FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
PHOENIX, ARIZONA

FOUNTAIN HILLS AREA DRAINAGE MASTER PLAN FCD 94-16

FINAL REPORT

Part A: Project Summary

Part B: Golden Eagle Park Dam, Feasibility Study

George V. Sabol Consulting Engineers, Inc.
Scottsdale, Arizona

JULY 1997

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399
(602) 506-1501
FAX: (602) 506-4601
TT: (602) 506-5897

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September 2, 1997

MEMO TO: Ed Raleigh, Engineering Division

FROM: Tom Renckly, Planning and Project Management Division

SUBJECT: Fountain Hills Area Drainage Master Plan - FCD 94-16, Final Report: Part A: Project Summary Part B: Golden Eagle Park Dam, Feasibility Study George V. Sabol Consulting Engineers (GVSCE), Inc. - July 1997

Report Review Comments

The subject report provides a recommended alternative to modify Golden Eagle Park Dam to address dam safety and flooding issues identified in earlier studies. District review comments on the draft final report were provided to GVSCE and response comments were received with the final report. Copies of these letters are included in the front section of the final report. All comments received on the draft final report were useful. Comments not provided to the consultant will be addressed in the next phase of the project.

Final report review comments from ADWR, Dam Safety Section were provided by faxogram dated August 27, 1997. A copy of the faxogram is included in the front section of the final feasibility report.

Final Report Corrections

1. Page 7, Second paragraph, second sentence should read: "Under future watershed conditions, the emergency spillway will discharge about 955 cfs during the 100-year flood. "

2. Sections G, F and J – Please note that in the final report the 0.5 PMF HEC-1 routing at the dam was re-run based on a revised rating curve for the emergency spillway. This yielded a maximum water surface elevation of 1721.11'. The previous HEC-1 analysis in the draft final report indicated a maximum water surface of 1721.43'. Plates 1and 2, and page 16 of the report should be changed to reflect the revised maximum water surface elevation 1721.11'.

In addition, note that the HEC-1 and HEC-2 digital files disk dated July 11, 1997 does not reflect the re-run of the 0.5PMF routing at the dam and instead includes files from the draft final. The consultant has been contacted and appropriates files on the disk will be updated and the disk dated July 11, 1997 will be replaced.

COORD: RM

INFO: MAL, WFR, TMM, AMM, KAK,

FILE: AFH 1.2

ARIZONA DEPARTMENT OF WATER RESOURCES

500 North Third Street, Phoenix, Arizona 85004-3903
Telephone (602) 417-2445
Fax (602) 417-2423

FIFE SYMINGTON
Governor

RITA P. PEARSON
Director

FACSIMILE TRANSMITTAL COVER SHEET

DATE: August 22, 1997

TO (Company): Flood Control Dist.of Maricopa Co	ATTN: Tom Renckly
COMPANY FAX NUMBER: (602) 506-4601	COMPANY PHONE NUMBER: (602) 506-8610
FROM: JON M. BENOIST	DAM SAFETY SECTION
OFFICE PHONE NO: (602) 417-2400, ext. 7191	FACSIMILE NO: (602) 417-2423

COMMENTS: REF: Golden Eagle Park Dam (07.33), Rehabilitation Project

We have completed a "Fatal Flaw" review of the report prepared by George V. Sabol Consulting Engineers, Inc.and have the following preliminary comments per your request:

1. The report may overestimate the discharge coefficient, since the poor spillway approach geometry appears to not have been included in the analyses.

2. It was not obvious in our brief review if the rating curve calculations were included in the report for the existing and proposed principal spillway.

3. The minimum dam crest width should be maintained at 12 feet.

4. The minimum freeboard should be 3 feet in accordance with ADWR guidelines.

5. The development of the emergency spillway rating curve should be revised. We do not believe the site conditions are suitable for use of the Uneven Weir Flow Program - FORTRAN Version 1.0. You can discuss this with John Linkswiler of our staff (417-2445).

John indicates that even if the approach channel were suitable, a value of 25 feet was used for the 'breath of weir' value while Sheet 2 of 2 of the plans show that the weir will be 40 feet wide with a sloping upstream face. The approach channel geometry for the spillway as originally constructed was poor and has been further degraded by the park development by the town. The USCE's 'Hydraulic Design of Spillways' (EM 1110-2-1603 16 Jan 1990) provides the following on page 2-3, "The planform of the approach channel can significantly influence the spillway discharge characteristics. The influence of the planform can be evaluated thoroughly only by the use of a site-specific physical model. In some cases a two-dimensional numerical model will be entirely adequate."

Within the context of the size of this project, a two-dimensional numerical model will be satisfactory provided that conservative values are used.

6. We did not observe any "fatal flaws" during our preliminary review. As previously discussed, we recommend that you be prudent in obtaining geotechnical information as required to proceed confidently with your preliminary and final design of the rehabilitation.

7. In order to continue with a detailed review it is necessary for ADWR to receive an application and copies of the supporting documents for the final design of the rehabilitation.

Please call Jon Benoist at 602-417-2400 ex7191 if you have any question.

2 PAGE(S) TRANSMITTED INCLUDING COVER SHEET.
IF ALL OF THE PAGES ARE NOT RECEIVED, PLEASE CALL ADWR:
JON M. BENOIST (602) 417-2400, ext. 7191

FLOOD CONTROL DISTRICT
of
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AUG 19 1997

Mr. Dan Lawrence, Manager
Dams Safety Section
Arizona Department of Water Resources
500 N. 3rd Street
Phoenix, Arizona 85004

Re: Fountain Hills ADMP - FCD-94-16
Report Titled: Part A: Project Summary, Part B: Golden Eagle Park Dam, Feasibility Study, July 1997 - Prepared by George V. Sabol Consulting Engineers, Inc.(GVSCE)

Dear Mr. Lawrence:

The subject report documents a recently completed study of the Golden Eagle Park Dam located in the Town of Fountain Hills. The study performed by GVSCE for the Flood Control District of Maricopa County (District) provides a recommended alternative to modify the dam and spillways in order to alleviate dam safety and flooding issues as identified in earlier studies.

We request that ADWR review the report and provide comments on the recommended alternative as you deem appropriate for this feasibility level of study. A copy of the subject report was delivered to Mr. Jon Benoist of your staff on August 13, 1997. Please provide your review comments concurrently to the District and to Mr. Randy Harrel, Town Engineer, Town of Fountain Hills.

As licensee of the dam, the Town of Fountain Hills has indicated to the District that Golden Eagle Park Dam is the Town's highest priority project. The District is continuing in a cooperative effort with the Town to address identified dam safety and flooding issues.

If you have any questions related to this request please contact me at 506-8610 or Mr. Russ Miracle at 506-2961.

Sincerely,

Tom Renckly

Tom Renckly, P.E.
Senior Civil Engineer

TR/lbw

Copy to: Randy L. Harrel, P.E., L.S., Town Engineer
Town of Fountain Hills
16836 East Palisades Blvd.
P.O. Box 17958
Fountain Hills AZ 85269

Info: ~~RM~~, ~~TM~~ ~~WFR~~, ~~TDS~~ ~~LBW~~ RGP 8/18
File: AFH 1.1

George V. Sabol Consulting Engineers, Inc.
8315 East Redfield Road
Scottsdale, Arizona 85260-3535

31 July 1997

file @ AFH 1.1

Mr. Russell Miracle, PE
Project Manager
Flood Control District of Maricopa County
2801 West Durango
Phoenix, AZ 85009

Subject: Fountain Hills ADMP, Contract FCD 94-16
Draft Final Report

Dear Russ:

With this letter, I am providing you with four copies each of the Final Report and the Emergency Access Plan and Routes Evaluation report. One copy of each of these reports and the attached memorandum are submitted directly to Mr. Randy Harrell, PE, Town of Fountain Hills.

Review comments by the District and the Town of Fountain Hills are incorporated into these final reports. The memorandum identifies the review comments that were received. Comments that have not resulted in changes to the report, or otherwise need response, are addressed in the memorandum.

Final reports for the Laser Drain floodplain delineation (by Entellus), and the Roadway Crossing Study (by McLaughlin-Kmetty Engineers, Ltd. and Entellus) were submitted previously. We gratefully acknowledge the contribution of those firms to this project.

This was an enjoyable project for us. It was a successful team effort by all involved. We appreciate the support and cooperation by you and others at the District, and by Mr. Randy Harrel and others at the Town of Fountain Hills. The emergency access study was possibly unique, interesting and hopefully of great use by the Town of Fountain Hills. The engineering work for Golden Eagle Park Dam was undertaken with interest and care by our staff. We hope that that work leads to a successful resolution of the 100-year flood and dam safety issues at that dam.

Finally, I and the staff of George V. Sabol Consulting Engineers, Inc. appreciate the opportunity to be of service to you, the Flood Control District, and the Town of Fountain Hills. Of course, I and the entire staff of the Water Resources Division of Stantech Consulting Inc. look forward to the opportunity to be of continued service to the District and to the people of Maricopa County.

Sincerely yours,

George V. Sabol, PhD, PE

Enclosures:
1. Four copies of final reports
2. Memorandum

Copy w/Enclosures: Mr. Randy Harrel, PE, Town of Fountain Hills

FLOOD CONTROL DISTRICT
RECEIVED
AUG 01 1997
CHENG
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P & PM
REG
FINANCE
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FILE

George V. Sabol Consulting Engineers, Inc.

MEMORANDUM

TO: Russ Miracle, PE
Flood Control District of Maricopa County

FROM: George Sabol, PhD, PE

SUBJECT: Fountain Hills ADMP
Contract FCD 94-16

DATE: 31 July 1997

The following is a response to review comments that were submitted by either the District or the Town of Fountain Hills in regard to the Draft Final Report and the Draft Emergency Access Plan and Routes Evaluation report. Comments that were received but are not addressed in this memo are incorporated into the final reports.

I. Regarding District review comments dated 24 July 1997 to the Draft Final Report:

Page 21, regarding Alternative 2 (removal of GEPD) - That alternative is addressed in the Interim Report. That alternative was rejected. A cost comparison to the selected alternative for modifying GEPD is not relevant in the Final Report.

Appendix F, PMP Wordsheets - Wordksheets for PMP calculations are provided in the Interim Report where the PMP/PMF/0.5 PMF are presented.

Appendix G, Spillway Rating Table - Surface area values in that table are not missing. Surface area values are from the Fountain Hills FDS project. Intermediate values between contour intervals, as shown in the rating table, are interpolated.

Other Comments Made, Kathryn Kromer #2 - Wave runup through the emergency spillway is not normally considered a design condition for infrequent floods such as the 0.5 PMF. Wave action on the emergency spillway does not constitute a threat to the integrity of the spillway or the dam.

All other comments are addressed in the report.

II. Regarding District review comments dated 31 July 1997 to the Draft Final Report:

Sheet 1 - A detail of the concrete cutoff of the emergency spillway, and a profile of the earth berm and floodway on the right of the emergency spillway are shown in Sheet 2.

All other comments are addressed in the report or are addressed above.

III. Regarding District review comments dated 15 July 1997 to the Draft Emergency Access Plan and routes Evaluation report:

All comments are addressed in the report.

IV. Regarding Town of Fountain Hills review comments dated 18 July 1997 to the Draft Emergency Access Plan and Routes Evaluation report:

Plate 1 - A wordsheet of Plate 1 showing locations which were investigated but were determined to be non-flooding and those supporting calculations/information were submitted directly to Randy Harrel.

All other comments are addressed in the report.

V. In addition to written comments, two additional comments were received verbally from Randy Harrel in regard to GEPD. Response to those are as follows:

Regarding use of a 10-foot by 8-foot principal spillway culvert as opposed to the recommended 7-foot by 8-foot culvert: The 10-foot by 8-foot culvert was investigated, but it does not provide the necessary attenuation for the 100-year flood, thus negating the flood control benefits of GEPD and negatively impacting the 100-year floodplain in Ashbrook Wash. The 7-foot by 8-foot culvert may not be ideal for the path system but that use is considered secondary to the flood control benefits. At final design, a hybrid culvert design could be considered that produces the desired path configuration plus achieves the necessary hydraulic controls. Such considerations are beyond the scope of the feasibility level design for dam modifications for 100-year flood and dam safety considerations.

Regarding light wells into the principal spillway: A discussion of the use of light wells into the principal spillway is modified somewhat in the report. Such light wells penetrating the relatively thin core of this dam may result in less than optimum hydraulic conditions. This is because of the potential for seepage paths to develop along the interface of the light wells and the culvert. Compaction along structures penetrating the earthen core is critical in minimizing seepage paths. Such light wells could be incorporated at final design but are not considered relevant at the feasibility level. If light wells are provided, they will need to include adequate provision in design and construction to protect against seepage paths.

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July 31, 1997

George V. Sabol
George V. Sabol Consulting Engineers, Inc.
7776 Pointe Parkway West, Suite 200
Phoenix, AZ 85044-5403

Re: FCD-94-16
Fountain Hills ADMP
Part A: Project Summary, Part B: Golden Eagle Park Dam, Feasibility Study
Draft Final Report, July 1997

Dear Mr. Sabol:

We have completed our review of the subject report and have the following comments:

General
Please see the attached marked pages for general editorial changes.

Part A: Project Summary
No comments.

Part B: Golden Eagle Park Dam, Feasibility Study
Page 6. Include a brief description of in place dam instrumentation. We will provide a description of in place instrumentation to be included in the report.

Page 6: If known, a brief description of historical operations of the dam and reservoir would be useful here such as; maximum historical water level, maximum historical discharges with and without sewer pipe through principal spillway etc.

Page 8, first paragraph: Indicate the overtopping depth for the 0.5PMF under the assumption that North Heights Dam does not breach. Please describe in further detail why the North Heights Dam breach assumption was utilized in the analysis for the proposed alternative.

Page 15, first paragraph: Indicate the 100-year event flow rate through the existing principle spillway for the future buildout condition.

Page 15, "Emergency Spillway": The proposed emergency spillway elevation is indicated as elevation1714.77 however the spillway rating table (Appendix G) for the proposed modified emergency spillway begins at elevation 1714.86. Please explain or correct this minor discrepancy.

Page 17, second paragraph: It appears that the recommended freeboard of 1.5 feet for the 0.5 PMF inflow design flood does not meet ADWR guidelines. Please reference ADWR publication Guidelines for the Determination of Spillway Capacity Requirements 1 (Draft May 1991) . Page 5, "Freeboard Requirements" states in pertinent part " Generally, the minimum permissible residual freeboard for an earthfill or rockfill dam shall be the greater of either the sum of the wave height and runup or three feet."

Page 20, last sentence on page reads: "Although the principal spillway capacity is increased significantly, the 100-year discharge is increased only a small amount." However, immediately downstream of the dam the total 100-year discharge increases from 970 cfs (current conditions) to 1480 cfs (proposed modifications) which is greater than a 50% increase in the 100-year discharge, please explain. In addition please describe in further detail the impacts due to the increased 100-year floodplain area downstream of the dam. Identify any houses or facilities that may be adversely impacted by the increased floodplain.

Page 21, first paragraph: For comparison, please indicate here the total discharge at the dam for the 100 year flood event for the current dam conditions and proposed modifications for both the present watershed and future buildout conditions.

Page 21: Both alternative 2 (dam removal) and the proposed alternative would increase the total discharge for the 100 year event immediately downstream of the dam when compared with present conditions. A comparison discussion of those two alternatives for the 100-year event would therefore be useful since alternative 2 is the less expensive alternative.

Sheet, 1 Golden Eagle Park Dam Embankment Plan and Profile

Show the existing concrete sill in profile view of the emergency spillway. Show the new earth berm on right side of emergency spillway in profile view.

Appendix F:

For the PMF-RT model, the new spillway elevation of 1714.77 (or .86) should replace 1715 on the RS card for C5990.

The ID cards for PMF RT models list the model as being for a .5 and .26 PMF instead of the 1.00 and .5 PMF.

If you have any questions, please contact me at 506-2961 or Tom Renckly at 506-8610.
Sincerely,

Russ Miracle

Russ Miracle, P.E.

INFO: TRR, TMM, WFR

C: Randy L. Harrel
Town Engineer
Town of Fountain Hills
16836 Eat Palisades Blvd.
P.O. Box 17958
Fountain Hills AZ 85269

FILE: AFH 1.1

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A Interim Report review comments and review meeting notes

B HEC-1 for existing watershed conditions and the modified GEPD spillways (100-year, 6-hour)

C HEC-1 for existing watershed conditions and the modified GEPD spillways (100-year, 24-hour)

D HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways (100-year, 6-hour)

E HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways (100-year, ~~6~~ 24-hour)

F HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways for generating the PMF and routing the 0.5 PMF inflow design flood through the spillways

G Supplemental information for developing spillway rating curves

H HEC-2 for existing watershed conditions (as used in the Fountain Hills (North) FDS) and the modified GEPD principal spillway 100-year peak discharges

I Comparison of 100-year peak discharges and water surface elevations (existing watershed conditions) for Ashbrook Wash using the FEMAfloodplain delineation and the GEPD modified principal spillway

J HEC-1 and HEC-2 digital files on diskette

PART B

GOLDEN EAGLE PARK DAM

FEASIBILITY STUDY

INTRODUCTION

Purpose

The results of a feasibility study to increase the discharge capacities of the principal spillway and the emergency spillway of Golden Eagle Park Dam (GEPD) are presented in this Final Report. The purpose of this report is to present the feasibility level engineering design of the recommended alternative from the previous reconnaissance level study, as presented in the Interim Report. This report is part of the Fountain Hills ADMP for the Flood Control District of Maricopa County (FCDMC), Contract FCD 94-16.

Background

Golden Eagle Park Dam, previously known as Dam 4, is generally situated 600 feet ~~west~~ east of Golden Eagle Boulevard, between Palisades Boulevard and Bainbridge Avenue. Fountain Hills High School is located immediately east and south of the dam. The upstream impoundment area between the dam embankment and Golden Eagle Boulevard is an improved municipal park with softball diamonds, concession and equipment storage buildings, bathroom facilities, a playground area and parking lot. Future improvements proposed for the park include additional ball fields and tennis courts. An approximate 7.13 square mile watershed comprised of natural desert, urban development and golf course is tributary to the dam. Situated within that watershed are three other dams named Aspen Dam (Dam 6), North Heights Dam (Dam 11), and SunRidge Canyon Dam (Dam 7) which are constructed at various upstream locations west of GEPD. Figure 1 shows the location of GEPD with respect to its tributary watershed, the location of Aspen, North Heights and SunRidge Canyon Dams, and major roadways in the vicinity.

Regulatory flooding concerns and floodplain administration in the Fountain Hills area come under the auspices of the Town of Fountain Hills and the Flood Control District of Maricopa County. Dam safety issues concerning GEPD come under the jurisdiction of the State of Arizona through ADWR. According to the criteria published in Guidelines for the Determination of Spillway Capacity Requirements (ADWR, May 1991), the downstream hazard potential/size classification of GEPD is "High Hazard/Small" with a recommended inflow design flood (IDF) of one-half the probable maximum flood (0.5 PMF).

TABLE 1

Pertinent data for Golden Eagle Park Dam, Existing Conditions

Item (1)	Description (2)
Dam Type	Zoned Earthfill
Dam Crest Length	660 feet
Dam Slopes	1V:2H upstream; 1V:2H downstream
Dam Height (Max)	26.8 feet
Dam Crest Elevation (MSL)	1721.47 feet
Dam Crest Width	12 feet
Drainage Area	7.13 square miles
Storage at Emergency Spillway Crest	95.8 acre-feet
Emergency Spillway Type	Unlined earth w/ concrete sill
Emergency Spillway Width	280 feet
Emergency Spillway Capacity at Dam Crest	12,750 cfs
Emergency Spillway Side Slopes	3:1
Emergency Spillway Crest Elevation	1714.86 feet
Principal Spillway	Two 60 inch diameter RCP's, uncontrolled
Principal Spillway Capacity at Dam Crest	955 cfs **, 750 cfs *

* With sewer line in place
** Full capacity, no sewer line

fuse-plug auxiliary spillway over the top of the new principal spillway. An earthen berm or floodwall along the southern edge of the existing emergency dam would be required as in Alternative A. Alternative B would not include raising the dam embankment.

The Interim Report was reviewed by the Town of Fountain Hills and by FCDMC (see Appendix A). A meeting was held with the Town of Fountain Hills and FCDMC on 6 March 1997, and a second meeting involving ADWR on 15 April 1997 (see Appendix A for meeting notes).

Those reviews and meetings resulted in the following action items:

1. Alternative No. 5 (modification of GEPD) is the preferred alternative.
2. The existing principal spillway should be left in place and would serve to convey more frequent nuisance flows.
3. There is no reasonable expectation that the sewer line will ever need to be enlarged and therefore there is no reason to replace it with a larger pipe.
4. The principal spillway capacity would be expanded by adding an additional parallel box culvert adjacent to the existing principal spillway. The invert of that culvert would be 1 to 2 feet higher than the existing principal spillway conduits. That new box culvert should be a minimum of 10 feet wide and 8 feet high to allow pedestrian and bicycle recreational traffic.
5. Emergency spillway capacity would be increased by lengthening the emergency spillway crest without any raising of the crest of the earthen embankment.
6. Raising the height of the earthen embankment should be avoided so as to not increase the flood potential at the high school and increase the upstream ponding limits, to avoid expanding the upstream face of the dam into the recreational and drainage facilities that were recently constructed in Golden Eagle Park, to avoid infringing into the athletic field bleachers near the downstream face of the dam, to avoid disturbing the vegetation that is established on the existing earthen embankment, and to avoid additional load (static and hydraulic) on the dam that could result in more extensive remedial requirements for the dam other than the spillways.
7. The downstream impacts of the enlarged principal spillway need to be assessed in regard to the recently completed FEMA floodplain delineation study.

APPENDIX B

HEC-1 for existing watershed conditions and the modified GEPD spillways
(100-~~yeaar~~, 6-hour)

Year

APPENDIX C

HEC-1 for existing watershed conditions and the modified GEPD spillways
(100-~~yeaar~~, 24-hour)

year

APPENDIX D

HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways (~~100~~-year, 6-hour)

100

APPENDIX E

HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways (~~199~~-year, ~~8~~-hour)

100- 24-

1

****
INPUT ELEVATION/STATION TABLE.
PROJECT: ALTERNATIVE NO. 5-2
DATE: 10/24/1996
TIME: 9:43. 2
****

POINT	ELEVATION	STATION DAM STATION/	POINT	ELEVATION	STATION
1	1737.99	1000.00	16	1715.69	1994.10
2	1722.85	1059.00	17	1715.92	1994.20
3	1721.78	1084.00	18	1715.96	2024.80
4	1721.87	1192.00	19	1716.00	2026.30
5	1721.47	1283.00	20	1716.63	2049.90
6	1721.78	1382.50	21	1716.64	2084.30
7	1721.81	1482.20	22	1722.00	2101.30
8	1721.81	1514.75	23	1724.00	2126.30
9	1714.86	1535.60	24	1726.00	2191.00
10	1714.86	1581.00	25	1728.00	2226.30
11	1714.86	1680.00			
12	1714.86	1784.00			
13	1714.86	1805.60			
14	1715.09	1944.90			
15	1715.33	1945.00			

Indicate equivalent dam station for each point referenced to stationing on drawing sheet 1.

Golden Eagle Park Dam Feasibility Level Design
Storage and Discharge vs Stage Data

HY-8 Output (File:GEP01.LST)

Design Principal Spillway Peak Discharges				
	Existing Principal Spillway		Proposed	
Stage (ft)	60" RCP (cfs)	60" RCP w/sewer (cfs)	7'x 8' Box Culvert (cfs)	Total (cfs)
1694.51	0	0	0	0
1698.63	95	39	79	213
1700.53	161	88	178	427
1702.47	213	124	304	640
1704.48	255	151	448	854
1706.69	294	177	598	1068
1709.29	334	202	746	1281
1712.36	375	227	892	1495
1714.86	407	247	994	1647
1720.05	464	282	1176	1922
1725.00	510	312	1313	2135

Uneven Weir Output (File:Alt_5-2.owr)

Design Emergency Spillway Capacity	
Uneven Weir Output	
Stage (ft)	Discharge (cfs)
1714.50	0
1714.80	0
1714.90	31
1715.00	40
1715.50	497
1716.00	1303
1716.50	2432
1717.00	3878
1717.50	5634
1718.00	7677
1718.50	10002
1719.00	12456
1719.50	15047
1720.00	17804
1720.50	20715
1721.00	23775
1721.50	26991
1722.00	30517
1722.50	34640
1723.00	39218
1723.50	44200
1724.00	49569
1724.50	55322
1725.00	61463

GVSCE Rating Curves					
Stage	Surface	Storage	Discharge, in cfs		
NGVD 29 Datum	Area (acres)	Volume (acre-feet)	Principal Spillway	Emergency Spillway	Total
1694.51	0.00	0.00	0	0	0
1696.00	0.00	0.00	77	0	77
1698.00	0.00	0.00	180	0	180
1700.00	0.05	0.03	367	0	367
1702.00	0.45	0.47	589	0	589
1704.00	1.54	2.35	803	0	803
1706.00	3.61	7.35	1001	0	1001
1708.00	5.99	16.85	1176	0	1176
1710.00	8.91	31.66	1331	0	1331
1712.00	12.23	52.71	1470	0	1470
1714.00	15.99	80.85	1595	0	1595
1714.50	---	89.67	1625	0	1625
1714.86	---	96.02	1647	0	1647
1714.90	---	96.73	1649	31	1680
1715.00	---	98.49	1655	40	1695
1715.50	---	107.32	1681	497	2178
1716.00	19.36	116.14	1708	1303	3011
1716.50	---	126.16	1734	2432	4166
1717.00	---	136.18	1760	3878	5638
1717.50	---	146.20	1787	5634	7421
1718.00	20.73	156.22	1813	7677	9490
1718.50	---	167.39	1840	10002	11842
1719.00	---	178.55	1866	12456	14322
1719.50	---	189.72	1892	15047	16939
1720.00	23.97	200.89	1919	17804	19723
1720.50	---	213.69	1941	20715	22656
1721.00	---	226.49	1962	23775	25737
1721.50	---	239.30	1984	26991	28975
1722.00	27.28	252.10	2005	30517	32522
1722.50	---	266.69	2027	34640	36667
1723.00	---	281.28	2049	39218	41267
1723.50	---	295.88	2070	44200	46270
1724.00	31.13	310.47	2092	49569	51661

he Uneven Weir Output comes from ALT_5-2.IWR

Note: NE Corner of High School Cafeteria EL = 1716.49

COMPLETE TABLE FOR ALL INTERPOLATED AREAS.
INDICATE PLANIMETERED AREAS
WITH FOOTNOTE.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
PHOENIX, ARIZONA

FOUNTAIN HILLS AREA DRAINAGE MASTER PLAN FCD 94-16

FINAL REPORT

Part A: Project Summary

Part B: Golden Eagle Park Dam, Feasibility Study

Registered Professional Engineer (Civil)
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PART A

PROJECT SUMMARY

The Fountain Hills Area Drainage Master Plan (ADMP) was performed for the Flood Control District of Maricopa County (FCDMC) and the Town of Fountain Hills under Contract FCD 94-16. The project commenced in February 1996 and was completed in July 1997.

The project was performed by George V. Sabol Consulting Engineers, Inc. (GVSCE) as the prime consultant with McLaughlin-Kmetty Engineers, Ltd. (MKE) and Entellus (formerly AGK Engineers, Inc.) as subconsultants.

The project had four separate tasks:

Task 1. Perform floodplain delineations of about 1,800 feet of Laser Drain, extending from its confluence with Cereus Wash upstream to Technology Drive. That portion of the project was performed by Entellus.

Task 2. Perform a roadway crossing drainage study, including preliminary design of alternative crossing structures, for 26 locations that do not meet current standards. That study was performed jointly by MKE and Entellus.

Task 3. Perform an emergency route access evaluation for 100-year flood conditions. The study is to define impassable road locations, develop a prioritized list of improvements to reduce inaccessible conditions, and to summarize the results of the evaluations on appropriate maps. That study was performed by GVSCE.

Task 4. Perform engineering studies of Golden Eagle Park Dam to identify the preferred solution for the principal spillway and emergency spillway inadequacies at the dam. That study was to evaluate alternatives at a reconnaissance level of engineering, select the preferred alternative, and advance that alternative to a feasibility level of design. That study was performed by GVSCE.

The following reports were prepared and submitted:

- Laser Drain Floodplain Delineation, 22 August 1996 by Entellus presents the results of the floodplain delineation of Laser Drain. That delineation was submitted by FCDMC to FEMA as part of the Fountain Hills (South) Floodplain Delineation Study (FCD 92-05).

- Roadway Crossing Study, July 1997 by MKE and Entellus presents the preliminary designs for 26 roadway crossings in the Town of Fountain Hills.

- Emergency Access Plan and Routes Evaluation, July 1997 by GVSCE presents the results of the emergency route access evaluation.

- Reconnaissance Study and Alternative Evaluation for Golden Eagle Park Dam, Interim Report, November 1996, by GVSCE. That report in conjunction with Part B of this Final Report presents the evaluation and recommended modifications to Golden Eagle Park Dam.

PART B
GOLDEN EAGLE PARK DAM
FEASIBILITY STUDY

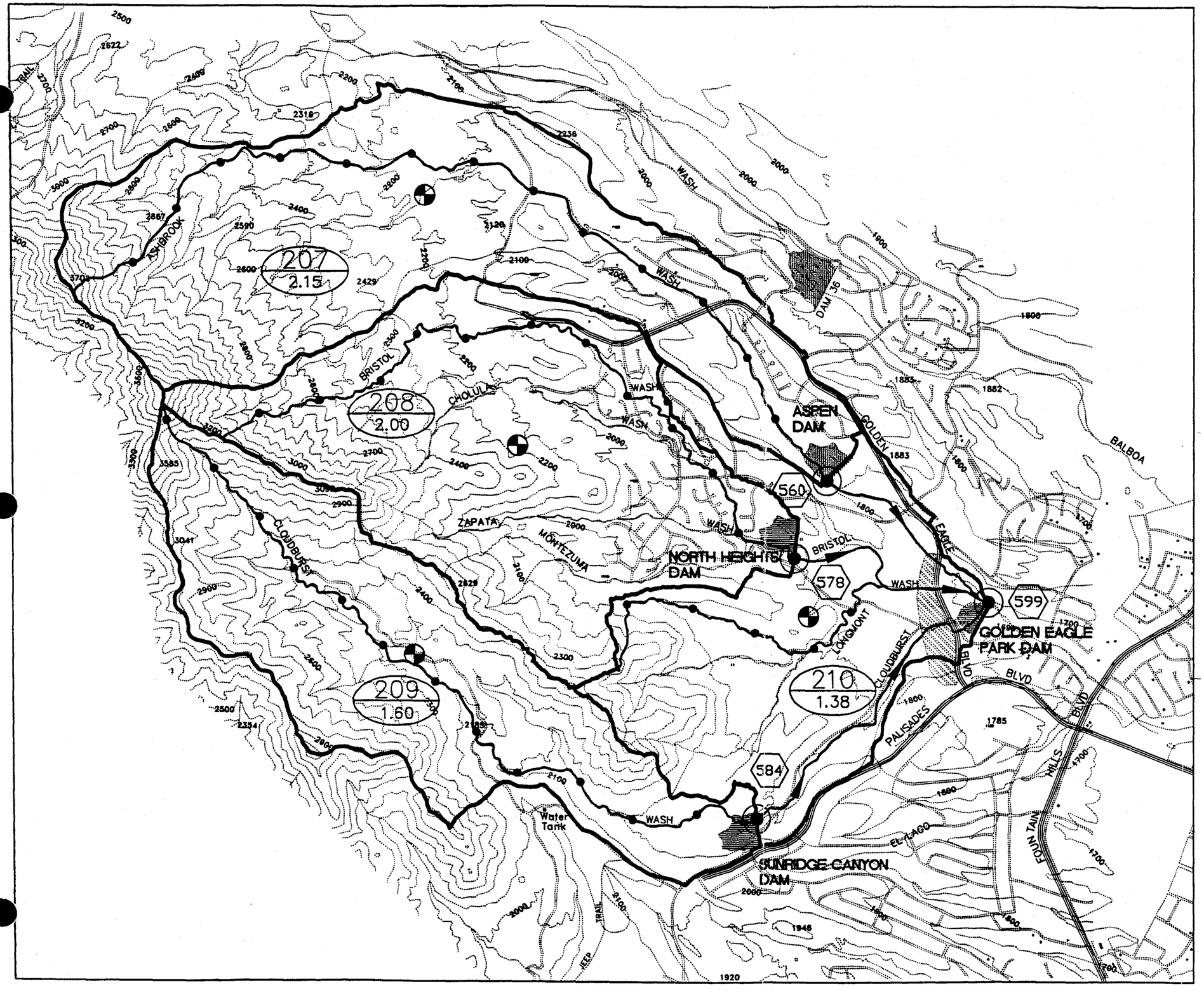
INTRODUCTION

Purpose

The results of a feasibility study to increase the discharge capacities of the principal spillway and the emergency spillway of Golden Eagle Park Dam (GEPD) are presented in this Final Report. The purpose of this report is to present the feasibility level engineering design of the recommended alternative from the previous reconnaissance level study, as presented in the Interim Report. This report is part of the Fountain Hills ADMP for the Flood Control District of Maricopa County (FCDMC), Contract FCD 94-16.

Background

Golden Eagle Park Dam, previously known as Dam 4, is generally situated 600 feet east of Golden Eagle Boulevard, between Palisades Boulevard and Bainbridge Avenue. Fountain Hills High School is located immediately east and south of the dam. The upstream impoundment area between the dam embankment and Golden Eagle Boulevard is an improved municipal park with softball diamonds, concession and equipment storage buildings, bathroom facilities, a playground area and parking lot. Future improvements proposed for the park include additional ball fields and tennis courts. An approximate 7.13 square mile watershed comprised of natural desert, urban development and golf course is tributary to the dam. Situated within that watershed are three other dams named Aspen Dam (Dam 6), North Heights Dam (Dam 11), and SunRidge Canyon Dam (Dam 7) which are constructed at various upstream locations west of GEPD. Figure 1 shows the location of GEPD with respect to its tributary watershed, the location of Aspen, North Heights and SunRidge Canyon Dams, and major roadways in the vicinity.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FOUNTAIN HILLS ADMP

F.C.D. CONTRACT NO. 94-16

LEGEND

- Major Basin ID / Area in Square Miles — 207 / 2.15
- Major Road
- HEC-1 Concentration Point — 560
- Basin Centroid
- Lag Flow Path
- HEC-1 Routing Path
- Minor Road
- Major Subbasin Boundary
- Existing Dam
- Proposed Dam

SCALE: 1"=2000'
CONTOUR INTERVAL = 100'

FIGURE 1
WATERSHED DRAINAGE MAP

George V. Sabol Consulting Engineers, Inc.

BASE TOPOGRAPHY COMPILED FROM USGS QUADRANGLE MAPS

FILE: G:\PLAN\HIBITS\FIG-1.DWG
REV 8-28-96

Golden Eagle Park Dam was designed by Trico International, Inc. (Trico) and constructed by McCulloch Properties, Inc. (1970-1974). Construction of the dam and preparation of as-built drawings was completed in late 1974 to early 1975. Golden Eagle Park Dam is presently owned and maintained by the Town of Fountain Hills and the Fountain Hills School District.

Information concerning the physical characteristics of GEPD and geotechnical properties of the earthen embankment are obtained from file data of the dam's design and construction, the Phase I Inspection Reports under the National Dam Safety Program by the Arizona Water Commission (presently the Arizona Department of Water Resources (ADWR)), the previous Fountain Hills (North) Floodplain Delineation Study mapping and surveying files, and field reconnaissance.

Golden Eagle Park Dam is a zoned earthen embankment with a central inner core and upstream and downstream shells. According to available information, the inner core is generally comprised of fine, high percentage clay material, while the outer zones are coarser material with higher percentages of gravel and some cobble. The dam is equipped with an uncontrolled principal spillway and an emergency spillway in the right abutment. The principal spillway is comprised of two 60-inch RCP's located at the maximum embankment section. The conduits discharge to a concrete stilling basin with an end sill for an energy dissipator. Wooden piles at the inlet serve as a trashrack to prevent large debris such as trees, from entering the conduit. Smaller debris is allowed to pass through the conduit. In 1991, a 14-inch DIP sanitary sewer line was installed at the flowline of one of the principal spillway pipes and encased in concrete. A concrete encasement was poured around the 14-inch DIP pipeline resulting in an approximate 25 percent reduction of the principal spillway capacity (see Table 1). The impact of that modification was analyzed and reported by Anderson-Nelson, Inc., and accepted by ADWR. The emergency spillway is an earthen trapezoidal section with a concrete sill and is constructed at the southern (right) abutment of the dam. Shallow flows over the emergency spillway discharge directly to the Fountain Hills High School athletic field. The less frequent, higher peak discharges will attain depths that may cause a significant portion of the flows to also spill southeasterly past the high school cafeteria and into the campus area. Table 1 summarizes the various physical characteristics of GEPD.

A pressure transducer type water level recorder was installed at the inlet side of the principal spillway in December 1996 by FCDMC as part of the Fountain Hills Flood Warning System. Since that time, only two small discharges (20 and 30 cfs) have been recorded. There are no other instrumentation or monitoring data for the dam.

Regulatory flooding concerns and floodplain administration in the Fountain Hills area come under the auspices of the Town of Fountain Hills and the Flood Control District of Maricopa County. Dam safety issues concerning GEPD come under the jurisdiction of the State of Arizona through ADWR. According to the criteria published in Guidelines for the Determination of Spillway Capacity Requirements (ADWR, May 1991), the downstream hazard potential/size classification of GEPD is "High Hazard/Small" with a recommended inflow design flood (IDF) of one-half the probable maximum flood (0.5 PMF).

TABLE 1

Pertinent data for Existing Golden Eagle Park Dam

Item (1)	Description (2)
Dam Type	Zoned Earthfill
Dam Crest Length	660 feet
Dam Slopes	1V:2H upstream; 1V:2H downstream
Dam Height (Max)	26.8 feet
Dam Crest Elevation (MSL)	1721.47 feet
Dam Crest Width	12 feet
Drainage Area	7.13 square miles
Storage at Emergency Spillway Crest	95.8 acre-feet
Emergency Spillway Type	Unlined earth w/ concrete sill
Emergency Spillway Width	280 feet
Emergency Spillway Capacity at Dam Crest	12,750 cfs
Emergency Spillway Side Slopes	3:1
Emergency Spillway Crest Elevation	1714.86 feet
Principal Spillway	Two 60 inch diameter RCP's, uncontrolled
Principal Spillway Capacity at Dam Crest	955 cfs **, 750 cfs *

* With sewer line in place
** Full capacity, no sewer line

Two recent studies of the Fountain Hills area document flooding and dam safety issues for GEPD. The first is a floodplain delineation study of the northern Fountain Hills area conducted by George V. Sabol Consulting Engineers, Inc. (GVSCE) under contract with the Flood Control District of Maricopa County (Contract FCD 92-04). The results of that study (Fountain Hills FDS) are documented in the following reports:

1. Fountain Hills (North) Floodplain Delineation Study, Technical Data Notebook-Hydrology, Existing Conditions, Books 1, 2 and 3, October 1994, GVSCE.

2. Fountain Hills (North) Floodplain Delineation Study, Technical Data Notebook-Hydrology, Future Conditions, November 1994, GVSCE.

3. Fountain Hills (North) Floodplain Delineation Study, Technical Data Notebook-Hydraulics, Existing Conditions, April 1995, GVSCE.

The results of the Fountain Hills FDS indicate that for existing watershed conditions, the emergency spillway operates for about 5.3 hours with a peak discharge of about 320 cfs during the 100-year flood. Under future watershed conditions, the emergency spillway will discharge about ~~480~~ 955 cfs during the 100-year flood. The emergency spillway will operate during the 10-year event using future condition flows, and for that event the reservoir water surface elevation is 1,715.41 feet resulting in 654 cfs through the principal spillway and 116 cfs through the emergency spillway. It is obvious from the Fountain Hills FDS that the existing principal spillway of GEPD does not have adequate capacity to convey the 100-year flood, and in fact the 10-year flood under future conditions, without forcing flow over the emergency spillway. Operation of the emergency spillway results in flooding of the adjacent high school campus and athletic field. That condition, especially for the more frequent floods, is undesirable.

The second study is a dam break analysis conducted by GVSCE, under contract with Anderson-Nelson, Inc., for five dams within the Town of Fountain Hills. The report documenting the results of that study is entitled; Town of Fountain Hills Dam Break Analysis for Golden Eagle Park Dam, Hesperus Wash Dam, Aspen Dam, North Heights Dam and SunRidge Canyon Dam, January 1996. The purpose of the study was to prepare an Emergency Action Plan for each of the five dams, including dam break inundation mapping. The dam breach analysis indicates that GEPD is overtopped by

about 3.9 feet during a 0.5 PMF inflow flood. The inflow design flood (IDF) used in that analysis is a result of 0.5 PMF spillway releases from Aspen Dam (Dam 6) and SunRidge Canyon Dam (Dam 7), inflow from an assumed piping breach of North Heights Dam (Dam 11), and the 0.5 PMF runoff from the intermediate 1.38 square mile subbasin between GEPD and the upstream dams. The assumption that North Heights Dam fails by piping is too severe a spillway design criteria for GEPD, and the 0.5 PMF spillway design flood, as used herein, does not assume a piping breach of any of the three upstream dams. The analysis without the North Heights Dam breach results in 2.39 feet of overtopping of GEPD. That condition raises a dam safety issue that may ultimately be of concern to ADWR and result in the requirement of remedial measures.

Alternatives for solution of the spillway deficiencies at GEPD were studied and the results reported in the Reconnaissance Study and Alternative Evaluation for Golden Eagle Park Dam, Interim Report as part of the Fountain Hills ADMP. The reconnaissance level study evaluated five alternatives:

Alternative No. 1 - Do nothing.
Alternative No. 2 - Remove GEPD.
Alternative No. 3 - Modify the upstream dams.
Alternative No. 4 - Construct an additional upstream dam.
Alternative No. 5 - Modify GEPD.

The reconnaissance level study recommended Alternative No. 5, and two options for modifying GEPD were presented. Alternative A included adding a culvert structure parallel to the existing principal spillway to provide capacity for the expanded principal spillway to convey the 100-year flood through the GEPD impoundment without causing the emergency spillway to operate. The capacity of the emergency spillway for the 0.5 PMF inflow design flood would be increased by a combination of some embankment raising and widening the crest length of the emergency spillway. An earthen berm or adequate floodwall along the southern edge of the existing emergency spillway should be added to mitigate the potential flooding of the high school cafeteria and campus area.

Alternative B called for removal of the existing principal spillway and replacing it with a new, enlarged principal spillway. The sewer line would be relocated below the

principal spillway and that sewer line enlarged if necessary for future sewer requirements. The emergency spillway capacity would be augmented by constructing a fuse-plug auxiliary spillway over the top of the new principal spillway. An earthen berm or floodwall along the southern edge of the existing emergency dam would be required as in Alternative A. Alternative B would not include raising the dam embankment.

The Interim Report was reviewed by the Town of Fountain Hills and by FCDMC (see Appendix A). A meeting was held with the Town of Fountain Hills and FCDMC on 6 March 1997, and a second meeting involving ADWR on 15 April 1997 (see Appendix A for meeting notes).

Those reviews and meetings resulted in the following action items:

1. Alternative No. 5 (modification of GEPD) is the preferred alternative.

2. The existing principal spillway should be left in place and would serve to convey more frequent nuisance flows.

3. There is no reasonable expectation that the sewer line will ever need to be enlarged and therefore there is no reason to replace it with a larger pipe.

4. The principal spillway capacity would be expanded by adding an additional parallel box culvert adjacent to the existing principal spillway. The invert of that culvert would be 1 to 2 feet higher than the existing principal spillway conduits. That new box culvert should be a minimum of 10 feet wide and 8 feet high to allow pedestrian and bicycle recreational traffic.

5. Emergency spillway capacity would be increased by lengthening the emergency spillway crest without any raising of the crest of the earthen embankment.

6. Raising the height of the earthen embankment should be avoided so as to not increase the flood potential at the high school and increase the upstream ponding limits, to avoid expanding the upstream face of the dam into the recreational and drainage facilities that were recently constructed in Golden Eagle Park, to avoid infringing into the athletic field bleachers near the downstream face of the dam, to avoid disturbing the vegetation that is established on the existing earthen embankment, and to avoid additional load (static and hydraulic) on the dam that could result in more extensive remedial requirements for the dam other than the spillways.

7. The downstream impacts of the enlarged principal spillway need to be assessed in regard to the recently completed FEMA floodplain delineation study.

8. Description of the construction technique for embankment excavation for the new principal spillway and placement/compaction of the zoned embankment fill material.

9. Descriptions and drawings of spillway modifications, energy dissipation and erosion protection.

10. Cost estimates for construction.

Objectives and Scope

The following sections of this report along with the accompanying drawings, present the results of the feasibility level engineering study for the design of the recommended modifications of GEPD. The feasibility study is based on the alternatives as presented in the Interim Report and review comments that were received from FCDMC and the Town of Fountain Hills. The feasibility level design and supplemental information for the recommended alternative are included in this Final Report.

MAPPING

Mapping that was used at the reconnaissance level is described in the Interim Report. The hydrology is based on USGS maps at a scale of 1 inch = 2,000 feet with supplemental topographic maps prepared in 1991 by Kenney Aerial Mapping, Inc. at a scale of 1 inch = 400 feet. Topographic mapping for the reconnaissance level engineering studies used the Kenney mapping at a scale of 1 inch = 200 feet with a 2-foot contour interval.

For the purpose of the feasibility level engineering designs, as contained herein, new mapping of GEPD was obtained. That map, with 1-foot contour interval, was prepared by Aerial Mapping company, Inc. based on October 1996 aerial photography.

FLOOD HYDROLOGY

Flood hydrology for the modifications of GEPD is based on the HEC-1 models as described in the Interim Report. The only modifications to the HEC-1 models contained in the Interim Report are the use of the appropriate spillway rating curves for the principal and emergency spillways, as proposed, which are coded into the HEC-1 input files. The area-capacity curve for GEPD is the same relation as was used for the Fountain Hills FDS, and that relation was determined based on the 1991 Kenney mapping. Modifications to the GEPD impoundment area have been made by the Town of Fountain Hills as a result of park development and some excavation of the emergency spillway approach at the request of ADWR. Some regrading of the impoundment area upstream of the dam is expected to continue as a result of future park expansion. The area-capacity relation for GEPD will need to be checked by appropriate surveying at the time of final design of the spillway modifications and corrections made to the HEC-1 models, if appropriate. It is assumed that no significant changes to the impoundment volume have been made due to recent park development. Field observation does not indicate any meaningful fill in the impoundment to reduce the detention capacity of GEPD during a flood.

The following HEC-1 models were developed and used for various purposes:

- Existing watershed conditions (same as the Fountain Hills FDS) with the modified principal spillway for the 100-year, 6-hour storm (Appendix B).

- Existing watershed conditions with the modified principal spillway for the 100-year, 24-hour storm (Appendix C).

Both of those HEC-1 models (Appendices B and C) were used to develop 100-year peak discharges and those were input into the HEC-2 model (Appendix H) to evaluate the impact of spillway modification on the FEMA floodplain delineation of Ashbrook Wash.

- Future (full buildout) watershed conditions with the modified principal spillway for the 100-year, 6-hour storm (Appendix D).

- Future (full buildout) watershed conditions with the modified principal spillway for the 100-year, 24-hour storm (Appendix E).

Both of those HEC-1 models (Appendices D and E) were used to design the principal spillway so that it has adequate capacity for the ultimate 100-year discharge.

- Future (full buildout) watershed conditions for generating the PMF and routing the 0.5 PMF inflow design flood through the emergency spillway (Appendix F). Those models were used to design the emergency spillway.

Supplemental information for development of the principal spillway and emergency spillway rating curves is provided in Appendix G. HEC-1 and HEC-2 digital files are provided on diskette in Appendix J.

Those HEC-1 models are used to set the design discharges for the new principal spillway and the enlarged emergency spillway. The routing of those inflow floods through the impoundment and spillway(s) results in maximum water surface elevations upstream of GEPD. Those water surface elevations are reported elsewhere and are shown on appropriate drawings. The HEC-1 models are also used to establish the 100-year discharges for Ashbrook Wash from GEPD downstream to the limits of the Town of Fountain Hills (limit of the Fountain Hills FDS). The resultant 100-year peak discharges were input to the FEMA floodplain delineation study HEC-2 model. The impact of enlarging the principal spillway on the downstream floodplain inundation limits is discussed elsewhere in this report.

SPILLWAY MODIFICATIONS

Principal Spillway

Modifications to the principal spillway are shown in Sheets 1 and 2. A 7-foot wide by 8-foot high box culvert is located parallel to the existing principal spillway. The invert of the new spillway is located about 1.5 feet higher than the invert of the existing principal spillway pipes. The use of a 10-foot wide by 8-foot high box culvert, as requested by the Town of Fountain Hills (see Appendix A), is not recommended. Such a large principal spillway would adversely increase the 100-year peak discharges

downstream of GEPD, thus requiring larger roadway crossing structures and negate the flood control benefits of GEPD for the 100-year flood. The 7-foot by 8-foot box culvert should be adequate for the multi-purpose pedestrian/bicycle path system.

The upstream and downstream aprons of the culvert are integrated into the existing structure. At the upstream end, the concrete approach apron would be adjacent to the existing concrete apron. New wingwalls would be added and tied to the existing wingwall. The existing trashrack would remain on the existing conduits to keep trash from clogging those relatively small (60 inch) pipes. No trashrack would be used on the new spillway box culvert. Because of the size of that culvert (7-foot by 8-foot) it is unlikely that trash would clog the spillway, and the spillway box is large enough to allow the removal of trash and debris by maintenance crews and equipment, should such an unlikely need arise. Grading of the area immediately in front of the approach aprons will be required to direct low-flows to the existing principal spillway.

A concrete apron with an end sill would extend from the culvert at the downstream end. The new apron is the same length as the existing apron and the end sill would be to the same elevation and dimensions as the existing structure. Adequate provisions would need to be provided at final design for the access of pedestrians and bicycles into the culvert if that structure is to serve as part of a regional path system. Signage will need to be provided at appropriate locations along the path to warn users of potential flooding and water hazards during and after storms. Design of the pedestrian/bicycle path system is not included in this feasibility level design.

Riprap would be placed downstream of the apron to protect the structure against under scour. Ashbrook Wash at this location is composed of coarse gravel and cobble. It is likely that bedrock occurs in near proximity to the streambed. Downstream scour that could jeopardize the structure or dam is unlikely at this location.

Light shafts into the top of the culvert extending to the crest of the dam could be installed but are not recommended because of potential compaction difficulties and resultant seepage paths that could develop. Furthermore, it is unlikely that such light shafts would be effective in providing adequate visibility and security to users. Obviously such light shafts would be useless at night and during less than sunny days.

As an alternative, electrical light fixtures may be desired in the box culvert and at the two entrances if the structure is also to serve as part of a recreational path.

Rating curves for the principal spillway are shown in Figure 2. The maximum discharge through the enlarged principal spillway for the 100-year (future watershed condition) storm is about 1,570 cfs. The maximum water surface elevation for the 100-year storm is 1,713.66 feet with the modified principal spillway. According to previous modeling, for the existing spillway and future (full buildout) watershed conditions, the maximum water surface elevation is 1,716.70 feet resulting in principal spillway discharge of 676 cfs. Thus, the modified principal spillway results in a reduction of upstream water surface elevation of 3.04 feet for the 100-year flood. Of paramount importance, the modified principal spillway results in no flow passing through the emergency spillway with its resultant flooding problems at the high school and athletic field.

Construction of the principal spillway would require excavation through the earthen embankment south of the existing principal spillway. The slope of the embankment cut would be no steeper than 1V:1.5H. The use of a relatively flat cut slope is required in order to achieve the required compaction and bonding of the replaced embankment fill with the existing embankment. Construction specifications would require placing of fill and compaction to meet dam safety and slope stability criteria. The embankment is a zoned earth fill section. Construction documentation is not adequate to define embankment fill specifications. At final design, a geotechnical engineer will be needed to inspect the excavation trench, perform laboratory testing, and to specify embankment fill design and specifications. It may be possible to reuse some of the embankment excavation as backfill, however, it is likely that some relatively small amounts of embankment core material and/or filter zone material would need to be imported. A gravel pit is operated on the Fort McDowell Indian Reservation only a short distance away from GEPD and the necessary construction materials should be readily available.

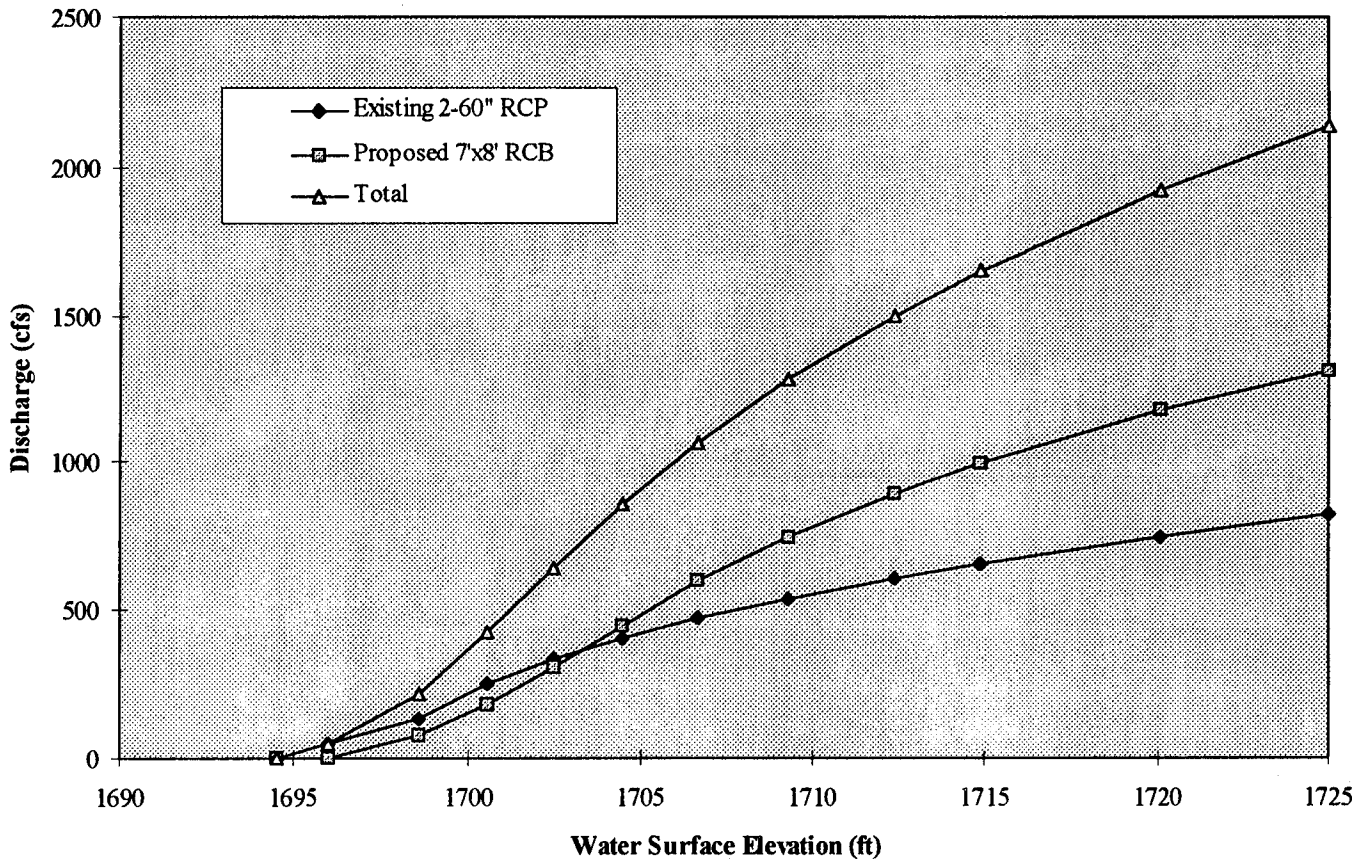


FIGURE 2

Golden Eagle Park Dam principal spillway rating curve

Emergency Spillway

The emergency spillway is modified by increasing the crest length from its existing 280 feet to about 570 feet. The spillway crest elevation is maintained at about 1,715 feet. Emergency spillway enlargement is achieved by excavating the crest of the existing earthen embankment to the north of the spillway and lowering that section from about 1,721.5 feet to the spillway elevation of 1,714.86 feet. Rating curve for the spillway is shown in Figure 3. The existing concrete sill at the spillway crest would be extended to the north for the entire length of the enlarged spillway. The concrete sill would extend up the embankment cut and extend into the crest of the dam (see Sheet 1). The concrete sill should also extend to the south from its present location and tie into the recommended floodwall near the high school cafeteria.

At the south end of the emergency spillway, a floodwall should be added to keep flow during extreme floods from entering the high school cafeteria and other campus areas. Although either a berm or a floodwall may be acceptable, a structural concrete floodwall is recommended because of space limitations in this area. Additionally, a berm may require erosion protection such as riprap and adequate tie-in with the concrete sill. Therefore, the floodwall may be no more expensive than the berm and would provide a more functional facility. A relatively small earthen berm is needed at the west end of the floodwall (shown in Sheets 1 and 2).

