 0018, 0044, 0073
 285          KM  LINING = RCB
 286          RD    6120   0.035   0.015       0    TRAP      11       0
              *

 287          KK  SWAA-3
 288          BA   0.581
 289          PB    3.31
 290          LS       0    87.8
 291          UD   0.361
              *

 292          KK CSWAA-3
 293          KM  COMBINE RCSWAA-2 AND SWAA-3
 294          HC       2
              *
              * THE FOLLOWING SECTION OF HYDROLOGY IS NOT PART OF THE 2008 MPU
              * THIS SECTION IS MODELED BASED ON THE 2017 CONDITION OF THE SUMMERLIN MASTER PL
              * MODELED BY VTN, NEVADA SVB
              *
              *

 295          KK     3-F
 296          KM   COMPARE TO MPU BASIN SWFH-5
 297          BA  0.2815
 298          PB    3.52
 299          LS       0    88.9
 300          UD   0.152
              *

 301          KK    R3-F
 302          KM   ROUTE 3-F THROUGH 3-G2 TO CP3.8
 303          KM   LINING RCB
 304          RD    2650   0.055   0.013       0    TRAP       6       0
              *

 305          KK    3-G2
 306          KM   COMPARE TO MPU BASIN SWFH-6
 307          BA  0.1285
 308          PB    3.48
 309          LS       0    93.2
 310          UD   0.107
              *

 311          KK   CP3.8
 312          KM   COMBINES 3-F AND 3-G2
 313          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE  9

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

 314          KK  RCP3.8
 315          KM   ROUTE CP3.8 TO CP3.9
 316          KM   FACILITIES APD6000 AND APDF0000
 317          RD    4500   0.075   0.013       0    TRAP      12       0
              *

 318          KK     3-A
 319          KM   COMPARE TO MPU BASIN SWFH-1
 320          BA  0.3644
 321          PB    3.53
 322          LS       0    81.5
 323          UD   0.233
              *

 324          KK    R3-A
 325          KM   ROUTE 3-A THROUGH STORM DRAIN TO CPDBA-B
 326          RD    3000   0.032   0.013       0    TRAP       5       0
              *

 327          KK     3-B
 328          KM   COMPARE TO MPU BASIN SWFH-1
 329          BA  0.6973
 330          PB    3.56
 331          LS       0    83.1
 332          UD   0.274
              *

 333          KK    R3-B
 334          KM   ROUTE 3-B THROUGH STORM DRAIN TO CPDBA-B
 335          RD    3000   0.024   0.013       0    TRAP       5       0
              *

 336          KK     3-C
 337          KM   COMPARE TO MPU BASIN SWFH-2
 338          BA  0.2212
 339          PB    3.46
 340          LS       0    88.4
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```
 341          UD   0.200
              *

 342          KK CPDBA-B
 343          KO      0
 344          KM   COMBINE 3-A, 3-B, AND 3-C
 345          KM   PROPOSED BASINS CONTRIBUTING TO NEW DETENTION BASINS
 346          HC       3
              *

 347          KK    GPDB
 348          KM  VILLAGE 22 DETENTION BASIN
 349          KM  FACILITY = GOWAN/LONE MOUNTAIN SYSTEM - BELTWAY 2 BRANCH
 350          KM  FACILITY # = 0001
 351          KM  STORAGE VOLUME = 123 AC-FT
 352          KM  OUTLET = 60" RCP
 353          KM  100-YEAR DISCHARGE =
```



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

 354          KM  SPILLWAY LENGTH = 1053'
 355          KM  SPILLWAY HEIGHT =
 356          KM  SPILLWAY CREST ELEVATION = 1007.9'
 357          KM  SPILLWAY TYPE =
 358          KM  PMF DISCHARGE =
 359          KM  TOP OF EMBANKMENT ELEVATION =
 360          KM  INFORMATION REFERENCED FROM "SUMMERLIN VILLAGE 26 ULTIMATE/PROPOSED
 361          KM  CONDITIONS" HYDRAOLOGIC MODEL BY G.C. WALLACE INC. (9-5-06)
 362          KM  ELEVATIONS WITHIN THE STAGE-STORAGE-DISCHARGE CURVE WERE REDUCED BY 1000'
 363          KM  IN ORDER FOR THE HYDROLOGIC MODEL TO RUN
 364          KO       3
 365          RS       1    STOR       0
 366          SV    6.54   12.78   19.92   28.03   37.17   46.61   59.93   75.75   94.29  115.85
 367          SV  129.61
 368          SE      10      12      14      16      18      20      22      24      26      28
 369          SE      30
 370          SQ       0   26.06   58.28   78.18   93.97  107.45  119.43  130.31  140.35  149.71
 371          SQ  158.53
              *

 372          KK    3-G1
 373          KM   COMPARE TO MPU BASIN SWFH-6
 374          BA  0.2406
 375          PB    3.47
 376          LS       0      90
 377          UD   0.131
              *

 378          KK   R3-G1
 379          KM   ROUTE 3-G1 TO CP3-G1
 380          KM   LINING RCB
 381          RD    1000   0.044   0.013       0    TRAP       6       0
              *

 382          KK  CP3-G1
 383          KM   COMBINE 3-G1, AND GPDB
 384          HC       2
              *

 385          KK RCP3-G1
 386          KM   ROUTE 3P3-G1 TO CP3-Q2
 387          KM   LINING RCB
 388          RD    1950   0.044   0.013       0    TRAP       8       0
              *

 389          KK    3-Q2
 390          KM   COMPARE TO MPU BASIN SV22-2
 391          BA  0.1492
 392          PB    3.41
 393          LS       0    92.1
 394          UD   0.085
              *
```



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

 395          KK  CP3-Q2
 396          KM   COMBINE CP3-G1, AND 3-Q2
 397          HC       2
              *

 398          KK RCP3-Q2
 399          KM   ROUTE 3P3-G1 TO CP3-Q2
 400          KM   LINING RCB
 401          RD    1750   0.044   0.013       0    TRAP       8       0
              *

 402          KK    3-H1
 403          KM   COMPARE TO MPU BASIN SWFH-9
 404          BA  0.1260
 405          PB    3.41
 406          LS       0    92.2
 407          UD   0.085
              *

 408          KK  CP3-H1
 409          KM   COMBINE RCP3-Q2, AND 3-H1
 410          HC       2
              *

 411          KK RCP3-H1
 412          KM   ROUTE CP3-H1 TO CP3.9
 413          KM   LINING RCB
 414          RD    1725   0.044   0.013       0    TRAP       8       0
```

```
                *

 415            KK    3-I1
 416            KM   COMPARE TO MPU BASIN SWFH-7
 417            BA  0.2934
 418            PB    3.42
 419            LS       0    88.8
 420            UD   0.209
                *

 421            KK   CP3.9
 422            KM   COMBINE CP3.8, CP3-H1 AND C-I1
 423            HC       3
                *

 424            KK    RCP9
 425            KM   ROUTE CP3.9 TO CP3.10
 426            RD    2390   0.027   0.013       0    TRAP       6       0
                *

 427            KK     3-O
 428            KM   COMPARE TO MPU BASIN SV22-2
 429            BA  0.0872
 430            PB    3.39
 431            LS       0    93.3
 432            UD   0.122
                *
1                                       HEC-1 INPUT                                                 PAGE 12

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

 433            KK    R3-O
 434            KM   ROUTE 3-O TO CP3-P
 435            KM   LINING RCB
 436            RD    3260   0.028   0.013       0    TRAP       4       0
                *

 437            KK    3-P2
 438            KM   COMPARE TO MPU BASIN SV22-2
 439            BA  0.0871
 440            PB    3.47
 441            LS       0    87.2
 442            UD   0.148
                *

 443            KK   R3-P2
 444            KM   ROUTE 3-P2 TO CP3-P
 445            KM   LINING RCB
 446            RD    3260   0.028   0.013       0    TRAP       4       0
                *

 447            KK    3-P1
 448            KM   COMPARE TO MPU BASIN SV22-2
 449            BA  0.1336
 450            PB    3.44
 451            LS       0    93.0
 452            UD   0.115
                *

 453            KK   CP3-P
 454            HC       3
                *

 455            KK  RCP3-P
 456            KM   ROUTE CP3-P THROUGH STORM DRAIN TO CP3-Q
 457            RD    2750   0.033   0.013       0    TRAP      10       0
                *

 458            KK     3-Q
 459            KM   COMPARE TO MPU BASIN SV22-2
 460            BA  0.1026
 461            PB    3.39
 462            LS       0    91.7
 463            UD   0.165
                *

 464            KK   CP3-Q
 465            KM   COMBINES CP3-P AND 3-Q
 466            HC       2
                *
1                                       HEC-1 INPUT                                                 PAGE 13

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

 467            KK  RCP3-Q
 468            KM   ROUTE CP3-Q THROUGH STORM DRAIN TO CP3-H2
 469            KM   LINING RCB
 470            RD    3000   0.015   0.013       0    TRAP      20       0
                *

 471            KK    3-H2
 472            BA  0.1003
 473            PB    3.38
 474            LS       0    92.4
 475            UD   0.135
                *

 476            KK  CP3-H2
 477            HC       2
                *

 478            KK  RCPH-2
 479            KM   ROUTE CP3-H2 TO CP3.10A
 480            KM   LINING RCB
```

```
 481          RD    1725   0.019   0.013       0    TRAP      20       0
              *

 482          KK    3-I2
 483          KM   COMPARE TO MPU BASIN SWFH-7
 484          BA  0.1185
 485          PB    3.36
 486          LS       0    90.5
 487          UD   0.205
              *

 488          KK CP3.10A
 489          KM   COMBINE CP3-H2 and 3-I2
 490          HC       2
              *

 491          KK  CP3.10
 492          KM   COMBINE CP3.9 AND CP3.10A
 493          HC       2
              *

 494          KK RCP3.10
 495          KM   ROUTE CP3.10  TO CP3.11
 496          KM   FACILITIES APFH0000
 497          KM   LINING RCB
 498          RD    1000  0.0350   0.013       0    TRAP      16       0
              *

 499          KK    3-H3
 500          KM   COMPARE TO MPU BASIN SWFH-9
 501          BA  0.1403
 502          PB    3.33
 503          LS       0    94.3
 504          UD   0.206
              *
```



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

 505          KK  CP3.11
 506          KM   COMBINE 3-H3 AND RCP3.10
 507          KM   THIS IS CSWFH-9 IN 2008 MPU HEC-1
 508          HC       2
              *
              * END OF SECTION MODELED BY VTN, NEVADA
              * TIE VTN SECTION TO 2008 MPU HEC-1
              *

 509          KKRCSHFH-9
 510          KM  ROUTE CSWFH-9 TO CRCSWFH9
 511          KM  FACILITY = ANGEL PARK - BELTWAY BRANCH
 512          KM  FACILITY # = APBE 0000, 0013, 0022, 0051
 513          KM  LINING = CONCRETE
 514          RD    4338  0.0181   0.015       0    TRAP      20       2
              *

 515          KKCRCSWFH9
 516          KM  COMBINE RCSWFH9 AND CSWAA-3
 517          HC       2
              *
              * END OF G.C. WALLACE'S HYDROLOGIC MODEL
              *

 518          KKRCRCSWFH
 519          KM  ROUTE CRCSWFH9 TO C11A-1
 520          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 521          KM  FACILITY # = APMD 0230,0233,0237,0247,0248,0253,0258
 522          KM  LINING = CONCRETE
 523          RD    1418    0.04   0.015       0    TRAP      76       2
              *

 524          KK   11A-1
 525          BA   0.208
 526          PB    3.25
 527          LS       0    85.3
 528          UD   0.292
              *

 529          KK  C11A-1
 530          KM  COMBINE RCRCSWFH AND 11A-1
 531          KM  ANGEL PARK MIDDLE BRANCH @ PAVILLION CENTER DRIVE
 532          HC       2
              *

 533          KK RC11A-1
 534          KM  ROUTE C11A-1 TO C11A-3
 535          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 536          KM  FACILITY # = APMD 0190,0195,0198,0208,0218,0227
 537          KM  LINING = CONCRETE
 538          RD    2065  0.0281   0.015       0    TRAP      62       2
              *
```



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

 539          KK   11A-3
 540          BA   0.195
 541          PB    3.21
 542          LS       0    89.3
 543          UD   0.229
              *

 544          KK  C11A-3
 545          KM  COMBINE RC11A-1 AND 11A-3
```

```
 546          KM  ANGEL PARK MIDDLE BRANCH @ TOWN CENTER DRIVE
 547          HC       2
              *

 548          KK RC11A-3
 549          KM  ROUTE C11A-3 TO C3A
 550          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 551          KM  FACILITY # = APMD 0132, 0133
 552          KM  LENGTH = 3,164
 553          KM  SLOPE = 3.0%
 554          KM  N = 0.040
 555          KM  HYDRAULIC RADIUS = 1.5
 556          KM  VELOCITY =  13.5
 557          KM  NATURAL WASH
 558          RM       1   0.065    0.15
              *

 559          KK      3A
 560          BA   0.178
 561          PB    3.15
 562          LS       0    84.0
 563          UD   0.244
              *

 564          KK     C3A
 565          KM  COMBINE RCC11A-3 AND 3A
 566          KM  ANGEL PARK MIDDLE BRANCH @ HUALAPAI WAY
 567          HC       2
              *

 568          KK    RC3A
 569          KM  ROUTE C3A TO C3B-1
 570          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 571          KM  FACILITY # = APMD 0027, 0030
 572          KM  LENGTH = 6,500
 573          KM  SLOPE = 3.0%
 574          KM  N = 0.040
 575          KM  HYDRAULIC RADIUS = 1.5
 576          KM  VELOCITY =  13.5
 577          KM  NATURAL WASH
 578          RM       2   0.133    0.15
              *
1                                        HEC-1 INPUT                                                    PAGE 16

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

 579          KK    3B-1
 580          BA   0.258
 581          PB    3.04
 582          LS       0    82.0
 583          UD   0.257
              *

 584          KK   C3B-1
 585          KM  COMBINE RC3A AND 3B-1
 586          HC       2
              *

 587          KK  RC3B-1
 588          KM  ROUTE C3B-1 TO CC3B-2B
 589          KM  FACILITY = ANGEL PARK MIDDLE BRANCH
 590          KM  FACILITY # = APMD 0000,0027,0030
 591          KM  LINING = UNLINED
 592          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
 593          RD     940   0.029    0.04       0    TRAP     100       3
              *

 594          KK   11B-2
 595          BA   0.441
 596          PB    3.25
 597          LS       0    85.7
 598          UD   0.423
              *

 599          KK  R11B-2
 600          KM  ROUTE 11B-2 TO C11B-1
 601          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 602          KM  FACILITY # = APSP 0177,0183
 603          KM  LINING = CONCRETE
 604          RD    1900   0.017   0.015       0    TRAP      10       2
              *

 605          KK   11B-1
 606          BA   0.394
 607          PB    3.26
 608          LS       0    87.2
 609          UD   0.267
              *

 610          KK  C11B-1
 611          KM  COMBINE R11B-2 AND 11B-1
 612          KM  ANGEL PARK-SUMMERLIN PARKWAY @ ANASAZI DRIVE
 613          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE 17

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

 614          KK RC11B-1
 615          KM  ROUTE C11B-1 TO C8B-1
 616          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 617          KM  FACILITY # = APSP 0135,0177
 618          KM  LINING = CONCRETE
 619          RD    2150   0.024   0.015       0    TRAP      10       2
```

```
                *

 620            KK    8B-1
 621            BA   0.304
 622            PB    3.17
 623            LS       0    87.8
 624            UD   0.288
                *

 625            KK   C8B-1
 626            KM  COMBINE RC11B-1 AND 8B-1
 627            KM  ANGEL PARK-SUMMERLIN PARKWAY @ CRESTDALE DRIVE
 628            HC       2
                *

 629            KK  RC8B-1
 630            KM  ROUTE C8B-1 TO C8B-2
 631            KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 632            KM  FACILITY # = APSP 0066,0069,0133
 633            KM  LINING = CONCRETE
 634            RD    3575   0.024   0.015       0    TRAP      10       2
                *

 635            KK    8B-2
 636            BA   0.420
 637            PB    3.10
 638            LS       0    93.7
 639            UD   0.336
                *

 640            KK   C8B-2
 641            KM  COMBINE 8B-2 AND RC8B-1
 642            KM  ANGEL PARK-SUMMERLIN PARKWAY @ TOWN CENTER DRIVE
 643            HC       2
                *

 644            KK  RC8B-2
 645            KM  ROUTE C8B-2 TO CC3B-2A
 646            KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
 647            KM  FACILITY # = APSP 0002
 648            KM  LINING = UNLINED
 649            RD    1424   0.035   0.025       0    TRAP      50       3
                *
1                                       HEC-1 INPUT                                                    PAGE 18

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

 650            KK   11A-2
 651            BA   0.290
 652            PB    3.20
 653            LS       0    88.3
 654            UD   0.194
                *

 655            KK  R11A-2
 656            KM  ROUTE 11A-2 TO C8A
 657            KM  TOWN CENTER DRIVE AND HUALAPAI WAY
 658            RD    2900   0.017   0.016       0    TRAP       0      50
                *

 659            KK      8A
 660            BA   0.306
 661            PB    3.16
 662            LS       0    86.0
 663            UD   0.239
                *

 664            KK     C8A
 665            KM  COMBINE 8A AND R11A-2
 666            HC       2
                *

 667            KK    RC8A
 668            KM  ROUTE C8A TO C3B-2A
 669            KM  NATURAL WASH
 670            KM  TRAVEL LENGTH = 4,500
 671            KM  SLOPE = 2.8%
 672            KM  N = 0.040
 673            KM  HYDRAULIC RADIUS = 1.5
 674            KM  VELOCITY =  13.1
 675            RM       1   0.096    0.15
                *

 676            KK   3B-2A
 677            BA   0.243
 678            PB    3.06
 679            LS       0    88.5
 680            UD   0.213
                *

 681            KK  C3B-2A
 682            KM  COMBINE 3B-2A AND RC8A
 683            HC       2
                *

 684            KK CC3B-2A
 685            KM  COMBINE C3B-2A AND RC8B-2
 686            HC       2
                *
1                                       HEC-1 INPUT                                                    PAGE 19

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

 687            KKRCC3B-2A
```

```
688          KM  ROUTE CC3B-2A TO C3B-2B
689          KM  FACILITY = ANGEL PARK - SUMMERLIN PARKWAY
690          KM  FACILITY # = APSP 0001
691          KM  LINING = UNLINED
692          RD    3924    0.03   0.025       0    TRAP      20       2
             *

693          KK   3B-2B
694          BA   0.273
695          PB    2.99
696          LS       0    85.1
697          UD   0.309
             *

698          KK  C3B-2B
699          KM  COMBINE RCC3B-2A AND 3B-2B
700          HC       2
             *

701          KK CC3B-2B
702          KM  COMBINE RC3B-1 AND C3B-2B
703          HC       2
             *

704          KKRCC3B-2B
705          KM  ROUTE CC3B-2B TO CSF2-C
706          KM  FACILITY = ANGEL PARK NORTH
707          KM  FACILITY # = APNO 0012,0013,0015 APSP 0000
708          KM  LINING = UNLINED (NATURAL WASH)
709          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
710          RD    1854   0.025    0.04       0    TRAP     100       3
             *

711          KK   SF2-C
712          BA   0.388
713          PB    2.91
714          LS       0    84.2
715          UD   0.443
             *

716          KK  CSF2-C
717          KM  COMBINE SF2-C AND RCC3B-2B
718          HC       2
             *

719          KK RCSF2-C
720          KM  ROUTE CSF2-C TO ANGLPKIN
721          KM  FACILITY = ANGEL PARK NORTH
722          KM  FACILITY # = APNO 0005
723          KM  LINING = UNLINED (NATURAL WASH)
724          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
725          RD    1559    0.02    0.04       0    TRAP     100       3
             *
```

1 HEC-1 INPUT PAGE 20

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

726          KK    SW11
727          BA   0.589
728          PB    3.34
729          LS       0    87.8
730          UD   0.311
             *

731          KK   RSW11
732          KM  ROUTE SW11 TO CSW17
733          KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
734          KM  FACILITY # = APCB 0064, 0080
735          KM  LINING = RCB
736          RD    2338  0.0167   0.015       0    TRAP       7       0
             *

737          KK    SW17
738          BA   0.356
739          PB    3.30
740          LS       0    87.8
741          UD   0.271
             *

742          KK   CSW17
743          KM  COMBINE RSW11 AND SW17
744          HC       2
             *

745          KK  RCSW17
746          KM  ROUTE CSW17 TO CSW18
747          KM  FACILITY = ANGEL PARK - CHARLESTON BOULEVARD
748          KM  FACILITY # = APCB 0000,0001,0019,0050
749          KM  LINING = RCB
750          RD    3600   0.014   0.015       0    TRAP      11       0
             *

751          KK    SW18
752          BA   0.405
753          PB    3.27
754          LS       0    86.8
755          UD   0.271
             *

756          KK   CSW18
757          KM  COMBINE RCSW17 AND SW18
758          HC       2
             *

759          KK  RCSW18
```

```
 760          KM  ROUTE CSW18 TO C12A
 761          KM  FACILITY = ANGEL PARK SOUTH
 762          KM  FACILITY # = APSO 0254,0255,0258,0345,0346; APCB 0000
 763          KM  NATURAL WASH
 764          KM  LENGTH = 5,200
 765          KM  SLOPE = 1.4%
1                                        HEC-1 INPUT                                                    PAGE 21

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

 766          KM  N = 0.040
 767          KM  HYDRAULIC RADIUS = 1.5
 768          KM  VELOCITY =  9.2
 769          RM       2   0.157    0.15
              *

 770          KK     12A
 771          BA   0.392
 772          PB    3.20
 773          LS       0    91.2
 774          UD   0.264
              *

 775          KK    C12A
 776          KM  COMBINE 12A AND RCSW18
 777          HC       2
              *

 778          KK   RC12A
 779          KM  ROUTE THRU 12B
 780          KM  FACILITY = ANGEL PARK SOUTH
 781          KM  FACILITY # = APSO 0204, 0205
 782          KM  NATURAL WASH
 783          KM  LENGTH = 2,600
 784          KM  SLOPE = 3.5%
 785          KM  N = 0.040
 786          KM  HYDRAULIC RADIUS = 1.5
 787          KM  VELOCITY = 14.5
 788          RM       1    0.05    0.15
              *

 789          KK     12B
 790          BA   0.260
 791          PB    3.13
 792          LS       0    91.0
 793          UD   0.233
              *

 794          KK    C12B
 795          KM  COMBINE 12B AND RC12A
 796          HC       2
              *

 797          KK   RC12B
 798          KM  ROUTE C12B TO C57B-3
 799          KM  FACILITY = ANGEL PARK SOUTH
 800          KM  FACILITY # = APSO 0067
 801          KM  NATURAL WASH
 802          KM  LENGTH = 6,000
 803          KM  SLOPE = 2.3%
 804          KM  N = 0.040
 805          KM  HYDRAULIC RADIUS = 1.5
 806          KM  VELOCITY =  11.8
 807          RM       2   0.141    0.15
              *
1                                        HEC-1 INPUT                                                    PAGE 22

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

 808          KK   57B-3
 809          BA   0.310
 810          PB    3.04
 811          LS       0    82.1
 812          UD   0.332
              *

 813          KK  C57B-3
 814          KM  COMBINE RC12B AND 57B-3
 815          HC       2
              *

 816          KK RC57B-3
 817          KM  ROUTE C57B-3 TO C57B-2
 818          KM  FACILITY = ANGEL PARK SOUTH
 819          KM  FACILITY # = APSO 0067
 820          KM  NATURAL WASH
 821          KM  LENGTH = 1,300
 822          KM  SLOPE = 1.7%
 823          KM  N = 0.040
 824          KM  HYDRAULIC RADIUS = 1.5
 825          KM  VELOCITY =  10.2
 826          RM       0   0.035    0.15
              *

 827          KK   57B-2
 828          BA   0.362
 829          PB    3.02
 830          LS       0    84.1
 831          UD   0.332
              *

 832          KK  C57B-2
 833          KM  COMBINE 57B-2 AND RC57B-3
 834          HC       2
              *
```

```
 835           KK RC57B-2
 836           KM  ROUTE C57B-2 TO CC57B-1
 837           KM  FACILITY = ANGEL PARK SOUTH
 838           KM  FACILITY # = APSO 0067
 839           KM  NATURAL WASH
 840           KM  LENGTH = 1,000
 841           KM  SLOPE = 1.8%
 842           KM  N = 0.040
 843           KM  HYDRAULIC RADIUS = 1.5
 844           KM  VELOCITY =  10.5
 845           RM       0   0.027    0.15
               *
1                                      HEC-1 INPUT                                                PAGE 23

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


 846           KK   13B-1
 847           BA   0.249
 848           PB    3.19
 849           LS       0    91.6
 850           UD   0.284
               *

 851           KK RC13B-1
 852           KM  ROUTE 13B-1 TO C13B-2
 853           KM  GRIFFITH PARK DRIVE AND HUALAPAI WAY
 854           RD    3000   0.018   0.016       0    TRAP       0      50
               *

 855           KK   13B-2
 856           BA   0.216
 857           PB    3.14
 858           LS       0    89.7
 859           UD   0.231
               *

 860           KK  C13B-2
 861           KM  COMBINE 13B-2 AND RC13B-1
 862           KM  HUALAPAI WAY AND LOCAL FACILITY
 863           HC       2
               *

 864           KK RC13B-2
 865           KM  ROUTE C13B-2 TO CCPIC-A
 866           KM  LINING = GRASS
 867           RD    4900   0.021    0.03       0    TRAP      40       6
               *

 868           KK    19A
 869           BA   0.253
 870           PB    3.25
 871           LS       0    89.9
 872           UD   0.351
               *

 873           KK    R19A
 874           KM  ROUTE 19A TO C13A-1
 875           KM  UNNAMED ROAD
 876           RD    4300   0.021   0.016       0    TRAP       0      50
               *

 877           KK   13A-1
 878           BA   0.224
 879           PB    3.19
 880           LS       0    91.4
 881           UD   0.302
               *
1                                      HEC-1 INPUT                                                PAGE 24

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


 882           KK  C13A-1
 883           KM  COMBINE 13A-1 AND R19A
 884           KM  TOWN CENTER DRIVE AND SWALE
 885           HC       2
               *

 886           KK RC13A-1
 887           KM  ROUTE C13A-1 TO C13A-2
 888           KM  NATURAL WASH
 889           KM  TRAVEL LENGTH = 2,800
 890           KM  SLOPE = 2.1%
 891           KM  N = 0.040
 892           KM  HYDRAULIC RADIUS = 1.5
 893           KM  VELOCITY = 11.4
 894           RM       1   0.068    0.15
               *

 895           KK   13A-2
 896           BA   0.188
 897           PB    3.15
 898           LS       0    90.0
 899           UD   0.236
               *

 900           KK  C13A-2
 901           KM  COMBINE 13A-2 AND RC13A-1
 902           HC       2
               *

 903           KK RC13A-2
 904           KM  ROUTE C13A-2 TO CPIC-C
 905           KM  LINING = GRASS
```

```
 906          RD    5200   0.015    0.03       0    TRAP      40       4
              *

 907          KK   PIC-C
 908          BA   0.243
 909          PB    3.08
 910          LS       0    90.4
 911          UD   0.373
              *

 912          KK  CPIC-C
 913          KM  COMBINE PIC-C AND RC13A-2
 914          HC       2
              *

 915          KK RCPIC-C
 916          KM  ROUTE CPIC-C TO CPIC-A
 917          KM  LINING = GRASS
 918          RD    2200   0.025    0.03       0    TRAP      40       4
              *
1                                      HEC-1 INPUT                                                PAGE 25

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

 919          KK   PIC-A
 920          BA   0.359
 921          PB    3.03
 922          LS       0    91.1
 923          UD   0.499
              *

 924          KK  CPIC-A
 925          KM  COMBINE RCPIC-C AND PIC-A
 926          HC       2
              *

 927          KK CCPIC-A
 928          KM  COMBINE CPIC-A AND RC13B-2
 929          HC       2
              *

 930          KKRCCPIC-A
 931          KM  ROUTE CCPIC-A TO C57B-1
 932          KM  FACILITY = ANGEL PARK - PECCOLE 2
 933          KM  FACILITY # = APP2 0000
 934          KM  LINING = GRASS
 935          RD    4793   0.021    0.03       0    TRAP      10       2
              *

 936          KK   57B-1
 937          BA   0.197
 938          PB    2.92
 939          LS       0    85.5
 940          UD   0.277
              *

 941          KK  C57B-1
 942          KM  COMBINE 57B-1 AND RCCPIC-A
 943          HC       2
              *

 944          KK CC57B-1
 945          KM  COMBINE C57B-1 AND RC57B-2
 946          HC       2
              *

 947          KKRCC57B-1
 948          KM  ROUTE CC57B-1 TO C57B-4
 949          KM  FACILITY = ANGEL PARK - SOUTH BRANCH
 950          KM  FACILITY # = APSO 0050
 951          KM  LINING = NATURAL WASH
 952          RD     300  0.0184    0.04       0    TRAP     100       3
              *
1                                      HEC-1 INPUT                                                PAGE 26

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

 953          KK   57B-4
 954          BA   0.200
 955          PB    2.91
 956          LS       0    90.0
 957          UD   0.233
              *

 958          KK  C57B-4
 959          KM  COMBINE RCC57B-1 AND 57B-4
 960          HC       2
              *

 961          KK   PIC-B
 962          BA   0.441
 963          PB    2.98
 964          LS       0    91.1
 965          UD   0.471
              *

 966          KK  RPIC-B
 967          KM  ROUTE PIC-B TO CC57B-4
 968          KM  FACILITY = ANGEL PARK - PECCOLE 1
 969          KM  FACILITY # = APP1 0000
 970          KM  LINING = RCP
 971          RD    2982   0.024   0.013       0    CIRC       6
              *
```

```
 972          KK CC57B-4
 973          KM  COMBINE RPIC-B AND C57B-4
 974          HC       2
              *

 975          KKRCC57B-4
 976          KM  ROUTE CC57B-4 TO ANGLPKIN
 977          KM  FACILITY = ANGEL PARK SOUTH
 978          KM  FACILITY # = APSO 0000, 0020
 979          KM  LINING = RCB
 980          RD    2857  0.0162   0.015       0    TRAP      24       0
              *

 981          KK     38A
 982          BA   0.353
 983          PB    2.86
 984          LS       0    91.6
 985          UD   0.399
              *

 986          KK    R38A
 987          KM  ROUTE 38A TO C38B
 988          KM  FACILITY = ANGEL PARK - DURANGO
 989          KM  FACILITY # = APDG 0000,0060
 990          KM  LINING = RCP
 991          RD    4500  0.0096   0.015       0    CIRC      6
              *
1                                      HEC-1 INPUT                                                    PAGE 27

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

 992          KK     38B
 993          BA   0.440
 994          PB    2.82
 995          LS       0    92.9
 996          UD   0.375
              *

 997          KK    C38B
 998          KM  COMBINE 38B AND R38A
 999          KM  DUCHARME AND DURANGO
1000          HC       2
              *

1001          KK    57BA
1002          BA   0.317
1003          PB    2.96
1004          LS       0    78.2
1005          UD   0.436
              *

1006          KK   R57BA
1007          KM  ROUTE 57BA TO C3C
1008          KM  RAMPART BOULEVARD
1009          RD     500    0.02   0.016       0    TRAP      0      50
              *

1010          KK      3C
1011          BA   0.153
1012          PB    2.90
1013          LS       0    93.1
1014          UD   0.246
              *

1015          KK     C3C
1016          KM  COMBINE 3C AND R57BA
1017          KM  RAMPART AND REGENT LAS VEGAS
1018          HC       2
              *

1019          KK    RC3C
1020          KM  ROUTE C3C TO ANGLPKIN
1021          KM  LINING = UNLINED
1022          KM  CONVERTED TO MUSKINGUM-CUNGE TO ACHIEVE STABILITY
1023          RD    2300  0.0326    0.04       0    TRAP      50       4
              *

1024          KK      AP
1025          BA   0.668
1026          PB    2.81
1027          LS       0    81.6
1028          UD   0.392
              *
1                                      HEC-1 INPUT                                                    PAGE 28

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

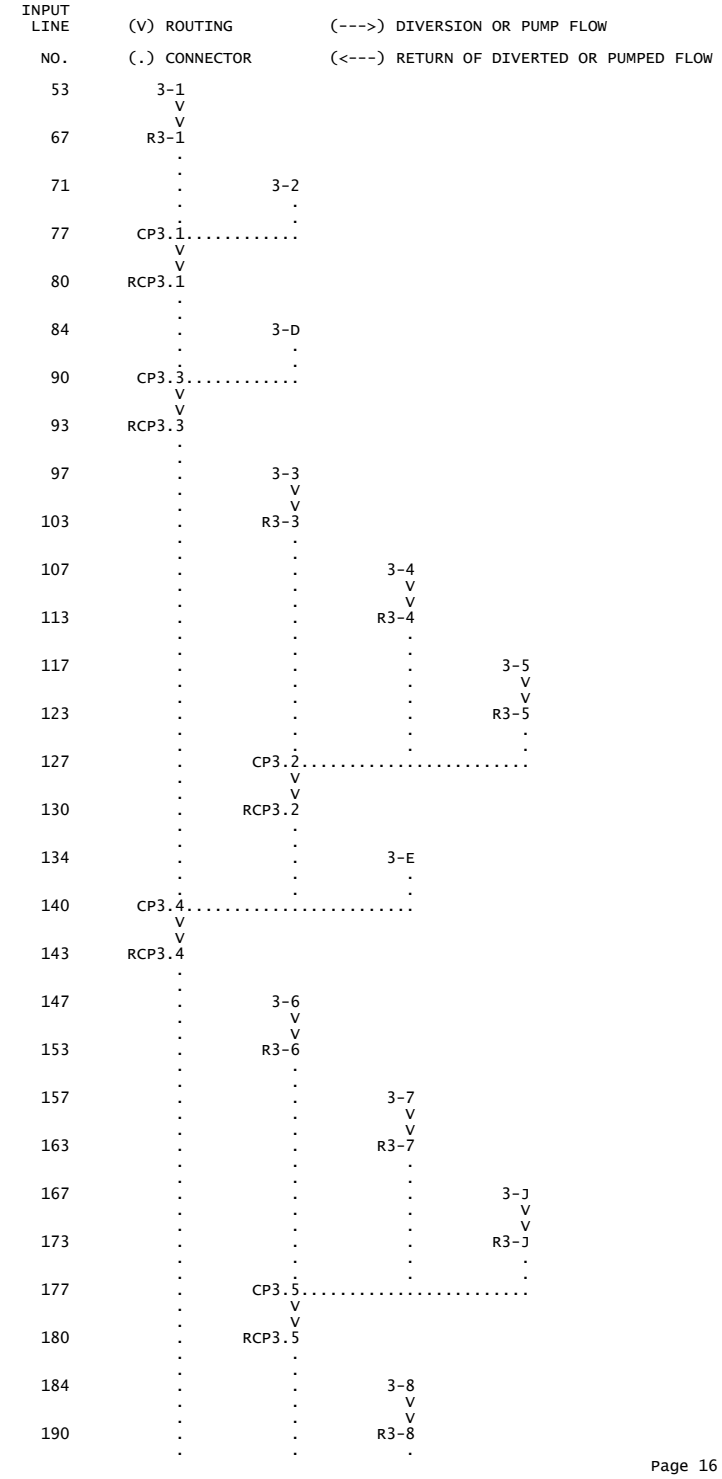
1029          KKANGLPKIN
1030          KM  COMBINE AP,RC3C,C38B,RCC57B-4, AND RCSF2-2
1031          KM  TOTAL INFLOW TO ANGEL PARK DETENTION BASIN
              * KO1
1032          HC       5
              *

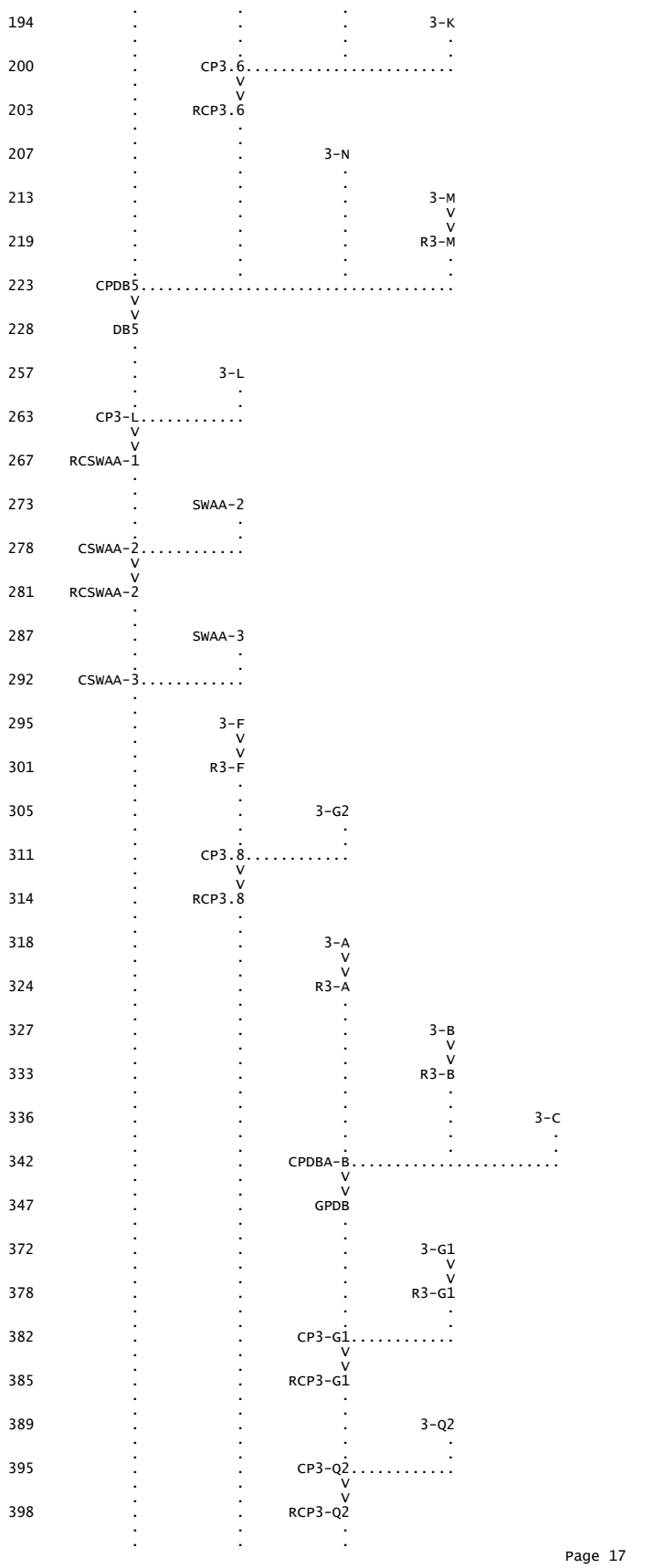
1033          KKANGLPKDB
1034          KM  ANGEL PARK DETENTION BASIN
1035          KM  FACILITY = ANGEL PARK NORTH
1036          KM  FACILITY # = APNO 0000,0001
1037          KM  STORAGE VOLUME = 1512 AC-FT (2002 MPU VOLUME = 1400 AC-FT; 8% INCREASE)
1038          KM  OUTLET = 54" RCP
1039          KM  100-YEAR DISCHARGE =
1040          KM  SPILLWAY LENGTH =
1041          KM  SPILLWAY HEIGHT =
1042          KM  SPILLWAY CREST ELEVATION = 2619'
```

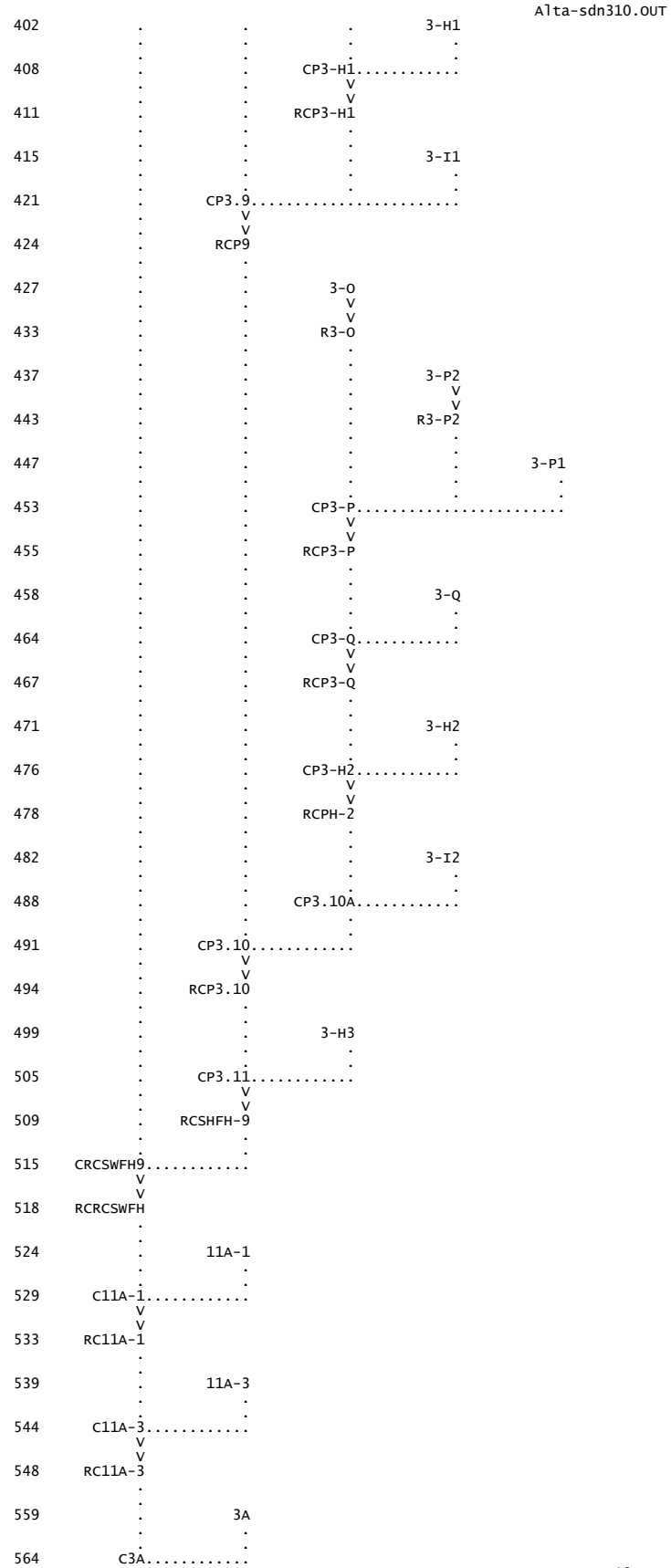
```
1043          KM  SPILLWAY TYPE =
1044          KM  PMF DISCHARGE =
1045          KM  TOP OF EMBANKMENT ELEVATION =
1046          KO       3
1047          RS       1    STOR      -1
1048          SV       0    10.8    43.2   113.4  222.48  411.48  640.44  910.44 1239.84  1470.9
1049          SV    1512 1554.12 1596.24 1640.52  1684.8 1730.16 1775.52 1823.04 1875.96  1919.1
1050          SE    2576    2580    2585    2590    2595    2600    2605    2610    2616    2618
1051          SE    2619  2619.5    2620  2620.5    2621  2621.5    2622  2622.5    2623  2623.5
1052          SQ       0      89     194     232     285     316     343     370     392     405
1053          SQ     407    1852    4491    7909   11955   16545   21620   27137   33064   39373
              *
1054          ZZ
```

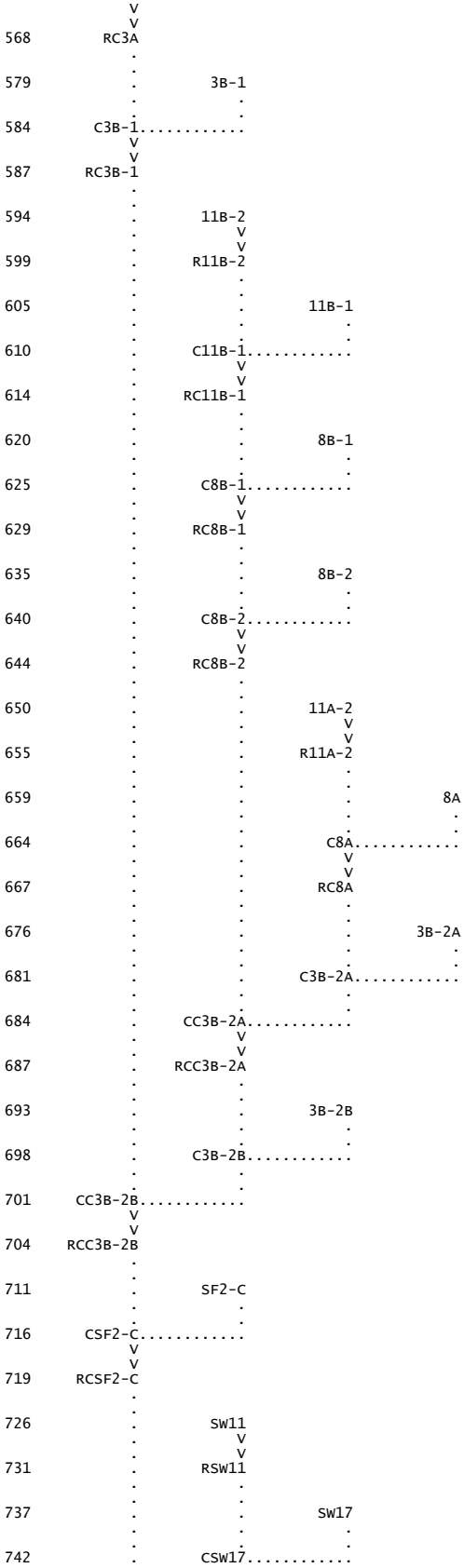
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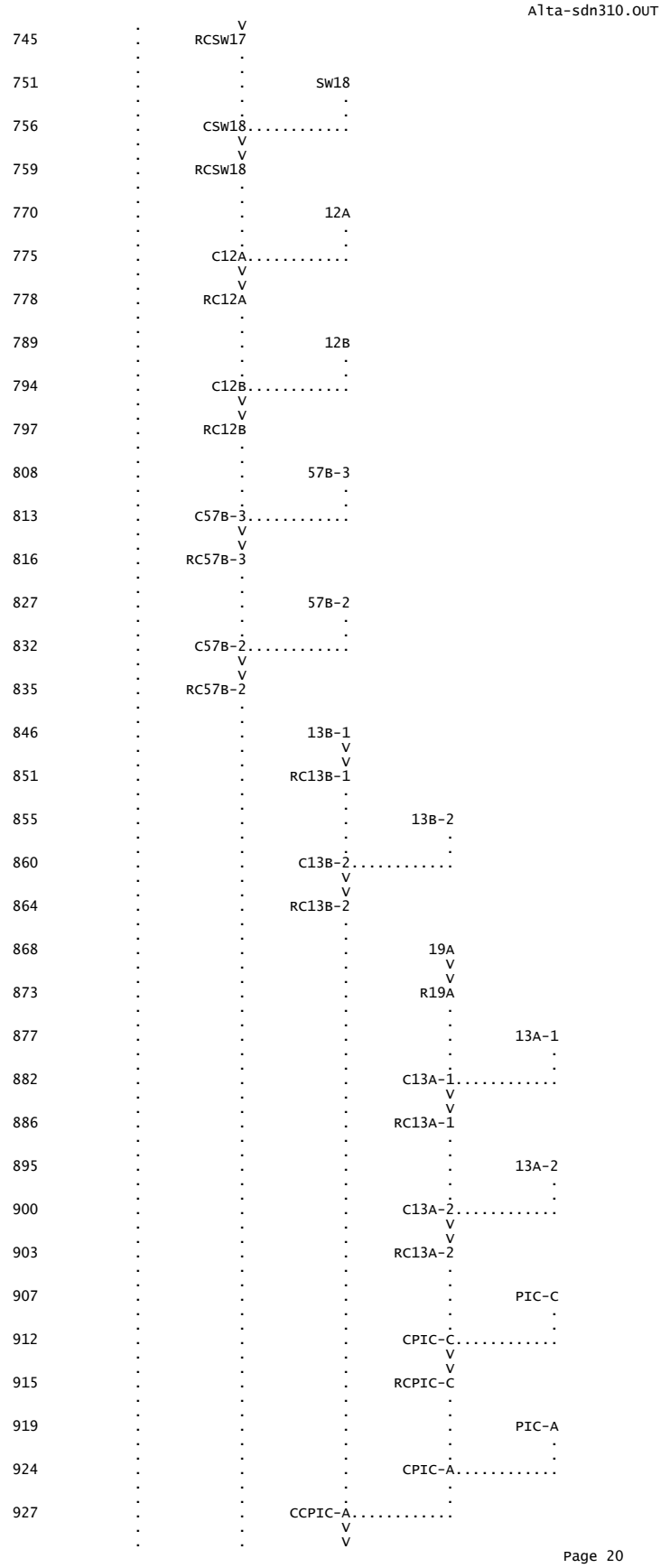
SCHEMATIC DIAGRAM OF STREAM NETWORK

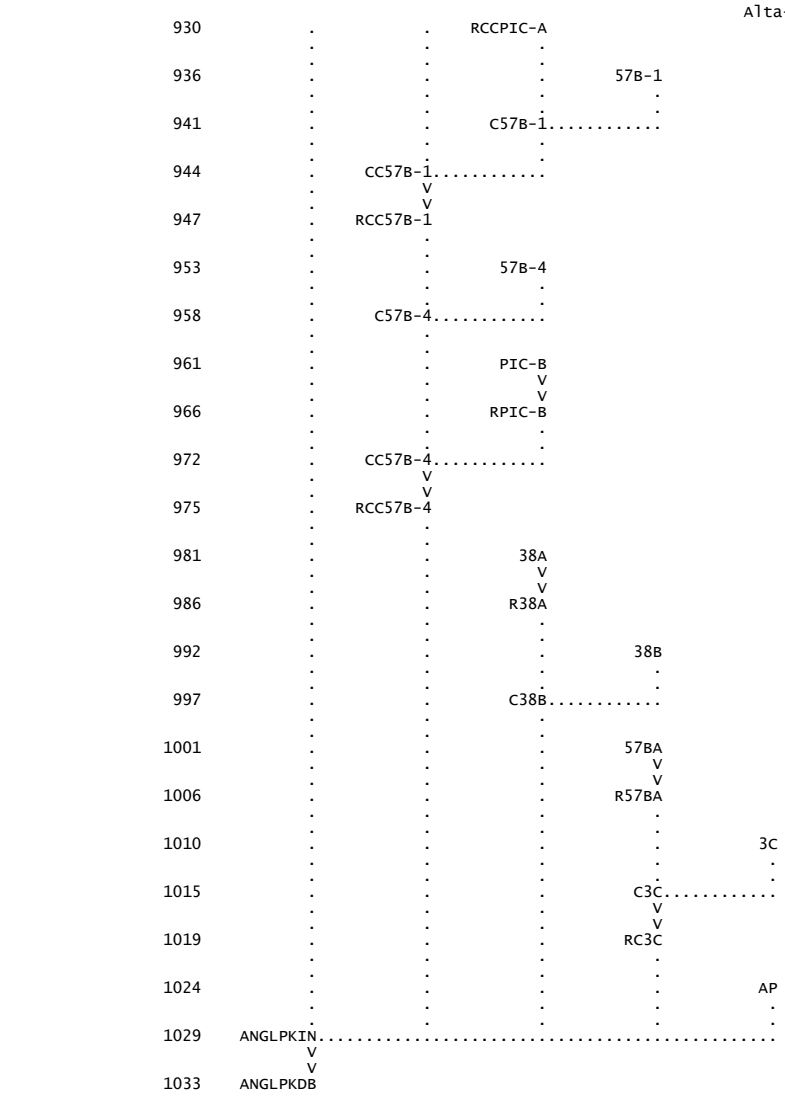



194
3-K
200
CP3.6
203
RCP3.6
207
3-N
213
3-M
219
R3-M
223
CPDB5
228
DB5
257
3-L
263
CP3-L
267
RCSWAA-1
273
SWAA-2
278
CSWAA-2
281
RCSWAA-2
287
SWAA-3
292
CSWAA-3
295
3-F
301
R3-F
305
3-G2
311
CP3.8
314
RCP3.8
318
3-A
324
R3-A
327
3-B
333
R3-B
336
3-C
342
CPDBA-B
347
GPDB
372
3-G1
378
R3-G1
382
CP3-G1
385
RCP3-G1
389
3-Q2
395
CP3-Q2
398
RCP3-Q2


402
3-H1
408
CP3-H1
411
RCP3-H1
415
3-I1
421
CP3.9
424
RCP9
427
3-O
433
R3-O
437
3-P2
443
R3-P2
447
3-P1
453
CP3-P
455
RCP3-P
458
3-Q
464
CP3-Q
467
RCP3-Q
471
3-H2
476
CP3-H2
478
RCPH-2
482
3-I2
488
CP3.10A
491
CP3.10
494
RCP3.10
499
3-H3
505
CP3.11
509
RCSHFH-9
515
CRCSWFH9
518
RCRCSWFH
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11A-1
529
C11A-1
533
RC11A-1
539
11A-3
544
C11A-3
548
RC11A-3
559
3A
564
C3A


V
V
568 RC3A
579 3B-1
584 C3B-1
V
V
587 RC3B-1
594 11B-2
V
V
599 R11B-2
605 11B-1
610 C11B-1
V
V
614 RC11B-1
620 8B-1
625 C8B-1
V
V
629 RC8B-1
635 8B-2
640 C8B-2
V
V
644 RC8B-2
650 11A-2
V
V
655 R11A-2
659 8A
664 C8A
V
V
667 RC8A
676 3B-2A
681 C3B-2A
684 CC3B-2A
V
V
687 RCC3B-2A
693 3B-2B
698 C3B-2B
701 CC3B-2B
V
V
704 RCC3B-2B
711 SF2-C
716 CSF2-C
V
V
719 RCSF2-C
726 SW11
V
V
731 RSW11
737 SW17
742 CSW17
V


RCSW17
SW18
CSW18
RCSW18
12A
C12A
RC12A
12B
C12B
RC12B
57B-3
C57B-3
RC57B-3
57B-2
C57B-2
RC57B-2
13B-1
RC13B-1
13B-2
C13B-2
RC13B-2
19A
R19A
13A-1
C13A-1
RC13A-1
13A-2
C13A-2
RC13A-2
PIC-C
CPIC-C
RCPIC-C
PIC-A
CPIC-A
CCPIC-A



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             JUN   1998                *
 *           VERSION 4.1                 *
 *                                       *
 *  RUN DATE   06DEC17  TIME  08:44:23   *
 *                                       *
 *****************************************
```

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

THIS VERSION OF THE CCRFCD 2008 MPU GOWAN WATERSHED HAS BEEN UPDATED BY VTN
TO SHOW THE EFFECTS OF THE NEW PLACEMENT OF THE DETENTION BASIN HAS ON
DOWNSTREAM HOLDING FACILITIES

MODELED BY VTN, NEVADA SVB/JYA
MAY 9, 2017

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT 2008 MASTER PLAN UPDATE
GOWAN WATERSHED (ALL)
RECOMMENDED DRAINAGE SYSTEM WITH ULTIMATE DEVELOPMENT
INPUT FILE = ALT1-SDN3.DAT
INPUT FILE DATE = MAY 5, 2008
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #5
MODELED BY PBS&J (MICHELE L. D'ALESSANDRO, E.I., CFM)
CHECKED BY PBS&J (HARSHAL B. DESAI, P.E., CFM)
STORM CENTERING = FULL WATERSHEDCP

REFERENCED HYDROLOGIC MODELS:
CITY OF LAS VEGAS CITY WIDE HYDROLOGY ANALYSIS (PBS&J 1997)
NORTHWEST NEIGHBORHOOD STUDY PHASE 1 (PBS&J 1997)
RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD

CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
3RD RESPONSE TO COMMENTS ON THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD
CONTROL MASTER PLAN UPDATE (G.C. WALLACE 2006)
SUPPLEMENT FOR THE 2006 SUMMERLIN WEST PLANNING AREA FLOOD CONTROL
MASTER PLAN UPDATE (G.C. WALLACE 2006)
GOWAN OUTFALL - LONE MOUNTAIN BRANCH PRELIMINARY DESIGN REPORT
(G.C. WALLACE 2007)
LONE MOUNTAIN WESTERN BELTWAY DETENTION BASIN PARAMETERS (RECEIVED
FROM G.C. WALLACE ON JANUARY 31, 2008)
US 95/RANCHO FIS RESTUDY (PBS&J 1998)
JR CARDS CONTAIN DARFS BASED ON THE FOLLOWING VALUES:

AREA SQ. MI.	DARF
0-0.5	0.57
0.5-1	0.56
1-2	0.54

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN3

```
 49 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                               0-0.5    0.5-1   1-2     2-3     3-4     4-5     5-6     6-7     7-8

    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       .56       .54


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


              **************
              *            *
223 KK        *     CPDB5  *
              *            *
              **************

226 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE


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


              **************
              *            *
228 KK        *       DB5  *
              *            *
              **************

248 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE


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


              **************
              *            *
342 KK        *   CPDBA-B  *
              *            *
              **************

343 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
```

*** ***

```
            **************
            *            *
347 KK      *      GPDB  *
            *            *
            **************

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

                HYDROGRAPH ROUTING DATA

365 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

366 SV            STORAGE         6.5      12.8      19.9      28.0      37.2      46.6      59.9      75.8      94.3     115.8
                                129.6

368 SE          ELEVATION       10.00     12.00     14.00     16.00     18.00     20.00     22.00     24.00     26.00     28.00
                                30.00

370 SQ          DISCHARGE         0.       26.       58.       78.       94.      107.      119.      130.      140.      150.
                                 159.

                                                                  ***

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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .57

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                      (CFS)
+      93.      5.33                72.          22.          21.          21.
                     (INCHES)       .518         .643         .643         .643
                      (AC-FT)        35.          44.          44.          44.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       37.      5.33                27.          12.          11.          11.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
     17.90      5.33              15.55        11.72        11.65        11.65

                        CUMULATIVE AREA =    1.28 SQ MI

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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .56

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                      (CFS)
+      91.      5.33                69.          21.          21.          21.
                     (INCHES)       .501         .618         .618         .618
                      (AC-FT)        34.          42.          42.          42.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       35.      5.33                26.          12.          11.          11.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
     17.61      5.33              15.32        11.64        11.58        11.58

                        CUMULATIVE AREA =    1.28 SQ MI

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

                        HYDROGRAPH AT STATION     GPDB
                          FOR PLAN 1, RATIO =  .54

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     24.92-HR
+   (CFS)       (HR)
                      (CFS)
+      87.      5.33                64.          20.          19.          19.
                     (INCHES)       .466         .569         .569         .569
                      (AC-FT)        32.          39.          39.          39.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+  (AC-FT)      (HR)
       33.      5.33                24.          11.          11.          11.
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  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR        24-HR        72-HR     24.92-HR
+   (FEET)      (HR)
     17.06      5.33               14.86        11.49        11.43        11.43

                         CUMULATIVE AREA =    1.28 SQ MI

  ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
        ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
  ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
        ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
  ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-3.
        ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
  ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
        ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
  ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
        ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).
  ***** WARNING *****  POSSIBLE INSTABILITIES IN THE MUSKINGUM ROUTING FOR REACH RC57B-2.
        ADJUST NSTPS AND/OR COMPUTATION INTERVAL TO MEET CRITERIA IN USER MANUAL).


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


             **************
             *            *
  1033 KK    *  ANGLPKDB  *
             *            *
             **************

  1046 KO       OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

                HYDROGRAPH ROUTING DATA

  1047 RS       STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

  1048 SV         STORAGE          .0      10.8      43.2     113.4     222.5     411.5     640.4     910.4    1239.8    1470.9
                                1512.0    1554.1    1596.2    1640.5    1684.8    1730.2    1775.5    1823.0    1876.0    1919.1

  1050 SE         ELEVATION     2576.00   2580.00   2585.00   2590.00   2595.00   2600.00   2605.00   2610.00   2616.00   2618.00
                                2619.00   2619.50   2620.00   2620.50   2621.00   2621.50   2622.00   2622.50   2623.00   2623.50

  1052 SQ         DISCHARGE          0.       89.      194.      232.      285.      316.      343.      370.      392.      405.
                                   407.     1852.     4491.     7909.    11955.    16545.    21620.    27137.    33064.    39373.

                                                                                 ***

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

                           HYDROGRAPH AT STATION ANGLPKDB
                             FOR PLAN 1, RATIO =  .57

    PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
  +   (CFS)       (HR)
                    (CFS)
  +     370.      7.50               365.         312.         301.         301.
                (INCHES)             .150         .512         .512         .512
                 (AC-FT)             181.         619.         619.         619.

    PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
  +  (AC-FT)      (HR)
       908.      7.50                865.         601.         579.         579.

    PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
  +   (FEET)      (HR)
     2609.95      7.50             2609.15      2602.38      2601.41      2601.41

                           CUMULATIVE AREA =   22.67 SQ MI


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

                           HYDROGRAPH AT STATION ANGLPKDB
                             FOR PLAN 1, RATIO =  .56

    PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     24.92-HR
  +   (CFS)       (HR)
                    (CFS)
  +     367.      7.50               363.         309.         298.         298.
                (INCHES)             .149         .507         .507         .507
                 (AC-FT)             180.         614.         614.         614.

    PEAK STORAGE  TIME                        MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     24.92-HR
  +  (AC-FT)      (HR)
       880.      7.50                837.         577.         556.         556.

    PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     24.92-HR
  +   (FEET)      (HR)
     2609.43      7.50             2608.63      2601.90      2600.95      2600.95

                           CUMULATIVE AREA =   22.67 SQ MI
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*** *** *** *** ***

HYDROGRAPH AT STATION ANGLPKDB
FOR PLAN 1, RATIO = .54

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
+ (CFS)	(HR)				
		(CFS)			
+ 361.	7.42	357.	303.	292.	292.
		(INCHES) .146	.498	.498	.498
		(AC-FT) 177.	602.	602.	602.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (AC-FT)	(HR)				
823.	7.42	781.	531.	511.	511.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	24.92-HR
+ (FEET)	(HR)				
2608.39	7.42	2607.60	2600.91	2600.00	2600.00

CUMULATIVE AREA = 22.67 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	RATIO 2 .56	RATIO 3 .54
HYDROGRAPH AT							
+	3-1	2.22	1	FLOW	1015.	985.	927.
				TIME	4.08	4.08	4.08
ROUTED TO							
+	R3-1	2.22	1	FLOW	1011.	987.	924.
				TIME	4.08	4.08	4.08
HYDROGRAPH AT							
+	3-2	.23	1	FLOW	167.	162.	151.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.1	2.45	1	FLOW	1044.	1019.	955.
				TIME	4.08	4.08	4.08
ROUTED TO							
+	RCP3.1	2.45	1	FLOW	1046.	1018.	958.
				TIME	4.17	4.17	4.17
HYDROGRAPH AT							
+	3-D	.33	1	FLOW	199.	193.	180.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	CP3.3	2.78	1	FLOW	1106.	1076.	1013.
				TIME	4.17	4.17	4.17
ROUTED TO							
+	RCP3.3	2.78	1	FLOW	1106.	1075.	1012.
				TIME	4.17	4.17	4.17
HYDROGRAPH AT							
+	3-3	.17	1	FLOW	178.	173.	163.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-3	.17	1	FLOW	164.	157.	148.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-4	.35	1	FLOW	343.	333.	314.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-4	.35	1	FLOW	323.	314.	292.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-5	.29	1	FLOW	280.	272.	256.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	R3-5	.29	1	FLOW	273.	265.	251.
				TIME	3.58	3.58	3.58
3 COMBINED AT							
+	CP3.2	.81	1	FLOW	759.	736.	692.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3.2	.81	1	FLOW	720.	702.	658.
				TIME	3.67	3.67	3.67
HYDROGRAPH AT							
+	3-E	.54	1	FLOW	339.	329.	308.
				TIME	3.67	3.67	3.67
3 COMBINED AT							

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+                  CP3.4      4.14     1   FLOW        1646.    1593.    1478.
                                            TIME         3.67     3.67     3.67

 ROUTED TO
+                 RCP3.4      4.14     1   FLOW        1636.    1580.    1472.
                                            TIME         3.75     3.75     3.75

 HYDROGRAPH AT
+                    3-6       .09     1   FLOW          93.      90.      85.
                                            TIME         3.50     3.50     3.50

 ROUTED TO
+                   R3-6       .09     1   FLOW          84.      81.      76.
                                            TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-7       .17     1   FLOW         192.     186.     176.
                                            TIME         3.50     3.50     3.50

 ROUTED TO
+                   R3-7       .17     1   FLOW         170.     158.     156.
                                            TIME         3.58     3.58     3.58

 HYDROGRAPH AT
+                    3-J       .15     1   FLOW          66.      63.      57.
                                            TIME         3.58     3.58     3.58

 ROUTED TO
+                   R3-J       .15     1   FLOW          65.      63.      58.
                                            TIME         3.75     3.75     3.75

  3 COMBINED AT
+                  CP3.5       .41     1   FLOW         266.     246.     231.
                                            TIME         3.58     3.58     3.58

 ROUTED TO
+                 RCP3.5       .41     1   FLOW         252.     240.     227.
                                            TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-8       .64     1   FLOW         504.     490.     461.
                                            TIME         3.58     3.58     3.58

 ROUTED TO
+                   R3-8       .64     1   FLOW         507.     482.     456.
                                            TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-K       .89     1   FLOW         553.     537.     506.
                                            TIME         3.75     3.75     3.75

  3 COMBINED AT
+                  CP3.6      1.94     1   FLOW        1292.    1239.    1169.
                                            TIME         3.67     3.67     3.67

 ROUTED TO
+                 RCP3.6      1.94     1   FLOW        1272.    1233.    1167.
                                            TIME         3.75     3.75     3.75

 HYDROGRAPH AT
+                    3-N       .46     1   FLOW         306.     298.     281.
                                            TIME         3.67     3.67     3.67

 HYDROGRAPH AT
+                    3-M       .19     1   FLOW         166.     161.     152.
                                            TIME         3.58     3.58     3.58

 ROUTED TO
+                   R3-M       .19     1   FLOW         157.     153.     144.
                                            TIME         3.58     3.58     3.58

  4 COMBINED AT
+                  CPDB5      6.72     1   FLOW        3332.    3226.    3030.
                                            TIME         3.75     3.75     3.75

 ROUTED TO
+                    DB5      6.72     1   FLOW        1559.    1535.    1478.
                                            TIME         4.33     4.33     4.33

                                    ** PEAK STAGES IN FEET **
                                    1   STAGE     3549.33  3549.02  3548.33
                                            TIME         4.33     4.33     4.33

 HYDROGRAPH AT
+                    3-L       .32     1   FLOW         260.     252.     238.
                                            TIME         3.58     3.58     3.58

  2 COMBINED AT
+                  CP3-L      7.05     1   FLOW        1597.    1566.    1506.
                                            TIME         4.58     4.58     4.33

 ROUTED TO
+               RCSWAA-1      7.05     1   FLOW        1596.    1565.    1505.
                                            TIME         4.58     4.58     4.42

 HYDROGRAPH AT
+                 SWAA-2       .70     1   FLOW         458.     446.     422.
                                            TIME         3.75     3.75     3.75

  2 COMBINED AT
+                CSWAA-2      7.75     1   FLOW        1876.    1841.    1756.
                                            TIME         4.00     4.00     4.00

 ROUTED TO
+               RCSWAA-2      7.75     1   FLOW        1872.    1835.    1749.
                                            TIME         4.00     4.00     4.08
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HYDROGRAPH AT							
+	SWAA-3	.58	1	FLOW	296.	288.	270.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	CSWAA-3	8.33	1	FLOW	2116.	2072.	1956.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	3-F	.28	1	FLOW	246.	239.	226.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R3-F	.28	1	FLOW	239.	233.	220.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-G2	.13	1	FLOW	145.	142.	135.
				TIME	3.50	3.50	3.50
2 COMBINED AT							
+	CP3.8	.41	1	FLOW	381.	371.	352.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3.8	.41	1	FLOW	369.	360.	339.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-A	.36	1	FLOW	167.	161.	148.
				TIME	3.67	3.67	3.67
ROUTED TO							
+	R3-A	.36	1	FLOW	162.	156.	144.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	3-B	.70	1	FLOW	338.	327.	304.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	R3-B	.70	1	FLOW	336.	326.	302.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	3-C	.22	1	FLOW	161.	156.	147.
				TIME	3.67	3.67	3.67
3 COMBINED AT							
+	CPDBA-B	1.28	1	FLOW	640.	618.	574.
				TIME	3.67	3.67	3.75
ROUTED TO							
+	GPDB	1.28	1	FLOW	93.	91.	87.
				TIME	5.33	5.33	5.33
			** PEAK STAGES IN FEET **				
			1	STAGE	17.90	17.61	17.06
				TIME	5.33	5.33	5.33
HYDROGRAPH AT							
+	3-G1	.24	1	FLOW	226.	220.	208.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R3-G1	.24	1	FLOW	224.	218.	207.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3-G1	1.52	1	FLOW	233.	225.	210.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3-G1	1.52	1	FLOW	228.	220.	206.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-Q2	.15	1	FLOW	169.	165.	157.
				TIME	3.50	3.50	3.50
2 COMBINED AT							
+	CP3-Q2	1.67	1	FLOW	372.	361.	340.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3-Q2	1.67	1	FLOW	370.	360.	339.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-H1	.13	1	FLOW	144.	140.	133.
				TIME	3.50	3.50	3.50
2 COMBINED AT							
+	CP3-H1	1.80	1	FLOW	494.	481.	455.
				TIME	3.50	3.50	3.50
ROUTED TO							
+	RCP3-H1	1.80	1	FLOW	492.	479.	453.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-I1	.29	1	FLOW	213.	207.	195.
				TIME	3.67	3.67	3.67
3 COMBINED AT							

+	CP3.9	2.50	1	FLOW	1069.	1041.	982.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP9	2.50	1	FLOW	1056.	1029.	970.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-O	.09	1	FLOW	94.	92.	87.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R3-O	.09	1	FLOW	93.	91.	87.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-P2	.09	1	FLOW	68.	66.	62.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R3-P2	.09	1	FLOW	64.	62.	59.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-P1	.13	1	FLOW	144.	141.	135.
				TIME	3.58	3.58	3.58
3 COMBINED AT							
+	CP3-P	.31	1	FLOW	301.	294.	280.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3-P	.31	1	FLOW	294.	287.	273.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-Q	.10	1	FLOW	96.	94.	89.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3-Q	.41	1	FLOW	391.	381.	362.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3-Q	.41	1	FLOW	373.	362.	341.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-H2	.10	1	FLOW	102.	100.	95.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3-H2	.51	1	FLOW	475.	462.	436.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCPH-2	.51	1	FLOW	458.	445.	420.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-I2	.12	1	FLOW	92.	90.	85.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	CP3.10A	.63	1	FLOW	550.	534.	504.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.10	3.13	1	FLOW	1606.	1563.	1474.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCP3.10	3.13	1	FLOW	1593.	1549.	1462.
				TIME	3.58	3.58	3.58
HYDROGRAPH AT							
+	3-H3	.14	1	FLOW	133.	130.	124.
				TIME	3.58	3.58	3.58
2 COMBINED AT							
+	CP3.11	3.27	1	FLOW	1725.	1679.	1586.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	RCSHFH-9	3.27	1	FLOW	1696.	1657.	1553.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	CRCSWFH9	11.60	1	FLOW	3386.	3318.	3147.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RCRCSWFH	11.60	1	FLOW	3385.	3316.	3141.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	11A-1	.21	1	FLOW	97.	93.	87.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C11A-1	11.81	1	FLOW	3482.	3409.	3228.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC11A-1	11.81	1	FLOW	3472.	3397.	3211.
				TIME	3.75	3.75	3.75

HYDROGRAPH AT							
+	11A-3	.19	1	FLOW	128.	125.	118.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C11A-3	12.00	1	FLOW	3590.	3512.	3320.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC11A-3	12.00	1	FLOW	3532.	3449.	3255.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	3A	.18	1	FLOW	76.	73.	68.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C3A	12.18	1	FLOW	3597.	3512.	3313.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RC3A	12.18	1	FLOW	3492.	3405.	3205.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	3B-1	.26	1	FLOW	85.	81.	75.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C3B-1	12.44	1	FLOW	3545.	3456.	3252.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RC3B-1	12.44	1	FLOW	3538.	3449.	3245.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	11B-2	.44	1	FLOW	174.	168.	157.
				TIME	3.92	3.92	3.92
ROUTED TO							
+	R11B-2	.44	1	FLOW	174.	168.	157.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	11B-1	.39	1	FLOW	216.	209.	196.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C11B-1	.84	1	FLOW	360.	349.	326.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC11B-1	.84	1	FLOW	359.	348.	325.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	8B-1	.30	1	FLOW	161.	156.	146.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C8B-1	1.14	1	FLOW	511.	495.	462.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC8B-1	1.14	1	FLOW	510.	493.	463.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	8B-2	.42	1	FLOW	289.	283.	269.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C8B-2	1.56	1	FLOW	789.	766.	723.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RC8B-2	1.56	1	FLOW	785.	762.	719.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	11A-2	.29	1	FLOW	187.	181.	170.
				TIME	3.58	3.58	3.58
ROUTED TO							
+	R11A-2	.29	1	FLOW	184.	186.	168.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	8A	.31	1	FLOW	155.	149.	139.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C8A	.60	1	FLOW	331.	329.	301.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC8A	.60	1	FLOW	314.	310.	285.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	3B-2A	.24	1	FLOW	144.	139.	131.
				TIME	3.67	3.67	3.67
2 COMBINED AT							