The crest of the dam, as surveyed during the Fountain Hills FDS, has three areas that appear to have settled or for other reason are below the required elevation. Those "sags" are generally about 1 to 1.5 feet deep (see Sheet 1). The sag from about Station 13+40 to Station 16+00 is in the area of emergency spillway enlargement and that adverse condition would be remedied by spillway enlargement. The other two sags (Stations 18+40 to 19+15 and 19+90 to 20+40) are below the 0.5 PMF maximum water surface elevation of 1,721.43 feet. In addition, freeboard should be added to the entire earthen embankment. Guidelines by ADWR generally recommend that residual freeboard be either the sum of wave height plus runup or 3 feet, whichever is greater. However, for existing dams, ADWR will consider other factors in freeboard requirements. Freeboard to meet ADWR guidelines would require one of the following:

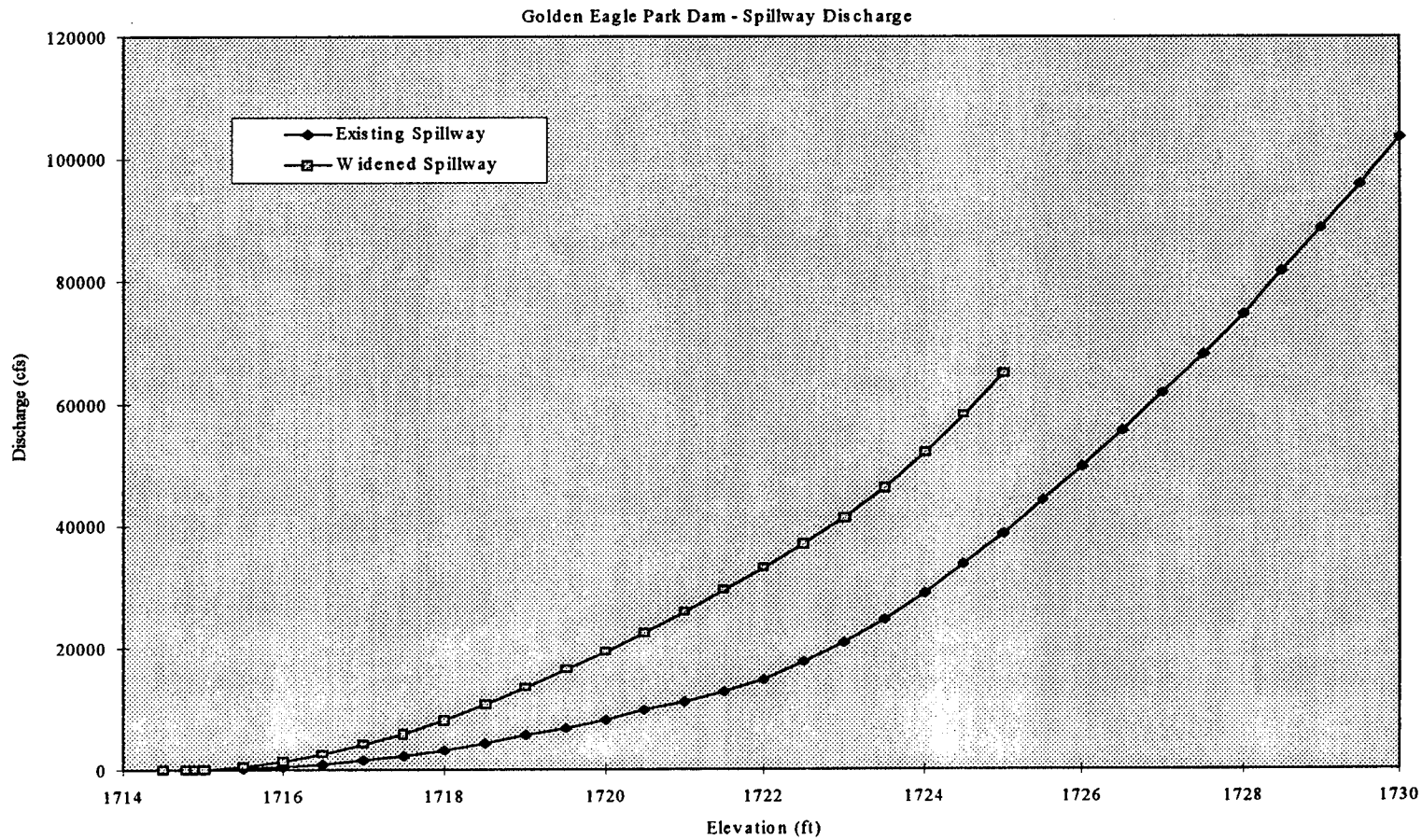


FIGURE 3

Golden Eagle Park Dam emergency spillway rating curve

1. Further lengthening of the emergency spillway which would place part of that spillway over a substantial section of earthen fill, which is to be avoided.

2. Raising of the dam to meet the recommended freeboard requires placing fill on either the upstream or downstream slopes. That option adds considerable cost, results in unwanted aesthetic impacts (destruction of established desert vegetation on those slopes), requires enlarging the dam into either the upstream park or downstream athletic field, and increases the static load on the embankment.

3. Some combination of further spillway lengthening plus raising the dam embankment.

It is recommended that the crest of the earthen embankment be raised from Station 16+05 to 20+45 to elevation 1,723 feet. This will provide about 1.5 feet of freeboard for the 0.5 PMF inflow design flood. This embankment raising would reduce the dam crest width from 12 feet to 9 feet, which is adequate for dam maintenance access. The raising of the dam crest by this method would not require placing fill on the embankment slopes. This recommendation for freeboard will require ADWR review and approval, but for this dam, 1.5 feet of freeboard is reasonable.

Geologic, soils and foundation conditions are generally described in Phase I Inspection Report on file at ADWR. The geologic formations consist of streambed alluviums on the surface underlain by old lake bed deposits. The surface is highly dissected, often exposing the lake deposits which is the case at the left abutment. The right abutment gradually rises from the incised streambed to the terrace containing the emergency spillway. The surface alluvium consists of variable thickness, loose sand and gravel which becomes more consolidated with depth. The lake deposits consist of well cemented sands and gravels. Foundation treatment consisted of removal of surface soils to 3 feet depth and excavation of a cutoff trench through the coarse grained alluvium and into at least 2 feet of cemented silts and clays.

Therefore, excavation of embankment fill material for the enlarged emergency spillway will either expose the cemented lake deposits or the placed fill of the cutoff trench, or both. Those materials may have adequate erosion resistance for the emergency spillway, but will need to be evaluated after exposure.

Based on a review of the topographic map (see Sheet 1), it appears that excavation of the top 7 feet of the earthen embankment will result in removal of fill placed over the right abutment material from about Station 13+05 to about Station 14+50. Therefore, in that area the spillway crest will probably be at or near the natural grade. Removal of embankment fill from Station 14+50 to 15+80 will result in lowering the placed embankment fill to 3 feet or less. Thus, for the entire length of the enlarged spillway there will be little potential for embankment erosion due to spillway operation. The cross section of the spillway section is quite wide, and to a large extent will be in abutment material. In addition, the concrete sill will serve to intercept headcutting and erosion of the spillway crest. At time of spillway excavation, the surface material should be evaluated. If warranted at that time, spillway erosion protection, such as riprap or other material, could be specified if additional erosion protection is justified.

An energy dissipator at the emergency spillway is not needed. Flow from the emergency spillway is spread over the 570-foot spillway crest resulting in a maximum unit discharge of less than 50 cfs/ft for the 0.5 PMF. Spillway discharges either pass over the earthen and concrete terraces below the existing spillway or pass over a broad earthen slope below the enlarged spillway section. Spillway discharges will dissipate in the downstream athletic field and the steep bank into Ashbrook Wash. Considerable damage would result to the athletic field and its facilities. However, spillway operation would not threaten to breach the broad section of GEPD at the emergency spillway. No additional energy dissipator is needed for this spillway, especially since it would only operate during floods larger than the 100-year event.

Increased flood hazard downstream of the enlarged emergency spillway is not considered a relevant consideration. The Town of Fountain Hills participates in the FCDMC Flood Warning Program, and under any reasonable scenario, the athletic field and downstream floodplain would be evacuated during storm conditions that could result in emergency spillway operation.

Cost Estimate

A cost estimate for the modified principal and emergency spillways is provided in Table 2.

TABLE 2

Engineer's cost estimate for modification of Golden Eagle Park Dam

No. (1)	Description (2)	Unit (3)	Quantity (4)	Unit Cost (5)	Cost (6)
Principal Spillway					
1	Clear and grub	LS	1	$2,000	$2,000
2	Remove/dispose concrete wingwalls	LS	1	$3,000	$3,000
3	Construct 7' x 8' RCB	LF	99	$290	$28,710
4	Trenching for RCB	CY	4,000	$3	$12,000
5	Backfill and compaction (controlled)	CY	3,670	$10	$36,700
7	Inlet Apron	LS	1	$2,600	$2,600
8	Inlet Wingwalls	LS	1	$1,800	$1,800
10	Outlet Wingwalls	LS	1	$3,500	$3,500
11	Outlet Apron w/end sill	LS	1	$4,500	$4,500
12	Dumped Riprap	CY	60	$50	$3,000
13	Drainage Excavation	CY	250	$8	$2,000
Emergency Spillway					
14	Clear and grub	LS	1	$1,000	$1,000
15	Excavation	CY	1,850	$3	$5,550
16	Construct concrete sill	LF	350	$20	$7,000
17	Haul away/dispose of excess material	CY	2,172	$5	$10,860
18	Concrete retaining wall	LF	116	$140	$16,240
19	Survey monument	EA	2	$250	$500
20	Berm Embankment	CY	34	$10	$340
Dam Crest					
21	Embankment	CY	250	$10	$2,500
	Construction Total				$143,800
	Mobilization		10%		$14,380
	Construction water & dust control		2%		$2,876
	Quality control		2%		$2,876
	Construction survey		5%		$7,190
	Erosion control		1%		$1,438
	Subtotal				$28,760
	Construction Engineering & Contingencies[a]		30%		$43,140
	Final Design[b]		20%		$28,760
	Project Total				$244,460

Notes: [a] Includes geotechnical engineering for embankment reconstruction.

[b] Design services for GEPD only; does not include redesign of roadway crossings or floodplain analyses downstream of dam.

Permits

Environmental factors and permits are discussed in the Interim Report. Approval and construction will require Section 404 permit from the U.S. Army Corps of Engineers. The project may qualify for a nationwide permit and consultation with the Corps of Engineers should be conducted at the end of preliminary design to define permit requirements. The Section 401 permit would be obtained from the Arizona Department of Environmental Quality (ADEQ) at the time of the 404 permit. A National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) would need to be filed with the Environmental Protection Agency (EPA) and copied to ADEQ and the Town of Fountain Hills. A corresponding Storm Water Pollution Prevention Plan (SWPPP) will also need to be prepared and administered during the construction phase of work.

A floodplain use permit would be required and this would be coordinated through the local floodplain administrator. In addition, changes to the principal spillway and possible other modifications to downstream roadway crossings (see the Roadway Crossing Study report) could result in changes to the regulatory FEMA floodplain. Dependent upon the impact of those floodplain changes, it may be desirable to obtain a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR). Such determination should be made during final design of the modifications to the dam and future decisions in regard to improved roadway crossing structures for Ashbrook Wash.

ASHBROOK WASH FLOODPLAIN

Modifications to the spillways of GEPD result in some impact to the upstream and downstream regulatory floodplains of Ashbrook Wash. Upstream of GEPD, the inundation limits for both the 100-year flood and the 0.5 PMF are reduced because of the greater spillway capacities and resultant lowered maximum water surface elevations. At the south end of the emergency spillway and downstream of that spillway, the flood hazard zones for the high school campus and athletic fields that are presently delineated would be removed from that designation.

Downstream of GEPD there is a relatively small increase in the 100-year floodplain limits. Although the principal spillway capacity is increased significantly, the downstream

effects are relatively minor. This is because the present condition 100-year discharge is the result of limited discharge from the undersized principal spillway plus uncontrolled overflow through the existing emergency spillway. The 100-year discharges from the GEPD spillways are shown in Table 3. The proposed enlargement of the principal spillway will result in a temporary increase in the 100-year discharges downstream of the dam. However, as the upstream watershed develops and finally achieves the full buildout condition, the 100-year discharge will decrease with the modified spillways.

TABLE 3

Summary of 100-year peak discharges from the GEPD spillways for existing and future watershed conditions

	100-year Discharge through Spillways, in cfs			
	Existing Spillways		Proposed Spillways	
Spillway	Existing Conditions[a]	Future Conditions[b]	Existing Conditions[a]	Future Conditions[b]
(1)	(2)	(3)	(4)	(5)
Principal	661	676	1,390	1,574
Emergency	305	955	0	0
Total	966	1,631	1,390	1,574

Notes: [a] - as per Fountain Hills (North) FDS
[b] - full buildout condition

A comparison of the discharges in Ashbrook Wash at cross sections that correspond to the Fountain Hills FDS are shown in Appendix I. The maximum change in discharge below the point where the discharges from the two spillways converge (plus intervening drainage area) is at Sections 3.208 and 3.241 where the discharge increases from 1,180 cfs to 1,830 cfs, however, that results in a water surface rise of only about 0.9 feet.

The 100-year peak discharges from the HEC-1 models with the enlarged principal spillway were coded into the HEC-2 model that was used for the Fountain Hills FDS. The HEC-2 model summary is provided in Appendix H. The water surface elevations along Ashbrook Wash are provided in Appendix I. The rise in water surface elevation is, for the most part, very small and comparison to the floodplain delineation maps indicates no apparent problem areas due to that change in discharge. The maximum water surface increase is 1.8 feet at Section 3.544 a short distance downstream of the principal spillway, and just upstream of the Hampstead Drive culvert.

Floodplain delineation of Ashbrook Wash downstream of GEPD was not performed for the recommended spillway modifications. However, an order of magnitude impact on the floodplain can be gleaned from Plates 2 and 3 of the Interim Report. Those plates show rough floodplain delineations for the without dam alternative (removal of dam) for existing (Plate 2) and future (Plate 3) conditions. Only one structure is affected for that alternative and therefore the impact would be no worse for the modified spillways. However, those floodplain delineation maps are based on 1991 photography and other structures may exist that do not appear on those maps. Floodplain impact should be investigated with updated mapping during final design considerations.

Another factor that will need to be considered at final design is the impact of the increased capacity of the principal spillway on the roadway crossings of Ashbrook Wash downstream of GEPD. The Roadway Crossing Study, which is part of the Fountain Hills ADMP project, provided recommended roadway crossing improvements at Del Cambre Avenue, Saguaro Boulevard and Bayfield Drive. Those improvements are based on the full buildout conditions of the Town with the existing spillways at GEPD. Those roadway crossings, and possibly other crossings, should be reevaluated as part of an overall evaluation and final design project for GEPD.

RECOMMENDATIONS

1. The principal spillway of GEPD should be modified and enlarged, generally as shown by this feasibility level design, to improve the flood performance of the dam and to remove portions of the high school campus and athletic field from frequent flood hazards and the regulatory floodplain.

2. The emergency spillway of GEPD should be modified and enlarged, generally as shown by this feasibility level design, to eliminate the dam overtopping potential during the 0.5 PMF spillway design flood. Regulatory review by ADWR may require remedial measures in this regard.

3. The feasibility design indicates that modifications to GEPD can be made with relatively moderate construction costs.

4. There does not appear to be any reason to anticipate environmental or permit restraints to spillway modification as recommended; however, it is noted that the areas immediately upstream and downstream of the principal spillways may be classified as riparian areas.

5. The enlarged principal spillway provides a recreational amenity as part of a pedestrian and bicycle path crossing of the dam connecting Ashbrook Wash and Golden Eagle Park.

6. Geotechnical considerations will need to be incorporated at final design in regard to reconstruction of the cut through the embankment for installation of the principal spillway.

7. The Town of Fountain Hills should consider undertaking Ashbrook Wash roadway crossing improvements simultaneously with the improvements at GEPD. This is because the design discharges at the roadway crossings will be impacted somewhat by the enlarged principal spillway.

8. Revisions to the floodplain delineation maps and the appropriate CLOMR/LOMR should be submitted to FEMA after modifying GEPD and the roadway crossings.

9. The recommendations for GEPD and the roadway crossings of Ashbrook Wash result in improved flood management in the Town of Fountain Hills and improved transportation and emergency access during flood conditions.

APPENDIX A

Interim Report review comments and review meeting notes

Town of FOUNTAIN HILLS

DISTRICT
RECEIVED
FEB 11 1997

February 6, 1997

Maricopa County Flood Control District
2801 W. Durango
Phoenix, AZ 85009

Attn: Russ Miracle

Re: Review comments for Fountain Hills ADMS - Golden Eagle Park Dam Reconnaissance Study 1 Alternative Evaluation; Interim Report

Gentlemen:

We have received George Sabol's thorough, well written November 1996 interim report for Golden Eagle Park (GEP) Dam, with the following comments. We agree that a variant of Alternate 5 (modify the existing GEP dam) is the best alternative.

Recommended Alternative A: We agree that lengthening the emergency spillway (Option E-2) should be included. However, we question whether including some raising of the dam crest (Option E-1) makes sense. Raising the dam instead of lengthening the spillway was shown to be substantially more expensive in the report. Raising the dam raises the ponded water level between the 100-year flow and the 1/2-PMF flow, thereby creating more flooding at the High School, Golden Eagle Park, Golden Eagle Blvd and the SunRidge Canyon Golf Course for those flows. Raising the dam will cause the upstream dam face to infringe into the Cloudburst Wash channel through GEP and into softball fields #3 and #4. Raising the dam may also infringe into the High School football field bleachers on the downstream dam face. Also, vegetation on both dam faces would be destroyed by any raising of the dam crest.

For the principal spillway, we agree that adding a new parallel culvert horizontal with the existing culvert is the best option (Option P-2a). We believe that there is a significant potential for future recreational use along the Ashbrook Wash channel. The High School is proposing placing practice/P.E. fields and/or courts north of Ashbrook Wash. A future linear park and/or trail along the wash through the High School property, GEP and SunRidge Canyon (Sierra Madre Drive to Hampstead Drive) is likely, with upstream and/or downstream extensions possible. Therefore, the new principal spillway should be a minimum of a 10' wide x 8' high box culvert to allow pedestrian and bicycle recreational traffic. The new box culvert invert should be slightly higher (perhaps 1'-2') than the existing pipe culvert inverts to allow nuisance flows to pass solely

16836 East Palisades Boulevard - P.O. Box 17958 - Fountain Hills, Arizona 85269 - (602) 837-2003 - FAX: (602) 837-3145

through the existing pipe culverts. We believe that given the upstream dams, box culverts, ponded area, and highly used park location, no trash rack should be needed on the 10'x8' box culvert. Please consider the desirability of a light-well for this box culvert.

Alternative B: We have concerns about whether the emergency spillway fuse plug (Option E-4) will actually work as designed. Additionally, replacement of the fuse plug and repair of downstream damage caused by blow-out of the fuse plug would be significant costs (although rare occurrences). Also, we see no need to remove the satisfactorily operating (though undersized), existing principal spillway (Option P-3).

Based on the analysis contained in Sabol's thorough report, and the above considerations, we believe that Alternative A (as further delineated above) is clearly superior. We see no need to carry any other alternative into the feasibility level design.

We have also attached several minor technical corrections for incorporation into the final documents. Thank you for your consideration of these comments.

Sincerely,

Randy L. Harrel, P.E., L.S.
Town Engineer

RLH:bb

E:\MCFCD.RLH

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5859

BOARD OF DIRECTORS
Betsey Bayless
Jan Brewer
Fulton Brock
Don Stapley
Mary Rose Garrido Wilcox

February 21, 1996

George V. Sabol
George V. Sabol Consulting Engineers Inc.
7776 Pointe Parkway West, Suite 290
Phoenix, Az. 85044-5403

re: FCD 94-16
Fountain Hills ADMS
Golden Eagle Park Dam Interim Report

Dear Mr. Sabol:

We have completed our review of the Reconnaissance Study and Alternatives Evaluation for Golden Eagle Park Dam, interim report, dated November 1996 and have the following comments:

1. The recommended alternatives will increase the 100-year peak discharge downstream of the structure. Please include a description of the downstream impacts on the existing 100-year floodplain delineation. One problem area for the existing 100-year delineation is at Bayfield Drive, flow overtops the road crossing and is diverted through the street system before returning to Ashbrook Wash. Enlarging or increasing the number of culverts at Bayfield Drive might have to be considered in the selected alternative. Another potential problem area is the south bank of Ashbrook Wash above Del Cambre Boulevard. Here flow was barely contained within the existing banks of the wash for the existing 100-year floodplain delineation.

2. The proposed modifications will require cutting the existing embankment and replacing the embankment after installation of the principal spillway modification is complete. Please include a description of the anticipated construction techniques to eliminate a construction joint at the interface of the old and new embankments.

3. The recommended plans require widening the emergency spillway. Please include additional descriptions and plan view drawings for the spillway modifications showing any requirements for energy dissipation and erosion protection for the dam embankment.

4. Please include a table showing the cost estimates for the recommended plan(s).

I have also included a copy of the review comments received from the Town of Fountain Hills. If you would like to meet to discuss the comments, please call me at 506-2961.

Sincerely:

Russ Miracle

Russell Miracle, P.E.
Project Manager

George V. Sabol Consulting Engineers, Inc.

FOUNTAIN HILLS ADMP
REVIEW AND DISCUSSION MEETING MINUTES
for
GOLDEN EAGLE PARK DAM
RECONNAISSANCE STUDY AND ALTERNATIVE EVALUATION REPORT

Attendees: Russ Miracle, FCDMC
Randy Harrel, Town of Fountain Hills
Michael Lopez, FCDMC
Warren Rosebraugh, FCDMC
George Sabol, GVSCE
Scott Ogden, GVSCE

1. The meeting was held at the Flood Control District of Maricopa County office on 6 March 1997. The meeting commenced at 8:30 am and finished by 10:30 am.

2. Russ Miracle opened the meeting and distributed copies of FCDMC and Town of Fountain Hills review comments. Each of the comments were briefly reviewed and discussed.

3. Discussions regarding dam safety issues and the imminent involvement by the Arizona Department of Water Resources (ADWR) in the analysis and design process ensued. The following are highlighted points of that discussion:

   a. It was discussed and agreed to by all present that discussions with ADWR should be initiated at this point in the project.

   b. Michael Lopez expressed concern that ADWR would take a close and hard look at a total reconstruction of the dam if major renovation or modification of the principal spillway was to be proposed.

   c. Russ Miracle responded that if ADWR were to require reconstruction of the entire dam, then Alternative 2 (Remove GEPD) would have to be considered very seriously.

   d. Randy Harrel expressed the Town's need to improve the principal spillway to mitigate potential flooding of the park facilities during frequent events (10-year, future condition). He also mentioned that additional phases of park development were nearing completion, and that the Town had to do additional work in the vicinity of the emergency spillway to satisfy ADWR comments and concerns regarding the approach to that spillway.

   e. Principal spillway augmentation alternatives, beyond those presented in the reconnaissance study report, were discussed. Ideas included "bathtub" and other weir type spillways constructed in the upper portion of the dam. It was agreed, however, that even these kind of spillways would require significant work within the main core of the dam if the emergency spillway was to remain as-is.

f. The emergency spillway was discussed with regard to armoring, locations, configurations and secondary uses. Randy Harrel reiterated his desire to see the existing spillway remain and be expanded to provide protection for the 0.5 PMF.

g. Michael Lopez proposed that as a phase of work, a geotechnical investigation of the existing dam and source material be conducted prior to initiating discussions with ADWR. He and Warren Rosebraugh believed there was still FCDMC on-call geotechnical budget available for this work.

4. The existing sewer line within the principal spillway was discussed with regard to future condition capacity. Randy Harrel projected that future development of the tributary area to that trunk main would not exceed the capacity of the sewer, and it would therefore not be advantageous to remove and replace the sewer line with a larger pipe,

5. Construction access to the dam was discussed. Michael Lopez strongly recommended that the Town begin the USACOE 404 Permitting process as soon as reasonably possible. Randy Harrel noted that he believed the Town would not be required to obtain a 404 Permit since the impacted area would probably be less than 1-acre.

6. Randy Harrel noted that according to the Fountain Hills North FDS future condition hydrology, the Golden Eagle Park Dam emergency spillway operates at the 10-year event. Only storms as small as the 2-year and possibly as large as the 5-year events pass entirely through the existing principal spillway. This causes adverse conditions for the upstream public recreation facilities and challenges the design of future facilities.

7. It was agreed to by all present that the plan of action at this point is for Randy Harrel to contact and coordinate with ADWR to review and discuss the work performed to date, and to request direction and requirements from ADWR regarding the next phase of the design. After that coordination is accomplished, another meeting will be convened to discuss and establish the scope of work for the next phase. Alternatives discussed that may deviate from the existing scope of work might include obtaining a change order to the existing contract to perform geotechnical investigations and evaluate the results, or, terminating the existing contract and re-negotiating a new contract to proceed directly to preliminary design. Randy Harrel requested that someone from SFC (for GVSCE) accompany him to the ADWR meeting. Either George Sabol or Scott Ogden stated that they would be available to attend. Randy Harrel also requested an additional copy of the interim report for submittal to ADWR. Russ Miracle supplied one of the review copies.

George V. Sabol Consulting Engineers, Inc.
8315 E. Redfield Road
Scottsdale, Arizona 85260-3535
602-991-0486 FAX 602-991-0486

5 May 1997

Russell Miracle, PE
Project Manager
Flood Control District of Maricopa County
2801 W. Durango
Phoenix, AZ 85009

Subject: Fountain Hills ADMP
Contract No. FCD 95-16

PROGRESS REPORT NO. 10
(22 March 1997 through 18 April 1997)

The following items were accomplished during this period (Tasks are per the GVSCE Work Plan):

Task 1:

1. Regular coordination with District and project team.

Task 2:

1. This task is complete.

Task 3:

1. This task is complete.

Task 4:

1. A meeting was held on 15 April 1997 at the District involving Russ Miracle, Mike Lopez, Tim Murphy and Warren Rosebraugh of the District; Randy Harrel of the Town of Fountain Hills; Bill Jenkins of ADWR; and George Sabol of GVSCE. Sabol briefed Jenkins on the history and status of studies on Golden Eagle Park Dam. There was discussion about the spillway enlargements and need for and timing of geotechnical investigations. Harrel asked Jenkins about ADWR procedures for the dam. Jenkins provided an overview of the process. Miracle indicated that District funding is available for this project after 1 July 1997. There was discussion of a contractual change order for GVSCE so that this project can progress to preliminary design. Jenkins told Harrel that he would prepare a letter to the Town of Fountain Hills indicating the status of the dam and the required action plan. Jenkins is to copy that letter to Miracle and Sabol.

2. Miracle and Sabol discussed a change order to this project to expand the scope of work and time schedule. The present contact is with GVSCE and that contract was not assigned to SFC. Sabol informed Miracle that a contract extension beyond July 1997 was not possible because the GVSCE liability insurance expires at that time and that GVSCE will need to complete all projects by that time. The District will not execute a change order that includes the assignment of the contract to SFC. Therefore, GVSCE will complete the present scope of work and the District will not expand the scope of work.

3. GVSCE will advance the recommended alternative to a feasibility level of design. Comments by the District under letter of 21 February and by the Town of Fountain Hills under letter of 24 March will be incorporated. The feasibility level report on Golden Eagle Park Dam is scheduled to be submitted by 23 May 1997.

Task 5:

1. The draft final report is being reviewed by the District.

2. Review comments from the District and a review meeting involving Entellus and MKE is needed to complete that task.

Task 6:

1. The Town of Fountain Hills has been advised of the results of the emergency access route study.

2. The report has been prepared and is being reviewed and finalized. That report is scheduled to be submitted by 23 May 1997.

Action Items:

1. The District needs to issue a change order for contract extension from 9 May 1997 to 31 July 1997.

2. The District needs to submit review comments on the draft roadway crossing report (by Entellus and MKE). A review meeting may be needed to discuss comments and agree upon finalizing that report.

3. GVSCE to submit the emergency access report by 23 May 1997.

4. GVSCE to submit Golden Eagle Park Dam feasibility design report by 23 May 1997.

APPENDIX B

HEC-1 for existing watershed conditions and the modified GEPD spillways
(100-year, 6-hour)

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1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              MAY   1991               *
 *           VERSION 4.0.1E              *
 *     Lahey F77L-EM/32 version 5.01     *
 *       Dodson & Associates, Inc.       *
 *  RUN DATE  06/27/97  TIME  15:36:30   *
 *****************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

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

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1                                    HEC-1 INPUT                                                    PAGE  1

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

        1           ID   Fountain Hills Area Drainage Master Plan
        2           ID   Golden Eagle Park Dam Feasibility Study
        3           ID        FCD 94-16       by GVSCE                          File:  EXMOD6.IH1
        4           ID    Existing Condition Model                               Date:  6/9/97
        5           ID    Proposed Improvements for GEPD Reflected in Rating Curve at C5990
        6           ID    100-Year, 6-Hour Storm
                    * ******************************************************************************
                    *  Fountain Hills North Floodplain Delineation Study
                    *       FCD 92-04       by GVSCE                          File:  EX100-6.IH1
                    *    Existing Condition                                   Date:    02-25-94   trl
                    *    100-Year 6-Hour Storm, Clark Unit Hydrograph      Revised:    09-14-94   trl
                    * ******************************************************************************
                    *
        7           IT       1                    1080
        8           IO       5
        9           IN      15
                    *DIAGRAM
                    *
       10           JD    3.30    0.01
       11           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
       12           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
       13           PC   0.962   0.972   0.983   0.991   1.000
       14           JD    3.28    0.50
       15           JD    3.23    2.80
       16           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
       17           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
       18           PC   0.950   0.963   0.975   0.988   1.000
       19           JD    3.04    16.0
       20           PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
       21           PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
       22           PC   0.946   0.960   0.973   0.987   1.000
       23           JD    2.67    90.0
       24           PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
       25           PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
       26           PC   0.927   0.945   0.964   0.982   1.000
       27           JD    1.88   500.0
       28           PC   0.000   0.024   0.043   0.059   0.078   0.098   0.119   0.141   0.162   0.186
       29           PC   0.212   0.239   0.271   0.321   0.408   0.515   0.627   0.735   0.814   0.864
       30           PC   0.907   0.930   0.954   0.977   1.000
                    *

       31           KK    201A
       32           KM   Sub-Basin   201A
       33           KM
       34           KM      The Clark Unit Hydrograph is used for this basin.
       35           KM          The Natural time-area relation is used for this basin.
       36           KM
       37           KM      Time of Concentration for this sub-basin is based on the following:
       38           KM          6-Hour Rainfall, Pattern No.  1.00
       39           KM          An rainfall areal reduction factor of 0.997
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 40          KM
 41          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 42          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 43          KM   .45 .44 .44 .13 .10 .09 .04 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
 44          KM
1                                          HEC-1 INPUT                                                          PAGE  2

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

 45          KM          L=   1.269 miles, S=  208 feet/mile, Kb= .10
 46          KM
 47          BA   0.217
 48          LG    0.15    0.39    5.70    0.19    0.00
 49          UC   0.458   0.450
 50          UA       0       3       5       8      12      20      43      75      90      96
 51          UA     100
             *

 52          KK    201B
 53          KM   Sub-Basin   201B
 54          KM
 55          KM      The Clark Unit Hydrograph is used for this basin.
 56          KM          The Natural time-area relation is used for this basin.
 57          KM
 58          KM      Time of Concentration for this sub-basin is based on the following:
 59          KM          6-Hour Rainfall, Pattern No.  1.00
 60          KM          An rainfall areal reduction factor of 0.999
 61          KM
 62          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 63          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 64          KM   .45 .44 .44 .13 .10 .09 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
 65          KM
 66          KM          L=   0.680 miles, S=  223 feet/mile, Kb= .11
 67          KM
 68          BA   0.081
 69          LG    0.15    0.39    5.70    0.20    0.00
 70          UC   0.313   0.314
 71          UA       0       3       5       8      12      20      43      75      90      96
 72          UA     100
             *

 73          KK    C501
 74          KM      Hydrograph combine 201A + 201B at C501
 75          HC       2
             *

 76          KK  501502
 77          KM      Normal depth channel route from C501 to C502
 78          KM      Source:  200 Scale Mapping
 79          RS       7    FLOW      -1
 80          RC   0.055   0.045   0.055  3000.0  0.0203
 81          RX  1000.0  1010.0  1025.0  1045.0  1075.0  1105.0  1125.0  1155.0
 82          RY  1624.0  1622.0  1620.0  1618.0  1618.0  1620.0  1622.0  1624.0
             *

 83          KK    201C
 84          KM   Sub-Basin   201C
 85          KM
 86          KM      The Clark Unit Hydrograph is used for this basin.
 87          KM          The Natural time-area relation is used for this basin.
 88          KM
 89          KM      Time of Concentration for this sub-basin is based on the following:
 90          KM          6-Hour Rainfall, Pattern No.  1.00
 91          KM          An rainfall areal reduction factor of 0.999
1                                          HEC-1 INPUT                                                          PAGE  3

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

 92          KM
 93          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 94          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 95          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
 96          KM
 97          KM          L=   0.674 miles, S=  206 feet/mile, Kb= .11
 98          KM
 99          BA   0.079
100          LG    0.15    0.39    5.70    0.21    0.00
101          UC   0.321   0.326
102          UA       0       3       5       8      12      20      43      75      90      96
103          UA     100
             *

104          KK   C502R
105          KM      Hydrograph combine 501502 + 201C at C502 right branch
106          HC       2
             *

107          KK    201D
```

```
108          KM   Sub-Basin   201D
109          KM
110          KM      The Clark Unit Hydrograph is used for this basin.
111          KM          The Natural time-area relation is used for this basin.
112          KM
113          KM      Time of Concentration for this sub-basin is based on the following:
114          KM          6-Hour Rainfall, Pattern No.  1.00
115          KM          An rainfall areal reduction factor of 0.999
116          KM
117          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
118          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
119          KM   .45 .44 .44 .13 .10 .09 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
120          KM
121          KM          L=   0.898 miles, S=  207 feet/mile, Kb= .11
122          KM
123          BA   0.071
124          LG    0.15    0.39    5.70    0.20    0.00
125          UC   0.392   0.542
126          UA       0       3       5       8      12      20      43      75      90      96
127          UA     100
             *

128          KK    C502
129          KM      Hydrograph combine 502R + 201D at C502
130          HC       2
             *

131          KK  502503
132          KM      Normal depth channel route from C502 to C503
133          KM      Source:  200 Scale Mapping
134          RS       8    FLOW      -1
135          RC   0.050   0.045   0.050  2453.0  0.0183
136          RX  1000.0  1010.0  1025.0  1095.0  1215.0  1295.0  1305.0  1325.0
137          RY  1554.0  1553.0  1552.0  1550.0  1549.8  1551.0  1552.0  1554.0
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

138          KK    201E
139          KM   Sub-Basin   201E
140          KM
141          KM      The Clark Unit Hydrograph is used for this basin.
142          KM          The Natural time-area relation is used for this basin.
143          KM
144          KM      Time of Concentration for this sub-basin is based on the following:
145          KM          6-Hour Rainfall, Pattern No.  1.00
146          KM          An rainfall areal reduction factor of 0.998
147          KM
148          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
149          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
150          KM   .44 .43 .43 .12 .08 .07 .03 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
151          KM
152          KM          L=   1.245 miles, S=  178 feet/mile, Kb= .10
153          KM
154          BA   0.183
155          LG    0.15    0.38    5.60    0.25    0.10
156          UC   0.500   0.538
157          UA       0       3       5       8      12      20      43      75      90      96
158          UA     100
             *

159          KK   C503I
160          KM      Hydrograph combine 502503 + 201E at C503I
161          HC       2
             *

162          KK   C503O
163          KM      Reservoir route at C503.
164          RS       1    ELEV  1535.1
165          SV    0.00    0.67    2.87    7.16   13.82   22.77   34.37   38.00   41.80   32.20
166          SV   44.70   46.10   47.80   49.11   50.90   52.80   54.60   56.40
167          SE  1525.1  1538.0  1540.0  1542.0  1544.0  1546.0  1548.0  1548.5  1549.0  1549.2
168          SE  1549.4  1549.6  1549.8  1550.0  1550.2  1550.4  1550.6  1550.8
169          SQ       0      50     133     210     273     325     367     377     407     441
170          SQ     481     545     612     715     818     971    1115    1268
             *

171          KK   D503R
172          KM      Hydrograph diversion at C503.  Main flow continues in the right branch.
173          KM      Diverted flow is in the left branch.
174          DT   D503L
175          DI       0      50     133     210     273     325     367     377     407     441
176          DI     481     545     612     715     818     971    1115    1268
177          DQ       0      50     133     210     273     325     367     377     386     391
178          DQ     394     398     402     405     408     412     415     418
             *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 179          KK  503504
 180          KM      Normal depth channel route from C503 to C504
 181          KM      Source:  200 Scale Mapping
 182          RS       1    FLOW      -1
 183          RC   0.050   0.040   0.050  1151.0  0.0098
 184          RX   940.0  1060.0  1100.0  1140.0  1190.0  1210.0  1230.0  1242.0
 185          RY  1552.0  1548.0  1547.0  1546.2  1546.2  1548.0  1549.0  1552.0
              *
              * *
              * *  End Basin 201.  Start Basin 202
              * *
              *

 186          KK    202A
 187          KM   Sub-Basin   202A
 188          KM
 189          KM      The Clark Unit Hydrograph is used for this basin.
 190          KM          The Natural time-area relation is used for this basin.
 191          KM
 192          KM      Time of Concentration for this sub-basin is based on the following:
 193          KM          6-Hour Rainfall, Pattern No.  1.00
 194          KM          An rainfall areal reduction factor of 1.000
 195          KM
 196          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 197          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 198          KM   .43 .42 .42 .11 .07 .06 .02 .02 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
 199          KM
 200          KM          L=   0.409 miles, S=  129 feet/mile, Kb= .12
 201          KM
 202          BA   0.038
 203          LG    0.15    0.35    4.40    0.39    7.00
 204          UC   0.304   0.312
 205          UA       0       3       5       8      12      20      43      75      90      96
 206          UA     100
              *

 207          KK   C504I
 208          KM      Hydrograph combine D503R + 202A at C504I
 209          HC       2
              *

 210          KK   C504O
 211          KM      Reservoir route at C504.
 212          RS       1    ELEV  1538.1
 213          SV    0.00    0.17    0.90    1.00    1.10    1.30    1.60    1.80    2.00    2.30
 214          SV    2.50    2.70    3.00    3.10
 215          SE  1538.1  1540.0  1541.66 1541.80 1542.0  1542.2  1542.4  1542.6  1542.8  1543.0
 216          SE  1543.2  1543.4  1543.6  1543.7
 217          SQ       0      11      20      22      24      30      41      60      85     121
 218          SQ     171     240     322     396
              *
```



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

 219          KK   D504R
 220          KM      Hydrograph diversion at C504.  Main flow continues in the right branch.
 221          KM      Diverted flow is in the left branch.
 222          DT   D504L
 223          DI       0      11      20      22      24      30      41      60      85     121
 224          DI     171     240     322     396
 225          DQ       0      11      20      20      21      22      22      23      23      24
 226          DQ      24      25      26      26
              *

 227          KK    202B
 228          KM   Sub-Basin   202B
 229          KM
 230          KM      The Clark Unit Hydrograph is used for this basin.
 231          KM          The Natural time-area relation is used for this basin.
 232          KM
 233          KM      Time of Concentration for this sub-basin is based on the following:
 234          KM          6-Hour Rainfall, Pattern No.  1.00
 235          KM          An rainfall areal reduction factor of 1.000
 236          KM
 237          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 238          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 239          KM   .43 .42 .42 .11 .07 .06 .02 .02 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00
 240          KM
 241          KM          L=   0.364 miles, S=  322 feet/mile, Kb= .12
 242          KM
 243          BA   0.018
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244          LG    0.15    0.35    4.55    0.36    0.60
245          UC   0.204   0.280
246          UA       0       3       5       8      12      20      43      75      90      96
247          UA     100
             *

248          KK   C505I
249          KM      Hydrograph combine D504R + 202B at C505I
250          HC       2
             *

251          KK   D505R
252          KM      Hydrograph diversion at C505.  Main flow continues in the right branch.
253          KM      Diverted flow is in the left branch.
254          DT   D505L
255          DI       0       3       7       9      11      14      15      17      23      31
256          DI      44      55      75      95     123     134
257          DQ       0       3       7       9      11      12      12      13      14      14
258          DQ      15      15      16      16      16      17
             *

259          KK    202C
260          KM   Sub-Basin   202C
261          KM
262          KM      The Clark Unit Hydrograph is used for this basin.
263          KM          The Natural time-area relation is used for this basin.
264          KM
1                                          HEC-1 INPUT                                          PAGE  7

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

265          KM      Time of Concentration for this sub-basin is based on the following:
266          KM          6-Hour Rainfall, Pattern No.  1.00
267          KM          An rainfall areal reduction factor of 1.000
268          KM
269          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
270          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
271          KM   .43 .42 .42 .11 .07 .05 .02 .02 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
272          KM
273          KM          L=   0.192 miles, S=  363 feet/mile, Kb= .13
274          KM
275          BA   0.008
276          LG    0.15    0.35    4.35    0.41    7.00
277          UC   0.150   0.193
278          UA       0       3       5       8      12      20      43      75      90      96
279          UA     100
             *

280          KK    C506
281          KM      Hydrograph combine C505R + 202C at C506
282          HC       2
             *

283          KK   D506R
284          KM      Hydrograph diversion at C506.  Main flow continues in the right branch.
285          KM      Diverted flow is in the left branch.
286          DT   D506L
287          DI       0       3      13      37      77     100     151     206     276     355
288          DI     437     532     698     809     928    1104
289          DQ       0       0       0       0       0       0       4      12      28      52
290          DQ      85     128     183     249     328     421
             *

291          KK    202D
292          KM   Sub-Basin   202D
293          KM
294          KM      The Clark Unit Hydrograph is used for this basin.
295          KM          The Natural time-area relation is used for this basin.
296          KM
297          KM      Time of Concentration for this sub-basin is based on the following:
298          KM          6-Hour Rainfall, Pattern No.  1.00
299          KM          An rainfall areal reduction factor of 0.999
300          KM
301          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
302          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
303          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
304          KM
305          KM          L=   0.800 miles, S=  248 feet/mile, Kb= .11
306          KM
307          BA   0.063
308          LG    0.15    0.38    5.60    0.23    7.00
309          UC   0.333   0.444
310          UA       0       3       5       8      12      20      43      75      90      96
311          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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312          KK    202E
313          KM   Sub-Basin   202E
314          KM
315          KM      The Clark Unit Hydrograph is used for this basin.
316          KM          The Natural time-area relation is used for this basin.
317          KM
318          KM      Time of Concentration for this sub-basin is based on the following:
319          KM          6-Hour Rainfall, Pattern No.  1.00
320          KM          An rainfall areal reduction factor of 0.999
321          KM
322          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
323          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
324          KM   .44 .44 .43 .13 .09 .08 .03 .03 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
325          KM
326          KM          L=   0.732 miles, S=  270 feet/mile, Kb= .10
327          KM
328          BA   0.104
329          LG    0.15     0.39     5.70     0.22     0.30
330          UC   0.283    0.258
331          UA       0        3        5        8       12       20       43       75       90       96
332          UA     100
             *

333          KK   C508O
334          KM      Reservoir route at C508.
335          RS       1     ELEV  1524.2
336          SV    0.00     0.05     0.09     0.13     0.17     0.21     0.25     0.28     0.36     0.46
337          SV    0.55     0.64     0.72     0.81     0.90     1.00     1.02
338          SE  1524.1   1525.0   1525.5   1526.0   1526.5   1527.0   1527.6   1528.0   1528.2   1528.4
339          SE  1528.6   1528.8   1529.0   1529.2   1529.4   1529.6  1529.64
340          SQ       0        6        9       16       22       28       38       51       58       70
341          SQ      84      100      122      149      183      216      227
             *

342          KK   D508L
343          KM      Hydrograph diversion at C508.  Main flow continues in the left branch.
344          KM      Diverted flow is in the right branch.
345          DT   D508R
346          DI       0        6        9       16       22       28       38       51       58       70
347          DI      84      100      122      149      183      216      227
348          DQ       0        6        9       16       22       28       38       47       52       56
349          DQ      60       63       66       68       71       73       73
             *

350          KK  508507
351          KM      Normal depth channel route from C508 to C507
352          KM      Source:  200 Scale Mapping
353          RS       5     FLOW       -1
354          RC   0.020    0.035    0.055    934.0   0.0028
355          RX   893.0   1014.0   1022.0   1026.0   1040.0   1050.0   1060.0   1066.0
356          RY  1532.0   1529.4   1528.6   1527.6   1529.0   1530.2   1531.3   1532.0
             *
1                                          HEC-1 INPUT                                                    PAGE  9

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

357          KK   C507I
358          KM      Hydrograph combine D506R + 202D + D508L at C507I
359          HC       3
             *

360          KK   C507O
361          KM      Reservoir route at C507
362          RS       1     ELEV  1525.2
363          SV    0.00     0.28     0.46     0.65     0.85     1.03     1.38     1.40     1.44     1.48
364          SV    1.52     1.55     1.59     1.64     1.67     1.70     1.75     1.77
365          SE  1525.2   1526.0   1526.5   1527.0   1527.5   1528.0   1529.0   1529.0   1529.1   1529.2
366          SE  1529.3   1529.4   1529.5   1529.6   1529.7   1529.8   1529.9   1530.0
367          SQ       0        2        5        9       13       15       18       20       36       69
368          SQ     118      185      272      378      506      652      816      997
             *

369          KK    202F
370          KM   Sub-Basin   202F
371          KM
372          KM      The Clark Unit Hydrograph is used for this basin.
373          KM          The Natural time-area relation is used for this basin.
374          KM
375          KM      Time of Concentration for this sub-basin is based on the following:
376          KM          6-Hour Rainfall, Pattern No.  1.00
377          KM          An rainfall areal reduction factor of 1.000
378          KM
379          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
380          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
381          KM   .44 .44 .43 .13 .09 .08 .03 .03 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
382          KM
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383          KM          L=   0.188 miles, S=  337 feet/mile, Kb= .13
384          KM
385          BA   0.013
386          LG    0.15    0.38    5.60    0.23    1.80
387          UC   0.150   0.140
388          UA       0       3       5       8      12      20      43      75      90      96
389          UA     100
             *

390          KK    202G
391          KM   Sub-Basin   202G
392          KM
393          KM      The Clark Unit Hydrograph is used for this basin.
394          KM          The Natural time-area relation is used for this basin.
395          KM
396          KM      Time of Concentration for this sub-basin is based on the following:
397          KM          6-Hour Rainfall, Pattern No.  1.00
398          KM          An rainfall areal reduction factor of 1.000
399          KM
400          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
401          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
402          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
403          KM
404          KM          L=   0.175 miles, S=  338 feet/mile, Kb= .13
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

405          KM
406          BA   0.013
407          LG    0.15    0.39    5.70    0.21    1.50
408          UC   0.142   0.124
409          UA       0       3       5       8      12      20      43      75      90      96
410          UA     100
             *

411          KK    202H
412          KM   Sub-Basin   202H
413          KM
414          KM      The Clark Unit Hydrograph is used for this basin.
415          KM          The Natural time-area relation is used for this basin.
416          KM
417          KM      Time of Concentration for this sub-basin is based on the following:
418          KM          6-Hour Rainfall, Pattern No.  1.00
419          KM          An rainfall areal reduction factor of 0.998
420          KM
421          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
422          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
423          KM   .44 .43 .43 .12 .08 .07 .03 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
424          KM
425          KM          L=   0.861 miles, S=  243 feet/mile, Kb= .10
426          KM
427          BA   0.179
428          LG    0.15    0.37    5.20    0.27    0.30
429          UC   0.338   0.262
430          UA       0       3       5       8      12      20      43      75      90      96
431          UA     100
             *

432          KK   C511O
433          KM      Reservoir route at C511.
434          RS       1    ELEV  1535.2
435          SV    0.00    0.40    0.70    1.19    3.10    3.20    3.55    4.00    4.50    4.90
436          SV    5.40    5.80    6.30    6.80    7.20    7.70    8.13
437          SE  1535.2  1537.0  1538.0  1540.0  1541.6  1541.8  1542.0  1542.2  1542.4  1542.6
438          SE  1542.8  1543.0  1543.2  1543.4  1543.6  1543.8  1544.0
439          SQ       0      42      88     200     274     286     325     393     491     622
440          SQ     790    1000    1241    1518    1835    2189    2580
             *

441          KK  511512
442          KM      Normal depth channel route from C511 to C512
443          KM      Source:  200 Scale Mapping
444          RS       2    FLOW      -1
445          RC   0.055   0.045   0.055   760.0  0.0112
446          RX  1000.0  1060.0  1070.0  1090.0  1110.0  1120.0  1180.0  1220.0
447          RY  1536.0  1534.2  1534.0  1532.0  1532.0  1534.0  1535.0  1536.0
             *
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```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

448          KK    202I
449          KM   Sub-Basin   202I
450          KM
451          KM      The Clark Unit Hydrograph is used for this basin.
452          KM          The HEC-1 time-area relation is used for this basin.
```

```
453          KM
454          KM      Time of Concentration for this sub-basin is based on the following:
455          KM          6-Hour Rainfall, Pattern No.  1.00
456          KM          An rainfall areal reduction factor of 1.000
457          KM
458          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
459          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
460          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
461          KM
462          KM          L=   0.247 miles, S=  122 feet/mile, Kb= .12
463          KM
464          BA   0.017
465          LG    0.14    0.35    5.10    0.28    9.30
466          UC   0.225   0.232
             *

467          KK   C512I
468          KM      Hydrograph combine 511512 + 202I at C512
469          KM      Inflow to reservoir route at C512
470          KM      This is the inflow to the Stock Tank at the end of Bahia Drive
471          HC       2
             *

472          KK   C512O
473          KM      Reservoir route at C512 (Stock Tank).
474          RS       1    ELEV  1517.0
475          SV    0.00    0.03    0.29    0.75    1.38    2.39    4.17    7.43   10.30   12.20
476          SV   12.70   13.36   14.10   15.10   16.20   17.00   17.90
477          SE  1517.0  1518.0  1520.0  1522.0  1524.0  1526.0  1528.0  1530.0  1531.0  1531.6
478          SE  1531.8  1532.0  1532.2  1532.4  1532.6  1532.8  1533.0
479          SQ       0       0       0       0       0       0       0       0       0      15
480          SQ      35      65     137     244     376     541     725
             *

481          KK   D512L
482          KM      Hydrograph diversion at C512.
483          KM      Main flow continues in the left branch (weir).
484          KM      Diverted flow enters Bahia Drive (channel) and continues to C591.
485          KM      Diverted flow is in the right branch.
486          DT   D512R
487          DI       0      15      35      65     137     244     376     541     725
488          DQ       0       0       4      10      49     112     190     289     395
             *
             * *
             * * Note: 512591 too short to route
             * *
             *
             *
             * *
             * *  End Basin 202.  Start Basin 203.
             * *
             *
```



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

489          KK    203A
490          KM   Sub-Basin   203A
491          KM
492          KM      The Clark Unit Hydrograph is used for this basin.
493          KM          The HEC-1 time-area relation is used for this basin.
494          KM
495          KM      Time of Concentration for this sub-basin is based on the following:
496          KM          6-Hour Rainfall, Pattern No.  1.00
497          KM          An rainfall areal reduction factor of 0.996
498          KM
499          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
500          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
501          KM   .45 .44 .44 .13 .10 .09 .04 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
502          KM
503          KM          L=   1.569 miles, S=  229 feet/mile, Kb= .08
504          KM
505          BA   0.279
506          LG    0.14    0.37    5.70    0.21    4.20
507          UC   0.438   0.439
             *

508          KK   C513O
509          KM      Reservoir route at C513.
510          RS       1    ELEV  1789.0
511          SV    0.00    0.35    0.97    2.05    3.54    5.54    8.17
512          SE  1789.0  1794.0  1796.0  1798.0  1800.0  1802.0  1804.0
513          SQ       0       0      20      70     135     315    1995
             *

514          KK  513514
515          KM      Normal depth channel route from C513 to C514
```

```
516          KM      Source:  200 Scale Mapping
517          RS       7    FLOW      -1
518          RC   0.050   0.045   0.050  2403.0  0.0240
519          RX  1000.0  1010.0  1035.0  1080.0  1100.0  1120.0  1135.0  1145.0
520          RY  1780.0  1778.0  1770.0  1768.0  1768.0  1770.0  1778.0  1780.0
             *

521          KK    203B
522          KM   Sub-Basin   203B
523          KM
524          KM      The Clark Unit Hydrograph is used for this basin.
525          KM          The HEC-1 time-area relation is used for this basin.
526          KM
527          KM      Time of Concentration for this sub-basin is based on the following:
528          KM          6-Hour Rainfall, Pattern No.  1.00
529          KM          An rainfall areal reduction factor of 0.999
530          KM
531          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
532          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
533          KM   .45 .44 .44 .13 .10 .09 .04 .04 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
534          KM
535          KM          L=   0.484 miles, S=  236 feet/mile, Kb= .10
536          KM
1                                          HEC-1 INPUT                                          PAGE 13

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

537          BA   0.044
538          LG    0.14    0.37    5.70    0.21    5.00
539          UC   0.233   0.243
             *

540          KK   C514R
541          KM      Hydrograph combine 513514 + 203B at C514 right channel
542          HC       2
             *

543          KK    203C
544          KM   Sub-Basin   203C
545          KM
546          KM      The Clark Unit Hydrograph is used for this basin.
547          KM          The HEC-1 time-area relation is used for this basin.
548          KM
549          KM      Time of Concentration for this sub-basin is based on the following:
550          KM          6-Hour Rainfall, Pattern No.  1.00
551          KM          An rainfall areal reduction factor of 0.999
552          KM
553          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
554          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
555          KM   .45 .44 .44 .13 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
556          KM
557          KM          L=   0.988 miles, S=  258 feet/mile, Kb= .10
558          KM
559          BA   0.103
560          LG    0.15    0.39    5.70    0.21    9.30
561          UC   0.354   0.423
             *

562          KK    C514
563          KM      Hydrograph combine C514R + 203C at C514
564          HC       2
             *
             * *
             * * Note: 514515 too short to route
             * *
             *

565          KK    203D
566          KM   Sub-Basin   203D
567          KM
568          KM      The Clark Unit Hydrograph is used for this basin.
569          KM          The Natural time-area relation is used for this basin.
570          KM
571          KM      Time of Concentration for this sub-basin is based on the following:
572          KM          6-Hour Rainfall, Pattern No.  1.00
573          KM          An rainfall areal reduction factor of 0.999
574          KM
575          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
576          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
577          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
578          KM
579          KM          L=   1.025 miles, S=  252 feet/mile, Kb= .10
1                                          HEC-1 INPUT                                          PAGE 14

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

580          KM
581          BA   0.108
```

```
582          LG    0.15    0.39    5.70    0.21    0.00
583          UC   0.367   0.441
584          UA       0       3       5       8      12      20      43      75      90      96
585          UA     100
             *

586          KK    C515
587          KM      Hydrograph combine C514 + 203D at C515
588          HC       2
             *

589          KK  515517
590          KM      Normal depth channel route from C515 to C517
591          KM      Source:  200 Scale Mapping
592          RS       6    FLOW      -1
593          RC   0.050   0.045   0.060  3340.0  0.0186
594          RX  1000.0  1020.0  1045.0  1065.0  1085.0  1125.0  1135.0  1145.0
595          RY  1708.0  1704.0  1702.0  1698.0  1698.0  1700.0  1705.0  1710.0
             *

596          KK    203E
597          KM   Sub-Basin   203E
598          KM
599          KM      The Clark Unit Hydrograph is used for this basin.
600          KM          The Natural time-area relation is used for this basin.
601          KM
602          KM      Time of Concentration for this sub-basin is based on the following:
603          KM          6-Hour Rainfall, Pattern No.  1.00
604          KM          An rainfall areal reduction factor of 0.999
605          KM
606          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
607          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
608          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .01 .00 .00 .00 .00 .00 .00 .00
609          KM
610          KM          L=   0.640 miles, S=  219 feet/mile, Kb= .11
611          KM
612          BA   0.093
613          LG    0.15    0.37    6.60    0.14    0.00
614          UC   0.296   0.259
615          UA       0       3       5       8      12      20      43      75      90      96
616          UA     100
             *

617          KK   C517R
618          KM      Hydrograph combine 515517 + 203E at C517 right branch
619          HC       2
             *
```



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

620          KK    203F
621          KM   Sub-Basin   203F
622          KM
623          KM      The Clark Unit Hydrograph is used for this basin.
624          KM          The Natural time-area relation is used for this basin.
625          KM
626          KM      Time of Concentration for this sub-basin is based on the following:
627          KM          6-Hour Rainfall, Pattern No.  1.00
628          KM          An rainfall areal reduction factor of 0.996
629          KM
630          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
631          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
632          KM   .44 .44 .43 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
633          KM
634          KM          L=   1.460 miles, S=  237 feet/mile, Kb= .09
635          KM
636          BA   0.333
637          LG    0.15    0.39    5.70    0.21    0.00
638          UC   0.450   0.386
639          UA       0       3       5       8      12      20      43      75      90      96
640          UA     100
             *

641          KK  516517
642          KM      Normal depth channel route from C516 to C517
643          KM      Source:  200 Scale Mapping
644          RS      14    FLOW      -1
645          RC   0.065   0.045   0.055  6720.0  0.0213
646          RX  1000.0  1015.0  1020.0  1040.0  1080.0  1095.0  1100.0  1125.0
647          RY  1724.0  1718.0  1716.0  1714.0  1714.0  1716.0  1718.0  1724.0
             *

648          KK    203G
649          KM   Sub-Basin   203G
650          KM
651          KM      The Clark Unit Hydrograph is used for this basin.
```

```
652          KM          The Natural time-area relation is used for this basin.
653          KM
654          KM      Time of Concentration for this sub-basin is based on the following:
655          KM          6-Hour Rainfall, Pattern No.  1.00
656          KM          An rainfall areal reduction factor of 0.997
657          KM
658          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
659          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
660          KM   .45 .44 .44 .13 .10 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
661          KM
662          KM          L=   1.424 miles, S=  215 feet/mile, Kb= .09
663          KM
664          BA   0.248
665          LG    0.15    0.40    6.00    0.19    0.00
666          UC   0.458   0.457
667          UA       0       3       5       8      12      20      43      75      90      96
668          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE 16

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

669          KK   C517L
670          KM      Hydrograph combine 516517 + 203G at C517 left branch
671          HC       2
             *

672          KK    C517
673          KM      Hydrograph combine C517R + C517L at C517
674          HC       2
             *

675          KK  517518
676          KM      Normal depth channel route from C517 to C518
677          KM      Source:  HEC-2 Cross Section: ES 3.522
678          RS       8    FLOW      -1
679          RC   0.055   0.035   0.060  4367.0  0.0174
680          RX  9808.1  9845.6  9957.0  9990.4 10007.0 10015.9 10076.5 10176.0
681          RY  1628.2  1618.6  1617.5  1614.8  1614.7  1619.7  1622.9  1631.3
             *

682          KK    203H
683          KM   Sub-Basin   203H
684          KM
685          KM      The Clark Unit Hydrograph is used for this basin.
686          KM          The Natural time-area relation is used for this basin.
687          KM
688          KM      Time of Concentration for this sub-basin is based on the following:
689          KM          6-Hour Rainfall, Pattern No.  1.00
690          KM          An rainfall areal reduction factor of 0.997
691          KM
692          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
693          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
694          KM   .45 .44 .44 .13 .10 .09 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
695          KM
696          KM          L=   1.035 miles, S=  178 feet/mile, Kb= .10
697          KM
698          BA   0.207
699          LG    0.15    0.38    5.40    0.21    0.00
700          UC   0.429   0.365
701          UA       0       3       5       8      12      20      43      75      90      96
702          UA     100
             *

703          KK    C518
704          KM      Hydrograph combine 517518 + 203H at C518
705          HC       2
             *

706          KK  518519
707          KM      Normal depth channel route from C518 to C519
708          KM      Source:  HEC-2 Cross Section: ES 3.072
709          RS       2    FLOW      -1
710          RC   0.090   0.050   0.085  1796.0  0.0217
711          RX  9851.4  9884.7  9955.8  9983.5 10028.9 10036.3 10057.6 10087.9
712          RY  1586.3  1569.6  1568.4  1565.8  1565.4  1566.0  1575.0  1589.3
             *
1                                          HEC-1 INPUT                                          PAGE 17

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

713          KK    203I
714          KM   Sub-Basin   203I
715          KM
716          KM      The Clark Unit Hydrograph is used for this basin.
717          KM          The HEC-1 time-area relation is used for this basin.
```

```
718          KM
719          KM      Time of Concentration for this sub-basin is based on the following:
720          KM          6-Hour Rainfall, Pattern No.  1.00
721          KM          An rainfall areal reduction factor of 0.998
722          KM
723          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
724          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
725          KM   .44 .43 .43 .12 .08 .07 .03 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
726          KM
727          KM          L=   1.323 miles, S=  161 feet/mile, Kb= .10
728          KM
729          BA   0.171
730          LG    0.15    0.35    4.80    0.30    0.60
731          UC   0.546   0.647
             *

732          KK    C519
733          KM      Hydrograph combine 518519 + 203I at C519
734          HC       2
             *

735          KK  519591
736          KM      Normal depth channel route from C519 to C591
737          KM      Source:  HEC-2 Cross Section: ES 2.695
738          RS       2    FLOW      -1
739          RC   0.090   0.050   0.085  1274.0  0.0181
740          RX  9851.3  9905.0  9927.9  9949.0 10017.8 10053.7 10096.8 10135.1
741          RY  1540.3  1537.0  1536.5  1529.2  1528.6  1537.7  1539.6  1540.1
             *

742          KK    203J
743          KM   Sub-Basin   203J
744          KM
745          KM      The Clark Unit Hydrograph is used for this basin.
746          KM          The HEC-1 time-area relation is used for this basin.
747          KM
748          KM      Time of Concentration for this sub-basin is based on the following:
749          KM          6-Hour Rainfall, Pattern No.  1.00
750          KM          An rainfall areal reduction factor of 0.999
751          KM
752          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
753          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
754          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .01 .01 .01 .00 .00 .00 .00 .00 .00
755          KM
756          KM          L=   0.533 miles, S=  237 feet/mile, Kb= .10
757          KM
758          BA   0.039
759          LG    0.14    0.36    5.60    0.21   12.70
760          UC   0.242   0.294
             *
```