+	C3B-2A	.84	1	FLOW	433.	424.	392.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	CC3B-2A	2.40	1	FLOW	1204.	1174.	1101.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RCC3B-2A	2.40	1	FLOW	1193.	1163.	1088.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	3B-2B	.27	1	FLOW	103.	100.	92.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C3B-2B	2.67	1	FLOW	1293.	1259.	1178.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	CC3B-2B	15.11	1	FLOW	4706.	4584.	4306.
				TIME	3.92	3.92	3.92
ROUTED TO							
+	RCC3B-2B	15.11	1	FLOW	4677.	4554.	4294.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	SF2-C	.39	1	FLOW	107.	103.	95.
				TIME	3.92	3.92	3.92
2 COMBINED AT							
+	CSF2-C	15.50	1	FLOW	4782.	4655.	4387.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RCSF2-C	15.50	1	FLOW	4754.	4630.	4355.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	SW11	.59	1	FLOW	330.	320.	301.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RSW11	.59	1	FLOW	325.	315.	296.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	SW17	.36	1	FLOW	205.	199.	187.
				TIME	3.67	3.67	3.75
2 COMBINED AT							
+	CSW17	.94	1	FLOW	530.	514.	483.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RCSW17	.94	1	FLOW	521.	504.	474.
				TIME	3.75	3.75	3.75
HYDROGRAPH AT							
+	SW18	.41	1	FLOW	215.	209.	196.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	CSW18	1.35	1	FLOW	736.	713.	669.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RCSW18	1.35	1	FLOW	690.	669.	627.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	12A	.39	1	FLOW	272.	265.	251.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C12A	1.74	1	FLOW	881.	853.	802.
				TIME	3.83	3.83	3.92
ROUTED TO							
+	RC12A	1.74	1	FLOW	880.	853.	801.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	12B	.26	1	FLOW	182.	177.	168.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C12B	2.00	1	FLOW	990.	960.	903.
				TIME	3.92	3.92	3.92
ROUTED TO							
+	RC12B	2.00	1	FLOW	953.	924.	869.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	57B-3	.31	1	FLOW	91.	88.	81.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	C57B-3	2.31	1	FLOW	1027.	996.	934.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RC57B-3	2.31	1	FLOW	1023.	992.	932.
				TIME	4.08	4.08	4.08

HYDROGRAPH AT							
+	57B-2	.36	1	FLOW	124.	119.	111.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	C57B-2	2.67	1	FLOW	1108.	1074.	1006.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RC57B-2	2.67	1	FLOW	1111.	1077.	1010.
				TIME	4.08	4.08	4.08
HYDROGRAPH AT							
+	13B-1	.25	1	FLOW	169.	164.	156.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC13B-1	.25	1	FLOW	171.	167.	158.
				TIME	3.83	3.83	3.83
HYDROGRAPH AT							
+	13B-2	.22	1	FLOW	140.	137.	129.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C13B-2	.47	1	FLOW	294.	286.	271.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	RC13B-2	.47	1	FLOW	295.	288.	272.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	19A	.25	1	FLOW	144.	140.	133.
				TIME	3.75	3.75	3.75
ROUTED TO							
+	R19A	.25	1	FLOW	146.	142.	134.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	13A-1	.22	1	FLOW	147.	144.	136.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C13A-1	.48	1	FLOW	273.	266.	251.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RC13A-1	.48	1	FLOW	268.	260.	246.
				TIME	3.92	3.92	3.92
HYDROGRAPH AT							
+	13A-2	.19	1	FLOW	124.	121.	114.
				TIME	3.67	3.67	3.67
2 COMBINED AT							
+	C13A-2	.66	1	FLOW	354.	344.	324.
				TIME	3.83	3.83	3.83
ROUTED TO							
+	RC13A-2	.66	1	FLOW	354.	344.	324.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	PIC-C	.24	1	FLOW	129.	125.	118.
				TIME	3.83	3.83	3.83
2 COMBINED AT							
+	CPIC-C	.91	1	FLOW	462.	448.	423.
				TIME	3.92	4.00	4.00
ROUTED TO							
+	RCPIC-C	.91	1	FLOW	461.	450.	424.
				TIME	4.00	4.00	4.00
HYDROGRAPH AT							
+	PIC-A	.36	1	FLOW	165.	160.	152.
				TIME	3.92	3.92	3.92
2 COMBINED AT							
+	CPIC-A	1.27	1	FLOW	625.	609.	575.
				TIME	4.00	4.00	4.00
2 COMBINED AT							
+	CCPIC-A	1.73	1	FLOW	900.	878.	830.
				TIME	4.00	4.00	4.00
ROUTED TO							
+	RCCPIC-A	1.73	1	FLOW	904.	880.	827.
				TIME	4.00	4.00	4.08
HYDROGRAPH AT							
+	57B-1	.20	1	FLOW	77.	74.	69.
				TIME	3.75	3.75	3.75
2 COMBINED AT							
+	C57B-1	1.93	1	FLOW	954.	928.	871.
				TIME	4.00	4.00	4.00
2 COMBINED AT							
+	CC57B-1	4.60	1	FLOW	2047.	1990.	1874.
				TIME	4.00	4.08	4.08
ROUTED TO							

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+               RCC57B-1      4.60     1   FLOW         2046.    1990.    1873.
                                           TIME          4.08     4.08     4.08

 HYDROGRAPH AT
+                  57B-4       .20     1   FLOW          117.     114.     107.
                                           TIME          3.67     3.67     3.67

  2 COMBINED AT
+                 C57B-4      4.80     1   FLOW         2092.    2034.    1914.
                                           TIME          4.00     4.08     4.08

 HYDROGRAPH AT
+                   PIC-B       .44     1   FLOW          205.     199.     188.
                                           TIME          3.92     3.92     3.92

 ROUTED TO
+                  RPIC-B       .44     1   FLOW          202.     197.     186.
                                           TIME          3.92     3.92     3.92

  2 COMBINED AT
+                CC57B-4      5.24     1   FLOW         2293.    2226.    2089.
                                           TIME          4.00     4.00     4.08

 ROUTED TO
+               RCC57B-4      5.24     1   FLOW         2281.    2217.    2088.
                                           TIME          4.08     4.08     4.08

 HYDROGRAPH AT
+                   38A       .35     1   FLOW          174.     170.     161.
                                           TIME          3.83     3.83     3.83

 ROUTED TO
+                  R38A       .35     1   FLOW          175.     170.     161.
                                           TIME          3.92     3.92     3.92

 HYDROGRAPH AT
+                   38B       .44     1   FLOW          239.     233.     221.
                                           TIME          3.83     3.83     3.83

  2 COMBINED AT
+                  C38B       .79     1   FLOW          407.     396.     375.
                                           TIME          3.83     3.83     3.83

 HYDROGRAPH AT
+                  57BA       .32     1   FLOW           52.      49.      44.
                                           TIME          4.00     4.00     4.00

 ROUTED TO
+                 R57BA       .32     1   FLOW           51.      49.      44.
                                           TIME          4.00     4.00     4.00

 HYDROGRAPH AT
+                    3C       .15     1   FLOW          107.     104.      99.
                                           TIME          3.67     3.67     3.67

  2 COMBINED AT
+                   C3C       .47     1   FLOW          137.     132.     123.
                                           TIME          3.75     3.75     3.75

 ROUTED TO
+                  RC3C       .47     1   FLOW          138.     133.     124.
                                           TIME          3.83     3.83     3.83

 HYDROGRAPH AT
+                    AP       .67     1   FLOW          143.     137.     125.
                                           TIME          3.92     3.92     3.92

  5 COMBINED AT
+               ANGLPKIN     22.67     1   FLOW         7637.    7426.    6974.
                                           TIME          4.00     4.00     4.00

 ROUTED TO
+               ANGLPKDB     22.67     1   FLOW          370.     367.     361.
                                           TIME          7.50     7.50     7.42

                                    ** PEAK STAGES IN FEET **
                                    1   STAGE     2609.95  2609.43  2608.39
                                        TIME         7.50     7.50     7.42
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
              R3-1  MANE          3.73   1012.99    245.93      1.01      5.00   1010.90    245.00        1.01


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1201E+03 EXCESS= .0000E+00 OUTFLOW= .1201E+03 BASIN STORAGE= .7949E-02 PERCENT ERROR=    .0


          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE          3.77    987.00    245.06       .98      5.00    986.68    245.00         .98


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1166E+03 EXCESS= .0000E+00 OUTFLOW= .1166E+03 BASIN STORAGE= .6588E-02 PERCENT ERROR=    .0


          FOR PLAN = 1  RATIO=  .00
              R3-1  MANE          3.86    924.57    247.23       .93      5.00    924.19    245.00         .93
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .1095E+03 EXCESS= .0000E+00 OUTFLOW= .1096E+03 BASIN STORAGE= .7590E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.1	MANE	5.00	1045.90	250.00	1.00	5.00	1045.90	250.00	1.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1298E+03 EXCESS= .0000E+00 OUTFLOW= .1299E+03 BASIN STORAGE= .1039E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.1	MANE	5.00	1017.67	250.00	.97	5.00	1017.67	250.00	.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1260E+03 EXCESS= .0000E+00 OUTFLOW= .1260E+03 BASIN STORAGE= .1064E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.1	MANE	5.00	957.96	250.00	.91	5.00	957.96	250.00	.91	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1183E+03 EXCESS= .0000E+00 OUTFLOW= .1184E+03 BASIN STORAGE= .1037E-01 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3.3	MANE	.73	1106.15	249.29	.97	5.00	1106.12	250.00	.97	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1442E+03 EXCESS= .0000E+00 OUTFLOW= .1442E+03 BASIN STORAGE= .1126E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.3	MANE	.73	1075.39	250.47	.94	5.00	1075.36	250.00	.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1399E+03 EXCESS= .0000E+00 OUTFLOW= .1399E+03 BASIN STORAGE= .1131E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.3	MANE	.75	1012.21	250.34	.89	5.00	1012.08	250.00	.89	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1313E+03 EXCESS= .0000E+00 OUTFLOW= .1313E+03 BASIN STORAGE= .1127E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R3-3	MANE	4.50	168.27	216.00	1.03	5.00	163.86	215.00	1.03	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9535E+01 EXCESS= .0000E+00 OUTFLOW= .9564E+01 BASIN STORAGE= .5272E-02 PERCENT ERROR= -.4

FOR PLAN = 1 RATIO= .00

R3-3	MANE	4.25	161.34	216.75	1.00	5.00	157.45	215.00	1.00	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9248E+01 EXCESS= .0000E+00 OUTFLOW= .9270E+01 BASIN STORAGE= .6888E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-3	MANE	4.25	152.47	216.75	.94	5.00	148.36	215.00	.94	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8704E+01 EXCESS= .0000E+00 OUTFLOW= .8724E+01 BASIN STORAGE= .6768E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-4	MANE	4.50	332.12	216.00	1.05	5.00	322.69	215.00	1.05	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1923E+02 EXCESS= .0000E+00 OUTFLOW= .1928E+02 BASIN STORAGE= .7533E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-4	MANE	4.50	322.95	216.00	1.02	5.00	313.54	215.00	1.02	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1868E+02 EXCESS= .0000E+00 OUTFLOW= .1873E+02 BASIN STORAGE= .7462E-02 PERCENT ERROR= -.3

FOR PLAN = 1 RATIO= .00

R3-4	MANE	4.25	301.93	216.75	.95	5.00	292.36	215.00	.95	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1756E+02 EXCESS= .0000E+00 OUTFLOW= .1760E+02 BASIN STORAGE= .6986E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.92	275.58	215.41	1.01	5.00	272.72	215.00	1.01	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1583E+02 EXCESS= .0000E+00 OUTFLOW= .1585E+02 BASIN STORAGE= .3784E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.96	267.87	213.73	.98	5.00	264.65	215.00	.98	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1539E+02 EXCESS= .0000E+00 OUTFLOW= .1541E+02 BASIN STORAGE= .3692E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-5	MANE	3.75	254.05	213.75	.93	5.00	251.45	215.00	.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1449E+02 EXCESS= .0000E+00 OUTFLOW= .1451E+02 BASIN STORAGE= .4266E-02 PERCENT ERROR= -.2

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          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         3.40    739.35    217.32      1.03      5.00    720.04    220.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4466E+02 EXCESS= .0000E+00 OUTFLOW= .4470E+02 BASIN STORAGE= .5041E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         3.44    704.48    219.85      1.00      5.00    701.89    220.00        1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4338E+02 EXCESS= .0000E+00 OUTFLOW= .4342E+02 BASIN STORAGE= .5049E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.2  MANE         3.51    679.30    217.79       .94      5.00    657.61    220.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4070E+02 EXCESS= .0000E+00 OUTFLOW= .4073E+02 BASIN STORAGE= .3590E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.4  MANE         1.97   1654.70    222.74       .97      5.00   1635.82    225.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2141E+03 EXCESS= .0000E+00 OUTFLOW= .2141E+03 BASIN STORAGE= .3227E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.4  MANE         2.00   1600.84    223.55       .94      5.00   1579.98    225.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2077E+03 EXCESS= .0000E+00 OUTFLOW= .2077E+03 BASIN STORAGE= .3558E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.4  MANE         2.05   1488.58    223.80       .88      5.00   1472.36    225.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1949E+03 EXCESS= .0000E+00 OUTFLOW= .1949E+03 BASIN STORAGE= .3513E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
               R3-6  MANE         4.50     85.03    220.50      1.02      5.00     83.55    220.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4803E+01 EXCESS= .0000E+00 OUTFLOW= .4837E+01 BASIN STORAGE= .1096E-01 PERCENT ERROR=   -.9

          FOR PLAN = 1  RATIO=  .00
               R3-6  MANE         4.25     83.11    221.00       .99      5.00     80.80    220.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4658E+01 EXCESS= .0000E+00 OUTFLOW= .4690E+01 BASIN STORAGE= .1088E-01 PERCENT ERROR=   -.9

          FOR PLAN = 1  RATIO=  .00
               R3-6  MANE         4.25     78.32    221.00       .93      5.00     75.87    220.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4384E+01 EXCESS= .0000E+00 OUTFLOW= .4414E+01 BASIN STORAGE= .1072E-01 PERCENT ERROR=   -.9

          FOR PLAN = 1  RATIO=  .00
               R3-7  MANE         3.75    179.78    213.75       .97      5.00    169.79    215.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8876E+01 EXCESS= .0000E+00 OUTFLOW= .8898E+01 BASIN STORAGE= .3143E-02 PERCENT ERROR=   -.3

          FOR PLAN = 1  RATIO=  .00
               R3-7  MANE         4.00    158.31    216.00       .94      5.00    157.68    215.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8528E+01 EXCESS= .0000E+00 OUTFLOW= .8547E+01 BASIN STORAGE= .2790E-02 PERCENT ERROR=   -.3

          FOR PLAN = 1  RATIO=  .00
               R3-7  MANE         3.75    164.36    213.75       .89      5.00    156.15    215.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8091E+01 EXCESS= .0000E+00 OUTFLOW= .8111E+01 BASIN STORAGE= .3049E-02 PERCENT ERROR=   -.3

          FOR PLAN = 1  RATIO=  .00
               R3-J  MANE         3.00     65.08    225.00       .54      5.00     65.08    225.00         .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4351E+01 EXCESS= .0000E+00 OUTFLOW= .4364E+01 BASIN STORAGE= .5177E-02 PERCENT ERROR=   -.4

          FOR PLAN = 1  RATIO=  .00
               R3-J  MANE         2.75     63.74    222.75       .51      5.00     62.53    225.00         .51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4187E+01 EXCESS= .0000E+00 OUTFLOW= .4199E+01 BASIN STORAGE= .6091E-02 PERCENT ERROR=   -.4

          FOR PLAN = 1  RATIO=  .00
               R3-J  MANE         2.50     58.36    225.00       .47      5.00     58.36    225.00         .47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3850E+01 EXCESS= .0000E+00 OUTFLOW= .3861E+01 BASIN STORAGE= .6928E-02 PERCENT ERROR=   -.5
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          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.86    263.06    217.96       .82      5.00    251.89    220.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1807E+02 EXCESS= .0000E+00 OUTFLOW= .1808E+02 BASIN STORAGE= .1504E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.92    246.50    218.43       .79      5.00    239.69    220.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1739E+02 EXCESS= .0000E+00 OUTFLOW= .1740E+02 BASIN STORAGE= .1366E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.5  MANE         1.96    231.25    217.58       .74      5.00    227.09    220.00         .74

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1636E+02 EXCESS= .0000E+00 OUTFLOW= .1637E+02 BASIN STORAGE= .1368E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         3.99    508.21    219.45      1.04      5.00    506.93    220.00        1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3547E+02 EXCESS= .0000E+00 OUTFLOW= .3549E+02 BASIN STORAGE= .3615E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         4.03    488.75    221.70      1.01      5.00    481.84    220.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3442E+02 EXCESS= .0000E+00 OUTFLOW= .3444E+02 BASIN STORAGE= .3496E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-8  MANE         4.12    459.85    222.32       .95      5.00    455.52    220.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3241E+02 EXCESS= .0000E+00 OUTFLOW= .3243E+02 BASIN STORAGE= .3195E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         2.23   1291.19    223.35       .96      5.00   1272.14    225.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9887E+02 EXCESS= .0000E+00 OUTFLOW= .9888E+02 BASIN STORAGE= .2892E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         2.27   1241.71    224.55       .93      5.00   1232.82    225.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9576E+02 EXCESS= .0000E+00 OUTFLOW= .9577E+02 BASIN STORAGE= .3439E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.6  MANE         2.32   1171.05    224.78       .87      5.00   1167.16    225.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9011E+02 EXCESS= .0000E+00 OUTFLOW= .9013E+02 BASIN STORAGE= .2992E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-M  MANE         2.35    161.02    216.40      1.00      5.00    157.09    215.00        1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1027E+02 EXCESS= .0000E+00 OUTFLOW= .1028E+02 BASIN STORAGE= .2257E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-M  MANE         2.38    156.61    216.44       .97      5.00    152.65    215.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9981E+01 EXCESS= .0000E+00 OUTFLOW= .9985E+01 BASIN STORAGE= .2295E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
              R3-M  MANE         2.43    148.01    216.62       .92      5.00    143.89    215.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9402E+01 EXCESS= .0000E+00 OUTFLOW= .9405E+01 BASIN STORAGE= .2331E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-1  MANE         1.30   1596.59    275.83       .97      5.00   1596.11    275.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3638E+03 EXCESS= .0000E+00 OUTFLOW= .3638E+03 BASIN STORAGE= .3045E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-1  MANE         1.31   1565.55    274.10       .94      5.00   1565.50    275.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3530E+03 EXCESS= .0000E+00 OUTFLOW= .3530E+03 BASIN STORAGE= .2819E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-1  MANE         1.33   1505.77    262.41       .88      5.00   1505.30    265.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3316E+03 EXCESS= .0000E+00 OUTFLOW= .3317E+03 BASIN STORAGE= .2844E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
          RCSWAA-2  MANE         1.79   1876.11    238.11       .98      5.00   1872.16    240.00         .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4049E+03 EXCESS= .0000E+00 OUTFLOW= .4049E+03 BASIN STORAGE= .4088E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-2  MANE         1.80   1840.42    241.70       .95      5.00   1834.56    240.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3930E+03 EXCESS= .0000E+00 OUTFLOW= .3930E+03 BASIN STORAGE= .4482E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCSWAA-2  MANE         1.84   1757.45    242.66       .89      5.00   1749.36    245.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3694E+03 EXCESS= .0000E+00 OUTFLOW= .3694E+03 BASIN STORAGE= .4395E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-F  MANE         1.10    242.76    216.47      1.03      5.00    239.40    215.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1542E+02 EXCESS= .0000E+00 OUTFLOW= .1542E+02 BASIN STORAGE= .1150E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-F  MANE         1.11    235.45    215.54      1.00      5.00    232.77    215.00        1.00

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1498E+02 EXCESS= .0000E+00 OUTFLOW= .1498E+02 BASIN STORAGE= .1127E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-F  MANE         1.14    224.09    216.00       .94      5.00    220.08    215.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1411E+02 EXCESS= .0000E+00 OUTFLOW= .1412E+02 BASIN STORAGE= .1228E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.8  MANE         1.88    375.16    216.61      1.12      5.00    369.50    215.00        1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2446E+02 EXCESS= .0000E+00 OUTFLOW= .2446E+02 BASIN STORAGE= .2664E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.8  MANE         1.90    366.33    216.97      1.09      5.00    359.77    215.00        1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2381E+02 EXCESS= .0000E+00 OUTFLOW= .2381E+02 BASIN STORAGE= .2508E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCP3.8  MANE         1.94    341.86    217.70      1.03      5.00    339.48    215.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2250E+02 EXCESS= .0000E+00 OUTFLOW= .2250E+02 BASIN STORAGE= .2888E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-A  MANE         1.59    165.98    222.41       .63      5.00    161.67    225.00         .63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1232E+02 EXCESS= .0000E+00 OUTFLOW= .1232E+02 BASIN STORAGE= .1571E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-A  MANE         1.61    159.71    222.59       .61      5.00    155.86    225.00         .61

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1188E+02 EXCESS= .0000E+00 OUTFLOW= .1188E+02 BASIN STORAGE= .1542E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-A  MANE         1.67    148.08    221.45       .57      5.00    144.15    225.00         .57

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1101E+02 EXCESS= .0000E+00 OUTFLOW= .1101E+02 BASIN STORAGE= .1410E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE         1.31    337.13    225.85       .72      5.00    336.23    225.00         .72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2677E+02 EXCESS= .0000E+00 OUTFLOW= .2677E+02 BASIN STORAGE= .1623E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE         1.32    325.66    225.02       .70      5.00    325.61    225.00         .70

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2587E+02 EXCESS= .0000E+00 OUTFLOW= .2587E+02 BASIN STORAGE= .1667E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R3-B  MANE         1.36    302.93    226.17       .65      5.00    301.94    225.00         .65

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2407E+02 EXCESS= .0000E+00 OUTFLOW= .2407E+02 BASIN STORAGE= .1486E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
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     R3-G1  MANE          .46    224.61    215.19      1.08      5.00    224.09    215.00        1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1380E+02 EXCESS= .0000E+00 OUTFLOW= .1380E+02 BASIN STORAGE= .4643E-03 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     R3-G1  MANE          .46    218.72    215.14      1.05      5.00    218.29    215.00        1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1342E+02 EXCESS= .0000E+00 OUTFLOW= .1342E+02 BASIN STORAGE= .4500E-03 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
     R3-G1  MANE          .47    207.07    215.14       .99      5.00    206.66    215.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1267E+02 EXCESS= .0000E+00 OUTFLOW= .1267E+02 BASIN STORAGE= .4491E-03 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-G1  MANE          .99    231.00    216.22       .71      5.00    227.55    215.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5778E+02 EXCESS= .0000E+00 OUTFLOW= .5778E+02 BASIN STORAGE= .5517E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-G1  MANE         1.01    224.16    216.08       .69      5.00    220.40    215.00         .69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5573E+02 EXCESS= .0000E+00 OUTFLOW= .5573E+02 BASIN STORAGE= .5331E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-G1  MANE         1.03    209.03    215.92       .64      5.00    205.97    215.00         .64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5164E+02 EXCESS= .0000E+00 OUTFLOW= .5164E+02 BASIN STORAGE= .4954E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-Q2  MANE          .74    370.26    214.72       .75      5.00    370.20    215.00         .75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6729E+02 EXCESS= .0000E+00 OUTFLOW= .6729E+02 BASIN STORAGE= .4997E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-Q2  MANE          .75    360.25    214.96       .73      5.00    360.20    215.00         .73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6500E+02 EXCESS= .0000E+00 OUTFLOW= .6500E+02 BASIN STORAGE= .4838E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-Q2  MANE          .76    339.32    214.86       .68      5.00    339.15    215.00         .68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6043E+02 EXCESS= .0000E+00 OUTFLOW= .6043E+02 BASIN STORAGE= .4491E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-H1  MANE          .65    495.09    211.01       .79      5.00    492.35    215.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7539E+02 EXCESS= .0000E+00 OUTFLOW= .7539E+02 BASIN STORAGE= .4968E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-H1  MANE          .66    482.84    211.23       .76      5.00    479.40    215.00         .76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7290E+02 EXCESS= .0000E+00 OUTFLOW= .7290E+02 BASIN STORAGE= .4810E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
    RCP3-H1  MANE          .67    456.86    211.24       .71      5.00    452.65    215.00         .71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6792E+02 EXCESS= .0000E+00 OUTFLOW= .6792E+02 BASIN STORAGE= .4466E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
        RCP9  MANE          .68   1062.20    215.35       .86      5.00   1055.83    215.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1151E+03 EXCESS= .0000E+00 OUTFLOW= .1151E+03 BASIN STORAGE= .7165E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
        RCP9  MANE          .69   1037.29    215.64       .84      5.00   1028.53    215.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1115E+03 EXCESS= .0000E+00 OUTFLOW= .1115E+03 BASIN STORAGE= .6923E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
        RCP9  MANE          .71    978.01    215.78       .78      5.00    970.04    215.00         .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1044E+03 EXCESS= .0000E+00 OUTFLOW= .1044E+03 BASIN STORAGE= .6436E-02 PERCENT ERROR=    .0

   FOR PLAN = 1  RATIO=  .00
        R3-O  MANE         2.07     92.63    215.21      1.28      5.00     92.57    215.00        1.28
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CONTINUITY SUMMARY (AC-FT) - INFLOW= .5936E+01 EXCESS= .0000E+00 OUTFLOW= .5939E+01 BASIN STORAGE= .1472E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-O	MANE	2.09	90.70	215.10	1.25	5.00	90.66	215.00	1.25	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5793E+01 EXCESS= .0000E+00 OUTFLOW= .5796E+01 BASIN STORAGE= .1546E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-O	MANE	2.13	86.67	214.95	1.18	5.00	86.63	215.00	1.18	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5505E+01 EXCESS= .0000E+00 OUTFLOW= .5508E+01 BASIN STORAGE= .1739E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	2.35	66.09	216.66	.90	5.00	64.05	215.00	.90	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4180E+01 EXCESS= .0000E+00 OUTFLOW= .4181E+01 BASIN STORAGE= .1453E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	2.38	64.31	216.86	.87	5.00	62.21	215.00	.87	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4054E+01 EXCESS= .0000E+00 OUTFLOW= .4056E+01 BASIN STORAGE= .1436E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R3-P2	MANE	2.44	60.92	217.41	.82	5.00	58.72	215.00	.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3808E+01 EXCESS= .0000E+00 OUTFLOW= .3810E+01 BASIN STORAGE= .1771E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.50	297.77	216.57	1.17	5.00	294.41	215.00	1.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1922E+02 EXCESS= .0000E+00 OUTFLOW= .1923E+02 BASIN STORAGE= .1651E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.52	289.46	215.59	1.14	5.00	286.88	215.00	1.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1873E+02 EXCESS= .0000E+00 OUTFLOW= .1873E+02 BASIN STORAGE= .1782E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-P	MANE	1.55	275.58	216.76	1.08	5.00	272.91	215.00	1.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1776E+02 EXCESS= .0000E+00 OUTFLOW= .1776E+02 BASIN STORAGE= .1666E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	2.47	384.06	217.41	1.17	5.00	373.32	215.00	1.17	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2556E+02 EXCESS= .0000E+00 OUTFLOW= .2557E+02 BASIN STORAGE= .3139E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	2.50	373.26	217.16	1.14	5.00	362.02	215.00	1.14	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2490E+02 EXCESS= .0000E+00 OUTFLOW= .2491E+02 BASIN STORAGE= .3442E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCP3-Q	MANE	2.55	351.66	216.49	1.08	5.00	341.22	215.00	1.08	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2359E+02 EXCESS= .0000E+00 OUTFLOW= .2360E+02 BASIN STORAGE= .3105E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	1.22	473.58	216.56	1.17	5.00	458.25	215.00	1.18	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3200E+02 EXCESS= .0000E+00 OUTFLOW= .3201E+02 BASIN STORAGE= .1797E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	1.24	459.82	216.63	1.14	5.00	444.80	215.00	1.15	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3116E+02 EXCESS= .0000E+00 OUTFLOW= .3117E+02 BASIN STORAGE= .1813E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCPH-2	MANE	1.27	434.54	216.57	1.08	5.00	419.95	215.00	1.09	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2953E+02 EXCESS= .0000E+00 OUTFLOW= .2953E+02 BASIN STORAGE= .1660E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.33	1604.06	215.40	.92	5.00	1592.63	215.00	.92	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1539E+03 EXCESS= .0000E+00 OUTFLOW= .1539E+03 BASIN STORAGE= .4129E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.34	1560.84	215.41	.89	5.00	1549.41	215.00	.89		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1493E+03 EXCESS= .0000E+00 OUTFLOW= .1493E+03 BASIN STORAGE= .3988E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCP3.10	MANE	.34	1473.28	215.33	.84	5.00	1462.29	215.00	.84		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1402E+03 EXCESS= .0000E+00 OUTFLOW= .1402E+03 BASIN STORAGE= .3709E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSHFH-9	MANE	2.72	1707.69	217.97	.94	5.00	1696.05	220.00	.94		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1640E+03 EXCESS= .0000E+00 OUTFLOW= .1640E+03 BASIN STORAGE= .1884E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSHFH-9	MANE	2.75	1658.52	219.96	.91	5.00	1657.37	220.00	.91		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1591E+03 EXCESS= .0000E+00 OUTFLOW= .1591E+03 BASIN STORAGE= .1814E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCSHFH-9	MANE	2.80	1566.88	218.61	.86	5.00	1552.68	220.00	.86		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1495E+03 EXCESS= .0000E+00 OUTFLOW= .1495E+03 BASIN STORAGE= .1672E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.74	3390.47	221.64	.96	5.00	3385.23	225.00	.96		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5956E+03 EXCESS= .0000E+00 OUTFLOW= .5956E+03 BASIN STORAGE= .1003E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.74	3316.26	224.84	.93	5.00	3315.67	225.00	.93		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5780E+03 EXCESS= .0000E+00 OUTFLOW= .5780E+03 BASIN STORAGE= .9676E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCRCSWFH	MANE	.76	3141.28	225.56	.88	5.00	3140.70	225.00	.88		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5432E+03 EXCESS= .0000E+00 OUTFLOW= .5432E+03 BASIN STORAGE= .8982E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	1.12	3473.97	226.22	.96	5.00	3471.52	225.00	.96		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6036E+03 EXCESS= .0000E+00 OUTFLOW= .6036E+03 BASIN STORAGE= .1483E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	1.13	3397.38	225.75	.93	5.00	3397.22	225.00	.93		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5858E+03 EXCESS= .0000E+00 OUTFLOW= .5858E+03 BASIN STORAGE= .1429E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11A-1	MANE	1.15	3214.07	225.77	.87	5.00	3210.91	225.00	.87		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5504E+03 EXCESS= .0000E+00 OUTFLOW= .5504E+03 BASIN STORAGE= .1329E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	1.09	3538.06	240.82	.94	5.00	3537.80	240.00	.94		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6255E+03 EXCESS= .0000E+00 OUTFLOW= .6255E+03 BASIN STORAGE= .1591E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	1.11	3449.60	240.90	.91	5.00	3449.26	240.00	.92		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6070E+03 EXCESS= .0000E+00 OUTFLOW= .6070E+03 BASIN STORAGE= .1536E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC3B-1	MANE	1.13	3245.14	239.68	.86	5.00	3245.10	240.00	.86		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5702E+03 EXCESS= .0000E+00 OUTFLOW= .5702E+03 BASIN STORAGE= .1426E-01 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	2.31	173.72	235.25	.72	5.00	173.60	235.00	.72		

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1702E+02 EXCESS= .0000E+00 OUTFLOW= .1702E+02 BASIN STORAGE= .8934E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	2.33	168.07	235.30	.70	5.00	167.92	235.00	.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1647E+02 EXCESS= .0000E+00 OUTFLOW= .1647E+02 BASIN STORAGE= .8699E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11B-2	MANE	2.38	156.77	235.54	.65	5.00	156.53	235.00	.65	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1537E+02 EXCESS= .0000E+00 OUTFLOW= .1538E+02 BASIN STORAGE= .7870E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.85	361.61	227.67	.76	5.00	359.11	230.00	.76	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3398E+02 EXCESS= .0000E+00 OUTFLOW= .3398E+02 BASIN STORAGE= .7959E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.87	349.98	228.11	.74	5.00	347.62	230.00	.74	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3290E+02 EXCESS= .0000E+00 OUTFLOW= .3291E+02 BASIN STORAGE= .8679E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC11B-1	MANE	1.91	326.48	229.13	.69	5.00	325.28	230.00	.69	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3078E+02 EXCESS= .0000E+00 OUTFLOW= .3078E+02 BASIN STORAGE= .7656E-03 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.76	510.93	229.47	.77	5.00	509.83	230.00	.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4696E+02 EXCESS= .0000E+00 OUTFLOW= .4696E+02 BASIN STORAGE= .1379E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.79	493.20	228.95	.75	5.00	492.98	230.00	.75	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4549E+02 EXCESS= .0000E+00 OUTFLOW= .4550E+02 BASIN STORAGE= .1522E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-1	MANE	2.85	464.34	230.96	.70	5.00	463.03	230.00	.70	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4258E+02 EXCESS= .0000E+00 OUTFLOW= .4258E+02 BASIN STORAGE= .1608E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.67	785.34	228.68	.88	5.00	784.81	230.00	.88	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7285E+02 EXCESS= .0000E+00 OUTFLOW= .7285E+02 BASIN STORAGE= .1769E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.69	762.98	231.14	.85	5.00	762.07	230.00	.85	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7074E+02 EXCESS= .0000E+00 OUTFLOW= .7075E+02 BASIN STORAGE= .1680E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RC8B-2	MANE	1.72	719.15	229.03	.80	5.00	719.13	230.00	.80	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6657E+02 EXCESS= .0000E+00 OUTFLOW= .6658E+02 BASIN STORAGE= .1638E-02 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	188.33	223.25	.84	5.00	183.57	225.00	.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1302E+02 EXCESS= .0000E+00 OUTFLOW= .1303E+02 BASIN STORAGE= .1280E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	5.00	186.01	225.00	.82	5.00	186.01	225.00	.82	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1264E+02 EXCESS= .0000E+00 OUTFLOW= .1265E+02 BASIN STORAGE= .1697E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

R11A-2	MANE	4.75	171.77	223.25	.77	5.00	167.85	225.00	.77	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1186E+02 EXCESS= .0000E+00 OUTFLOW= .1187E+02 BASIN STORAGE= .1224E-02 PERCENT ERROR= -.1

FOR PLAN = 1 RATIO= .00

RCC3B-2A	MANE	3.30	1199.66	231.10	.84	5.00	1193.40	230.00	.84	

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1076E+03 EXCESS= .0000E+00 OUTFLOW= .1076E+03 BASIN STORAGE= .3042E-02 PERCENT ERROR= .0

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          FOR PLAN = 1  RATIO=  .00
          RCC3B-2A  MANE         3.33   1169.96    233.04       .82      5.00   1162.65    230.00         .82

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1044E+03 EXCESS= .0000E+00 OUTFLOW= .1045E+03 BASIN STORAGE= .2847E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2A  MANE         3.40   1095.66    231.33       .77      5.00   1088.28    230.00         .77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9814E+02 EXCESS= .0000E+00 OUTFLOW= .9816E+02 BASIN STORAGE= .3635E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2B  MANE         2.03   4712.23    237.92       .92      5.00   4677.45    240.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7419E+03 EXCESS= .0000E+00 OUTFLOW= .7419E+03 BASIN STORAGE= .3356E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2B  MANE         2.05   4593.09    238.22       .89      5.00   4554.13    240.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7200E+03 EXCESS= .0000E+00 OUTFLOW= .7200E+03 BASIN STORAGE= .3255E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC3B-2B  MANE         2.10   4308.56    237.57       .84      5.00   4294.19    240.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6763E+03 EXCESS= .0000E+00 OUTFLOW= .6763E+03 BASIN STORAGE= .3012E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.82   4754.97    242.40       .91      5.00   4753.50    240.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7526E+03 EXCESS= .0000E+00 OUTFLOW= .7526E+03 BASIN STORAGE= .3100E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.84   4635.10    241.18       .88      5.00   4629.83    240.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7302E+03 EXCESS= .0000E+00 OUTFLOW= .7302E+03 BASIN STORAGE= .2997E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCSF2-C  MANE         1.88   4358.89    240.94       .83      5.00   4354.77    240.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6858E+03 EXCESS= .0000E+00 OUTFLOW= .6858E+03 BASIN STORAGE= .2786E-01 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.43    328.10    225.73       .88      5.00    324.89    225.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2754E+02 EXCESS= .0000E+00 OUTFLOW= .2754E+02 BASIN STORAGE= .1787E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.45    317.82    227.00       .85      5.00    315.41    225.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2672E+02 EXCESS= .0000E+00 OUTFLOW= .2672E+02 BASIN STORAGE= .1815E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             RSW11  MANE         1.48    299.51    226.80       .80      5.00    296.20    225.00         .80