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

761          KK  520591
762          KM      Normal depth channel route from C520 to C591
763          KM      Source:  Hydrology Field Reconnaissance
764          RS       4    FLOW      -1
765          RC   0.050   0.018   0.040  2014.0  0.0248
766          RX  1000.0  1030.0  1041.2  1057.2  1073.2  1074.4  1086.4  1116.0
767          RY  1570.0  1566.0  1564.8  1565.2  1564.9  1565.3  1565.9  1568.0
             *

768          KK  BB512R
769          KM      Retrieve previously diverted hydrograph at C512 in the right branch.
770          DR   D512R
             *

771          KK    C591
772          KM      Hydrograph combine 519591 + 520591 + D512R at C591
773          HC       3    1.83
             *

774          KK  591521
775          KM      Normal depth channel route from C591 to C521
776          KM      Source:  HEC-2 Cross Section: ES 2.614
777          RS       2    FLOW      -1
778          RC   0.090   0.050   0.085   915.0  0.0142
779          RX  9827.7  9921.5  9950.2  9970.7 10046.6 10078.1 10120.0 10177.5
780          RY  1531.1  1524.8  1524.4  1520.8  1520.0  1530.3  1531.1  1532.3
             *

781          KK    203K
782          KM   Sub-Basin   203K
783          KM
784          KM      The Clark Unit Hydrograph is used for this basin.
785          KM          The Urban time-area relation is used for this basin.
```

```
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          6-Hour Rainfall, Pattern No.  1.00
KM          An rainfall areal reduction factor of 0.998
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
KM
KM          L=   0.878 miles, S=  158 feet/mile, Kb= .03
KM
BA   0.160
LG    0.08    0.26    5.60    0.20   41.60
UC   0.183   0.144
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*
```



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

KK    C521
KM      Hydrograph combine 591521 + 203K at C521
HC       2
*
* *
* * C521 is the total flow in Escalante Wash at the Study boundary
* *
* * End Basin 203.  Start Basin 204
* *
*

KK   CLEAR
KM      Clear hydrographs from stack
HC       5
*

KK    204A
KM   Sub-Basin   204A
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Natural time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          6-Hour Rainfall, Pattern No.  1.00
KM          An rainfall areal reduction factor of 0.999
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .45 .44 .44 .13 .10 .09 .04 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
KM
KM          L=   0.687 miles, S=  175 feet/mile, Kb= .10
KM
BA   0.108
LG    0.15    0.39    5.80    0.19    0.00
UC   0.325   0.280
UA       0       3       5       8      12      20      43      75      90      96
UA     100
*

KK  522523
KM      Normal depth channel route from C522 to C523
KM      Source:  200 Scale Mapping
RS      10    FLOW      -1
RC   0.060   0.050   0.060  3275.0  0.0197
RX  1000.0  1020.0  1035.0  1065.0  1080.0  1120.0  1160.0  1185.0
RY  1678.0  1676.0  1674.0  1672.0  1672.0  1674.0  1676.0  1678.0
*

KK    204B
KM   Sub-Basin   204B
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Natural time-area relation is used for this basin.
KM
```



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

KM      Time of Concentration for this sub-basin is based on the following:
KM          6-Hour Rainfall, Pattern No.  1.00
KM          An rainfall areal reduction factor of 0.998
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .44 .44 .43 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
KM
```

```
850          KM          L=   0.775 miles, S=  128 feet/mile, Kb= .10
851          KM
852          BA   0.126
853          LG    0.15    0.39    5.80    0.21    0.20
854          UC   0.408   0.364
855          UA       0       3       5       8      12      20      43      75      90      96
856          UA     100
             *

857          KK   C523I
858          KM      Hydrograph combine 522523 + 204B at C523I
859          HC       2
             *

860          KK   C523O
861          KM      Reservoir route at C523.
862          RS       1    ELEV  1650.3
863          SV    0.00    0.01    0.12    0.71    2.23    2.50    2.80    3.10    3.20    3.40
864          SV    3.70    4.00    4.30    4.60    4.90    5.20    5.50
865          SE  1650.3  1652.0  1654.0  1656.0  1658.0  1658.2  1658.4  1658.6  1658.7  1658.8
866          SE  1659.0  1659.2  1659.4  1659.6  1659.8  1660.0  1660.2
867          SQ       0      22      78     144     209     214     220     224     226     232
868          SQ     239     249     288     384     529     726     960
             *

869          KK   D523L
870          KM      Hydrograph diversion at C523.  Main flow continues in the left branch.
871          KM      Diverted flow is in the right branch.
872          DT   D523R
873          DI       0      22      78     144     209     214     220     224     226     232
874          DI     239     249     288     384     529     726     960
875          DQ       0       0       0       0       0       0       0       0       0       3
876          DQ       5      10      20      37      61      96     139
             *

877          KK  523524
878          KM      Normal depth channel route from C523 to C524
879          KM      Source:  HEC-2 Cross Section: CA 2.072
880          KM      This is flow in Fountain Hills Blvd. which is routed to C548
881          RS       5    FLOW      -1
882          RC   0.080   0.050   0.075  1732.0  0.0177
883          RX  9827.8  9925.9  9978.5 10000.0 10020.8 10041.9 10110.6 10151.9
884          RY  1639.8  1635.7  1634.3  1629.9  1630.2  1631.8  1633.5  1636.7
             *
```



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

885          KK    204C
886          KM   Sub-Basin   204C
887          KM
888          KM      The Clark Unit Hydrograph is used for this basin.
889          KM          The HEC-1 time-area relation is used for this basin.
890          KM
891          KM      Time of Concentration for this sub-basin is based on the following:
892          KM          6-Hour Rainfall, Pattern No.  1.00
893          KM          An rainfall areal reduction factor of 0.999
894          KM
895          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
896          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
897          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .02 .01 .01 .01 .01 .01 .01
898          KM
899          KM          L=   0.400 miles, S=  142 feet/mile, Kb= .09
900          KM
901          BA   0.077
902          LG    0.13    0.36    5.70    0.20   25.40
903          UC   0.233   0.153
             *

904          KK    C524
905          KM      Hydrograph combine 523524 + 204C at C524
906          HC       2
             *

907          KK  524525
908          KM      Normal depth channel route from C524 to C525
909          KM      Source:  HEC-2 Cross Section: CA 1.898
910          RS       1    FLOW      -1
911          RC   0.050   0.035   0.060  1045.0  0.0211
912          RX  9823.1  9873.0  9960.0  9986.1 10008.3 10049.7 10070.0 10078.4
913          RY  1617.9  1616.7  1616.3  1609.2  1609.0  1616.4  1616.8  1617.3
             *

914          KK    204D
915          KM   Sub-Basin   204D
916          KM
917          KM      The Clark Unit Hydrograph is used for this basin.
```

```
 918          KM          The Urban time-area relation is used for this basin.
 919          KM
 920          KM      Time of Concentration for this sub-basin is based on the following:
 921          KM          6-Hour Rainfall, Pattern No.  1.00
 922          KM          An rainfall areal reduction factor of 0.999
 923          KM
 924          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 925          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 926          KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
 927          KM
 928          KM          L=   0.345 miles, S=   96 feet/mile, Kb= .06
 929          KM
 930          BA   0.044
 931          LG    0.10    0.31    5.70    0.18   40.20
 932          UC   0.196   0.153
1                                          HEC-1 INPUT                                          PAGE 22

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

 933          UA       0       5      16      30      65      77      84      90      94      97
 934          UA     100
              *

 935          KK    C525
 936          KM      Hydrograph combine 524525 + 204D at C525
 937          HC       2
              *

 938          KK  525526
 939          KM      Normal depth channel route from C525 to C526
 940          KM      Source:  HEC-2 Cross Section: CA 1.663
 941          RS       2    FLOW      -1
 942          RC   0.050   0.035   0.060  1520.0  0.0211
 943          RX  9915.0  9940.0  9968.0  9992.6 10012.4 10032.0 10049.6 10106.9
 944          RY  1592.8  1592.3  1591.8  1585.0  1584.8  1591.3  1592.1  1592.5
              *

 945          KK    204E
 946          KM   Sub-Basin   204E
 947          KM
 948          KM      The Clark Unit Hydrograph is used for this basin.
 949          KM          The Urban time-area relation is used for this basin.
 950          KM
 951          KM      Time of Concentration for this sub-basin is based on the following:
 952          KM          6-Hour Rainfall, Pattern No.  1.00
 953          KM          An rainfall areal reduction factor of 0.999
 954          KM
 955          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 956          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 957          KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
 958          KM
 959          KM          L=   0.508 miles, S=  108 feet/mile, Kb= .06
 960          KM
 961          BA   0.071
 962          LG    0.10    0.30    5.70    0.18   38.00
 963          UC   0.229   0.190
 964          UA       0       5      16      30      65      77      84      90      94      97
 965          UA     100
              *

 966          KK    C526
 967          KM      Hydrograph combine 525526 + 204E at C526
 968          HC       2
              *

 969          KK  526527
 970          KM      Normal depth channel route from C526 to C527
 971          KM      Source:  HEC-2 Cross Section: CA 1.186
 972          RS       4    FLOW      -1
 973          RC   0.050   0.035   0.060  2129.0  0.0183
 974          RX  9867.7  9898.1  9967.2  9981.2 10023.8 10035.6 10080.6 10145.3
 975          RY  1545.6  1544.4  1539.5  1536.9  1536.7  1539.6  1541.1  1542.3
              *
1                                          HEC-1 INPUT                                          PAGE 23

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

 976          KK    204F
 977          KM   Sub-Basin   204F
 978          KM
 979          KM      The Clark Unit Hydrograph is used for this basin.
 980          KM          The Urban time-area relation is used for this basin.
 981          KM
 982          KM      Time of Concentration for this sub-basin is based on the following:
 983          KM          6-Hour Rainfall, Pattern No.  1.00
 984          KM          An rainfall areal reduction factor of 0.999
 985          KM
```

```
986          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
987          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
988          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
989          KM
990          KM          L=   0.495 miles, S=  135 feet/mile, Kb= .03
991          KM
992          BA   0.077
993          LG    0.08    0.15    7.00    0.11   45.00
994          UC   0.146   0.107
995          UA       0       5      16      30      65      77      84      90      94      97
996          UA     100
             *

997          KK    C527
998          KM      Hydrograph combine 526527 + 204F at C527
999          HC       2
             *
             * *
             * * C527 is the total flow in Caliente Wash at the Study boundary
             * *
             * * End Basin 204.  Start Basin 205
             * *
             *

1000         KK   CLEAR
1001         KM      Clear hydrographs from stack
1002         HC       2
             *

1003         KK    205A
1004         KM   Sub-Basin   205A
1005         KM
1006         KM      The Clark Unit Hydrograph is used for this basin.
1007         KM          The Natural time-area relation is used for this basin.
1008         KM
1009         KM      Time of Concentration for this sub-basin is based on the following:
1010         KM          6-Hour Rainfall, Pattern No.  1.00
1011         KM          An rainfall areal reduction factor of 0.998
1012         KM
1013         KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1014         KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1015         KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1016         KM
1017         KM          L=   0.870 miles, S=  378 feet/mile, Kb= .14
```



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

1018         KM
1019         BA   0.118
1020         LG    0.25    0.35    4.35    0.40   35.00
1021         UC   0.350   0.350
1022         UA       0       3       5       8      12      20      43      75      90      96
1023         UA     100
             *

1024         KK    205B
1025         KM   Sub-Basin   205B
1026         KM
1027         KM      The Clark Unit Hydrograph is used for this basin.
1028         KM          The Natural time-area relation is used for this basin.
1029         KM
1030         KM      Time of Concentration for this sub-basin is based on the following:
1031         KM          6-Hour Rainfall, Pattern No.  1.00
1032         KM          An rainfall areal reduction factor of 0.997
1033         KM
1034         KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1035         KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1036         KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1037         KM
1038         KM          L=   0.759 miles, S=  373 feet/mile, Kb= .14
1039         KM
1040         BA   0.211
1041         LG    0.25    0.35    4.35    0.40   35.00
1042         UC   0.321   0.204
1043         UA       0       3       5       8      12      20      43      75      90      96
1044         UA     100
             *

1045         KK    C528
1046         KM      Hydrograph combine 205A + 205B at C528
1047         HC       2
             *

1048         KK  528530
1049         KM      Normal depth channel route from C528 to C530
1050         KM      Source:  Hydrology Field Reconnaissance
1051         RS       2    FLOW      -1
```

```
1052          RC   0.060   0.043   0.060  2594.0  0.0709
1053          RX  1000.0  1018.0  1031.0  1042.0  1052.0  1066.0  1093.0  1107.0
1054          RY    96.3    92.2    89.9    85.9    85.7    91.5    91.2    96.3
              *

1055          KK    205C
1056          KM   Sub-Basin   205C
1057          KM
1058          KM      The Clark Unit Hydrograph is used for this basin.
1059          KM          The Natural time-area relation is used for this basin.
1060          KM
1061          KM      Time of Concentration for this sub-basin is based on the following:
1062          KM          6-Hour Rainfall, Pattern No.  1.00
1063          KM          An rainfall areal reduction factor of 0.999
1064          KM
1                                        HEC-1 INPUT                                          PAGE 25

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

1065          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1066          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1067          KM    .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1068          KM
1069          KM          L=   0.618 miles, S=  331 feet/mile, Kb= .15
1070          KM
1071          BA   0.059
1072          LG    0.25    0.35    4.35    0.41   35.00
1073          UC   0.308   0.343
1074          UA       0       3       5       8      12      20      43      75      90      96
1075          UA     100
              *

1076          KK   C530R
1077          KM      Hydrograph combine 528530 + 205C at C530 right branch
1078          HC       2
              *

1079          KK    205D
1080          KM   Sub-Basin   205D
1081          KM
1082          KM      The Clark Unit Hydrograph is used for this basin.
1083          KM          The Natural time-area relation is used for this basin.
1084          KM
1085          KM      Time of Concentration for this sub-basin is based on the following:
1086          KM          6-Hour Rainfall, Pattern No.  1.00
1087          KM          An rainfall areal reduction factor of 0.996
1088          KM
1089          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1090          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1091          KM    .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1092          KM
1093          KM          L=   1.020 miles, S=  361 feet/mile, Kb= .13
1094          KM
1095          BA   0.319
1096          LG    0.25    0.35    4.35    0.40   35.00
1097          UC   0.379   0.246
1098          UA       0       3       5       8      12      20      43      75      90      96
1099          UA     100
              *

1100          KK    205E
1101          KM   Sub-Basin   205E
1102          KM
1103          KM      The Clark Unit Hydrograph is used for this basin.
1104          KM          The Natural time-area relation is used for this basin.
1105          KM
1106          KM      Time of Concentration for this sub-basin is based on the following:
1107          KM          6-Hour Rainfall, Pattern No.  1.00
1108          KM          An rainfall areal reduction factor of 0.997
1109          KM
1110          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1111          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1112          KM    .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1113          KM
1                                        HEC-1 INPUT                                          PAGE 26

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

1114          KM          L=   1.357 miles, S=  358 feet/mile, Kb= .14
1115          KM
1116          BA   0.218
1117          LG    0.25    0.35    4.35    0.40   35.00
1118          UC   0.488   0.508
1119          UA       0       3       5       8      12      20      43      75      90      96
1120          UA     100
              *

1121          KK    C529
```

```
1122          KM      Hydrograph combine 205D + 205E at C529
1123          HC       2
              *
              * *
              * * NOTE:  529530 too short to route
              * *
              *

1124          KK    C530
1125          KM      Hydrograph combine C529 + C530R at C530
1126          HC       2
              *

1127          KK  530531
1128          KM      Normal depth channel route from C530 to C531
1129          KM      Source:  Hydrology Field Reconnaissance
1130          RS       3    FLOW      -1
1131          RC   0.060   0.059   0.060  2426.0  0.0404
1132          RX  1000.0  1035.0  1050.0  1060.0  1075.0  1081.0  1088.0  1094.0
1133          RY    95.9    86.5    86.2    83.1    84.0    90.2    95.6    99.3
              *

1134          KK    205F
1135          KM   Sub-Basin   205F
1136          KM
1137          KM      The Clark Unit Hydrograph is used for this basin.
1138          KM          The Natural time-area relation is used for this basin.
1139          KM
1140          KM      Time of Concentration for this sub-basin is based on the following:
1141          KM          6-Hour Rainfall, Pattern No.  1.00
1142          KM          An rainfall areal reduction factor of 0.998
1143          KM
1144          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1145          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1146          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1147          KM
1148          KM          L=   0.786 miles, S=  326 feet/mile, Kb= .14
1149          KM
1150          BA   0.161
1151          LG    0.25    0.35    4.35    0.41   35.00
1152          UC   0.350   0.269
1153          UA       0       3       5       8      12      20      43      75      90      96
1154          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 27

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

1155          KK    C531
1156          KM      Hydrograph combine 530531 + 205F at C531
1157          HC       2
              *

1158          KK  531532
1159          KM      Normal depth channel route from C531 to C532
1160          KM      Source:  Hydrology Field Reconnaissance
1161          RS       4    FLOW      -1
1162          RC   0.060   0.065   0.060  3391.0  0.0463
1163          RX  1000.0  1012.0  1022.0  1032.0  1050.0  1056.0  1068.0  1092.0
1164          RY    98.8    93.8    89.1    86.4    86.5    89.1    91.0    97.6
              *

1165          KK    205G
1166          KM   Sub-Basin   205G
1167          KM
1168          KM      The Clark Unit Hydrograph is used for this basin.
1169          KM          The Natural time-area relation is used for this basin.
1170          KM
1171          KM      Time of Concentration for this sub-basin is based on the following:
1172          KM          6-Hour Rainfall, Pattern No.  1.00
1173          KM          An rainfall areal reduction factor of 0.998
1174          KM
1175          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1176          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1177          KM   .45 .44 .44 .13 .09 .07 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1178          KM
1179          KM          L=   0.924 miles, S=  338 feet/mile, Kb= .13
1180          KM
1181          BA   0.185
1182          LG    0.24    0.35    4.50    0.40   31.20
1183          UC   0.367   0.298
1184          UA       0       3       5       8      12      20      43      75      90      96
1185          UA     100
              *

1186          KK   C532L
1187          KM      Hydrograph combine 531532 + 205G at C532 left branch
```

```
1188          HC       2
              *

1189          KK    205H
1190          KM   Sub-Basin   205H
1191          KM
1192          KM      The Clark Unit Hydrograph is used for this basin.
1193          KM          The Natural time-area relation is used for this basin.
1194          KM
1195          KM      Time of Concentration for this sub-basin is based on the following:
1196          KM          6-Hour Rainfall, Pattern No.  1.00
1197          KM          An rainfall areal reduction factor of 0.997
1198          KM
1199          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1200          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE 28

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

1201          KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1202          KM
1203          KM          L=   1.464 miles, S=  325 feet/mile, Kb= .13
1204          KM
1205          BA   0.261
1206          LG    0.24    0.35    4.50    0.39   31.60
1207          UC   0.513   0.514
1208          UA       0       3       5       8      12      20      43      75      90      96
1209          UA     100
              *

1210          KK    C532
1211          KM      Hydrograph combine C532L + 205H at C532
1212          HC       2
              *

1213          KK  532533
1214          KM      Normal depth channel route from C532 to C533
1215          KM      Source:  Hydrology Field Reconnaissance
1216          RS       1    FLOW      -1
1217          RC   0.060   0.045   0.060  1555.0  0.0283
1218          RX  1000.0  1020.0  1030.0  1048.0  1065.0  1077.0  1092.0  1119.0
1219          RY    98.0    89.4    88.1    85.6    85.9    92.2    93.8    97.0
              *

1220          KK    205I
1221          KM   Sub-Basin   205I
1222          KM
1223          KM      The Clark Unit Hydrograph is used for this basin.
1224          KM          The Natural time-area relation is used for this basin.
1225          KM
1226          KM      Time of Concentration for this sub-basin is based on the following:
1227          KM          6-Hour Rainfall, Pattern No.  1.00
1228          KM          An rainfall areal reduction factor of 0.995
1229          KM
1230          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1231          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1232          KM   .44 .44 .43 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
1233          KM
1234          KM          L=   1.487 miles, S=  326 feet/mile, Kb= .11
1235          KM
1236          BA   0.354
1237          LG    0.20    0.37    5.20    0.28   15.20
1238          UC   0.458   0.386
1239          UA       0       3       5       8      12      20      43      75      90      96
1240          UA     100
              *

1241          KK    C533
1242          KM      Hydrograph combine 532533 + 205I at C533
1243          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 29

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

1244          KK  533534
1245          KM      Normal depth channel route from C533 to C534
1246          KM      Source:  Hydrology Field Reconnaissance
1247          RS      10    FLOW      -1
1248          RC   0.060   0.046   0.060  7145.0  0.0241
1249          RX  1000.0  1010.0  1060.0  1073.0  1160.0  1181.0  1223.0  1237.0
1250          RY    97.8    93.7    94.7    90.8    89.9    92.4    94.0    96.8
              *

1251          KK    205J
1252          KM   Sub-Basin   205J
1253          KM
```

```
1254        KM      The Clark Unit Hydrograph is used for this basin.
1255        KM          The Natural time-area relation is used for this basin.
1256        KM
1257        KM      Time of Concentration for this sub-basin is based on the following:
1258        KM          6-Hour Rainfall, Pattern No.  1.00
1259        KM          An rainfall areal reduction factor of 0.995
1260        KM
1261        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1262        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1263        KM   .44 .43 .42 .12 .08 .06 .03 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
1264        KM
1265        KM          L=   1.633 miles, S=  243 feet/mile, Kb= .08
1266        KM
1267        BA   0.369
1268        LG    0.21    0.35    4.90    0.30    3.50
1269        UC   0.450   0.398
1270        UA       0       3       5       8      12      20      43      75      90      96
1271        UA     100
            *

1272        KK   C534R
1273        KM     Hydrograph combine 533534 + 205J at C534 right branch
1274        HC       2
            *

1275        KK    205K
1276        KM   Sub-Basin   205K
1277        KM
1278        KM      The Clark Unit Hydrograph is used for this basin.
1279        KM          The Natural time-area relation is used for this basin.
1280        KM
1281        KM      Time of Concentration for this sub-basin is based on the following:
1282        KM          6-Hour Rainfall, Pattern No.  1.00
1283        KM          An rainfall areal reduction factor of 0.997
1284        KM
1285        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1286        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1287        KM   .44 .44 .43 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
1288        KM
1289        KM          L=   1.772 miles, S=  249 feet/mile, Kb= .10
1290        KM
1291        BA   0.245
```



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

1292        LG    0.16    0.38    5.60    0.22    1.50
1293        UC   0.546   0.665
1294        UA       0       3       5       8      12      20      43      75      90      96
1295        UA     100
            *

1296        KK    C534
1297        KM     Hydrograph combine C534R + 205K at C534
1298        HC       2
            *

1299        KK  534535
1300        KM     Normal depth channel route from C534 to C535
1301        KM     Source:  Hydrology Field Reconnaissance
1302        RS       3    FLOW      -1
1303        RC   0.065   0.046   0.065  2037.0  0.0221
1304        RX  1000.0  1010.0  1016.0  1075.0  1150.0  1162.0  1174.0  1182.0
1305        RY    97.1    93.4    91.6    89.6    86.9    90.8    92.2    92.3
            *

1306        KK    205L
1307        KM   Sub-Basin   205L
1308        KM
1309        KM      The Clark Unit Hydrograph is used for this basin.
1310        KM          The Natural time-area relation is used for this basin.
1311        KM
1312        KM      Time of Concentration for this sub-basin is based on the following:
1313        KM          6-Hour Rainfall, Pattern No.  1.00
1314        KM          An rainfall areal reduction factor of 0.998
1315        KM
1316        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1317        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1318        KM   .44 .43 .42 .12 .08 .06 .02 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
1319        KM
1320        KM          L=   0.701 miles, S=  284 feet/mile, Kb= .09
1321        KM
1322        BA   0.118
1323        LG    0.19    0.36    5.00    0.29    0.00
1324        UC   0.254   0.206
1325        UA       0       3       5       8      12      20      43      75      90      96
1326        UA     100
            *
```

```
1327          KK    C535
1328          KM      Hydrograph combine 534535 + 205L at C535
1329          HC       2
              *

1330          KK  535536
1331          KM      Normal depth channel route from C535 to C536
1332          KM      Source:  HEC-2 Cross Section: HE 3.275
1333          RS       8    FLOW      -1
1334          RC   0.075   0.050   0.075  2975.0  0.0236
1335          RX  9852.8  9871.5  9957.7 10000.0 10015.6 10052.4 10142.4 10183.6
1336          RY  1911.6  1904.3  1906.9  1900.8  1900.8  1905.4  1905.2  1912.6
              *
1                                          HEC-1 INPUT                                                    PAGE 31

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

1337          KK    205M
1338          KM   Sub-Basin   205M
1339          KM
1340          KM      The Clark Unit Hydrograph is used for this basin.
1341          KM          The HEC-1 time-area relation is used for this basin.
1342          KM
1343          KM      Time of Concentration for this sub-basin is based on the following:
1344          KM          6-Hour Rainfall, Pattern No.  1.00
1345          KM          An rainfall areal reduction factor of 0.998
1346          KM
1347          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1348          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1349          KM   .46 .46 .45 .15 .11 .11 .05 .05 .04 .02 .02 .02 .00 .00 .00 .00 .00 .00
1350          KM
1351          KM          L=   0.839 miles, S=  230 feet/mile, Kb= .06
1352          KM
1353          BA   0.139
1354          LG    0.15    0.33    5.40    0.22   21.00
1355          UC   0.233   0.197
              *

1356          KK   C536R
1357          KM      Hydrograph combine 535536 + 205M at C536 right branch
1358          HC       2
              *

1359          KK    205N
1360          KM   Sub-Basin   205N
1361          KM
1362          KM      The Clark Unit Hydrograph is used for this basin.
1363          KM          The HEC-1 time-area relation is used for this basin.
1364          KM
1365          KM      Time of Concentration for this sub-basin is based on the following:
1366          KM          6-Hour Rainfall, Pattern No.  1.00
1367          KM          An rainfall areal reduction factor of 0.998
1368          KM
1369          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1370          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1371          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
1372          KM
1373          KM          L=   1.183 miles, S=  245 feet/mile, Kb= .10
1374          KM
1375          BA   0.156
1376          LG    0.15    0.39    5.70    0.21    0.80
1377          UC   0.413   0.457
              *

1378          KK   C536I
1379          KM      Hydrograph combine C536R + 205N at C536I
1380          HC       2
              *
              * *
              * * C536I is the total flow in Hesperus Wash upstream of Dam 36
              * *
              *
1                                          HEC-1 INPUT                                                    PAGE 32

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

1381          KK   C536O
1382          KM      Reservoir route at C536 (Dam 36).
1383          RS       1    ELEV  1852.1
1384          SV    0.00   14.41   35.94   67.64  108.61  158.07  218.14  276.00  280.00  289.00
1385          SV  298.02  308.00  317.00  327.00  337.00  346.95  358.00  374.00
1386          SE  1852.1  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0  1889.2  1889.6
1387          SE  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1388          SQ       0     108     168     211     245     276     301     320     338     347
1389          SQ     356     459     679     995    1408    1905    2477    3119    3826    5009
```

```
1390          SE  1852.1  1858.0  1862.0  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0
1391          SE  1889.2  1889.6  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1392          RL                    0.17
              *
              * *
              * * End Basin 205.  Start Basin 206
              * *
              *

1393          KK  536537
1394          KM      Normal depth channel route from C536 to C537
1395          KM      Source:  HEC-2 Cross Section: HE 2.729
1396          RS       3    FLOW      -1
1397          RC   0.075   0.050   0.075  1480.0  0.0209
1398          RX  9900.0  9912.0  9947.3  9979.3 10025.0 10044.5 10051.0 10060.0
1399          RY  1846.5  1845.4  1843.1  1834.3  1833.6  1840.5  1843.3  1843.5
              *

1400          KK    206A
1401          KM   Sub-Basin   206A
1402          KM
1403          KM      The Clark Unit Hydrograph is used for this basin.
1404          KM          The Urban time-area relation is used for this basin.
1405          KM
1406          KM      Time of Concentration for this sub-basin is based on the following:
1407          KM          6-Hour Rainfall, Pattern No.  1.00
1408          KM          An rainfall areal reduction factor of 0.998
1409          KM
1410          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1411          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1412          KM   .47 .46 .46 .16 .13 .12 .05 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
1413          KM
1414          KM          L=   0.631 miles, S=  256 feet/mile, Kb= .04
1415          KM
1416          BA   0.128
1417          LG    0.13    0.28    5.30    0.23   32.80
1418          UC   0.158   0.107
1419          UA       0       5      16      30      65      77      84      90      94      97
1420          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 33
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1421          KK    C537
1422          KM      Hydrograph combine 536537 + 206A at C537
1423          HC       2
              *

1424          KK  537538
1425          KM      Normal depth channel route from C537 to C538
1426          KM      Source:  HEC-2 Cross Section: HE 2.493
1427          RS       3    FLOW      -1
1428          RC   0.075   0.050   0.075  2155.0  0.0210
1429          RX  9946.0  9957.6  9984.8  9994.8 10000.0 10036.5 10070.1 10107.3
1430          RY  1817.0  1815.2  1807.4  1803.2  1803.2  1805.5  1814.3  1815.4
              *

1431          KK    206B
1432          KM   Sub-Basin   206B
1433          KM
1434          KM      The Clark Unit Hydrograph is used for this basin.
1435          KM          The Urban time-area relation is used for this basin.
1436          KM
1437          KM      Time of Concentration for this sub-basin is based on the following:
1438          KM          6-Hour Rainfall, Pattern No.  1.00
1439          KM          An rainfall areal reduction factor of 0.999
1440          KM
1441          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1442          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1443          KM   .48 .47 .47 .17 .13 .13 .06 .06 .05 .05 .04 .04 .01 .01 .01 .01 .01 .01
1444          KM
1445          KM          L=   0.570 miles, S=  139 feet/mile, Kb= .03
1446          KM
1447          BA   0.095
1448          LG    0.10    0.26    5.20    0.23   41.30
1449          UC   0.154   0.113
1450          UA       0       5      16      30      65      77      84      90      94      97
1451          UA     100
              *

1452          KK   C538I
1453          KM      Hydrograph combine 537538 + 206B at C538I
1454          HC       2
              *

1455          KK   C538O
```

```
1456        KM      Reservoir route at C538.
1457        RS       1    ELEV  1778.2
1458        SV    0.00    0.10    0.57    1.69    2.60    2.70    2.90    3.00    3.20    3.38
1459        SV    3.60    3.90    4.10    4.30    4.60    5.10    5.60    6.10    7.10    8.10
1460        SE  1778.2  1782.0  1784.0  1786.0  1787.1  1787.2  1787.4  1787.6  1787.8  1788.0
1461        SE  1788.2  1788.4  1788.6  1788.8  1789.0  1789.4  1789.8  1790.2  1790.8  1791.4
1462        SQ       0      82     133     185     207     208     212     218     226     235
1463        SQ     249     265     286     310     338     400     482     611     942    1439
            *
```



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

1464        KK  538540
1465        KM      Normal depth channel route from C538 to C540
1466        KM      Source:  HEC-2 Cross Section: HE 1.990
1467        RS       5    FLOW      -1
1468        RC   0.075   0.050   0.075  2176.0  0.0210
1469        RX  9907.7  9931.8  9978.4 10000.0 10041.1 10056.9 10143.7 10164.9
1470        RY  1767.5  1754.9  1755.2  1753.2  1753.1  1755.1  1757.3  1769.4
            *

1471        KK    206C
1472        KM   Sub-Basin   206C
1473        KM
1474        KM      The Clark Unit Hydrograph is used for this basin.
1475        KM          The HEC-1 time-area relation is used for this basin.
1476        KM
1477        KM      Time of Concentration for this sub-basin is based on the following:
1478        KM          6-Hour Rainfall, Pattern No.  1.00
1479        KM          An rainfall areal reduction factor of 1.000
1480        KM
1481        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1482        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1483        KM   .44 .43 .42 .12 .08 .06 .02 .02 .02 .01 .01 .01 .00 .00 .00 .00 .00 .00
1484        KM
1485        KM          L=   0.427 miles, S=  138 feet/mile, Kb= .07
1486        KM
1487        BA   0.024
1488        LG    0.21    0.32    4.35    0.40   12.40
1489        UC   0.217   0.289
            *

1490        KK   C540R
1491        KM      Hydrograph combine 538540 + 206C at C540 right branch
1492        HC       2
            *

1493        KK    206D
1494        KM   Sub-Basin   206D
1495        KM
1496        KM      The Clark Unit Hydrograph is used for this basin.
1497        KM          The Urban time-area relation is used for this basin.
1498        KM
1499        KM      Time of Concentration for this sub-basin is based on the following:
1500        KM          6-Hour Rainfall, Pattern No.  1.00
1501        KM          An rainfall areal reduction factor of 0.999
1502        KM
1503        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1504        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1505        KM   .48 .48 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
1506        KM
1507        KM          L=   0.531 miles, S=  236 feet/mile, Kb= .04
1508        KM
1509        BA   0.062
1510        LG    0.08    0.26    5.70    0.18   41.20
1511        UC   0.146   0.129
```



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

1512        UA       0       5      16      30      65      77      84      90      94      97
1513        UA     100
            *

1514        KK  539540
1515        KM      Normal depth channel route from C539 to C540
1516        KM      Source:  200 Scale Mapping
1517        RS       4    FLOW      -1
1518        RC   0.060   0.050   0.055  1872.0  0.0256
1519        RX  1000.0  1007.0  1016.0  1036.0  1046.0  1080.0  1150.0  1210.0
1520        RY  1750.0  1748.0  1746.0  1744.0  1744.0  1746.0  1748.0  1750.0
            *

1521        KK    206E
1522        KM   Sub-Basin   206E
1523        KM
```

```
1524        KM      The Clark Unit Hydrograph is used for this basin.
1525        KM          The HEC-1 time-area relation is used for this basin.
1526        KM
1527        KM      Time of Concentration for this sub-basin is based on the following:
1528        KM          6-Hour Rainfall, Pattern No.  1.00
1529        KM          An rainfall areal reduction factor of 1.000
1530        KM
1531        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1532        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1533        KM   .42 .42 .41 .10 .06 .04 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00
1534        KM
1535        KM          L=   0.343 miles, S=  175 feet/mile, Kb= .09
1536        KM
1537        BA   0.023
1538        LG    0.23    0.35    4.30    0.40    1.70
1539        UC   0.208   0.238
            *

1540        KK   C540L
1541        KM      Hydrograph combine 539540 + 206E at C540 left branch
1542        HC       2
            *

1543        KK    C540
1544        KM      Hydrograph combine C540R + C540L at C540
1545        HC       2
            *
            * *
            * * C540 is the end of Hesperus Wash and the start of Balboa Wash
            * *
            *

1546        KK  540541
1547        KM      Normal depth channel route from C540 to C541
1548        KM      Source:  HEC-2 Cross Section: BA 1.645
1549        RS      12    FLOW      -1
1550        RC   0.065   0.035   0.065  4207.0  0.0204
1551        RX  9960.8  9968.0  9975.1  9975.7  9993.2 10018.2 10297.5 10343.9
1552        RY  1725.2  1721.8  1718.4  1716.2  1716.4  1718.4  1719.8  1730.5
            *
```



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

1553        KK    206F
1554        KM   Sub-Basin   206F
1555        KM
1556        KM      The Clark Unit Hydrograph is used for this basin.
1557        KM          The HEC-1 time-area relation is used for this basin.
1558        KM
1559        KM      Time of Concentration for this sub-basin is based on the following:
1560        KM          6-Hour Rainfall, Pattern No.  1.00
1561        KM          An rainfall areal reduction factor of 0.998
1562        KM
1563        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1564        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1565        KM   .43 .42 .42 .11 .07 .06 .02 .02 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00
1566        KM
1567        KM          L=   0.975 miles, S=  217 feet/mile, Kb= .08
1568        KM
1569        BA   0.157
1570        LG    0.21    0.35    4.60    0.35    5.10
1571        UC   0.333   0.308
            *

1572        KK    C541
1573        KM      Hydrograph combine 540541 + 206F at C541
1574        HC       2
            *

1575        KK  541548
1576        KM      Normal depth channel route from C541 to C548
1577        KM      Source:  HEC-2 Cross Section: BA 0.905
1578        RS       1    FLOW      -1
1579        RC   0.060   0.045   0.060  1138.0  0.0316
1580        RX  9761.7  9936.7  9955.2  9986.9  9994.7 10039.2 10065.3 10066.0
1581        RY  1647.4  1644.1  1638.1  1637.3  1636.2  1637.5  1652.9  1653.0
            *

1582        KK    206G
1583        KM   Sub-Basin   206G
1584        KM
1585        KM      The Clark Unit Hydrograph is used for this basin.
1586        KM          The HEC-1 time-area relation is used for this basin.
1587        KM
1588        KM      Time of Concentration for this sub-basin is based on the following:
1589        KM          6-Hour Rainfall, Pattern No.  1.00
```

```
1590          KM          An rainfall areal reduction factor of 0.999
1591          KM
1592          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1593          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1594          KM   .45 .44 .44 .13 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
1595          KM
1596          KM          L=   0.950 miles, S=  132 feet/mile, Kb= .09
1597          KM
1598          BA   0.089
1599          LG    0.16    0.35    5.20    0.25   12.50
1600          UC   0.425   0.544
              *
1                                          HEC-1 INPUT                                          PAGE 37

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


1601          KK  BB523R
1602          KM      Retrieve previously diverted hydrograph at C523 in the right branch.
1603          DR   D523R
              *

1604          KK  523548
1605          KM      Normal depth channel route from C523 to C548
1606          KM      Source:  200 Scale Mapping
1607          RS      15    FLOW      -1
1608          RC   0.040   0.018   0.040  2680.0  0.0189
1609          RX  1000.0  1040.0  1090.0  1130.0  1170.0  1171.2  1181.2  1196.2
1610          RY  1646.0  1645.0  1643.8  1644.7  1644.0  1644.4  1646.0  1648.0
              *

1611          KK   C548L
1612          KM      Hydrograph combine 541548 + 206G + BB523R at C548 left branch
1613          HC       3    3.72
              *
              * *
              * * C548L is the total flow in Balboa Wash above confluence with Oxford Wash
              * *
              *

1614          KK    206H
1615          KM   Sub-Basin   206H
1616          KM
1617          KM      The Clark Unit Hydrograph is used for this basin.
1618          KM          The Urban time-area relation is used for this basin.
1619          KM
1620          KM      Time of Concentration for this sub-basin is based on the following:
1621          KM          6-Hour Rainfall, Pattern No.  1.00
1622          KM          An rainfall areal reduction factor of 0.999
1623          KM
1624          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1625          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1626          KM   .47 .46 .46 .16 .13 .12 .05 .05 .05 .04 .03 .02 .01 .01 .01 .01 .01 .01
1627          KM
1628          KM          L=   0.515 miles, S=  183 feet/mile, Kb= .07
1629          KM
1630          BA   0.059
1631          LG    0.11    0.31    5.70    0.19   26.10
1632          UC   0.213   0.196
1633          UA       0       5      16      30      65      77      84      90      94      97
1634          UA     100
              *

1635          KK  542543
1636          KM      Normal depth channel route from C542 to C543
1637          KM      Source:  HEC-2 Cross Section: OX 0.931
1638          RS       1    FLOW      -1
1639          RC   0.075   0.040   0.050   686.0  0.0066
1640          RX  9846.9  9881.6  9967.5  9983.2 10010.0 10025.0 10033.8 10039.6
1641          RY  1732.3  1723.5  1724.1  1717.8  1717.0  1724.0  1728.2  1730.7
              *
1                                          HEC-1 INPUT                                          PAGE 38

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


1642          KK    206I
1643          KM   Sub-Basin   206I
1644          KM
1645          KM      The Clark Unit Hydrograph is used for this basin.
1646          KM          The HEC-1 time-area relation is used for this basin.
1647          KM
1648          KM      Time of Concentration for this sub-basin is based on the following:
1649          KM          6-Hour Rainfall, Pattern No.  1.00
1650          KM          An rainfall areal reduction factor of 1.000
1651          KM
1652          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1653          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
1654        KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
1655        KM
1656        KM          L=   0.232 miles, S=  286 feet/mile, Kb= .08
1657        KM
1658        BA   0.021
1659        LG    0.11    0.32    5.70    0.19   35.70
1660        UC   0.133   0.112
            *

1661        KK    C543
1662        KM      Hydrograph combine 542543 + 206I at C543
1663        HC       2
            *

1664        KK   D543L
1665        KM      Hydrograph diversion at C543.  Main flow continues in the left branch.
1666        KM      Diverted flow is in the right branch.
1667        DT   D543R
1668        DI       0      38      45      50      65      85      97     122     141     162
1669        DI     194     350     395     432     475     522     570     612
1670        DQ       0      38      45      50      65      85      97     122     141     162
1671        DQ     194     350     395     425     460     500     540     575
            *

1672        KK  543544
1673        KM      Normal depth channel route from C543 to C544
1674        KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1675        RS       1    FLOW      -1
1676        RC   0.040   0.018   0.040   597.0  0.0277
1677        RX  1000.0  1020.0  1045.0  1075.0  1105.0  1106.2  1146.2  1266.2
1678        RY  1720.0  1718.0  1712.0  1712.3  1712.0  1712.4  1714.0  1720.0
            *

1679        KK    206K
1680        KM   Sub-Basin   206K
1681        KM
1682        KM      The Clark Unit Hydrograph is used for this basin.
1683        KM          The HEC-1 time-area relation is used for this basin.
1684        KM
1685        KM      Time of Concentration for this sub-basin is based on the following:
1686        KM          6-Hour Rainfall, Pattern No.  1.00
1687        KM          An rainfall areal reduction factor of 0.999
```



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

1688        KM
1689        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1690        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1691        KM   .45 .44 .44 .13 .10 .09 .04 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
1692        KM
1693        KM          L=   0.615 miles, S=  255 feet/mile, Kb= .11
1694        KM
1695        BA   0.056
1696        LG    0.15    0.38    5.70    0.21    5.60
1697        UC   0.275   0.310
            *

1698        KK    C544
1699        KM      Hydrograph combine 543544 + 206K at C544
1700        HC       2
            *

1701        KK  544545
1702        KM      Normal depth channel route from C544 to C545
1703        KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1704        RS       2    FLOW      -1
1705        RC   0.040   0.018   0.040   985.0  0.0234
1706        RX  1000.0  1008.0  1018.0  1048.0  1078.0  1079.2  1089.2  1109.2
1707        RY  1690.0  1688.0  1686.0  1686.3  1686.0  1686.4  1688.0  1689.0
            *

1708        KK   D545L
1709        KM      Hydrograph diversion at C545.  Main flow continues in the left branch.
1710        KM      Diverted flow is in the right branch.
1711        DT   D545R
1712        DI       0      50     100     200     400     800    1600    3200    5000
1713        DQ       0      25      50     100     200     400     800    1600    2500
            *

1714        KK  545546
1715        KM      Normal depth channel route from C545 to C546
1716        KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1717        RS       2    FLOW      -1
1718        RC   0.040   0.018   0.040   428.0  0.0164
1719        RX  1000.0  1020.0  1050.0  1080.0  1110.0  1111.2  1121.2  1151.2
1720        RY  1680.0  1678.0  1676.0  1676.3  1676.0  1676.4  1678.0  1678.5
            *
```

```
1721          KK    206L
1722          KM   Sub-Basin   206L
1723          KM
1724          KM      The Clark Unit Hydrograph is used for this basin.
1725          KM          The HEC-1 time-area relation is used for this basin.
1726          KM
1727          KM      Time of Concentration for this sub-basin is based on the following:
1728          KM          6-Hour Rainfall, Pattern No.  1.00
1729          KM          An rainfall areal reduction factor of 0.999
1730          KM
1731          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1732          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE 40

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

1733          KM   .45 .45 .45 .14 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
1734          KM
1735          KM          L=   0.546 miles, S=  231 feet/mile, Kb= .11
1736          KM
1737          BA   0.060
1738          LG    0.14     0.39     5.80     0.21    14.70
1739          UC   0.263    0.258
              *

1740          KK    C546
1741          KM      Hydrograph combine 545546 + 206L at C546
1742          HC       2
              *

1743          KK  546547
1744          KM      Normal depth channel route from C546 to C547
1745          KM      Source:  200 Scale Mapping
1746          RS       1     FLOW      -1
1747          RC   0.040    0.018    0.040    749.0   0.0327
1748          RX  1000.0   1005.0   1011.0   1013.0   1029.0   1047.0   1052.0   1057.0
1749          RY  1666.0   1664.0   1662.0   1661.9   1662.4   1662.0   1664.0   1666.0
              *

1750          KK  BB543R
1751          KM      Retrieve previously diverted hydrograph at C543 in the right branch.
1752          DR   D543R
              *

1753          KK  543547
1754          KM      Normal depth channel route from C543 to C547
1755          KM      Source:  HEC-2 Cross Section: OX 0.638
1756          RS       5     FLOW      -1
1757          RC   0.075    0.040    0.050   2395.0   0.0278
1758          RX  9720.9   9769.0   9970.7   9985.5  10020.0  10038.1  10097.0  10102.0
1759          RY  1690.4   1681.2   1683.1   1676.2   1677.0   1687.1   1687.4   1690.0
              *

1760          KK  BB545R
1761          KM      Retrieve previously diverted hydrograph at C545 in the right branch.
1762          DR   D545R
              *

1763          KK  545547
1764          KM      Normal depth channel route from C545 to C547
1765          KM      Source:  HEC-2 Cross Section: OX 0.542
1766          RS       4     FLOW      -1
1767          RC   0.075    0.040    0.050   1216.0   0.0259
1768          RX  9668.2   9778.4   9957.9   9986.0  10012.7  10043.6  10067.6  10163.4
1769          RY  1674.1   1674.1   1673.3   1662.1   1662.2   1680.4   1680.9   1681.1
              *
1                                          HEC-1 INPUT                                          PAGE 41

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

1770          KK    206J
1771          KM   Sub-Basin   206J
1772          KM
1773          KM      The Clark Unit Hydrograph is used for this basin.
1774          KM          The Urban time-area relation is used for this basin.
1775          KM
1776          KM      Time of Concentration for this sub-basin is based on the following:
1777          KM          6-Hour Rainfall, Pattern No.  1.00
1778          KM          An rainfall areal reduction factor of 0.999
1779          KM
1780          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1781          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1782          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
1783          KM
1784          KM          L=   0.502 miles, S=  214 feet/mile, Kb= .03
1785          KM
```

```
1786          BA   0.060
1787          LG    0.08    0.25    5.70    0.18   44.60
1788          UC   0.125   0.105
1789          UA       0       5      16      30      65      77      84      90      94      97
1790          UA     100
              *

1791          KK    C547
1792          KM      Hydrograph combine 546547 + 543547 + 545547 + 206J at C547
1793          HC       4    0.26
              *

1794          KK  547548
1795          KM      Normal depth channel route from C547 to C548
1796          KM      Source:  HEC-2 Cross Section: OX 0.235
1797          RS       4    FLOW      -1
1798          RC   0.075   0.040   0.050  2165.0  0.0182
1799          RX  9910.0  9911.4  9968.5  9987.6 10017.4 10032.3 10077.4 10080.0
1800          RY  1639.0  1638.9  1637.9  1635.7  1635.8  1641.7  1642.9  1643.0
              *

1801          KK    206M
1802          KM   Sub-Basin   206M
1803          KM
1804          KM      The Clark Unit Hydrograph is used for this basin.
1805          KM          The Urban time-area relation is used for this basin.
1806          KM
1807          KM      Time of Concentration for this sub-basin is based on the following:
1808          KM          6-Hour Rainfall, Pattern No.  1.00
1809          KM          An rainfall areal reduction factor of 0.999
1810          KM
1811          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1812          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1813          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
1814          KM
1815          KM          L=   0.465 miles, S=  166 feet/mile, Kb= .03
1816          KM
1817          BA   0.060
```



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

1818          LG    0.08    0.25    5.20    0.23   46.20
1819          UC   0.133   0.107
1820          UA       0       5      16      30      65      77      84      90      94      97
1821          UA     100
              *

1822          KK   C548R
1823          KM      Hydrograph combine 547548 + 206M at C548 right branch
1824          HC       2
              *
              * *
              * * C548R is the total flow in Oxford Wash above confluence with Balboa Wash
              * *
              *

1825          KK    C548
1826          KM      Hydrograph combine C548L + C548R at C548
1827          HC       2
              *
              * *
              * * C548 is the total flow in Balboa Wash below the confluence of Balboa Wash
              * * and Oxford Wash
              * *
              *

1828          KK  548549
1829          KM      Normal depth channel route from C548 to C549
1830          KM      Source:  HEC-2 Cross Section: BA0.246
1831          RS       9    FLOW      -1
1832          RC   0.070   0.080   0.070  3258.0  0.0172
1833          RX  9889.1  9912.5  9940.2  9960.0 10026.1 10046.8 10067.8 10079.3
1834          RY  1586.2  1585.7  1577.5  1573.6  1573.2  1579.5  1585.7  1586.2
              *

1835          KK    206N
1836          KM   Sub-Basin   206N
1837          KM
1838          KM      The Clark Unit Hydrograph is used for this basin.
1839          KM          The Urban time-area relation is used for this basin.
1840          KM
1841          KM      Time of Concentration for this sub-basin is based on the following:
1842          KM          6-Hour Rainfall, Pattern No.  1.00
1843          KM          An rainfall areal reduction factor of 0.998
1844          KM
1845          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1846          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
1847        KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
1848        KM
1849        KM          L=   0.767 miles, S=  120 feet/mile, Kb= .03
1850        KM
1851        BA   0.152
1852        LG    0.12    0.27    4.65    0.29   51.60
1853        UC   0.188   0.137
1854        UA       0       5      16      30      65      77      84      90      94      97
1855        UA     100
            *
1                                          HEC-1 INPUT                                          PAGE 43

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


1856        KK   C549L
1857        KM      Hydrograph combine 548549 + 206N at C549 left branch
1858        HC       2
            *
            * *
            * * C549L is the total flow in Balboa Wash above confluence with Ashbrook Wash
            * *
            * * End Basin 206.  Start Basin 207
            * *
            *

1859        KK    207A
1860        KM   Sub-Basin   207A
1861        KM
1862        KM      The Clark Unit Hydrograph is used for this basin.
1863        KM          The Natural time-area relation is used for this basin.
1864        KM
1865        KM      Time of Concentration for this sub-basin is based on the following:
1866        KM          6-Hour Rainfall, Pattern No.  1.00
1867        KM          An rainfall areal reduction factor of 0.997
1868        KM
1869        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1870        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1871        KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1872        KM
1873        KM          L=   1.356 miles, S=  351 feet/mile, Kb= .13
1874        KM
1875        BA   0.256
1876        LG    0.24    0.35    4.55    0.37   29.80
1877        UC   0.467   0.440
1878        UA       0       3       5       8      12      20      43      75      90      96
1879        UA     100
            *

1880        KK    207B
1881        KM   Sub-Basin   207B
1882        KM
1883        KM      The Clark Unit Hydrograph is used for this basin.
1884        KM          The Natural time-area relation is used for this basin.
1885        KM
1886        KM      Time of Concentration for this sub-basin is based on the following:
1887        KM          6-Hour Rainfall, Pattern No.  1.00
1888        KM          An rainfall areal reduction factor of 0.997
1889        KM
1890        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1891        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1892        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1893        KM
1894        KM          L=   1.312 miles, S=  359 feet/mile, Kb= .13
1895        KM
1896        BA   0.208
1897        LG    0.24    0.35    4.45    0.38   32.40
1898        UC   0.450   0.463
1899        UA       0       3       5       8      12      20      43      75      90      96
1                                          HEC-1 INPUT                                          PAGE 44

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

1900        UA     100
            *

1901        KK    C550
1902        KM      Hydrograph combine 207A + 207B at C550
1903        HC       2
            *

1904        KK  550552
1905        KM      Normal depth channel route from C550 to C552
1906        KM      Source:  Hydrology Field Reconnaissance
1907        RS       4    FLOW       -1
1908        RC   0.050   0.045   0.050  4410.0  0.0528
1909        RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1910        RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
```

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                *

1911            KK    207C
1912            KM   Sub-Basin   207C
1913            KM
1914            KM      The Clark Unit Hydrograph is used for this basin.
1915            KM          The Natural time-area relation is used for this basin.
1916            KM
1917            KM      Time of Concentration for this sub-basin is based on the following:
1918            KM          6-Hour Rainfall, Pattern No.  1.00
1919            KM          An rainfall areal reduction factor of 0.998
1920            KM
1921            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1922            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1923            KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
1924            KM
1925            KM          L=   0.974 miles, S=  297 feet/mile, Kb= .11
1926            KM
1927            BA   0.173
1928            LG    0.19    0.37    5.30    0.26   13.70
1929            UC   0.354   0.311
1930            UA       0       3       5       8      12      20      43      75      90      96
1931            UA     100
                *

1932            KK   C552L
1933            KM      Hydrograph combine 550552 + 207C at C552 left branch
1934            HC       2
                *

1935            KK    207D
1936            KM   Sub-Basin   207D
1937            KM
1938            KM      The Clark Unit Hydrograph is used for this basin.
1939            KM          The Natural time-area relation is used for this basin.
1940            KM
1941            KM      Time of Concentration for this sub-basin is based on the following:
1942            KM          6-Hour Rainfall, Pattern No.  1.00
1943            KM          An rainfall areal reduction factor of 0.997
1944            KM
```



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

1945            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1946            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1947            KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1948            KM
1949            KM          L=   1.036 miles, S=  373 feet/mile, Kb= .14
1950            KM
1951            BA   0.197
1952            LG    0.25    0.35    4.35    0.40   35.00
1953            UC   0.396   0.343
1954            UA       0       3       5       8      12      20      43      75      90      96
1955            UA     100
                *

1956            KK  551552
1957            KM      Normal depth channel route from C551 to C552
1958            KM      Source:  100 Scale 4' CI Mapping.
1959            RS       5    FLOW      -1
1960            RC   0.050   0.045   0.050  4410.0  0.0528
1961            RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1962            RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
                *

1963            KK    207E
1964            KM   Sub-Basin   207E
1965            KM
1966            KM      The Clark Unit Hydrograph is used for this basin.
1967            KM          The Natural time-area relation is used for this basin.
1968            KM
1969            KM      Time of Concentration for this sub-basin is based on the following:
1970            KM          6-Hour Rainfall, Pattern No.  1.00
1971            KM          An rainfall areal reduction factor of 0.998
1972            KM
1973            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1974            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1975            KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1976            KM
1977            KM          L=   1.366 miles, S=  315 feet/mile, Kb= .14
1978            KM
1979            BA   0.157
1980            LG    0.25    0.35    4.35    0.42   35.00
1981            UC   0.521   0.663
1982            UA       0       3       5       8      12      20      43      75      90      96
1983            UA     100
                *
```

```
1984          KK   C552R
1985          KM      Hydrograph combine 551552 + 207E at C552 right branch
1986          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 46

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


1987          KK    C552
1988          KM      Hydrograph combine C552L + C552R at C552
1989          HC       2
              *

1990          KK  552553
1991          KM      Normal depth channel route from C552 to C553
1992          KM      Source:  Hydrology Field Reconnaissance
1993          RS       2    FLOW      -1
1994          RC   0.060   0.050   0.060  1336.0  0.0337
1995          RX   993.0  1010.0  1055.0  1061.0  1082.0  1096.0  1105.0  1127.0
1996          RY    98.0    94.3    94.4    94.0    94.3    94.5    96.2    98.0
              *

1997          KK    207F
1998          KM   Sub-Basin   207F
1999          KM
2000          KM      The Clark Unit Hydrograph is used for this basin.
2001          KM          The HEC-1 time-area relation is used for this basin.
2002          KM
2003          KM      Time of Concentration for this sub-basin is based on the following:
2004          KM          6-Hour Rainfall, Pattern No.  1.00
2005          KM          An rainfall areal reduction factor of 0.998
2006          KM
2007          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2008          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2009          KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2010          KM
2011          KM          L=   0.794 miles, S=  296 feet/mile, Kb= .14
2012          KM
2013          BA   0.126
2014          LG    0.25    0.35    4.40    0.41   33.70
2015          UC   0.367   0.329
              *

2016          KK    C553
2017          KM      Hydrograph combine 552553 + 207F at C553
2018          HC       2
              *

2019          KK  553556
2020          KM      Normal depth channel route from C553 to C556
2021          KM      Source:  HEC-2 Cross Section: AS 6.118
2022          RS       3    FLOW      -1
2023          RC   0.055   0.045   0.060  2393.0  0.0255
2024          RX  9904.4  9945.9  9974.0  9987.4  9994.9 10008.6 10027.0 10045.3
2025          RY  2004.2  2003.9  1991.7  1990.4  1987.9  1988.2  1997.5  2006.7
              *
1                                          HEC-1 INPUT                                                    PAGE 47

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


2026          KK    207G
2027          KM   Sub-Basin   207G
2028          KM
2029          KM      The Clark Unit Hydrograph is used for this basin.
2030          KM          The Natural time-area relation is used for this basin.
2031          KM
2032          KM      Time of Concentration for this sub-basin is based on the following:
2033          KM          6-Hour Rainfall, Pattern No.  1.00
2034          KM          An rainfall areal reduction factor of 0.997
2035          KM
2036          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2037          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2038          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
2039          KM
2040          KM          L=   1.467 miles, S=  198 feet/mile, Kb= .10
2041          KM
2042          BA   0.236
2043          LG    0.17    0.38    5.60    0.23    8.30
2044          UC   0.525   0.560
2045          UA       0       3       5       8      12      20      43      75      90      96
2046          UA     100
              *

2047          KK   C556L
2048          KM      Hydrograph combine 553556 + 207G at C556 left branch
```

```
2049        HC       2
            *

2050        KK    207H
2051        KM   Sub-Basin   207H
2052        KM
2053        KM      The Clark Unit Hydrograph is used for this basin.
2054        KM          The Natural time-area relation is used for this basin.
2055        KM
2056        KM      Time of Concentration for this sub-basin is based on the following:
2057        KM          6-Hour Rainfall, Pattern No.  1.00
2058        KM          An rainfall areal reduction factor of 0.998
2059        KM
2060        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2061        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2062        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2063        KM
2064        KM          L=   1.044 miles, S=  371 feet/mile, Kb= .14
2065        KM
2066        BA   0.124
2067        LG    0.25    0.35    4.35    0.40   35.00
2068        UC   0.400   0.454
2069        UA       0       3       5       8      12      20      43      75      90      96
2070        UA     100
            *
1                                          HEC-1 INPUT                                          PAGE 48

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

2071        KK  554555
2072        KM      Normal depth channel route from C554 to C555
2073        KM      Source:  100 Scale 4' CI Mapping.
2074        RS       4    FLOW      -1
2075        RC   0.050   0.045   0.050  2497.0  0.0649
2076        RX  1000.0  1025.0  1080.0  1100.0  1120.0  1130.0  1140.0  1155.0
2077        RY  2192.0  2188.0  2186.0  2184.0  2184.0  2188.0  2192.0  2194.0
            *

2078        KK    207I
2079        KM   Sub-Basin   207I
2080        KM
2081        KM      The Clark Unit Hydrograph is used for this basin.
2082        KM          The Natural time-area relation is used for this basin.
2083        KM
2084        KM      Time of Concentration for this sub-basin is based on the following:
2085        KM          6-Hour Rainfall, Pattern No.  1.00
2086        KM          An rainfall areal reduction factor of 0.999
2087        KM
2088        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2089        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2090        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2091        KM
2092        KM          L=   0.810 miles, S=  320 feet/mile, Kb= .15
2093        KM
2094        BA   0.073
2095        LG    0.25    0.35    4.40    0.40   35.00
2096        UC   0.375   0.468
2097        UA       0       3       5       8      12      20      43      75      90      96
2098        UA     100
            *

2099        KK    C555
2100        KM      Hydrograph combine 554555 + 207I at C555
2101        HC       2
            *

2102        KK  555556
2103        KM      Normal depth channel route from C555 to C556
2104        KM      Source:  200 Scale Mapping
2105        RS       8    FLOW      -1
2106        RC   0.050   0.050   0.055  3353.0  0.0480
2107        RX  1000.0  1050.0  1090.0  1095.0  1130.0  1150.0  1160.0  1185.0
2108        RY  2020.0  2016.5  2006.0  2004.0  2005.0  2006.0  2010.0  2020.0
            *

2109        KK    207J
2110        KM   Sub-Basin   207J
2111        KM
2112        KM      The Clark Unit Hydrograph is used for this basin.
2113        KM          The HEC-1 time-area relation is used for this basin.
2114        KM
2115        KM      Time of Concentration for this sub-basin is based on the following:
2116        KM          6-Hour Rainfall, Pattern No.  1.00
1                                          HEC-1 INPUT                                          PAGE 49

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

```
2117        KM          An rainfall areal reduction factor of 0.999
2118        KM
2119        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2120        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2121        KM   .45 .45 .45 .14 .10 .09 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2122        KM
2123        KM          L=   0.714 miles, S=  248 feet/mile, Kb= .13
2124        KM
2125        BA   0.093
2126        LG    0.22    0.33    4.40    0.39   37.00
2127        UC   0.346   0.337
            *

2128        KK   C556R
2129        KM      Hydrograph combine 555556 + 207J at C556 right branch
2130        HC       2
            *

2131        KK    C556
2132        KM      Hydrograph combine C556L + C556R at C556
2133        HC       2
            *

2134        KK  556557
2135        KM      Normal depth channel route from C556 to C557
2136        KM      Source:  HEC-2 Cross Section: AS 5.765
2137        RS       3    FLOW      -1
2138        RC   0.055   0.045   0.060  2298.0  0.0260
2139        RX  9957.1  9995.6 10000.0 10010.0 10040.4 10084.4 10104.2 10180.7
2140        RY  1949.3  1935.9  1935.8  1936.7  1936.7  1938.2  1947.1  1949.9
            *

2141        KK    207K
2142        KM   Sub-Basin   207K
2143        KM
2144        KM      The Clark Unit Hydrograph is used for this basin.
2145        KM          The HEC-1 time-area relation is used for this basin.
2146        KM
2147        KM      Time of Concentration for this sub-basin is based on the following:
2148        KM          6-Hour Rainfall, Pattern No.  1.00
2149        KM          An rainfall areal reduction factor of 0.998
2150        KM
2151        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2152        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2153        KM   .47 .46 .46 .15 .12 .11 .05 .05 .05 .03 .03 .03 .01 .01 .01 .01 .01 .01
2154        KM
2155        KM          L=   0.859 miles, S=  294 feet/mile, Kb= .09
2156        KM
2157        BA   0.130
2158        LG    0.15    0.33    5.40    0.22   31.70
2159        UC   0.275   0.251
            *
```



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

2160        KK   C557R
2161        KM      Hydrograph combine 556557 + 207K at C557
2162        HC       2
            *

2163        KK    207L
2164        KM   Sub-Basin   207L
2165        KM
2166        KM      The Clark Unit Hydrograph is used for this basin.
2167        KM          The Urban time-area relation is used for this basin.
2168        KM
2169        KM      Time of Concentration for this sub-basin is based on the following:
2170        KM          6-Hour Rainfall, Pattern No.  1.00
2171        KM          An rainfall areal reduction factor of 0.999
2172        KM
2173        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2174        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2175        KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
2176        KM
2177        KM          L=   0.667 miles, S=  236 feet/mile, Kb= .07
2178        KM
2179        BA   0.080
2180        LG    0.11    0.32    6.00    0.17   29.60
2181        UC   0.221   0.211
2182        UA       0       5      16      30      65      77      84      90      94      97
2183        UA     100
            *

2184        KK    C557
2185        KM      Hydrograph combine C557R + 207L at C557
2186        HC       2
```

```
                *
                * *
                * * C557 is the total flow in Ashbrook Wash downstream of Golden Eagle Blvd.
                * * at fire station
                * *
                *

2187            KK  557558
2188            KM      Normal depth channel route from C557 to C558
2189            KM      Source:  HEC-2 Cross Section: AS 5.254
2190            RS       4    FLOW      -1
2191            RC   0.055   0.045   0.060  2652.0  0.0242
2192            RX  9662.0  9965.0  9967.0 10000.0 10072.0 10095.0 10122.0 10175.0
2193            RY  1890.0  1885.9  1884.0  1878.0  1880.0  1886.0  1888.0  1890.0
                *

2194            KK    207M
2195            KM   Sub-Basin   207M
2196            KM
2197            KM      The Clark Unit Hydrograph is used for this basin.
2198            KM          The HEC-1 time-area relation is used for this basin.
2199            KM
2200            KM      Time of Concentration for this sub-basin is based on the following:
1                                          HEC-1 INPUT                                          PAGE 51

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

2201            KM          6-Hour Rainfall, Pattern No.  1.00
2202            KM          An rainfall areal reduction factor of 0.998
2203            KM
2204            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2205            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2206            KM   .45 .44 .44 .13 .10 .09 .04 .04 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
2207            KM
2208            KM          L=   0.636 miles, S=  295 feet/mile, Kb= .10
2209            KM
2210            BA   0.116
2211            LG    0.15    0.40    6.00    0.19    4.50
2212            UC   0.250   0.189
                *

2213            KK    C558
2214            KM      Hydrograph combine 557558 + 207M at C558
2215            HC       2
                *

2216            KK  558560
2217            KM      Normal depth channel route from C558 to C560
2218            KM      Source:  HEC-2 Cross Section: AS 4.839
2219            RS       2    FLOW      -1
2220            RC   0.055   0.045   0.060  1986.0  0.0185
2221            RX  9777.0  9897.0  9933.1  9970.6 10042.2 10063.4 10121.6 10204.9
2222            RY  1840.3  1837.3  1836.3  1824.3  1822.7  1828.5  1827.7  1842.7
                *

2223            KK    207O
2224            KM   Sub-Basin   207O
2225            KM
2226            KM      The Clark Unit Hydrograph is used for this basin.
2227            KM          The Natural time-area relation is used for this basin.
2228            KM
2229            KM      Time of Concentration for this sub-basin is based on the following:
2230            KM          6-Hour Rainfall, Pattern No.  1.00
2231            KM          An rainfall areal reduction factor of 0.998
2232            KM
2233            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2234            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2235            KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
2236            KM
2237            KM          L=   0.643 miles, S=  275 feet/mile, Kb= .09
2238            KM
2239            BA   0.131
2240            LG    0.17    0.38    5.60    0.23    9.20
2241            UC   0.242   0.171
2242            UA       0       3       5       8      12      20      43      75      90      96
2243            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 52

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

2244            KK   C560R
2245            KM      Hydrograph combine 558560 + 207O at C560 right branch
2246            HC       2
                *

2247            KK    207N
```

```
2248          KM   Sub-Basin   207N
2249          KM
2250          KM      The Clark Unit Hydrograph is used for this basin.
2251          KM          The HEC-1 time-area relation is used for this basin.
2252          KM
2253          KM      Time of Concentration for this sub-basin is based on the following:
2254          KM          6-Hour Rainfall, Pattern No.  1.00
2255          KM          An rainfall areal reduction factor of 0.999
2256          KM
2257          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2258          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2259          KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .02 .02 .02 .00 .00 .00 .00 .00 .00
2260          KM
2261          KM          L=   0.431 miles, S=  190 feet/mile, Kb= .10
2262          KM
2263          BA   0.049
2264          LG    0.19    0.35    4.80    0.32   21.60
2265          UC   0.238   0.213
              *

2266          KK  559560
2267          KM      Normal depth channel route from C559 to C560
2268          KM      Source:  200 Scale Mapping
2269          RS       7    FLOW      -1
2270          RC   0.050   0.045   0.050  2170.0  0.0230
2271          RX  1000.0  1050.0  1080.0  1100.0  1110.0  1140.0  1170.0  1205.0
2272          RY  1854.0  1852.0  1850.0  1848.0  1848.0  1850.0  1852.0  1854.0
              *

2273          KK   C560I
2274          KM      Hydrograph combine C560R + 559560 at C560I
2275          HC       2
              *
              * *
              * * C560I is the total flow in Ashbrook Wash upstream of Dam 6
              * *
              *

2276          KK   C560O
2277          KM      Reservoir route at C560 (Dam 6).
2278          RS       1    ELEV  1808.8
2279          SV    0.00    1.71   14.81   34.65   60.43   93.47  135.64  183.00  186.00  191.44
2280          SV  197.00  205.00  212.00  219.00  226.40  234.00  242.00  246.00  250.00  254.00
2281          SE  1808.8  1812.0  1816.0  1820.0  1824.0  1828.0  1832.0  1835.4  1835.6  1836.0
2282          SE  1836.4  1836.8  1837.2  1837.6  1838.0  1838.4  1838.8  1839.0  1839.2  1839.4
2283          SQ       0      57     136     184     224     257     285     303     319     440
2284          SQ     691    1055    1500    2018    2600    3243    3944    4315    4699    5097
2285          RL                    0.40
              *
              * *
              * * End Basin 207.  Start Basin 210 temporarily
              * *
              *
```



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

2286          KK  560585
2287          KM      Normal depth channel route from C560 to C585
2288          KM      Source:  HEC-2 Cross Section: AS4.311
2289          RS       6    FLOW      -1
2290          RC   0.050   0.025   0.050  3127.0  0.0272
2291          RX  9850.4  9950.4  9974.4 10000.0 10035.5 10059.8 10080.4 10104.4
2292          RY  1772.0  1771.7  1765.3  1765.3  1765.9  1768.5  1773.3  1773.7
              *

2293          KK    210A
2294          KM   Sub-Basin   210A
2295          KM
2296          KM      The Clark Unit Hydrograph is used for this basin.
2297          KM          The Natural time-area relation is used for this basin.
2298          KM
2299          KM      Time of Concentration for this sub-basin is based on the following:
2300          KM          6-Hour Rainfall, Pattern No.  1.00
2301          KM          An rainfall areal reduction factor of 0.998
2302          KM
2303          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2304          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2305          KM   .44 .44 .43 .12 .09 .07 .03 .03 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
2306          KM
2307          KM          L=   0.631 miles, S=  233 feet/mile, Kb= .09
2308          KM
2309          BA   0.123
2310          LG    0.20    0.36    5.00    0.27    5.50
2311          UC   0.254   0.185
2312          UA       0       3       5       8      12      20      43      75      90      96
2313          UA     100
```

```
                *
2314            KK    C585
2315            KM      Hydrograph combine 560585 + 210A at C585
2316            HC       2
                *
                * *
                * * C585 is the total flow in Ashbrook Wash at Golden Eagle Blvd. just
                * * upstream of DAM 4
                * *
                * * Temporarily stop Basin 210.  Start Basin 208
                * *
                * * Start Bristol Wash
                * *
                *

2317            KK    208A
2318            KM   Sub-Basin   208A
2319            KM
2320            KM      The Clark Unit Hydrograph is used for this basin.
2321            KM          The Natural time-area relation is used for this basin.
2322            KM
2323            KM      Time of Concentration for this sub-basin is based on the following:
2324            KM          6-Hour Rainfall, Pattern No.  1.00
1                                          HEC-1 INPUT                                          PAGE 54

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

2325            KM          An rainfall areal reduction factor of 0.998
2326            KM
2327            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2328            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2329            KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2330            KM
2331            KM          L=   0.626 miles, S=  366 feet/mile, Kb= .14
2332            KM
2333            BA   0.139
2334            LG    0.25    0.35    4.35    0.40   35.00
2335            UC   0.283   0.194
2336            UA       0       3       5       8      12      20      43      75      90      96
2337            UA     100
                *

2338            KK  561563
2339            KM      Normal depth channel route from C561 to C563
2340            KM      Source:  100 Scale 4'CI Mapping
2341            RS       3    FLOW      -1
2342            RC   0.050   0.045   0.050  2335.0  0.0856
2343            RX  1000.0  1004.0  1009.0  1019.0  1037.0  1045.0  1060.0  1075.0
2344            RY  2280.0  2276.0  2272.0  2268.0  2268.0  2272.0  2274.0  2276.0
                *

2345            KK    208B
2346            KM   Sub-Basin   208B
2347            KM
2348            KM      The Clark Unit Hydrograph is used for this basin.
2349            KM          The Natural time-area relation is used for this basin.
2350            KM
2351            KM      Time of Concentration for this sub-basin is based on the following:
2352            KM          6-Hour Rainfall, Pattern No.  1.00
2353            KM          An rainfall areal reduction factor of 1.000
2354            KM
2355            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2356            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2357            KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2358            KM
2359            KM          L=   0.491 miles, S=  325 feet/mile, Kb= .16
2360            KM
2361            BA   0.027
2362            LG    0.25    0.35    4.35    0.42   35.00
2363            UC   0.279   0.399
2364            UA       0       3       5       8      12      20      43      75      90      96
2365            UA     100
                *

2366            KK   C563R
2367            KM      Hydrograph combine 561563 + 206B at C563 right branch
2368            HC       2
                *
1                                          HEC-1 INPUT                                          PAGE 55

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

2369            KK    208C
2370            KM   Sub-Basin   208C
2371            KM
2372            KM      The Clark Unit Hydrograph is used for this basin.
```

```
2373        KM          The Natural time-area relation is used for this basin.
2374        KM
2375        KM      Time of Concentration for this sub-basin is based on the following:
2376        KM          6-Hour Rainfall, Pattern No.  1.00
2377        KM          An rainfall areal reduction factor of 0.999
2378        KM
2379        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2380        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2381        KM   .45 .44 .44 .13 .10 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2382        KM
2383        KM          L=   0.639 miles, S=  387 feet/mile, Kb= .15
2384        KM
2385        BA   0.066
2386        LG    0.25    0.35    4.35    0.40   35.00
2387        UC   0.296   0.314
2388        UA       0       3       5       8      12      20      43      75      90      96
2389        UA     100
            *

2390        KK  562563
2391        KM      Normal depth channel route from C562 to C563
2392        KM      Source:  100 Scale 4' CI Mapping
2393        RS       4    FLOW      -1
2394        RC   0.050   0.045   0.050  3745.0  0.1106
2395        RX  1000.0  1007.0  1012.0  1017.0  1022.0  1027.0  1044.0  1064.0
2396        RY  2420.0  2416.0  2412.0  2411.8  2411.8  2412.0  2416.0  2420.0
            *

2397        KK    208D
2398        KM   Sub-Basin   208D
2399        KM
2400        KM      The Clark Unit Hydrograph is used for this basin.
2401        KM          The Natural time-area relation is used for this basin.
2402        KM
2403        KM      Time of Concentration for this sub-basin is based on the following:
2404        KM          6-Hour Rainfall, Pattern No.  1.00
2405        KM          An rainfall areal reduction factor of 0.999
2406        KM
2407        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2408        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2409        KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2410        KM
2411        KM          L=   0.772 miles, S=  327 feet/mile, Kb= .15
2412        KM
2413        BA   0.075
2414        LG    0.25    0.35    4.35    0.42   35.00
2415        UC   0.363   0.428
2416        UA       0       3       5       8      12      20      43      75      90      96
2417        UA     100
            *
```



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

2418        KK   C563L
2419        KM      Hydrograph combine 562563 + 208D at C563 left branch
2420        HC       2
            *

2421        KK    C563
2422        KM      Hydrograph combine C563R + C563L at C563
2423        HC       2
            *

2424        KK  563564
2425        KM      Normal depth channel route from C563 to C564
2426        KM      Source:  HEC-2 Cross Section: BR 2.667
2427        RS       3    FLOW      -1
2428        RC   0.080   0.080   0.080  2762.0  0.0540
2429        RX  9947.0  9980.4  9986.4  9995.5 10000.0 10005.8 10021.9 10037.2
2430        RY  2103.4  2089.5  2089.2  2084.5  2084.4  2084.3  2098.5  2100.6
            *

2431        KK    208E
2432        KM   Sub-Basin   208E
2433        KM
2434        KM      The Clark Unit Hydrograph is used for this basin.
2435        KM          The Natural time-area relation is used for this basin.
2436        KM
2437        KM      Time of Concentration for this sub-basin is based on the following:
2438        KM          6-Hour Rainfall, Pattern No.  1.00
2439        KM          An rainfall areal reduction factor of 0.999
2440        KM
2441        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2442        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2443        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2444        KM
```

```
2445        KM          L=   0.644 miles, S=  306 feet/mile, Kb= .15
2446        KM
2447        BA   0.062
2448        LG    0.25    0.35    4.35    0.41   35.00
2449        UC   0.329   0.370
2450        UA       0       3       5       8      12      20      43      75      90      96
2451        UA     100
            *

2452        KK   C564R
2453        KM      Hydrograph combine 563564 + 208E at C564 right branch
2454        HC       2
            *

2455        KK    208F
2456        KM   Sub-Basin   208F
2457        KM
2458        KM      The Clark Unit Hydrograph is used for this basin.
2459        KM          The Natural time-area relation is used for this basin.
2460        KM
2461        KM      Time of Concentration for this sub-basin is based on the following:
1                                        HEC-1 INPUT                                                    PAGE 57

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

2462        KM          6-Hour Rainfall, Pattern No.  1.00
2463        KM          An rainfall areal reduction factor of 0.999
2464        KM
2465        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2466        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2467        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2468        KM
2469        KM          L=   0.582 miles, S=  293 feet/mile, Kb= .15
2470        KM
2471        BA   0.069
2472        LG    0.25    0.35    4.35    0.41   35.00
2473        UC   0.313   0.303
2474        UA       0       3       5       8      12      20      43      75      90      96
2475        UA     100
            *

2476        KK    C564
2477        KM      Hydrograph combine C564R + 208F at C564
2478        HC       2
            *

2479        KK  564565
2480        KM      Normal depth channel route from C564 to C565
2481        KM      Source:  HEC-2 Cross Section: BR 2.236
2482        RS       6    FLOW      -1
2483        RC   0.080   0.080   0.080  3243.0  0.0398
2484        RX  9937.7  9965.8  9985.5 10000.0 10008.6 10016.4 10037.5 10054.4
2485        RY  1998.7  1998.1  1988.9  1988.8  1989.0  1990.4  1990.6  1999.1
            *

2486        KK    208G
2487        KM   Sub-Basin   208G
2488        KM
2489        KM      The Clark Unit Hydrograph is used for this basin.
2490        KM          The HEC-1 time-area relation is used for this basin.
2491        KM
2492        KM      Time of Concentration for this sub-basin is based on the following:
2493        KM          6-Hour Rainfall, Pattern No.  1.00
2494        KM          An rainfall areal reduction factor of 0.998
2495        KM
2496        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2497        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2498        KM   .46 .45 .45 .14 .10 .09 .04 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
2499        KM
2500        KM          L=   0.772 miles, S=  299 feet/mile, Kb= .13
2501        KM
2502        BA   0.129
2503        LG    0.22    0.34    4.60    0.34   34.30
2504        UC   0.338   0.289
            *
1                                        HEC-1 INPUT                                                    PAGE 58

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

2505        KK    C565
2506        KM      Hydrograph combine 564565 + 208G at C565
2507        HC       2
            *

2508        KK  565568
2509        KM      Normal depth channel route from C565 to C568
2510        KM      Source:  HEC-2 Cross Section: BR 1.853
```

```
2511        RS       3    FLOW      -1
2512        RC   0.050   0.060   0.045  2254.0  0.0333
2513        RX  9966.2  9975.6  9985.0 10000.0 10017.9 10027.6 10040.1 10052.5
2514        RY  1929.1  1924.5  1919.8  1918.3  1918.4  1919.6  1925.2  1930.8
            *

2515        KK    208H
2516        KM   Sub-Basin   208H
2517        KM
2518        KM      The Clark Unit Hydrograph is used for this basin.
2519        KM          The Natural time-area relation is used for this basin.
2520        KM
2521        KM      Time of Concentration for this sub-basin is based on the following:
2522        KM          6-Hour Rainfall, Pattern No.  1.00
2523        KM          An rainfall areal reduction factor of 0.999
2524        KM
2525        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2526        KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2527        KM    .45 .44 .44 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
2528        KM
2529        KM          L=   0.632 miles, S=  283 feet/mile, Kb= .12
2530        KM
2531        BA   0.043
2532        LG    0.17    0.38    5.60    0.23    8.60
2533        UC   0.288   0.387
2534        UA       0       3       5       8      12      20      43      75      90      96
2535        UA     100
            *

2536        KK   C568L
2537        KM      Hydrograph combine 565568 + 208H at C568 left branch
2538        HC       2
            *
            * *
            * * Start Cholula Wash
            * *
            *

2539        KK    208I
2540        KM   Sub-Basin   208I
2541        KM
2542        KM      The Clark Unit Hydrograph is used for this basin.
2543        KM          The Natural time-area relation is used for this basin.
2544        KM
2545        KM      Time of Concentration for this sub-basin is based on the following:
2546        KM          6-Hour Rainfall, Pattern No.  1.00
```



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

2547        KM          An rainfall areal reduction factor of 0.998
2548        KM
2549        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2550        KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2551        KM    .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2552        KM
2553        KM          L=   0.823 miles, S=  363 feet/mile, Kb= .14
2554        KM
2555        BA   0.117
2556        LG    0.25    0.35    4.35    0.42   35.00
2557        UC   0.346   0.331
2558        UA       0       3       5       8      12      20      43      75      90      96
2559        UA     100
            *

2560        KK    208J
2561        KM   Sub-Basin   208J
2562        KM
2563        KM      The Clark Unit Hydrograph is used for this basin.
2564        KM          The Natural time-area relation is used for this basin.
2565        KM
2566        KM      Time of Concentration for this sub-basin is based on the following:
2567        KM          6-Hour Rainfall, Pattern No.  1.00
2568        KM          An rainfall areal reduction factor of 0.999
2569        KM
2570        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2571        KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2572        KM    .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2573        KM
2574        KM          L=   0.974 miles, S=  353 feet/mile, Kb= .15
2575        KM
2576        BA   0.081
2577        LG    0.25    0.35    4.35    0.42   35.00
2578        UC   0.413   0.568
2579        UA       0       3       5       8      12      20      43      75      90      96
2580        UA     100
            *
```

```
2581          KK    C566
2582          KM      Hydrograph combine 208I + 208J at C566
2583          HC       2
              *

2584          KK  566567
2585          KM      Normal depth channel route from C566 to C567
2586          KM      Source:  HEC-2 Cross Section: CH 0.766
2587          RS       4    FLOW      -1
2588          RC   0.080   0.080   0.080  1463.0  0.0410
2589          RX  9925.3  9949.0  9965.7  9988.3 10000.0 10016.2 10029.5 10042.7
2590          RY  2047.9  2043.7  2035.3  2033.3  2031.4  2033.0  2040.1  2047.2
              *
1                                        HEC-1 INPUT                                                    PAGE 60

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


2591          KK    208K
2592          KM   Sub-Basin   208K
2593          KM
2594          KM      The Clark Unit Hydrograph is used for this basin.
2595          KM          The Natural time-area relation is used for this basin.
2596          KM
2597          KM      Time of Concentration for this sub-basin is based on the following:
2598          KM          6-Hour Rainfall, Pattern No.  1.00
2599          KM          An rainfall areal reduction factor of 0.999
2600          KM
2601          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2602          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2603          KM   .45 .44 .44 .13 .09 .07 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2604          KM
2605          KM          L=   0.431 miles, S=  317 feet/mile, Kb= .16
2606          KM
2607          BA   0.048
2608          LG    0.25    0.35    4.35    0.43   35.00
2609          UC   0.258   0.238
2610          UA       0       3       5       8      12      20      43      75      90      96
2611          UA     100
              *

2612          KK   C567L
2613          KM      Hydrograph combine 566567 + 208K at C567 left branch
2614          HC       2
              *

2615          KK    208L
2616          KM   Sub-Basin   208L
2617          KM
2618          KM      The Clark Unit Hydrograph is used for this basin.
2619          KM          The Natural time-area relation is used for this basin.
2620          KM
2621          KM      Time of Concentration for this sub-basin is based on the following:
2622          KM          6-Hour Rainfall, Pattern No.  1.00
2623          KM          An rainfall areal reduction factor of 0.999
2624          KM
2625          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2626          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2627          KM   .45 .44 .44 .13 .09 .07 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2628          KM
2629          KM          L=   0.655 miles, S=  334 feet/mile, Kb= .15
2630          KM
2631          BA   0.059
2632          LG    0.25    0.35    4.40    0.43   35.00
2633          UC   0.321   0.375
2634          UA       0       3       5       8      12      20      43      75      90      96
2635          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 61

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


2636          KK    C567
2637          KM      Hydrograph combine C567L + 208L at C567
2638          HC       2
              *

2639          KK  567568
2640          KM      Normal depth channel route from C567 to C568
2641          KM      Source:  HEC-2 Cross Section: CH 0.129
2642          RS       6    FLOW      -1
2643          RC   0.050   0.060   0.045  3650.0  0.0389
2644          RX  9945.7  9958.4  9989.8 10000.0 10016.4 10028.3 10045.4 10059.8
2645          RY  1912.1  1905.9  1899.0  1899.3  1898.9  1899.5  1907.1  1911.9
              *

2646          KK    208M
```

```
2647        KM   Sub-Basin   208M
2648        KM
2649        KM      The Clark Unit Hydrograph is used for this basin.
2650        KM          The Natural time-area relation is used for this basin.
2651        KM
2652        KM      Time of Concentration for this sub-basin is based on the following:
2653        KM          6-Hour Rainfall, Pattern No.  1.00
2654        KM          An rainfall areal reduction factor of 0.998
2655        KM
2656        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2657        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2658        KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2659        KM
2660        KM          L=   1.031 miles, S=  321 feet/mile, Kb= .14
2661        KM
2662        BA   0.159
2663        LG    0.25    0.35    4.40    0.42   35.50
2664        UC   0.425   0.418
2665        UA       0       3       5       8      12      20      43      75      90      96
2666        UA     100
            *

2667        KK   C568R
2668        KM      Hydrograph combine 567568 + 208M at C568 right branch
2669        HC       2
            *

2670        KK    C568
2671        KM      Hydrograph combine C568L + C568R at C568
2672        HC       2
            *

2673        KK  568573
2674        KM      Normal depth channel route from C568 to C573
2675        KM      Source:  HEC-2 Cross Section: BR 1.340
2676        RS       4    FLOW      -1
2677        RC   0.098   0.075   0.075  2067.0  0.0324
2678        RX  9921.8  9954.1  9968.9  9991.3 10000.0 10006.9 10025.2 10050.4
2679        RY  1843.8  1840.4  1835.1  1834.7  1832.7  1833.3  1838.1  1854.0
            *
```



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

2680        KK    208N
2681        KM   Sub-Basin   208N
2682        KM
2683        KM      The Clark Unit Hydrograph is used for this basin.
2684        KM          The Natural time-area relation is used for this basin.
2685        KM
2686        KM      Time of Concentration for this sub-basin is based on the following:
2687        KM          6-Hour Rainfall, Pattern No.  1.00
2688        KM          An rainfall areal reduction factor of 0.999
2689        KM
2690        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2691        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2692        KM   .47 .46 .46 .16 .12 .12 .05 .05 .05 .03 .03 .03 .01 .01 .01 .01 .01 .01
2693        KM
2694        KM          L=   0.589 miles, S=  160 feet/mile, Kb= .11
2695        KM
2696        BA   0.047
2697        LG    0.15    0.39    6.20    0.17   34.00
2698        UC   0.317   0.386
2699        UA       0       3       5       8      12      20      43      75      90      96
2700        UA     100
            *

2701        KK   C573L
2702        KM      Hydrograph combine 568573 + 208N at C573 left branch
2703        HC       2
            *
            * *
            * * C573L is the total flow in Bristol Wash upstream of the confluence with
            * * Zapata Wash
            * *
            * * Start Zapata Wash
            * *
            *

2704        KK    208O
2705        KM   Sub-Basin   208O
2706        KM
2707        KM      The Clark Unit Hydrograph is used for this basin.
2708        KM          The Natural time-area relation is used for this basin.
2709        KM
2710        KM      Time of Concentration for this sub-basin is based on the following:
2711        KM          6-Hour Rainfall, Pattern No.  1.00
```

```
2712          KM          An rainfall areal reduction factor of 0.997
2713          KM
2714          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2715          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2716          KM   .45 .44 .44 .13 .10 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2717          KM
2718          KM          L=   1.174 miles, S=  347 feet/mile, Kb= .13
2719          KM
2720          BA   0.230
2721          LG    0.23    0.35    4.60    0.37   33.50
2722          UC   0.425   0.376
1                                        HEC-1 INPUT                                                    PAGE 63

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

2723          UA       0       3       5       8      12      20      43      75      90      96
2724          UA     100
              *

2725          KK  569570
2726          KM      Normal depth channel route from C569 to C570
2727          KM      Source:  HEC-2 Cross Section: ZA 0.493
2728          RS       2    FLOW      -1
2729          RC   0.050   0.035   0.055  1696.0  0.0404
2730          RX  9965.3  9985.5  9998.4 10000.0 10010.6 10019.1 10038.5 10038.5
2731          RY  1919.3  1912.3  1908.1  1907.8  1905.2  1908.1  1920.1  1920.1
              *

2732          KK    208P
2733          KM   Sub-Basin   208P
2734          KM
2735          KM      The Clark Unit Hydrograph is used for this basin.
2736          KM          The Natural time-area relation is used for this basin.
2737          KM
2738          KM      Time of Concentration for this sub-basin is based on the following:
2739          KM          6-Hour Rainfall, Pattern No.  1.00
2740          KM          An rainfall areal reduction factor of 0.999
2741          KM
2742          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2743          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2744          KM   .46 .46 .45 .15 .11 .10 .05 .05 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
2745          KM
2746          KM          L=   0.471 miles, S=  312 feet/mile, Kb= .12
2747          KM
2748          BA   0.058
2749          LG    0.18    0.39    5.70    0.21   27.90
2750          UC   0.229   0.199
2751          UA       0       3       5       8      12      20      43      75      90      96
2752          UA     100
              *

2753          KK   C570R
2754          KM      Hydrograph combine 569570 + 208P at C570 right branch
2755          HC       2
              *

2756          KK    208Q
2757          KM   Sub-Basin   208Q
2758          KM
2759          KM      The Clark Unit Hydrograph is used for this basin.
2760          KM          The Natural time-area relation is used for this basin.
2761          KM
2762          KM      Time of Concentration for this sub-basin is based on the following:
2763          KM          6-Hour Rainfall, Pattern No.  1.00
2764          KM          An rainfall areal reduction factor of 0.999
2765          KM
2766          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2767          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2768          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
2769          KM
1                                        HEC-1 INPUT                                                    PAGE 64

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

2770          KM          L=   0.823 miles, S=  324 feet/mile, Kb= .13
2771          KM
2772          BA   0.094
2773          LG    0.21    0.36    5.00    0.28   31.50
2774          UC   0.338   0.364
2775          UA       0       3       5       8      12      20      43      75      90      96
2776          UA     100
              *

2777          KK    C570
2778          KM      Hydrograph combine C570R + 208Q at C570
2779          HC       2
              *
              * *
```

```
                 * * NOTE: 570572 is too short to route
                 * *
                 *

2780             KK    208R
2781             KM   Sub-Basin   208R
2782             KM
2783             KM      The Clark Unit Hydrograph is used for this basin.
2784             KM          The Natural time-area relation is used for this basin.
2785             KM
2786             KM      Time of Concentration for this sub-basin is based on the following:
2787             KM          6-Hour Rainfall, Pattern No.  1.00
2788             KM          An rainfall areal reduction factor of 1.000
2789             KM
2790             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2791             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2792             KM   .47 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .02 .01 .01 .01 .01 .01 .01
2793             KM
2794             KM          L=   0.238 miles, S=  327 feet/mile, Kb= .13
2795             KM
2796             BA   0.010
2797             LG    0.15    0.39    6.20    0.17   25.30
2798             UC   0.167   0.216
2799             UA       0       3       5       8      12      20      43      75      90      96
2800             UA     100
                 *

2801             KK  571572
2802             KM      Normal depth channel route from C571 to C572
2803             KM      Source:  200 Scale Mapping
2804             RS       3    FLOW      -1
2805             RC   0.040   0.020   0.055  1379.0  0.0566
2806             RX  1000.0  1020.0  1040.0  1090.0  1122.0  1125.0  1135.0  1140.0
2807             RY  1894.0  1893.0  1892.0  1891.0  1891.0  1892.0  1894.0  1896.0
                 *
1                                          HEC-1 INPUT                                          PAGE 65

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

2808             KK    C572
2809             KM      Hydrograph combine C570 + 571572 at C572
2810             HC       2
                 *

2811             KK  572573
2812             KM      Normal depth channel route from C572 to C573
2813             KM      Source:  HEC-2 Cross Section: ZA 0.142
2814             RS       1    FLOW      -1
2815             RC   0.050   0.035   0.055  1285.0  0.0335
2816             RX  9961.8  9976.8  9982.5  9987.0 10009.5 10014.3 10022.1 10029.3
2817             RY  1840.3  1832.1  1831.2  1829.5  1829.2  1830.6  1831.2  1835.6
                 *

2818             KK    208S
2819             KM   Sub-Basin   208S
2820             KM
2821             KM      The Clark Unit Hydrograph is used for this basin.
2822             KM          The Natural time-area relation is used for this basin.
2823             KM
2824             KM      Time of Concentration for this sub-basin is based on the following:
2825             KM          6-Hour Rainfall, Pattern No.  1.00
2826             KM          An rainfall areal reduction factor of 0.999
2827             KM
2828             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2829             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2830             KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
2831             KM
2832             KM          L=   0.568 miles, S=  234 feet/mile, Kb= .11
2833             KM
2834             BA   0.068
2835             LG    0.14    0.39    6.20    0.17   38.30
2836             UC   0.263   0.246
2837             UA       0       3       5       8      12      20      43      75      90      96
2838             UA     100
                 *

2839             KK   C573R
2840             KM      Hydrograph combine 572573 + 208S at C573 right branch
2841             HC       2
                 *

2842             KK    C573
2843             KM      Hydrograph combine C573L + C573R at C573
2844             HC       2
                 *
                 * *
                 * * NOTE: 573577 is too short to route
```

```
                 * *
                 * * C573 is the total flow in Bristol Wash upstream of the confluence
                 * * with Montezuna Wash
                 * *
                 * * Start Montezuna Wash
                 * *
                 *
1                                                HEC-1 INPUT                                                          PAGE 66
LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2845             KK    208T
2846             KM   Sub-Basin   208T
2847             KM
2848             KM      The Clark Unit Hydrograph is used for this basin.
2849             KM          The Natural time-area relation is used for this basin.
2850             KM
2851             KM      Time of Concentration for this sub-basin is based on the following:
2852             KM          6-Hour Rainfall, Pattern No.  1.00
2853             KM          An rainfall areal reduction factor of 0.998
2854             KM
2855             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2856             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2857             KM   .46 .45 .45 .14 .11 .09 .04 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
2858             KM
2859             KM          L=   0.787 miles, S=  340 feet/mile, Kb= .12
2860             KM
2861             BA   0.132
2862             LG    0.20    0.37    5.20    0.27   29.80
2863             UC   0.304   0.259
2864             UA       0       3       5       8      12      20      43      75      90      96
2865             UA     100
                 *

2866             KK    208U
2867             KM   Sub-Basin   208U
2868             KM
2869             KM      The Clark Unit Hydrograph is used for this basin.
2870             KM          The Natural time-area relation is used for this basin.
2871             KM
2872             KM      Time of Concentration for this sub-basin is based on the following:
2873             KM          6-Hour Rainfall, Pattern No.  1.00
2874             KM          An rainfall areal reduction factor of 0.998
2875             KM
2876             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2877             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2878             KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
2879             KM
2880             KM          L=   0.507 miles, S=  360 feet/mile, Kb= .12
2881             KM
2882             BA   0.134
2883             LG    0.19    0.37    5.30    0.26   29.20
2884             UC   0.229   0.132
2885             UA       0       3       5       8      12      20      43      75      90      96
2886             UA     100
                 *

2887             KK    C574
2888             KM      Hydrograph combine 208T + 208U at C574
2889             HC       2
                 *
1                                                HEC-1 INPUT                                                          PAGE 67
LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

2890             KK  574575
2891             KM      Normal depth channel route from C574 to C575
2892             KM      Source:  HEC-2 Cross Section: MO 0.587
2893             RS       1    FLOW      -1
2894             RC   0.070   0.050   0.055   823.0  0.0365
2895             RX  9945.0  9970.6  9986.7  9995.9 10002.3 10019.0 10036.7 10055.5
2896             RY  1932.6  1928.5  1922.9  1917.8  1917.7  1924.0  1931.1  1934.1
                 *

2897             KK    208V
2898             KM   Sub-Basin   208V
2899             KM
2900             KM      The Clark Unit Hydrograph is used for this basin.
2901             KM          The Natural time-area relation is used for this basin.
2902             KM
2903             KM      Time of Concentration for this sub-basin is based on the following:
2904             KM          6-Hour Rainfall, Pattern No.  1.00
2905             KM          An rainfall areal reduction factor of 1.000
2906             KM
2907             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2908             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
2909        KM   .47 .46 .46 .15 .12 .11 .05 .05 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
2910        KM
2911        KM          L=   0.354 miles, S=  319 feet/mile, Kb= .12
2912        KM
2913        BA   0.028
2914        LG    0.15    0.38    6.40    0.17   25.00
2915        UC   0.196   0.203
2916        UA       0       3       5       8      12      20      43      75      90      96
2917        UA     100
            *

2918        KK    C575
2919        KM      Hydrograph combine 574575 + 208V at C575
2920        HC       2
            *

2921        KK  575576
2922        KM      Normal depth channel route from C575 to C576
2923        KM      Source:  HEC-2 Cross Section: MO 0.307
2924        RS       2    FLOW      -1
2925        RC   0.070   0.050   0.055  2342.0  0.0423
2926        RX  9973.7  9974.0  9986.7 10000.0 10000.5 10009.7 10026.7 10037.3
2927        RY  1861.6  1861.5  1855.0  1853.0  1853.1  1854.8  1863.0  1867.1
            *

2928        KK    208W
2929        KM   Sub-Basin   208W
2930        KM
2931        KM      The Clark Unit Hydrograph is used for this basin.
2932        KM          The Natural time-area relation is used for this basin.
2933        KM
2934        KM      Time of Concentration for this sub-basin is based on the following:
2935        KM          6-Hour Rainfall, Pattern No.  1.00
```



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

2936        KM          An rainfall areal reduction factor of 0.999
2937        KM
2938        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2939        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2940        KM   .46 .46 .45 .15 .11 .11 .05 .05 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
2941        KM
2942        KM          L=   0.475 miles, S=  288 feet/mile, Kb= .11
2943        KM
2944        BA   0.050
2945        LG    0.15    0.39    6.20    0.18   22.70
2946        UC   0.225   0.214
2947        UA       0       3       5       8      12      20      43      75      90      96
2948        UA     100
            *

2949        KK    C576
2950        KM      Hydrograph combine 575576 + 208W at C576
2951        HC       2
            *

2952        KK  576577
2953        KM      Normal depth channel route from C576 to C577
2954        KM      Source:  HEC-2 Cross Section: MO 0.116
2955        RS       1    FLOW      -1
2956        RC   0.070   0.050   0.055   740.0  0.0338
2957        RX  9915.1  9960.0  9985.5 10000.0 10000.1 10007.0 10023.3 10023.4
2958        RY  1826.5  1826.4  1814.5  1812.3  1812.3  1814.8  1830.3  1830.4
            *
            * *
            * * 576577 is the total flow in Montezuna Wash just upstream of the confluence
            * * with Bristol Wash
            * *
            *

2959        KK    C577
2960        KM      Hydrograph combine C577L + 576577 at C570
2961        HC       2
            *
            * *
            * * C577 is the total flow in Bristol Wash downstream of the confluence
            * * with Montezuma Wash
            * *
            *

2962        KK  577578
2963        KM      Normal depth channel route from C577 to C578
2964        KM      Source:  HEC-2 Cross Section: BR 1.099
2965        RS       2    FLOW      -1
2966        RC   0.055   0.045   0.055  1078.0  0.0147
2967        RX  9865.3  9956.6  9991.1 10010.2 10034.3 10063.4 10139.7 10201.7
2968        RY  1821.8  1810.8  1793.2  1792.5  1795.5  1796.1  1813.8  1822.8
```

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

2969            KK    208X
2970            KM   Sub-Basin   208X
2971            KM
2972            KM      The Clark Unit Hydrograph is used for this basin.
2973            KM          The Natural time-area relation is used for this basin.
2974            KM
2975            KM      Time of Concentration for this sub-basin is based on the following:
2976            KM          6-Hour Rainfall, Pattern No.  1.00
2977            KM          An rainfall areal reduction factor of 0.999
2978            KM
2979            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2980            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2981            KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
2982            KM
2983            KM          L=   0.417 miles, S=  223 feet/mile, Kb= .10
2984            KM
2985            BA   0.075
2986            LG    0.17    0.38    5.60    0.23   23.90
2987            UC   0.217   0.147
2988            UA       0       3       5       8      12      20      43      75      90      96
2989            UA     100
                *

2990            KK   C578I
2991            KM      Hydrograph combine 577578 + 208X at C578I
2992            HC       2
                *
                * *
                * * C578I is the total flow in Bristol Wash upstream of Dam 11
                * *
                *

2993            KK   C578O
2994            KM      Reservoir route at C578 (Dam 11).
2995            RS       1    ELEV  1779.2
2996            SV    0.00   16.38   31.30   53.65   84.39  126.17  138.00  143.00  147.00  154.47
2997            SV  161.00  167.00  174.00  181.00  187.43  194.00  202.00  205.00
2998            SE  1779.2  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2  1811.6  1812.0
2999            SE  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
3000            SQ       0     131     181     221     254     283     305     325     328     366
3001            SQ     522     812    1194    1651    2176    2763    3406    4104    4855    5250
3002            SE  1779.2  1786.0  1790.0  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2
3003            SE  1811.6  1812.0  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
3004            RL                   0.97
                *
                * *
                * * End Basin 208.  Rejoin Basin 210
                * *
                *
```



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

3005            KK  578587
3006            KM      Normal depth channel route from C578 to C587
3007            KM      Source:  HEC-2 Cross Section: BR 0.697
3008            RS       3    FLOW      -1
3009            RC   0.055   0.045   0.055  1628.0  0.0191
3010            RX  9926.4  9949.5  9960.1  9984.7 10000.0 10014.1 10031.5 10049.4
3011            RY  1763.0  1762.6  1761.8  1757.0  1757.1  1756.9  1761.4  1768.1
                *

3012            KK    210B
3013            KM   Sub-Basin   210B
3014            KM
3015            KM      The Clark Unit Hydrograph is used for this basin.
3016            KM          The HEC-1 time-area relation is used for this basin.
3017            KM
3018            KM      Time of Concentration for this sub-basin is based on the following:
3019            KM          6-Hour Rainfall, Pattern No.  1.00
3020            KM          An rainfall areal reduction factor of 0.999
3021            KM
3022            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3023            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3024            KM   .45 .45 .44 .14 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
3025            KM
3026            KM          L=   0.930 miles, S=  251 feet/mile, Kb= .10
3027            KM
3028            BA   0.107
3029            LG    0.15    0.39    5.80    0.20    9.50
3030            UC   0.342   0.379
```

```
                *
3031            KK   C586O
3032            KM      Reservoir route at C586.
3033            RS       1    ELEV  1804.4
3034            SV    0.00    0.05    0.36    1.09    2.45    4.45    7.00    9.50    9.60   10.00
3035            SV   10.34   10.70   11.20   11.60   12.10   12.50
3036            SE  1804.4  1806.0  1808.0  1810.0  1812.0  1814.0  1816.0 1817.55  1817.6  1817.8
3037            SE  1818.0  1818.2  1818.4  1818.6  1818.8  1819.0
3038            SQ       0      37     130     219     284     322     353     375     377     393
3039            SQ     432     492     574     680     808     959
                *

3040            KK  586587
3041            KM      Normal depth channel route from C586 to C587
3042            KM      Source:  200 Scale Mapping
3043            RS       3    FLOW      -1
3044            RC   0.040   0.035   0.040  1905.0  0.0313
3045            RX  1000.0  1020.0  1050.0  1055.0  1065.0  1070.0  1130.0  1150.0
3046            RY  1782.0  1780.0  1772.0  1771.0  1771.0  1772.0  1778.0  1782.0
                *
1                                          HEC-1 INPUT                                          PAGE 71

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

3047            KK    C587
3048            KM      Hydrograph combine 578587 + 586587 at C578
3049            HC       2
                *

3050            KK  587595
3051            KM      Normal depth channel route from C587 to C595
3052            KM      Source:  HEC-2 Cross Section: BR 0.533
3053            RS       2    FLOW      -1
3054            RC   0.055   0.045   0.055  1039.0  0.0173
3055            RX  9977.2  9980.4  9983.6  9989.9 10009.9 10020.3 10028.8 10037.3
3056            RY  1745.2  1744.0  1742.8  1740.3  1740.3  1742.4  1743.0  1743.6
                *

3057            KK    210C
3058            KM   Sub-Basin   210C
3059            KM
3060            KM      The Clark Unit Hydrograph is used for this basin.
3061            KM          The Natural time-area relation is used for this basin.
3062            KM
3063            KM      Time of Concentration for this sub-basin is based on the following:
3064            KM          6-Hour Rainfall, Pattern No.  1.00
3065            KM          An rainfall areal reduction factor of 0.999
3066            KM
3067            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3068            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3069            KM   .44 .43 .43 .12 .08 .06 .03 .02 .02 .01 .01 .01 .00 .00 .00 .00 .00 .00
3070            KM
3071            KM          L=   0.637 miles, S=  198 feet/mile, Kb= .09
3072            KM
3073            BA   0.082
3074            LG    0.21    0.35    4.80    0.32    7.00
3075            UC   0.275   0.257
3076            UA       0       3       5       8      12      20      43      75      90      96
3077            UA     100
                *

3078            KK   C595L
3079            KM      Hydrograph combine 587595 + 210C at C595 left branch
3080            HC       2
                *
                * *
                * * C595L is the total flow in Bristol Wash upstream of the confluence
                * * with Longmont Wash
                * *
                * * Start Longmont Wash Left Branch
                * *
                *
1                                          HEC-1 INPUT                                          PAGE 72

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

3081            KK    210D
3082            KM   Sub-Basin   210D
3083            KM
3084            KM      The Clark Unit Hydrograph is used for this basin.
3085            KM          The Natural time-area relation is used for this basin.
3086            KM
3087            KM      Time of Concentration for this sub-basin is based on the following:
3088            KM          6-Hour Rainfall, Pattern No.  1.00
3089            KM          An rainfall areal reduction factor of 0.998
```

```
3090        KM
3091        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3092        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3093        KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .02 .02 .00 .00 .00 .00 .00 .00
3094        KM
3095        KM          L=   0.832 miles, S=  325 feet/mile, Kb= .11
3096        KM
3097        BA   0.140
3098        LG    0.18    0.39    5.80    0.20   18.70
3099        UC   0.300   0.258
3100        UA       0       3       5       8      12      20      43      75      90      96
3101        UA     100
            *

3102        KK  588590
3103        KM      Normal depth channel route from C588 to C590
3104        KM      Source:  HEC-2 Cross Section: LO-LB1 0.128
3105        RS       2    FLOW      -1
3106        RC   0.065   0.050   0.060  1117.0  0.0340
3107        RX  9931.7  9960.6  9984.9 10005.7 10019.1 10033.8 10151.6 10172.9
3108        RY  1839.3  1833.5  1825.9  1824.7  1825.9  1828.8  1832.9  1838.0
            *

3109        KK    210E
3110        KM   Sub-Basin   210E
3111        KM
3112        KM      The Clark Unit Hydrograph is used for this basin.
3113        KM          The Natural time-area relation is used for this basin.
3114        KM
3115        KM      Time of Concentration for this sub-basin is based on the following:
3116        KM          6-Hour Rainfall, Pattern No.  1.00
3117        KM          An rainfall areal reduction factor of 1.000
3118        KM
3119        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3120        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3121        KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .01 .00 .00 .00 .00 .00 .00 .00
3122        KM
3123        KM          L=   0.339 miles, S=  151 feet/mile, Kb= .12
3124        KM
3125        BA   0.028
3126        LG    0.15    0.36    6.80    0.14    0.00
3127        UC   0.246   0.254
3128        UA       0       3       5       8      12      20      43      75      90      96
3129        UA     100
            *
```



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

3130        KK   C590L
3131        KM      Hydrograph combine 588590 + 210E at C590 left branch
3132        HC       2
            *
            * *
            * * C590L is the total flow in Longmont Wash Left Branch upstream of the
            * * confluence with Longmont Wash
            * *
            * * Start Longmont Wash
            * *
            *

3133        KK    210F
3134        KM   Sub-Basin   210F
3135        KM
3136        KM      The Clark Unit Hydrograph is used for this basin.
3137        KM          The Natural time-area relation is used for this basin.
3138        KM
3139        KM      Time of Concentration for this sub-basin is based on the following:
3140        KM          6-Hour Rainfall, Pattern No.  1.00
3141        KM          An rainfall areal reduction factor of 0.999
3142        KM
3143        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3144        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3145        KM   .45 .44 .44 .13 .10 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3146        KM
3147        KM          L=   0.668 miles, S=  349 feet/mile, Kb= .15
3148        KM
3149        BA   0.093
3150        LG    0.25    0.35    4.40    0.39   34.40
3151        UC   0.317   0.290
3152        UA       0       3       5       8      12      20      43      75      90      96
3153        UA     100
            *

3154        KK  589590
3155        KM      Normal depth channel route from C589 to C590
3156        KM      Source:  HEC-2 Cross Section: LO 0.813
```

```
3157          RS       2    FLOW      -1
3158          RC   0.065   0.050   0.060  1751.0  0.0423
3159          RX  9957.0  9963.5  9984.5  9996.1 10008.8 10017.4 10040.1 10060.8
3160          RY  1843.8  1842.9  1837.0  1831.2  1830.6  1836.1  1838.3  1842.1
              *

3161          KK    210G
3162          KM   Sub-Basin   210G
3163          KM
3164          KM      The Clark Unit Hydrograph is used for this basin.
3165          KM          The Natural time-area relation is used for this basin.
3166          KM
3167          KM      Time of Concentration for this sub-basin is based on the following:
3168          KM          6-Hour Rainfall, Pattern No.  1.00
3169          KM          An rainfall areal reduction factor of 0.998
3170          KM
1                                        HEC-1 INPUT                                          PAGE 74

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

3171          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3172          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3173          KM   .45 .45 .45 .14 .10 .09 .04 .04 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
3174          KM
3175          KM          L=   0.969 miles, S=  333 feet/mile, Kb= .13
3176          KM
3177          BA   0.162
3178          LG    0.22    0.37    5.30    0.25   24.20
3179          UC   0.375   0.343
3180          UA       0       3       5       8      12      20      43      75      90      96
3181          UA     100
              *

3182          KK   C590R
3183          KM      Hydrograph combine 589590 + 210G at C590 right branch
3184          HC       2
              *
              * * NOTE: 590593 is too short to route
              * *
              * * C590R is the total flow in Longmont Wash upstream of the confluence
              * * with Longmont Wash Left Branch
              * *
              *

3185          KK    C590
3186          KM      Hydrograph combine C590L + C590R at C590
3187          HC       2
              *
              * * C590 is the total flow in Longmont Wash upstream of the confluence
              * * Longmont Wash Right Branch
              * *
              * * Start Longmont Wash Right Branch
              * *
              *

3188          KK    210H
3189          KM   Sub-Basin   210H
3190          KM
3191          KM      The Clark Unit Hydrograph is used for this basin.
3192          KM          The Natural time-area relation is used for this basin.
3193          KM
3194          KM      Time of Concentration for this sub-basin is based on the following:
3195          KM          6-Hour Rainfall, Pattern No.  1.00
3196          KM          An rainfall areal reduction factor of 0.999
3197          KM
3198          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3199          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3200          KM   .45 .44 .44 .13 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
3201          KM
3202          KM          L=   0.565 miles, S=  340 feet/mile, Kb= .11
3203          KM
3204          BA   0.070
3205          LG    0.16    0.39    6.20    0.19    6.70
3206          UC   0.238   0.217
3207          UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE 75

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

3208          UA     100
              *

3209          KK  592593
3210          KM      Normal depth channel route from C592 to C593
3211          KM      Source:  HEC-2 Cross Section: LO-RB1 0.027
3212          RS       3    FLOW      -1
3213          RC   0.065   0.050   0.060  2062.0  0.0412
3214          RX  9920.6  9964.0  9984.7  9996.1 10003.9 10025.4 10041.1 10057.9
```

```
3215        RY  1820.0  1804.5  1801.2  1797.3  1797.3  1808.5  1818.3  1820.1
            *
            * *
            * * 592593 is the total flow in Longmont Wash Right Branch upstream
            * * of the confluence with Longmont Wash
            * *
            *

3216        KK    C593
3217        KM      Hydrograph combine C590 + C593R at C593
3218        HC       2
            *
            * *
            * * C593 is the total flow in Longmont Wash below the confluence with
            * * Longmont Wash Right Branch
            * *
            *

3219        KK  593594
3220        KM      Normal depth channel route from C593 to C594
3221        KM      Source:  HEC-2 Cross Section: LO0.413
3222        RS       2    FLOW      -1
3223        RC   0.065   0.050   0.060   988.0  0.0202
3224        RX  9937.2  9958.5  9981.7  9992.8 10007.7 10024.4 10041.9 10067.8
3225        RY  1783.6  1773.5  1773.9  1771.3  1771.2  1774.5  1778.7  1788.7
            *