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2508E+02 EXCESS= .0000E+00 OUTFLOW= .2508E+02 BASIN STORAGE= .1599E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         2.30    524.06    227.64       .87      5.00    520.91    225.00         .87

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4386E+02 EXCESS= .0000E+00 OUTFLOW= .4387E+02 BASIN STORAGE= .3897E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         2.33    507.95    228.03       .84      5.00    504.19    225.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4254E+02 EXCESS= .0000E+00 OUTFLOW= .4254E+02 BASIN STORAGE= .3468E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RCSW17  MANE         2.39    476.59    226.63       .79      5.00    473.58    225.00         .79

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3993E+02 EXCESS= .0000E+00 OUTFLOW= .3994E+02 BASIN STORAGE= .3576E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE         5.00    171.06    230.00      1.05      5.00    171.06    230.00        1.05

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1391E+02 EXCESS= .0000E+00 OUTFLOW= .1392E+02 BASIN STORAGE= .1716E-02 PERCENT ERROR=   -.1
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          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE         5.00    166.77    230.00      1.02      5.00    166.77    230.00        1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1354E+02 EXCESS= .0000E+00 OUTFLOW= .1355E+02 BASIN STORAGE= .1692E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-1  MANE         5.00    158.21    230.00       .96      5.00    158.21    230.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1281E+02 EXCESS= .0000E+00 OUTFLOW= .1281E+02 BASIN STORAGE= .1644E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE         5.00    295.27    235.00       .98      5.00    295.27    235.00         .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2427E+02 EXCESS= .0000E+00 OUTFLOW= .2430E+02 BASIN STORAGE= .7210E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE         5.00    287.51    235.00       .95      5.00    287.51    235.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2360E+02 EXCESS= .0000E+00 OUTFLOW= .2363E+02 BASIN STORAGE= .7135E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13B-2  MANE         5.00    271.98    235.00       .90      5.00    271.98    235.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2228E+02 EXCESS= .0000E+00 OUTFLOW= .2231E+02 BASIN STORAGE= .6984E-02 PERCENT ERROR=   -.2

          FOR PLAN = 1  RATIO=  .00
               R19A  MANE         5.00    146.43    235.00       .96      5.00    146.43    235.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1300E+02 EXCESS= .0000E+00 OUTFLOW= .1300E+02 BASIN STORAGE= .2023E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
               R19A  MANE         5.00    142.40    235.00       .94      5.00    142.40    235.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1263E+02 EXCESS= .0000E+00 OUTFLOW= .1264E+02 BASIN STORAGE= .1896E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
               R19A  MANE         5.00    134.35    235.00       .88      5.00    134.35    235.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1191E+02 EXCESS= .0000E+00 OUTFLOW= .1191E+02 BASIN STORAGE= .1839E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13A-2  MANE         5.00    353.55    240.00       .98      5.00    353.55    240.00         .98

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3459E+02 EXCESS= .0000E+00 OUTFLOW= .3462E+02 BASIN STORAGE= .6811E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13A-2  MANE         5.00    343.70    240.00       .95      5.00    343.70    240.00         .95

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3364E+02 EXCESS= .0000E+00 OUTFLOW= .3367E+02 BASIN STORAGE= .9250E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RC13A-2  MANE         5.00    324.02    240.00       .90      5.00    324.02    240.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3174E+02 EXCESS= .0000E+00 OUTFLOW= .3177E+02 BASIN STORAGE= .9051E-02 PERCENT ERROR=   -.1

          FOR PLAN = 1  RATIO=  .00
           RCPIC-C  MANE         3.82    462.80    240.43       .96      5.00    461.30    240.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4647E+02 EXCESS= .0000E+00 OUTFLOW= .4648E+02 BASIN STORAGE= .2735E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCPIC-C  MANE         3.85    450.70    238.98       .93      5.00    449.78    240.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4518E+02 EXCESS= .0000E+00 OUTFLOW= .4519E+02 BASIN STORAGE= .3117E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
           RCPIC-C  MANE         3.93    424.24    239.80       .88      5.00    424.07    240.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4262E+02 EXCESS= .0000E+00 OUTFLOW= .4263E+02 BASIN STORAGE= .2442E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCCPIC-A  MANE         5.00    904.21    240.00       .96      5.00    904.21    240.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8869E+02 EXCESS= .0000E+00 OUTFLOW= .8871E+02 BASIN STORAGE= .3082E-02 PERCENT ERROR=    .0
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          FOR PLAN = 1  RATIO=  .00
          RCCPIC-A  MANE         5.00    879.86    240.00       .93      5.00    879.86    240.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8623E+02 EXCESS= .0000E+00 OUTFLOW= .8626E+02 BASIN STORAGE= .2945E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCCPIC-A  MANE         5.00    826.54    245.00       .88      5.00    826.54    245.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8137E+02 EXCESS= .0000E+00 OUTFLOW= .8139E+02 BASIN STORAGE= .2969E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .49   2047.69    240.97       .85      5.00   2046.25    245.00         .85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2095E+03 EXCESS= .0000E+00 OUTFLOW= .2095E+03 BASIN STORAGE= .8239E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .50   1989.99    245.01       .83      5.00   1989.98    245.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2033E+03 EXCESS= .0000E+00 OUTFLOW= .2033E+03 BASIN STORAGE= .8365E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-1  MANE          .51   1872.68    245.00       .78      5.00   1872.67    245.00         .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1911E+03 EXCESS= .0000E+00 OUTFLOW= .1911E+03 BASIN STORAGE= .8350E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         2.03    203.87    238.08       .91      5.00    202.47    235.00         .91

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2143E+02 EXCESS= .0000E+00 OUTFLOW= .2143E+02 BASIN STORAGE= .2507E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         2.05    198.61    237.34       .89      5.00    196.88    235.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2084E+02 EXCESS= .0000E+00 OUTFLOW= .2084E+02 BASIN STORAGE= .2345E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
            RPIC-B  MANE         2.07    187.58    237.96       .84      5.00    186.01    235.00         .84

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1966E+02 EXCESS= .0000E+00 OUTFLOW= .1966E+02 BASIN STORAGE= .2383E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.33   2291.78    241.66       .86      5.00   2280.89    245.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2396E+03 EXCESS= .0000E+00 OUTFLOW= .2396E+03 BASIN STORAGE= .3664E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.34   2225.73    241.85       .83      5.00   2217.21    245.00         .83

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2326E+03 EXCESS= .0000E+00 OUTFLOW= .2326E+03 BASIN STORAGE= .3422E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
          RCC57B-4  MANE         1.38   2091.48    242.58       .78      5.00   2087.77    245.00         .78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2188E+03 EXCESS= .0000E+00 OUTFLOW= .2188E+03 BASIN STORAGE= .3247E-02 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         5.00    174.53    235.00       .89      5.00    174.53    235.00         .89

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1667E+02 EXCESS= .0000E+00 OUTFLOW= .1667E+02 BASIN STORAGE= .5753E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         5.00    169.91    235.00       .86      5.00    169.91    235.00         .86

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1621E+02 EXCESS= .0000E+00 OUTFLOW= .1621E+02 BASIN STORAGE= .5657E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
              R38A  MANE         5.00    160.68    235.00       .81      5.00    160.68    235.00         .81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1531E+02 EXCESS= .0000E+00 OUTFLOW= .1531E+02 BASIN STORAGE= .5462E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
             R57BA  MANE         1.51     51.68    238.09       .33      5.00     51.50    240.00         .33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5507E+01 EXCESS= .0000E+00 OUTFLOW= .5508E+01 BASIN STORAGE= .2045E-03 PERCENT ERROR=    .0

          FOR PLAN = 1  RATIO=  .00
```

```
            R57BA  MANE         1.53     49.12    237.99       .31      5.00     48.99    240.00         .31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5262E+01 EXCESS= .0000E+00 OUTFLOW= .5263E+01 BASIN STORAGE= .2008E-03 PERCENT ERROR=    .0


          FOR PLAN = 1  RATIO=  .00
            R57BA  MANE         1.57     44.21    241.12       .28      5.00     44.10    240.00         .28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4784E+01 EXCESS= .0000E+00 OUTFLOW= .4784E+01 BASIN STORAGE= .2102E-03 PERCENT ERROR=    .0


          FOR PLAN = 1  RATIO=  .00
            RC3C  MANE          5.00    137.82    230.00       .55      5.00    137.82    230.00         .55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1374E+02 EXCESS= .0000E+00 OUTFLOW= .1375E+02 BASIN STORAGE= .3598E-02 PERCENT ERROR=   -.1


          FOR PLAN = 1  RATIO=  .00
            RC3C  MANE          5.00    133.27    230.00       .53      5.00    133.27    230.00         .53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1328E+02 EXCESS= .0000E+00 OUTFLOW= .1329E+02 BASIN STORAGE= .3530E-02 PERCENT ERROR=   -.1


          FOR PLAN = 1  RATIO=  .00
            RC3C  MANE          5.00    124.30    230.00       .49      5.00    124.30    230.00         .49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1238E+02 EXCESS= .0000E+00 OUTFLOW= .1239E+02 BASIN STORAGE= .3305E-02 PERCENT ERROR=   -.1



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

B.5.7 100-YEAR RED ROCK DETENTION BASIN TRIBUTARY

```
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   22NOV17  TIME  09:43:28   *                                                  *           (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
 *** FREE ***
             1          ID    INPUT FILE DATE = NOVEMBER 30, 2016
             2          ID    DESIGN STORM = 100-YEAR 6-HR STORM
             3          ID    STORM DISTRIBUTION = SDN #3
             4          ID    MODELED BY VTN (SVB/WJM)
             5          ID    RESPONSE TO COMMENTS
             6          ID
             7          ID    ************************************************************
             8          ID    * REFERENCED HYDROLOGIC MODELS:                            *
             9          ID    * FLAMINGO / TROPICANA WASHES WATERSHED 2008 MPU FLAM3A *
            10          ID    * ALL PB CARDS WERE REFERENCED FROM THIS STUDY             *
            11          ID    ************************************************************
            12          ID
            13          ID
            14          ID
            15          ID
            16          ID                          AREA    DARF
            17          ID                          SQ. MI.
            18          ID                          0-0.5   0.99
            19          ID                          0.5-1   0.975
            20          ID                          1-2     0.95
            21          ID                          2-3     0.925
            22          ID                          3-4     0.915
            23          ID                          4-5     0.908
            24          ID                          5-6     0.903
            25          ID                          6-7     0.895
            26          ID                          7-8     0.885
            27          ID
            28          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
            29          ID
            30          ID  100-YEAR,  6-HOUR STORM,  SDN3
            31          ID
            32          IT       5       0       0     300
            33          IO       5       0       0
            34          IN       5       0       0
            35          JR    PREC    0.99   0.975    0.95   0.925   0.915   0.908   0.903   0.895   0.885
                        *
            36          KK     4-1
            37          KM   COMPARE TO MPU BASIN RR14A
            38          BA   4.601
            39          PB    3.77
            40          PC       0    0.02   0.057    0.07   0.087   0.108   0.124    0.13    0.13   0.130
            41          PC    0.13    0.13    0.13   0.133    0.14   0.142   0.148   0.158   0.172   0.181
            42          PC    0.19   0.197   0.199     0.2   0.201   0.204   0.214   0.229   0.241   0.249
            43          PC   0.251   0.256    0.27   0.278   0.281   0.283   0.295   0.322   0.352   0.409
            44          PC   0.499    0.59    0.71   0.744   0.781   0.812   0.819   0.835   0.851   0.856
```

```
            45          PC    0.86   0.868   0.876   0.888    0.91   0.926   0.937    0.95    0.97   0.976
            46          PC   0.982   0.985   0.987   0.989    0.99   0.993   0.993   0.994   0.995   0.998
            47          PC   0.998   0.999       1
            48          LS       0    87.6
            49          UD   0.725
                        *
1                                           HEC-1 INPUT                                                 PAGE  2

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


            50          KK    R4-1
            51          KM   REFERENCED FROM 2008 MPU SEE R-RR14A
            52          KM   ROUTE R4-1 THROUGH 4-2
            53          KM   FUTURE CONCRETE CHANNEL
            54          RD    5500   0.071   0.015       0    TRAP      12       2
                        *

            55          KK     4-2
            56          KM   PORTION OF 2008 MPU BASIN RD4
            57          BA  0.3656
            58          PB    3.48
            59          LS       0    85.4
            60          UD   0.163
                        *

            61          KK   CP4.1
            62          KM   COMBINE 4-2 AND R4-1
            63          KM   CHECK TO SEE IF 4-A CAN DRAIN INTO CHANNEL
            64          HC       2
                        *

            65          KK  RCP4.1
            66          KM   ROUTE CP4-2 THROUGH 4-3
            67          KM   EXISTING NATURAL BRAIDED CHANNELS
            68          RD    3140   0.067   0.030       0    TRAP     100       0
                        *

            69          KK     4-3
            70          KM   PORTION OF 2008 MPU BASIN RD5
            71          BA  0.2102
            72          PB    3.45
            73          LS       0    85.1
            74          UD   0.143
                        *

            75          KK   CP4.2
            76          KM   COMBINE 4-3 AND RCP4.1
            77          HC       2
                        *

            78          KK     4-A
            79          KM   PORTION OF 2008 MPU BASIN RD1
            80          BA  0.3599
            81          PB    3.52
            82          LS       0    84.6
            83          UD   0.202
                        *

            84          KK  RCP4-A
            85          KM   ROUTE 4-A THROUGH 4-B
            86          KM   EXISTING NATURAL BRAIDED CHANNELS
            87          RD    3940   0.041   0.030       0    TRAP     100       0
                        *
1                                           HEC-1 INPUT                                                 PAGE  3

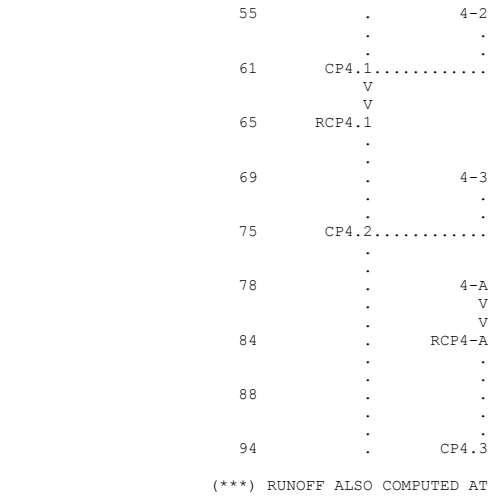
          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


            88          KK     4-B
            89          KM   PORTION OF 2008 MPU BASIN RD53.42 AND RD2=3.42
            90          BA  0.5403
            91          PB    3.43
            92          LS       0    86.3
            93          UD   0.331
                        *

            94          KK   CP4.3
            95          KM   COMBINE 4-A AND 4-B
            96          HC       2
                        *
            97          ZZ
1
                SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    36         4-1
                 V
                 V
    50        R4-1
                 .
                 .
```



(***) 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   22NOV17  TIME  09:43:28   *                                                 *           (916) 756-1104
*
 *                                       *                                                 *
*
 *****************************************
*****************************************
```

INPUT FILE DATE = NOVEMBER 30, 2016
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #3
MODELED BY VTN (SVB/WJM)
RESPONSE TO COMMENTS

```
**********************************************************
* REFERENCED HYDROLOGIC MODELS:                          *
* FLAMINGO / TROPICANA WASHES WATERSHED 2008 MPU FLAM3A *
* ALL PB CARDS WERE REFERENCED FROM THIS STUDY           *
**********************************************************
```

AREA SQ. MI.	DARF
0-0.5	0.99
0.5-1	0.975
1-2	0.95
2-3	0.925
3-4	0.915
4-5	0.908
5-6	0.903
6-7	0.895
7-8	0.885

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN3

```
  33 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 .90 .89 .88
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	RATIO 2	RATIO 3	RATIO 4	RATIO 5	RATIO 6	RATIO 7	RATIO 8	RATIO 9
					.99	.98	.95	.93	.92	.91	.90	.89	.88
HYDROGRAPH AT													
+	4-1	4.60	1	FLOW	4301.	4214.	4069.	3924.	3866.	3825.	3796.	3750.	3692.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO													
+	R4-1	4.60	1	FLOW	4281.	4194.	4047.	3903.	3846.	3804.	3777.	3729.	3672.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT													
+	4-2	.37	1	FLOW	600.	587.	565.	543.	535.	529.	524.	517.	509.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP4.1	4.97	1	FLOW	4387.	4298.	4148.	4001.	3942.	3899.	3871.	3822.	3764.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
ROUTED TO													
+	RCP4.1	4.97	1	FLOW	4361.	4272.	4124.	3978.	3918.	3875.	3846.	3799.	3742.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT													
+	4-3	.21	1	FLOW	350.	342.	330.	317.	312.	308.	306.	302.	297.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
2 COMBINED AT													
+	CP4.2	5.18	1	FLOW	4414.	4324.	4174.	4026.	3966.	3922.	3893.	3845.	3788.
				TIME	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
HYDROGRAPH AT													
+	4-A	.36	1	FLOW	525.	513.	493.	474.	466.	461.	457.	450.	443.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.67
ROUTED TO													
+	RCP4-A	.36	1	FLOW	533.	522.	503.	484.	477.	472.	468.	462.	454.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
HYDROGRAPH AT													
+	4-B	.54	1	FLOW	667.	653.	629.	605.	596.	589.	584.	577.	567.
				TIME	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
2 COMBINED AT													
+	CP4.3	.90	1	FLOW	1200.	1175.	1132.	1089.	1072.	1061.	1052.	1038.	1021.

TIME 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.75
3.75
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									
R4-1	MANE	1.53	4298.80	251.63	2.45	5.00	4280.84	250.00	2.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6001E+03 EXCESS= .0000E+00 OUTFLOW= .6001E+03 BASIN STORAGE= .1663E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.54	4210.95	251.71	2.39	5.00	4193.82	250.00	2.39

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5874E+03 EXCESS= .0000E+00 OUTFLOW= .5874E+03 BASIN STORAGE= .1473E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.56	4066.82	251.38	2.31	5.00	4047.11	250.00	2.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5663E+03 EXCESS= .0000E+00 OUTFLOW= .5663E+03 BASIN STORAGE= .1905E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.58	3918.38	251.11	2.22	5.00	3903.20	250.00	2.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5453E+03 EXCESS= .0000E+00 OUTFLOW= .5453E+03 BASIN STORAGE= .1685E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.59	3858.34	252.29	2.19	5.00	3846.23	250.00	2.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5370E+03 EXCESS= .0000E+00 OUTFLOW= .5370E+03 BASIN STORAGE= .1886E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.59	3824.53	251.53	2.16	5.00	3804.00	250.00	2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5311E+03 EXCESS= .0000E+00 OUTFLOW= .5311E+03 BASIN STORAGE= .1694E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.60	3790.76	252.14	2.15	5.00	3776.76	250.00	2.15

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5269E+03 EXCESS= .0000E+00 OUTFLOW= .5269E+03 BASIN STORAGE= .1835E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.60	3749.19	251.51	2.12	5.00	3728.60	250.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5203E+03 EXCESS= .0000E+00 OUTFLOW= .5203E+03 BASIN STORAGE= .1560E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
R4-1	MANE	1.61	3686.57	251.13	2.09	5.00	3672.05	250.00	2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5119E+03 EXCESS= .0000E+00 OUTFLOW= .5119E+03 BASIN STORAGE= .1647E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
RCP4.1	MANE	1.97	4381.68	252.47	2.41	5.00	4361.44	250.00	2.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6392E+03 EXCESS= .0000E+00 OUTFLOW= .6392E+03 BASIN STORAGE= .7354E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00									
RCP4.1	MANE	1.99	4292.42	252.57	2.36	5.00	4272.43	250.00	2.36

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6256E+03 EXCESS= .0000E+00 OUTFLOW= .6256E+03 BASIN STORAGE= .6733E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.02	4144.43	252.15	2.28	5.00	4123.62	250.00	2.28

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6031E+03 EXCESS= .0000E+00 OUTFLOW= .6031E+03 BASIN STORAGE= .6236E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.05	3991.73	251.73	2.19	5.00	3977.90	250.00	2.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5806E+03 EXCESS= .0000E+00 OUTFLOW= .5806E+03 BASIN STORAGE= .7613E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.06	3935.75	253.21	2.16	5.00	3918.44	250.00	2.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5716E+03 EXCESS= .0000E+00 OUTFLOW= .5716E+03 BASIN STORAGE= .6424E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.07	3895.07	252.26	2.13	5.00	3875.11	250.00	2.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5654E+03 EXCESS= .0000E+00 OUTFLOW= .5654E+03 BASIN STORAGE= .7687E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.07	3865.49	252.99	2.12	5.00	3846.47	250.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5609E+03 EXCESS= .0000E+00 OUTFLOW= .5609E+03 BASIN STORAGE= .6346E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.08	3817.80	252.20	2.09	5.00	3798.81	250.00	2.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5538E+03 EXCESS= .0000E+00 OUTFLOW= .5538E+03 BASIN STORAGE= .7274E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4.1	MANE	2.10	3754.01	253.75	2.06	5.00	3742.10	250.00	2.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5448E+03 EXCESS= .0000E+00 OUTFLOW= .5448E+03 BASIN STORAGE= .7723E-02 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	533.13	225.00	1.97	5.00	533.13	225.00	1.97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3783E+02 EXCESS= .0000E+00 OUTFLOW= .3790E+02 BASIN STORAGE= .9693E-02 PERCENT ERROR= -
.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	521.87	225.00	1.93	5.00	521.87	225.00	1.93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3696E+02 EXCESS= .0000E+00 OUTFLOW= .3702E+02 BASIN STORAGE= .9614E-02 PERCENT ERROR= -
.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	503.09	225.00	1.85	5.00	503.09	225.00	1.85

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3551E+02 EXCESS= .0000E+00 OUTFLOW= .3557E+02 BASIN STORAGE= .9480E-02 PERCENT ERROR= -
.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	484.31	225.00	1.78	5.00	484.31	225.00	1.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3407E+02 EXCESS= .0000E+00 OUTFLOW= .3413E+02 BASIN STORAGE= .9343E-02 PERCENT ERROR= -
.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	476.79	225.00	1.75	5.00	476.79	225.00	1.75

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3349E+02 EXCESS= .0000E+00 OUTFLOW= .3355E+02 BASIN STORAGE= .9288E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	471.53	225.00	1.73	5.00	471.53	225.00	1.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3309E+02 EXCESS= .0000E+00 OUTFLOW= .3315E+02 BASIN STORAGE= .9248E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	467.77	225.00	1.71	5.00	467.77	225.00	1.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3281E+02 EXCESS= .0000E+00 OUTFLOW= .3287E+02 BASIN STORAGE= .9221E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	461.76	225.00	1.69	5.00	461.76	225.00	1.69

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3235E+02 EXCESS= .0000E+00 OUTFLOW= .3241E+02 BASIN STORAGE= .9176E-02 PERCENT ERROR= -.2

FOR PLAN = 1 RATIO= .00

RCP4-A	MANE	5.00	454.25	225.00	1.66	5.00	454.25	225.00	1.66

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3178E+02 EXCESS= .0000E+00 OUTFLOW= .3184E+02 BASIN STORAGE= .9119E-02 PERCENT ERROR= -.2

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

B.5.8 100-YEAR AREA 1 TRIBUTARY

```
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   03DEC17  TIME  15:24:20  *                                                *           (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
 *** FREE ***
             1          ID    INPUT FILE DATE = SEPTEMBER 12,2017
             2          ID    DESIGN STORM = 100-YEAR 6-HR STORM
             3          ID    STORM DISTRIBUTION = SDN #3
             4          ID    MODELED BY VTN (JYA)
             5          ID
             6          ID    ********************************************************************
             7          ID    * AREA 1 HEC-1 MODEL                                              *
             8          ID    * REFER TO LAND USE EXHIBIT BY VTN FOR LOCATION OF AREAS 1        *
             9          ID    *                                                                 *
            10          ID    ********************************************************************
            11          ID
            12          ID
            13          ID
            14          ID                          AREA    DARF
            15          ID                          SQ. MI.
            16          ID                          0-0.5   0.99
            17          ID                          0.5-1   0.975
            18          ID                          1-2     0.95
            19          ID                          2-3     0.925
            20          ID                          3-4     0.915
            21          ID                          4-5     0.908
            22          ID                          5-6     0.903
            23          ID                          6-7     0.895
            24          ID
            25          ID  JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)
            26          ID
            27          ID  100-YEAR,  6-HOUR STORM,  SDN3
            28          ID
            29          IT       5       0       0     100
            30          IO       5       0       0
            31          IN       5       0       0
            32          JR    PREC    0.99   0.975    0.95   0.925   0.915   0.908   0.903   0.895
                        *
            33          KK     W63
            34          BA  0.0272
            35          PB     3.4
            36          PC       0    0.02   0.057    0.07   0.087   0.108   0.124    0.13    0.13   0.130
            37          PC    0.13    0.13    0.13   0.133    0.14   0.142   0.148   0.158   0.172   0.181
            38          PC    0.19   0.197   0.199     0.2   0.201   0.204   0.214   0.229   0.241   0.249
            39          PC   0.251   0.256    0.27   0.278   0.281   0.283   0.295   0.322   0.352   0.409
            40          PC   0.499    0.59    0.71   0.744   0.781   0.812   0.819   0.835   0.851   0.856
            41          PC    0.86   0.868   0.876   0.888    0.91   0.926   0.937    0.95    0.97   0.976
            42          PC   0.982   0.985   0.987   0.989    0.99   0.993   0.993   0.994   0.995   0.998
            43          PC   0.998   0.999       1
            44          LS       0    92.0
```

```
  45          UD   0.085
              *
1                                        HEC-1 INPUT                                        PAGE  2

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

  46          KK     WP8
  47          BA  0.0019
  48          LS       0    88.0
  49          UD   0.075
              *

  50          KK     ST2
  51          BA  0.0046
  52          LS       0      98
  53          UD   0.055
              *

  54          KK     W64
  55          BA  0.0236
  56          LS       0    92.0
  57          UD   0.086
              *

  58          KK     W72
  59          BA  0.0332
  60          LS       0    95.0
  61          UD   0.081
              *

  62          KK    DES5
  63          BA  0.0132
  64          LS       0    94.0
  65          UD   0.108
              *

  66          KK  DUMMY1
  67          HC       6
              *

  68          KK     W73
  69          BA  0.0217
  70          LS       0    94.0
  71          UD   0.089
              *

  72          KK     W74
  73          BA  0.0038
  74          LS       0    94.0
  75          UD   0.066
              *

  76          KK  DUMMY2
  77          HC       3
              *
1                                        HEC-1 INPUT                                        PAGE  3

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

  78          KK     W44
  79          BA  0.0075
  80          LS       0    95.0
  81          UD   0.067
              *

  82          KK     W45
  83          BA  0.0113
  84          LS       0    95.0
  85          UD   0.080
              *

  86          KK     WP6
  87          BA  0.0035
  88          LS       0    88.0
  89          UD   0.083
              *

  90          KK  DUMMY3
  91          HC       3
              *

  92          KK     W42
  93          BA  0.0088
  94          LS       0    95.0
  95          UD   0.063
              *

  96          KK     WP5
  97          BA  0.0019
  98          LS       0    88.0
  99          UD   0.084
              *
```

```
 100          KK    CWP5
 101          KM   COMBINE BASINS W42 AND WP5
 102          HC       2
              *

 103          KK     W43
 104          BA  0.0042
 105          LS       0    95.0
 106          UD   0.058
              *

 107          KK    CW43
 108          KM   COMBINE BASINS CWP5 AND W43
 109          HC       2
              *
1                                       HEC-1 INPUT                                          PAGE  4

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


 110          KK   RCW43
 111          KM   ROUTE CW43 TO CDES1
 112          RD     340   0.005   0.013       0    CIRC       4
              *

 113          KK    DES1
 114          BA  0.0026
 115          LS       0      98
 116          UD   0.066
              *

 117          KK   CDES1
 118          KM   COMBINE CP3 AND DES1
 119          HC       2
              *

 120          KK     W47
 121          BA  0.0085
 122          LS       0    95.0
 123          UD   0.064
              *

 124          KK     W46
 125          BA  0.0046
 126          LS       0    95.0
 127          UD   0.067
              *

 128          KK   SUMM1
 129          BA  0.0067
 130          LS       0      98
 131          UD   0.093
              *

 132          KK    CW46
 133          KM   COMBINE BASINS W46, W47, AND SUMM1
 134          HC       3
              *

 135          KK  CSUMM1
 136          KM   COMBINE BASINS CDES1 AND CW46
 137          HC       2
              *

 138          KK RCSUMM1
 139          KM   ROUTE CP8 CWP5 TO CDES1
 140          RD     440   0.005   0.013       0    CIRC       5
              *
1                                       HEC-1 INPUT                                          PAGE  5

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


 141          KK     W48
 142          BA  0.0119
 143          LS       0    93.0
 144          UD   0.100
              *

 145          KK    RW48
 146          KM   ROUTE CW48 TO CW57
 147          RD     440   0.065   0.013       0    CIRC       3
              *

 148          KK     W57
 149          BA  0.0048
 150          LS       0    93.1
 151          UD   0.069
              *

 152          KK    Cw57
 153          KM   COMBINE W48 AND W57
 154          HC       2
              *
```

```
 155          KK   RCW57
 156          KM   ROUTE CW57 TO CW56
 157          RD     330   0.060   0.013       0    CIRC       3
              *

 158          KK     W56
 159          BA  0.0055
 160          LS       0    93.1
 161          UD   0.073
              *

 162          KK    Cw56
 163          KM   COMBINE W56 AND W57
 164          HC       2
              *

 165          KK   RCW56
 166          KM   ROUTE CW56 TO CST1
 167          RD     330   0.055   0.013       0    CIRC       3
              *

 168          KK     W55
 169          BA  0.0048
 170          LS       0    93.1
 171          UD   0.076
              *
1                                       HEC-1 INPUT                                          PAGE  6

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

 172          KK     W49
 173          BA  0.0106
 174          LS       0      95
 175          UD   0.080
              *

 176          KK     ST1
 177          BA  0.0025
 178          LS       0      98
 179          UD   0.038
              *

 180          KK    CST1
 181          KM   COMBINES CSUMM1, CW56, W55, W49, AND ST1
 182          HC       5
              *

 183          KK   RCST1
 184          KM   ROUTE CST1 TO CWP7
 185          RD     330   0.055   0.013       0    CIRC       6
              *

 186          KK     WP7
 187          BA  0.0014
 188          LS       0    89.0
 189          UD   0.073
              *

 190          KK    CWP7
 191          KM   COMBINECST1 AND WP7
 192          HC       2
              *

 193          KK   RCWP7
 194          KM   ROUTE CWP7 TO CW53
 195          RD     470   0.050   0.013       0    CIRC       6
              *

 196          KK     W53
 197          BA  0.0040
 198          LS       0    93.1
 199          UD   0.069
              *

 200          KK    CW53
 201          KM   COMBINE CWP7 AND W53
 202          HC       2
              *
1                                       HEC-1 INPUT                                          PAGE  7

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

 203          KK   RCW53
 204          KM   ROUTE CW53 TO CST3
 205          RD     300   0.050   0.013       0    CIRC       6
              *

 206          KK     W50
 207          BA  0.0094
 208          LS       0    95.0
 209          UD   0.078
              *
```

```
 210          KK     ST3
 211          BA  0.0033
 212          LS       0    98.0
 213          UD   0.040
              *

 214          KK    CST3
 215          KM   COMBINE CW53, W50 AND ST3
 216          HC       3
              *

 217          KK   SUMM2
 218          BA  0.0054
 219          LS       0      98
 220          UD   0.053
              *

 221          KK  DUMMY4
 222          KM   COMBINE DUMMY3, SUMM2 AND CST3
 223          HC       3
              *

 224          KK   CARR1
 225          BA  0.0055
 226          LS       0    98.0
 227          UD   0.060
              *

 228          KK     W52
 229          BA  0.0142
 230          LS       0    92.0
 231          UD   0.083
              *

 232          KK  DUMMY5
 233          KM   COMBINE DUMMY4, CARR1. AND W52
 234          HC       3
              *
```



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

 235          KK     W58
 236          BA  0.0106
 237          LS       0    92.0
 238          UD   0.080
              *

 239          KK    DES3
 240          BA  0.0066
 241          LS       0      98
 242          UD   0.042
              *

 243          KK   CDES3
 244          KM   COMBINE W58 AND DES3
 245          HC       2
              *

 246          KK    DES2
 247          BA  0.0030
 248          LS       0      98
 249          UD   0.062
              *

 250          KK   CDES2
 251          KM   COMBINE DES2 AND CDES3
 252          HC       2
              *

 253          KK  RCDES2
 254          KM   ROUTE DES2 TO CP59
 255          RD     840   0.050   0.013       0    CIRC       4
              *

 256          KK     W54
 257          BA  0.0056
 258          LS       0    93.1
 259          UD   0.072
              *

 260          KK     W59
 261          BA  0.0081
 262          LS       0    93.1
 263          UD   0.074
              *

 264          KK    CW59
 265          KM   COMBINE DES3, CP12 AND CST3
 266          HC       3
              *
```



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

```
 267          KK   RCW59
 268          KM   ROUTE CW59 TO CST4
 269          RD    840   0.050   0.013       0    CIRC       5
              *

 270          KK    ST4
 271          BA  0.0056
 272          LS       0      98
 273          UD   0.053
              *

 274          KK    CST4
 275          KM   COMBINE CW59 AND CST4
 276          HC       2
              *

 277          KK  DUMMY6
 278          KM   COMBINE DUMMY5 AND CST4
 279          HC       2
              *

 280          KK    W60
 281          BA  0.0085
 282          LS       0    92.0
 283          UD   0.081
              *

 284          KK    ST5
 285          BA  0.0023
 286          LS       0      98
 287          UD   0.037
              *

 288          KK    CST5
 289          KM   COMBINE W60 AND ST5
 290          HC       2
              *

 291          KK    W62
 292          BA  0.0090
 293          LS       0    92.0
 294          UD   0.092
              *

 295          KK    DES4
 296          BA  0.0043
 297          LS       0      98
 298          UD   0.076
              *
```



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

 299          KK    WPW3
 300          BA  0.0142
 301          LS       0    88.0
 302          UD   0.107
              *

 303          KK   CWPW3
 304          KM   COMBINE DES2 AND WPW3
 305          HC       2
              *

 306          KK  RCWPW3
 307          KM   ROUTE RCWPW3 TO RCWPW4
 308          RD    1550   0.050   0.025       0    TRAP       5       0
              *

 309          KK    WPW4
 310          BA  0.0171
 311          LS       0    88.0
 312          UD   0.110
              *

 313          KK   CWPW4
 314          KM   COMBINE CWPW3 AND WPW4
 315          HC       2
              *

 316          KK   CARR2
 317          BA  0.0039
 318          LS       0    98.0
 319          UD   0.068
              *

 320          KK  DUMMY7
 321          HC       5
              *

 322          KK    W65
 323          BA  0.0206
```

```
 324          LS       0    91.0
 325          UD   0.107
              *

 326          KK    RW65
 327          KM   ROUTE W65 TO CST6
 328          RD     930   0.050   0.013       0    CIRC       3
              *

 329          KK     ST6
 330          BA  0.0047
 331          LS       0      98
 332          UD   0.058
              *
```



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

 333          KK    CST6
 334          KM   COMBINE CP14 AND W62
 335          HC       2
              *

 336          KK  DUMMY8
 337          HC       2
              *

 338          KK     WP9
 339          BA  0.0039
 340          LS       0    88.0
 341          UD   0.081
              *

 342          KK    RWP9
 343          KM   ROUTE W65 TO CW66
 344          RD     900   0.050   0.013       0    CIRC       3
              *

 345          KK     W66
 346          BA  0.0245
 347          LS       0    91.0
 348          UD   0.087
              *

 349          KK    CW66
 350          KM   COMBINE WP9 AND W66
 351          HC       2
              *

 352          KK  DUMMY9
 353          HC       2
              *

 354          KK     W69
 355          BA  0.0220
 356          LS       0      92
 357          UD   0.103
              *

 358          KK   CARR3
 359          BA  0.0076
 360          LS       0      98
 361          UD   0.089
              *

 362          KK DUMMY10
 363          HC       4
              *
```



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

 364          KK     W70
 365          BA  0.0030
 366          LS       0    95.0
 367          UD   0.068
              *

 368          KK     W71
 369          BA  0.0235
 370          LS       0    92.0
 371          UD   0.088
              *

 372          KK    CW70
 373          KM   COMBINE W70, AND W71
 374          HC       2
              *

 375          KK DUMMY11
 376          HC       2
              *
```

```
            377          KK     W51
            378          BA  0.0317
            379          LS       0    95.0
            380          UD   0.093
                         *

            381          KK     W61
            382          BA  0.0289
            383          LS       0    92.0
            384          UD   0.106
                         *

            385          KK     W67
            386          BA  0.0090
            387          LS       0    95.0
            388          UD   0.086
                         *

            389          KK     W68
            390          BA  0.0340
            391          LS       0    95.0
            392          UD   0.091
                         *

            393          KK DUMMY12
            394          HC       4
                         *
```

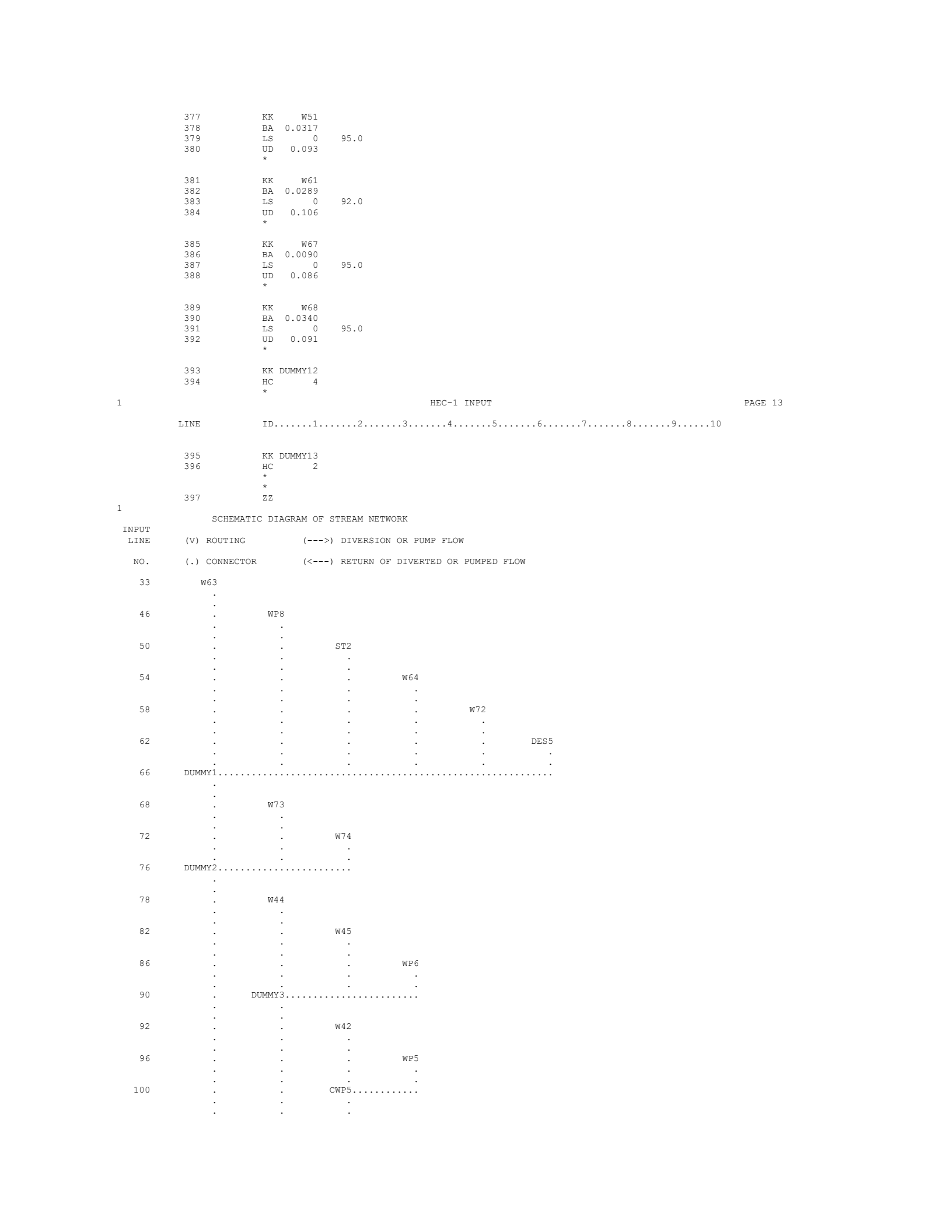


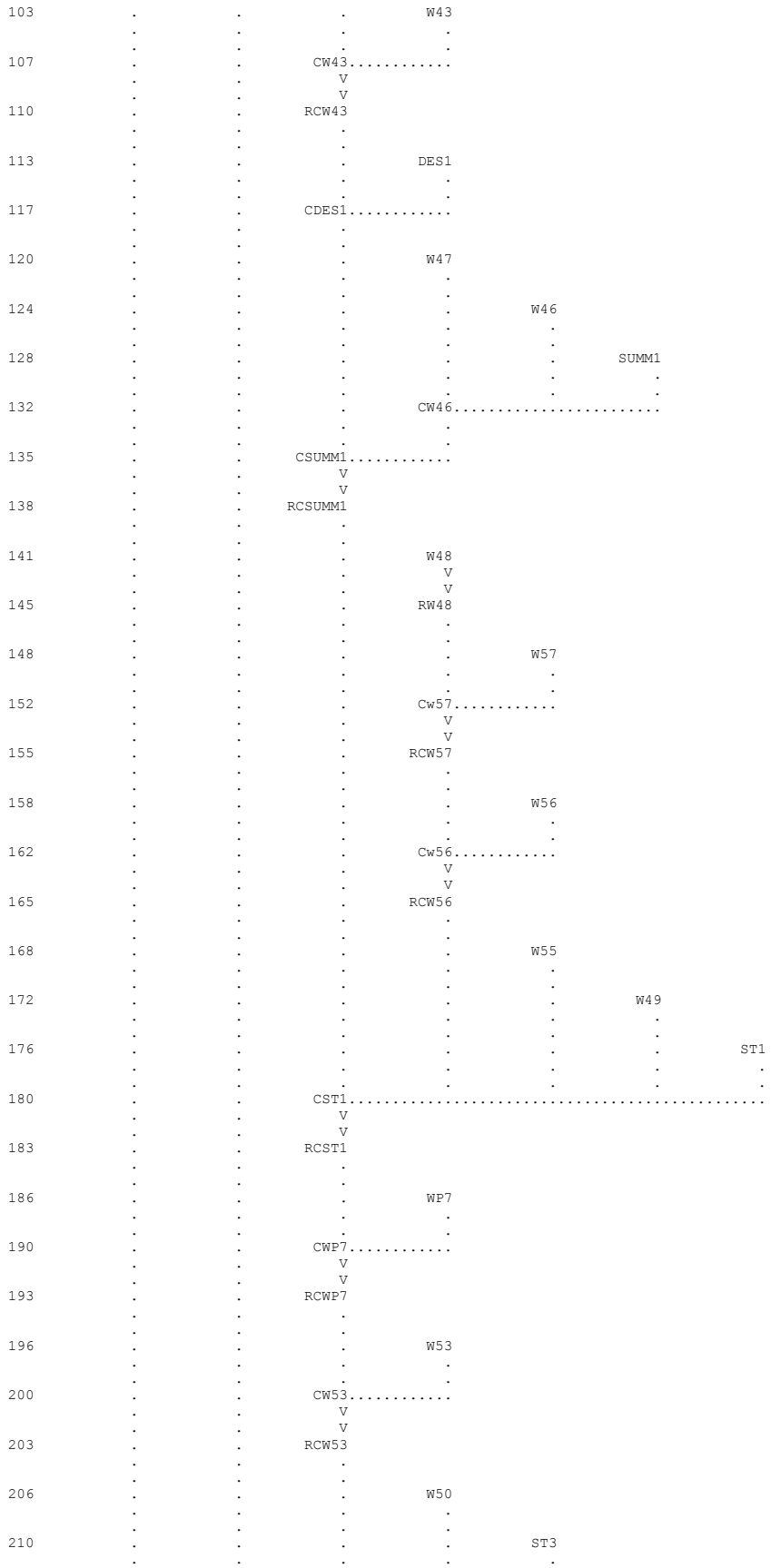
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          LINE           ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

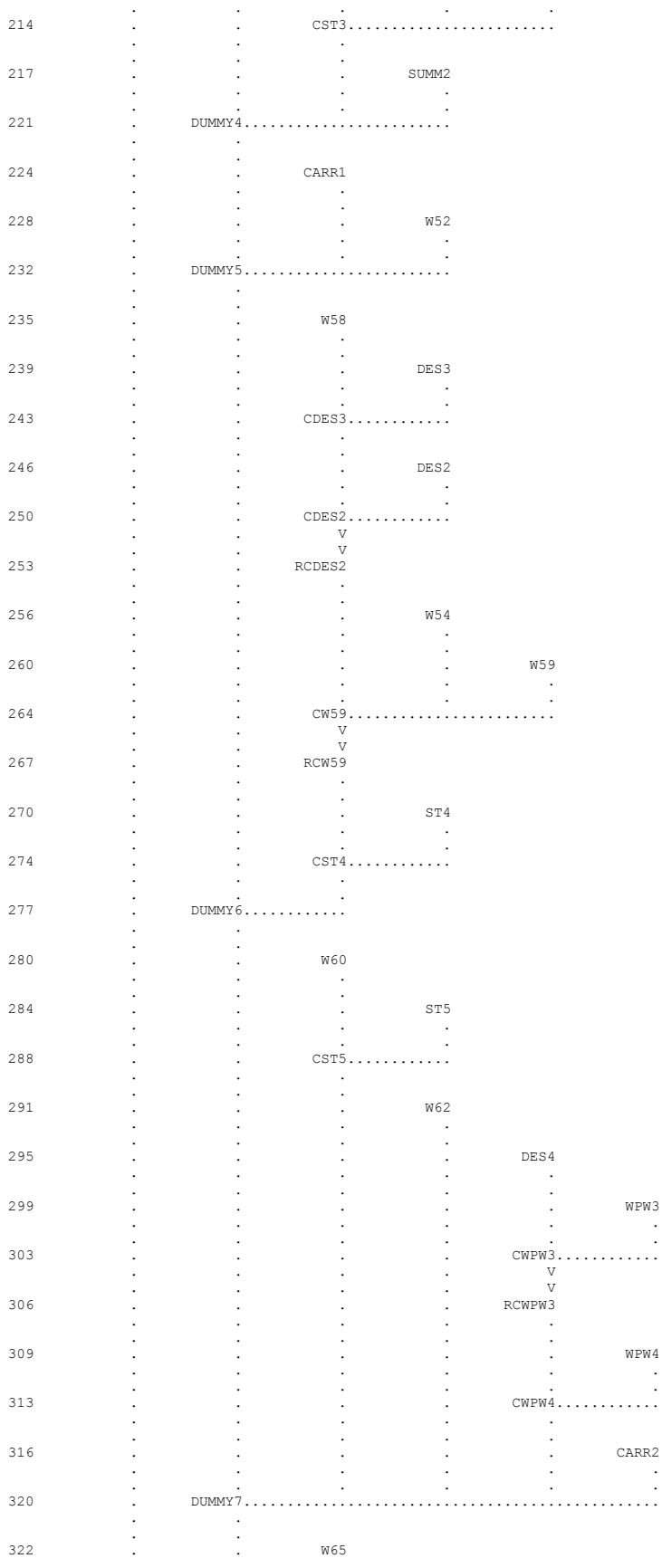

            395          KK DUMMY13
            396          HC       2
                         *
                         *
            397          ZZ
```

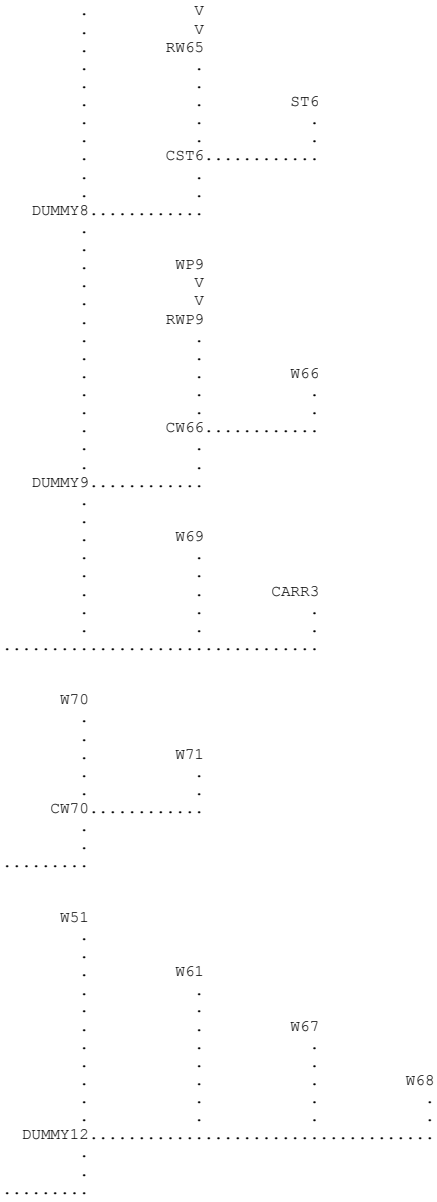
1

SCHEMATIC DIAGRAM OF STREAM NETWORK




W43
CW43
RCW43
DES1
CDES1
W47
W46
SUMM1
CW46
CSUMM1
RCSUMM1
W48
RW48
W57
Cw57
RCW57
W56
Cw56
RCW56
W55
W49
ST1
CST1
RCST1
WP7
CWP7
RCWP7
W53
CW53
RCW53
W50
ST3


214 CST3
217 SUMM2
221 DUMMY4
224 CARR1
228 W52
232 DUMMY5
235 W58
239 DES3
243 CDES3
246 DES2
250 CDES2
253 RCDES2
256 W54
260 W59
264 CW59
267 RCW59
270 ST4
274 CST4
277 DUMMY6
280 W60
284 ST5
288 CST5
291 W62
295 DES4
299 WPW3
303 CWPW3
306 RCWPW3
309 WPW4
313 CWPW4
316 CARR2
320 DUMMY7
322 W65



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1**********

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 *                                    *                                                    *
*
 *   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   03DEC17  TIME  15:24:20   *                                                    *           (916) 756-1104
*
 *                                      *                                                    *
*
 ****************************************
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INPUT FILE DATE = SEPTEMBER 12,2017
DESIGN STORM = 100-YEAR 6-HR STORM
STORM DISTRIBUTION = SDN #3
MODELED BY VTN (JYA)

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*********************************************************************
* AREA 1 HEC-1 MODEL                                                *
* REFER TO LAND USE EXHIBIT BY VTN FOR LOCATION OF AREAS 1          *
*                                                                   *
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AREA SQ. MI.	DARF
0-0.5	0.99
0.5-1	0.975
1-2	0.95
2-3	0.925
3-4	0.915
4-5	0.908
5-6	0.903
6-7	0.895

JR CARD RATIOS REPRESENT DEPTH-AREA REDUCTION FACTORS (DARF'S)

100-YEAR, 6-HOUR STORM, SDN3

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

      IT          HYDROGRAPH TIME DATA
                        NMIN           5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1    0  STARTING DATE
                       ITIME         0000  STARTING TIME
                          NQ          100  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      1    0  ENDING DATE
                      NDTIME         0815  ENDING TIME
                      ICENT           19  CENTURY MARK

                    COMPUTATION INTERVAL     .08 HOURS
                         TOTAL TIME BASE    8.25 HOURS

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

      JP          MULTI-PLAN OPTION
                       NPLAN           1  NUMBER OF PLANS

      JR          MULTI-RATIO OPTION
                      RATIOS OF PRECIPITATION
                      .99       .98       .95       .93       .92       .91       .90       .89
1
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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

					RATIOS APPLIED TO PRECIPITATION							
OPERATION	STATION	AREA	PLAN		RATIO 1 .99	RATIO 2 .98	RATIO 3 .95	RATIO 4 .93	RATIO 5 .92	RATIO 6 .91	RATIO 7 .90	RATIO 8 .89
HYDROGRAPH AT												
+	W63	.03	1	FLOW	62.	61.	59.	57.	56.	56.	55.	55.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	WP8	.00	1	FLOW	4.	4.	4.	4.	4.	4.	4.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	ST2	.00	1	FLOW	13.	13.	12.	12.	12.	12.	12.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W64	.02	1	FLOW	53.	52.	51.	49.	49.	48.	48.	47.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W72	.03	1	FLOW	82.	80.	78.	76.	75.	74.	74.	73.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	DES5	.01	1	FLOW	29.	29.	28.	27.	27.	26.	26.	26.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
6 COMBINED AT												
+	DUMMY1	.10	1	FLOW	243.	238.	231.	224.	222.	220.	218.	216.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

HYDROGRAPH AT												
+	W73	.02	1	FLOW	51.	50.	49.	47.	47.	46.	46.	45.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W74	.00	1	FLOW	10.	9.	9.	9.	9.	9.	9.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT												
+	DUMMY2	.13	1	FLOW	303.	298.	289.	280.	277.	275.	273.	270.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W44	.01	1	FLOW	19.	19.	18.	18.	18.	18.	17.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W45	.01	1	FLOW	28.	27.	27.	26.	26.	25.	25.	25.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	WP6	.00	1	FLOW	7.	7.	7.	7.	6.	6.	6.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT												
+	DUMMY3	.02	1	FLOW	54.	53.	52.	50.	50.	49.	49.	48.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W42	.01	1	FLOW	23.	23.	22.	21.	21.	21.	21.	21.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	WP5	.00	1	FLOW	4.	4.	4.	4.	3.	3.	3.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CWP5	.01	1	FLOW	27.	26.	26.	25.	25.	24.	24.	24.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W43	.00	1	FLOW	11.	11.	11.	10.	10.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CW43	.01	1	FLOW	38.	37.	36.	35.	35.	35.	34.	34.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RCW43	.01	1	FLOW	37.	36.	35.	34.	34.	34.	33.	33.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	DES1	.00	1	FLOW	7.	7.	7.	7.	6.	6.	6.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CDES1	.02	1	FLOW	44.	43.	42.	41.	40.	40.	40.	39.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W47	.01	1	FLOW	22.	22.	21.	21.	20.	20.	20.	20.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W46	.00	1	FLOW	12.	12.	11.	11.	11.	11.	11.	11.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	SUMM1	.01	1	FLOW	17.	16.	16.	15.	15.	15.	15.	15.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT												
+	CW46	.02	1	FLOW	51.	50.	48.	47.	46.	46.	46.	45.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CSUMM1	.04	1	FLOW	95.	93.	91.	88.	87.	86.	86.	85.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RCSUMM1	.04	1	FLOW	92.	91.	88.	86.	85.	84.	83.	82.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W48	.01	1	FLOW	26.	26.	25.	24.	24.	24.	24.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RW48	.01	1	FLOW	26.	25.	25.	24.	24.	23.	23.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W57	.00	1	FLOW	12.	12.	11.	11.	11.	11.	11.	11.

				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	Cw57	.02	1	FLOW	38.	37.	36.	35.	34.	34.	34.	34.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCW57	.02	1	FLOW	37.	37.	36.	35.	34.	34.	34.	33.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W56	.01	1	FLOW	13.	13.	13.	12.	12.	12.	12.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	Cw56	.02	1	FLOW	51.	50.	48.	47.	46.	46.	46.	45.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCW56	.02	1	FLOW	50.	49.	48.	46.	46.	45.	45.	45.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W55	.00	1	FLOW	12.	11.	11.	11.	11.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W49	.01	1	FLOW	26.	26.	25.	24.	24.	24.	24.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	ST1	.00	1	FLOW	7.	7.	7.	7.	7.	7.	7.	7.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT													
+	CST1	.08	1	FLOW	187.	184.	179.	174.	172.	170.	169.	167.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCST1	.08	1	FLOW	186.	183.	178.	173.	171.	169.	168.	166.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	WP7	.00	1	FLOW	3.	3.	3.	3.	3.	3.	3.	3.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CWP7	.08	1	FLOW	189.	186.	181.	175.	173.	172.	171.	169.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCWP7	.08	1	FLOW	187.	184.	179.	174.	172.	170.	169.	167.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W53	.00	1	FLOW	10.	10.	9.	9.	9.	9.	9.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CW53	.08	1	FLOW	197.	194.	188.	183.	181.	179.	178.	176.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RCW53	.08	1	FLOW	196.	193.	187.	182.	180.	178.	177.	175.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W50	.01	1	FLOW	23.	23.	22.	22.	21.	21.	21.	21.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	ST3	.00	1	FLOW	10.	9.	9.	9.	9.	9.	9.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	CST3	.10	1	FLOW	229.	225.	219.	212.	210.	208.	207.	205.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	SUMM2	.01	1	FLOW	15.	15.	15.	14.	14.	14.	14.	14.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													
+	DUMMY4	.12	1	FLOW	299.	294.	285.	277.	274.	271.	270.	267.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	CARR1	.01	1	FLOW	15.	15.	14.	14.	14.	14.	14.	14.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W52	.01	1	FLOW	32.	32.	31.	30.	30.	29.	29.	29.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT													

+	DUMMY5	.14	1	FLOW	346.	340.	331.	321.	317.	314.	313.	309.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W58	.01	1	FLOW	24.	24.	23.	23.	22.	22.	22.	22.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	DES3	.01	1	FLOW	19.	19.	18.	18.	18.	18.	17.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CDES3	.02	1	FLOW	44.	43.	42.	40.	40.	40.	39.	39.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	DES2	.00	1	FLOW	8.	8.	8.	8.	8.	8.	7.	7.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CDES2	.02	1	FLOW	52.	51.	50.	48.	47.	47.	47.	46.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RCDES2	.02	1	FLOW	51.	50.	48.	47.	46.	46.	46.	45.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W54	.01	1	FLOW	14.	13.	13.	13.	12.	12.	12.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W59	.01	1	FLOW	20.	19.	19.	18.	18.	18.	18.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
3 COMBINED AT												
+	CW59	.03	1	FLOW	84.	82.	80.	78.	77.	76.	76.	75.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RCW59	.03	1	FLOW	82.	81.	78.	76.	75.	75.	74.	73.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	ST4	.01	1	FLOW	16.	15.	15.	15.	15.	14.	14.	14.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CST4	.04	1	FLOW	98.	96.	93.	91.	90.	89.	88.	88.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	DUMMY6	.18	1	FLOW	444.	437.	424.	412.	407.	403.	401.	397.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W60	.01	1	FLOW	20.	19.	19.	18.	18.	18.	18.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	ST5	.00	1	FLOW	7.	7.	6.	6.	6.	6.	6.	6.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CST5	.01	1	FLOW	26.	26.	25.	24.	24.	24.	24.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	W62	.01	1	FLOW	20.	20.	19.	18.	18.	18.	18.	18.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	DES4	.00	1	FLOW	11.	11.	11.	10.	10.	10.	10.	10.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT												
+	WPW3	.01	1	FLOW	26.	26.	25.	24.	24.	23.	23.	23.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CWPW3	.02	1	FLOW	38.	37.	36.	35.	34.	34.	33.	33.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO												
+	RCWPW3	.02	1	FLOW	35.	34.	34.	32.	32.	32.	32.	31.
				TIME	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58
HYDROGRAPH AT												
+	WPW4	.02	1	FLOW	31.	31.	30.	29.	28.	28.	28.	27.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT												
+	CWPW4	.04	1	FLOW	66.	65.	63.	61.	60.	59.	59.	58.
				TIME	3.50	3.50	3.58	3.58	3.58	3.58	3.58	3.58

HYDROGRAPH AT													
+	CARR2	.00	1	FLOW	10.	10.	10.	10.	10.	10.	9.	9.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
5 COMBINED AT													
+	DUMMY7	.24	1	FLOW	567.	557.	541.	525.	518.	514.	511.	505.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W65	.02	1	FLOW	42.	41.	40.	39.	38.	38.	37.	37.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RW65	.02	1	FLOW	41.	40.	39.	38.	37.	37.	36.	36.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.58	3.58
HYDROGRAPH AT													
+	ST6	.00	1	FLOW	13.	13.	12.	12.	12.	12.	12.	12.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CST6	.03	1	FLOW	54.	53.	51.	50.	49.	49.	48.	48.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	DUMMY8	.27	1	FLOW	621.	610.	592.	574.	567.	562.	559.	553.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	WP9	.00	1	FLOW	8.	8.	8.	7.	7.	7.	7.	7.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
ROUTED TO													
+	RWP9	.00	1	FLOW	8.	8.	7.	7.	7.	7.	7.	7.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W66	.02	1	FLOW	54.	53.	51.	49.	49.	48.	48.	47.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CW66	.03	1	FLOW	61.	60.	58.	56.	56.	55.	55.	54.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	DUMMY9	.30	1	FLOW	682.	671.	651.	631.	623.	617.	614.	607.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W69	.02	1	FLOW	47.	46.	45.	43.	43.	42.	42.	41.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	CARR3	.01	1	FLOW	19.	19.	18.	18.	18.	17.	17.	17.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
4 COMBINED AT													
+	DUMMY10	.45	1	FLOW	1051.	1033.	1003.	972.	960.	951.	946.	936.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W70	.00	1	FLOW	8.	8.	7.	7.	7.	7.	7.	7.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W71	.02	1	FLOW	53.	52.	50.	49.	48.	48.	47.	47.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	CW70	.03	1	FLOW	60.	59.	58.	56.	55.	55.	54.	54.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
2 COMBINED AT													
+	DUMMY11	.48	1	FLOW	1112.	1093.	1060.	1028.	1015.	1006.	1000.	989.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W51	.03	1	FLOW	75.	74.	72.	70.	69.	68.	68.	67.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W61	.03	1	FLOW	61.	60.	58.	56.	55.	55.	54.	54.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W67	.01	1	FLOW	22.	21.	21.	20.	20.	20.	20.	19.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
HYDROGRAPH AT													
+	W68	.03	1	FLOW	81.	80.	77.	75.	74.	74.	73.	72.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
4 COMBINED AT													
+	DUMMY12	.10	1	FLOW	238.	234.	228.	221.	218.	216.	215.	213.
				TIME	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

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  2 COMBINED AT
+               DUMMY13       .58     1   FLOW        1350.    1327.    1288.    1249.    1233.    1222.    1215.    1202.
                                           TIME         3.50     3.50     3.50     3.50     3.50     3.50     3.50     3.50
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
             RCW43  MANE          .64     37.39    210.64      2.72      5.00     37.16    210.00        2.73


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2164E+01 EXCESS= .0000E+00 OUTFLOW= .2164E+01 BASIN STORAGE= .5312E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .64     36.65    210.71      2.67      5.00     36.46    210.00        2.68


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2125E+01 EXCESS= .0000E+00 OUTFLOW= .2125E+01 BASIN STORAGE= .5252E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .65     35.72    210.64      2.59      5.00     35.47    210.00        2.60


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2059E+01 EXCESS= .0000E+00 OUTFLOW= .2059E+01 BASIN STORAGE= .5515E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .65     34.65    210.59      2.51      5.00     34.37    210.00        2.51


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1994E+01 EXCESS= .0000E+00 OUTFLOW= .1994E+01 BASIN STORAGE= .5132E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .65     34.18    210.45      2.48      5.00     33.86    210.00        2.48


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1968E+01 EXCESS= .0000E+00 OUTFLOW= .1967E+01 BASIN STORAGE= .5433E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .65     33.78    210.16      2.45      5.00     33.59    210.00        2.46


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1949E+01 EXCESS= .0000E+00 OUTFLOW= .1949E+01 BASIN STORAGE= .5404E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .66     33.67    210.42      2.44      5.00     33.35    210.00        2.44


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1936E+01 EXCESS= .0000E+00 OUTFLOW= .1936E+01 BASIN STORAGE= .5565E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW43  MANE          .66     33.24    210.18      2.41      5.00     33.04    210.00        2.41


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1915E+01 EXCESS= .0000E+00 OUTFLOW= .1915E+01 BASIN STORAGE= .5418E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
            RCSUMM1  MANE          .67     92.97    210.39      2.86      5.00     92.09    210.00        2.86


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5683E+01 EXCESS= .0000E+00 OUTFLOW= .5682E+01 BASIN STORAGE= .6996E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
            RCSUMM1  MANE          .67     91.45    210.45      2.81      5.00     90.54    210.00        2.81


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5583E+01 EXCESS= .0000E+00 OUTFLOW= .5582E+01 BASIN STORAGE= .6946E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
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           RCSUMM1  MANE          .68     88.73    210.25      2.72      5.00     88.05    210.00        2.72


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5418E+01 EXCESS= .0000E+00 OUTFLOW= .5417E+01 BASIN STORAGE= .6721E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
           RCSUMM1  MANE          .68     86.17    210.82      2.64      5.00     85.60    210.00        2.64


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5252E+01 EXCESS= .0000E+00 OUTFLOW= .5252E+01 BASIN STORAGE= .6340E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
           RCSUMM1  MANE          .68     85.55    210.68      2.61      5.00     84.73    210.00        2.61


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5186E+01 EXCESS= .0000E+00 OUTFLOW= .5185E+01 BASIN STORAGE= .6704E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
           RCSUMM1  MANE          .69     84.45    210.33      2.58      5.00     83.67    210.00        2.58


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5139E+01 EXCESS= .0000E+00 OUTFLOW= .5138E+01 BASIN STORAGE= .6737E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
           RCSUMM1  MANE          .69     84.23    210.60      2.57      5.00     83.36    210.00        2.57


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5106E+01 EXCESS= .0000E+00 OUTFLOW= .5105E+01 BASIN STORAGE= .6916E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
           RCSUMM1  MANE          .69     83.10    210.32      2.54      5.00     82.35    210.00        2.54


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .5053E+01 EXCESS= .0000E+00 OUTFLOW= .5052E+01 BASIN STORAGE= .6828E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .33     26.23    210.32      2.61      5.00     25.96    210.00        2.61


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1654E+01 EXCESS= .0000E+00 OUTFLOW= .1654E+01 BASIN STORAGE= .2505E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .33     25.77    210.40      2.56      5.00     25.49    210.00        2.56


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1622E+01 EXCESS= .0000E+00 OUTFLOW= .1622E+01 BASIN STORAGE= .2468E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .34     25.01    210.33      2.47      5.00     24.74    210.00        2.48


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1571E+01 EXCESS= .0000E+00 OUTFLOW= .1571E+01 BASIN STORAGE= .2421E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .34     24.21    210.30      2.39      5.00     23.97    210.00        2.39


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1519E+01 EXCESS= .0000E+00 OUTFLOW= .1519E+01 BASIN STORAGE= .2466E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .34     23.91    210.50      2.36      5.00     23.65    210.00        2.36


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1498E+01 EXCESS= .0000E+00 OUTFLOW= .1498E+01 BASIN STORAGE= .2453E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .34     23.69    210.54      2.34      5.00     23.44    210.00        2.34


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1484E+01 EXCESS= .0000E+00 OUTFLOW= .1484E+01 BASIN STORAGE= .2434E-04 PERCENT ERROR=
.0
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          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .34     23.55    210.48      2.32      5.00     23.29    210.00        2.32


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1473E+01 EXCESS= .0000E+00 OUTFLOW= .1473E+01 BASIN STORAGE= .2478E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
              RW48  MANE          .34     23.29    210.58      2.30      5.00     23.04    210.00        2.30


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .1457E+01 EXCESS= .0000E+00 OUTFLOW= .1457E+01 BASIN STORAGE= .2419E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .24     37.70    210.28      2.61      5.00     37.43    210.00        2.61


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2325E+01 EXCESS= .0000E+00 OUTFLOW= .2325E+01 BASIN STORAGE= .1909E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .24     37.02    210.31      2.56      5.00     36.76    210.00        2.56


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2281E+01 EXCESS= .0000E+00 OUTFLOW= .2281E+01 BASIN STORAGE= .1907E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .24     35.90    210.36      2.48      5.00     35.67    210.00        2.48


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2208E+01 EXCESS= .0000E+00 OUTFLOW= .2208E+01 BASIN STORAGE= .1910E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .24     34.83    210.23      2.40      5.00     34.57    210.00        2.40


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2135E+01 EXCESS= .0000E+00 OUTFLOW= .2135E+01 BASIN STORAGE= .1872E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .24     34.38    210.29      2.36      5.00     34.12    210.00        2.37


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2106E+01 EXCESS= .0000E+00 OUTFLOW= .2106E+01 BASIN STORAGE= .1926E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .24     34.01    210.18      2.34      5.00     33.81    210.00        2.34


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2085E+01 EXCESS= .0000E+00 OUTFLOW= .2085E+01 BASIN STORAGE= .1929E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .25     33.82    210.20      2.33      5.00     33.60    210.00        2.33


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2071E+01 EXCESS= .0000E+00 OUTFLOW= .2071E+01 BASIN STORAGE= .1920E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW57  MANE          .25     33.44    210.40      2.30      5.00     33.24    210.00        2.30


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2048E+01 EXCESS= .0000E+00 OUTFLOW= .2048E+01 BASIN STORAGE= .1884E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW56  MANE          .23     50.58    210.37      2.61      5.00     50.31    210.00        2.61


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3093E+01 EXCESS= .0000E+00 OUTFLOW= .3093E+01 BASIN STORAGE= .2051E-04 PERCENT ERROR=
.0


          FOR PLAN = 1  RATIO=  .00
             RCW56  MANE          .24     49.73    210.19      2.56      5.00     49.42    210.00        2.56


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3035E+01 EXCESS= .0000E+00 OUTFLOW= .3035E+01 BASIN STORAGE= .2035E-04 PERCENT ERROR=
.0
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FOR PLAN = 1 RATIO= .00

RCW56	MANE	.24	48.30	210.27	2.48	5.00	47.96	210.00	2.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2938E+01 EXCESS= .0000E+00 OUTFLOW= .2938E+01 BASIN STORAGE= .2025E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW56	MANE	.24	46.73	210.15	2.40	5.00	46.48	210.00	2.40

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2841E+01 EXCESS= .0000E+00 OUTFLOW= .2841E+01 BASIN STORAGE= .1978E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW56	MANE	.24	46.22	210.23	2.37	5.00	45.90	210.00	2.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2802E+01 EXCESS= .0000E+00 OUTFLOW= .2802E+01 BASIN STORAGE= .2038E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW56	MANE	.24	45.72	210.37	2.34	5.00	45.46	210.00	2.34

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2775E+01 EXCESS= .0000E+00 OUTFLOW= .2775E+01 BASIN STORAGE= .2030E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW56	MANE	.24	45.42	210.16	2.33	5.00	45.17	210.00	2.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2756E+01 EXCESS= .0000E+00 OUTFLOW= .2756E+01 BASIN STORAGE= .2023E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW56	MANE	.24	44.96	210.36	2.30	5.00	44.69	210.00	2.30

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2725E+01 EXCESS= .0000E+00 OUTFLOW= .2725E+01 BASIN STORAGE= .1964E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.16	186.70	210.24	2.77	5.00	186.14	210.00	2.78

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1145E+02 EXCESS= .0000E+00 OUTFLOW= .1145E+02 BASIN STORAGE= .1772E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	183.76	210.14	2.72	5.00	183.03	210.00	2.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1125E+02 EXCESS= .0000E+00 OUTFLOW= .1125E+02 BASIN STORAGE= .1809E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	178.64	210.18	2.64	5.00	177.89	210.00	2.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1091E+02 EXCESS= .0000E+00 OUTFLOW= .1091E+02 BASIN STORAGE= .1811E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	173.19	210.24	2.56	5.00	172.65	210.00	2.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1057E+02 EXCESS= .0000E+00 OUTFLOW= .1057E+02 BASIN STORAGE= .1796E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	171.37	210.22	2.53	5.00	170.74	210.00	2.53

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1043E+02 EXCESS= .0000E+00 OUTFLOW= .1043E+02 BASIN STORAGE= .1812E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	169.73	210.17	2.50	5.00	168.99	210.00	2.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1033E+02 EXCESS= .0000E+00 OUTFLOW= .1033E+02 BASIN STORAGE= .1797E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	168.70	210.22	2.49	5.00	168.06	210.00	2.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1026E+02 EXCESS= .0000E+00 OUTFLOW= .1026E+02 BASIN STORAGE= .1782E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCST1	MANE	.17	166.97	210.18	2.46	5.00	166.22	210.00	2.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1015E+02 EXCESS= .0000E+00 OUTFLOW= .1015E+02 BASIN STORAGE= .1807E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.24	188.25	210.37	2.77	5.00	187.43	210.00	2.77

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1163E+02 EXCESS= .0000E+00 OUTFLOW= .1163E+02 BASIN STORAGE= .2650E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.24	185.18	210.35	2.72	5.00	184.31	210.00	2.72

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1142E+02 EXCESS= .0000E+00 OUTFLOW= .1142E+02 BASIN STORAGE= .2710E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.25	180.04	210.33	2.63	5.00	179.10	210.00	2.64

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1107E+02 EXCESS= .0000E+00 OUTFLOW= .1107E+02 BASIN STORAGE= .2653E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.25	174.62	210.36	2.55	5.00	173.79	210.00	2.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1072E+02 EXCESS= .0000E+00 OUTFLOW= .1072E+02 BASIN STORAGE= .2689E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.25	172.77	210.34	2.52	5.00	171.84	210.00	2.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1058E+02 EXCESS= .0000E+00 OUTFLOW= .1058E+02 BASIN STORAGE= .2716E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.25	171.28	210.28	2.49	5.00	170.16	210.00	2.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1048E+02 EXCESS= .0000E+00 OUTFLOW= .1048E+02 BASIN STORAGE= .2661E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.25	170.39	210.26	2.48	5.00	169.24	210.00	2.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1042E+02 EXCESS= .0000E+00 OUTFLOW= .1042E+02 BASIN STORAGE= .2705E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCWP7	MANE	.25	168.49	210.23	2.45	5.00	167.39	210.00	2.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1030E+02 EXCESS= .0000E+00 OUTFLOW= .1030E+02 BASIN STORAGE= .2751E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.15	196.85	210.20	2.76	5.00	196.12	210.00	2.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1219E+02 EXCESS= .0000E+00 OUTFLOW= .1219E+02 BASIN STORAGE= .1673E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.15	193.63	210.13	2.71	5.00	192.86	210.00	2.71

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1197E+02 EXCESS= .0000E+00 OUTFLOW= .1197E+02 BASIN STORAGE= .1699E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.16	188.01	210.11	2.63	5.00	187.39	210.00	2.63

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1161E+02 EXCESS= .0000E+00 OUTFLOW= .1161E+02 BASIN STORAGE= .1715E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.16	182.54	210.13	2.55	5.00	181.85	210.00	2.55

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1124E+02 EXCESS= .0000E+00 OUTFLOW= .1124E+02 BASIN STORAGE= .1674E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.16	180.49	210.13	2.51	5.00	179.78	210.00	2.51

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1110E+02 EXCESS= .0000E+00 OUTFLOW= .1110E+02 BASIN STORAGE= .1688E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.16	178.56	210.23	2.49	5.00	177.97	210.00	2.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1099E+02 EXCESS= .0000E+00 OUTFLOW= .1099E+02 BASIN STORAGE= .1689E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.16	177.84	210.15	2.47	5.00	177.09	210.00	2.47

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1092E+02 EXCESS= .0000E+00 OUTFLOW= .1092E+02 BASIN STORAGE= .1714E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCW53	MANE	.16	175.85	210.14	2.45	5.00	175.14	210.00	2.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1080E+02 EXCESS= .0000E+00 OUTFLOW= .1080E+02 BASIN STORAGE= .1733E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.59	50.96	210.21	2.81	5.00	50.57	210.00	2.81

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3022E+01 EXCESS= .0000E+00 OUTFLOW= .3022E+01 BASIN STORAGE= .5307E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.60	50.24	210.32	2.76	5.00	49.72	210.00	2.76

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2969E+01 EXCESS= .0000E+00 OUTFLOW= .2969E+01 BASIN STORAGE= .5154E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.60	48.83	210.33	2.67	5.00	48.31	210.00	2.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2880E+01 EXCESS= .0000E+00 OUTFLOW= .2880E+01 BASIN STORAGE= .5284E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.60	47.44	210.36	2.59	5.00	46.90	210.00	2.59

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2791E+01 EXCESS= .0000E+00 OUTFLOW= .2791E+01 BASIN STORAGE= .5347E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.60	46.76	210.26	2.56	5.00	46.33	210.00	2.56

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2755E+01 EXCESS= .0000E+00 OUTFLOW= .2755E+01 BASIN STORAGE= .4948E-04 PERCENT ERROR= .0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.61	46.72	210.62	2.53	5.00	46.05	210.00	2.54

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2730E+01 EXCESS= .0000E+00 OUTFLOW= .2730E+01 BASIN STORAGE= .5519E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.61	46.09	210.27	2.52	5.00	45.66	210.00	2.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2712E+01 EXCESS= .0000E+00 OUTFLOW= .2712E+01 BASIN STORAGE= .4992E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCDES2	MANE	.61	45.83	210.69	2.49	5.00	45.27	210.00	2.50

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2684E+01 EXCESS= .0000E+00 OUTFLOW= .2684E+01 BASIN STORAGE= .5460E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.52	83.24	210.46	2.73	5.00	82.18	210.00	2.73

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4938E+01 EXCESS= .0000E+00 OUTFLOW= .4938E+01 BASIN STORAGE= .5235E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.53	81.57	210.66	2.68	5.00	80.72	210.00	2.68

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4848E+01 EXCESS= .0000E+00 OUTFLOW= .4848E+01 BASIN STORAGE= .4983E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.53	79.14	210.31	2.60	5.00	78.35	210.00	2.60

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4699E+01 EXCESS= .0000E+00 OUTFLOW= .4699E+01 BASIN STORAGE= .5158E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.53	77.20	210.51	2.52	5.00	76.14	210.00	2.52

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4551E+01 EXCESS= .0000E+00 OUTFLOW= .4551E+01 BASIN STORAGE= .4906E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.53	76.22	210.50	2.48	5.00	75.19	210.00	2.49

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4491E+01 EXCESS= .0000E+00 OUTFLOW= .4491E+01 BASIN STORAGE= .4949E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.53	75.21	210.27	2.46	5.00	74.52	210.00	2.46

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4450E+01 EXCESS= .0000E+00 OUTFLOW= .4450E+01 BASIN STORAGE= .4877E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.53	74.99	210.59	2.44	5.00	74.05	210.00	2.45

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4420E+01 EXCESS= .0000E+00 OUTFLOW= .4420E+01 BASIN STORAGE= .4795E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCW59	MANE	.54	74.30	210.45	2.42	5.00	73.33	210.00	2.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4372E+01 EXCESS= .0000E+00 OUTFLOW= .4372E+01 BASIN STORAGE= .5062E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	1.93	37.35	212.22	2.38	5.00	35.24	215.00	2.38

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2344E+01 EXCESS= .0000E+00 OUTFLOW= .2346E+01 BASIN STORAGE= .9213E-03 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	1.94	36.73	211.91	2.33	5.00	34.48	215.00	2.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2299E+01 EXCESS= .0000E+00 OUTFLOW= .2300E+01 BASIN STORAGE= .1013E-02 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	1.97	35.26	212.73	2.25	5.00	33.59	215.00	2.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2220E+01 EXCESS= .0000E+00 OUTFLOW= .2221E+01 BASIN STORAGE= .1130E-02 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	2.00	34.00	211.64	2.17	5.00	32.31	215.00	2.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2143E+01 EXCESS= .0000E+00 OUTFLOW= .2145E+01 BASIN STORAGE= .9449E-03 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	2.01	33.60	212.82	2.14	5.00	32.09	215.00	2.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2112E+01 EXCESS= .0000E+00 OUTFLOW= .2114E+01 BASIN STORAGE= .9264E-03 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	2.02	33.18	211.64	2.12	5.00	31.58	215.00	2.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2091E+01 EXCESS= .0000E+00 OUTFLOW= .2092E+01 BASIN STORAGE= .9732E-03 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	2.02	33.27	212.24	2.10	5.00	31.51	215.00	2.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2075E+01 EXCESS= .0000E+00 OUTFLOW= .2077E+01 BASIN STORAGE= .1107E-02 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RCWPW3	MANE	2.03	32.52	213.21	2.08	5.00	31.10	215.00	2.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2051E+01 EXCESS= .0000E+00 OUTFLOW= .2052E+01 BASIN STORAGE= .1139E-02 PERCENT ERROR= -
.1

FOR PLAN = 1 RATIO= .00

RW65	MANE	.71	41.98	210.83	2.41	5.00	40.87	210.00	2.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2653E+01 EXCESS= .0000E+00 OUTFLOW= .2653E+01 BASIN STORAGE= .6394E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RW65	MANE	.71	41.20	210.91	2.37	5.00	40.08	210.00	2.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2600E+01 EXCESS= .0000E+00 OUTFLOW= .2600E+01 BASIN STORAGE= .6278E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RW65	MANE	.72	39.89	210.84	2.29	5.00	38.81	210.00	2.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2512E+01 EXCESS= .0000E+00 OUTFLOW= .2512E+01 BASIN STORAGE= .5748E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RW65	MANE	.72	38.57	210.80	2.21	5.00	37.53	210.00	2.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2424E+01 EXCESS= .0000E+00 OUTFLOW= .2424E+01 BASIN STORAGE= .5971E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

RW65	MANE	.73	38.11	211.38	2.17	5.00	37.02	210.00	2.18

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2390E+01 EXCESS= .0000E+00 OUTFLOW= .2390E+01 BASIN STORAGE= .6380E-04 PERCENT ERROR=
.0

FOR PLAN = 1 RATIO= .00