3226        KK    210I
3227        KM   Sub-Basin   210I
3228        KM
3229        KM      The Clark Unit Hydrograph is used for this basin.
3230        KM          The Natural time-area relation is used for this basin.
3231        KM
3232        KM      Time of Concentration for this sub-basin is based on the following:
3233        KM          6-Hour Rainfall, Pattern No.  1.00
3234        KM          An rainfall areal reduction factor of 0.999
3235        KM
3236        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3237        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3238        KM   .47 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .01 .00 .00 .00 .00 .00 .00
3239        KM
3240        KM          L=   0.634 miles, S=  250 feet/mile, Kb= .11
3241        KM
3242        BA   0.049
3243        LG    0.15    0.32    7.60    0.11    0.00
3244        UC   0.279   0.347
```



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

3245        UA       0       3       5       8      12      20      43      75      90      96
3246        UA     100
            *

3247        KK    C594
3248        KM      Hydrograph combine 593594 + 210I at C594
3249        HC       2
            *

3250        KK  594595
3251        KM      Normal depth channel route from C594 to C595
3252        KM      Source:  HEC-2 Cross Section: LO 0.184
3253        RS       6    FLOW      -1
3254        RC   0.065   0.050   0.060  2093.0  0.0201
3255        RX  9814.0  9836.5  9878.5  9988.2  9994.1 10010.9 10030.4 10030.5
3256        RY  1769.3  1766.6  1752.8  1750.6  1747.9  1749.2  1770.5  1770.6
            *

3257        KK    210J
3258        KM   Sub-Basin   210J
3259        KM
3260        KM      The Clark Unit Hydrograph is used for this basin.
3261        KM          The Natural time-area relation is used for this basin.
3262        KM
3263        KM      Time of Concentration for this sub-basin is based on the following:
3264        KM          6-Hour Rainfall, Pattern No.  1.00
3265        KM          An rainfall areal reduction factor of 0.999
3266        KM
3267        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3268        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3269        KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .01 .00 .00 .00 .00 .00 .00 .00 .00
3270        KM
3271        KM          L=   0.684 miles, S=  187 feet/mile, Kb= .10
3272        KM
3273        BA   0.103
3274        LG    0.15    0.37    6.60    0.15    0.00
3275        UC   0.313   0.274
3276        UA       0       3       5       8      12      20      43      75      90      96
```

```
3277          UA     100
              *

3278          KK   C595R
3279          KM      Hydrograph combine 594595 + 210J at C595
3280          HC       2
              *
              * *
              * * C595R is the total flow in Longmont Wash upstream of the confluence
              * * with Bristol Wash
              * *
              *
1                                          HEC-1 INPUT                                                    PAGE 77

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


3281          KK    C595
3282          KM      Hydrograph combine C595L + C595R at C595
3283          HC       2
              *
              * *
              * * C595 is the total flow in Bristol Wash just downstream of the
              * * confluence with Longmont Wash
              * *
              *

3284          KK  595596
3285          KM      Normal depth channel route from C595 to C596
3286          KM      Source:  HEC-2 Cross Section: BR0.290
3287          RS       3    FLOW      -1
3288          RC   0.055   0.045   0.055  1095.0  0.0110
3289          RX  9886.8  9904.8  9948.0 10000.0 10032.4 10081.5 10107.3 10130.4
3290          RY  1727.2  1724.1  1725.9  1720.2  1725.6  1725.3  1721.3  1731.4
              *

3291          KK    210K
3292          KM   Sub-Basin   210K
3293          KM
3294          KM      The Clark Unit Hydrograph is used for this basin.
3295          KM          The Natural time-area relation is used for this basin.
3296          KM
3297          KM      Time of Concentration for this sub-basin is based on the following:
3298          KM          6-Hour Rainfall, Pattern No.  1.00
3299          KM          An rainfall areal reduction factor of 0.999
3300          KM
3301          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3302          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3303          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .01 .00 .00 .00 .00 .00 .00 .00 .00
3304          KM
3305          KM          L=   0.425 miles, S=  207 feet/mile, Kb= .10
3306          KM
3307          BA   0.077
3308          LG    0.18    0.37    6.60    0.15    0.10
3309          UC   0.225   0.154
3310          UA       0       3       5       8      12      20      43      75      90      96
3311          UA     100
              *

3312          KK    C596
3313          KM      Hydrograph combine 595596 + 210K at C596
3314          HC       2
              *
              * *
              * * C596 is the total flow in Bristol Wash at Golden Eagle Blvd.
              * * upstream of DAM 4
              * *
              * * Leave Basin 210 temporarily and move to Basin 209
              * *
              * * Start Cloudburst Wash
              *
1                                          HEC-1 INPUT                                                    PAGE 78

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


3315          KK    209A
3316          KM   Sub-Basin   209A
3317          KM
3318          KM      The Clark Unit Hydrograph is used for this basin.
3319          KM          The Natural time-area relation is used for this basin.
3320          KM
3321          KM      Time of Concentration for this sub-basin is based on the following:
3322          KM          6-Hour Rainfall, Pattern No.  1.00
3323          KM          An rainfall areal reduction factor of 0.995
3324          KM
3325          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3326          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
3327        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3328        KM
3329        KM          L=   1.028 miles, S=  367 feet/mile, Kb= .13
3330        KM
3331        BA   0.368
3332        LG    0.25    0.35    4.35    0.40   35.00
3333        UC   0.379   0.228
3334        UA       0       3       5       8      12      20      43      75      90      96
3335        UA     100
            *

3336        KK  579580
3337        KM      Normal depth channel route from C579 to C580
3338        KM      Source:  100 Scale 4' CI Mapping
3339        RS       2    FLOW      -1
3340        RC   0.050   0.045   0.050  1751.0  0.0600
3341        RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1045.0  1048.0
3342        RY  2336.0  2332.0  2328.0  2327.5  2327.5  2328.0  2332.0  2336.0
            *

3343        KK    209C
3344        KM   Sub-Basin   209C
3345        KM
3346        KM      The Clark Unit Hydrograph is used for this basin.
3347        KM          The Natural time-area relation is used for this basin.
3348        KM
3349        KM      Time of Concentration for this sub-basin is based on the following:
3350        KM          6-Hour Rainfall, Pattern No.  1.00
3351        KM          An rainfall areal reduction factor of 0.999
3352        KM
3353        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3354        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3355        KM   .45 .44 .44 .13 .10 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3356        KM
3357        KM          L=   0.723 miles, S=  342 feet/mile, Kb= .15
3358        KM
3359        BA   0.064
3360        LG    0.25    0.35    4.35    0.40   35.00
3361        UC   0.338   0.410
3362        UA       0       3       5       8      12      20      43      75      90      96
3363        UA     100
            *
```



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

3364        KK   C580R
3365        KM      Hydrograph combine 579580 + 209C at C580 right branch
3366        HC       2
            *

3367        KK    209B
3368        KM   Sub-Basin   209B
3369        KM
3370        KM      The Clark Unit Hydrograph is used for this basin.
3371        KM          The Natural time-area relation is used for this basin.
3372        KM
3373        KM      Time of Concentration for this sub-basin is based on the following:
3374        KM          6-Hour Rainfall, Pattern No.  1.00
3375        KM          An rainfall areal reduction factor of 0.999
3376        KM
3377        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3378        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3379        KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3380        KM
3381        KM          L=   0.716 miles, S=  403 feet/mile, Kb= .15
3382        KM
3383        BA   0.083
3384        LG    0.25    0.35    4.35    0.40   35.00
3385        UC   0.313   0.321
3386        UA       0       3       5       8      12      20      43      75      90      96
3387        UA     100
            *

3388        KK    C580
3389        KM      Hydrograph combine 580R + 209B at C580
3390        HC       2
            *

3391        KK  580581
3392        KM      Normal depth channel route from C580 to C581
3393        KM      Source:  100 Scale 4' CI Mapping
3394        RS       3    FLOW      -1
3395        RC   0.050   0.045   0.050  2339.0  0.0440
3396        RX  1000.0  1010.0  1025.0  1030.0  1040.0  1045.0  1070.0  1075.0
3397        RY  2452.0  2448.0  2444.0  2443.5  2443.5  2444.0  2448.0  2452.0
            *
```

```
3398          KK    209D
3399          KM   Sub-Basin   209D
3400          KM
3401          KM      The Clark Unit Hydrograph is used for this basin.
3402          KM          The Natural time-area relation is used for this basin.
3403          KM
3404          KM      Time of Concentration for this sub-basin is based on the following:
3405          KM          6-Hour Rainfall, Pattern No.  1.00
3406          KM          An rainfall areal reduction factor of 0.997
3407          KM
3408          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3409          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                                    PAGE 80

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

3410          KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3411          KM
3412          KM          L=   0.800 miles, S=  354 feet/mile, Kb= .13
3413          KM
3414          BA   0.244
3415          LG    0.25    0.35    4.35    0.42   35.00
3416          UC   0.325   0.199
3417          UA       0       3       5       8      12      20      43      75      90      96
3418          UA     100
              *

3419          KK   C581R
3420          KM      Hydrograph combine 580581 + 209D at C581 right branch
3421          HC       2
              *

3422          KK    209E
3423          KM   Sub-Basin   209E
3424          KM
3425          KM      The Clark Unit Hydrograph is used for this basin.
3426          KM          The Natural time-area relation is used for this basin.
3427          KM
3428          KM      Time of Concentration for this sub-basin is based on the following:
3429          KM          6-Hour Rainfall, Pattern No.  1.00
3430          KM          An rainfall areal reduction factor of 0.998
3431          KM
3432          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3433          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3434          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3435          KM
3436          KM          L=   1.018 miles, S=  341 feet/mile, Kb= .14
3437          KM
3438          BA   0.149
3439          LG    0.25    0.35    4.35    0.40   35.00
3440          UC   0.408   0.411
3441          UA       0       3       5       8      12      20      43      75      90      96
3442          UA     100
              *

3443          KK    C581
3444          KM      Hydrograph combine 581R + 209E at C581
3445          HC       2
              *

3446          KK  581582
3447          KM      Normal depth channel route from C581 to C582
3448          KM      Source:  100 Scale 4' CI Mapping
3449          RS       3    FLOW      -1
3450          RC   0.050   0.045   0.050  4012.0  0.0459
3451          RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1050.0  1065.0
3452          RY  2100.0  2096.0  2092.0  2091.5  2091.5  2092.0  2096.0  2100.0
              *
1                                          HEC-1 INPUT                                                    PAGE 81

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

3453          KK    209F
3454          KM   Sub-Basin   209F
3455          KM
3456          KM      The Clark Unit Hydrograph is used for this basin.
3457          KM          The Natural time-area relation is used for this basin.
3458          KM
3459          KM      Time of Concentration for this sub-basin is based on the following:
3460          KM          6-Hour Rainfall, Pattern No.  1.00
3461          KM          An rainfall areal reduction factor of 0.997
3462          KM
3463          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3464          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3465          KM   .45 .44 .44 .13 .09 .07 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3466          KM
```

```
3467          KM          L=   1.191 miles, S=  332 feet/mile, Kb= .13
3468          KM
3469          BA   0.226
3470          LG    0.24    0.35    4.50    0.39   30.90
3471          UC   0.438   0.397
3472          UA       0       3       5       8      12      20      43      75      90      96
3473          UA     100
              *

3474          KK   C582R
3475          KM      Hydrograph combine 581582 + 209F at C582 right branch
3476          HC       2
              *

3477          KK    209G
3478          KM   Sub-Basin   209G
3479          KM
3480          KM      The Clark Unit Hydrograph is used for this basin.
3481          KM          The Natural time-area relation is used for this basin.
3482          KM
3483          KM      Time of Concentration for this sub-basin is based on the following:
3484          KM          6-Hour Rainfall, Pattern No.  1.00
3485          KM          An rainfall areal reduction factor of 0.997
3486          KM
3487          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3488          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3489          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3490          KM
3491          KM          L=   1.050 miles, S=  306 feet/mile, Kb= .14
3492          KM
3493          BA   0.204
3494          LG    0.25    0.35    4.35    0.40   35.00
3495          UC   0.438   0.381
3496          UA       0       3       5       8      12      20      43      75      90      96
3497          UA     100
              *
```



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

3498          KK    C582
3499          KM      Hydrograph combine C582R + 209G at C582
3500          HC       2
              *

3501          KK  582583
3502          KM      Normal depth channel route from C582 to C583
3503          KM      Source:  100 Scale 4' CI Mapping.
3504          RS       2    FLOW      -1
3505          RC   0.060   0.050   0.060  1725.0  0.0232
3506          RX   960.0  1020.0  1035.0  1040.0  1050.0  1055.0  1065.0  1073.0
3507          RY  2024.0  2018.0  2016.0  2015.5  2015.5  2016.0  2020.0  2024.0
              *

3508          KK    209H
3509          KM   Sub-Basin   209H
3510          KM
3511          KM      The Clark Unit Hydrograph is used for this basin.
3512          KM          The Natural time-area relation is used for this basin.
3513          KM
3514          KM      Time of Concentration for this sub-basin is based on the following:
3515          KM          6-Hour Rainfall, Pattern No.  1.00
3516          KM          An rainfall areal reduction factor of 0.999
3517          KM
3518          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3519          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3520          KM   .45 .45 .44 .13 .10 .09 .04 .04 .03 .02 .02 .02 .00 .00 .00 .00 .00 .00
3521          KM
3522          KM          L=   0.542 miles, S=  343 feet/mile, Kb= .12
3523          KM
3524          BA   0.083
3525          LG    0.18    0.38    5.60    0.24   18.30
3526          UC   0.242   0.193
3527          UA       0       3       5       8      12      20      43      75      90      96
3528          UA     100
              *

3529          KK    C583
3530          KM      Hydrograph combine 582583 + 209H at C583
3531          HC       2
              *

3532          KK  583584
3533          KM      Normal depth channel route from C583 to C584
3534          KM      Source:  HEC-2 Cross Section: CL 1.664
3535          RS       4    FLOW      -1
3536          RC   0.055   0.070   0.055  3107.0  0.0356
```

```
3537          RX  9859.8  9910.3  9933.5  9995.6 10021.7 10051.0 10083.0 10127.8
3538          RY  1948.3  1944.2  1943.7  1930.9  1932.4  1941.6  1937.3  1945.2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


3539          KK    209I
3540          KM   Sub-Basin   209I
3541          KM
3542          KM      The Clark Unit Hydrograph is used for this basin.
3543          KM          The Natural time-area relation is used for this basin.
3544          KM
3545          KM      Time of Concentration for this sub-basin is based on the following:
3546          KM          6-Hour Rainfall, Pattern No.  1.00
3547          KM          An rainfall areal reduction factor of 0.998
3548          KM
3549          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3550          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3551          KM   .45 .45 .44 .14 .10 .09 .04 .04 .03 .01 .00 .00 .00 .00 .00 .00 .00 .00
3552          KM
3553          KM          L=   0.691 miles, S=  347 feet/mile, Kb= .10
3554          KM
3555          BA   0.182
3556          LG    0.15    0.40    6.00    0.18    5.30
3557          UC   0.246   0.153
3558          UA       0       3       5       8      12      20      43      75      90      96
3559          UA     100
              *

3560          KK   C584I
3561          KM      Hydrograph combine 583584 + 209I at C584I
3562          HC       2
              *
              * *
              * * C584I is the total flow in Cloudburst Wash upstream of Dam 7
              * *
              *

3563          KK   C584O
3564          KM      Reservoir route at C584 (Dam 7).
3565          RS       1    ELEV  1884.8
3566          SV    0.00   14.55   37.17   57.52   86.65   94.00   97.00  101.00  104.90  109.00
3567          SV  113.00  118.00  122.00  126.25  131.00  133.00  136.00  139.00
3568          SE  1884.8  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6  1926.0  1926.4
3569          SE  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
3570          SQ       0     135     223     285     326     341     355     358     385     493
3571          SQ     704    1007    1394    1852    2374    2956    3596    3937    4292    4661
3572          SE  1884.8  1892.0  1900.0  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6
3573          SE  1926.0  1926.4  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
3574          RL                    0.15
              *
              * *
              * * End Basin 209.  Rejoin Basin 210
              * *
              *
1                                       HEC-1 INPUT                                                    PAGE 84

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


3575          KK  584597
3576          KM      Normal depth channel route from C584 to C597
3577          KM      Source:  HEC-2 Cross Section: CL 1.032
3578          RS       8    FLOW      -1
3579          RC   0.065   0.050   0.065  3704.0  0.0261
3580          RX  9902.1  9923.0  9938.7  9984.6 10049.3 10056.0 10091.7 10120.0
3581          RY  1839.1  1830.1  1826.6  1824.1  1824.9  1826.7  1828.5  1838.8
              *

3582          KK    210L
3583          KM   Sub-Basin   210L
3584          KM
3585          KM      The Clark Unit Hydrograph is used for this basin.
3586          KM          The HEC-1 time-area relation is used for this basin.
3587          KM
3588          KM      Time of Concentration for this sub-basin is based on the following:
3589          KM          6-Hour Rainfall, Pattern No.  1.00
3590          KM          An rainfall areal reduction factor of 0.998
3591          KM
3592          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3593          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3594          KM   .43 .43 .42 .11 .08 .06 .02 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
3595          KM
3596          KM          L=   0.820 miles, S=  251 feet/mile, Kb= .09
3597          KM
3598          BA   0.137
```

```
3599          LG    0.18    0.37    5.20    0.28    0.00
3600          UC   0.300   0.257
              *

3601          KK    C597
3602          KM      Hydrograph combine 584597 + 210L at C597
3603          HC       2
              *

3604          KK  597598
3605          KM      Normal depth channel route from C597 to C598
3606          KM      Source:  HEC-2 Cross Section: CL 0.328
3607          RS       5    FLOW      -1
3608          RC   0.065   0.050   0.065  2822.0  0.0252
3609          RX  9961.0  9961.9  9969.1  9986.3 10018.5 10082.6 10155.2 10278.8
3610          RY  1740.2  1740.2  1738.1  1731.6  1732.3  1737.1  1740.0  1740.8
              *

3611          KK    210M
3612          KM   Sub-Basin   210M
3613          KM
3614          KM      The Clark Unit Hydrograph is used for this basin.
3615          KM          The Natural time-area relation is used for this basin.
3616          KM
3617          KM      Time of Concentration for this sub-basin is based on the following:
3618          KM          6-Hour Rainfall, Pattern No.  1.00
3619          KM          An rainfall areal reduction factor of 0.998
3620          KM
```



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

3621          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3622          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3623          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
3624          KM
3625          KM          L=   1.022 miles, S=  232 feet/mile, Kb= .09
3626          KM
3627          BA   0.162
3628          LG    0.18    0.39    5.80    0.20    0.10
3629          UC   0.354   0.335
3630          UA       0       3       5       8      12      20      43      75      90      96
3631          UA     100
              *

3632          KK    C598
3633          KM      Hydrograph combine 597598 + 210M at C598
3634          HC       2
              *
              * *
              * * C598 is the total flow in Cloudburst Wash at Golden Eagle Blvd.
              * * upstream of DAM 4
              * *
              *

3635          KK    210N
3636          KM   Sub-Basin   210N
3637          KM
3638          KM      The Clark Unit Hydrograph is used for this basin.
3639          KM          The Natural time-area relation is used for this basin.
3640          KM
3641          KM      Time of Concentration for this sub-basin is based on the following:
3642          KM          6-Hour Rainfall, Pattern No.  1.00
3643          KM          An rainfall areal reduction factor of 0.999
3644          KM
3645          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3646          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3647          KM   .42 .42 .41 .10 .06 .04 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
3648          KM
3649          KM          L=   0.309 miles, S=  178 feet/mile, Kb= .08
3650          KM
3651          BA   0.049
3652          LG    0.26    0.35    4.10    0.46   10.40
3653          UC   0.183   0.123
3654          UA       0       3       5       8      12      20      43      75      90      96
3655          UA     100
              *

3656          KK   C599I
3657          KM      Hydrograph combine C585 + C596 + C598 + 210N at C599I
3658          HC       4
              *
              * *
              * * C599I is the total flow in Ashbrook Wash upstream of DAM 4
              * *
              *
```

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

3659          KK   C599O
3660          KM      Reservoir route at C599 (Dam 4).
3661          RS       1    ELEV  1694.7
3662          SV    0.00   16.85   31.66   52.71   80.85   95.00   98.00  102.00  105.00  109.00
3663          SV  113.00  116.14  120.00  124.00  128.00  136.00  139.00  144.00  148.00  152.00
3664          SE  1694.7  1708.0  1710.0  1712.0  1714.0  1714.8  1715.0  1715.2  1715.4  1715.6
3665          SE  1715.8  1716.0  1716.2  1716.4  1716.6  1717.0  1717.2  1717.4  1717.6  1717.8
3666          SQ       0      77     180     367     589     803    1001    1176    1331    1470
3667          SQ    1595    1625    1647    1695    3011    7421   14322   22656   28975   32522
3668          SE  1694.5  1696.0  1698.0  1700.0  1702.0  1704.0  1706.0  1708.0  1710.0  1712.0
3669          SE  1714.0  1714.5 1714.86  1715.0  1716.0  1717.5  1719.0  1720.5  1721.5  1722.0
3670          RL                    0.97
              *
              * * End Basin 210.  Start Basin 211
              * *
              *

3671          KK  599608
3672          KM      Normal depth channel route from C599 to C608
3673          KM      Source:  HEC-2 Cross Section: AS 3.621
3674          RS       3    FLOW      -1
3675          RC   0.055   0.045   0.025  1476.0  0.0148
3676          RX  9675.4  9726.8  9929.0  9990.7 10005.9 10033.3 10061.9 10082.2
3677          RY  1691.3  1687.2  1685.5  1678.6  1678.1  1682.1  1689.8  1691.8
              *

3678          KK    211K
3679          KM   Sub-Basin   211K
3680          KM
3681          KM      The Clark Unit Hydrograph is used for this basin.
3682          KM          The HEC-1 time-area relation is used for this basin.
3683          KM
3684          KM      Time of Concentration for this sub-basin is based on the following:
3685          KM          6-Hour Rainfall, Pattern No.  1.00
3686          KM          An rainfall areal reduction factor of 0.999
3687          KM
3688          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3689          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3690          KM   .46 .45 .45 .15 .11 .10 .05 .04 .04 .02 .02 .02 .00 .00 .00 .00 .00 .00
3691          KM
3692          KM          L=   0.376 miles, S=  157 feet/mile, Kb= .08
3693          KM
3694          BA   0.102
3695          LG    0.18    0.38    6.00    0.18   17.80
3696          UC   0.204   0.107
              *

3697          KK   C608L
3698          KM      Hydrograph combine 599608 + 211K at C608 left branch
3699          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 87

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

3700          KK    211G
3701          KM   Sub-Basin   211G
3702          KM
3703          KM      The Clark Unit Hydrograph is used for this basin.
3704          KM          The Urban time-area relation is used for this basin.
3705          KM
3706          KM      Time of Concentration for this sub-basin is based on the following:
3707          KM          6-Hour Rainfall, Pattern No.  1.00
3708          KM          An rainfall areal reduction factor of 1.000
3709          KM
3710          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3711          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3712          KM   .50 .50 .50 .19 .16 .16 .08 .08 .08 .08 .08 .08 .02 .02 .02 .02 .02 .02
3713          KM
3714          KM          L=   0.448 miles, S=  190 feet/mile, Kb= .04
3715          KM
3716          BA   0.008
3717          LG    0.06    0.25    5.70    0.18   90.00
3718          UC   0.142   0.359
3719          UA       0       5      16      30      65      77      84      90      94      97
3720          UA     100
              *

3721          KK  604606
3722          KM      Normal depth channel route from C604 to C606
3723          KM      Source:  200 Scale Mapping
3724          RS      11    FLOW      -1
3725          RC   0.040   0.018   0.040  2784.0  0.0647
3726          RX  1000.0  1040.0  1060.0  1076.0  1092.0  1093.2  1098.2  1113.2
```

```
3727          RY  1814.0  1811.0  1810.8  1811.1  1810.8  1811.2  1812.0  1816.0
              *

3728          KK    211I
3729          KM   Sub-Basin   211I
3730          KM
3731          KM      The Clark Unit Hydrograph is used for this basin.
3732          KM          The Natural time-area relation is used for this basin.
3733          KM
3734          KM      Time of Concentration for this sub-basin is based on the following:
3735          KM          6-Hour Rainfall, Pattern No.  1.00
3736          KM          An rainfall areal reduction factor of 0.999
3737          KM
3738          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3739          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3740          KM   .47 .46 .46 .16 .12 .11 .05 .05 .05 .03 .03 .03 .01 .01 .01 .01 .01 .01
3741          KM
3742          KM          L=   0.626 miles, S=  257 feet/mile, Kb= .11
3743          KM
3744          BA   0.041
3745          LG    0.13    0.39    5.70    0.20   35.00
3746          UC   0.271   0.370
3747          UA       0       3       5       8      12      20      43      75      90      96
3748          UA     100
              *
```



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

3749          KK   C606R
3750          KM      Hydrograph combine 604606 + 211I at C606 right branch
3751          HC       2
              *

3752          KK    211H
3753          KM   Sub-Basin   211H
3754          KM
3755          KM      The Clark Unit Hydrograph is used for this basin.
3756          KM          The Natural time-area relation is used for this basin.
3757          KM
3758          KM      Time of Concentration for this sub-basin is based on the following:
3759          KM          6-Hour Rainfall, Pattern No.  1.00
3760          KM          An rainfall areal reduction factor of 0.999
3761          KM
3762          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3763          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3764          KM   .45 .45 .44 .14 .10 .09 .04 .04 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
3765          KM
3766          KM          L=   0.501 miles, S=  289 feet/mile, Kb= .11
3767          KM
3768          BA   0.073
3769          LG    0.15    0.40    6.00    0.18    3.40
3770          UC   0.233   0.187
3771          UA       0       3       5       8      12      20      43      75      90      96
3772          UA     100
              *

3773          KK   C605O
3774          KM      Reservoir route at C605.
3775          RS       1    ELEV  1722.5
3776          SV    0.00    0.20    0.20    0.20    0.20    0.30    0.30    0.30    0.40    0.60
3777          SV    0.70    0.90    1.00    1.20    1.40    1.60    1.90    2.80    3.40    4.10
3778          SE  1722.5  1726.8  1727.0  1727.2  1727.4  1727.6  1727.8  1728.0  1728.2  1728.4
3779          SE  1728.6  1728.8  1729.0  1729.2  1729.4  1729.6  1730.0  1730.4  1730.7  1731.0
3780          SQ       0       0       5      10      20      43      63      73      78      85
3781          SQ      91      96     101     105     109     113     122     130     136     200
              *

3782          KK    C606
3783          KM      Hydrograph combine C606R + C605O at C606
3784          HC       2
              *

3785          KK  606607
3786          KM      Normal depth channel route from C606 to C607
3787          KM      Source:  200 Scale Mapping
3788          RS       2    FLOW      -1
3789          RC   0.020   0.055   0.035  1061.0  0.0286
3790          RX  1000.0  1032.0  1082.0  1095.0  1105.0  1117.0  1123.0  1153.0
3791          RY  1704.3  1704.0  1703.5  1700.0  1700.0  1703.0  1704.0  1706.0
              *
```



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

3792          KK    211J
```

```
3793          KM   Sub-Basin   211J
3794          KM
3795          KM      The Clark Unit Hydrograph is used for this basin.
3796          KM          The HEC-1 time-area relation is used for this basin.
3797          KM
3798          KM      Time of Concentration for this sub-basin is based on the following:
3799          KM          6-Hour Rainfall, Pattern No.  1.00
3800          KM          An rainfall areal reduction factor of 1.000
3801          KM
3802          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3803          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3804          KM   .47 .46 .46 .16 .12 .12 .05 .05 .05 .03 .03 .03 .01 .01 .01 .01 .01 .01
3805          KM
3806          KM          L=   0.249 miles, S=  166 feet/mile, Kb= .11
3807          KM
3808          BA   0.015
3809          LG    0.13    0.37    6.20    0.18   32.40
3810          UC   0.192   0.215
              *

3811          KK    C607
3812          KM      Hydrograph combine 606607 + 211J at C607
3813          HC       2
              *

3814          KK  607608
3815          KM      Normal depth channel route from C607 to C608
3816          KM      Source:  200 Scale Mapping
3817          RS       2    FLOW      -1
3818          RC   0.040   0.050   0.035  1008.0  0.0145
3819          RX  1000.0  1060.0  1070.0  1082.0  1083.0  1095.0  1115.0  1133.0
3820          RY  1688.0  1686.0  1684.0  1681.0  1681.0  1684.0  1685.0  1685.4
              *

3821          KK    C608
3822          KM      Hydrograph combine C608L + 607608 at C608
3823          HC       2
              *

3824          KK  608613
3825          KM      Normal depth channel route from C608 to C613
3826          KM      Source:  HEC-2 Cross Section: AS 3.421
3827          RS       2    FLOW      -1
3828          RC   0.100   0.045   0.100  1338.0  0.0202
3829          RX  9885.0  9887.9  9957.3  9986.7 10012.9 10054.7 10086.3 10122.2
3830          RY  1670.2  1670.1  1668.0  1660.0  1659.9  1661.6  1669.9  1670.8
              *
              * *
              * * Move to the top of Sunflower Wash
              * *
              *
```



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

3831          KK    211M
3832          KM   Sub-Basin   211M
3833          KM
3834          KM      The Clark Unit Hydrograph is used for this basin.
3835          KM          The Natural time-area relation is used for this basin.
3836          KM
3837          KM      Time of Concentration for this sub-basin is based on the following:
3838          KM          6-Hour Rainfall, Pattern No.  1.00
3839          KM          An rainfall areal reduction factor of 0.999
3840          KM
3841          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3842          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3843          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
3844          KM
3845          KM          L=   0.541 miles, S=  266 feet/mile, Kb= .11
3846          KM
3847          BA   0.081
3848          LG    0.13    0.39    5.70    0.21   30.30
3849          UC   0.246   0.199
3850          UA       0       3       5       8      12      20      43      75      90      96
3851          UA     100
              *

3852          KK  610611
3853          KM      Normal depth channel route from C610 to 1611
3854          KM      Source:  HEC-2 Cross Section: SU 0.216
3855          RS       2    FLOW      -1
3856          RC   0.050   0.045   0.050  1090.0  0.0211
3857          RX  9911.9  9948.1  9973.6  9988.6 10007.1 10027.0 10049.8 10143.7
3858          RY  1699.3  1691.7  1686.3  1680.1  1679.7  1686.6  1687.3  1698.6
              *
```

```
3859        KK    211N
3860        KM   Sub-Basin   211N
3861        KM
3862        KM      The Clark Unit Hydrograph is used for this basin.
3863        KM          The HEC-1 time-area relation is used for this basin.
3864        KM
3865        KM      Time of Concentration for this sub-basin is based on the following:
3866        KM          6-Hour Rainfall, Pattern No.  1.00
3867        KM          An rainfall areal reduction factor of 1.000
3868        KM
3869        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3870        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3871        KM   .46 .45 .45 .15 .11 .10 .05 .04 .04 .02 .02 .02 .00 .00 .00 .00 .00 .00
3872        KM
3873        KM          L=   0.261 miles, S=  235 feet/mile, Kb= .12
3874        KM
3875        BA   0.020
3876        LG    0.14    0.39    5.70    0.20   20.20
3877        UC   0.188   0.181
            *
1                                          HEC-1 INPUT                                                          PAGE 91

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


3878        KK   C611R
3879        KM      Hydrograph combine 610611 + 211N at C611 right branch
3880        HC       2
            *

3881        KK    211O
3882        KM   Sub-Basin   211O
3883        KM
3884        KM      The Clark Unit Hydrograph is used for this basin.
3885        KM          The HEC-1 time-area relation is used for this basin.
3886        KM
3887        KM      Time of Concentration for this sub-basin is based on the following:
3888        KM          6-Hour Rainfall, Pattern No.  1.00
3889        KM          An rainfall areal reduction factor of 0.999
3890        KM
3891        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3892        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3893        KM   .47 .46 .46 .15 .12 .11 .05 .05 .05 .03 .03 .03 .01 .01 .01 .01 .01 .01
3894        KM
3895        KM          L=   0.371 miles, S=  257 feet/mile, Kb= .11
3896        KM
3897        BA   0.041
3898        LG    0.13    0.39    5.70    0.20   34.60
3899        UC   0.204   0.177
            *

3900        KK   C609O
3901        KM      Reservoir route at C609.
3902        RS       1    ELEV  1694.0
3903        SV    0.00    0.10    0.21    0.50    0.86    1.40    1.93    2.60    3.10    3.20
3904        SV    3.39    3.60    3.80    4.00    4.10    4.30    4.50    4.70    4.90    5.10
3905        SE  1694.0  1695.0  1696.0  1697.0  1698.0  1699.0  1700.0  1701.0  1701.6  1701.8
3906        SE  1702.0  1702.2  1702.4  1702.6  1702.8  1703.0  1703.2  1703.4  1703.6  1703.8
3907        SQ       0       6      16      33      48      59      68      75      79      85
3908        SQ     108     149     209     289     390     512     658     829    1025    1247
            *

3909        KK  609611
3910        KM      Normal depth channel route from C609 to C611
3911        KM      Source:  200 Scale Mapping
3912        RS       2    FLOW      -1
3913        RC   0.035   0.050   0.035   470.0  0.0200
3914        RX  1000.0  1025.0  1050.0  1054.0  1064.0  1068.0  1088.0  1103.0
3915        RY  1690.0  1688.0  1684.0  1682.0  1682.0  1684.0  1688.0  1690.0
            *

3916        KK   C611I
3917        KM      Hydrograph combine 609611 + C611R at C611I
3918        HC       2
            *
1                                          HEC-1 INPUT                                                          PAGE 92

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


3919        KK   C611O
3920        KM      Reservoir route at C611.
3921        RS       1    ELEV  1668.4
3922        SV    0.00    0.41    1.10    2.49    4.34    6.64    6.72    6.81    6.89    6.97
3923        SV    7.06    7.14    7.22    7.31    7.39    7.47    7.56    7.64    7.72    7.81
3924        SE  1674.0  1676.0  1678.0  1680.0  1682.0  1684.0  1684.2  1684.4  1684.6  1684.8
3925        SE  1685.0  1685.2  1685.4  1685.6  1685.8  1686.0  1686.2  1686.4  1686.6  1686.8
3926        SQ       0       0      86     117     141     162     164     170     181     199
```

```
3927        SQ     225     262     313     378     460     558     673     807     958    1118
            *

3928        KK   D611L
3929        KM      Hydrograph diversion at C611.  Main flow continues in the left branch.
3930        KM      Diverted flow is in the right branch.
3931        DT   D611R
3932        DI       0       0      86     117     141     162     164     170     181     199
3933        DI     225     262     313     378     460     558     673     807     958    1118
3934        DQ       0       0      86     117     141     162     164     165     167     169
3935        DQ     171     173     175     176     178     180     182     183     185     187
            *

3936        KK  611612
3937        KM      Normal depth channel route from C611 to C612
3938        KM      Source:  200 Scale Mapping
3939        RS       1    FLOW      -1
3940        RC   0.040   0.018   0.040   925.0  0.0270
3941        RX  1000.0  1020.0  1023.0  1041.0  1059.0  1060.2  1071.2  1136.2
3942        RY  1666.0  1664.0  1663.5  1663.9  1663.5  1663.9  1664.0  1666.0
            *

3943        KK    211P
3944        KM   Sub-Basin   211P
3945        KM
3946        KM      The Clark Unit Hydrograph is used for this basin.
3947        KM          The Urban time-area relation is used for this basin.
3948        KM
3949        KM      Time of Concentration for this sub-basin is based on the following:
3950        KM          6-Hour Rainfall, Pattern No.  1.00
3951        KM          An rainfall areal reduction factor of 1.000
3952        KM
3953        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3954        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3955        KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
3956        KM
3957        KM          L=   0.307 miles, S=  192 feet/mile, Kb= .03
3958        KM
3959        BA   0.033
3960        LG    0.08    0.15    7.00    0.11   44.90
3961        UC   0.100   0.077
3962        UA       0       5      16      30      65      77      84      90      94      97
3963        UA     100
            *
```



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

3964        KK    C612
3965        KM      Hydrograph combine 611612 + 211P at C612
3966        HC       2
            *
            * *
            * * NOTE: 612613 is too short to route
            * *
            *

3967        KK    C613
3968        KM      Hydrograph combine 608613 + C612 at C613
3969        HC       2
            *

3970        KK  613621
3971        KM      Normal depth channel route from C613 to C621
3972        KM      Source:  HEC-2 Cross Section: AS 3.241
3973        RS       2    FLOW      -1
3974        RC   0.100   0.045   0.100   718.0  0.0251
3975        RX  9695.4  9884.0  9985.0  9991.1 10033.8 10062.8 10097.5 10165.1
3976        RY  1655.5  1647.5  1645.8  1641.1  1640.6  1642.1  1648.7  1654.3
            *

3977        KK    211L
3978        KM   Sub-Basin   211L
3979        KM
3980        KM      The Clark Unit Hydrograph is used for this basin.
3981        KM          The Urban time-area relation is used for this basin.
3982        KM
3983        KM      Time of Concentration for this sub-basin is based on the following:
3984        KM          6-Hour Rainfall, Pattern No.  1.00
3985        KM          An rainfall areal reduction factor of 0.999
3986        KM
3987        KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3988        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3989        KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
3990        KM
3991        KM          L=   0.508 miles, S=  181 feet/mile, Kb= .04
3992        KM
```

```
3993          BA   0.096
3994          LG    0.16    0.28    4.35    0.36   37.80
3995          UC   0.158   0.106
3996          UA       0       5      16      30      65      77      84      90      94      97
3997          UA     100
              *

3998          KK   C621L
3999          KM      Hydrograph combine 613621 + 211L at C621 left branch
4000          HC       2
              *
              * *
              * * Move to the top of Arrow Wash
              * *
              *
```



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

4001          KK    211Q
4002          KM   Sub-Basin   211Q
4003          KM
4004          KM      The Clark Unit Hydrograph is used for this basin.
4005          KM          The HEC-1 time-area relation is used for this basin.
4006          KM
4007          KM      Time of Concentration for this sub-basin is based on the following:
4008          KM          6-Hour Rainfall, Pattern No.  1.00
4009          KM          An rainfall areal reduction factor of 1.000
4010          KM
4011          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4012          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4013          KM   .45 .45 .45 .14 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
4014          KM
4015          KM          L=   0.255 miles, S=  295 feet/mile, Kb= .12
4016          KM
4017          BA   0.021
4018          LG    0.14    0.38    5.70    0.20    8.50
4019          UC   0.171   0.157
              *

4020          KK  616617
4021          KM      Normal depth channel route from C616 to C617
4022          KM      Source:  200 Scale Mapping
4023          RS       4    FLOW      -1
4024          RC   0.070   0.060   0.070  1131.0  0.0553
4025          RX  1000.0  1008.0  1015.0  1045.0  1050.0  1080.0  1100.0  1110.0
4026          RY  1834.0  1832.0  1830.0  1826.0  1826.0  1830.0  1834.0  1836.0
              *

4027          KK    211R
4028          KM   Sub-Basin   211R
4029          KM
4030          KM      The Clark Unit Hydrograph is used for this basin.
4031          KM          The HEC-1 time-area relation is used for this basin.
4032          KM
4033          KM      Time of Concentration for this sub-basin is based on the following:
4034          KM          6-Hour Rainfall, Pattern No.  1.00
4035          KM          An rainfall areal reduction factor of 0.999
4036          KM
4037          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4038          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4039          KM   .46 .46 .45 .15 .11 .11 .05 .05 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
4040          KM
4041          KM          L=   0.572 miles, S=  271 feet/mile, Kb= .10
4042          KM
4043          BA   0.084
4044          LG    0.13    0.38    5.70    0.20   22.00
4045          UC   0.242   0.200
              *
```



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

4046          KK   C617L
4047          KM      Hydrograph combine 616617 + 211R at C617 left branch
4048          HC       2
              *

4049          KK    211U
4050          KM   Sub-Basin   211U
4051          KM
4052          KM      The Clark Unit Hydrograph is used for this basin.
4053          KM          The Urban time-area relation is used for this basin.
4054          KM
4055          KM      Time of Concentration for this sub-basin is based on the following:
4056          KM          6-Hour Rainfall, Pattern No.  1.00
```

```
4057          KM          An rainfall areal reduction factor of 1.000
4058          KM
4059          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4060          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4061          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .06 .06 .02 .02 .02 .02 .02 .02
4062          KM
4063          KM          L=   0.831 miles, S=  214 feet/mile, Kb= .04
4064          KM
4065          BA   0.027
4066          LG    0.07    0.26    5.70    0.18   65.50
4067          UC   0.188   0.386
4068          UA       0       5      16      30      65      77      84      90      94      97
4069          UA     100
              *

4070          KK   D614L
4071          KM      Hydrograph diversion at C614.  Main flow continues in the left branch.
4072          KM      Diverted flow is in the right branch.
4073          DT   D614R
4074          DI       0     4.3     8.5    20.0    49.0    85.5
4075          DQ       0     2.5     5.0    13.5    35.0    60.0
              *

4076          KK    C617
4077          KM      Hydrograph combine C617L + D614L at C617
4078          HC       2
              *

4079          KK  617618
4080          KM      Normal depth channel route from C617 to C618
4081          KM      Source:  HEC-2 Cross Section: AR 0.836
4082          RS       5    FLOW      -1
4083          RC   0.070   0.060   0.070  1912.0  0.0345
4084          RX  9983.3  9987.2  9989.2  9991.1 10031.5 10053.5 10070.6 10097.7
4085          RY  1766.5  1762.3  1760.2  1758.1  1757.8  1760.8  1764.2  1770.6
              *
```



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

4086          KK    211S
4087          KM   Sub-Basin   211S
4088          KM
4089          KM      The Clark Unit Hydrograph is used for this basin.
4090          KM          The HEC-1 time-area relation is used for this basin.
4091          KM
4092          KM      Time of Concentration for this sub-basin is based on the following:
4093          KM          6-Hour Rainfall, Pattern No.  1.00
4094          KM          An rainfall areal reduction factor of 0.999
4095          KM
4096          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4097          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4098          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .02 .01 .01 .01 .01 .01 .01
4099          KM
4100          KM          L=   0.445 miles, S=  272 feet/mile, Kb= .10
4101          KM
4102          BA   0.050
4103          LG    0.13    0.36    5.70    0.20   26.10
4104          UC   0.213   0.190
              *

4105          KK   C618I
4106          KM      Hydrograph combine 617618 + 211S at C618I
4107          HC       2
              *

4108          KK   C618O
4109          KM      Reservoir route at C618.
4110          RS       1    ELEV  1730.6
4111          SV    0.00    0.01    0.06    0.24    0.50    0.75    1.20    1.66    2.30    2.94
4112          SV    3.20    3.30    3.40    3.60    3.80    3.90    4.10    4.30    4.50    4.65
4113          SE  1730.6  1734.0  1736.0  1738.0  1739.0  1740.0  1741.0  1742.0  1743.0  1744.0
4114          SE  1744.3  1744.4  1744.6  1744.8  1745.0  1745.2  1745.4  1745.6  1745.8  1746.0
4115          SQ       0     2.2     2.6     3.0     3.1     3.2     3.3     3.5     3.6     3.7
4116          SQ     3.7     3.8       8      21      48      88     143     212     295     390
              *

4117          KK  BB614R
4118          KM      Retrieve previously diverted hydrograph at C614 in the right branch.
4119          DR   D614R
              *

4120          KK  614615
4121          KM      Normal depth channel route from C614 to C615
4122          KM      Source:  Hydrology Field Reconnaissance
4123          RS       3    FLOW      -1
4124          RC   0.040   0.018   0.040  1114.0  0.0397
```

```
4125          RX  1000.0  1020.0  1025.0  1059.0  1091.0  1093.0  1098.0  1103.0
4126          RY  1828.0  1822.0  1821.5  1822.2  1821.8  1822.0  1824.0  1826.0
              *
1                                        HEC-1 INPUT                                                    PAGE 97

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


4127          KK    211V
4128          KM   Sub-Basin   211V
4129          KM
4130          KM      The Clark Unit Hydrograph is used for this basin.
4131          KM          The Urban time-area relation is used for this basin.
4132          KM
4133          KM      Time of Concentration for this sub-basin is based on the following:
4134          KM          6-Hour Rainfall, Pattern No.  1.00
4135          KM          An rainfall areal reduction factor of 1.000
4136          KM
4137          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4138          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4139          KM   .50 .50 .50 .19 .16 .16 .08 .08 .08 .08 .08 .08 .02 .02 .02 .02 .02 .02
4140          KM
4141          KM          L=   0.222 miles, S=  212 feet/mile, Kb= .04
4142          KM
4143          BA   0.005
4144          LG    0.06    0.25    5.80    0.18   90.00
4145          UC   0.096   0.170
4146          UA       0       5      16      30      65      77      84      90      94      97
4147          UA     100
              *

4148          KK    C615
4149          KM      Hydrograph combine 614615 + 211V at C615
4150          HC       2    0.03
              *

4151          KK   D615L
4152          KM      Hydrograph diversion at C615.  Main flow continues in the left branch.
4153          KM      Diverted flow is in the right branch.
4154          DT   D615R
4155          DI       0     1.3     2.5     5.3     8.6    14.2    23.0    36.8    55.5    77.5
4156          DQ       0       0       0     1.3     2.6     4.2     7.0    12.8    19.5    29.5
              *

4157          KK  615618
4158          KM      Normal depth channel route from C615 to C618
4159          KM      Source:  Hydrology Field Reconnaissance
4160          RS       1    FLOW      -1
4161          RC   0.040   0.018   0.040   499.0  0.1338
4162          RX  1000.0  1008.0  1009.2  1013.2  1027.2  1028.4  1036.4  1045.4
4163          RY  1800.4  1799.6  1799.2  1798.8  1798.3  1798.7  1798.9  1800.4
              *

4164          KK    C618
4165          KM      Hydrograph combine C618O + 615618 at C618
4166          HC       2    0.19
              *
1                                        HEC-1 INPUT                                                    PAGE 98

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


4167          KK  618619
4168          KM      Normal depth channel route from C618 to C619
4169          KM      Source:  HEC-2 Cross Section: AR 0.441
4170          RS       4    FLOW      -1
4171          RC   0.070   0.060   0.070  1837.0  0.0285
4172          RX  9870.6  9928.6  9957.1  9996.9 10004.9 10022.1 10062.0 10116.4
4173          RY  1709.2  1700.9  1698.8  1690.0  1689.8  1699.6  1700.3  1711.3
              *

4174          KK    211T
4175          KM   Sub-Basin   211T
4176          KM
4177          KM      The Clark Unit Hydrograph is used for this basin.
4178          KM          The HEC-1 time-area relation is used for this basin.
4179          KM
4180          KM      Time of Concentration for this sub-basin is based on the following:
4181          KM          6-Hour Rainfall, Pattern No.  1.00
4182          KM          An rainfall areal reduction factor of 0.999
4183          KM
4184          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4185          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4186          KM   .46 .46 .45 .15 .11 .11 .05 .05 .04 .02 .02 .02 .00 .00 .00 .00 .00 .00
4187          KM
4188          KM          L=   0.488 miles, S=  250 feet/mile, Kb= .10
4189          KM
4190          BA   0.066
```

```
4191          LG    0.13    0.37    5.70    0.20   21.00
4192          UC   0.229   0.191
              *

4193          KK   C619L
4194          KM      Hydrograph combine 618619 + 211T at C619 left branch
4195          HC       2
              *

4196          KK  BB615R
4197          KM      Retrieve previously diverted hydrograph at C615 in the right branch.
4198          DR   D615R
              *

4199          KK  615619
4200          KM      Normal depth channel route from C615 to C619
4201          KM      Source:  Hydrology Field Reconnaissance
4202          RS       5    FLOW      -1
4203          RC   0.045   0.024   0.025  2444.0  0.0493
4204          RX  1000.0  1009.3  1018.5  1037.0  1039.3  1053.0  1065.0  1065.0
4205          RY  1727.2  1726.5  1725.8  1724.4  1724.6  1725.8  1725.9  1725.9
              *
1                                          HEC-1 INPUT                                          PAGE 99

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

4206          KK   C619I
4207          KM      Hydrograph combine C619L + 615619 at C619I
4208          HC       2    0.25
              *

4209          KK   C619O
4210          KM      Reservoir route at C619.
4211          RS       1    ELEV  1675.6
4212          SV    0.00    1.72    2.98    4.70    7.00    7.08    7.17    7.26    7.34    7.43
4213          SV    7.51    7.60    7.69    7.77    7.86
4214          SE  1675.6  1686.0  1688.0  1690.0  1692.0  1692.2  1692.4  1692.6  1692.8  1693.0
4215          SE  1693.2  1693.4  1693.6  1693.8  1694.0
4216          SQ       0       4      25      72     128     155     163     172     178     187
4217          SQ     195     213     238     273     318     374     441     518     606     706
4218          SE  1675.6  1676.0  1678.0  1680.0  1682.0  1684.0  1686.0  1688.0  1690.0  1692.0
4219          SE  1692.2  1692.4  1692.6  1692.8  1693.0  1693.2  1693.4  1693.6  1693.8  1694.0
              *

4220          KK   D619R
4221          KM      Hydrograph diversion at C619.  Main flow continues in the right branch.
4222          KM      Diverted flow is in the left branch.
4223          DT   D619L
4224          DI       0       4      25      72     128     155     163     172     178     187
4225          DI     195     213     238     273     318     374     441     518     606     706
4226          DQ       0       0       0       0       0       0       0       0       0       0
4227          DQ       8      24      49      83     128     182     249     326     412     512
              *

4228          KK  619620
4229          KM                  Lag route through Palisades Plaza storm drain
4230          RT       0                1
              *

4231          KK  BB619L
4232          KM      Retrieve previously diverted hydrograph at C619 in the left branch.
4233          DR   D619L
              *

4234          KK  619620
4235          KM   Normal depth channel route from C619 to C620 in Fountain Hills Blvd.
4236          KM   Source:  200 Scale Mapping. Similiar to 523548
4237          RS       1    FLOW      -1
4238          RC   0.040   0.024   0.040   800.0  0.0288
4239          RX   918.0   940.0   960.0  1000.0  1040.0  1040.1  1044.1  1088.1
4240          RY  1648.0  1645.8  1643.8  1644.7  1644.0  1644.5  1644.5  1648.0
              *

4241          KK    211W
4242          KM   Sub-Basin   211W
4243          KM
4244          KM      The Clark Unit Hydrograph is used for this basin.
4245          KM          The Urban time-area relation is used for this basin.
4246          KM
4247          KM      Time of Concentration for this sub-basin is based on the following:
1                                          HEC-1 INPUT                                          PAGE100

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

4248          KM          6-Hour Rainfall, Pattern No.  1.00
4249          KM          An rainfall areal reduction factor of 1.000
4250          KM
```

```
4251          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4252          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4253          KM    .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .06 .02 .02 .02 .02 .02 .02
4254          KM
4255          KM           L=   0.289 miles, S=  173 feet/mile, Kb= .04
4256          KM
4257          BA    0.030
4258          LG     0.07     0.27     5.70     0.18    69.90
4259          UC    0.117    0.094
4260          UA        0        5       16       30       65       77       84       90       94       97
4261          UA      100
              *

4262          KK   C620R
4263          KM      Hydrograph combine 619620 + R619L + 211W at C620 right branch
4264          HC        3    0.28
              *

4265          KK  BB611R
4266          KM      Retrieve previously diverted hydrograph at C611 in the right branch.
4267          DR   D611R
              *

4268          KK  611620
4269          KM                  Lag route through Palisades Plaza storm drain
4270          RT        0                 1
              *

4271          KK    C620
4272          KM      Hydrograph combine 611620 + C620R at C620
4273          HC        2    0.42
              *

4274          KK  620621
4275          KM      Normal depth channel route from C620 to C621
4276          KM      Source:  HEC-2 Cross Section: AR 0.081
4277          RS        2    FLOW      -1
4278          RC   0.050   0.050   0.050   915.0  0.0394
4279          RX  9790.0  9790.1  9972.2  9994.8 10004.9 10029.7 10048.6 10125.0
4280          RY  1657.9  1657.5  1656.4  1646.8  1646.8  1657.8  1657.0  1657.9
              *

4281          KK    C621
4282          KM      Hydrograph combine C621L + 620621 at C621
4283          HC        2    7.93
              *
```



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

4284          KK  621622
4285          KM      Normal depth channel route from C621 to C622
4286          KM      Source:  HEC-2 Cross Section: AS 2.785
4287          RS        6    FLOW      -1
4288          RC   0.100   0.045   0.100  3830.0  0.0144
4289          RX  9827.3  9922.9  9951.0 10000.0 10002.7 10044.7 10071.6 10076.8
4290          RY  1615.2  1611.0  1604.1  1600.8  1601.5  1601.6  1611.0  1613.9
              *

4291          KK    211X
4292          KM   Sub-Basin   211X
4293          KM
4294          KM      The Clark Unit Hydrograph is used for this basin.
4295          KM          The HEC-1 time-area relation is used for this basin.
4296          KM
4297          KM      Time of Concentration for this sub-basin is based on the following:
4298          KM          6-Hour Rainfall, Pattern No.  1.00
4299          KM          An rainfall areal reduction factor of 0.997
4300          KM
4301          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4302          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4303          KM    .47 .47 .46 .16 .13 .12 .06 .05 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
4304          KM
4305          KM           L=   0.929 miles, S=  111 feet/mile, Kb= .05
4306          KM
4307          BA    0.214
4308          LG     0.16     0.30     4.90     0.27    43.20
4309          UC    0.288    0.211
              *

4310          KK   C622R
4311          KM      Hydrograph combine 621622 + 211X at C622 right branch
4312          HC        2
              *
              * *
              * * Move to the top of Tulip Wash
              * *
```

```
                *
4313            KK    211A
4314            KM   Sub-Basin   211A
4315            KM
4316            KM      The Clark Unit Hydrograph is used for this basin.
4317            KM          The HEC-1 time-area relation is used for this basin.
4318            KM
4319            KM      Time of Concentration for this sub-basin is based on the following:
4320            KM          6-Hour Rainfall, Pattern No.  1.00
4321            KM          An rainfall areal reduction factor of 0.998
4322            KM
4323            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4324            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4325            KM   .45 .45 .45 .14 .10 .10 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
4326            KM
4327            KM          L=   0.820 miles, S=  248 feet/mile, Kb= .10
1                                          HEC-1 INPUT                                          PAGE102

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

4328            KM
4329            BA   0.143
4330            LG    0.14    0.38    5.70    0.21   13.80
4331            UC   0.313   0.263
                *

4332            KK   C600O
4333            KM      Reservoir route at C600.
4334            RS       1    ELEV  1754.0
4335            SV    0.00    0.14    0.62    1.52    2.95    5.06    7.98   11.80   16.61   22.67
4336            SV   30.07   38.71   40.50   40.60   41.60   42.70   43.70   44.60   45.70
4337            SE  1754.0  1756.0  1758.0  1760.0  1762.0  1764.0  1766.0  1768.0  1770.0  1772.0
4338            SE  1774.0  1776.0 1776.36  1776.4  1776.6  1776.8  1777.0  1777.2  1777.4
4339            SQ       0      55     183     320     427     513     570     620     665     709
4340            SQ     750     789     795     795     812     849     906     984    1084
                *

4341            KK  600601
4342            KM      Normal depth channel route from C600 to C601
4343            KM      Source:  HEC-2 Cross Section: TU 1.538
4344            RS       4    FLOW      -1
4345            RC   0.040   0.025   0.040  2406.0  0.0176
4346            RX  9945.6  9959.4  9968.3  9985.9 10000.0 10017.2 10038.7 10058.8
4347            RY  1734.5  1732.3  1727.9  1726.2  1725.0  1727.7  1735.2  1736.0
                *

4348            KK    211B
4349            KM   Sub-Basin   211B
4350            KM
4351            KM      The Clark Unit Hydrograph is used for this basin.
4352            KM          The HEC-1 time-area relation is used for this basin.
4353            KM
4354            KM      Time of Concentration for this sub-basin is based on the following:
4355            KM          6-Hour Rainfall, Pattern No.  1.00
4356            KM          An rainfall areal reduction factor of 0.999
4357            KM
4358            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4359            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4360            KM   .45 .45 .45 .14 .11 .10 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
4361            KM
4362            KM          L=   0.618 miles, S=  244 feet/mile, Kb= .10
4363            KM
4364            BA   0.109
4365            LG    0.14    0.37    5.80    0.21   13.40
4366            UC   0.263   0.202
                *

4367            KK    C601
4368            KM      Hydrograph combine 600601 + 211B at C601
4369            HC       2
                *
1                                          HEC-1 INPUT                                          PAGE103

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

4370            KK  601602
4371            KM      Normal depth channel route from C601 to C602
4372            KM      Source:  HEC-2 Cross Section: TU 1.102
4373            RS       3    FLOW      -1
4374            RC   0.065   0.040   0.055  1765.0  0.0146
4375            RX  9916.9  9959.1  9965.8  9980.2 10004.0 10019.5 10047.3 10094.1
4376            RY  1699.9  1699.8  1696.4  1689.8  1688.9  1695.7  1698.2  1698.4
                *

4377            KK    211C
4378            KM   Sub-Basin   211C
```

```
4379          KM
4380          KM      The Clark Unit Hydrograph is used for this basin.
4381          KM          The Urban time-area relation is used for this basin.
4382          KM
4383          KM      Time of Concentration for this sub-basin is based on the following:
4384          KM          6-Hour Rainfall, Pattern No.  1.00
4385          KM          An rainfall areal reduction factor of 0.999
4386          KM
4387          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4388          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4389          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4390          KM
4391          KM          L=   0.479 miles, S=  154 feet/mile, Kb= .03
4392          KM
4393          BA   0.043
4394          LG    0.08    0.25    5.70    0.18   44.50
4395          UC   0.138   0.137
4396          UA       0       5      16      30      65      77      84      90      94      97
4397          UA     100
              *

4398          KK   C602L
4399          KM      Hydrograph combine 601602 + 211C at C602 left branch
4400          HC       2
              *

4401          KK    211D
4402          KM   Sub-Basin   211D
4403          KM
4404          KM      The Clark Unit Hydrograph is used for this basin.
4405          KM          The Urban time-area relation is used for this basin.
4406          KM
4407          KM      Time of Concentration for this sub-basin is based on the following:
4408          KM          6-Hour Rainfall, Pattern No.  1.00
4409          KM          An rainfall areal reduction factor of 0.999
4410          KM
4411          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4412          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4413          KM   .44 .44 .43 .13 .09 .07 .03 .03 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
4414          KM
4415          KM          L=   0.686 miles, S=  115 feet/mile, Kb= .04
4416          KM
4417          BA   0.071
```



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

4418          LG    0.21    0.30    3.85    0.49   28.30
4419          UC   0.217   0.227
4420          UA       0       5      16      30      65      77      84      90      94      97
4421          UA     100
              *

4422          KK    C602
4423          KM      Hydrograph combine C602L + 211D at C602
4424          HC       2
              *

4425          KK  602603
4426          KM      Normal depth channel route from C602 to C603
4427          KM      Source:  HEC-2 Cross Section: LE 0.672
4428          RS       4    FLOW      -1
4429          RC   0.060   0.045   0.060  2610.0  0.0211
4430          RX  9891.9  9963.9  9986.5 10000.0 10012.7 10023.8 10085.0 10176.4
4431          RY  1653.5  1653.5  1644.4  1644.1  1645.0  1649.8  1651.7  1656.7
              *