```
              RW65  MANE          .73     37.71    211.07      2.15      5.00     36.62    210.00        2.15


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2365E+01 EXCESS= .0000E+00 OUTFLOW= .2365E+01 BASIN STORAGE= .6317E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RW65  MANE          .73     37.48    211.36      2.14      5.00     36.41    215.00        2.14


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2348E+01 EXCESS= .0000E+00 OUTFLOW= .2348E+01 BASIN STORAGE= .5665E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RW65  MANE          .73     37.03    211.11      2.11      5.00     35.97    215.00        2.11


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .2319E+01 EXCESS= .0000E+00 OUTFLOW= .2319E+01 BASIN STORAGE= .6306E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .96      7.92    211.24      2.15      5.00      7.69    210.00        2.15


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4465E+00 EXCESS= .0000E+00 OUTFLOW= .4465E+00 BASIN STORAGE= .6370E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .96      7.77    211.14      2.10      5.00      7.54    210.00        2.10


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4370E+00 EXCESS= .0000E+00 OUTFLOW= .4370E+00 BASIN STORAGE= .5718E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .97      7.46    210.67      2.02      5.00      7.27    210.00        2.03


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4210E+00 EXCESS= .0000E+00 OUTFLOW= .4210E+00 BASIN STORAGE= .5879E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .98      7.23    211.22      1.95      5.00      7.01    210.00        1.95


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .4051E+00 EXCESS= .0000E+00 OUTFLOW= .4051E+00 BASIN STORAGE= .5965E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .98      7.13    210.87      1.92      5.00      6.91    210.00        1.92


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3988E+00 EXCESS= .0000E+00 OUTFLOW= .3988E+00 BASIN STORAGE= .5788E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .98      7.04    211.31      1.90      5.00      6.83    210.00        1.90


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3943E+00 EXCESS= .0000E+00 OUTFLOW= .3943E+00 BASIN STORAGE= .5935E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .98      6.95    210.64      1.88      5.00      6.77    210.00        1.88


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3911E+00 EXCESS= .0000E+00 OUTFLOW= .3911E+00 BASIN STORAGE= .6300E-04 PERCENT ERROR=
.0


           FOR PLAN = 1  RATIO=  .00
              RWP9  MANE          .99      6.92    211.16      1.86      5.00      6.70    210.00        1.86


 CONTINUITY SUMMARY (AC-FT) - INFLOW= .3862E+00 EXCESS= .0000E+00 OUTFLOW= .3862E+00 BASIN STORAGE= .6318E-04 PERCENT ERROR=
.0




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

APPENDIX C
HYDRAULIC CALCULATIONS

C.1 REGIONAL FACLITY NORMAL DEPTH CALCULATIONS

Worksheet for SD-A

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.64	%
Normal Depth	4.34	ft
Diameter	4.34	ft
Discharge	229.00	ft³/s

Results

Diameter	4.34	ft
Normal Depth	4.34	ft
Flow Area	14.81	ft²
Wetted Perimeter	13.64	ft
Hydraulic Radius	1.09	ft
Top Width	0.00	ft
Critical Depth	4.13	ft
Percent Full	100.0	%
Critical Slope	0.01421	ft/ft
Velocity	15.46	ft/s
Velocity Head	3.72	ft
Specific Energy	8.06	ft
Froude Number	0.00	
Maximum Discharge	246.34	ft³/s
Discharge Full	229.00	ft³/s
Slope Full	0.01640	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for SD-A

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	4.34	ft
Critical Depth	4.13	ft
Channel Slope	1.64	%
Critical Slope	0.01421	ft/ft

Cross Section for SD-A

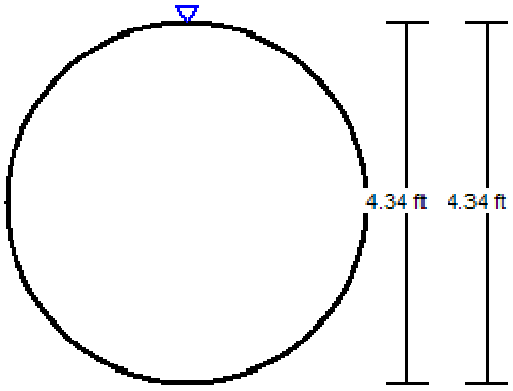
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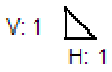
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.64	%
Normal Depth	4.34	ft
Diameter	4.34	ft
Discharge	229.00	ft³/s

Cross Section Image





Worksheet for SD-A1

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.50	%
Normal Depth	3.59	ft
Diameter	3.59	ft
Discharge	229.00	ft³/s

Results

Diameter	3.59	ft
Normal Depth	3.59	ft
Flow Area	10.14	ft²
Wetted Perimeter	11.29	ft
Hydraulic Radius	0.90	ft
Top Width	0.00	ft
Critical Depth	3.57	ft
Percent Full	100.0	%
Critical Slope	0.04178	ft/ft
Velocity	22.58	ft/s
Velocity Head	7.92	ft
Specific Energy	11.51	ft
Froude Number	0.00	
Maximum Discharge	246.34	ft³/s
Discharge Full	229.00	ft³/s
Slope Full	0.04500	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for SD-A1

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.59	ft
Critical Depth	3.57	ft
Channel Slope	4.50	%
Critical Slope	0.04178	ft/ft

Cross Section for SD-A1

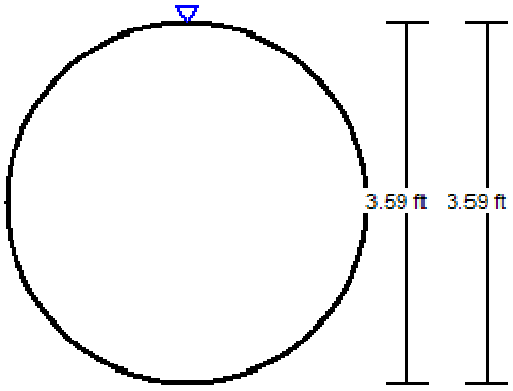
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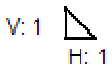
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.50	%
Normal Depth	3.59	ft
Diameter	3.59	ft
Discharge	229.00	ft³/s

Cross Section Image





Worksheet for SD-A2

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.50	%
Normal Depth	3.59	ft
Diameter	3.59	ft
Discharge	229.00	ft³/s

Results

Diameter	3.59	ft
Normal Depth	3.59	ft
Flow Area	10.14	ft²
Wetted Perimeter	11.29	ft
Hydraulic Radius	0.90	ft
Top Width	0.00	ft
Critical Depth	3.57	ft
Percent Full	100.0	%
Critical Slope	0.04178	ft/ft
Velocity	22.58	ft/s
Velocity Head	7.92	ft
Specific Energy	11.51	ft
Froude Number	0.00	
Maximum Discharge	246.34	ft³/s
Discharge Full	229.00	ft³/s
Slope Full	0.04500	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for SD-A2

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.59	ft
Critical Depth	3.57	ft
Channel Slope	4.50	%
Critical Slope	0.04178	ft/ft

Cross Section for SD-A2

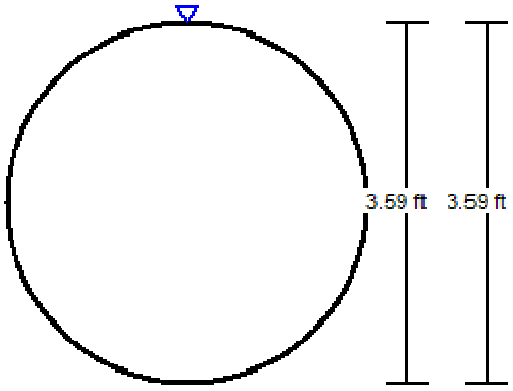
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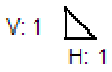
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.50	%
Normal Depth	3.59	ft
Diameter	3.59	ft
Discharge	229.00	ft³/s

Cross Section Image





Worksheet for SD-A3

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.70	%
Height	5.00	ft
Bottom Width	5.00	ft
Discharge	458.00	ft³/s

Results

Normal Depth	2.79	ft
Flow Area	13.96	ft²
Wetted Perimeter	10.58	ft
Hydraulic Radius	1.32	ft
Top Width	5.00	ft
Critical Depth	6.39	ft
Percent Full	55.8	%
Critical Slope	0.00720	ft/ft
Velocity	32.81	ft/s
Velocity Head	16.73	ft
Specific Energy	19.53	ft
Froude Number	3.46	
Discharge Full	791.65	ft³/s
Slope Full	0.17027	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	55.83	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-A3

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	2.79	ft
Critical Depth	6.39	ft
Channel Slope	5.70	%
Critical Slope	0.00720	ft/ft

Cross Section for SD-A3

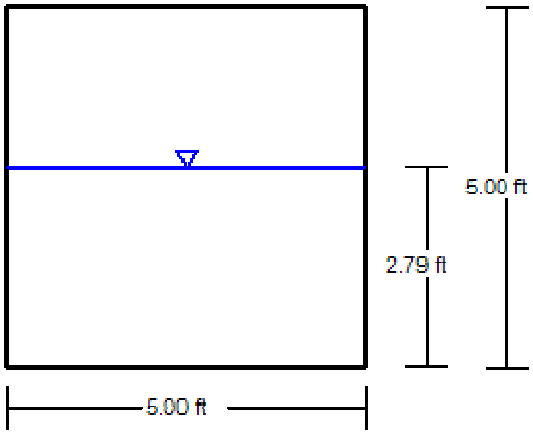
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.70	%
Normal Depth	2.79	ft
Height	5.00	ft
Bottom Width	5.00	ft
Discharge	458.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for SD-B

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.06000	ft/ft
Normal Depth	2.85	ft
Diameter	2.85	ft
Discharge	142.00	ft³/s

Results

Diameter	2.85	ft
Normal Depth	2.85	ft
Flow Area	6.36	ft²
Wetted Perimeter	8.94	ft
Hydraulic Radius	0.71	ft
Top Width	0.00	ft
Critical Depth	2.83	ft
Percent Full	100.0	%
Critical Slope	0.05648	ft/ft
Velocity	22.32	ft/s
Velocity Head	7.74	ft
Specific Energy	10.59	ft
Froude Number	0.00	
Maximum Discharge	152.72	ft³/s
Discharge Full	141.97	ft³/s
Slope Full	0.06002	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for SD-B

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.85	ft
Critical Depth	2.83	ft
Channel Slope	0.06000	ft/ft
Critical Slope	0.05648	ft/ft

Cross Section for SD-B

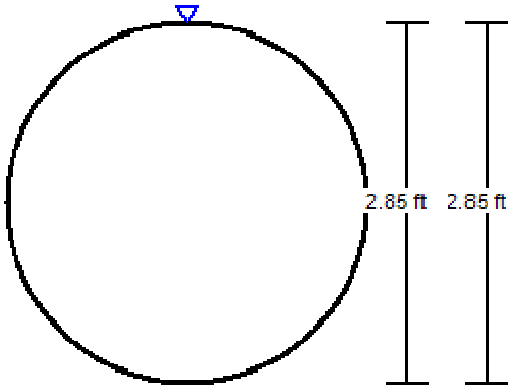
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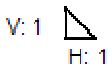
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.00	%
Normal Depth	2.85	ft
Diameter	2.85	ft
Discharge	142.00	ft³/s

Cross Section Image





Worksheet for SD-B1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.04220	ft/ft
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	476.00	ft³/s

Results

Normal Depth	3.23	ft
Flow Area	16.13	ft²
Wetted Perimeter	11.45	ft
Hydraulic Radius	1.41	ft
Top Width	5.00	ft
Critical Depth	6.56	ft
Percent Full	80.7	%
Critical Slope	0.00732	ft/ft
Velocity	29.51	ft/s
Velocity Head	13.53	ft
Specific Energy	16.76	ft
Froude Number	2.90	
Discharge Full	503.78	ft³/s
Slope Full	0.04728	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	80.66	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-B1

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.23	ft
Critical Depth	6.56	ft
Channel Slope	0.04220	ft/ft
Critical Slope	0.00732	ft/ft

Cross Section for SD-B1

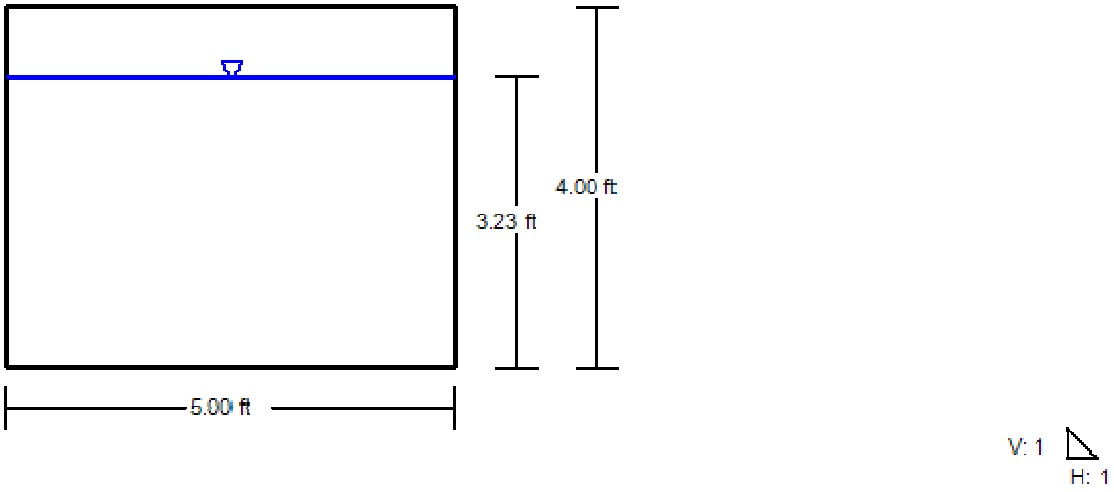
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.04220	ft/ft
Normal Depth	3.23	ft
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	476.00	ft³/s

Cross Section Image



Worksheet for SD-B2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.02000	ft/ft
Height	8.00	ft
Bottom Width	8.00	ft
Discharge	1046.00	ft³/s

Results

Normal Depth	4.81	ft
Flow Area	38.45	ft²
Wetted Perimeter	17.61	ft
Hydraulic Radius	2.18	ft
Top Width	8.00	ft
Critical Depth	8.10	ft
Percent Full	60.1	%
Critical Slope	0.00536	ft/ft
Velocity	27.20	ft/s
Velocity Head	11.50	ft
Specific Energy	16.31	ft
Froude Number	2.19	
Discharge Full	1642.23	ft³/s
Slope Full	0.04930	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	60.08	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-B2

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.81	ft
Critical Depth	8.10	ft
Channel Slope	0.02000	ft/ft
Critical Slope	0.00536	ft/ft

Cross Section for SD-B2

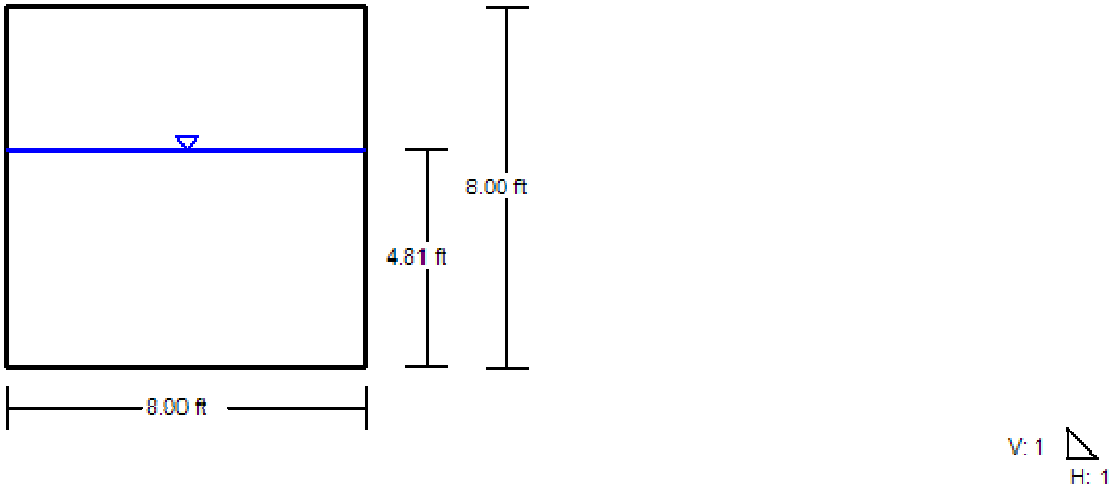
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.02000	ft/ft
Normal Depth	4.81	ft
Height	8.00	ft
Bottom Width	8.00	ft
Discharge	1046.00	ft³/s

Cross Section Image



Worksheet for SD-B3

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.03550	ft/ft
Height	8.00	ft
Bottom Width	8.00	ft
Discharge	1513.00	ft³/s

Results

Normal Depth	5.12	ft
Flow Area	40.97	ft²
Wetted Perimeter	18.24	ft
Hydraulic Radius	2.25	ft
Top Width	8.00	ft
Critical Depth	10.36	ft
Percent Full	64.0	%
Critical Slope	0.00621	ft/ft
Velocity	36.93	ft/s
Velocity Head	21.20	ft
Specific Energy	26.32	ft
Froude Number	2.88	
Discharge Full	2187.93	ft³/s
Slope Full	0.07424	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	64.01	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-B3

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	5.12	ft
Critical Depth	10.36	ft
Channel Slope	0.03550	ft/ft
Critical Slope	0.00621	ft/ft

Cross Section for SD-B3

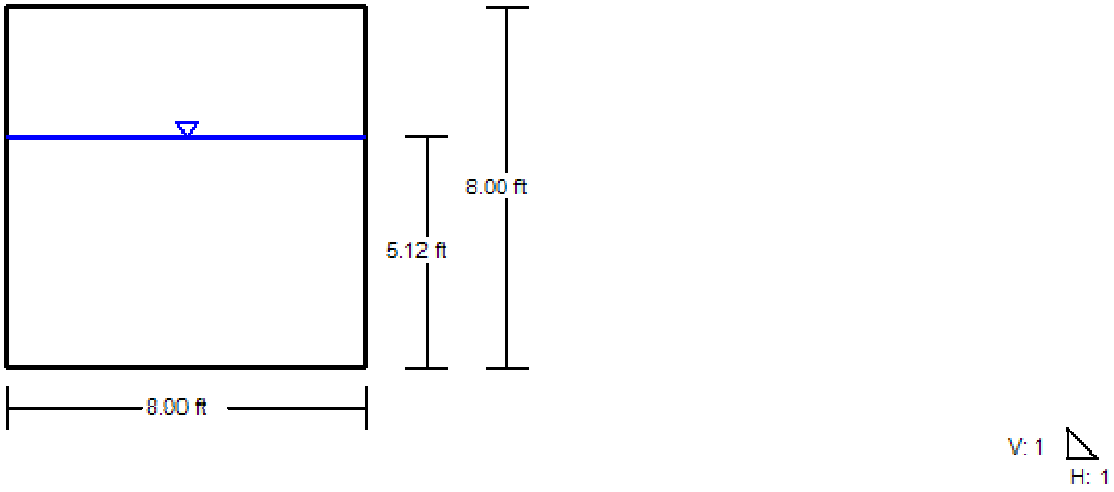
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.03550	ft/ft
Normal Depth	5.12	ft
Height	8.00	ft
Bottom Width	8.00	ft
Discharge	1513.00	ft³/s

Cross Section Image



Worksheet for SD-F

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.72	%
Normal Depth	2.88	ft
Diameter	2.88	ft
Discharge	155.00	ft³/s

Results

Diameter	2.88	ft
Normal Depth	2.88	ft
Flow Area	6.51	ft²
Wetted Perimeter	9.05	ft
Hydraulic Radius	0.72	ft
Top Width	0.00	ft
Critical Depth	2.87	ft
Percent Full	100.0	%
Critical Slope	0.06364	ft/ft
Velocity	23.80	ft/s
Velocity Head	8.80	ft
Specific Energy	11.68	ft
Froude Number	0.00	
Maximum Discharge	166.74	ft³/s
Discharge Full	155.00	ft³/s
Slope Full	0.06720	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for SD-F

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.88	ft
Critical Depth	2.87	ft
Channel Slope	6.72	%
Critical Slope	0.06364	ft/ft

Cross Section for SD-F

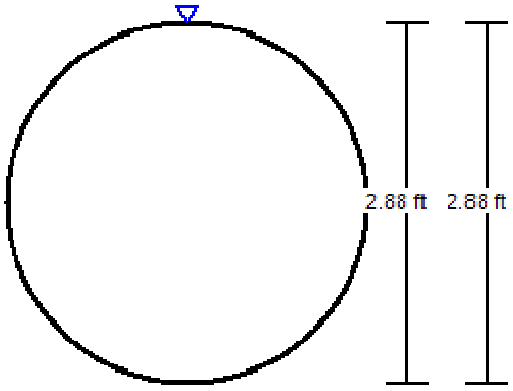
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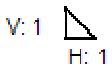
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.72	%
Normal Depth	2.88	ft
Diameter	2.88	ft
Discharge	155.00	ft³/s

Cross Section Image





Worksheet for SD-F1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	3.00	%
Height	5.00	ft
Bottom Width	5.00	ft
Discharge	612.00	ft³/s

Results

Normal Depth	4.50	ft
Flow Area	22.52	ft²
Wetted Perimeter	14.01	ft
Hydraulic Radius	1.61	ft
Top Width	5.00	ft
Critical Depth	7.75	ft
Percent Full	90.1	%
Critical Slope	0.00817	ft/ft
Velocity	27.17	ft/s
Velocity Head	11.47	ft
Specific Energy	15.98	ft
Froude Number	2.26	
Discharge Full	574.34	ft³/s
Slope Full	0.02642	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	90.10	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-F1

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.50	ft
Critical Depth	7.75	ft
Channel Slope	3.00	%
Critical Slope	0.00817	ft/ft

Cross Section for SD-F1

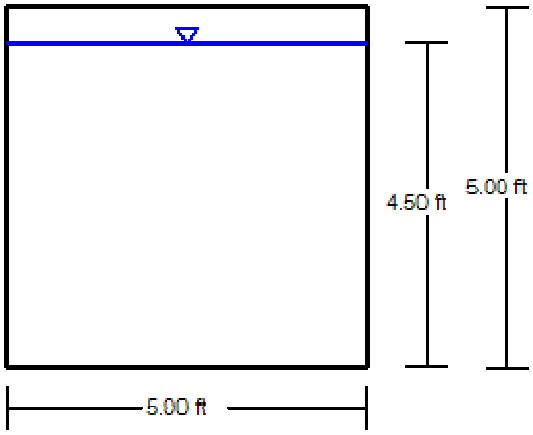
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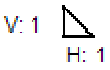
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	3.00	%
Normal Depth	4.50	ft
Height	5.00	ft
Bottom Width	5.00	ft
Discharge	612.00	ft³/s

Cross Section Image





Worksheet for SD-F2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.60	%
Height	5.00	ft
Bottom Width	6.00	ft
Discharge	804.00	ft³/s

Results

Normal Depth	3.86	ft
Flow Area	23.14	ft²
Wetted Perimeter	13.71	ft
Hydraulic Radius	1.69	ft
Top Width	6.00	ft
Critical Depth	8.23	ft
Percent Full	77.1	%
Critical Slope	0.00709	ft/ft
Velocity	34.74	ft/s
Velocity Head	18.76	ft
Specific Energy	22.62	ft
Froude Number	3.12	
Discharge Full	904.38	ft³/s
Slope Full	0.05820	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	77.13	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-F2

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.86	ft
Critical Depth	8.23	ft
Channel Slope	4.60	%
Critical Slope	0.00709	ft/ft

Cross Section for SD-F2

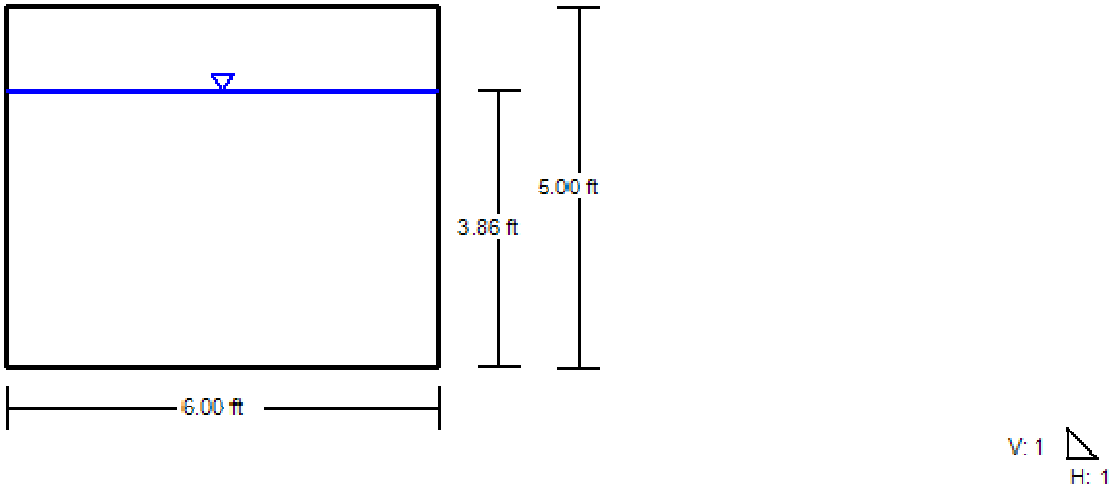
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.60	%
Normal Depth	3.86	ft
Height	5.00	ft
Bottom Width	6.00	ft
Discharge	804.00	ft³/s

Cross Section Image



Worksheet for SD-F3

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.30	%
Height	6.00	ft
Bottom Width	8.00	ft
Discharge	804.00	ft³/s

Results

Normal Depth	4.63	ft
Flow Area	37.07	ft²
Wetted Perimeter	17.27	ft
Hydraulic Radius	2.15	ft
Top Width	8.00	ft
Critical Depth	6.80	ft
Percent Full	77.2	%
Critical Slope	0.00489	ft/ft
Velocity	21.69	ft/s
Velocity Head	7.31	ft
Specific Energy	11.94	ft
Froude Number	1.78	
Discharge Full	896.03	ft³/s
Slope Full	0.01614	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	77.23	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-F3

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.63	ft
Critical Depth	6.80	ft
Channel Slope	1.30	%
Critical Slope	0.00489	ft/ft

Cross Section for SD-F3

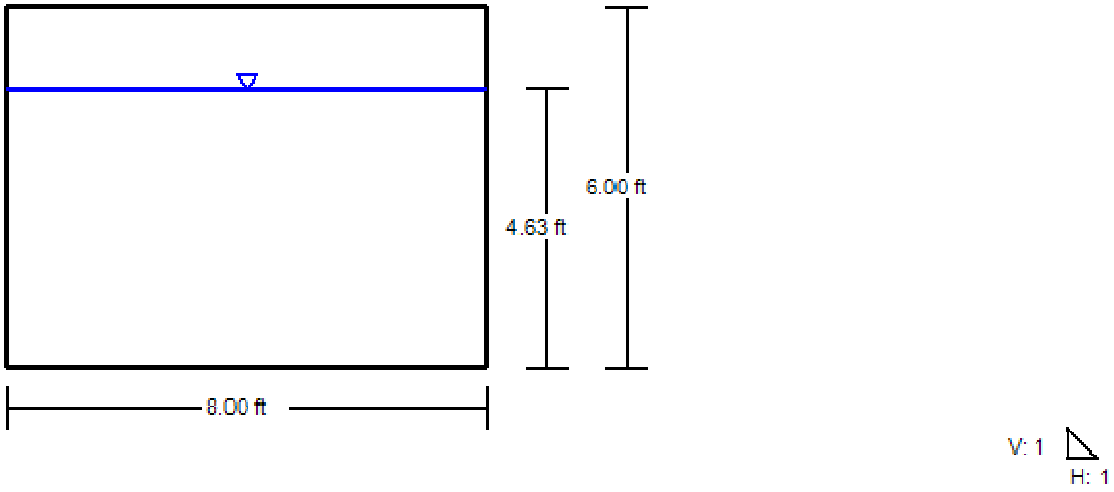
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.30	%
Normal Depth	4.63	ft
Height	6.00	ft
Bottom Width	8.00	ft
Discharge	804.00	ft³/s