4432          KK    211E
4433          KM   Sub-Basin   211E
4434          KM
4435          KM      The Clark Unit Hydrograph is used for this basin.
4436          KM          The Urban time-area relation is used for this basin.
4437          KM
4438          KM      Time of Concentration for this sub-basin is based on the following:
4439          KM          6-Hour Rainfall, Pattern No.  1.00
4440          KM          An rainfall areal reduction factor of 0.998
4441          KM
4442          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4443          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4444          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
4445          KM
4446          KM          L=   0.609 miles, S=  118 feet/mile, Kb= .03
4447          KM
4448          BA   0.156
4449          LG    0.11    0.27    5.10    0.24   42.20
4450          UC   0.171   0.101
4451          UA       0       5      16      30      65      77      84      90      94      97
4452          UA     100
```

```
                *
4453            KK    C603
4454            KM      Hydrograph combine 602603 + 211E at C603
4455            HC       2
                *
4456            KK  603622
4457            KM      Normal depth channel route from C603 to C622
4458            KM      Source:  HEC-2 Cross Section: LE 0.287
4459            RS       5    FLOW      -1
4460            RC   0.060   0.045   0.060  2745.0  0.0204
4461            RX  9883.0  9929.7  9967.3  9991.6 10042.2 10073.6 10177.6 10194.5
4462            RY  1619.4  1618.7  1611.8  1602.1  1603.3  1609.4  1610.5  1610.6
                *
1                                          HEC-1 INPUT                                                    PAGE105

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


4463            KK    211F
4464            KM   Sub-Basin   211F
4465            KM
4466            KM      The Clark Unit Hydrograph is used for this basin.
4467            KM          The Urban time-area relation is used for this basin.
4468            KM
4469            KM      Time of Concentration for this sub-basin is based on the following:
4470            KM          6-Hour Rainfall, Pattern No.  1.00
4471            KM          An rainfall areal reduction factor of 0.999
4472            KM
4473            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4474            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4475            KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4476            KM
4477            KM          L=   0.770 miles, S=  134 feet/mile, Kb= .03
4478            KM
4479            BA   0.113
4480            LG    0.08    0.25    4.30    0.36   62.70
4481            UC   0.183   0.158
4482            UA       0       5      16      30      65      77      84      90      94      97
4483            UA     100
                *
4484            KK   C622L
4485            KM      Hydrograph combine 603622 + 211F at C622 left branch
4486            HC       2
                *
4487            KK    C622
4488            KM      Hydrograph combine C622R + C622L at C622
4489            HC       2
                *
4490            KK  622549
4491            KM      Normal depth channel route from C622 to C549
4492            KM      Source:  HEC-2 Cross Section: AS 2.279
4493            RS       6    FLOW      -1
4494            RC   0.113   0.125   0.120  1697.0  0.0118
4495            RX  9847.1  9851.0  9857.5  9862.8 10052.6 10062.8 10075.6 10084.6
4496            RY  1573.5  1571.3  1567.2  1564.6  1565.1  1566.7  1573.7  1573.9
                *
4497            KK    211Y
4498            KM   Sub-Basin   211Y
4499            KM
4500            KM      The Clark Unit Hydrograph is used for this basin.
4501            KM          The HEC-1 time-area relation is used for this basin.
4502            KM
4503            KM      Time of Concentration for this sub-basin is based on the following:
4504            KM          6-Hour Rainfall, Pattern No.  1.00
4505            KM          An rainfall areal reduction factor of 0.999
4506            KM
4507            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4508            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                                    PAGE106

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

4509            KM   .47 .47 .46 .16 .13 .12 .05 .05 .05 .04 .03 .02 .00 .00 .00 .00 .00 .00
4510            KM
4511            KM          L=   0.606 miles, S=  147 feet/mile, Kb= .07
4512            KM
4513            BA   0.089
4514            LG    0.13    0.30    6.60    0.14   16.80
4515            UC   0.246   0.207
                *
4516            KK   C549R
```

```
4517        KM      Hydrograph combine 622549 + 211Y at C549 right branch
4518        HC       2
            *

4519        KK    C549
4520        KM      Hydrograph combine C549L + C549R at C549
4521        HC       2
            *

4522        KK  549626
4523        KM      Normal depth channel route from C549 to C626
4524        KM      Source:  HEC-2 Cross Section: AS 1.855
4525        RS       5    FLOW      -1
4526        RC   0.113   0.125   0.120  2044.0  0.0171
4527        RX  9943.2  9963.0  9985.6  9994.1 10007.6 10029.2 10150.5 10171.3
4528        RY  1539.3  1534.5  1531.2  1528.3  1528.2  1531.7  1532.5  1537.4
            *

4529        KK    211Z
4530        KM   Sub-Basin   211Z
4531        KM
4532        KM      The Clark Unit Hydrograph is used for this basin.
4533        KM          The Urban time-area relation is used for this basin.
4534        KM
4535        KM      Time of Concentration for this sub-basin is based on the following:
4536        KM          6-Hour Rainfall, Pattern No.  1.00
4537        KM          An rainfall areal reduction factor of 0.999
4538        KM
4539        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4540        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4541        KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
4542        KM
4543        KM          L=   0.509 miles, S=  147 feet/mile, Kb= .04
4544        KM
4545        BA   0.083
4546        LG    0.14    0.27    4.50    0.34   34.40
4547        UC   0.171   0.126
4548        UA       0       5      16      30      65      77      84      90      94      97
4549        UA     100
            *
1                                        HEC-1 INPUT                                          PAGE107

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

4550        KK   C626C
4551        KM      Hydrograph combine 549626 + 211Z at C626 main branch
4552        HC       2
            *

4553        KK   211AA
4554        KM   Sub-Basin  211AA
4555        KM
4556        KM      The Clark Unit Hydrograph is used for this basin.
4557        KM          The Urban time-area relation is used for this basin.
4558        KM
4559        KM      Time of Concentration for this sub-basin is based on the following:
4560        KM          6-Hour Rainfall, Pattern No.  1.00
4561        KM          An rainfall areal reduction factor of 1.000
4562        KM
4563        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4564        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4565        KM   .48 .48 .48 .17 .14 .14 .07 .06 .06 .06 .05 .05 .01 .01 .01 .01 .01 .01
4566        KM
4567        KM          L=   0.480 miles, S=   85 feet/mile, Kb= .06
4568        KM
4569        BA   0.034
4570        LG    0.09    0.24    6.60    0.14   38.80
4571        UC   0.238   0.287
4572        UA       0       5      16      30      65      77      84      90      94      97
4573        UA     100
            *

4574        KK  625626
4575        KM      Normal depth channel route from C625 to C626
4576        KM      Source:  200 Scale Mapping
4577        RS       3    FLOW      -1
4578        RC   0.040   0.018   0.040  1350.0  0.0252
4579        RX  1000.0  1020.0  1021.2  1055.2  1089.2  1090.4  1100.4  1105.4
4580        RY  1527.0  1526.0  1525.6  1526.3  1525.6  1526.0  1528.0  1530.0
            *

4581        KK   211AB
4582        KM   Sub-Basin  211AB
4583        KM
4584        KM      The Clark Unit Hydrograph is used for this basin.
4585        KM          The Urban time-area relation is used for this basin.
4586        KM
```

```
4587        KM      Time of Concentration for this sub-basin is based on the following:
4588        KM          6-Hour Rainfall, Pattern No.  1.00
4589        KM          An rainfall areal reduction factor of 0.999
4590        KM
4591        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4592        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4593        KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
4594        KM
4595        KM          L=   0.293 miles, S=  321 feet/mile, Kb= .07
4596        KM
4597        BA   0.040
```



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

4598        LG    0.11    0.26    6.80    0.13   23.10
4599        UC   0.133   0.093
4600        UA       0       5      16      30      65      77      84      90      94      97
4601        UA     100
            *

4602        KK  623624
4603        KM      Normal depth channel route from C623 to C624
4604        KM      Source:  200 Scale Mapping
4605        RS       1    FLOW      -1
4606        RC   0.040   0.018   0.040   701.0  0.0114
4607        RX  1000.0  1010.0  1011.2  1027.2  1043.2  1044.4  1059.4  1074.4
4608        RY  1534.0  1532.0  1531.6  1531.9  1531.6  1532.0  1532.5  1533.0
            *

4609        KK   211AC
4610        KM   Sub-Basin  211AC
4611        KM
4612        KM      The Clark Unit Hydrograph is used for this basin.
4613        KM          The Urban time-area relation is used for this basin.
4614        KM
4615        KM      Time of Concentration for this sub-basin is based on the following:
4616        KM          6-Hour Rainfall, Pattern No.  1.00
4617        KM          An rainfall areal reduction factor of 1.000
4618        KM
4619        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4620        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4621        KM   .49 .49 .49 .19 .16 .15 .08 .08 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
4622        KM
4623        KM          L=   0.306 miles, S=   82 feet/mile, Kb= .03
4624        KM
4625        BA   0.027
4626        LG    0.08    0.15    8.40    0.07   44.80
4627        UC   0.133   0.119
4628        UA       0       5      16      30      65      77      84      90      94      97
4629        UA     100
            *

4630        KK    C624
4631        KM      Hydrograph combine 623624 + 211AC at C624
4632        HC       2
            *

4633        KK  624626
4634        KM      Normal depth channel route from C624 to C626
4635        KM      Source:  HEC-2 Cross Section: AS 1.727
4636        RS       2    FLOW      -1
4637        RC   0.080   0.060   0.080   637.0  0.0235
4638        RX  9872.9  9881.0  9893.9  9902.2  9967.6  9976.4 10076.1 10084.3
4639        RY  1526.3  1524.6  1521.7  1520.0  1520.7  1521.6  1520.7  1526.2
            *
```



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

4640        KK   211AD
4641        KM   Sub-Basin  211AD
4642        KM
4643        KM      The Clark Unit Hydrograph is used for this basin.
4644        KM          The Urban time-area relation is used for this basin.
4645        KM
4646        KM      Time of Concentration for this sub-basin is based on the following:
4647        KM          6-Hour Rainfall, Pattern No.  1.00
4648        KM          An rainfall areal reduction factor of 0.999
4649        KM
4650        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4651        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4652        KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
4653        KM
4654        KM          L=   0.489 miles, S=  280 feet/mile, Kb= .04
4655        KM
4656        BA   0.041
```

```
4657          LG    0.08    0.16    8.00    0.08   42.40
4658          UC   0.133   0.137
4659          UA       0       5      16      30      65      77      84      90      94      97
4660          UA     100
              *

4661          KK   C626R
4662          KM      Hydrograph combine 624626 + 211AD at C626 right branch
4663          HC       2
              *

4664          KK    C626
4665          KM      Hydrograph combine C626C + 625626 at C626R
4666          HC       3
              *

4667          KK  626627
4668          KM      Normal depth channel route from C626 to C627
4669          KM      Source:  HEC-2 Cross Section: AS 1.602
4670          RS       1    FLOW      -1
4671          RC   0.080   0.060   0.080   625.0  0.0208
4672          RX  9889.8  9941.2  9963.0 10011.6 10074.8 10083.9 10191.7 10210.4
4673          RY  1517.6  1516.9  1508.1  1506.6  1508.6  1511.7  1513.1  1518.8
              *

4674          KK   211AE
4675          KM   Sub-Basin  211AE
4676          KM
4677          KM      The Clark Unit Hydrograph is used for this basin.
4678          KM          The Urban time-area relation is used for this basin.
4679          KM
4680          KM      Time of Concentration for this sub-basin is based on the following:
4681          KM          6-Hour Rainfall, Pattern No.  1.00
4682          KM          An rainfall areal reduction factor of 1.000
4683          KM
4684          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4685          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE110

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

4686          KM   .48 .48 .48 .17 .14 .13 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4687          KM
4688          KM          L=   0.313 miles, S=  153 feet/mile, Kb= .04
4689          KM
4690          BA   0.034
4691          LG    0.12    0.24    6.40    0.15   38.20
4692          UC   0.129   0.103
4693          UA       0       5      16      30      65      77      84      90      94      97
4694          UA     100
              *

4695          KK    C627
4696          KM      Hydrograph combine 626627 + 211AE at C627
4697          HC       2
              *
              * *
              * * C627 is the total flow in Ashbrook Wash at the Study boundary
              * *
              *

4698          KK   211AF
4699          KM   Sub-Basin  211AF
4700          KM
4701          KM      The Clark Unit Hydrograph is used for this basin.
4702          KM          The Urban time-area relation is used for this basin.
4703          KM
4704          KM      Time of Concentration for this sub-basin is based on the following:
4705          KM          6-Hour Rainfall, Pattern No.  1.00
4706          KM          An rainfall areal reduction factor of 0.999
4707          KM
4708          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4709          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4710          KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
4711          KM
4712          KM          L=   0.332 miles, S=  292 feet/mile, Kb= .06
4713          KM
4714          BA   0.053
4715          LG    0.10    0.30    5.80    0.18   28.30
4716          UC   0.138   0.091
4717          UA       0       5      16      30      65      77      84      90      94      97
4718          UA     100
              *
              * *
              * * End Basin 211.
              * *
              *
4719          ZZ
```

```
1
                    SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
 LINE       (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   31         201A
                .
                .
   52           .        201B
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   73         C501............
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   76       501502
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   83           .        201C
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  104        C502R...........
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  107           .        201D
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  128         C502...........
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                V
  131       502503
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  138           .        201E
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  159        C503I...........
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                V
  162        C503O
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  174           .------->   D503L
  171        D503R
                V
                V
  179       503504
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  186           .        202A
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  207        C504I...........
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                V
  210        C504O
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                .
  222           .------->   D504L
  219        D504R
                .
                .
  227           .        202B
                .           .
                .           .
  248        C505I...........
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  254           .------->   D505L
  251        D505R
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  259           .        202C
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  280         C506...........
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  286           .------->   D506L
  283        D506R
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  291           .        202D
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  312           .           .        202E
                .           .           V
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                                  V
333                            C508O
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345                               .-------> D508R
342                            D508L
                                  V
                                  V
350                           508507
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                                  .
357          C507I.......................
                V
                V
360          C507O
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369                202F
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390                   .        202G
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411                   .          .        202H
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432                   .          .       C511O
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441                   .          .      511512
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448                   .          .          .        202I
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467                   .          .       C512I............
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472                   .          .       C512O
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486                   .          .          .-------> D512R
481                   .          .       D512L
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489                   .          .          .        203A
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508                   .          .          .      C513O
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514                   .          .          .     513514
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521                   .          .          .          .        203B
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540                   .          .          .      C514R............
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543                   .          .          .          .        203C
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562                   .          .          .        C514..........
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596                   .          .          .          .        203E
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617                   .          .          .      C517R............
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620                   .          .          .          .        203F
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672                                              C517............
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675                                             517518
682                                                          203H
703                                              C518............
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                                                    V
706                                             518519
713                                                          203I
732                                              C519............
                                                    V
                                                    V
735                                             519591
742                                                          203J
                                                               V
                                                               V
761                                                     520591
770                                                                   .<-------   D512R
768                                                            BB512R
771                                              C591........................
                                                    V
                                                    V
774                                             591521
781                                                          203K
802                                              C521............
805      CLEAR...............................................
808          204A
                V
                V
829         522523
836                     204B
857          C523I............
                V
                V
860          C523O
872                     .------->   D523R
869          D523L
                V
                V
877         523524
885                     204C
904           C524............
                V
                V
907         524525
914                     204D
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 938          .      525526
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 966          .        C526............
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 976          .           .        204F
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 997          .        C527............
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1000      CLEAR............
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1003          .        205A
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              .           .
1024          .           .        205B
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1045          .        C528............
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1048          .      528530
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1055          .           .        205C
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1076          .       C530R............
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1079          .           .        205D
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1100          .           .           .        205E
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1121          .           .        C529............
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1124          .        C530............
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1127          .      530531
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1155          .        C531............
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1158          .      531532
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1165          .           .        205G
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1186          .       C532L............
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1189          .           .        205H
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1210          .        C532............
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1213          .      532533
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1244          .      533534
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1251            .          .        205J
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1296            .       C534............
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1306            .          .        205L
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1378            .      C536I............
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1381            .      C536O
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1421            .       C537............
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1455            .      C538O
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1471            .          .        206C
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1540            .          .      C540L............
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1543            .       C540............
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1546            .     540541
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1572          C541............
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1582                206G
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1601                  .      BB523R
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1611        C548L......................
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1642                  .        206I
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1667                  .-------->   D543R
1664              D543L
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1698                C544............
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1791                C547.................................
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1794              547548
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1822            C548R.....
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1825        C548.....
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1856        C549L.....
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1963            .     .     .       207E
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2050            .     .   207H
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2194                            207M
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2247                            207N
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2317                            208A
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2338                          561563
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2345                                     208B
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2366                          C563R............
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2369                                     208C
                                            V
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2390                                   562563
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2397                                            208D
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2418                                   C563L............
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2421                          C563............
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                                   V
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2424                563564
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2431                   .        208E
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2452                C564R...........
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2455                   .        208F
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2476                 C564..........
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2486                   .        208G
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2505                 C565..........
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2508                565568
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2515                   .        208H
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2536                C568L...........
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2539                   .        208I
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2560                   .          .        208J
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2581                   .        C566..........
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2591                   .          .        208K
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2612                   .      C567L..........
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2615                   .          .        208L
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2636                   .        C567..........
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2667                   .      C568R..........
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2670                 C568..........
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2673                568573
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2680                   .        208N
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2701                C573L...........
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2704                   .        208O
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2732                   .          .        208P
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2753                   .      C570R..........
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2756                                              .        208Q
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2777                                          C570.............
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2780                                              .        208R
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2801                                              .      571572
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2808                                          C572.............
                                                 V
                                                 V
2811                                         572573
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2818                                              .        208S
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2839                                         C573R............
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2842                                   C573............
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2845                                          208T
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2866                                              .        208U
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2887                                          C574.............
                                                 V
                                                 V
2890                                         574575
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2897                                              .        208V
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2918                                          C575.............
                                                 V
                                                 V
2921                                         575576
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2928                                              .        208W
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2949                                          C576.............
                                                 V
                                                 V
2952                                         576577
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2959                                   C577............
                                          V
                                          V
2962                                  577578
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2969                                          208X
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2990                                   C578I...........
                                          V
                                          V
2993                                   C578O
                                          V
                                          V
3005                                  578587
                                          .
                                          .
3012                                          210B
                                                 V
                                                 V
3031                                         C586O
                                                 V
                                                 V
3040                                         586587
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3047                                   C587............
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3050                          587595
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3057                                .        210C
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3078                          C595L............
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3081                                .        210D
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3109                                .           .        210E
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3130                                .      C590L............
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3133                                .           .        210F
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3154                                .           .      589590
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3161                                .           .           .        210G
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3185                                .        C590............
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3188                                .           .        210H
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3209                                .           .      592593
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3216                                .        C593............
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3226                                .           .        210I
                                   .           .           .
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3247                                .        C594............
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3250                                .      594595
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3257                                .           .        210J
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3278                                .      C595R............
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3281                          C595............
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3284                          595596
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3291                                .        210K
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3312                          C596............
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3343                                .           .        209C
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3364                                .      C580R............
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3367                                                  209B
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3388                                          C580.........
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3398                                                  209D
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3419                                         C581R........
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3422                                                  209E
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3443                                          C581........
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3446                                        581582
                                                 .
3453                                                  209F
                                                        .
3474                                         C582R........
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3477                                                  209G
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3498                                          C582........
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3501                                        582583
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3508                                                  209H
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3529                                          C583........
                                                 V
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3532                                        583584
                                                 .
3539                                                  209I
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3560                                         C584I........
                                                 V
                                                 V
3563                                         C584O
                                                 V
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3575                                        584597
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3582                                                  210L
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3601                                          C597........
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3611                                                  210M
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3632                                          C598........
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3656                                 C599I...............
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3659                                 C599O
                                        V
                                        V
3671                                 599608
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3678                                 211K
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3728            .         .         .         .       211I
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3749            .         .         .    C606R...........
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3752            .         .         .         .       211H
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3773            .         .         .         .     C605O
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3782            .         .         .      C606...........
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3785            .         .         .    606607
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3792            .         .         .         .       211J
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3881            .         .         .         .       211O
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3916            .         .         .    C611I...........
                .         .         .         V
                .         .         .         V
3919            .         .         .    C611O
                .         .         .         .
                .         .         .         .
3931            .         .         .         .-------> D611R
3928            .         .         .    D611L
                .         .         .         V
                .         .         .         V
3936            .         .         .    611612
                .         .         .         .
                .         .         .         .
3943            .         .         .         .       211P
                .         .         .         .         .
                .         .         .         .         .
3964            .         .         .      C612...........
                .         .         .         .
                .         .         .         .
3967            .         .     C613...........
                .         .         V
                .         .         V
3970            .         .    613621
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                .         .         .
                .         .         .
3977            .         .         .       211L
                .         .         .         .
                .         .         .         .
3998            .         .     C621L............
                .         .         .
                .         .         .
4001            .         .         .       211Q
                .         .         .         V
                .         .         .         V
4020            .         .         .     616617
                .         .         .         .
                .         .         .         .
4027            .         .         .         .       211R
                .         .         .         .         .
                .         .         .         .         .
4046            .         .         .      C617L............
                .         .         .         .
                .         .         .         .
4049            .         .         .         .       211U
                .         .         .         .         .
                .         .         .         .         .
4073            .         .         .         .         .-------->   D614R
4070            .         .         .         .      D614L
                .         .         .         .         .
                .         .         .         .         .
4076            .         .         .       C617............
                .         .         .         V
                .         .         .         V
4079            .         .         .     617618
                .         .         .         .
                .         .         .         .
4086            .         .         .         .       211S
                .         .         .         .         .
                .         .         .         .         .
4105            .         .         .      C618I............
                .         .         .         V
                .         .         .         V
4108            .         .         .      C618O
                .         .         .         .
                .         .         .         .
4119            .         .         .         .         .<--------   D614R
4117            .         .         .         .     BB614R
                .         .         .         .         V
                .         .         .         .         V
4120            .         .         .         .     614615
                .         .         .         .         .
                .         .         .         .         .
4127            .         .         .         .         .       211V
                .         .         .         .         .         .
                .         .         .         .         .         .
4148            .         .         .         .       C615............
                .         .         .         .         .
                .         .         .         .         .
4154            .         .         .         .         .-------->   D615R
4151            .         .         .         .      D615L
                .         .         .         .         V
                .         .         .         .         V
4157            .         .         .         .     615618
                .         .         .         .         .
                .         .         .         .         .
4164            .         .         .       C618............
                .         .         .         V
                .         .         .         V
4167            .         .         .     618619
                .         .         .         .
                .         .         .         .
4174            .         .         .         .       211T
                .         .         .         .         .
                .         .         .         .         .
4193            .         .         .      C619L............
                .         .         .         .
                .         .         .         .
4198            .         .         .         .         .<--------   D615R
4196            .         .         .         .     BB615R
                .         .         .         .         V
                .         .         .         .         V
4199            .         .         .         .     615619
                .         .         .         .         .
                .         .         .         .         .
4206            .         .         .      C619I............
                .         .         .         V
                .         .         .         V
4209            .         .         .      C619O
                .         .         .         .
                .         .         .         .
4223            .         .         .         .-------->   D619L
```

```
4220          .          .          .       D619R
              .          .          .           V
              .          .          .           V
4228          .          .          .      619620
              .          .          .           .
              .          .          .           .
4233          .          .          .           .          .<-------   D619L
4231          .          .          .           .      BB619L
              .          .          .           .           V
              .          .          .           .           V
4234          .          .          .           .      619620
              .          .          .           .           .
              .          .          .           .           .
4241          .          .          .           .           .        211W
              .          .          .           .           .           .
              .          .          .           .           .           .
4262          .          .          .       C620R.......................
              .          .          .           .
              .          .          .           .
4267          .          .          .           .          .<-------   D611R
4265          .          .          .           .      BB611R
              .          .          .           .           V
              .          .          .           .           V
4268          .          .          .           .      611620
              .          .          .           .           .
              .          .          .           .           .
4271          .          .          .        C620............
              .          .          .           V
              .          .          .           V
4274          .          .          .      620621
              .          .          .           .
              .          .          .           .
4281          .          .       C621............
              .          .          V
              .          .          V
4284          .          .     621622
              .          .          .
              .          .          .
4291          .          .          .        211X
              .          .          .           .
              .          .          .           .
4310          .          .     C622R............
              .          .          .
              .          .          .
4313          .          .          .        211A
              .          .          .           V
              .          .          .           V
4332          .          .          .       C600O
              .          .          .           V
              .          .          .           V
4341          .          .          .      600601
              .          .          .           .
              .          .          .           .
4348          .          .          .           .        211B
              .          .          .           .           .
              .          .          .           .           .
4367          .          .          .        C601............
              .          .          .           V
              .          .          .           V
4370          .          .          .      601602
              .          .          .           .
              .          .          .           .
4377          .          .          .           .        211C
              .          .          .           .           .
              .          .          .           .           .
4398          .          .          .       C602L...........
              .          .          .           .
              .          .          .           .
4401          .          .          .           .        211D
              .          .          .           .           .
              .          .          .           .           .
4422          .          .          .        C602............
              .          .          .           V
              .          .          .           V
4425          .          .          .      602603
              .          .          .           .
              .          .          .           .
4432          .          .          .           .        211E
              .          .          .           .           .
              .          .          .           .           .
4453          .          .          .        C603............
              .          .          .           V
              .          .          .           V
4456          .          .          .      603622
              .          .          .           .
              .          .          .           .
4463          .          .          .           .        211F
              .          .          .           .           .
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4484                                  C622L............
4487                          C622............
                                 V
                                 V
4490                          622549
4497                                     211Y
4516                          C549R............
4519                   C549............
                          V
                          V
4522                549626
4529                          211Z
4550                C626C............
4553                          211AA
                                 V
                                 V
4574                          625626
4581                                  211AB
                                         V
                                         V
4602                                 623624
4609                                                 211AC
4630                                   C624............
                                         V
                                         V
4633                                 624626
4640                                                 211AD
4661                                  C626R............
4664                   C626........................
                          V
                          V
4667                626627
4674                          211AE
4695                   C627............
4698                          211AF
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*            VERSION 4.0.1E             *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  06/27/97  TIME  15:36:30   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

Fountain Hills Area Drainage Master Plan
Golden Eagle Park Dam Feasibility Study
FCD 94-16 by GVSCE
Existing Condition Model

File: EXMOD6.IH1
Date: 6/9/97

Proposed Improvements for GEPD Reflected in Rating Curve at C5990
100-Year, 6-Hour Storm

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

   IT          HYDROGRAPH TIME DATA
                     NMIN            1  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1     0  STARTING DATE
                    ITIME         0000  STARTING TIME
                       NQ         1080  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE      1     0  ENDING DATE
                  NDTIME         1759  ENDING TIME
                   ICENT           19  CENTURY MARK

              COMPUTATION INTERVAL    0.02 HOURS
                   TOTAL TIME BASE   17.98 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

10 JD          INDEX STORM NO. 1
                    STRM         3.30  PRECIPITATION DEPTH
                    TRDA         0.01  TRANSPOSITION DRAINAGE AREA

11 PI            PRECIPITATION PATTERN
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
                   0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                   0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                   0.01      0.01      0.01      0.01      0.01      0.03      0.03      0.03      0.03      0.03
                   0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03
                   0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                   0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

14 JD          INDEX STORM NO. 2
                    STRM         3.28  PRECIPITATION DEPTH
                    TRDA         0.50  TRANSPOSITION DRAINAGE AREA

 0 PI            PRECIPITATION PATTERN
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                   0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
```

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

15 JD INDEX STORM NO. 3

STRM 3.23 PRECIPITATION DEPTH
TRDA 2.80 TRANSPOSITION DRAINAGE AREA

16 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

19 JD INDEX STORM NO. 4

STRM 3.04 PRECIPITATION DEPTH
TRDA 16.00 TRANSPOSITION DRAINAGE AREA

20 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

23 JD INDEX STORM NO. 5

STRM 2.67 PRECIPITATION DEPTH
TRDA 90.00 TRANSPOSITION DRAINAGE AREA

24 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

27 JD INDEX STORM NO. 6

STRM 1.88 PRECIPITATION DEPTH
TRDA 500.00 TRANSPOSITION DRAINAGE AREA

28 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01

0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO

1

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	201A	318.	4.30	41.	14.	14.	0.22		
+	HYDROGRAPH AT	201B	151.	4.20	15.	5.	5.	0.08		
+	2 COMBINED AT	C501	446.	4.27	56.	19.	19.	0.30		
+	ROUTED TO	501502	437.	4.38	56.	19.	19.	0.30		
+	HYDROGRAPH AT	201C	143.	4.20	14.	5.	5.	0.08		
+	2 COMBINED AT	C502R	537.	4.37	70.	23.	23.	0.38		
+	HYDROGRAPH AT	201D	93.	4.27	13.	4.	4.	0.07		
+	2 COMBINED AT	C502	622.	4.35	83.	28.	28.	0.45		
+	ROUTED TO	502503	609.	4.48	83.	28.	28.	0.45		
+	HYDROGRAPH AT	201E	225.	4.33	32.	11.	11.	0.18		
+	2 COMBINED AT	C503I	769.	4.47	113.	38.	38.	0.63		
+	ROUTED TO	C503O	323.	5.02	113.	38.	38.	0.63		
+	DIVERSION TO	D503L	323.	5.02	113.	38.	38.	0.63		
+	HYDROGRAPH AT	D503R	0.	0.02	0.	0.	0.	0.63		
+	ROUTED TO	503504	0.	0.02	0.	0.	0.	0.63		
+	HYDROGRAPH AT	202A	67.	4.18	7.	2.	2.	0.04		
+	2 COMBINED AT	C504I	62.	4.18	6.	2.	2.	0.67		
+	ROUTED TO	C504O	30.	4.48	6.	2.	2.	0.67		
+	DIVERSION TO	D504L	22.	4.43	6.	2.	2.	0.67		

	HYDROGRAPH AT							
+		D504R	8.	4.48	1.	0.	0.	0.67
	HYDROGRAPH AT							
+		202B	35.	4.12	3.	1.	1.	0.02
	2 COMBINED AT							
+		C505I	32.	4.12	3.	1.	1.	0.69
	DIVERSION TO							
+		D505L	14.	4.12	2.	1.	1.	0.69
	HYDROGRAPH AT							
+		D505R	18.	4.12	1.	0.	0.	0.69
	HYDROGRAPH AT							
+		202C	19.	4.08	1.	0.	0.	0.01
	2 COMBINED AT							
+		C506	34.	4.10	2.	1.	1.	0.69
	DIVERSION TO							
+		D506L	0.	0.02	0.	0.	0.	0.69
	HYDROGRAPH AT							
+		D506R	34.	4.10	2.	1.	1.	0.69
	HYDROGRAPH AT							
+		202D	96.	4.22	12.	4.	4.	0.06
	HYDROGRAPH AT							
+		202E	214.	4.17	19.	6.	6.	0.10
	ROUTED TO							
+		C508O	208.	4.20	19.	6.	6.	0.10
	DIVERSION TO							
+		D508R	72.	4.20	11.	4.	4.	0.10
	HYDROGRAPH AT							
+		D508L	135.	4.20	8.	3.	3.	0.10
	ROUTED TO							
+		508507	130.	4.28	8.	3.	3.	0.10
	3 COMBINED AT							
+		C507I	203.	4.27	20.	7.	7.	0.86
	ROUTED TO							
+		C507O	203.	4.27	20.	7.	7.	0.86
	HYDROGRAPH AT							
+		202F	36.	4.07	2.	1.	1.	0.01
	HYDROGRAPH AT							
+		202G	38.	4.07	2.	1.	1.	0.01
	HYDROGRAPH AT							
+		202H	351.	4.20	31.	10.	10.	0.18
	ROUTED TO							
+		C511O	263.	4.33	31.	10.	10.	0.18
	ROUTED TO							
+		511512	263.	4.37	31.	10.	10.	0.18
	HYDROGRAPH AT							
+		202I	36.	4.10	3.	1.	1.	0.02
	2 COMBINED AT							
+		C512I	280.	4.35	35.	12.	12.	0.20
	ROUTED TO							
+		C512O	102.	4.77	14.	5.	5.	0.20
	DIVERSION TO							
+		D512R	30.	4.77	2.	1.	1.	0.20
	HYDROGRAPH AT							
+		D512L	72.	4.77	12.	4.	4.	0.20
	HYDROGRAPH AT							
+		203A	389.	4.27	53.	18.	18.	0.28
	ROUTED TO							
+		C513O	369.	4.35	53.	18.	18.	0.28
	ROUTED TO							

+	513514	355.	4.47	53.	18.	18.	0.28
+ HYDROGRAPH AT	203B	93.	4.10	9.	3.	3.	0.04
+ 2 COMBINED AT	C514R	388.	4.45	61.	20.	20.	0.32
+ HYDROGRAPH AT	203C	154.	4.20	20.	7.	7.	0.10
+ 2 COMBINED AT	C514	496.	4.43	81.	27.	27.	0.43
+ HYDROGRAPH AT	203D	161.	4.23	20.	7.	7.	0.11
+ 2 COMBINED AT	C515	609.	4.42	101.	34.	34.	0.53
+ ROUTED TO	515517	600.	4.52	101.	34.	34.	0.53
+ HYDROGRAPH AT	203E	201.	4.18	19.	6.	6.	0.09
+ 2 COMBINED AT	C517R	661.	4.48	117.	39.	39.	0.63
+ HYDROGRAPH AT	203F	524.	4.28	61.	20.	20.	0.33
+ ROUTED TO	516517	495.	4.52	61.	20.	20.	0.33
+ HYDROGRAPH AT	203G	356.	4.30	46.	15.	15.	0.25
+ 2 COMBINED AT	C517L	741.	4.50	105.	35.	35.	0.58
+ 2 COMBINED AT	C517	1227.	4.50	208.	70.	70.	1.21
+ ROUTED TO	517518	1211.	4.63	208.	70.	70.	1.21
+ HYDROGRAPH AT	203H	343.	4.27	38.	13.	13.	0.21
+ 2 COMBINED AT	C518	1331.	4.62	240.	80.	80.	1.41
+ ROUTED TO	518519	1323.	4.65	240.	80.	80.	1.41
+ HYDROGRAPH AT	203I	170.	4.37	30.	10.	10.	0.17
+ 2 COMBINED AT	C519	1406.	4.65	263.	88.	88.	1.59
+ ROUTED TO	519591	1402.	4.68	263.	88.	88.	1.59
+ HYDROGRAPH AT	203J	77.	4.12	8.	3.	3.	0.04
+ ROUTED TO	520591	76.	4.17	8.	3.	3.	0.04
+ HYDROGRAPH AT	BB512R	30.	4.77	2.	1.	1.	0.20
+ 3 COMBINED AT	C591	1402.	4.68	268.	90.	90.	1.83
+ ROUTED TO	591521	1390.	4.72	267.	89.	89.	1.83
+ HYDROGRAPH AT	203K	478.	4.05	42.	14.	14.	0.16
+ 2 COMBINED AT	C521	1407.	4.70	304.	102.	102.	1.99
+ 5 COMBINED AT	CLEAR	1364.	4.70	315.	106.	106.	3.07

	HYDROGRAPH AT							
+		204A	214.	4.20	20.	7.	7.	0.11
	ROUTED TO							
+		522523	201.	4.37	20.	7.	7.	0.11
	HYDROGRAPH AT							
+		204B	208.	4.27	23.	8.	8.	0.13
	2 COMBINED AT							
+		C523I	386.	4.33	43.	14.	14.	0.23
	ROUTED TO							
+		C523O	286.	4.52	43.	14.	14.	0.23
	DIVERSION TO							
+		D523R	19.	4.52	1.	0.	0.	0.23
	HYDROGRAPH AT							
+		D523L	266.	4.52	42.	14.	14.	0.23
	ROUTED TO							
+		523524	263.	4.60	42.	14.	14.	0.23
	HYDROGRAPH AT							
+		204C	205.	4.08	18.	6.	6.	0.08
	2 COMBINED AT							
+		C524	282.	4.58	60.	20.	20.	0.31
	ROUTED TO							
+		524525	280.	4.60	60.	20.	20.	0.31
	HYDROGRAPH AT							
+		204D	128.	4.05	12.	4.	4.	0.04
	2 COMBINED AT							
+		C525	358.	4.12	71.	24.	24.	0.35
	ROUTED TO							
+		525526	355.	4.15	71.	24.	24.	0.35
	HYDROGRAPH AT							
+		204E	189.	4.07	18.	6.	6.	0.07
	2 COMBINED AT							
+		C526	523.	4.10	90.	30.	30.	0.43
	ROUTED TO							
+		526527	517.	4.17	90.	30.	30.	0.43
	HYDROGRAPH AT							
+		204F	260.	4.02	22.	7.	7.	0.08
	2 COMBINED AT							
+		C527	665.	4.12	111.	37.	37.	0.50
	2 COMBINED AT							
+		CLEAR	1646.	4.67	406.	137.	137.	3.58
	HYDROGRAPH AT							
+		205A	210.	4.22	26.	9.	9.	0.12
	HYDROGRAPH AT							
+		205B	486.	4.18	47.	16.	16.	0.21
	2 COMBINED AT							
+		C528	690.	4.20	73.	25.	25.	0.33
	ROUTED TO							
+		528530	680.	4.23	73.	25.	25.	0.33
	HYDROGRAPH AT							
+		205C	107.	4.20	13.	4.	4.	0.06
	2 COMBINED AT							
+		C530R	785.	4.22	86.	29.	29.	0.39
	HYDROGRAPH AT							
+		205D	665.	4.23	71.	24.	24.	0.32
	HYDROGRAPH AT							
+		205E	301.	4.33	48.	16.	16.	0.22
	2 COMBINED AT							
+		C529	917.	4.25	119.	40.	40.	0.54
	2 COMBINED AT							

+	C530	1472.	4.23	197.	66.	66.	0.93
ROUTED TO +	530531	1455.	4.28	197.	66.	66.	0.93
HYDROGRAPH AT +	205F	325.	4.22	36.	12.	12.	0.16
2 COMBINED AT +	C531	1639.	4.27	228.	77.	77.	1.09
ROUTED TO +	531532	1619.	4.33	228.	77.	77.	1.09
HYDROGRAPH AT +	205G	349.	4.23	40.	13.	13.	0.19
2 COMBINED AT +	C532L	1791.	4.32	262.	88.	88.	1.27
HYDROGRAPH AT +	205H	350.	4.35	56.	19.	19.	0.26
2 COMBINED AT +	C532	1970.	4.33	310.	104.	104.	1.53
ROUTED TO +	532533	1956.	4.35	310.	104.	104.	1.53
HYDROGRAPH AT +	205I	559.	4.30	70.	23.	23.	0.35
2 COMBINED AT +	C533	2232.	4.35	367.	123.	123.	1.89
ROUTED TO +	533534	2189.	4.52	367.	123.	123.	1.89
HYDROGRAPH AT +	205J	551.	4.28	65.	22.	22.	0.37
2 COMBINED AT +	C534R	2392.	4.50	416.	140.	140.	2.25
HYDROGRAPH AT +	205K	266.	4.38	45.	15.	15.	0.25
2 COMBINED AT +	C534	2507.	4.52	450.	151.	151.	2.50
ROUTED TO +	534535	2495.	4.55	450.	151.	151.	2.50
HYDROGRAPH AT +	205L	263.	4.15	20.	7.	7.	0.12
2 COMBINED AT +	C535	2520.	4.55	465.	156.	156.	2.62
ROUTED TO +	535536	2496.	4.68	464.	156.	156.	2.62
HYDROGRAPH AT +	205M	335.	4.10	31.	10.	10.	0.14
2 COMBINED AT +	C536R	2516.	4.67	489.	165.	165.	2.76
HYDROGRAPH AT +	205N	211.	4.25	29.	10.	10.	0.16
2 COMBINED AT +	C536I	2586.	4.67	510.	172.	172.	2.91
ROUTED TO +	C536O	326.	6.03	312.	172.	172.	2.91
ROUTED TO +	536537	326.	6.08	312.	172.	172.	2.91
HYDROGRAPH AT +	206A	408.	4.03	31.	10.	10.	0.13
2 COMBINED AT +	C537	344.	4.28	317.	181.	181.	3.04
ROUTED TO +	537538	339.	4.33	316.	181.	181.	3.04

	HYDROGRAPH AT							
+		206B	304.	4.03	25.	8.	8.	0.09
	2 COMBINED AT							
+		C538I	463.	4.08	329.	188.	188.	3.14
	ROUTED TO							
+		C538O	434.	4.28	327.	188.	188.	3.14
	ROUTED TO							
+		538540	433.	4.37	327.	188.	188.	3.14
	HYDROGRAPH AT							
+		206C	45.	4.10	4.	1.	1.	0.02
	2 COMBINED AT							
+		C540R	452.	4.35	329.	189.	189.	3.16
	HYDROGRAPH AT							
+		206D	195.	4.03	17.	6.	6.	0.06
	ROUTED TO							
+		539540	185.	4.10	17.	6.	6.	0.06
	HYDROGRAPH AT							
+		206E	45.	4.08	4.	1.	1.	0.02
	2 COMBINED AT							
+		C540L	230.	4.10	20.	7.	7.	0.09
	2 COMBINED AT							
+		C540	545.	4.30	341.	194.	194.	3.24
	ROUTED TO							
+		540541	541.	4.50	340.	194.	194.	3.24
	HYDROGRAPH AT							
+		206F	259.	4.17	27.	9.	9.	0.16
	2 COMBINED AT							
+		C541	651.	4.43	357.	200.	200.	3.40
	ROUTED TO							
+		541548	649.	4.45	357.	200.	200.	3.40
	HYDROGRAPH AT							
+		206G	112.	4.27	18.	6.	6.	0.09
	HYDROGRAPH AT							
+		BB523R	19.	4.52	1.	0.	0.	0.23
	ROUTED TO							
+		523548	16.	4.77	1.	0.	0.	0.23
	3 COMBINED AT							
+		C548L	713.	4.45	369.	203.	203.	3.72
	HYDROGRAPH AT							
+		206H	153.	4.07	14.	5.	5.	0.06
	ROUTED TO							
+		542543	149.	4.08	14.	5.	5.	0.06
	HYDROGRAPH AT							
+		206I	67.	4.03	5.	2.	2.	0.02
	2 COMBINED AT							
+		C543	210.	4.07	19.	6.	6.	0.08
	DIVERSION TO							
+		D543R	210.	4.07	19.	6.	6.	0.08
	HYDROGRAPH AT							
+		D543L	0.	0.02	0.	0.	0.	0.08
	ROUTED TO							
+		543544	0.	0.02	0.	0.	0.	0.08
	HYDROGRAPH AT							
+		206K	103.	4.13	11.	4.	4.	0.06
	2 COMBINED AT							
+		C544	102.	4.13	11.	4.	4.	0.14
	ROUTED TO							
+		544545	102.	4.17	11.	4.	4.	0.14
	DIVERSION TO							

+	D545R	51.	4.17	5.	2.	2.	0.14
+ HYDROGRAPH AT	D545L	51.	4.17	5.	2.	2.	0.14
+ ROUTED TO	545546	51.	4.18	5.	2.	2.	0.14
+ HYDROGRAPH AT	206L	123.	4.12	12.	4.	4.	0.06
+ 2 COMBINED AT	C546	171.	4.15	18.	6.	6.	0.20
+ ROUTED TO	546547	170.	4.17	18.	6.	6.	0.20
+ HYDROGRAPH AT	BB543R	210.	4.07	19.	6.	6.	0.08
+ ROUTED TO	543547	202.	4.15	19.	6.	6.	0.08
+ HYDROGRAPH AT	BB545R	51.	4.17	5.	2.	2.	0.14
+ ROUTED TO	545547	50.	4.23	5.	2.	2.	0.14
+ HYDROGRAPH AT	206J	200.	4.02	16.	5.	5.	0.06
+ 4 COMBINED AT	C547	525.	4.10	59.	20.	20.	0.26
+ ROUTED TO	547548	521.	4.17	59.	20.	20.	0.26
+ HYDROGRAPH AT	206M	198.	4.02	16.	5.	5.	0.06
+ 2 COMBINED AT	C548R	635.	4.12	75.	25.	25.	0.32
+ 2 COMBINED AT	C548	1038.	4.30	421.	224.	224.	4.04
+ ROUTED TO	548549	1028.	4.45	421.	224.	224.	4.04
+ HYDROGRAPH AT	206N	458.	4.05	41.	14.	14.	0.15
+ 2 COMBINED AT	C549L	1128.	4.40	443.	235.	235.	4.19
+ HYDROGRAPH AT	207A	382.	4.30	55.	18.	18.	0.26
+ HYDROGRAPH AT	207B	306.	4.30	46.	15.	15.	0.21
+ 2 COMBINED AT	C550	687.	4.30	101.	34.	34.	0.46
+ ROUTED TO	550552	675.	4.37	100.	34.	34.	0.46
+ HYDROGRAPH AT	207C	321.	4.22	34.	11.	11.	0.17
+ 2 COMBINED AT	C552L	878.	4.35	132.	44.	44.	0.64
+ HYDROGRAPH AT	207D	349.	4.25	44.	15.	15.	0.20
+ ROUTED TO	551552	341.	4.33	44.	15.	15.	0.20
+ HYDROGRAPH AT	207E	180.	4.37	34.	12.	12.	0.16
+ 2 COMBINED AT	C552R	518.	4.33	78.	26.	26.	0.35
+ 2 COMBINED AT	C552	1244.	4.35	202.	68.	68.	0.99

	ROUTED TO							
+		552553	1236.	4.38	202.	68.	68.	0.99
	HYDROGRAPH AT							
+		207F	213.	4.20	28.	9.	9.	0.13
	2 COMBINED AT							
+		C553	1345.	4.37	226.	76.	76.	1.12
	ROUTED TO							
+		553556	1338.	4.42	226.	76.	76.	1.12
	HYDROGRAPH AT							
+		207G	294.	4.35	45.	15.	15.	0.24
	2 COMBINED AT							
+		C556L	1513.	4.40	264.	89.	89.	1.35
	HYDROGRAPH AT							
+		207H	188.	4.27	28.	9.	9.	0.12
	ROUTED TO							
+		554555	184.	4.33	28.	9.	9.	0.12
	HYDROGRAPH AT							
+		207I	109.	4.25	16.	5.	5.	0.07
	2 COMBINED AT							
+		C555	285.	4.32	44.	15.	15.	0.20
	ROUTED TO							
+		555556	279.	4.45	44.	15.	15.	0.20
	HYDROGRAPH AT							
+		207J	162.	4.18	21.	7.	7.	0.09
	2 COMBINED AT							
+		C556R	385.	4.40	65.	22.	22.	0.29
	2 COMBINED AT							
+		C556	1752.	4.42	319.	108.	108.	1.64
	ROUTED TO							
+		556557	1744.	4.47	319.	108.	108.	1.64
	HYDROGRAPH AT							
+		207K	283.	4.13	31.	10.	10.	0.13
	2 COMBINED AT							
+		C557R	1833.	4.45	346.	117.	117.	1.77
	HYDROGRAPH AT							
+		207L	203.	4.07	20.	7.	7.	0.08
	2 COMBINED AT							
+		C557	1879.	4.43	363.	122.	122.	1.85
	ROUTED TO							
+		557558	1871.	4.50	363.	122.	122.	1.85
	HYDROGRAPH AT							
+		207M	270.	4.10	22.	7.	7.	0.12
	2 COMBINED AT							
+		C558	1918.	4.48	381.	128.	128.	1.97
	ROUTED TO							
+		558560	1908.	4.52	381.	128.	128.	1.97
	HYDROGRAPH AT							
+		207O	330.	4.13	26.	9.	9.	0.13
	2 COMBINED AT							
+		C560R	1953.	4.52	401.	135.	135.	2.10
	HYDROGRAPH AT							
+		207N	109.	4.10	10.	3.	3.	0.05
	ROUTED TO							
+		559560	106.	4.22	10.	3.	3.	0.05
	2 COMBINED AT							
+		C560I	1989.	4.50	409.	138.	138.	2.15
	ROUTED TO							
+		C560O	287.	5.93	264.	138.	138.	2.15
	ROUTED TO							

+	560585	287.	6.03	264.	138.	138.	2.15
+ HYDROGRAPH AT	210A	294.	4.13	23.	8.	8.	0.12
+ 2 COMBINED AT	C585	295.	4.18	270.	144.	144.	2.27
+ HYDROGRAPH AT	208A	331.	4.15	31.	10.	10.	0.14
+ ROUTED TO	561563	327.	4.20	31.	10.	10.	0.14
+ HYDROGRAPH AT	208B	45.	4.18	6.	2.	2.	0.03
+ 2 COMBINED AT	C563R	372.	4.18	37.	12.	12.	0.17
+ HYDROGRAPH AT	208C	127.	4.18	15.	5.	5.	0.07
+ ROUTED TO	562563	123.	4.25	15.	5.	5.	0.07
+ HYDROGRAPH AT	208D	118.	4.23	17.	6.	6.	0.08
+ 2 COMBINED AT	C563L	240.	4.25	31.	10.	10.	0.14
+ 2 COMBINED AT	C563	599.	4.22	68.	23.	23.	0.31
+ ROUTED TO	563564	584.	4.27	68.	23.	23.	0.31
+ HYDROGRAPH AT	208E	107.	4.22	14.	5.	5.	0.06
+ 2 COMBINED AT	C564R	684.	4.27	82.	27.	27.	0.37
+ HYDROGRAPH AT	208F	133.	4.18	15.	5.	5.	0.07
+ 2 COMBINED AT	C564	804.	4.25	97.	33.	33.	0.44
+ ROUTED TO	564565	783.	4.35	97.	33.	33.	0.44
+ HYDROGRAPH AT	208G	244.	4.17	30.	10.	10.	0.13
+ 2 COMBINED AT	C565	938.	4.33	125.	42.	42.	0.57
+ ROUTED TO	565568	927.	4.38	125.	42.	42.	0.57
+ HYDROGRAPH AT	208H	72.	4.18	8.	3.	3.	0.04
+ 2 COMBINED AT	C568L	961.	4.38	133.	45.	45.	0.61
+ HYDROGRAPH AT	208I	213.	4.22	26.	9.	9.	0.12
+ HYDROGRAPH AT	208J	106.	4.28	18.	6.	6.	0.08
+ 2 COMBINED AT	C566	313.	4.23	43.	15.	15.	0.20
+ ROUTED TO	566567	308.	4.30	43.	15.	15.	0.20
+ HYDROGRAPH AT	208K	106.	4.15	11.	4.	4.	0.05
+ 2 COMBINED AT	C567L	383.	4.27	54.	18.	18.	0.25
+ HYDROGRAPH AT	208L	101.	4.20	13.	4.	4.	0.06

	2 COMBINED AT							
+		C567	478.	4.25	67.	22.	22.	0.31
	ROUTED TO							
+		567568	468.	4.35	67.	22.	22.	0.31
	HYDROGRAPH AT							
+		208M	249.	4.28	35.	12.	12.	0.16
	2 COMBINED AT							
+		C568R	701.	4.33	102.	34.	34.	0.46
	2 COMBINED AT							
+		C568	1428.	4.37	224.	75.	75.	1.07
	ROUTED TO							
+		568573	1420.	4.43	224.	75.	75.	1.07
	HYDROGRAPH AT							
+		208N	86.	4.20	11.	4.	4.	0.05
	2 COMBINED AT							
+		C573L	1460.	4.43	234.	79.	79.	1.12
	HYDROGRAPH AT							
+		208O	386.	4.27	51.	17.	17.	0.23
	ROUTED TO							
+		569570	382.	4.30	51.	17.	17.	0.23
	HYDROGRAPH AT							
+		208P	145.	4.13	13.	4.	4.	0.06
	2 COMBINED AT							
+		C570R	467.	4.28	64.	22.	22.	0.29
	HYDROGRAPH AT							
+		208Q	169.	4.22	21.	7.	7.	0.09
	2 COMBINED AT							
+		C570	628.	4.25	86.	29.	29.	0.38
	HYDROGRAPH AT							
+		208R	25.	4.10	2.	1.	1.	0.01
	ROUTED TO							
+		571572	24.	4.15	2.	1.	1.	0.01
	2 COMBINED AT							
+		C572	647.	4.25	88.	29.	29.	0.39
	ROUTED TO							
+		572573	644.	4.27	88.	29.	29.	0.39
	HYDROGRAPH AT							
+		208S	160.	4.15	17.	6.	6.	0.07
	2 COMBINED AT							
+		C573R	772.	4.23	105.	35.	35.	0.46
	2 COMBINED AT							
+		C573	1872.	4.40	325.	110.	110.	1.58
	HYDROGRAPH AT							
+		208T	283.	4.18	30.	10.	10.	0.13
	HYDROGRAPH AT							
+		208U	379.	4.12	30.	10.	10.	0.13
	2 COMBINED AT							
+		C574	643.	4.13	60.	20.	20.	0.27
	ROUTED TO							
+		574575	638.	4.15	60.	20.	20.	0.27
	HYDROGRAPH AT							
+		208V	71.	4.12	6.	2.	2.	0.03
	2 COMBINED AT							
+		C575	704.	4.15	66.	22.	22.	0.29
	ROUTED TO							
+		575576	691.	4.18	66.	22.	22.	0.29
	HYDROGRAPH AT							
+		208W	122.	4.13	11.	4.	4.	0.05
	2 COMBINED AT							

+	C576	803.	4.17	77.	26.	26.	0.34
ROUTED TO +	576577	800.	4.18	77.	26.	26.	0.34
2 COMBINED AT +	C577	2187.	4.37	391.	132.	132.	1.92
ROUTED TO +	577578	2184.	4.40	391.	132.	132.	1.92
HYDROGRAPH AT +	208X	206.	4.12	17.	6.	6.	0.08
2 COMBINED AT +	C578I	2231.	4.38	405.	136.	136.	2.00
ROUTED TO +	C578O	381.	5.15	310.	136.	136.	2.00
ROUTED TO +	578587	381.	5.20	310.	136.	136.	2.00
HYDROGRAPH AT +	210B	172.	4.18	21.	7.	7.	0.11
ROUTED TO +	C586O	162.	4.27	21.	7.	7.	0.11
ROUTED TO +	586587	161.	4.32	21.	7.	7.	0.11
2 COMBINED AT +	C587	401.	4.47	324.	142.	142.	2.11
ROUTED TO +	587595	401.	4.50	324.	142.	142.	2.11
HYDROGRAPH AT +	210C	165.	4.17	15.	5.	5.	0.08
2 COMBINED AT +	C595L	468.	4.40	333.	146.	146.	2.19
HYDROGRAPH AT +	210D	301.	4.18	30.	10.	10.	0.14
ROUTED TO +	588590	297.	4.22	30.	10.	10.	0.14
HYDROGRAPH AT +	210E	62.	4.15	6.	2.	2.	0.03
2 COMBINED AT +	C590L	353.	4.20	36.	12.	12.	0.17
HYDROGRAPH AT +	210F	184.	4.20	21.	7.	7.	0.09
ROUTED TO +	589590	180.	4.23	21.	7.	7.	0.09
HYDROGRAPH AT +	210G	293.	4.23	35.	12.	12.	0.16
2 COMBINED AT +	C590R	472.	4.23	56.	19.	19.	0.25
2 COMBINED AT +	C590	819.	4.22	91.	31.	31.	0.42
HYDROGRAPH AT +	210H	163.	4.13	14.	5.	5.	0.07
ROUTED TO +	592593	158.	4.18	14.	5.	5.	0.07
2 COMBINED AT +	C593	972.	4.22	105.	35.	35.	0.49
ROUTED TO +	593594	963.	4.25	105.	35.	35.	0.49
HYDROGRAPH AT +	210I	94.	4.17	10.	3.	3.	0.05
2 COMBINED AT +	C594	1030.	4.23	115.	38.	38.	0.54

	ROUTED TO							
+		594595	1007.	4.33	115.	38.	38.	0.54
	HYDROGRAPH AT							
+		210J	213.	4.18	20.	7.	7.	0.10
	2 COMBINED AT							
+		C595R	1119.	4.32	133.	44.	44.	0.64
	2 COMBINED AT							
+		C595	1205.	4.35	438.	183.	183.	2.83
	ROUTED TO							
+		595596	1201.	4.40	438.	183.	183.	2.83
	HYDROGRAPH AT							
+		210K	207.	4.12	15.	5.	5.	0.08
	2 COMBINED AT							
+		C596	1268.	4.38	448.	187.	187.	2.91
	HYDROGRAPH AT							
+		209A	792.	4.22	82.	27.	27.	0.37
	ROUTED TO							
+		579580	787.	4.25	82.	27.	27.	0.37
	HYDROGRAPH AT							
+		209C	105.	4.22	14.	5.	5.	0.06
	2 COMBINED AT							
+		C580R	889.	4.25	96.	32.	32.	0.43
	HYDROGRAPH AT							
+		209B	156.	4.20	19.	6.	6.	0.08
	2 COMBINED AT							
+		C580	1031.	4.23	114.	38.	38.	0.51
	ROUTED TO							
+		580581	1019.	4.28	114.	38.	38.	0.51
	HYDROGRAPH AT							
+		209D	563.	4.18	54.	18.	18.	0.24
	2 COMBINED AT							
+		C581R	1368.	4.23	163.	55.	55.	0.76
	HYDROGRAPH AT							
+		209E	238.	4.27	33.	11.	11.	0.15
	2 COMBINED AT							
+		C581	1511.	4.25	193.	65.	65.	0.91
	ROUTED TO							
+		581582	1488.	4.30	193.	65.	65.	0.91
	HYDROGRAPH AT							
+		209F	360.	4.28	49.	16.	16.	0.23
	2 COMBINED AT							
+		C582R	1698.	4.30	235.	79.	79.	1.13
	HYDROGRAPH AT							
+		209G	337.	4.28	45.	15.	15.	0.20
	2 COMBINED AT							
+		C582	1886.	4.30	275.	92.	92.	1.34
	ROUTED TO							
+		582583	1867.	4.33	275.	92.	92.	1.34
	HYDROGRAPH AT							
+		209H	203.	4.13	17.	6.	6.	0.08
	2 COMBINED AT							
+		C583	1928.	4.33	289.	97.	97.	1.42
	ROUTED TO							
+		583584	1903.	4.40	289.	97.	97.	1.42
	HYDROGRAPH AT							
+		209I	481.	4.13	36.	12.	12.	0.18
	2 COMBINED AT							
+		C584I	1999.	4.40	319.	107.	107.	1.60
	ROUTED TO							

+	C584O	469.	4.95	305.	107.	107.	1.60
ROUTED TO							
+	584597	466.	5.08	305.	107.	107.	1.60
HYDROGRAPH AT							
+	210L	255.	4.15	24.	8.	8.	0.14
2 COMBINED AT							
+	C597	460.	5.07	321.	113.	113.	1.74
ROUTED TO							
+	597598	458.	5.15	321.	113.	113.	1.74
HYDROGRAPH AT							
+	210M	286.	4.22	30.	10.	10.	0.16
2 COMBINED AT							
+	C598	587.	4.37	344.	121.	121.	1.90
HYDROGRAPH AT							
+	210N	130.	4.08	8.	3.	3.	0.05
4 COMBINED AT							
+	C599I	1917.	4.40	981.	408.	408.	7.13
ROUTED TO							
+	C599O	1390.	4.90	978.	408.	408.	7.13
ROUTED TO							
+	599608	1390.	4.95	978.	408.	408.	7.13
HYDROGRAPH AT							
+	211K	302.	4.05	22.	7.	7.	0.10
2 COMBINED AT							
+	C608L	1396.	4.88	987.	413.	413.	7.24
HYDROGRAPH AT							
+	211G	18.	4.05	3.	1.	1.	0.01
ROUTED TO							
+	604606	17.	4.23	3.	1.	1.	0.01
HYDROGRAPH AT							
+	211I	78.	4.17	10.	3.	3.	0.04
2 COMBINED AT							
+	C606R	94.	4.18	13.	4.	4.	0.05
HYDROGRAPH AT							
+	211H	181.	4.13	14.	5.	5.	0.07
ROUTED TO							
+	C605O	115.	4.27	14.	5.	5.	0.07
2 COMBINED AT							
+	C606	206.	4.20	26.	9.	9.	0.12
ROUTED TO							
+	606607	204.	4.23	26.	9.	9.	0.12
HYDROGRAPH AT							
+	211J	37.	4.08	4.	1.	1.	0.01
2 COMBINED AT							
+	C607	230.	4.22	30.	10.	10.	0.14
ROUTED TO							
+	607608	228.	4.25	30.	10.	10.	0.14
2 COMBINED AT							
+	C608	1473.	4.55	1007.	421.	421.	7.37
ROUTED TO							
+	608613	1472.	4.58	1007.	421.	421.	7.37
HYDROGRAPH AT							
+	211M	203.	4.13	19.	6.	6.	0.08
ROUTED TO							
+	610611	200.	4.17	19.	6.	6.	0.08
HYDROGRAPH AT							
+	211N	51.	4.07	4.	1.	1.	0.02
2 COMBINED AT							
+	C611R	241.	4.15	23.	8.	8.	0.10

	HYDROGRAPH AT							
+		211O	107.	4.07	10.	3.	3.	0.04
	ROUTED TO							
+		C609O	61.	4.25	10.	3.	3.	0.04
	ROUTED TO							
+		609611	61.	4.28	10.	3.	3.	0.04
	2 COMBINED AT							
+		C611I	299.	4.17	33.	11.	11.	0.14
	ROUTED TO							
+		C611O	151.	4.45	33.	11.	11.	0.14
	DIVERSION TO							
+		D611R	151.	4.45	33.	11.	11.	0.14
	HYDROGRAPH AT							
+		D611L	0.	0.02	0.	0.	0.	0.14
	ROUTED TO							
+		611612	0.	0.02	0.	0.	0.	0.14
	HYDROGRAPH AT							
+		211P	119.	4.00	10.	3.	3.	0.03
	2 COMBINED AT							
+		C612	119.	4.00	10.	3.	3.	0.17
	2 COMBINED AT							
+		C613	1484.	4.55	1010.	423.	423.	7.55
	ROUTED TO							
+		613621	1484.	4.57	1010.	423.	423.	7.55
	HYDROGRAPH AT							
+		211L	301.	4.03	23.	8.	8.	0.10
	2 COMBINED AT							
+		C621L	1520.	4.37	1020.	428.	428.	7.64
	HYDROGRAPH AT							
+		211Q	56.	4.05	4.	1.	1.	0.02
	ROUTED TO							
+		616617	55.	4.12	4.	1.	1.	0.02
	HYDROGRAPH AT							
+		211R	200.	4.10	19.	6.	6.	0.08
	2 COMBINED AT							
+		C617L	255.	4.10	23.	8.	8.	0.10
	HYDROGRAPH AT							
+		211U	56.	4.07	8.	3.	3.	0.03
	DIVERSION TO							
+		D614R	39.	4.07	5.	2.	2.	0.03
	HYDROGRAPH AT							
+		D614L	16.	4.07	3.	1.	1.	0.03
	2 COMBINED AT							
+		C617	270.	4.10	26.	9.	9.	0.13
	ROUTED TO							
+		617618	263.	4.18	26.	9.	9.	0.13
	HYDROGRAPH AT							
+		211S	125.	4.08	12.	4.	4.	0.05
	2 COMBINED AT							
+		C618I	370.	4.15	37.	12.	12.	0.18
	ROUTED TO							
+		C618O	367.	4.17	31.	12.	12.	0.18
	HYDROGRAPH AT							
+		BB614R	39.	4.07	5.	2.	2.	0.03
	ROUTED TO							
+		614615	39.	4.12	5.	2.	2.	0.03
	HYDROGRAPH AT							
+		211V	16.	4.02	2.	1.	1.	0.00
	2 COMBINED AT							

+	C615	51.	4.08	7.	2.	2.	0.03
DIVERSION TO +	D615R	18.	4.08	2.	1.	1.	0.03
HYDROGRAPH AT +	D615L	33.	4.08	5.	2.	2.	0.03
ROUTED TO +	615618	33.	4.08	5.	2.	2.	0.03
2 COMBINED AT +	C618	398.	4.17	36.	14.	14.	0.19
ROUTED TO +	618619	389.	4.25	36.	14.	14.	0.19
HYDROGRAPH AT +	211T	162.	4.08	15.	5.	5.	0.07
2 COMBINED AT +	C619L	503.	4.22	50.	19.	19.	0.26
HYDROGRAPH AT +	BB615R	18.	4.08	2.	1.	1.	0.03
ROUTED TO +	615619	18.	4.17	2.	1.	1.	0.03
2 COMBINED AT +	C619I	520.	4.22	52.	20.	20.	0.25
ROUTED TO +	C619O	363.	4.40	52.	20.	20.	0.25
DIVERSION TO +	D619L	171.	4.40	4.	1.	1.	0.25
HYDROGRAPH AT +	D619R	192.	4.40	48.	18.	18.	0.25
ROUTED TO +	619620	192.	4.42	48.	18.	18.	0.25
HYDROGRAPH AT +	BB619L	171.	4.40	4.	1.	1.	0.25
ROUTED TO +	619620	136.	4.45	4.	1.	1.	0.25
HYDROGRAPH AT +	211W	105.	4.02	9.	3.	3.	0.03
3 COMBINED AT +	C620R	335.	4.43	61.	23.	23.	0.28
HYDROGRAPH AT +	BB611R	151.	4.45	33.	11.	11.	0.14
ROUTED TO +	611620	151.	4.47	33.	11.	11.	0.14
2 COMBINED AT +	C620	485.	4.43	94.	34.	34.	0.42
ROUTED TO +	620621	482.	4.47	94.	33.	33.	0.42
2 COMBINED AT +	C621	1827.	4.37	1086.	455.	455.	7.93
ROUTED TO +	621622	1822.	4.53	1086.	455.	455.	7.93
HYDROGRAPH AT +	211X	503.	4.12	55.	18.	18.	0.21
2 COMBINED AT +	C622R	1989.	4.45	1117.	469.	469.	8.14
HYDROGRAPH AT +	211A	283.	4.15	30.	10.	10.	0.14
ROUTED TO +	C600O	266.	4.22	30.	10.	10.	0.14
ROUTED TO +	600601	263.	4.28	30.	10.	10.	0.14

	HYDROGRAPH AT							
+		211B	249.	4.12	23.	8.	8.	0.11
	2 COMBINED AT							
+		C601	462.	4.18	52.	17.	17.	0.25
	ROUTED TO							
+		601602	458.	4.23	52.	17.	17.	0.25
	HYDROGRAPH AT							
+		211C	134.	4.03	12.	4.	4.	0.04
	2 COMBINED AT							
+		C602L	515.	4.20	64.	21.	21.	0.30
	HYDROGRAPH AT							
+		211D	159.	4.07	15.	5.	5.	0.07
	2 COMBINED AT							
+		C602	635.	4.15	78.	26.	26.	0.37
	ROUTED TO							
+		602603	632.	4.22	78.	26.	26.	0.37
	HYDROGRAPH AT							
+		211E	507.	4.03	41.	14.	14.	0.16
	2 COMBINED AT							
+		C603	936.	4.07	118.	40.	40.	0.52
	ROUTED TO							
+		603622	918.	4.15	118.	40.	40.	0.52
	HYDROGRAPH AT							
+		211F	332.	4.05	32.	11.	11.	0.11
	2 COMBINED AT							
+		C622L	1121.	4.13	149.	50.	50.	0.63
	2 COMBINED AT							
+		C622	2525.	4.40	1216.	507.	507.	8.78
	ROUTED TO							
+		622549	2509.	4.50	1216.	507.	507.	8.78
	HYDROGRAPH AT							
+		211Y	216.	4.10	21.	7.	7.	0.09
	2 COMBINED AT							
+		C549R	2567.	4.50	1228.	513.	513.	8.87
	2 COMBINED AT							
+		C549	3407.	4.50	1602.	700.	700.	13.06
	ROUTED TO							
+		549626	3386.	4.60	1601.	700.	700.	13.06
	HYDROGRAPH AT							
+		211Z	249.	4.03	20.	7.	7.	0.08
	2 COMBINED AT							
+		C626C	3410.	4.58	1608.	704.	704.	13.14
	HYDROGRAPH AT							
+		211AA	78.	4.08	9.	3.	3.	0.03
	ROUTED TO							
+		625626	76.	4.13	9.	3.	3.	0.03
	HYDROGRAPH AT							
+		211AB	135.	4.02	10.	3.	3.	0.04
	ROUTED TO							
+		623624	133.	4.03	10.	3.	3.	0.04
	HYDROGRAPH AT							
+		211AC	90.	4.02	8.	3.	3.	0.03
	2 COMBINED AT							
+		C624	223.	4.03	18.	6.	6.	0.07
	ROUTED TO							
+		624626	215.	4.07	18.	6.	6.	0.07
	HYDROGRAPH AT							
+		211AD	132.	4.03	12.	4.	4.	0.04
	2 COMBINED AT							

+	C626R	342.	4.05	30.	10.	10.	0.11
3 COMBINED AT +	C626	3486.	4.58	1629.	715.	715.	13.28
ROUTED TO +	626627	3484.	4.60	1629.	715.	715.	13.28
HYDROGRAPH AT +	211AE	114.	4.02	9.	3.	3.	0.03
2 COMBINED AT +	C627	3495.	4.60	1633.	717.	717.	13.32
HYDROGRAPH AT +	211AF	177.	4.02	13.	4.	4.	0.05

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

APPENDIX C

HEC-1 for existing watershed conditions and the modified GEPD spillways (100-year, 24-hour)

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              MAY   1991               *
 *           VERSION 4.0.1E              *
 *     Lahey F77L-EM/32 version 5.01     *
 *       Dodson & Associates, Inc.       *
 *  RUN DATE  06/27/97  TIME  15:31:03   *
 *****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

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

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

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1                                    HEC-1 INPUT                                                    PAGE  1

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

    1           ID   Fountain Hills Area Drainage Master Plan
    2           ID   Golden Eagle Park Dam Feasibility Study
    3           ID        FCD 94-16       by GVSCE                          File:  EXMOD24.IH1
    4           ID    Existing Condition Model                              Date:  6/9/97
    5           ID    Proposed Improvements for GEPD Reflected in Rating Curve at C5990
    6           ID    100-Year, 24-Hour Storm
                * ******************************************************************************
                *  Fountain Hills North Floodplain Delineation Study
                *       FCD 92-04       by GVSCE                          File:  EX100-24.IH1
                *   Existing Condition Model                              Date:    07-21-94   dtp
                *   100-Year 24-Hour Storm, Clark Unit Hydrograph     Revised:    09-14-94   trl
                * ******************************************************************************
    7           IT       1                    1800
    8           IO       5
    9           IN      15
                *
                * Point precipitation values are are based on Hydro-40 DARF.
                *   0.01    5.00   10.00   50.00   80.00  100.00  200.00
                *  1.000   0.980   0.949   0.883   0.861   0.850   0.819
                *
   10           JD    4.20    0.01
                * The following PC records are a 24-hour SCS Type II rainfall distribution.
   11           PC   0.000   0.002   0.005   0.008   0.011   0.013   0.016   0.019   0.022   0.025
   12           PC   0.028   0.032   0.035   0.038   0.041   0.044   0.048   0.053   0.056   0.060
   13           PC   0.063   0.067   0.071   0.075   0.080   0.084   0.089   0.093   0.098   0.103
   14           PC   0.109   0.114   0.120   0.127   0.133   0.140   0.147   0.155   0.163   0.172
   15           PC   0.181   0.192   0.204   0.220   0.235   0.259   0.283   0.473   0.663   0.699
   16           PC   0.735   0.754   0.772   0.785   0.799   0.810   0.820   0.829   0.838   0.846
   17           PC   0.854   0.861   0.868   0.874   0.880   0.885   0.891   0.900   0.902   0.910
   18           PC   0.912   0.920   0.921   0.926   0.929   0.930   0.937   0.941   0.945   0.950
   19           PC   0.952   0.957   0.959   0.962   0.965   0.970   0.972   0.973   0.978   0.981
   20           PC   0.984   0.987   0.989   0.992   0.995   0.998   1.000
   21           JD    4.12    5.00
   22           JD    3.99   10.00
   23           JD    3.71   50.00
   24           JD    3.62   80.00
                *

   25           KK    201A
   26           KM   Sub-Basin   201A
   27           KM
   28           KM      The Clark Unit Hydrograph is used for this basin.
   29           KM          The Natural time-area relation is used for this basin.
   30           KM
   31           KM      Time of Concentration for this sub-basin is based on the following:
   32           KM          An rainfall areal reduction factor of 1.000
   33           KM
   34           KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
   35           KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
   36           KM   .25 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
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  37          KM
  38          KM          L=   1.269 miles, S=  208 feet/mile, Kb= .10
  39          KM
  40          BA   0.217
  41          LG    0.15    0.39    5.70    0.19    0.00
1                                   HEC-1 INPUT                                                    PAGE  2

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

  42          UC   0.488   0.482
  43          UA       0       3       5       8      12      20      43      75      90      96
  44          UA     100
              *

  45          KK    201B
  46          KM   Sub-Basin   201B
  47          KM
  48          KM      The Clark Unit Hydrograph is used for this basin.
  49          KM          The Natural time-area relation is used for this basin.
  50          KM
  51          KM      Time of Concentration for this sub-basin is based on the following:
  52          KM          An rainfall areal reduction factor of 1.000
  53          KM
  54          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
  55          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
  56          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
  57          KM
  58          KM          L=   0.680 miles, S=  223 feet/mile, Kb= .11
  59          KM
  60          BA   0.081
  61          LG    0.15    0.39    5.70    0.20    0.00
  62          UC   0.367   0.375
  63          UA       0       3       5       8      12      20      43      75      90      96
  64          UA     100
              *

  65          KK    C501
  66          KM      Hydrograph combine 201A + 201B at C501
  67          HC       2
              *

  68          KK  501502
  69          KM      Normal depth channel route from C501 to C502
  70          KM      Source:  200 Scale Mapping
  71          RS       8    FLOW      -1
  72          RC   0.055   0.045   0.055  3000.0  0.0203
  73          RX  1000.0  1010.0  1025.0  1045.0  1075.0  1105.0  1125.0  1155.0
  74          RY  1624.0  1622.0  1620.0  1618.0  1618.0  1620.0  1622.0  1624.0
              *

  75          KK    201C
  76          KM   Sub-Basin   201C
  77          KM
  78          KM      The Clark Unit Hydrograph is used for this basin.
  79          KM          The Natural time-area relation is used for this basin.
  80          KM
  81          KM      Time of Concentration for this sub-basin is based on the following:
  82          KM          An rainfall areal reduction factor of 1.000
  83          KM
  84          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
  85          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
  86          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
  87          KM
  88          KM          L=   0.674 miles, S=  206 feet/mile, Kb= .11
1                                   HEC-1 INPUT                                                    PAGE  3

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

  89          KM
  90          BA   0.079
  91          LG    0.15    0.39    5.70    0.21    0.00
  92          UC   0.375   0.387
  93          UA       0       3       5       8      12      20      43      75      90      96
  94          UA     100
              *

  95          KK   C502R
  96          KM      Hydrograph combine 501502 + 201C at C502 right branch
  97          HC       2
              *

  98          KK    201D
  99          KM   Sub-Basin   201D
 100          KM
 101          KM      The Clark Unit Hydrograph is used for this basin.
 102          KM          The Natural time-area relation is used for this basin.
 103          KM
 104          KM      Time of Concentration for this sub-basin is based on the following:
```

```
105          KM          An rainfall areal reduction factor of 1.000
106          KM
107          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
108          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
109          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
110          KM
111          KM          L=   0.898 miles, S=  207 feet/mile, Kb= .11
112          KM
113          BA   0.071
114          LG    0.15    0.39    5.70    0.20    0.00
115          UC   0.433   0.606
116          UA       0       3       5       8      12      20      43      75      90      96
117          UA     100
             *

118          KK    C502
119          KM      Hydrograph combine 502R + 201D at C502
120          HC       2
             *

121          KK  502503
122          KM      Normal depth channel route from C502 to C503
123          KM      Source:  200 Scale Mapping
124          RS       9    FLOW      -1
125          RC   0.050   0.045   0.050  2453.0  0.0183
126          RX  1000.0  1010.0  1025.0  1095.0  1215.0  1295.0  1305.0  1325.0
127          RY  1554.0  1553.0  1552.0  1550.0  1549.8  1551.0  1552.0  1554.0
             *

128          KK    201E
129          KM   Sub-Basin   201E
130          KM
131          KM      The Clark Unit Hydrograph is used for this basin.
132          KM          The Natural time-area relation is used for this basin.
133          KM
```