Cross Section Image



Worksheet for SD-F4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.38	%
Height	6.00	ft
Bottom Width	8.00	ft
Discharge	964.00	ft³/s

Results

Normal Depth	5.21	ft
Flow Area	41.66	ft²
Wetted Perimeter	18.42	ft
Hydraulic Radius	2.26	ft
Top Width	8.00	ft
Critical Depth	7.67	ft
Percent Full	86.8	%
Critical Slope	0.00521	ft/ft
Velocity	23.14	ft/s
Velocity Head	8.32	ft
Specific Energy	13.53	ft
Froude Number	1.79	
Discharge Full	923.18	ft³/s
Slope Full	0.01266	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	86.79	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-F4

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	5.21	ft
Critical Depth	7.67	ft
Channel Slope	1.38	%
Critical Slope	0.00521	ft/ft

Cross Section for SD-F4

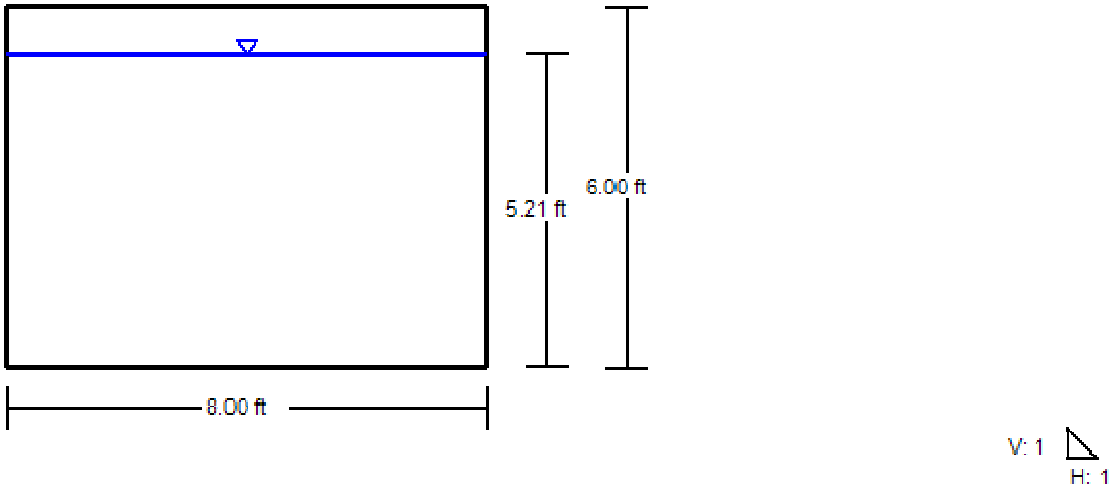
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.38	%
Normal Depth	5.21	ft
Height	6.00	ft
Bottom Width	8.00	ft
Discharge	964.00	ft³/s

Cross Section Image



Worksheet for SD-F5

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.00	%
Height	6.00	ft
Bottom Width	8.00	ft
Discharge	1139.00	ft³/s

Results

Normal Depth	5.13	ft
Flow Area	41.06	ft²
Wetted Perimeter	18.27	ft
Hydraulic Radius	2.25	ft
Top Width	8.00	ft
Critical Depth	8.57	ft
Percent Full	85.5	%
Critical Slope	0.00554	ft/ft
Velocity	27.74	ft/s
Velocity Head	11.96	ft
Specific Energy	17.09	ft
Froude Number	2.16	
Discharge Full	1111.38	ft³/s
Slope Full	0.01904	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	85.54	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-F5

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	5.13	ft
Critical Depth	8.57	ft
Channel Slope	2.00	%
Critical Slope	0.00554	ft/ft

Cross Section for SD-F5

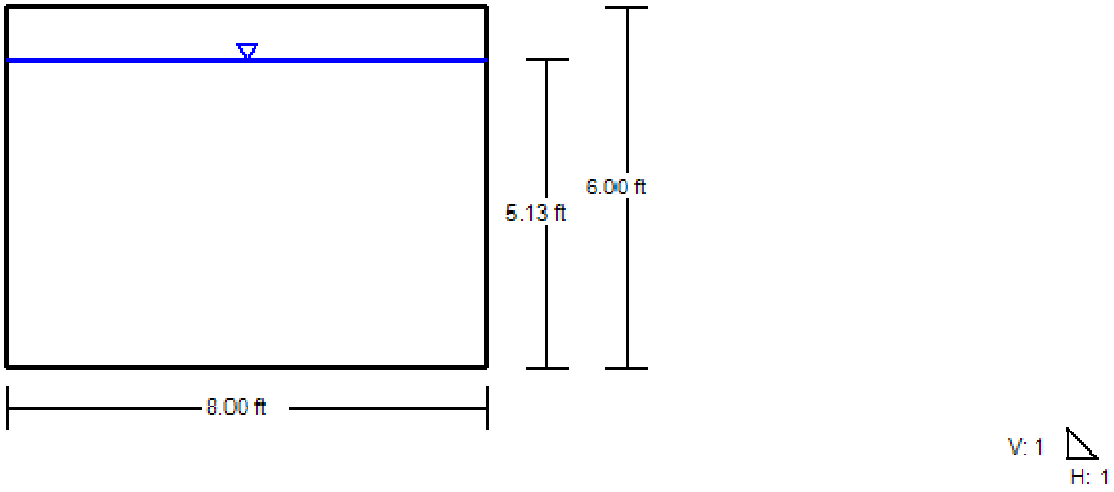
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.00	%
Normal Depth	5.13	ft
Height	6.00	ft
Bottom Width	8.00	ft
Discharge	1139.00	ft³/s

Cross Section Image



Worksheet for SD-G

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.00	%
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	426.50	ft³/s

Results

Normal Depth	3.03	ft
Flow Area	15.13	ft²
Wetted Perimeter	11.05	ft
Hydraulic Radius	1.37	ft
Top Width	5.00	ft
Critical Depth	6.09	ft
Percent Full	75.7	%
Critical Slope	0.00699	ft/ft
Velocity	28.19	ft/s
Velocity Head	12.35	ft
Specific Energy	15.37	ft
Froude Number	2.86	
Discharge Full	490.47	ft³/s
Slope Full	0.05291	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	75.65	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-G

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.03	ft
Critical Depth	6.09	ft
Channel Slope	4.00	%
Critical Slope	0.00699	ft/ft

Cross Section for SD-G

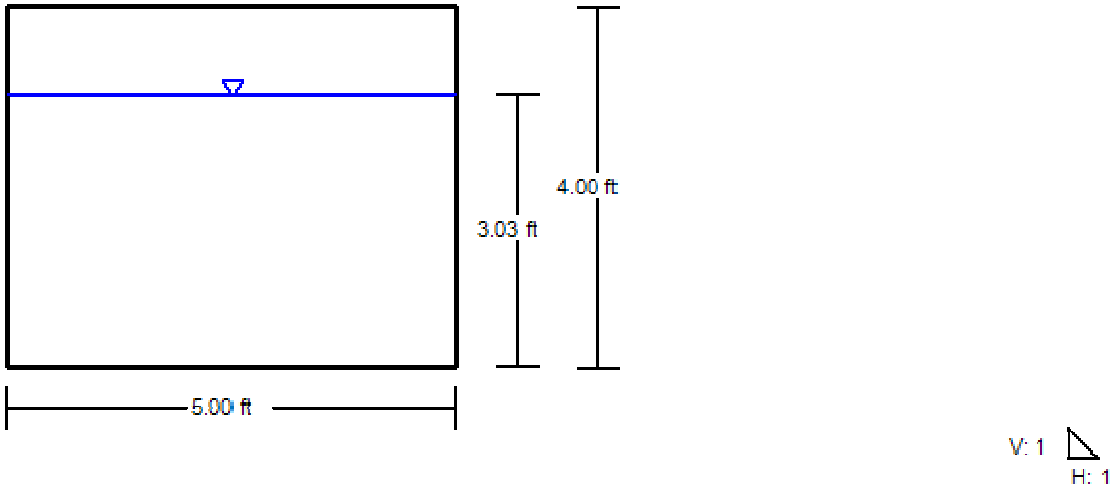
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.00	%
Normal Depth	3.03	ft
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	426.50	ft³/s

Cross Section Image



Worksheet for SD-G1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.95	%
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	426.50	ft³/s

Results

Normal Depth	3.41	ft
Flow Area	17.03	ft²
Wetted Perimeter	11.81	ft
Hydraulic Radius	1.44	ft
Top Width	5.00	ft
Critical Depth	6.09	ft
Percent Full	85.1	%
Critical Slope	0.00699	ft/ft
Velocity	25.05	ft/s
Velocity Head	9.75	ft
Specific Energy	13.16	ft
Froude Number	2.39	
Discharge Full	421.21	ft³/s
Slope Full	0.02877	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	85.13	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-G1

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.41	ft
Critical Depth	6.09	ft
Channel Slope	2.95	%
Critical Slope	0.00699	ft/ft

Cross Section for SD-G1

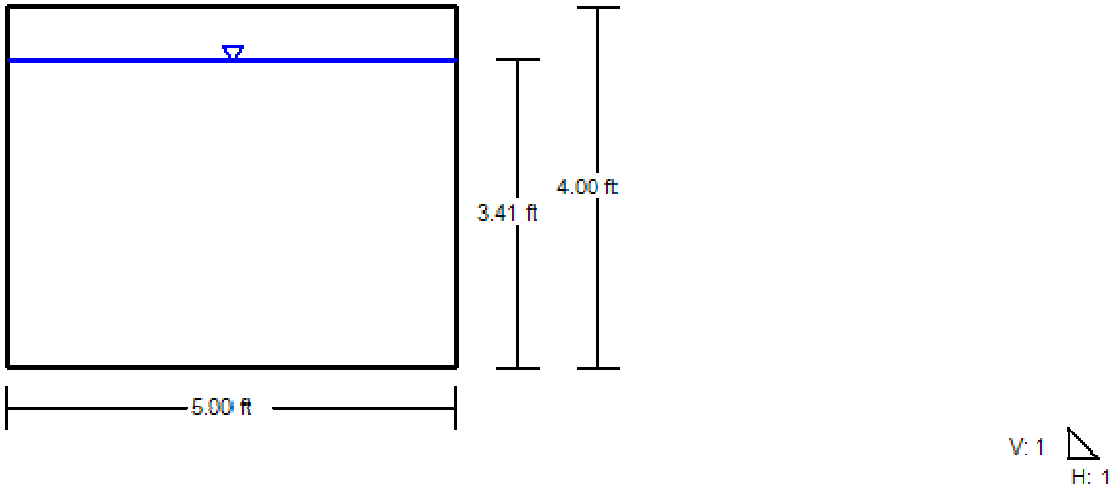
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.95	%
Normal Depth	3.41	ft
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	426.50	ft³/s

Cross Section Image



Worksheet for SD-G2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	3.80	%
Height	5.00	ft
Bottom Width	6.00	ft
Discharge	853.00	ft³/s

Results

Normal Depth	4.35	ft
Flow Area	26.11	ft²
Wetted Perimeter	14.70	ft
Hydraulic Radius	1.78	ft
Top Width	6.00	ft
Critical Depth	8.56	ft
Percent Full	87.0	%
Critical Slope	0.00728	ft/ft
Velocity	32.68	ft/s
Velocity Head	16.59	ft
Specific Energy	20.94	ft
Froude Number	2.76	
Discharge Full	821.98	ft³/s
Slope Full	0.03529	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	87.02	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-G2

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.35	ft
Critical Depth	8.56	ft
Channel Slope	3.80	%
Critical Slope	0.00728	ft/ft

Cross Section for SD-G2

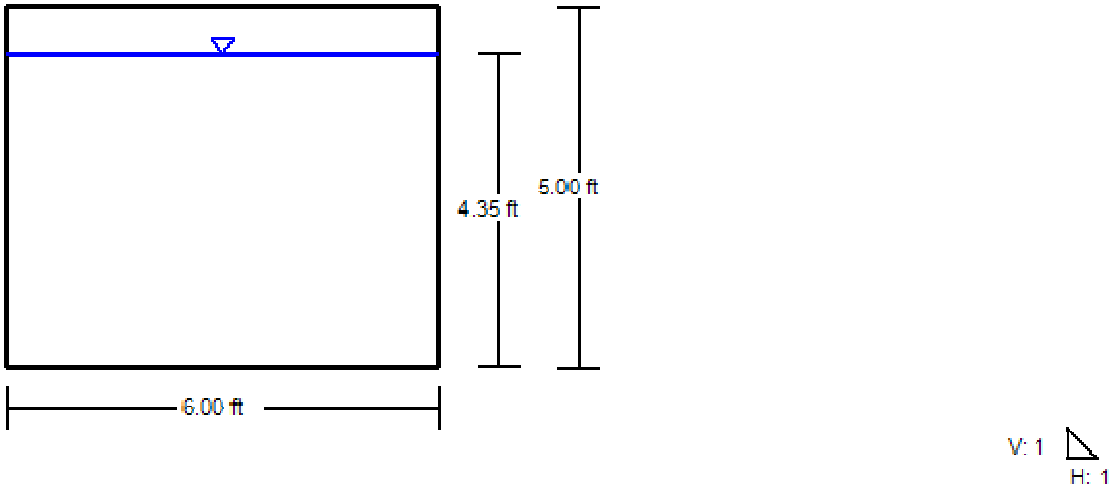
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	3.80	%
Normal Depth	4.35	ft
Height	5.00	ft
Bottom Width	6.00	ft
Discharge	853.00	ft³/s

Cross Section Image



Worksheet for SD-I

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.30	%
Height	4.00	ft
Bottom Width	4.00	ft
Discharge	268.00	ft³/s

Results

Normal Depth	3.33	ft
Flow Area	13.33	ft²
Wetted Perimeter	10.66	ft
Hydraulic Radius	1.25	ft
Top Width	4.00	ft
Critical Depth	5.19	ft
Percent Full	83.3	%
Critical Slope	0.00783	ft/ft
Velocity	20.11	ft/s
Velocity Head	6.29	ft
Specific Energy	9.62	ft
Froude Number	1.94	
Discharge Full	277.35	ft³/s
Slope Full	0.02463	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	83.29	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-I

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.33	ft
Critical Depth	5.19	ft
Channel Slope	2.30	%
Critical Slope	0.00783	ft/ft

Cross Section for SD-I

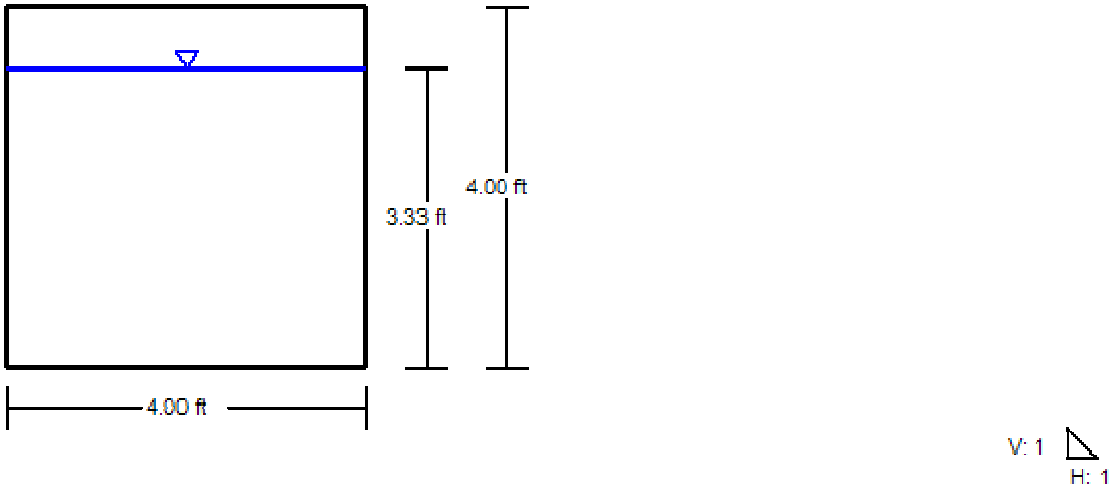
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.30	%
Normal Depth	3.33	ft
Height	4.00	ft
Bottom Width	4.00	ft
Discharge	268.00	ft³/s

Cross Section Image



Worksheet for SD-I1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.00	%
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	268.00	ft³/s

Results

Normal Depth	3.61	ft
Flow Area	18.07	ft²
Wetted Perimeter	12.23	ft
Hydraulic Radius	1.48	ft
Top Width	5.00	ft
Critical Depth	4.47	ft
Percent Full	90.4	%
Critical Slope	0.00587	ft/ft
Velocity	14.83	ft/s
Velocity Head	3.42	ft
Specific Energy	7.03	ft
Froude Number	1.38	
Discharge Full	245.24	ft³/s
Slope Full	0.00837	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	90.36	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-I1

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.61	ft
Critical Depth	4.47	ft
Channel Slope	1.00	%
Critical Slope	0.00587	ft/ft

Cross Section for SD-I1

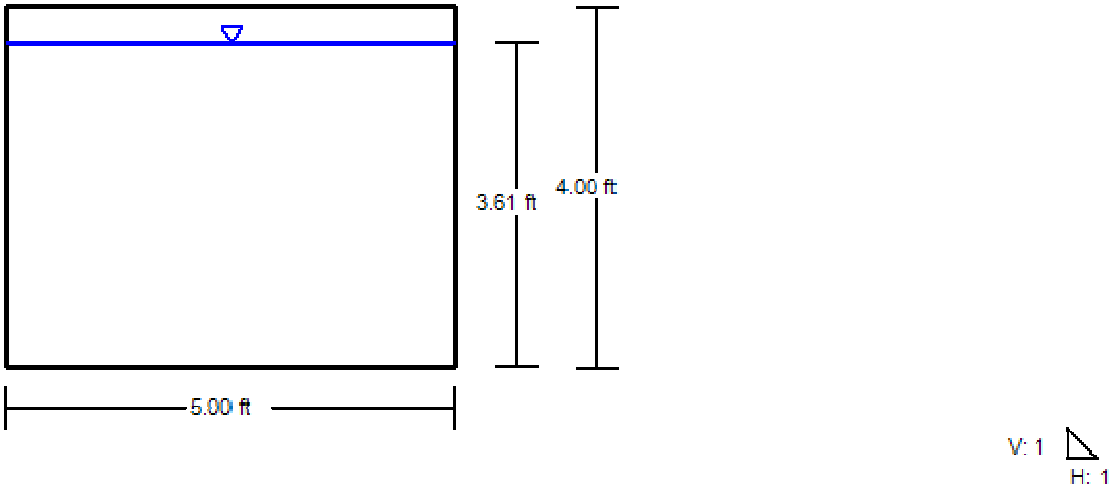
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.00	%
Normal Depth	3.61	ft
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	268.00	ft³/s

Cross Section Image



Worksheet for SD-I2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.50	%
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	536.00	ft³/s

Results

Normal Depth	3.19	ft
Flow Area	15.96	ft²
Wetted Perimeter	11.39	ft
Hydraulic Radius	1.40	ft
Top Width	5.00	ft
Critical Depth	7.10	ft
Percent Full	79.8	%
Critical Slope	0.00770	ft/ft
Velocity	33.58	ft/s
Velocity Head	17.52	ft
Specific Energy	20.71	ft
Froude Number	3.31	
Discharge Full	575.13	ft³/s
Slope Full	0.06331	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	79.82	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-I2

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	3.19	ft
Critical Depth	7.10	ft
Channel Slope	5.50	%
Critical Slope	0.00770	ft/ft

Cross Section for SD-I2

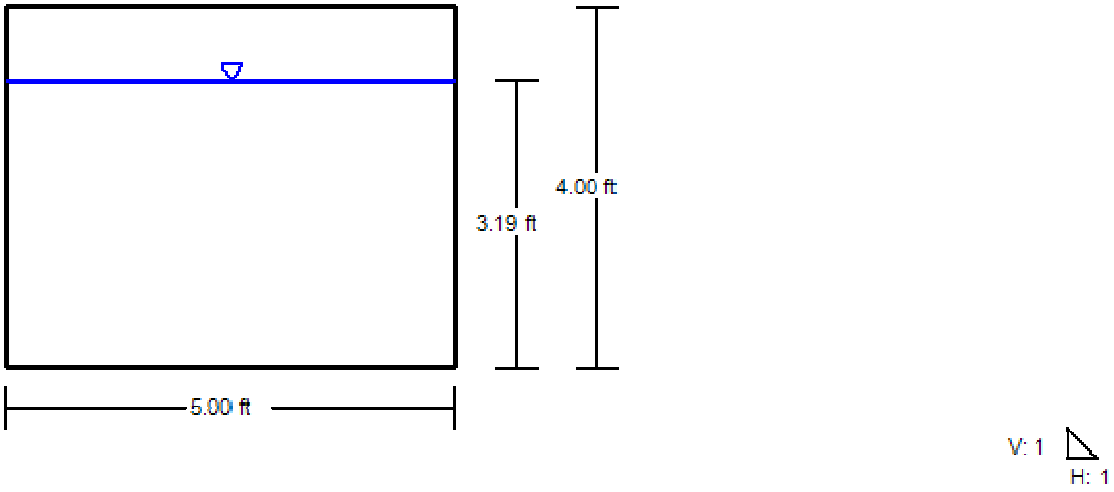
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.50	%
Normal Depth	3.19	ft
Height	4.00	ft
Bottom Width	5.00	ft
Discharge	536.00	ft³/s

Cross Section Image



Worksheet for SD-L

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.50	%
Height	5.00	ft
Bottom Width	6.00	ft
Discharge	286.00	ft³/s

Results

Normal Depth	4.09	ft
Flow Area	24.55	ft²
Wetted Perimeter	14.18	ft
Hydraulic Radius	1.73	ft
Top Width	6.00	ft
Critical Depth	4.13	ft
Percent Full	81.8	%
Critical Slope	0.00487	ft/ft
Velocity	11.65	ft/s
Velocity Head	2.11	ft
Specific Energy	6.20	ft
Froude Number	1.02	
Discharge Full	298.17	ft³/s
Slope Full	0.00543	ft/ft
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	81.83	%
Downstream Velocity	Infinity	ft/s

Worksheet for SD-L

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.09	ft
Critical Depth	4.13	ft
Channel Slope	0.50	%
Critical Slope	0.00487	ft/ft

Cross Section for SD-L

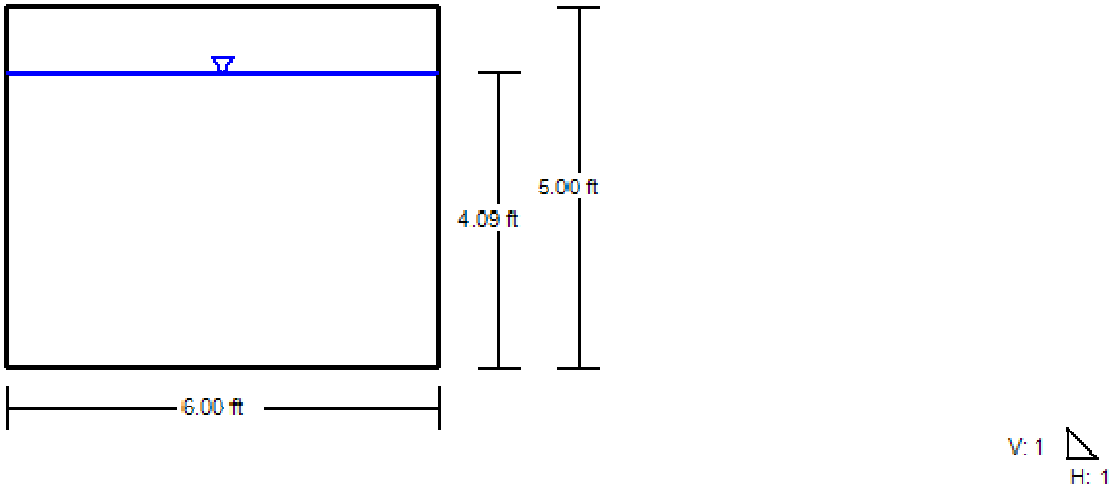
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.50	%
Normal Depth	4.09	ft
Height	5.00	ft
Bottom Width	6.00	ft
Discharge	286.00	ft³/s

Cross Section Image



C.2 AREA 1 LOCAL FACILITY NORMAL DEPTH CALCULATIONS

Worksheet for Facility 3 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.9	%
Normal Depth	24.52	in
Diameter	24.52	in
Discharge	53.00	ft³/s

Results

Diameter	24.52	in
Normal Depth	24.52	in
Flow Area	3.28	ft²
Wetted Perimeter	6.42	ft
Hydraulic Radius	6.13	in
Top Width	0.00	ft
Critical Depth	2.02	ft
Percent Full	100.0	%
Critical Slope	0.04517	ft/ft
Velocity	16.17	ft/s
Velocity Head	4.06	ft
Specific Energy	6.10	ft
Froude Number	0.00	
Maximum Discharge	57.01	ft³/s
Discharge Full	53.00	ft³/s
Slope Full	0.04900	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 3 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	24.52	in
Critical Depth	2.02	ft
Channel Slope	4.9	%
Critical Slope	0.04517	ft/ft

Cross Section for Facility 3 - 36" RCP

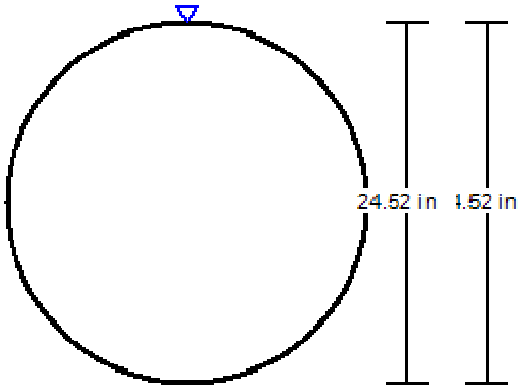
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.9	%
Normal Depth	24.52	in
Diameter	24.52	in
Discharge	53.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 7 - 24" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.2	%
Normal Depth	17.18	in
Diameter	17.18	in
Discharge	19.00	ft³/s

Results

Diameter	17.18	in
Normal Depth	17.18	in
Flow Area	1.61	ft²
Wetted Perimeter	4.50	ft
Hydraulic Radius	4.29	in
Top Width	0.00	ft
Critical Depth	1.41	ft
Percent Full	100.0	%
Critical Slope	0.03788	ft/ft
Velocity	11.81	ft/s
Velocity Head	2.17	ft
Specific Energy	3.60	ft
Froude Number	0.00	
Maximum Discharge	20.44	ft³/s
Discharge Full	19.00	ft³/s
Slope Full	0.04198	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 7 - 24" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	17.18	in
Critical Depth	1.41	ft
Channel Slope	4.2	%
Critical Slope	0.03788	ft/ft

Cross Section for Facility 7 - 24" RCP

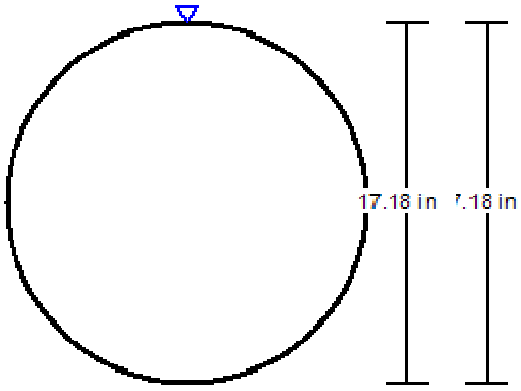
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.2	%
Normal Depth	17.18	in
Diameter	17.18	in
Discharge	19.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 12 - 30" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.2	%
Normal Depth	15.72	in
Diameter	15.72	in
Discharge	15.00	ft³/s

Results

Diameter	15.72	in
Normal Depth	15.72	in
Flow Area	1.35	ft²
Wetted Perimeter	4.11	ft
Hydraulic Radius	3.93	in
Top Width	0.00	ft
Critical Depth	1.29	ft
Percent Full	100.0	%
Critical Slope	0.03784	ft/ft
Velocity	11.13	ft/s
Velocity Head	1.93	ft
Specific Energy	3.24	ft
Froude Number	0.00	
Maximum Discharge	16.13	ft³/s
Discharge Full	14.99	ft³/s
Slope Full	0.04203	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 12 - 30" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	15.72	in
Critical Depth	1.29	ft
Channel Slope	4.2	%
Critical Slope	0.03784	ft/ft

Cross Section for Facility 12 - 30" RCP

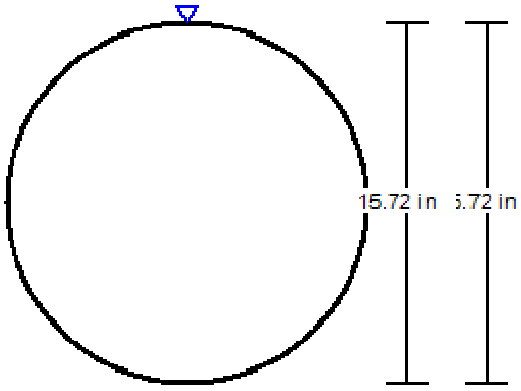
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.2	%
Normal Depth	15.72	in
Diameter	15.72	in
Discharge	15.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 13 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.7	%
Normal Depth	26.39	in
Diameter	26.39	in
Discharge	38.00	ft³/s

Results

Diameter	26.39	in
Normal Depth	26.39	in
Flow Area	3.80	ft²
Wetted Perimeter	6.91	ft
Hydraulic Radius	6.60	in
Top Width	0.00	ft
Critical Depth	2.05	ft
Percent Full	100.0	%
Critical Slope	0.01470	ft/ft
Velocity	10.00	ft/s
Velocity Head	1.55	ft
Specific Energy	3.75	ft
Froude Number	0.00	
Maximum Discharge	40.88	ft³/s
Discharge Full	38.00	ft³/s
Slope Full	0.01700	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 13 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	26.39	in
Critical Depth	2.05	ft
Channel Slope	1.7	%
Critical Slope	0.01470	ft/ft

Cross Section for Facility 13 - 36" RCP

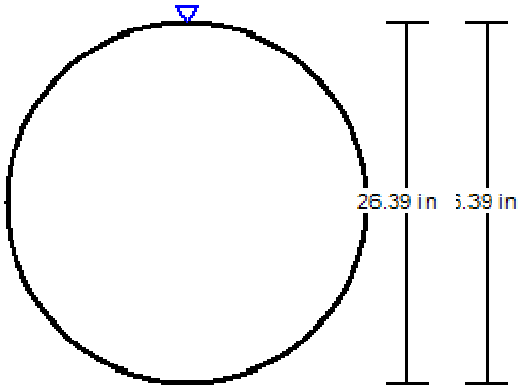
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	1.7	%
Normal Depth	26.39	in
Diameter	26.39	in
Discharge	38.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 19 - 24" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.7	%
Normal Depth	17.70	in
Diameter	17.70	in
Discharge	26.00	ft³/s

Results

Diameter	17.70	in
Normal Depth	17.70	in
Flow Area	1.71	ft²
Wetted Perimeter	4.63	ft
Hydraulic Radius	4.42	in
Top Width	0.00	ft
Critical Depth	1.47	ft
Percent Full	100.0	%
Critical Slope	0.06266	ft/ft
Velocity	15.22	ft/s
Velocity Head	3.60	ft
Specific Energy	5.07	ft
Froude Number	0.00	
Maximum Discharge	27.96	ft³/s
Discharge Full	25.99	ft³/s
Slope Full	0.06703	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 19 - 24" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	17.70	in
Critical Depth	1.47	ft
Channel Slope	6.7	%
Critical Slope	0.06266	ft/ft

Cross Section for Facility 19 - 24" RCP

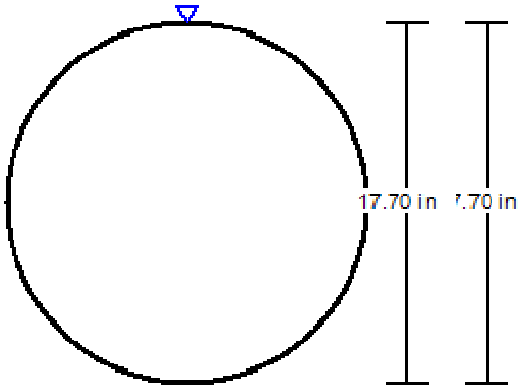
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.7	%
Normal Depth	17.70	in
Diameter	17.70	in
Discharge	26.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 27 - 42" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	7.8	%
Normal Depth	36.05	in
Diameter	36.05	in
Discharge	187.00	ft³/s

Results

Diameter	36.05	in
Normal Depth	36.05	in
Flow Area	7.09	ft²
Wetted Perimeter	9.44	ft
Hydraulic Radius	9.01	in
Top Width	0.00	ft
Critical Depth	3.00	ft
Percent Full	100.0	%
Critical Slope	0.07447	ft/ft
Velocity	26.38	ft/s
Velocity Head	10.81	ft
Specific Energy	13.82	ft
Froude Number	0.00	
Maximum Discharge	201.16	ft³/s
Discharge Full	187.00	ft³/s
Slope Full	0.07800	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 27 - 42" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	36.05	in
Critical Depth	3.00	ft
Channel Slope	7.8	%
Critical Slope	0.07447	ft/ft

Cross Section for Facility 27 - 42" RCP

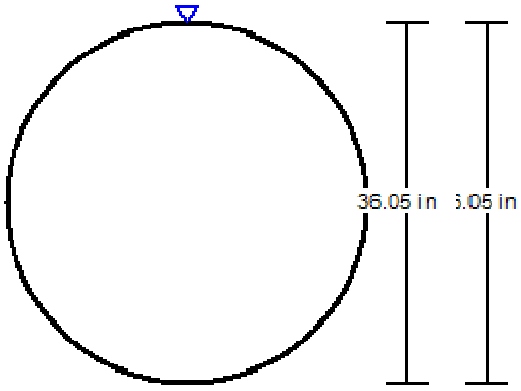
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	7.8	%
Normal Depth	36.05	in
Diameter	36.05	in
Discharge	187.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 29 - 48" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.3	%
Normal Depth	38.92	in
Diameter	38.92	in
Discharge	189.00	ft³/s

Results

Diameter	38.92	in
Normal Depth	38.92	in
Flow Area	8.26	ft²
Wetted Perimeter	10.19	ft
Hydraulic Radius	9.73	in
Top Width	0.00	ft
Critical Depth	3.22	ft
Percent Full	100.0	%
Critical Slope	0.04963	ft/ft
Velocity	22.88	ft/s
Velocity Head	8.14	ft
Specific Energy	11.38	ft
Froude Number	0.00	
Maximum Discharge	203.31	ft³/s
Discharge Full	189.00	ft³/s
Slope Full	0.05300	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 29 - 48" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	38.92	in
Critical Depth	3.22	ft
Channel Slope	5.3	%
Critical Slope	0.04963	ft/ft

Cross Section for Facility 29 - 48" RCP

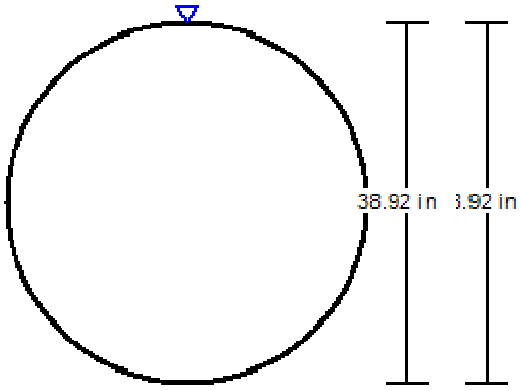
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.3	%
Normal Depth	38.92	in
Diameter	38.92	in
Discharge	189.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 31 - 48" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.9	%
Normal Depth	38.74	in
Diameter	38.74	in
Discharge	197.00	ft³/s