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

134          KM      Time of Concentration for this sub-basin is based on the following:
135          KM          An rainfall areal reduction factor of 1.000
136          KM
137          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
138          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
139          KM   .24 .24 .24 .24 .24 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
140          KM
141          KM          L=   1.245 miles, S=  178 feet/mile, Kb= .10
142          KM
143          BA   0.183
144          LG    0.15    0.38    5.60    0.25    0.10
145          UC   0.525   0.567
146          UA       0       3       5       8      12      20      43      75      90      96
147          UA     100
             *

148          KK   C503I
149          KM      Hydrograph combine 502503 + 201E at C503I
150          HC       2
             *

151          KK   C503O
152          KM      Reservoir route at C503.
153          RS       1    ELEV  1535.1
154          SV    0.00    0.67    2.87    7.16   13.82   22.77   34.37   38.00   41.80   32.20
155          SV   44.70   46.10   47.80   49.11   50.90   52.80   54.60   56.40
156          SE  1525.1  1538.0  1540.0  1542.0  1544.0  1546.0  1548.0  1548.5  1549.0  1549.2
157          SE  1549.4  1549.6  1549.8  1550.0  1550.2  1550.4  1550.6  1550.8
158          SQ       0      50     133     210     273     325     367     377     407     441
159          SQ     481     545     612     715     818     971    1115    1268
             *

160          KK   D503R
161          KM      Hydrograph diversion at C503.  Main flow continues in the right branch.
162          KM      Diverted flow is in the left branch.
163          DT   D503L
164          DI       0      50     133     210     273     325     367     377     407     441
165          DI     481     545     612     715     818     971    1115    1268
166          DQ       0      50     133     210     273     325     367     377     386     391
167          DQ     394     398     402     405     408     412     415     418
             *

168          KK  503504
169          KM      Normal depth channel route from C503 to C504
170          KM      Source:  200 Scale Mapping
171          RS       1    FLOW      -1
172          RC   0.050   0.040   0.050  1151.0  0.0098
173          RX   940.0  1060.0  1100.0  1140.0  1190.0  1210.0  1230.0  1242.0
174          RY  1552.0  1548.0  1547.0  1546.2  1546.2  1548.0  1549.0  1552.0
```

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                 *
                 * *
                 * *  End Basin 201.  Start Basin 202
                 * *
                 *
1                                          HEC-1 INPUT                                                    PAGE  5

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

 175             KK    202A
 176             KM   Sub-Basin   202A
 177             KM
 178             KM      The Clark Unit Hydrograph is used for this basin.
 179             KM          The Natural time-area relation is used for this basin.
 180             KM
 181             KM      Time of Concentration for this sub-basin is based on the following:
 182             KM          An rainfall areal reduction factor of 1.000
 183             KM
 184             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 185             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 186             KM   .23 .23 .23 .23 .23 .22 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 187             KM
 188             KM          L=   0.409 miles, S=  129 feet/mile, Kb= .12
 189             KM
 190             BA   0.038
 191             LG    0.15    0.35    4.40    0.39    7.00
 192             UC   0.363   0.380
 193             UA       0       3       5       8      12      20      43      75      90      96
 194             UA     100
                 *

 195             KK   C504I
 196             KM      Hydrograph combine D503R + 202A at C504I
 197             HC       2
                 *

 198             KK   C504O
 199             KM      Reservoir route at C504.
 200             RS       1    ELEV  1538.1
 201             SV    0.00    0.17    0.90    1.00    1.10    1.30    1.60    1.80    2.00    2.30
 202             SV    2.50    2.70    3.00    3.10
 203             SE  1538.1  1540.0  1541.66 1541.80 1542.0  1542.2  1542.4  1542.6  1542.8  1543.0
 204             SE  1543.2  1543.4  1543.6  1543.7
 205             SQ       0      11      20      22      24      30      41      60      85     121
 206             SQ     171     240     322     396
                 *

 207             KK   D504R
 208             KM      Hydrograph diversion at C504.  Main flow continues in the right branch.
 209             KM      Diverted flow is in the left branch.
 210             DT   D504L
 211             DI       0      11      20      22      24      30      41      60      85     121
 212             DI     171     240     322     396
 213             DQ       0      11      20      20      21      22      22      23      23      24
 214             DQ      24      25      26      26
                 *

 215             KK    202B
 216             KM   Sub-Basin   202B
 217             KM
 218             KM      The Clark Unit Hydrograph is used for this basin.
 219             KM          The Natural time-area relation is used for this basin.
 220             KM
1                                          HEC-1 INPUT                                                    PAGE  6

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

 221             KM      Time of Concentration for this sub-basin is based on the following:
 222             KM          An rainfall areal reduction factor of 1.000
 223             KM
 224             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 225             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 226             KM   .23 .23 .23 .23 .23 .22 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
 227             KM
 228             KM          L=   0.364 miles, S=  322 feet/mile, Kb= .12
 229             KM
 230             BA   0.018
 231             LG    0.15    0.35    4.55    0.36    0.60
 232             UC   0.258   0.363
 233             UA       0       3       5       8      12      20      43      75      90      96
 234             UA     100
                 *

 235             KK   C505I
 236             KM      Hydrograph combine D504R + 202B at C505I
 237             HC       2
                 *
```

```
238          KK   D505R
239          KM      Hydrograph diversion at C505.  Main flow continues in the right branch.
240          KM      Diverted flow is in the left branch.
241          DT   D505L
242          DI       0       3       7       9      11      14      15      17      23      31
243          DI      44      55      75      95     123     134
244          DQ       0       3       7       9      11      12      12      13      14      14
245          DQ      15      15      16      16      16      17
             *

246          KK    202C
247          KM   Sub-Basin   202C
248          KM
249          KM      The Clark Unit Hydrograph is used for this basin.
250          KM          The Natural time-area relation is used for this basin.
251          KM
252          KM      Time of Concentration for this sub-basin is based on the following:
253          KM          An rainfall areal reduction factor of 1.000
254          KM
255          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
256          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
257          KM   .23 .23 .23 .23 .22 .22 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
258          KM
259          KM          L=   0.192 miles, S=  363 feet/mile, Kb= .13
260          KM
261          BA   0.008
262          LG    0.15    0.35    4.35    0.41    7.00
263          UC   0.188   0.248
264          UA       0       3       5       8      12      20      43      75      90      96
265          UA     100
             *
```



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

266          KK    C506
267          KM      Hydrograph combine C505R + 202C at C506
268          HC       2
             *

269          KK   D506R
270          KM      Hydrograph diversion at C506.  Main flow continues in the right branch.
271          KM      Diverted flow is in the left branch.
272          DT   D506L
273          DI       0       3      13      37      77     100     151     206     276     355
274          DI     437     532     698     809     928    1104
275          DQ       0       0       0       0       0       0       4      12      28      52
276          DQ      85     128     183     249     328     421
             *

277          KK    202D
278          KM   Sub-Basin   202D
279          KM
280          KM      The Clark Unit Hydrograph is used for this basin.
281          KM          The Natural time-area relation is used for this basin.
282          KM
283          KM      Time of Concentration for this sub-basin is based on the following:
284          KM          An rainfall areal reduction factor of 1.000
285          KM
286          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
287          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
288          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
289          KM .
290          KM          L=   0.800 miles, S=  248 feet/mile, Kb= .11
291          KM
292          BA   0.063
293          LG    0.15    0.38    5.60    0.23    7.00
294          UC   0.388   0.524
295          UA       0       3       5       8      12      20      43      75      90      96
296          UA     100
             *

297          KK    202E
298          KM   Sub-Basin   202E
299          KM
300          KM      The Clark Unit Hydrograph is used for this basin.
301          KM          The Natural time-area relation is used for this basin.
302          KM
303          KM      Time of Concentration for this sub-basin is based on the following:
304          KM          An rainfall areal reduction factor of 1.000
305          KM
306          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
307          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
308          KM   .25 .25 .24 .24 .24 .24 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00
309          KM
310          KM          L=   0.732 miles, S=  270 feet/mile, Kb= .10
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 311          KM
 312          BA   0.104
 313          LG    0.15     0.39     5.70     0.22     0.30
1                                        HEC-1 INPUT                                                          PAGE  8

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

 314          UC   0.346   0.322
 315          UA       0       3       5       8      12      20      43      75      90      96
 316          UA     100
              *

 317          KK   C508O
 318          KM      Reservoir route at C508.
 319          RS       1    ELEV  1524.2
 320          SV    0.00    0.05    0.09    0.13    0.17    0.21    0.25    0.28    0.36    0.46
 321          SV    0.55    0.64    0.72    0.81    0.90    1.00    1.02
 322          SE  1524.1  1525.0  1525.5  1526.0  1526.5  1527.0  1527.6  1528.0  1528.2  1528.4
 323          SE  1528.6  1528.8  1529.0  1529.2  1529.4  1529.6 1529.64
 324          SQ       0       6       9      16      22      28      38      51      58      70
 325          SQ      84     100     122     149     183     216     227
              *

 326          KK   D508L
 327          KM      Hydrograph diversion at C508.  Main flow continues in the left branch.
 328          KM      Diverted flow is in the right branch.
 329          DT   D508R
 330          DI       0       6       9      16      22      28      38      51      58      70
 331          DI      84     100     122     149     183     216     227
 332          DQ       0       6       9      16      22      28      38      47      52      56
 333          DQ      60      63      66      68      71      73      73
              *

 334          KK  508507
 335          KM      Normal depth channel route from C508 to C507
 336          KM      Source:  200 Scale Mapping
 337          RS       6    FLOW      -1
 338          RC   0.020   0.035   0.055   934.0  0.0028
 339          RX   893.0  1014.0  1022.0  1026.0  1040.0  1050.0  1060.0  1066.0
 340          RY  1532.0  1529.4  1528.6  1527.6  1529.0  1530.2  1531.3  1532.0
              *

 341          KK   C507I
 342          KM      Hydrograph combine D506R + 202D + D508L at C507I
 343          HC       3
              *

 344          KK   C507O
 345          KM      Reservoir route at C507
 346          RS       1    ELEV  1525.2
 347          SV    0.00    0.28    0.46    0.65    0.85    1.03    1.38    1.40    1.44    1.48
 348          SV    1.52    1.55    1.59    1.64    1.67    1.70    1.75    1.77
 349          SE  1525.2  1526.0  1526.5  1527.0  1527.5  1528.0  1529.0  1529.0  1529.1  1529.2
 350          SE  1529.3  1529.4  1529.5  1529.6  1529.7  1529.8  1529.9  1530.0
 351          SQ       0       2       5       9      13      15      18      20      36      69
 352          SQ     118     185     272     378     506     652     816     997
              *
1                                        HEC-1 INPUT                                                          PAGE  9

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

 353          KK    202F
 354          KM   Sub-Basin   202F
 355          KM
 356          KM      The Clark Unit Hydrograph is used for this basin.
 357          KM          The Natural time-area relation is used for this basin.
 358          KM
 359          KM      Time of Concentration for this sub-basin is based on the following:
 360          KM          An rainfall areal reduction factor of 1.000
 361          KM
 362          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 363          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 364          KM   .25 .25 .24 .24 .24 .24 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00
 365          KM
 366          KM          L=   0.188 miles, S=  337 feet/mile, Kb= .13
 367          KM
 368          BA   0.013
 369          LG    0.15    0.38    5.60    0.23    1.80
 370          UC   0.188   0.179
 371          UA       0       3       5       8      12      20      43      75      90      96
 372          UA     100
              *

 373          KK    202G
 374          KM   Sub-Basin   202G
 375          KM
 376          KM      The Clark Unit Hydrograph is used for this basin.
```

```
377          KM          The Natural time-area relation is used for this basin.
378          KM
379          KM      Time of Concentration for this sub-basin is based on the following:
380          KM          An rainfall areal reduction factor of 1.000
381          KM
382          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
383          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
384          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
385          KM
386          KM          L=   0.175 miles, S=  338 feet/mile, Kb= .13
387          KM
388          BA   0.013
389          LG    0.15    0.39    5.70    0.21    1.50
390          UC   0.179   0.161
391          UA       0       3       5       8      12      20      43      75      90      96
392          UA     100
             *

393          KK    202H
394          KM   Sub-Basin   202H
395          KM
396          KM      The Clark Unit Hydrograph is used for this basin.
397          KM          The Natural time-area relation is used for this basin.
398          KM
399          KM      Time of Concentration for this sub-basin is based on the following:
400          KM          An rainfall areal reduction factor of 1.000
401          KM
402          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1                                          HEC-1 INPUT                                          PAGE 10

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

403          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
404          KM   .24 .24 .24 .24 .24 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
405          KM
406          KM          L=   0.861 miles, S=  243 feet/mile, Kb= .10
407          KM
408          BA   0.179
409          LG    0.15    0.37    5.20    0.27    0.30
410          UC   0.392   0.309
411          UA       0       3       5       8      12      20      43      75      90      96
412          UA     100
             *

413          KK   C511O
414          KM      Reservoir route at C511.
415          RS       1    ELEV  1535.2
416          SV    0.00    0.40    0.70    1.19    3.10    3.20    3.55    4.00    4.50    4.90
417          SV    5.40    5.80    6.30    6.80    7.20    7.70    8.13
418          SE  1535.2  1537.0  1538.0  1540.0  1541.6  1541.8  1542.0  1542.2  1542.4  1542.6
419          SE  1542.8  1543.0  1543.2  1543.4  1543.6  1543.8  1544.0
420          SQ       0      42      88     200     274     286     325     393     491     622
421          SQ     790    1000    1241    1518    1835    2189    2580
             *

422          KK  511512
423          KM      Normal depth channel route from C511 to C512
424          KM      Source:  200 Scale Mapping
425          RS       2    FLOW      -1
426          RC   0.055   0.045   0.055   760.0  0.0112
427          RX  1000.0  1060.0  1070.0  1090.0  1110.0  1120.0  1180.0  1220.0
428          RY  1536.0  1534.2  1534.0  1532.0  1532.0  1534.0  1535.0  1536.0
             *

429          KK    202I
430          KM   Sub-Basin   202I
431          KM
432          KM      The Clark Unit Hydrograph is used for this basin.
433          KM          The HEC-1 time-area relation is used for this basin.
434          KM
435          KM      Time of Concentration for this sub-basin is based on the following:
436          KM          An rainfall areal reduction factor of 1.000
437          KM
438          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
439          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
440          KM   .25 .25 .24 .24 .24 .24 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00
441          KM
442          KM          L=   0.247 miles, S=  122 feet/mile, Kb= .12
443          KM
444          BA   0.017
445          LG    0.14    0.35    5.10    0.28    9.30
446          UC   0.279   0.295
             *
                                           HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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447          KK   C512I
448          KM      Hydrograph combine 511512 + 202I at C512
449          KM      Inflow to reservoir route at C512
450          KM      This is the inflow to the Stock Tank at the end of Bahia Drive
451          HC       2
             *

452          KK   C512O
453          KM      Reservoir route at C512 (Stock Tank).
454          RS       1    ELEV  1517.0
455          SV    0.00    0.03    0.29    0.75    1.38    2.39    4.17    7.43   10.30   12.20
456          SV   12.70   13.36   14.10   15.10   16.20   17.00   17.90
457          SE  1517.0  1518.0  1520.0  1522.0  1524.0  1526.0  1528.0  1530.0  1531.0  1531.6
458          SE  1531.8  1532.0  1532.2  1532.4  1532.6  1532.8  1533.0
459          SQ       0       0       0       0       0       0       0       0       0      15
460          SQ      35      65     137     244     376     541     725
             *

461          KK   D512L
462          KM      Hydrograph diversion at C512.
463          KM      Main flow continues in the left branch (weir).
464          KM      Diverted flow enters Bahia Drive (channel) and continues to C591.
465          KM      Diverted flow is in the right branch.
466          DT   D512R
467          DI       0      15      35      65     137     244     376     541     725
468          DQ       0       0       4      10      49     112     190     289     395
             *
             * *
             * *  Note:  512591 too short to route
             * *
             *
             * *
             * *  End Basin 202.  Start Basin 203.
             * *
             *

469          KK    203A
470          KM   Sub-Basin   203A
471          KM
472          KM      The Clark Unit Hydrograph is used for this basin.
473          KM          The HEC-1 time-area relation is used for this basin.
474          KM
475          KM      Time of Concentration for this sub-basin is based on the following:
476          KM          An rainfall areal reduction factor of 1.000
477          KM
478          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
479          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
480          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
481          KM
482          KM          L=   1.569 miles, S=  229 feet/mile, Kb= .08
483          KM
484          BA   0.279
485          LG    0.14    0.37    5.70    0.21    4.20
486          UC   0.471   0.476
             *
```



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

487          KK   C513O
488          KM      Reservoir route at C513.
489          RS       1    ELEV  1789.0
490          SV    0.00    0.35    0.97    2.05    3.54    5.54    8.17
491          SE  1789.0  1794.0  1796.0  1798.0  1800.0  1802.0  1804.0
492          SQ       0       0      20      70     135     315    1995
             *

493          KK  513514
494          KM      Normal depth channel route from C513 to C514
495          KM      Source:  200 Scale Mapping
496          RS       7    FLOW      -1
497          RC   0.050   0.045   0.050  2403.0  0.0240
498          RX  1000.0  1010.0  1035.0  1080.0  1100.0  1120.0  1135.0  1145.0
499          RY  1780.0  1778.0  1770.0  1768.0  1768.0  1770.0  1778.0  1780.0
             *

500          KK    203B
501          KM   Sub-Basin   203B
502          KM
503          KM      The Clark Unit Hydrograph is used for this basin.
504          KM          The HEC-1 time-area relation is used for this basin.
505          KM
506          KM      Time of Concentration for this sub-basin is based on the following:
507          KM          An rainfall areal reduction factor of 1.000
508          KM
509          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
510          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
 511          KM   .25 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
 512          KM
 513          KM          L=   0.484 miles, S=  236 feet/mile, Kb= .10
 514          KM
 515          BA   0.044
 516          LG    0.14    0.37    5.70    0.21    5.00
 517          UC   0.288   0.306
              *

 518          KK   C514R
 519          KM      Hydrograph combine 513514 + 203B at C514 right channel
 520          HC       2
              *

 521          KK    203C
 522          KM   Sub-Basin   203C
 523          KM
 524          KM      The Clark Unit Hydrograph is used for this basin.
 525          KM          The HEC-1 time-area relation is used for this basin.
 526          KM
 527          KM      Time of Concentration for this sub-basin is based on the following:
 528          KM          An rainfall areal reduction factor of 1.000
 529          KM
 530          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 531          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 532          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1                                          HEC-1 INPUT                                                    PAGE 13

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

 533          KM
 534          KM          L=   0.988 miles, S=  258 feet/mile, Kb= .10
 535          KM
 536          BA   0.103
 537          LG    0.15    0.39    5.70    0.21    9.30
 538          UC   0.404   0.490
              *

 539          KK    C514
 540          KM      Hydrograph combine C514R + 203C at C514
 541          HC       2
              *
              * *
              * * Note: 514515 too short to route
              * *
              *

 542          KK    203D
 543          KM   Sub-Basin   203D
 544          KM
 545          KM      The Clark Unit Hydrograph is used for this basin.
 546          KM          The Natural time-area relation is used for this basin.
 547          KM
 548          KM      Time of Concentration for this sub-basin is based on the following:
 549          KM          An rainfall areal reduction factor of 1.000
 550          KM
 551          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 552          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 553          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
 554          KM
 555          KM          L=   1.025 miles, S=  252 feet/mile, Kb= .10
 556          KM
 557          BA   0.108
 558          LG    0.15    0.39    5.70    0.21    0.00
 559          UC   0.417   0.508
 560          UA       0       3       5       8      12      20      43      75      90      96
 561          UA     100
              *

 562          KK    C515
 563          KM      Hydrograph combine C514 + 203D at C515
 564          HC       2
              *

 565          KK  515517
 566          KM      Normal depth channel route from C515 to C517
 567          KM      Source:  200 Scale Mapping
 568          RS       9    FLOW      -1
 569          RC   0.050   0.045   0.060  3340.0  0.0186
 570          RX  1000.0  1020.0  1045.0  1065.0  1085.0  1125.0  1135.0  1145.0
 571          RY  1708.0  1704.0  1702.0  1698.0  1698.0  1700.0  1705.0  1710.0
              *
1                                          HEC-1 INPUT                                                    PAGE 14

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

 572          KK    203E
```

```
573          KM   Sub-Basin   203E
574          KM
575          KM      The Clark Unit Hydrograph is used for this basin.
576          KM          The Natural time-area relation is used for this basin.
577          KM
578          KM      Time of Concentration for this sub-basin is based on the following:
579          KM          An rainfall areal reduction factor of 1.000
580          KM
581          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
582          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
583          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .00 .00 .00 .00 .00 .00
584          KM
585          KM          L=   0.640 miles, S=  219 feet/mile, Kb= .11
586          KM
587          BA   0.093
588          LG    0.15    0.37    6.60    0.14    0.00
589          UC   0.354   0.316
590          UA       0       3       5       8      12      20      43      75      90      96
591          UA     100
             *

592          KK   C517R
593          KM      Hydrograph combine 515517 + 203E at C517 right branch
594          HC       2
             *

595          KK    203F
596          KM   Sub-Basin   203F
597          KM
598          KM      The Clark Unit Hydrograph is used for this basin.
599          KM          The Natural time-area relation is used for this basin.
600          KM
601          KM      Time of Concentration for this sub-basin is based on the following:
602          KM          An rainfall areal reduction factor of 1.000
603          KM
604          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
605          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
606          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
607          KM
608          KM          L=   1.460 miles, S=  237 feet/mile, Kb= .09
609          KM
610          BA   0.333
611          LG    0.15    0.39    5.70    0.21    0.00
612          UC   0.479   0.414
613          UA       0       3       5       8      12      20      43      75      90      96
614          UA     100
             *
```



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

615          KK  516517
616          KM      Normal depth channel route from C516 to C517
617          KM      Source:  200 Scale Mapping
618          RS      14    FLOW      -1
619          RC   0.065   0.045   0.055  6720.0  0.0213
620          RX  1000.0  1015.0  1020.0  1040.0  1080.0  1095.0  1100.0  1125.0
621          RY  1724.0  1718.0  1716.0  1714.0  1714.0  1716.0  1718.0  1724.0
             *

622          KK    203G
623          KM   Sub-Basin   203G
624          KM
625          KM      The Clark Unit Hydrograph is used for this basin.
626          KM          The Natural time-area relation is used for this basin.
627          KM
628          KM      Time of Concentration for this sub-basin is based on the following:
629          KM          An rainfall areal reduction factor of 1.000
630          KM
631          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
632          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
633          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
634          KM
635          KM          L=   1.424 miles, S=  215 feet/mile, Kb= .09
636          KM
637          BA   0.248
638          LG    0.15    0.40    6.00    0.19    0.00
639          UC   0.488   0.489
640          UA       0       3       5       8      12      20      43      75      90      96
641          UA     100
             *

642          KK   C517L
643          KM      Hydrograph combine 516517 + 203G at C517 left branch
644          HC       2
             *
```

```
645          KK    C517
646          KM      Hydrograph combine C517R + C517L at C517
647          HC       2
             *

648          KK  517518
649          KM      Normal depth channel route from C517 to C518
650          KM      Source:  HEC-2 Cross Section: ES 3.522
651          RS       8    FLOW      -1
652          RC   0.055   0.035   0.060  4367.0  0.0174
653          RX  9808.1  9845.6  9957.0  9990.4 10007.0 10015.9 10076.5 10176.0
654          RY  1628.2  1618.6  1617.5  1614.8  1614.7  1619.7  1622.9  1631.3
             *
1                                          HEC-1 INPUT                                                    PAGE 16

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

655          KK    203H
656          KM   Sub-Basin   203H
657          KM
658          KM      The Clark Unit Hydrograph is used for this basin.
659          KM          The Natural time-area relation is used for this basin.
660          KM
661          KM      Time of Concentration for this sub-basin is based on the following:
662          KM          An rainfall areal reduction factor of 1.000
663          KM
664          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
665          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
666          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
667          KM
668          KM          L=   1.035 miles, S=  178 feet/mile, Kb= .10
669          KM
670          BA   0.207
671          LG    0.15    0.38    5.40    0.21    0.00
672          UC   0.463   0.397
673          UA       0       3       5       8      12      20      43      75      90      96
674          UA     100
             *

675          KK    C518
676          KM      Hydrograph combine 517518 + 203H at C518
677          HC       2
             *

678          KK  518519
679          KM      Normal depth channel route from C518 to C519
680          KM      Source:  HEC-2 Cross Section: ES 3.072
681          RS       3    FLOW      -1
682          RC   0.090   0.050   0.085  1796.0  0.0217
683          RX  9851.4  9884.7  9955.8  9983.5 10028.9 10036.3 10057.6 10087.9
684          RY  1586.3  1569.6  1568.4  1565.8  1565.4  1566.0  1575.0  1589.3
             *

685          KK    203I
686          KM   Sub-Basin   203I
687          KM
688          KM      The Clark Unit Hydrograph is used for this basin.
689          KM          The HEC-1 time-area relation is used for this basin.
690          KM
691          KM      Time of Concentration for this sub-basin is based on the following:
692          KM          An rainfall areal reduction factor of 1.000
693          KM
694          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
695          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
696          KM   .24 .24 .24 .24 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
697          KM
698          KM          L=   1.323 miles, S=  161 feet/mile, Kb= .10
699          KM
700          BA   0.171
701          LG    0.15    0.35    4.80    0.30    0.60
702          UC   0.583   0.697
             *
1                                          HEC-1 INPUT                                                    PAGE 17

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

703          KK    C519
704          KM      Hydrograph combine 518519 + 203I at C519
705          HC       2
             *

706          KK  519591
707          KM      Normal depth channel route from C519 to C591
708          KM      Source:  HEC-2 Cross Section: ES 2.695
709          RS       2    FLOW      -1
710          RC   0.090   0.050   0.085  1274.0  0.0181
```

```
711          RX  9851.3  9905.0  9927.9  9949.0 10017.8 10053.7 10096.8 10135.1
712          RY  1540.3  1537.0  1536.5  1529.2  1528.6  1537.7  1539.6  1540.1
             *

713          KK    203J
714          KM   Sub-Basin   203J
715          KM
716          KM      The Clark Unit Hydrograph is used for this basin.
717          KM          The HEC-1 time-area relation is used for this basin.
718          KM
719          KM      Time of Concentration for this sub-basin is based on the following:
720          KM          An rainfall areal reduction factor of 1.000
721          KM
722          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
723          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
724          KM   .26 .26 .26 .25 .25 .25 .02 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
725          KM
726          KM          L=   0.533 miles, S=  237 feet/mile, Kb= .10
727          KM
728          BA   0.039
729          LG    0.14    0.36    5.60    0.21   12.70
730          UC   0.300   0.374
             *

731          KK  520591
732          KM      Normal depth channel route from C520 to C591
733          KM      Source:  Hydrology Field Reconnaissance
734          RS       5    FLOW      -1
735          RC   0.050   0.018   0.040  2014.0  0.0248
736          RX  1000.0  1030.0  1041.2  1057.2  1073.2  1074.4  1086.4  1116.0
737          RY  1570.0  1566.0  1564.8  1565.2  1564.9  1565.3  1565.9  1568.0
             *

738          KK  BB512R
739          KM      Retrieve previously diverted hydrograph at C512 in the right branch.
740          DR   D512R
             *

741          KK    C591
742          KM      Hydrograph combine 519591 + 520591 + D512R at C591
743          HC       3    1.83
             *
```



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

744          KK  591521
745          KM      Normal depth channel route from C591 to C521
746          KM      Source:  HEC-2 Cross Section: ES 2.614
747          RS       1    FLOW      -1
748          RC   0.090   0.050   0.085   915.0  0.0142
749          RX  9827.7  9921.5  9950.2  9970.7 10046.6 10078.1 10120.0 10177.5
750          RY  1531.1  1524.8  1524.4  1520.8  1520.0  1530.3  1531.1  1532.3
             *

751          KK    203K
752          KM   Sub-Basin   203K
753          KM
754          KM      The Clark Unit Hydrograph is used for this basin.
755          KM          The Urban time-area relation is used for this basin.
756          KM
757          KM      Time of Concentration for this sub-basin is based on the following:
758          KM          An rainfall areal reduction factor of 1.000
759          KM
760          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
761          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
762          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
763          KM
764          KM          L=   0.878 miles, S=  158 feet/mile, Kb= .03
765          KM
766          BA   0.160
767          LG    0.08    0.26    5.60    0.20   41.60
768          UC   0.229   0.185
769          UA       0       5      16      30      65      77      84      90      94      97
770          UA     100
             *

771          KK    C521
772          KM      Hydrograph combine 591521 + 203K at C521
773          HC       2
             *
             * *
             * * C521 is the total flow in Escalante Wash at the Study boundary
             * *
             * * End Basin 203.  Start Basin 204
             * *
             *
```

```
774          KK   CLEAR
775          KM      Clear hydrographs from stack
776          HC       5
             *

777          KK    204A
778          KM   Sub-Basin   204A
779          KM
780          KM      The Clark Unit Hydrograph is used for this basin.
781          KM          The Natural time-area relation is used for this basin.
782          KM
783          KM      Time of Concentration for this sub-basin is based on the following:
1                                          HEC-1 INPUT                                                    PAGE 19

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

784          KM          An rainfall areal reduction factor of 1.000
785          KM
786          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
787          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
788          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
789          KM
790          KM          L=   0.687 miles, S=  175 feet/mile, Kb= .10
791          KM
792          BA   0.108
793          LG    0.15     0.39     5.80     0.19     0.00
794          UC   0.379    0.333
795          UA       0        3        5        8       12       20       43       75       90       96
796          UA     100
             *

797          KK  522523
798          KM      Normal depth channel route from C522 to C523
799          KM      Source:  200 Scale Mapping
800          RS      12     FLOW      -1
801          RC   0.060    0.050    0.060  3275.0  0.0197
802          RX  1000.0   1020.0   1035.0  1065.0  1080.0  1120.0  1160.0  1185.0
803          RY  1678.0   1676.0   1674.0  1672.0  1672.0  1674.0  1676.0  1678.0
             *

804          KK    204B
805          KM   Sub-Basin   204B
806          KM
807          KM      The Clark Unit Hydrograph is used for this basin.
808          KM          The Natural time-area relation is used for this basin.
809          KM
810          KM      Time of Concentration for this sub-basin is based on the following:
811          KM          An rainfall areal reduction factor of 1.000
812          KM
813          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
814          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
815          KM   .25 .25 .25 .24 .24 .24 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00
816          KM
817          KM          L=   0.775 miles, S=  128 feet/mile, Kb= .10
818          KM
819          BA   0.126
820          LG    0.15     0.39     5.80     0.21     0.20
821          UC   0.446    0.401
822          UA       0        3        5        8       12       20       43       75       90       96
823          UA     100
             *

824          KK   C523I
825          KM      Hydrograph combine 522523 + 204B at C523I
826          HC       2
             *
1                                          HEC-1 INPUT                                                    PAGE 20

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

827          KK   C523O
828          KM      Reservoir route at C523.
829          RS       1     ELEV  1650.3
830          SV    0.00     0.01     0.12     0.71     2.23     2.50     2.80     3.10     3.20     3.40
831          SV    3.70     4.00     4.30     4.60     4.90     5.20     5.50
832          SE  1650.3   1652.0   1654.0   1656.0   1658.0   1658.2   1658.4   1658.6   1658.7   1658.8
833          SE  1659.0   1659.2   1659.4   1659.6   1659.8   1660.0   1660.2
834          SQ       0       22       78      144      209      214      220      224      226      232
835          SQ     239      249      288      384      529      726      960
             *

836          KK   D523L
837          KM      Hydrograph diversion at C523.  Main flow continues in the left branch.
838          KM      Diverted flow is in the right branch.
839          DT   D523R
840          DI       0       22       78      144      209      214      220      224      226      232
```

```
841          DI     239     249     288     384     529     726     960
842          DQ       0       0       0       0       0       0       0       0       0       3
843          DQ       5      10      20      37      61      96     139
             *

844          KK  523524
845          KM      Normal depth channel route from C523 to C524
846          KM      Source:  HEC-2 Cross Section: CA 2.072
847          KM      This is flow in Fountain Hills Blvd. which is routed to C548
848          RS       4    FLOW      -1
849          RC   0.080   0.050   0.075  1732.0  0.0177
850          RX  9827.8  9925.9  9978.5 10000.0 10020.8 10041.9 10110.6 10151.9
851          RY  1639.8  1635.7  1634.3  1629.9  1630.2  1631.8  1633.5  1636.7
             *

852          KK    204C
853          KM   Sub-Basin   204C
854          KM
855          KM      The Clark Unit Hydrograph is used for this basin.
856          KM          The HEC-1 time-area relation is used for this basin.
857          KM
858          KM      Time of Concentration for this sub-basin is based on the following:
859          KM          An rainfall areal reduction factor of 1.000
860          KM
861          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
862          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
863          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
864          KM
865          KM          L=   0.400 miles, S=  142 feet/mile, Kb= .09
866          KM
867          BA   0.077
868          LG    0.13    0.36    5.70    0.20   25.40
869          UC   0.288   0.193
             *
1                                          HEC-1 INPUT                                          PAGE 21

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

870          KK    C524
871          KM      Hydrograph combine 523524 + 204C at C524
872          HC       2
             *

873          KK  524525
874          KM      Normal depth channel route from C524 to C525
875          KM      Source:  HEC-2 Cross Section: CA 1.898
876          RS       3    FLOW      -1
877          RC   0.050   0.035   0.060  1045.0  0.0211
878          RX  9823.1  9873.0  9960.0  9986.1 10008.3 10049.7 10070.0 10078.4
879          RY  1617.9  1616.7  1616.3  1609.2  1609.0  1616.4  1616.8  1617.3
             *

880          KK    204D
881          KM   Sub-Basin   204D
882          KM
883          KM      The Clark Unit Hydrograph is used for this basin.
884          KM          The Urban time-area relation is used for this basin.
885          KM
886          KM      Time of Concentration for this sub-basin is based on the following:
887          KM          An rainfall areal reduction factor of 1.000
888          KM
889          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
890          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
891          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
892          KM
893          KM          L=   0.345 miles, S=   96 feet/mile, Kb= .06
894          KM
895          BA   0.044
896          LG    0.10    0.31    5.70    0.18   40.20
897          UC   0.238   0.190
898          UA       0       5      16      30      65      77      84      90      94      97
899          UA     100
             *

900          KK    C525
901          KM      Hydrograph combine 524525 + 204D at C525
902          HC       2
             *

903          KK  525526
904          KM      Normal depth channel route from C525 to C526
905          KM      Source:  HEC-2 Cross Section: CA 1.663
906          RS       2    FLOW      -1
907          RC   0.050   0.035   0.060  1520.0  0.0211
908          RX  9915.0  9940.0  9968.0  9992.6 10012.4 10032.0 10049.6 10106.9
909          RY  1592.8  1592.3  1591.8  1585.0  1584.8  1591.3  1592.1  1592.5
             *
```

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

 910          KK    204E
 911          KM   Sub-Basin   204E
 912          KM
 913          KM      The Clark Unit Hydrograph is used for this basin.
 914          KM          The Urban time-area relation is used for this basin.
 915          KM
 916          KM      Time of Concentration for this sub-basin is based on the following:
 917          KM          An rainfall areal reduction factor of 1.000
 918          KM
 919          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 920          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 921          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 922          KM
 923          KM          L=   0.508 miles, S=  108 feet/mile, Kb= .06
 924          KM
 925          BA   0.071
 926          LG    0.10    0.30    5.70    0.18   38.00
 927          UC   0.279   0.237
 928          UA       0       5      16      30      65      77      84      90      94      97
 929          UA     100
              *

 930          KK    C526
 931          KM      Hydrograph combine 525526 + 204E at C526
 932          HC       2
              *

 933          KK  526527
 934          KM      Normal depth channel route from C526 to C527
 935          KM      Source:  HEC-2 Cross Section: CA 1.186
 936          RS       4    FLOW      -1
 937          RC   0.050   0.035   0.060  2129.0  0.0183
 938          RX  9867.7  9898.1  9967.2  9981.2 10023.8 10035.6 10080.6 10145.3
 939          RY  1545.6  1544.4  1539.5  1536.9  1536.7  1539.6  1541.1  1542.3
              *

 940          KK    204F
 941          KM   Sub-Basin   204F
 942          KM
 943          KM      The Clark Unit Hydrograph is used for this basin.
 944          KM          The Urban time-area relation is used for this basin.
 945          KM
 946          KM      Time of Concentration for this sub-basin is based on the following:
 947          KM          An rainfall areal reduction factor of 1.000
 948          KM
 949          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 950          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 951          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
 952          KM
 953          KM          L=   0.495 miles, S=  135 feet/mile, Kb= .03
 954          KM
 955          BA   0.077
 956          LG    0.08    0.15    7.00    0.11   45.00
 957          UC   0.175   0.131
```



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

 958          UA       0       5      16      30      65      77      84      90      94      97
 959          UA     100
              *

 960          KK    C527
 961          KM      Hydrograph combine 526527 + 204F at C527
 962          HC       2
              *
              * *
              * * C527 is the total flow in Caliente Wash at the Study boundary
              * *
              * * End Basin 204.  Start Basin 205
              * *
              *

 963          KK   CLEAR
 964          KM      Clear hydrographs from stack
 965          HC       2
              *

 966          KK    205A
 967          KM   Sub-Basin   205A
 968          KM
 969          KM      The Clark Unit Hydrograph is used for this basin.
 970          KM          The Natural time-area relation is used for this basin.
```

```
 971          KM
 972          KM      Time of Concentration for this sub-basin is based on the following:
 973          KM          An rainfall areal reduction factor of 1.000
 974          KM
 975          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 976          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 977          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 978          KM
 979          KM          L=   0.870 miles, S=  378 feet/mile, Kb= .14
 980          KM
 981          BA   0.118
 982          LG    0.25    0.35    4.35    0.40   35.00
 983          UC   0.400   0.406
 984          UA       0       3       5       8      12      20      43      75      90      96
 985          UA     100
              *

 986          KK    205B
 987          KM   Sub-Basin   205B
 988          KM
 989          KM      The Clark Unit Hydrograph is used for this basin.
 990          KM          The Natural time-area relation is used for this basin.
 991          KM
 992          KM      Time of Concentration for this sub-basin is based on the following:
 993          KM          An rainfall areal reduction factor of 1.000
 994          KM
 995          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 996          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 997          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 998          KM
1                                          HEC-1 INPUT                                          PAGE 24

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

 999          KM          L=   0.759 miles, S=  373 feet/mile, Kb= .14
1000          KM
1001          BA   0.211
1002          LG    0.25    0.35    4.35    0.40   35.00
1003          UC   0.375   0.242
1004          UA       0       3       5       8      12      20      43      75      90      96
1005          UA     100
              *

1006          KK    C528
1007          KM      Hydrograph combine 205A + 205B at C528
1008          HC       2
              *

1009          KK  528530
1010          KM      Normal depth channel route from C528 to C530
1011          KM      Source:  Hydrology Field Reconnaissance
1012          RS       2    FLOW      -1
1013          RC   0.060   0.043   0.060  2594.0  0.0709
1014          RX  1000.0  1018.0  1031.0  1042.0  1052.0  1066.0  1093.0  1107.0
1015          RY    96.3    92.2    89.9    85.9    85.7    91.5    91.2    96.3
              *

1016          KK    205C
1017          KM   Sub-Basin   205C
1018          KM
1019          KM      The Clark Unit Hydrograph is used for this basin.
1020          KM          The Natural time-area relation is used for this basin.
1021          KM
1022          KM      Time of Concentration for this sub-basin is based on the following:
1023          KM          An rainfall areal reduction factor of 1.000
1024          KM
1025          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1026          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1027          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1028          KM
1029          KM          L=   0.618 miles, S=  331 feet/mile, Kb= .15
1030          KM
1031          BA   0.059
1032          LG    0.25    0.35    4.35    0.41   35.00
1033          UC   0.367   0.416
1034          UA       0       3       5       8      12      20      43      75      90      96
1035          UA     100
              *

1036          KK   C530R
1037          KM      Hydrograph combine 528530 + 205C at C530 right branch
1038          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
1039          KK    205D
1040          KM   Sub-Basin   205D
1041          KM
1042          KM      The Clark Unit Hydrograph is used for this basin.
1043          KM          The Natural time-area relation is used for this basin.
1044          KM
1045          KM      Time of Concentration for this sub-basin is based on the following:
1046          KM          An rainfall areal reduction factor of 1.000
1047          KM
1048          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1049          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1050          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1051          KM
1052          KM          L=   1.020 miles, S=  361 feet/mile, Kb= .13
1053          KM
1054          BA   0.319
1055          LG    0.25    0.35    4.35    0.40   35.00
1056          UC   0.425   0.279
1057          UA       0       3       5       8      12      20      43      75      90      96
1058          UA     100
              *

1059          KK    205E
1060          KM   Sub-Basin   205E
1061          KM
1062          KM      The Clark Unit Hydrograph is used for this basin.
1063          KM          The Natural time-area relation is used for this basin.
1064          KM
1065          KM      Time of Concentration for this sub-basin is based on the following:
1066          KM          An rainfall areal reduction factor of 1.000
1067          KM
1068          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1069          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1070          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1071          KM
1072          KM          L=   1.357 miles, S=  358 feet/mile, Kb= .14
1073          KM
1074          BA   0.218
1075          LG    0.25    0.35    4.35    0.40   35.00
1076          UC   0.517   0.541
1077          UA       0       3       5       8      12      20      43      75      90      96
1078          UA     100
              *

1079          KK    C529
1080          KM      Hydrograph combine 205D + 205E at C529
1081          HC       2
              *
              * *
              * * NOTE:  529530 too short to route
              * *
              *
```