Results

Diameter	38.74	in
Normal Depth	38.74	in
Flow Area	8.19	ft²
Wetted Perimeter	10.14	ft
Hydraulic Radius	9.68	in
Top Width	0.00	ft
Critical Depth	3.21	ft
Percent Full	100.0	%
Critical Slope	0.05560	ft/ft
Velocity	24.07	ft/s
Velocity Head	9.00	ft
Specific Energy	12.23	ft
Froude Number	0.00	
Maximum Discharge	211.91	ft³/s
Discharge Full	197.00	ft³/s
Slope Full	0.05900	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 31 - 48" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	38.74	in
Critical Depth	3.21	ft
Channel Slope	5.9	%
Critical Slope	0.05560	ft/ft

Cross Section for Facility 31 - 48" RCP

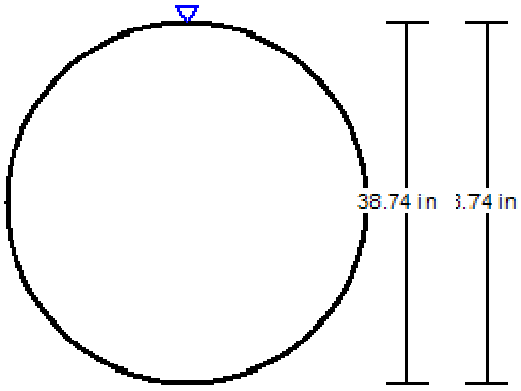
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.9	%
Normal Depth	38.74	in
Diameter	38.74	in
Discharge	197.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 32 - 24" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	7.3	%
Normal Depth	16.64	in
Diameter	16.64	in
Discharge	23.00	ft³/s

Results

Diameter	16.64	in
Normal Depth	16.64	in
Flow Area	1.51	ft²
Wetted Perimeter	4.36	ft
Hydraulic Radius	4.16	in
Top Width	0.00	ft
Critical Depth	1.38	ft
Percent Full	100.0	%
Critical Slope	0.06852	ft/ft
Velocity	15.24	ft/s
Velocity Head	3.61	ft
Specific Energy	4.99	ft
Froude Number	0.00	
Maximum Discharge	24.74	ft³/s
Discharge Full	23.00	ft³/s
Slope Full	0.07301	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 32 - 24" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	16.64	in
Critical Depth	1.38	ft
Channel Slope	7.3	%
Critical Slope	0.06852	ft/ft

Cross Section for Facility 32 - 24" RCP

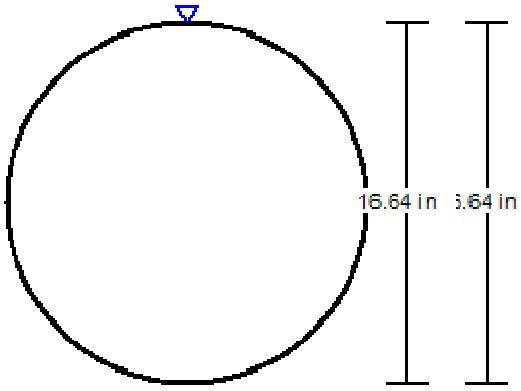
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	7.3	%
Normal Depth	16.64	in
Diameter	16.64	in
Discharge	23.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 33 - 48" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.6	%
Normal Depth	40.14	in
Diameter	40.14	in
Discharge	229.00	ft³/s

Results

Diameter	40.14	in
Normal Depth	40.14	in
Flow Area	8.79	ft²
Wetted Perimeter	10.51	ft
Hydraulic Radius	10.03	in
Top Width	0.00	ft
Critical Depth	3.33	ft
Percent Full	100.0	%
Critical Slope	0.06261	ft/ft
Velocity	26.06	ft/s
Velocity Head	10.56	ft
Specific Energy	13.90	ft
Froude Number	0.00	
Maximum Discharge	246.35	ft³/s
Discharge Full	229.01	ft³/s
Slope Full	0.06600	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 33 - 48" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	40.14	in
Critical Depth	3.33	ft
Channel Slope	6.6	%
Critical Slope	0.06261	ft/ft

Cross Section for Facility 33 - 48" RCP

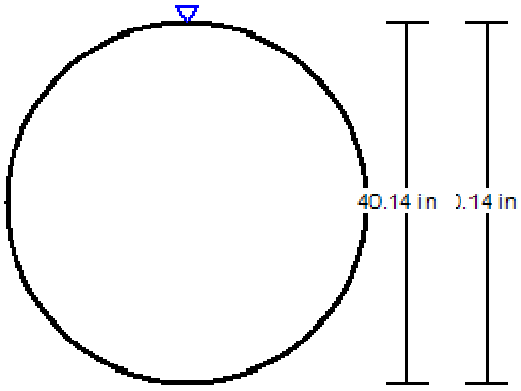
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.6	%
Normal Depth	40.14	in
Diameter	40.14	in
Discharge	229.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 34 - 30" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.8	%
Normal Depth	19.66	in
Diameter	19.66	in
Discharge	32.00	ft³/s

Results

Diameter	19.66	in
Normal Depth	19.66	in
Flow Area	2.11	ft²
Wetted Perimeter	5.15	ft
Hydraulic Radius	4.91	in
Top Width	0.00	ft
Critical Depth	1.62	ft
Percent Full	100.0	%
Critical Slope	0.05384	ft/ft
Velocity	15.18	ft/s
Velocity Head	3.58	ft
Specific Energy	5.22	ft
Froude Number	0.00	
Maximum Discharge	34.42	ft³/s
Discharge Full	32.00	ft³/s
Slope Full	0.05801	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 34 - 30" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	19.66	in
Critical Depth	1.62	ft
Channel Slope	5.8	%
Critical Slope	0.05384	ft/ft

Cross Section for Facility 34 - 30" RCP

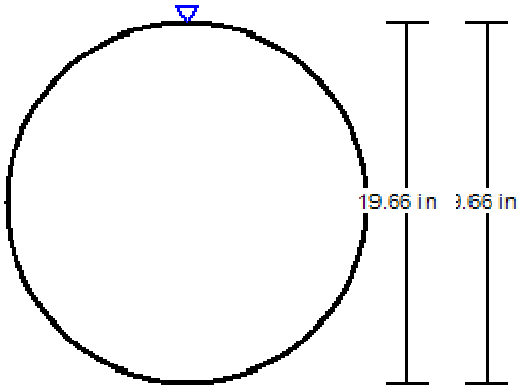
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.8	%
Normal Depth	19.66	in
Diameter	19.66	in
Discharge	32.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 35A - 24" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.6	%
Normal Depth	17.77	in
Diameter	17.77	in
Discharge	24.00	ft³/s

Results

Diameter	17.77	in
Normal Depth	17.77	in
Flow Area	1.72	ft²
Wetted Perimeter	4.65	ft
Hydraulic Radius	4.44	in
Top Width	0.00	ft
Critical Depth	1.47	ft
Percent Full	100.0	%
Critical Slope	0.05168	ft/ft
Velocity	13.94	ft/s
Velocity Head	3.02	ft
Specific Energy	4.50	ft
Froude Number	0.00	
Maximum Discharge	25.83	ft³/s
Discharge Full	24.01	ft³/s
Slope Full	0.05596	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 35A - 24" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	17.77	in
Critical Depth	1.47	ft
Channel Slope	5.6	%
Critical Slope	0.05168	ft/ft

Cross Section for Facility 35A - 24" RCP

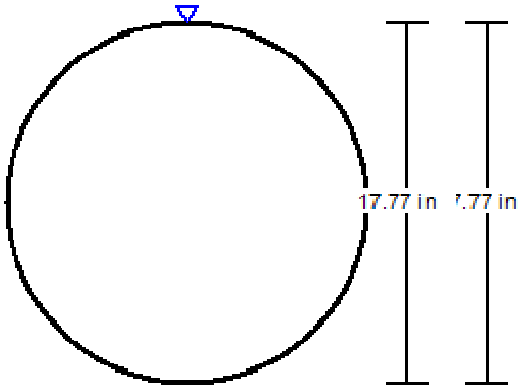
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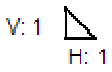
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.6	%
Normal Depth	17.77	in
Diameter	17.77	in
Discharge	24.00	ft³/s

Cross Section Image





Worksheet for Facility 35B - 30" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.6	%
Normal Depth	22.30	in
Diameter	22.30	in
Discharge	44.00	ft³/s

Results

Diameter	22.30	in
Normal Depth	22.30	in
Flow Area	2.71	ft²
Wetted Perimeter	5.84	ft
Hydraulic Radius	5.57	in
Top Width	0.00	ft
Critical Depth	1.84	ft
Percent Full	100.0	%
Critical Slope	0.05198	ft/ft
Velocity	16.22	ft/s
Velocity Head	4.09	ft
Specific Energy	5.95	ft
Froude Number	0.00	
Maximum Discharge	47.34	ft³/s
Discharge Full	44.00	ft³/s
Slope Full	0.05599	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 35B - 30" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	22.30	in
Critical Depth	1.84	ft
Channel Slope	5.6	%
Critical Slope	0.05198	ft/ft

Cross Section for Facility 35B - 30" RCP

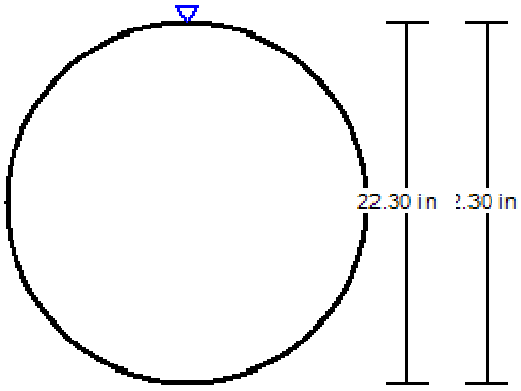
Project Description

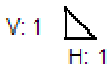
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.6	%
Normal Depth	22.30	in
Diameter	22.30	in
Discharge	44.00	ft³/s

Cross Section Image





Worksheet for Facility 35C - 30" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.6	%
Normal Depth	23.74	in
Diameter	23.74	in
Discharge	52.00	ft³/s

Results

Diameter	23.74	in
Normal Depth	23.74	in
Flow Area	3.07	ft²
Wetted Perimeter	6.22	ft
Hydraulic Radius	5.94	in
Top Width	0.00	ft
Critical Depth	1.96	ft
Percent Full	100.0	%
Critical Slope	0.05207	ft/ft
Velocity	16.92	ft/s
Velocity Head	4.45	ft
Specific Energy	6.43	ft
Froude Number	0.00	
Maximum Discharge	55.94	ft³/s
Discharge Full	52.00	ft³/s
Slope Full	0.05600	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 35C - 30" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	23.74	in
Critical Depth	1.96	ft
Channel Slope	5.6	%
Critical Slope	0.05207	ft/ft

Cross Section for Facility 35C - 30" RCP

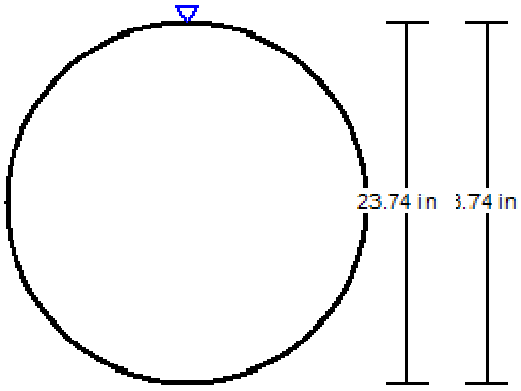
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.6	%
Normal Depth	23.74	in
Diameter	23.74	in
Discharge	52.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 38 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.0	%
Normal Depth	29.72	in
Diameter	29.72	in
Discharge	98.00	ft³/s

Results

Diameter	29.72	in
Normal Depth	29.72	in
Flow Area	4.82	ft²
Wetted Perimeter	7.78	ft
Hydraulic Radius	7.43	in
Top Width	0.00	ft
Critical Depth	2.46	ft
Percent Full	100.0	%
Critical Slope	0.05630	ft/ft
Velocity	20.34	ft/s
Velocity Head	6.43	ft
Specific Energy	8.91	ft
Froude Number	0.00	
Maximum Discharge	105.42	ft³/s
Discharge Full	98.00	ft³/s
Slope Full	0.06000	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 38 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	29.72	in
Critical Depth	2.46	ft
Channel Slope	6.0	%
Critical Slope	0.05630	ft/ft

Cross Section for Facility 38 - 36" RCP

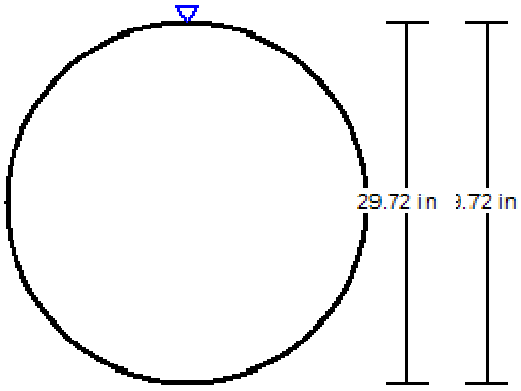
Project Description

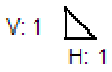
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.0	%
Normal Depth	29.72	in
Diameter	29.72	in
Discharge	98.00	ft³/s

Cross Section Image





Worksheet for Facility 39 - 24" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.1	%
Normal Depth	18.01	in
Diameter	18.01	in
Discharge	26.00	ft³/s

Results

Diameter	18.01	in
Normal Depth	18.01	in
Flow Area	1.77	ft²
Wetted Perimeter	4.72	ft
Hydraulic Radius	4.50	in
Top Width	0.00	ft
Critical Depth	1.49	ft
Percent Full	100.0	%
Critical Slope	0.05669	ft/ft
Velocity	14.69	ft/s
Velocity Head	3.35	ft
Specific Energy	4.85	ft
Froude Number	0.00	
Maximum Discharge	27.97	ft³/s
Discharge Full	26.00	ft³/s
Slope Full	0.06100	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 39 - 24" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	18.01	in
Critical Depth	1.49	ft
Channel Slope	6.1	%
Critical Slope	0.05669	ft/ft

Cross Section for Facility 39 - 24" RCP

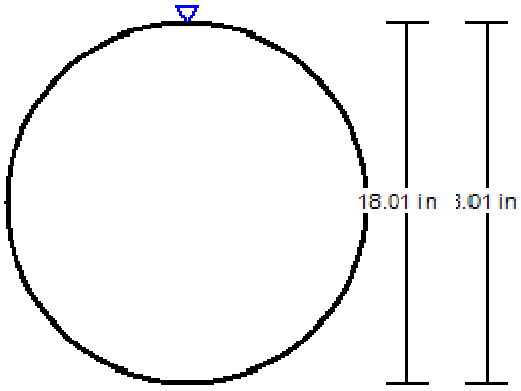
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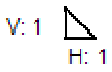
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.1	%
Normal Depth	18.01	in
Diameter	18.01	in
Discharge	26.00	ft³/s

Cross Section Image





Worksheet for Facility 41 - 24" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.2	%
Normal Depth	20.71	in
Diameter	20.71	in
Discharge	38.00	ft³/s

Results

Diameter	20.71	in
Normal Depth	20.71	in
Flow Area	2.34	ft²
Wetted Perimeter	5.42	ft
Hydraulic Radius	5.18	in
Top Width	0.00	ft
Critical Depth	1.71	ft
Percent Full	100.0	%
Critical Slope	0.05787	ft/ft
Velocity	16.25	ft/s
Velocity Head	4.10	ft
Specific Energy	5.83	ft
Froude Number	0.00	
Maximum Discharge	40.87	ft³/s
Discharge Full	38.00	ft³/s
Slope Full	0.06201	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 41 - 24" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	20.71	in
Critical Depth	1.71	ft
Channel Slope	6.2	%
Critical Slope	0.05787	ft/ft

Cross Section for Facility 41 - 24" RCP

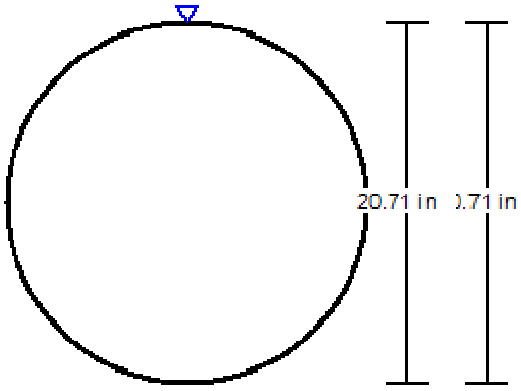
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	6.2	%
Normal Depth	20.71	in
Diameter	20.71	in
Discharge	38.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 42 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.9	%
Normal Depth	26.62	in
Diameter	26.62	in
Discharge	66.00	ft³/s

Results

Diameter	26.62	in
Normal Depth	26.62	in
Flow Area	3.86	ft²
Wetted Perimeter	6.97	ft
Hydraulic Radius	6.65	in
Top Width	0.00	ft
Critical Depth	2.20	ft
Percent Full	100.0	%
Critical Slope	0.04526	ft/ft
Velocity	17.08	ft/s
Velocity Head	4.53	ft
Specific Energy	6.75	ft
Froude Number	0.00	
Maximum Discharge	71.00	ft³/s
Discharge Full	66.00	ft³/s
Slope Full	0.04900	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 42 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	26.62	in
Critical Depth	2.20	ft
Channel Slope	4.9	%
Critical Slope	0.04526	ft/ft

Cross Section for Facility 42 - 36" RCP

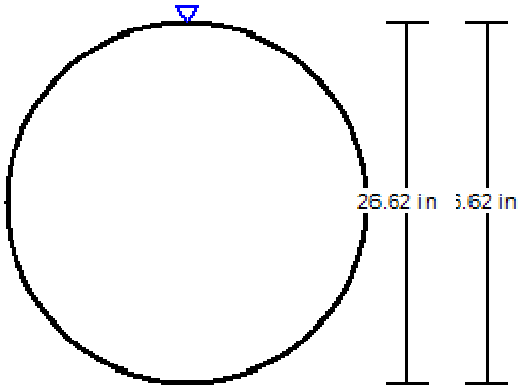
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	4.9	%
Normal Depth	26.62	in
Diameter	26.62	in
Discharge	66.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 43 - 30" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.0	%
Normal Depth	22.38	in
Diameter	22.38	in
Discharge	42.00	ft³/s

Results

Diameter	22.38	in
Normal Depth	22.38	in
Flow Area	2.73	ft²
Wetted Perimeter	5.86	ft
Hydraulic Radius	5.60	in
Top Width	0.00	ft
Critical Depth	1.85	ft
Percent Full	100.0	%
Critical Slope	0.04604	ft/ft
Velocity	15.37	ft/s
Velocity Head	3.67	ft
Specific Energy	5.54	ft
Froude Number	0.00	
Maximum Discharge	45.18	ft³/s
Discharge Full	42.00	ft³/s
Slope Full	0.04999	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 43 - 30" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	22.38	in
Critical Depth	1.85	ft
Channel Slope	5.0	%
Critical Slope	0.04604	ft/ft

Cross Section for Facility 43 - 30" RCP

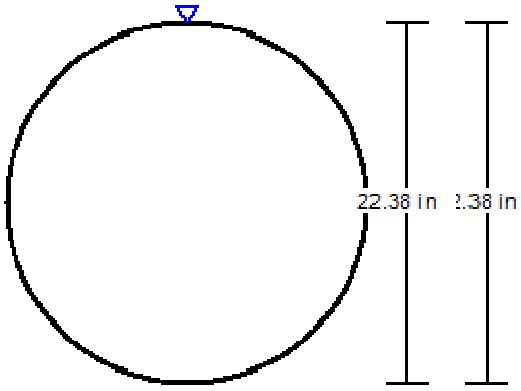
Project Description

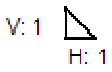
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.0	%
Normal Depth	22.38	in
Diameter	22.38	in
Discharge	42.00	ft³/s

Cross Section Image





Worksheet for Facility 45 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.0	%
Normal Depth	25.75	in
Diameter	25.75	in
Discharge	61.00	ft³/s

Results

Diameter	25.75	in
Normal Depth	25.75	in
Flow Area	3.62	ft²
Wetted Perimeter	6.74	ft
Hydraulic Radius	6.44	in
Top Width	0.00	ft
Critical Depth	2.13	ft
Percent Full	100.0	%
Critical Slope	0.04621	ft/ft
Velocity	16.87	ft/s
Velocity Head	4.42	ft
Specific Energy	6.57	ft
Froude Number	0.00	
Maximum Discharge	65.62	ft³/s
Discharge Full	61.00	ft³/s
Slope Full	0.05000	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 45 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	25.75	in
Critical Depth	2.13	ft
Channel Slope	5.0	%
Critical Slope	0.04621	ft/ft

Cross Section for Facility 45 - 36" RCP

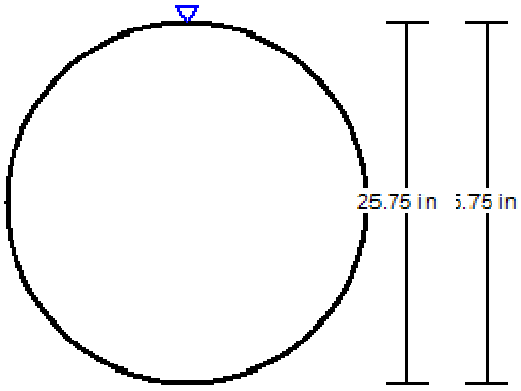
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	5.0	%
Normal Depth	25.75	in
Diameter	25.75	in
Discharge	61.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 49 - 30" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	11.8	%
Normal Depth	23.68	in
Diameter	23.68	in
Discharge	75.00	ft³/s

Results

Diameter	23.68	in
Normal Depth	23.68	in
Flow Area	3.06	ft²
Wetted Perimeter	6.20	ft
Hydraulic Radius	5.92	in
Top Width	0.00	ft
Critical Depth	1.97	ft
Percent Full	100.0	%
Critical Slope	0.11391	ft/ft
Velocity	24.52	ft/s
Velocity Head	9.34	ft
Specific Energy	11.31	ft
Froude Number	0.00	
Maximum Discharge	80.68	ft³/s
Discharge Full	75.00	ft³/s
Slope Full	0.11800	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 49 - 30" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	23.68	in
Critical Depth	1.97	ft
Channel Slope	11.8	%
Critical Slope	0.11391	ft/ft

Cross Section for Facility 49 - 30" RCP

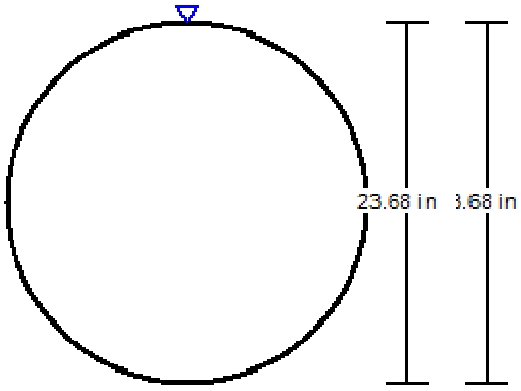
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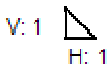
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	11.8	%
Normal Depth	23.68	in
Diameter	23.68	in
Discharge	75.00	ft³/s

Cross Section Image





Worksheet for Facility 50 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.0	%
Normal Depth	30.57	in
Diameter	30.57	in
Discharge	61.00	ft³/s

Results

Diameter	30.57	in
Normal Depth	30.57	in
Flow Area	5.10	ft²
Wetted Perimeter	8.00	ft
Hydraulic Radius	7.64	in
Top Width	0.00	ft
Critical Depth	2.43	ft
Percent Full	100.0	%
Critical Slope	0.01733	ft/ft
Velocity	11.96	ft/s
Velocity Head	2.22	ft
Specific Energy	4.77	ft
Froude Number	0.00	
Maximum Discharge	65.63	ft³/s
Discharge Full	61.01	ft³/s
Slope Full	0.01999	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 50 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	30.57	in
Critical Depth	2.43	ft
Channel Slope	2.0	%
Critical Slope	0.01733	ft/ft

Cross Section for Facility 50 - 36" RCP

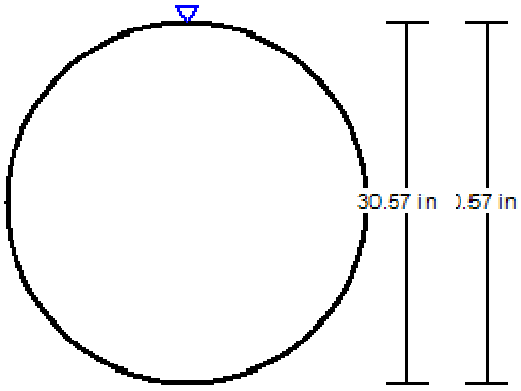
Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	2.0	%
Normal Depth	30.57	in
Diameter	30.57	in
Discharge	61.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Facility 52 - 36" RCP

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	12.0	%
Normal Depth	24.30	in
Diameter	24.30	in
Discharge	81.00	ft³/s

Results

Diameter	24.30	in
Normal Depth	24.30	in
Flow Area	3.22	ft²
Wetted Perimeter	6.36	ft
Hydraulic Radius	6.08	in
Top Width	0.00	ft
Critical Depth	2.02	ft
Percent Full	100.0	%
Critical Slope	0.11591	ft/ft
Velocity	25.15	ft/s
Velocity Head	9.83	ft
Specific Energy	11.85	ft
Froude Number	0.00	
Maximum Discharge	87.14	ft³/s
Discharge Full	81.01	ft³/s
Slope Full	0.11997	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%

Worksheet for Facility 52 - 36" RCP

GVF Output Data

Normal Depth Over Rise	100.00	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	24.30	in
Critical Depth	2.02	ft
Channel Slope	12.0	%
Critical Slope	0.11591	ft/ft

Cross Section for Facility 52 - 36" RCP

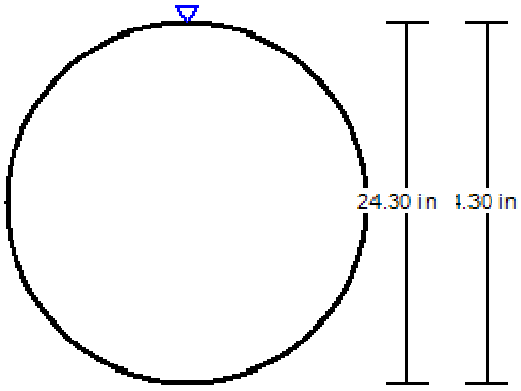
Project Description

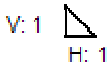
Friction Method	Manning Formula
Solve For	Full Flow Diameter

Input Data

Roughness Coefficient	0.013	
Channel Slope	12.0	%
Normal Depth	24.30	in
Diameter	24.30	in
Discharge	81.00	ft³/s

Cross Section Image





APPENDIX D
REFERENCE MATERIAL

D.1 CITY OF LAS VEGAS COMMENTS

CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM				DATE: November 11, 2017
TO: **Land Development Services** Department of Building & Safety				FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for: **Summerlin West Planning Area Master Plan Update**			**COPIES TO:** VTN Nevada
Cross Streets:	West of I-215 between Lake Mead Boulevard and Charleston Boulevard			The Howard Hughes Corporation
File Number:	F:\Depot\DSMemos\DS4926.doc			Bart Anderson, P.E., DevCo
Parcel Number:	137-22-000-017			CCRFCD
Zoning Action:				CCPW
FEMA Flood Zone	YES X	NO		
Proposed Storm Drain	YES X	NO		

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Payment Trn #
1st Submittal	10/9/2017 & 10/25/2017	11/8/2017	See Comments Below	$400.00	490518 $400
			TOTAL FEES (LDDRS):	**$400.00**	----

REMARKS:

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

	is approved subject to conformance to all City standards and the following conditions
X	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.

1. Provide a copy of the zoning/planning conditions associated with this site with the next submittal to verify compliance with conditions. *Flood Control* will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the *City Council*). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
2. The site is adjacent to or crosses an existing or proposed *Clark County Regional Flood Control District (CCRFCD)* master planned facility. Therefore, CCRFCD concurrence is required prior to final approval of the drainage study.
3. The site is adjacent to Clark County. Clark County Public Works concurrence is required prior to final approval of the drainage study.
4. Provide a letter of approval from Summerlin for the subject Summerlin West Planning Area Master Study Update in the next submittal.
5. Provide a table showing the 2006 combination point flows versus the similar current combination point flows. Such table will provide a convenient comparison between the previous and the proposed differences.

6. Provide a discussion of the phasing plans of ***Summerlin West Planning Area***. It appears that **Area 1** will be included as the first phase, please discuss the sequence of future phasing. Technical drainage studies will be required for infrastructures and the subsequent Area 1, Area 2 etc. onsite developments.

7. In *Figure A.6.1 Overall Drainage Basin Map*, provide labeled contours and identify the proposed study limits. Show the discharging points of each tributary. For example, "CP1.4" of *V26 Tributary* etc. Also identify the location of the existing *DB5 Detention Basin* and the proposed *Grand Park Detention Basin* on the map.

8. In *Figures A.6.2, A.6.3, and A.6.4 (Tributary Maps)*, provide labeled contours and show the downstream detention basins. Also, please differentiate the labels for the combination points and Lot IDs more clearly and adjust overlapping labels.

9. In *Figure A.5.2 Overall Soil Map*, check that the legend matches the exhibit. For example, the soil numbers in the legend are red but on the exhibit, they appear black. The black labels are difficult to read when overlapped with the other labels.

10. In *Figure A.6.5 Regional Flood Control Facilities Map*, make sure the legend matches the exhibit. For example, the legend shows a black dot for the concentration points but the exhibit appears to have pink dots. Also, please use a different line type or color to differentiate between the Basin Boundary and the Existing Storm Drain Alignment.

11. Provide an exhibit or adjust existing exhibits to show all basins included in the HEC-1 models. For example, Beltway Channel North/V26 Basin Tributary as shown in figure A.6.2 is the upstream portion of the HEC-1 model. Provide an exhibit that shows all basins and basin interaction (flow direction/combination points) for the entire HEC-1 model so that the model can be properly evaluated. Please also show the CCRFCD flood control systems that these basins ultimately drain to on this exhibit.

12. Check the graphic scale on all exhibits for accuracy. For example, Figure A.6.1 Overall Drainage Basin Map and A.6.7 Area 1 Flood Control Facilities Map show a graphic scale of 1" = 1' which does not seem to be correct.

13. Clarify why soil numbers 294, 351, 151, and 263 do not appear in the "Soil Comparison 7809" table but appear in the soils report and on the overall soil map.

14. In *Appendix B.4*, provide the CN computations in a legible format. The current format is too small to read.

15. In *Figure A.6.5 Regional Flood Control Facilities Map*, concentration point CPDBA-B appears to be a detention basin. If this is the Grand Park Detention Basin discussed in the report please clearly label it and if not please clarify and provide discussion.

16. Provide the precipitation calculations used to derive the PB (precipitation) values in the HEC 1 models. Additionally, in Appendix B.2 CCRFCD Supplemental Documentation please circle or highlight values used from each table and figure as applicable to calculating the precipitation including marking the site location on Figures 506 and 503.

17. Soil Comparison 7809 table, in the second table please clarify what "100-yr Old" and "100-yr New" values are supposed to represent.

18. Beltway Channel North / Village 26 Tributary HEC-1 model basin 1-2 input UD (lag time) does not match the value provided in Standard Form 4 (Appendix B.4).

19. Beltway Channel North / Village 26 Tributary HEC-1 model basin 1-6 input BA (basin area) and UD (lag time) do not match the value provided in Standard Form 4 (Appendix B.4).

20. *Appendix B.1 HEC-1 Flowrate Summary* for V26 Tributary Proposed Condition concentration point CP1.4 lists a Q_{100} of 3285 cfs whereas Figure A.6.2 lists CP1.4 to have a Q_{100} of 3315 cfs. Please revise the values to the correct flow.

21. *Appendix B.4*, cover sheets do not match contents. For example, *Appendix B.4.2 Beltway Non Tributary* contains curve number/lag time/ routing calculations for onsite DB5/ Alta Tributary. Please adjust all cover sheets to match the correct contents.

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
WSP/AYS

T/R/S: T21S/R69E/22
AREA K-22

D.2 THE HOWARD HUGHES CORPORATION APPROVAL LETTER

The Howard Hughes Corporation
Summerlin Office
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Las Vegas, NV 89135

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Julie Cleaver
Vice President,
Planning & Design
Summerlin

December 6, 2017

City of Las Vegas
333 N. Rancho
Las Vegas, NV 89106

Subject: **Approval Letter to City of Las Vegas**

Dear Sir or Madame:

The Summerlin Non-Residential Design Review Committee (SNRDRC) has reviewed and approved the following for submittal to the City of Las Vegas:

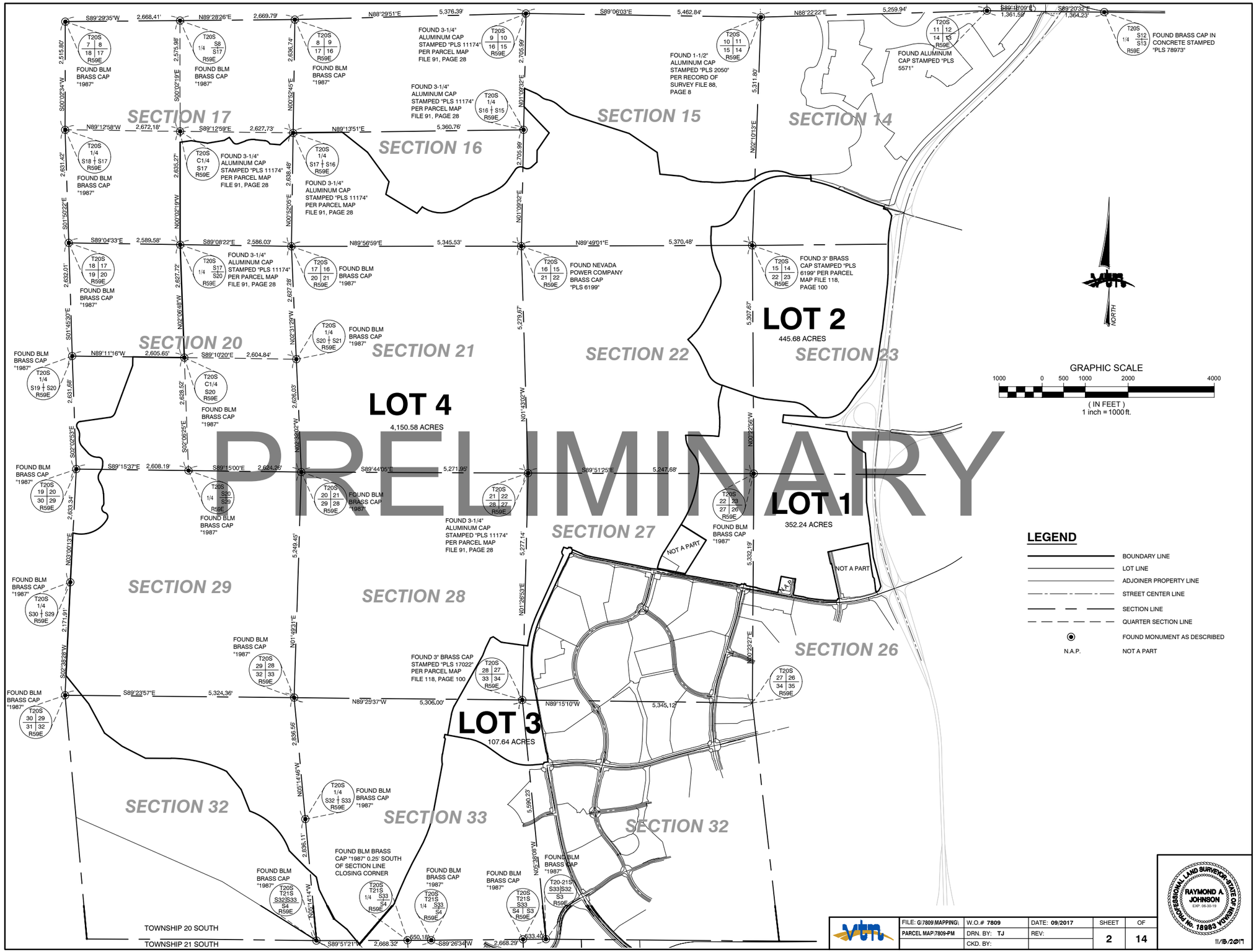
- Addendum #1 to the Flood Control Master Plan Update -Summerlin West Master Planning Area, Las Vegas, Nevada

If you have any questions or concerns with this matter, please do not hesitate to contact me at (702) 791-4388.

Sincerely,

Julie Cleaver
Vice President, Planning and Design Summerlin

D.3 VTN PARCEL MAP



PRELIMINARY

FILE: G:\7809\MAPPING\	W.O.# 7809	DATE: 09/2017	SHEET	OF
PARCEL MAP\7809-PM	DRN. BY: TJ	REV:	2	14
	CKD. BY:			

RAYMOND A. JOHNSON
EXP. 06-30-19
No. PROFESSIONAL LAND SURVEYOR STATE OF NEVADA 18983

11/15/2017