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

1082          KK    C530
1083          KM      Hydrograph combine C529 + C530R at C530
1084          HC       2
              *

1085          KK  530531
1086          KM      Normal depth channel route from C530 to C531
1087          KM      Source:  Hydrology Field Reconnaissance
1088          RS       3    FLOW      -1
1089          RC   0.060   0.059   0.060  2426.0  0.0404
1090          RX  1000.0  1035.0  1050.0  1060.0  1075.0  1081.0  1088.0  1094.0
1091          RY    95.9    86.5    86.2    83.1    84.0    90.2    95.6    99.3
              *

1092          KK    205F
1093          KM   Sub-Basin   205F
1094          KM
1095          KM      The Clark Unit Hydrograph is used for this basin.
1096          KM          The Natural time-area relation is used for this basin.
1097          KM
1098          KM      Time of Concentration for this sub-basin is based on the following:
1099          KM          An rainfall areal reduction factor of 1.000
1100          KM
1101          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1102          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1103          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1104          KM
1105          KM          L=   0.786 miles, S=  326 feet/mile, Kb= .14
1106          KM
1107          BA   0.161
1108          LG    0.25    0.35    4.35    0.41   35.00
```

```
1109          UC   0.400   0.312
1110          UA       0       3       5       8      12      20      43      75      90      96
1111          UA     100
              *

1112          KK    C531
1113          KM      Hydrograph combine 530531 + 205F at C531
1114          HC       2
              *

1115          KK  531532
1116          KM      Normal depth channel route from C531 to C532
1117          KM      Source:  Hydrology Field Reconnaissance
1118          RS       4    FLOW      -1
1119          RC   0.060   0.065   0.060  3391.0  0.0463
1120          RX  1000.0  1012.0  1022.0  1032.0  1050.0  1056.0  1068.0  1092.0
1121          RY    98.8    93.8    89.1    86.4    86.5    89.1    91.0    97.6
              *
1                                          HEC-1 INPUT                                          PAGE 27

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


1122          KK    205G
1123          KM   Sub-Basin   205G
1124          KM
1125          KM      The Clark Unit Hydrograph is used for this basin.
1126          KM          The Natural time-area relation is used for this basin.
1127          KM
1128          KM      Time of Concentration for this sub-basin is based on the following:
1129          KM          An rainfall areal reduction factor of 1.000
1130          KM
1131          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1132          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1133          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1134          KM
1135          KM          L=   0.924 miles, S=  338 feet/mile, Kb= .13
1136          KM
1137          BA   0.185
1138          LG    0.24    0.35    4.50    0.40   31.20
1139          UC   0.417   0.343
1140          UA       0       3       5       8      12      20      43      75      90      96
1141          UA     100
              *

1142          KK   C532L
1143          KM      Hydrograph combine 531532 + 205G at C532 left branch
1144          HC       2
              *

1145          KK    205H
1146          KM   Sub-Basin   205H
1147          KM
1148          KM      The Clark Unit Hydrograph is used for this basin.
1149          KM          The Natural time-area relation is used for this basin.
1150          KM
1151          KM      Time of Concentration for this sub-basin is based on the following:
1152          KM          An rainfall areal reduction factor of 1.000
1153          KM
1154          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1155          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1156          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1157          KM
1158          KM          L=   1.464 miles, S=  325 feet/mile, Kb= .13
1159          KM
1160          BA   0.261
1161          LG    0.24    0.35    4.50    0.39   31.60
1162          UC   0.542   0.547
1163          UA       0       3       5       8      12      20      43      75      90      96
1164          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 28

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


1165          KK    C532
1166          KM      Hydrograph combine C532L + 205H at C532
1167          HC       2
              *

1168          KK  532533
1169          KM      Normal depth channel route from C532 to C533
1170          KM      Source:  Hydrology Field Reconnaissance
1171          RS       2    FLOW      -1
1172          RC   0.060   0.045   0.060  1555.0  0.0283
1173          RX  1000.0  1020.0  1030.0  1048.0  1065.0  1077.0  1092.0  1119.0
1174          RY    98.0    89.4    88.1    85.6    85.9    92.2    93.8    97.0
```

```
                *
1175            KK    205I
1176            KM   Sub-Basin   205I
1177            KM
1178            KM      The Clark Unit Hydrograph is used for this basin.
1179            KM          The Natural time-area relation is used for this basin.
1180            KM
1181            KM      Time of Concentration for this sub-basin is based on the following:
1182            KM          An rainfall areal reduction factor of 1.000
1183            KM
1184            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1185            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1186            KM   .25 .25 .24 .24 .24 .24 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
1187            KM
1188            KM          L=   1.487 miles, S=  326 feet/mile, Kb= .11
1189            KM
1190            BA   0.354
1191            LG    0.20    0.37    5.20    0.28   15.20
1192            UC   0.488   0.414
1193            UA       0       3       5       8      12      20      43      75      90      96
1194            UA     100
                *
1195            KK    C533
1196            KM      Hydrograph combine 532533 + 205I at C533
1197            HC       2
                *
1198            KK  533534
1199            KM      Normal depth channel route from C533 to C534
1200            KM      Source:  Hydrology Field Reconnaissance
1201            RS       9    FLOW      -1
1202            RC   0.060   0.046   0.060  7145.0  0.0241
1203            RX  1000.0  1010.0  1060.0  1073.0  1160.0  1181.0  1223.0  1237.0
1204            RY    97.8    93.7    94.7    90.8    89.9    92.4    94.0    96.8
                *
1                                        HEC-1 INPUT                                          PAGE 29

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

1205            KK    205J
1206            KM   Sub-Basin   205J
1207            KM
1208            KM      The Clark Unit Hydrograph is used for this basin.
1209            KM          The Natural time-area relation is used for this basin.
1210            KM
1211            KM      Time of Concentration for this sub-basin is based on the following:
1212            KM          An rainfall areal reduction factor of 1.000
1213            KM
1214            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1215            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1216            KM   .24 .24 .24 .24 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
1217            KM
1218            KM          L=   1.633 miles, S=  243 feet/mile, Kb= .08
1219            KM
1220            BA   0.369
1221            LG    0.21    0.35    4.90    0.30    3.50
1222            UC   0.479   0.427
1223            UA       0       3       5       8      12      20      43      75      90      96
1224            UA     100
                *
1225            KK   C534R
1226            KM      Hydrograph combine 533534 + 205J at C534 right branch
1227            HC       2
                *
1228            KK    205K
1229            KM   Sub-Basin   205K
1230            KM
1231            KM      The Clark Unit Hydrograph is used for this basin.
1232            KM          The Natural time-area relation is used for this basin.
1233            KM
1234            KM      Time of Concentration for this sub-basin is based on the following:
1235            KM          An rainfall areal reduction factor of 1.000
1236            KM
1237            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1238            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1239            KM   .25 .25 .25 .24 .24 .24 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00
1240            KM
1241            KM          L=   1.772 miles, S=  249 feet/mile, Kb= .10
1242            KM
1243            BA   0.245
1244            LG    0.16    0.38    5.60    0.22    1.50
1245            UC   0.579   0.710
1246            UA       0       3       5       8      12      20      43      75      90      96
```

```
1247          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 30

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

1248          KK    C534
1249          KM      Hydrograph combine C534R + 205K at C534
1250          HC       2
              *

1251          KK  534535
1252          KM      Normal depth channel route from C534 to C535
1253          KM      Source:  Hydrology Field Reconnaissance
1254          RS       3    FLOW      -1
1255          RC   0.065   0.046   0.065  2037.0  0.0221
1256          RX  1000.0  1010.0  1016.0  1075.0  1150.0  1162.0  1174.0  1182.0
1257          RY    97.1    93.4    91.6    89.6    86.9    90.8    92.2    92.3
              *

1258          KK    205L
1259          KM   Sub-Basin   205L
1260          KM
1261          KM      The Clark Unit Hydrograph is used for this basin.
1262          KM          The Natural time-area relation is used for this basin.
1263          KM
1264          KM      Time of Concentration for this sub-basin is based on the following:
1265          KM          An rainfall areal reduction factor of 1.000
1266          KM
1267          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1268          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1269          KM   .24 .24 .23 .23 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
1270          KM
1271          KM          L=   0.701 miles, S=  284 feet/mile, Kb= .09
1272          KM
1273          BA   0.118
1274          LG    0.19    0.36    5.00    0.29    0.00
1275          UC   0.317   0.263
1276          UA       0       3       5       8      12      20      43      75      90      96
1277          UA     100
              *

1278          KK    C535
1279          KM      Hydrograph combine 534535 + 205L at C535
1280          HC       2
              *

1281          KK  535536
1282          KM      Normal depth channel route from C535 to C536
1283          KM      Source:  HEC-2 Cross Section: HE 3.275
1284          RS       8    FLOW      -1
1285          RC   0.075   0.050   0.075  2975.0  0.0236
1286          RX  9852.8  9871.5  9957.7 10000.0 10015.6 10052.4 10142.4 10183.6
1287          RY  1911.6  1904.3  1906.9  1900.8  1900.8  1905.4  1905.2  1912.6
              *
1                                        HEC-1 INPUT                                                    PAGE 31

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

1288          KK    205M
1289          KM   Sub-Basin   205M
1290          KM
1291          KM      The Clark Unit Hydrograph is used for this basin.
1292          KM          The HEC-1 time-area relation is used for this basin.
1293          KM
1294          KM      Time of Concentration for this sub-basin is based on the following:
1295          KM          An rainfall areal reduction factor of 1.000
1296          KM
1297          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1298          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1299          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1300          KM
1301          KM          L=   0.839 miles, S=  230 feet/mile, Kb= .06
1302          KM
1303          BA   0.139
1304          LG    0.15    0.33    5.40    0.22   21.00
1305          UC   0.292   0.253
              *

1306          KK   C536R
1307          KM      Hydrograph combine 535536 + 205M at C536 right branch
1308          HC       2
              *

1309          KK    205N
1310          KM   Sub-Basin   205N
```

```
1311          KM
1312          KM      The Clark Unit Hydrograph is used for this basin.
1313          KM          The HEC-1 time-area relation is used for this basin.
1314          KM
1315          KM      Time of Concentration for this sub-basin is based on the following:
1316          KM          An rainfall areal reduction factor of 1.000
1317          KM
1318          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1319          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1320          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
1321          KM
1322          KM          L=   1.183 miles, S=  245 feet/mile, Kb= .10
1323          KM
1324          BA   0.156
1325          LG    0.15    0.39    5.70    0.21    0.80
1326          UC   0.450   0.503
              *

1327          KK   C536I
1328          KM      Hydrograph combine C536R + 205N at C536I
1329          HC       2
              *
              * *
              * * C536I is the total flow in Hesperus Wash upstream of Dam 36
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 32

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


1330          KK   C536O
1331          KM      Reservoir route at C536 (Dam 36).
1332          RS       1    ELEV  1852.1
1333          SV    0.00   14.41   35.94   67.64  108.61  158.07  218.14  276.00  280.00  289.00
1334          SV  298.02  308.00  317.00  327.00  337.00  346.95  358.00  374.00
1335          SE  1852.1  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0  1889.2  1889.6
1336          SE  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1337          SQ       0     108     168     211     245     276     301     320     338     347
1338          SQ     356     459     679     995    1408    1905    2477    3119    3826    5009
1339          SE  1852.1  1858.0  1862.0  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0
1340          SE  1889.2  1889.6  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1341          RL                   0.17
              *
              * *
              * * End Basin 205.  Start Basin 206
              * *
              *

1342          KK  536537
1343          KM      Normal depth channel route from C536 to C537
1344          KM      Source:  HEC-2 Cross Section: HE 2.729
1345          RS       4    FLOW      -1
1346          RC   0.075   0.050   0.075  1480.0  0.0209
1347          RX  9900.0  9912.0  9947.3  9979.3 10025.0 10044.5 10051.0 10060.0
1348          RY  1846.5  1845.4  1843.1  1834.3  1833.6  1840.5  1843.3  1843.5
              *

1349          KK    206A
1350          KM   Sub-Basin   206A
1351          KM
1352          KM      The Clark Unit Hydrograph is used for this basin.
1353          KM          The Urban time-area relation is used for this basin.
1354          KM
1355          KM      Time of Concentration for this sub-basin is based on the following:
1356          KM          An rainfall areal reduction factor of 1.000
1357          KM
1358          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1359          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1360          KM   .27 .27 .27 .27 .27 .26 .03 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1361          KM
1362          KM          L=   0.631 miles, S=  256 feet/mile, Kb= .04
1363          KM
1364          BA   0.128
1365          LG    0.13    0.28    5.30    0.23   32.80
1366          UC   0.196   0.135
1367          UA       0       5      16      30      65      77      84      90      94      97
1368          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 33

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


1369          KK    C537
1370          KM      Hydrograph combine 536537 + 206A at C537
1371          HC       2
              *
```

```
1372          KK  537538
1373          KM      Normal depth channel route from C537 to C538
1374          KM      Source:  HEC-2 Cross Section: HE 2.493
1375          RS       3    FLOW      -1
1376          RC   0.075   0.050   0.075  2155.0  0.0210
1377          RX  9946.0  9957.6  9984.8  9994.8 10000.0 10036.5 10070.1 10107.3
1378          RY  1817.0  1815.2  1807.4  1803.2  1803.2  1805.5  1814.3  1815.4
              *

1379          KK   206B
1380          KM   Sub-Basin   206B
1381          KM
1382          KM      The Clark Unit Hydrograph is used for this basin.
1383          KM          The Urban time-area relation is used for this basin.
1384          KM
1385          KM      Time of Concentration for this sub-basin is based on the following:
1386          KM          An rainfall areal reduction factor of 1.000
1387          KM
1388          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1389          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1390          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1391          KM
1392          KM          L=   0.570 miles, S=  139 feet/mile, Kb= .03
1393          KM
1394          BA   0.095
1395          LG    0.10    0.26    5.20    0.23   41.30
1396          UC   0.192   0.144
1397          UA       0       5      16      30      65      77      84      90      94      97
1398          UA     100
              *

1399          KK   C538I
1400          KM      Hydrograph combine 537538 + 206B at C538I
1401          HC       2
              *

1402          KK   C538O
1403          KM      Reservoir route at C538.
1404          RS       1    ELEV  1778.2
1405          SV    0.00    0.10    0.57    1.69    2.60    2.70    2.90    3.00    3.20    3.38
1406          SV    3.60    3.90    4.10    4.30    4.60    5.10    5.60    6.10    7.10    8.10
1407          SE  1778.2  1782.0  1784.0  1786.0  1787.1  1787.2  1787.4  1787.6  1787.8  1788.0
1408          SE  1788.2  1788.4  1788.6  1788.8  1789.0  1789.4  1789.8  1790.2  1790.8  1791.4
1409          SQ       0      82     133     185     207     208     212     218     226     235
1410          SQ     249     265     286     310     338     400     482     611     942    1439
              *
```



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

1411          KK  538540
1412          KM      Normal depth channel route from C538 to C540
1413          KM      Source:  HEC-2 Cross Section: HE 1.990
1414          RS       6    FLOW      -1
1415          RC   0.075   0.050   0.075  2176.0  0.0210
1416          RX  9907.7  9931.8  9978.4 10000.0 10041.1 10056.9 10143.7 10164.9
1417          RY  1767.5  1754.9  1755.2  1753.2  1753.1  1755.1  1757.3  1769.4
              *

1418          KK   206C
1419          KM   Sub-Basin   206C
1420          KM
1421          KM      The Clark Unit Hydrograph is used for this basin.
1422          KM          The HEC-1 time-area relation is used for this basin.
1423          KM
1424          KM      Time of Concentration for this sub-basin is based on the following:
1425          KM          An rainfall areal reduction factor of 1.000
1426          KM
1427          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1428          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1429          KM   .24 .24 .23 .23 .23 .23 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1430          KM
1431          KM          L=   0.427 miles, S=  138 feet/mile, Kb= .07
1432          KM
1433          BA   0.024
1434          LG    0.21    0.32    4.35    0.40   12.40
1435          UC   0.275   0.376
              *

1436          KK   C540R
1437          KM      Hydrograph combine 538540 + 206C at C540 right branch
1438          HC       2
              *

1439          KK   206D
1440          KM   Sub-Basin   206D
```

```
1441          KM
1442          KM      The Clark Unit Hydrograph is used for this basin.
1443          KM          The Urban time-area relation is used for this basin.
1444          KM
1445          KM      Time of Concentration for this sub-basin is based on the following:
1446          KM          An rainfall areal reduction factor of 1.000
1447          KM
1448          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1449          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1450          KM   .28 .28 .28 .28 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1451          KM
1452          KM          L=   0.531 miles, S=  236 feet/mile, Kb= .04
1453          KM
1454          BA   0.062
1455          LG    0.08    0.26    5.70    0.18   41.20
1456          UC   0.179   0.162
1457          UA       0       5      16      30      65      77      84      90      94      97
1458          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 35

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


1459          KK  539540
1460          KM      Normal depth channel route from C539 to C540
1461          KM      Source:  200 Scale Mapping
1462          RS       5    FLOW      -1
1463          RC   0.060   0.050   0.055  1872.0  0.0256
1464          RX  1000.0  1007.0  1016.0  1036.0  1046.0  1080.0  1150.0  1210.0
1465          RY  1750.0  1748.0  1746.0  1744.0  1744.0  1746.0  1748.0  1750.0
              *

1466          KK    206E
1467          KM   Sub-Basin   206E
1468          KM
1469          KM      The Clark Unit Hydrograph is used for this basin.
1470          KM          The HEC-1 time-area relation is used for this basin.
1471          KM
1472          KM      Time of Concentration for this sub-basin is based on the following:
1473          KM          An rainfall areal reduction factor of 1.000
1474          KM
1475          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1476          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1477          KM   .23 .23 .22 .22 .22 .21 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
1478          KM
1479          KM          L=   0.343 miles, S=  175 feet/mile, Kb= .09
1480          KM
1481          BA   0.023
1482          LG    0.23    0.35    4.30    0.40    1.70
1483          UC   0.263   0.308
              *

1484          KK   C540L
1485          KM      Hydrograph combine 539540 + 206E at C540 left branch
1486          HC       2
              *

1487          KK    C540
1488          KM      Hydrograph combine C540R + C540L at C540
1489          HC       2
              *
              * *
              * * C540 is the end of Hesperus Wash and the start of Balboa Wash
              * *
              *

1490          KK  540541
1491          KM      Normal depth channel route from C540 to C541
1492          KM      Source:  HEC-2 Cross Section: BA 1.645
1493          RS      11    FLOW      -1
1494          RC   0.065   0.035   0.065  4207.0  0.0204
1495          RX  9960.8  9968.0  9975.1  9975.7  9993.2 10018.2 10297.5 10343.9
1496          RY  1725.2  1721.8  1718.4  1716.2  1716.4  1718.4  1719.8  1730.5
              *
1                                          HEC-1 INPUT                                          PAGE 36

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


1497          KK    206F
1498          KM   Sub-Basin   206F
1499          KM
1500          KM      The Clark Unit Hydrograph is used for this basin.
1501          KM          The HEC-1 time-area relation is used for this basin.
1502          KM
1503          KM      Time of Concentration for this sub-basin is based on the following:
1504          KM          An rainfall areal reduction factor of 1.000
```

```
1505          KM
1506          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1507          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1508          KM   .24 .23 .23 .23 .23 .22 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
1509          KM
1510          KM          L=   0.975 miles, S=  217 feet/mile, Kb= .08
1511          KM
1512          BA   0.157
1513          LG    0.21    0.35    4.60    0.35    5.10
1514          UC   0.388   0.364
              *

1515          KK    C541
1516          KM      Hydrograph combine 540541 + 206F at C541
1517          HC       2
              *

1518          KK  541548
1519          KM      Normal depth channel route from C541 to C548
1520          KM      Source:  HEC-2 Cross Section: BA 0.905
1521          RS       1    FLOW      -1
1522          RC   0.060   0.045   0.060  1138.0  0.0316
1523          RX  9761.7  9936.7  9955.2  9986.9  9994.7 10039.2 10065.3 10066.0
1524          RY  1647.4  1644.1  1638.1  1637.3  1636.2  1637.5  1652.9  1653.0
              *

1525          KK    206G
1526          KM   Sub-Basin   206G
1527          KM
1528          KM      The Clark Unit Hydrograph is used for this basin.
1529          KM          The HEC-1 time-area relation is used for this basin.
1530          KM
1531          KM      Time of Concentration for this sub-basin is based on the following:
1532          KM          An rainfall areal reduction factor of 1.000
1533          KM
1534          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1535          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1536          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1537          KM
1538          KM          L=   0.950 miles, S=  132 feet/mile, Kb= .09
1539          KM
1540          BA   0.089
1541          LG    0.16    0.35    5.20    0.25   12.50
1542          UC   0.463   0.597
              *
```



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

1543          KK  BB523R
1544          KM      Retrieve previously diverted hydrograph at C523 in the right branch.
1545          DR   D523R
              *

1546          KK  523548
1547          KM      Normal depth channel route from C523 to C548
1548          KM      Source:  200 Scale Mapping
1549          RS       1    FLOW      -1
1550          RC   0.040   0.018   0.040  2680.0  0.0189
1551          RX  1000.0  1040.0  1090.0  1130.0  1170.0  1171.2  1181.2  1196.2
1552          RY  1646.0  1645.0  1643.8  1644.7  1644.0  1644.4  1646.0  1648.0
              *

1553          KK   C548L
1554          KM      Hydrograph combine 541548 + 206G + BB523R at C548 left branch
1555          HC       3    3.72
              *
              * *
              * * C548L is the total flow in Balboa Wash above confluence with Oxford Wash
              * *
              *

1556          KK    206H
1557          KM   Sub-Basin   206H
1558          KM
1559          KM      The Clark Unit Hydrograph is used for this basin.
1560          KM          The Urban time-area relation is used for this basin.
1561          KM
1562          KM      Time of Concentration for this sub-basin is based on the following:
1563          KM          An rainfall areal reduction factor of 1.000
1564          KM
1565          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1566          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1567          KM   .27 .27 .27 .27 .27 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1568          KM
1569          KM          L=   0.515 miles, S=  183 feet/mile, Kb= .07
1570          KM
```

```
1571          BA   0.059
1572          LG    0.11    0.31    5.70    0.19   26.10
1573          UC   0.263   0.248
1574          UA       0       5      16      30      65      77      84      90      94      97
1575          UA     100
              *

1576          KK  542543
1577          KM      Normal depth channel route from C542 to C543
1578          KM      Source:  HEC-2 Cross Section: OX 0.931
1579          RS       2    FLOW      -1
1580          RC   0.075   0.040   0.050   686.0  0.0066
1581          RX  9846.9  9881.6  9967.5  9983.2 10010.0 10025.0 10033.8 10039.6
1582          RY  1732.3  1723.5  1724.1  1717.8  1717.0  1724.0  1728.2  1730.7
              *
1                                          HEC-1 INPUT                                                    PAGE 38

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


1583          KK    206I
1584          KM   Sub-Basin   206I
1585          KM
1586          KM      The Clark Unit Hydrograph is used for this basin.
1587          KM          The HEC-1 time-area relation is used for this basin.
1588          KM
1589          KM      Time of Concentration for this sub-basin is based on the following:
1590          KM          An rainfall areal reduction factor of 1.000
1591          KM
1592          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1593          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1594          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1595          KM
1596          KM          L=   0.232 miles, S=  286 feet/mile, Kb= .08
1597          KM
1598          BA   0.021
1599          LG    0.11    0.32    5.70    0.19   35.70
1600          UC   0.163   0.139
              *

1601          KK    C543
1602          KM      Hydrograph combine 542543 + 206I at C543
1603          HC       2
              *

1604          KK   D543L
1605          KM      Hydrograph diversion at C543.  Main flow continues in the left branch.
1606          KM      Diverted flow is in the right branch.
1607          DT   D543R
1608          DI       0      38      45      50      65      85      97     122     141     162
1609          DI     194     350     395     432     475     522     570     612
1610          DQ       0      38      45      50      65      85      97     122     141     162
1611          DQ     194     350     395     425     460     500     540     575
              *

1612          KK  543544
1613          KM      Normal depth channel route from C543 to C544
1614          KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1615          RS       1    FLOW      -1
1616          RC   0.040   0.018   0.040   597.0  0.0277
1617          RX  1000.0  1020.0  1045.0  1075.0  1105.0  1106.2  1146.2  1266.2
1618          RY  1720.0  1718.0  1712.0  1712.3  1712.0  1712.4  1714.0  1720.0
              *

1619          KK    206K
1620          KM   Sub-Basin   206K
1621          KM
1622          KM      The Clark Unit Hydrograph is used for this basin.
1623          KM          The HEC-1 time-area relation is used for this basin.
1624          KM
1625          KM      Time of Concentration for this sub-basin is based on the following:
1626          KM          An rainfall areal reduction factor of 1.000
1627          KM
1628          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1                                          HEC-1 INPUT                                                    PAGE 39

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

1629          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1630          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1631          KM
1632          KM          L=   0.615 miles, S=  255 feet/mile, Kb= .11
1633          KM
1634          BA   0.056
1635          LG    0.15    0.38    5.70    0.21    5.60
1636          UC   0.333   0.384
              *
```

```
1637          KK    C544
1638          KM      Hydrograph combine 543544 + 206K at C544
1639          HC       2
              *

1640          KK  544545
1641          KM      Normal depth channel route from C544 to C545
1642          KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1643          RS       3    FLOW      -1
1644          RC   0.040   0.018   0.040   985.0  0.0234
1645          RX  1000.0  1008.0  1018.0  1048.0  1078.0  1079.2  1089.2  1109.2
1646          RY  1690.0  1688.0  1686.0  1686.3  1686.0  1686.4  1688.0  1689.0
              *

1647          KK   D545L
1648          KM      Hydrograph diversion at C545.  Main flow continues in the left branch.
1649          KM      Diverted flow is in the right branch.
1650          DT   D545R
1651          DI       0      50     100     200     400     800    1600    3200    5000
1652          DQ       0      25      50     100     200     400     800    1600    2500
              *

1653          KK  545546
1654          KM      Normal depth channel route from C545 to C546
1655          KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1656          RS       1    FLOW      -1
1657          RC   0.040   0.018   0.040   428.0  0.0164
1658          RX  1000.0  1020.0  1050.0  1080.0  1110.0  1111.2  1121.2  1151.2
1659          RY  1680.0  1678.0  1676.0  1676.3  1676.0  1676.4  1678.0  1678.5
              *

1660          KK    206L
1661          KM   Sub-Basin   206L
1662          KM
1663          KM      The Clark Unit Hydrograph is used for this basin.
1664          KM          The HEC-1 time-area relation is used for this basin.
1665          KM
1666          KM      Time of Concentration for this sub-basin is based on the following:
1667          KM          An rainfall areal reduction factor of 1.000
1668          KM
1669          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1670          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1671          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1672          KM
1673          KM          L=   0.546 miles, S=  231 feet/mile, Kb= .11
1                                          HEC-1 INPUT                                          PAGE 40

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

1674          KM
1675          BA   0.060
1676          LG    0.14    0.39    5.80    0.21   14.70
1677          UC   0.325   0.327
              *

1678          KK    C546
1679          KM      Hydrograph combine 545546 + 206L at C546
1680          HC       2
              *

1681          KK  546547
1682          KM      Normal depth channel route from C546 to C547
1683          KM      Source:  200 Scale Mapping
1684          RS       2    FLOW      -1
1685          RC   0.040   0.018   0.040   749.0  0.0327
1686          RX  1000.0  1005.0  1011.0  1013.0  1029.0  1047.0  1052.0  1057.0
1687          RY  1666.0  1664.0  1662.0  1661.9  1662.4  1662.0  1664.0  1666.0
              *

1688          KK  BB543R
1689          KM      Retrieve previously diverted hydrograph at C543 in the right branch.
1690          DR   D543R
              *

1691          KK  543547
1692          KM      Normal depth channel route from C543 to C547
1693          KM      Source:  HEC-2 Cross Section: OX 0.638
1694          RS       5    FLOW      -1
1695          RC   0.075   0.040   0.050  2395.0  0.0278
1696          RX  9720.9  9769.0  9970.7  9985.5 10020.0 10038.1 10097.0 10102.0
1697          RY  1690.4  1681.2  1683.1  1676.2  1677.0  1687.1  1687.4  1690.0
              *

1698          KK  BB545R
1699          KM      Retrieve previously diverted hydrograph at C545 in the right branch.
1700          DR   D545R
              *
```

```
1701          KK  545547
1702          KM      Normal depth channel route from C545 to C547
1703          KM      Source:  HEC-2 Cross Section: OX 0.542
1704          RS       3    FLOW      -1
1705          RC   0.075   0.040   0.050  1216.0  0.0259
1706          RX  9668.2  9778.4  9957.9  9986.0 10012.7 10043.6 10067.6 10163.4
1707          RY  1674.1  1674.1  1673.3  1662.1  1662.2  1680.4  1680.9  1681.1
              *

1708          KK    206J
1709          KM   Sub-Basin   206J
1710          KM
1711          KM      The Clark Unit Hydrograph is used for this basin.
1712          KM          The Urban time-area relation is used for this basin.
1713          KM
1714          KM      Time of Concentration for this sub-basin is based on the following:
1                                        HEC-1 INPUT                                          PAGE 41

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

1715          KM          An rainfall areal reduction factor of 1.000
1716          KM
1717          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1718          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1719          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1720          KM
1721          KM          L=   0.502 miles, S=  214 feet/mile, Kb= .03
1722          KM
1723          BA   0.060
1724          LG    0.08    0.25    5.70    0.18   44.60
1725          UC   0.154   0.133
1726          UA       0       5      16      30      65      77      84      90      94      97
1727          UA     100
              *

1728          KK    C547
1729          KM      Hydrograph combine 546547 + 543547 + 545547 + 206J at C547
1730          HC       4    0.26
              *

1731          KK  547548
1732          KM      Normal depth channel route from C547 to C548
1733          KM      Source:  HEC-2 Cross Section: OX 0.235
1734          RS       4    FLOW      -1
1735          RC   0.075   0.040   0.050  2165.0  0.0182
1736          RX  9910.0  9911.4  9968.5  9987.6 10017.4 10032.3 10077.4 10080.0
1737          RY  1639.0  1638.9  1637.9  1635.7  1635.8  1641.7  1642.9  1643.0
              *

1738          KK    206M
1739          KM   Sub-Basin   206M
1740          KM
1741          KM      The Clark Unit Hydrograph is used for this basin.
1742          KM          The Urban time-area relation is used for this basin.
1743          KM
1744          KM      Time of Concentration for this sub-basin is based on the following:
1745          KM          An rainfall areal reduction factor of 1.000
1746          KM
1747          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1748          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1749          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
1750          KM
1751          KM          L=   0.465 miles, S=  166 feet/mile, Kb= .03
1752          KM
1753          BA   0.060
1754          LG    0.08    0.25    5.20    0.23   46.20
1755          UC   0.163   0.133
1756          UA       0       5      16      30      65      77      84      90      94      97
1757          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE 42

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

1758          KK   C548R
1759          KM      Hydrograph combine 547548 + 206M at C548 right branch
1760          HC       2
              *
              * *
              * * C548R is the total flow in Oxford Wash above confluence with Balboa Wash
              * *
              *

1761          KK    C548
1762          KM      Hydrograph combine C548L + C548R at C548
1763          HC       2
              *
```

```
                 * *
                 * * C548 is the total flow in Balboa Wash below the confluence of Balboa Wash
                 * * and Oxford Wash
                 * *
                 *

1764             KK  548549
1765             KM      Normal depth channel route from C548 to C549
1766             KM      Source:  HEC-2 Cross Section: BA0.246
1767             RS       7    FLOW      -1
1768             RC   0.070   0.080   0.070  3258.0  0.0172
1769             RX  9889.1  9912.5  9940.2  9960.0 10026.1 10046.8 10067.8 10079.3
1770             RY  1586.2  1585.7  1577.5  1573.6  1573.2  1579.5  1585.7  1586.2
                 *

1771             KK    206N
1772             KM   Sub-Basin   206N
1773             KM
1774             KM      The Clark Unit Hydrograph is used for this basin.
1775             KM          The Urban time-area relation is used for this basin.
1776             KM
1777             KM      Time of Concentration for this sub-basin is based on the following:
1778             KM          An rainfall areal reduction factor of 1.000
1779             KM
1780             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1781             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1782             KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
1783             KM
1784             KM          L=   0.767 miles, S=  120 feet/mile, Kb= .03
1785             KM
1786             BA   0.152
1787             LG    0.12    0.27    4.65    0.29   51.60
1788             UC   0.233   0.174
1789             UA       0       5      16      30      65      77      84      90      94      97
1790             UA     100
                 *
1                                          HEC-1 INPUT                                          PAGE 43

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

1791             KK   C549L
1792             KM      Hydrograph combine 548549 + 206N at C549 left branch
1793             HC       2
                 *
                 * *
                 * * C549L is the total flow in Balboa Wash above confluence with Ashbrook Wash
                 * *
                 * * End Basin 206.  Start Basin 207
                 * *
                 *

1794             KK    207A
1795             KM   Sub-Basin   207A
1796             KM
1797             KM      The Clark Unit Hydrograph is used for this basin.
1798             KM          The Natural time-area relation is used for this basin.
1799             KM
1800             KM      Time of Concentration for this sub-basin is based on the following:
1801             KM          An rainfall areal reduction factor of 1.000
1802             KM
1803             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1804             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1805             KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1806             KM
1807             KM          L=   1.356 miles, S=  351 feet/mile, Kb= .13
1808             KM
1809             BA   0.256
1810             LG    0.24    0.35    4.55    0.37   29.80
1811             UC   0.496   0.471
1812             UA       0       3       5       8      12      20      43      75      90      96
1813             UA     100
                 *

1814             KK    207B
1815             KM   Sub-Basin   207B
1816             KM
1817             KM      The Clark Unit Hydrograph is used for this basin.
1818             KM          The Natural time-area relation is used for this basin.
1819             KM
1820             KM      Time of Concentration for this sub-basin is based on the following:
1821             KM          An rainfall areal reduction factor of 1.000
1822             KM
1823             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1824             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1825             KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1826             KM
1827             KM          L=   1.312 miles, S=  359 feet/mile, Kb= .13
```

```
1828          KM
1829          BA   0.208
1830          LG    0.24     0.35     4.45     0.38    32.40
1831          UC   0.483    0.502
1832          UA       0        3        5        8       12       20       43       75       90       96
1833          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 44

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


1834          KK    C550
1835          KM      Hydrograph combine 207A + 207B at C550
1836          HC       2
              *

1837          KK  550552
1838          KM      Normal depth channel route from C550 to C552
1839          KM      Source:  Hydrology Field Reconnaissance
1840          RS       4    FLOW      -1
1841          RC   0.050   0.045   0.050  4410.0  0.0528
1842          RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1843          RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
              *

1844          KK    207C
1845          KM   Sub-Basin   207C
1846          KM
1847          KM      The Clark Unit Hydrograph is used for this basin.
1848          KM          The Natural time-area relation is used for this basin.
1849          KM
1850          KM      Time of Concentration for this sub-basin is based on the following:
1851          KM          An rainfall areal reduction factor of 1.000
1852          KM
1853          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1854          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1855          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1856          KM
1857          KM          L=   0.974 miles, S=  297 feet/mile, Kb= .11
1858          KM
1859          BA   0.173
1860          LG    0.19     0.37     5.30     0.26    13.70
1861          UC   0.404    0.360
1862          UA       0        3        5        8       12       20       43       75       90       96
1863          UA     100
              *

1864          KK   C552L
1865          KM      Hydrograph combine 550552 + 207C at C552 left branch
1866          HC       2
              *

1867          KK    207D
1868          KM   Sub-Basin   207D
1869          KM
1870          KM      The Clark Unit Hydrograph is used for this basin.
1871          KM          The Natural time-area relation is used for this basin.
1872          KM
1873          KM      Time of Concentration for this sub-basin is based on the following:
1874          KM          An rainfall areal reduction factor of 1.000
1875          KM
1876          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1877          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1878          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1879          KM
1                                          HEC-1 INPUT                                                    PAGE 45

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

1880          KM          L=   1.036 miles, S=  373 feet/mile, Kb= .14
1881          KM
1882          BA   0.197
1883          LG    0.25     0.35     4.35     0.40    35.00
1884          UC   0.442    0.388
1885          UA       0        3        5        8       12       20       43       75       90       96
1886          UA     100
              *

1887          KK  551552
1888          KM      Normal depth channel route from C551 to C552
1889          KM      Source:  100 Scale 4' CI Mapping
1890          RS       6    FLOW      -1
1891          RC   0.050   0.045   0.050  4410.0  0.0528
1892          RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1893          RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
              *
```

```
1894          KK    207E
1895          KM   Sub-Basin   207E
1896          KM
1897          KM      The Clark Unit Hydrograph is used for this basin.
1898          KM          The Natural time-area relation is used for this basin.
1899          KM
1900          KM      Time of Concentration for this sub-basin is based on the following:
1901          KM          An rainfall areal reduction factor of 1.000
1902          KM
1903          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1904          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1905          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1906          KM
1907          KM          L=   1.366 miles, S=  315 feet/mile, Kb= .14
1908          KM
1909          BA   0.157
1910          LG    0.25    0.35    4.35    0.42   35.00
1911          UC   0.554   0.710
1912          UA       0       3       5       8      12      20      43      75      90      96
1913          UA     100
              *

1914          KK   C552R
1915          KM      Hydrograph combine 551552 + 207E at C552 right branch
1916          HC       2
              *

1917          KK    C552
1918          KM      Hydrograph combine C552L + C552R at C552
1919          HC       2
              *
```



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

1920          KK  552553
1921          KM      Normal depth channel route from C552 to C553
1922          KM      Source:  Hydrology Field Reconnaissance
1923          RS       2    FLOW      -1
1924          RC   0.060   0.050   0.060  1336.0  0.0337
1925          RX   993.0  1010.0  1055.0  1061.0  1082.0  1096.0  1105.0  1127.0
1926          RY    98.0    94.3    94.4    94.0    94.3    94.5    96.2    98.0
              *

1927          KK    207F
1928          KM   Sub-Basin   207F
1929          KM
1930          KM      The Clark Unit Hydrograph is used for this basin.
1931          KM          The HEC-1 time-area relation is used for this basin.
1932          KM
1933          KM      Time of Concentration for this sub-basin is based on the following:
1934          KM          An rainfall areal reduction factor of 1.000
1935          KM
1936          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1937          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1938          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1939          KM
1940          KM          L=   0.794 miles, S=  296 feet/mile, Kb= .14
1941          KM
1942          BA   0.126
1943          LG    0.25    0.35    4.40    0.41   33.70
1944          UC   0.417   0.379
              *

1945          KK    C553
1946          KM      Hydrograph combine 552553 + 207F at C553
1947          HC       2
              *

1948          KK  553556
1949          KM      Normal depth channel route from C553 to C556
1950          KM      Source:  HEC-2 Cross Section: AS 6.118
1951          RS       3    FLOW      -1
1952          RC   0.055   0.045   0.060  2393.0  0.0255
1953          RX  9904.4  9945.9  9974.0  9987.4  9994.9 10008.6 10027.0 10045.3
1954          RY  2004.2  2003.9  1991.7  1990.4  1987.9  1988.2  1997.5  2006.7
              *

1955          KK    207G
1956          KM   Sub-Basin   207G
1957          KM
1958          KM      The Clark Unit Hydrograph is used for this basin.
1959          KM          The Natural time-area relation is used for this basin.
1960          KM
1961          KM      Time of Concentration for this sub-basin is based on the following:
1962          KM          An rainfall areal reduction factor of 1.000
1963          KM
```

```
1964          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1965          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                                    PAGE 47

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

1966          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1967          KM
1968          KM          L=   1.467 miles, S=  198 feet/mile, Kb= .10
1969          KM
1970          BA   0.236
1971          LG    0.17    0.38    5.60    0.23    8.30
1972          UC   0.554   0.594
1973          UA       0       3       5       8      12      20      43      75      90      96
1974          UA     100
              *

1975          KK   C556L
1976          KM      Hydrograph combine 553556 + 207G at C556 left branch
1977          HC       2
              *

1978          KK    207H
1979          KM   Sub-Basin   207H
1980          KM
1981          KM      The Clark Unit Hydrograph is used for this basin.
1982          KM          The Natural time-area relation is used for this basin.
1983          KM
1984          KM      Time of Concentration for this sub-basin is based on the following:
1985          KM          An rainfall areal reduction factor of 1.000
1986          KM
1987          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1988          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1989          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1990          KM
1991          KM          L=   1.044 miles, S=  371 feet/mile, Kb= .14
1992          KM
1993          BA   0.124
1994          LG    0.25    0.35    4.35    0.40   35.00
1995          UC   0.442   0.507
1996          UA       0       3       5       8      12      20      43      75      90      96
1997          UA     100
              *

1998          KK  554555
1999          KM      Normal depth channel route from C554 to C555
2000          KM      Source:  100 Scale 4' CI Mapping
2001          RS       4    FLOW      -1
2002          RC   0.050   0.045   0.050  2497.0  0.0649
2003          RX  1000.0  1025.0  1080.0  1100.0  1120.0  1130.0  1140.0  1155.0
2004          RY  2192.0  2188.0  2186.0  2184.0  2184.0  2188.0  2192.0  2194.0
              *

2005          KK    207I
2006          KM   Sub-Basin   207I
2007          KM
2008          KM      The Clark Unit Hydrograph is used for this basin.
2009          KM          The Natural time-area relation is used for this basin.
2010          KM
2011          KM      Time of Concentration for this sub-basin is based on the following:
2012          KM          An rainfall areal reduction factor of 1.000
1                                          HEC-1 INPUT                                                    PAGE 48

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

2013          KM
2014          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2015          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2016          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2017          KM
2018          KM          L=   0.810 miles, S=  320 feet/mile, Kb= .15
2019          KM
2020          BA   0.073
2021          LG    0.25    0.35    4.40    0.40   35.00
2022          UC   0.425   0.538
2023          UA       0       3       5       8      12      20      43      75      90      96
2024          UA     100
              *

2025          KK    C555
2026          KM      Hydrograph combine 554555 + 207I at C555
2027          HC       2
              *

2028          KK  555556
2029          KM      Normal depth channel route from C555 to C556
2030          KM      Source:  200 Scale Mapping
2031          RS       8    FLOW      -1
```

```
2032          RC   0.050   0.050   0.055  3353.0  0.0480
2033          RX  1000.0  1050.0  1090.0  1095.0  1130.0  1150.0  1160.0  1185.0
2034          RY  2020.0  2016.5  2006.0  2004.0  2005.0  2006.0  2010.0  2020.0
              *

2035          KK    207J
2036          KM   Sub-Basin   207J
2037          KM
2038          KM      The Clark Unit Hydrograph is used for this basin.
2039          KM          The HEC-1 time-area relation is used for this basin.
2040          KM
2041          KM      Time of Concentration for this sub-basin is based on the following:
2042          KM          An rainfall areal reduction factor of 1.000
2043          KM
2044          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2045          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2046          KM   .26 .25 .25 .25 .25 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2047          KM
2048          KM          L=   0.714 miles, S=  248 feet/mile, Kb= .13
2049          KM
2050          BA   0.093
2051          LG    0.22    0.33    4.40    0.39   37.00
2052          UC   0.396   0.392
              *

2053          KK   C556R
2054          KM      Hydrograph combine 555556 + 207J at C556 right branch
2055          HC       2
              *
```



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

2056          KK    C556
2057          KM      Hydrograph combine C556L + C556R at C556
2058          HC       2
              *

2059          KK  556557
2060          KM      Normal depth channel route from C556 to C557
2061          KM      Source:  HEC-2 Cross Section: AS 5.765
2062          RS       3    FLOW      -1
2063          RC   0.055   0.045   0.060  2298.0  0.0260
2064          RX  9957.1  9995.6 10000.0 10010.0 10040.4 10084.4 10104.2 10180.7
2065          RY  1949.3  1935.9  1935.8  1936.7  1936.7  1938.2  1947.1  1949.9
              *

2066          KK    207K
2067          KM   Sub-Basin   207K
2068          KM
2069          KM      The Clark Unit Hydrograph is used for this basin.
2070          KM          The HEC-1 time-area relation is used for this basin.
2071          KM
2072          KM      Time of Concentration for this sub-basin is based on the following:
2073          KM          An rainfall areal reduction factor of 1.000
2074          KM
2075          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2076          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2077          KM   .27 .27 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2078          KM
2079          KM          L=   0.859 miles, S=  294 feet/mile, Kb= .09
2080          KM
2081          BA   0.130
2082          LG    0.15    0.33    5.40    0.22   31.70
2083          UC   0.333   0.310
              *

2084          KK   C557R
2085          KM      Hydrograph combine 556557 + 207K at C557
2086          HC       2
              *

2087          KK    207L
2088          KM   Sub-Basin   207L
2089          KM
2090          KM      The Clark Unit Hydrograph is used for this basin.
2091          KM          The Urban time-area relation is used for this basin.
2092          KM
2093          KM      Time of Concentration for this sub-basin is based on the following:
2094          KM          An rainfall areal reduction factor of 1.000
2095          KM
2096          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2097          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2098          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2099          KM
2100          KM          L=   0.667 miles, S=  236 feet/mile, Kb= .07
2101          KM
```

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

2102          BA   0.080
2103          LG    0.11    0.32    6.00    0.17   29.60
2104          UC   0.275   0.269
2105          UA       0       5      16      30      65      77      84      90      94      97
2106          UA     100
              *

2107          KK    C557
2108          KM      Hydrograph combine C557R + 207L at C557
2109          HC       2
              *
              * *
              * * C557 is the total flow in Ashbrook Wash downstream of Golden Eagle Blvd.
              * * at fire station
              * *
              *

2110          KK  557558
2111          KM      Normal depth channel route from C557 to C558
2112          KM      Source:  HEC-2 Cross Section: AS 5.254
2113          RS       4    FLOW      -1
2114          RC   0.055   0.045   0.060  2652.0  0.0242
2115          RX  9662.0  9965.0  9967.0 10000.0 10072.0 10095.0 10122.0 10175.0
2116          RY  1890.0  1885.9  1884.0  1878.0  1880.0  1886.0  1888.0  1890.0
              *

2117          KK    207M
2118          KM   Sub-Basin   207M
2119          KM
2120          KM      The Clark Unit Hydrograph is used for this basin.
2121          KM          The HEC-1 time-area relation is used for this basin.
2122          KM
2123          KM      Time of Concentration for this sub-basin is based on the following:
2124          KM          An rainfall areal reduction factor of 1.000
2125          KM
2126          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2127          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2128          KM   .25 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
2129          KM
2130          KM          L=   0.636 miles, S=  295 feet/mile, Kb= .10
2131          KM
2132          BA   0.116
2133          LG    0.15    0.40    6.00    0.19    4.50
2134          UC   0.308   0.238
              *

2135          KK    C558
2136          KM      Hydrograph combine 557558 + 207M at C558
2137          HC       2
              *
```



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

2138          KK  558560
2139          KM      Normal depth channel route from C558 to C560
2140          KM      Source:  HEC-2 Cross Section: AS 4.839
2141          RS       3    FLOW      -1
2142          RC   0.055   0.045   0.060  1986.0  0.0185
2143          RX  9777.0  9897.0  9933.1  9970.6 10042.2 10063.4 10121.6 10204.9
2144          RY  1840.3  1837.3  1836.3  1824.3  1822.7  1828.5  1827.7  1842.7
              *

2145          KK    207O
2146          KM   Sub-Basin   207O
2147          KM
2148          KM      The Clark Unit Hydrograph is used for this basin.
2149          KM          The Natural time-area relation is used for this basin.
2150          KM
2151          KM      Time of Concentration for this sub-basin is based on the following:
2152          KM          An rainfall areal reduction factor of 1.000
2153          KM
2154          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2155          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2156          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
2157          KM
2158          KM          L=   0.643 miles, S=  275 feet/mile, Kb= .09
2159          KM
2160          BA   0.131
2161          LG    0.17    0.38    5.60    0.23    9.20
2162          UC   0.304   0.221
2163          UA       0       3       5       8      12      20      43      75      90      96
2164          UA     100
```

```
                *

2165            KK   C560R
2166            KM      Hydrograph combine 558560 + 207O at C560 right branch
2167            HC       2
                *

2168            KK    207N
2169            KM   Sub-Basin   207N
2170            KM
2171            KM      The Clark Unit Hydrograph is used for this basin.
2172            KM          The HEC-1 time-area relation is used for this basin.
2173            KM
2174            KM      Time of Concentration for this sub-basin is based on the following:
2175            KM          An rainfall areal reduction factor of 1.000
2176            KM
2177            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2178            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2179            KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
2180            KM
2181            KM          L=   0.431 miles, S=  190 feet/mile, Kb= .10
2182            KM
2183            BA   0.049
2184            LG    0.19    0.35    4.80    0.32   21.60
2185            UC   0.292   0.268
                *
1                                          HEC-1 INPUT                                          PAGE 52

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


2186            KK  559560
2187            KM      Normal depth channel route from C559 to C560
2188            KM      Source:  200 Scale Mapping
2189            RS       8    FLOW      -1
2190            RC   0.050   0.045   0.050  2170.0  0.0230
2191            RX  1000.0  1050.0  1080.0  1100.0  1110.0  1140.0  1170.0  1205.0
2192            RY  1854.0  1852.0  1850.0  1848.0  1848.0  1850.0  1852.0  1854.0
                *

2193            KK   C560I
2194            KM      Hydrograph combine C560R + 559560 at C560I
2195            HC       2
                *
                * *
                * * C560I is the total flow in Ashbrook Wash upstream of Dam 6
                * *
                *

2196            KK   C560O
2197            KM      Reservoir route at C560 (Dam 6).
2198            RS       1    ELEV  1808.8
2199            SV    0.00    1.71   14.81   34.65   60.43   93.47  135.64  183.00  186.00  191.44
2200            SV  197.00  205.00  212.00  219.00  226.40  234.00  242.00  246.00  250.00  254.00
2201            SE  1808.8  1812.0  1816.0  1820.0  1824.0  1828.0  1832.0  1835.4  1835.6  1836.0
2202            SE  1836.4  1836.8  1837.2  1837.6  1838.0  1838.4  1838.8  1839.0  1839.2  1839.4
2203            SQ       0      57     136     184     224     257     285     303     319     440
2204            SQ     691    1055    1500    2018    2600    3243    3944    4315    4699    5097
2205            RL                    0.40
                *
                * *
                * * End Basin 207.  Start Basin 210 temporarily
                * *
                *

2206            KK  560585
2207            KM      Normal depth channel route from C560 to C585
2208            KM      Source:  HEC-2 Cross Section: AS4.311
2209            RS       5    FLOW      -1
2210            RC   0.050   0.025   0.050  3127.0  0.0272
2211            RX  9850.4  9950.4  9974.4 10000.0 10035.5 10059.8 10080.4 10104.4
2212            RY  1772.0  1771.7  1765.3  1765.3  1765.9  1768.5  1773.3  1773.7
                *

2213            KK    210A
2214            KM   Sub-Basin   210A
2215            KM
2216            KM      The Clark Unit Hydrograph is used for this basin.
2217            KM          The Natural time-area relation is used for this basin.
2218            KM
2219            KM      Time of Concentration for this sub-basin is based on the following:
2220            KM          An rainfall areal reduction factor of 1.000
2221            KM
2222            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2223            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE 53

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

```
2224          KM   .25 .24 .24 .24 .24 .24 .01 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
2225          KM
2226          KM          L=   0.631 miles, S=  233 feet/mile, Kb= .09
2227          KM
2228          BA   0.123
2229          LG    0.20    0.36    5.00    0.27    5.50
2230          UC   0.317   0.236
2231          UA       0       3       5       8      12      20      43      75      90      96
2232          UA     100
              *

2233          KK    C585
2234          KM      Hydrograph combine 560585 + 210A at C585
2235          HC       2
              *
              * *
              * * C585 is the total flow in Ashbrook Wash at Golden Eagle Blvd. just
              * * upstream of DAM 4
              * *
              * * Temporarily stop Basin 210.  Start Basin 208
              * *
              * * Start Bristol Wash
              * *
              *

2236          KK    208A
2237          KM   Sub-Basin   208A
2238          KM
2239          KM      The Clark Unit Hydrograph is used for this basin.
2240          KM          The Natural time-area relation is used for this basin.
2241          KM
2242          KM      Time of Concentration for this sub-basin is based on the following:
2243          KM          An rainfall areal reduction factor of 1.000
2244          KM
2245          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2246          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2247          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2248          KM
2249          KM          L=   0.626 miles, S=  366 feet/mile, Kb= .14
2250          KM
2251          BA   0.139
2252          LG    0.25    0.35    4.35    0.40   35.00
2253          UC   0.346   0.241
2254          UA       0       3       5       8      12      20      43      75      90      96
2255          UA     100
              *

2256          KK  561563
2257          KM      Normal depth channel route from C561 to C563
2258          KM      Source:  100 Scale 4' CI Mapping
2259          RS       3    FLOW      -1
2260          RC   0.050   0.045   0.050  2335.0  0.0856
2261          RX  1000.0  1004.0  1009.0  1019.0  1037.0  1045.0  1060.0  1075.0
2262          RY  2280.0  2276.0  2272.0  2268.0  2268.0  2272.0  2274.0  2276.0
              *
```



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

2263          KK    208B
2264          KM   Sub-Basin   208B
2265          KM
2266          KM      The Clark Unit Hydrograph is used for this basin.
2267          KM          The Natural time-area relation is used for this basin.
2268          KM
2269          KM      Time of Concentration for this sub-basin is based on the following:
2270          KM          An rainfall areal reduction factor of 1.000
2271          KM
2272          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2273          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2274          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2275          KM
2276          KM          L=   0.491 miles, S=  325 feet/mile, Kb= .16
2277          KM
2278          BA   0.027
2279          LG    0.25    0.35    4.35    0.42   35.00
2280          UC   0.342   0.499
2281          UA       0       3       5       8      12      20      43      75      90      96
2282          UA     100
              *

2283          KK   C563R
2284          KM      Hydrograph combine 561563 + 206B at C563 right branch
2285          HC       2
              *

2286          KK    208C
```

```
2287          KM   Sub-Basin   208C
2288          KM
2289          KM      The Clark Unit Hydrograph is used for this basin.
2290          KM          The Natural time-area relation is used for this basin.
2291          KM
2292          KM      Time of Concentration for this sub-basin is based on the following:
2293          KM          An rainfall areal reduction factor of 1.000
2294          KM
2295          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2296          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2297          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2298          KM
2299          KM          L=   0.639 miles, S=  387 feet/mile, Kb= .15
2300          KM
2301          BA   0.066
2302          LG    0.25    0.35    4.35    0.40   35.00
2303          UC   0.354   0.383
2304          UA       0       3       5       8      12      20      43      75      90      96
2305          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 55

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


2306          KK  562563
2307          KM      Normal depth channel route from C562 to C563
2308          KM      Source:  100 Scale 4' CI Mapping
2309          RS       5    FLOW      -1
2310          RC   0.050   0.045   0.050  3745.0  0.1106
2311          RX  1000.0  1007.0  1012.0  1017.0  1022.0  1027.0  1044.0  1064.0
2312          RY  2420.0  2416.0  2412.0  2411.8  2411.8  2412.0  2416.0  2420.0
              *

2313          KK    208D
2314          KM   Sub-Basin   208D
2315          KM
2316          KM      The Clark Unit Hydrograph is used for this basin.
2317          KM          The Natural time-area relation is used for this basin.
2318          KM
2319          KM      Time of Concentration for this sub-basin is based on the following:
2320          KM          An rainfall areal reduction factor of 1.000
2321          KM
2322          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2323          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2324          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2325          KM
2326          KM          L=   0.772 miles, S=  327 feet/mile, Kb= .15
2327          KM
2328          BA   0.075
2329          LG    0.25    0.35    4.35    0.42   35.00
2330          UC   0.413   0.495
2331          UA       0       3       5       8      12      20      43      75      90      96
2332          UA     100
              *

2333          KK   C563L
2334          KM      Hydrograph combine 562563 + 208D at C563 left branch
2335          HC       2
              *

2336          KK    C563
2337          KM      Hydrograph combine C563R + C563L at C563
2338          HC       2
              *

2339          KK  563564
2340          KM      Normal depth channel route from C563 to C564
2341          KM      Source:  HEC-2 Cross Section: BR 2.667
2342          RS       4    FLOW      -1
2343          RC   0.080   0.080   0.080  2762.0  0.0540
2344          RX  9947.0  9980.4  9986.4  9995.5 10000.0 10005.8 10021.9 10037.2
2345          RY  2103.4  2089.5  2089.2  2084.5  2084.4  2084.3  2098.5  2100.6
              *
1                                          HEC-1 INPUT                                          PAGE 56

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


2346          KK    208E
2347          KM   Sub-Basin   208E
2348          KM
2349          KM      The Clark Unit Hydrograph is used for this basin.
2350          KM          The Natural time-area relation is used for this basin.
2351          KM
2352          KM      Time of Concentration for this sub-basin is based on the following:
2353          KM          An rainfall areal reduction factor of 1.000
2354          KM
```

```
2355          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2356          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2357          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2358          KM
2359          KM          L=   0.644 miles, S=  306 feet/mile, Kb= .15
2360          KM
2361          BA   0.062
2362          LG    0.25    0.35    4.35    0.41   35.00
2363          UC   0.383   0.438
2364          UA       0       3       5       8      12      20      43      75      90      96
2365          UA     100
              *

2366          KK   C564R
2367          KM      Hydrograph combine 563564 + 208E at C564 right branch
2368          HC       2
              *

2369          KK    208F
2370          KM   Sub-Basin   208F
2371          KM
2372          KM      The Clark Unit Hydrograph is used for this basin.
2373          KM          The Natural time-area relation is used for this basin.
2374          KM
2375          KM      Time of Concentration for this sub-basin is based on the following:
2376          KM          An rainfall areal reduction factor of 1.000
2377          KM
2378          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2379          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2380          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2381          KM
2382          KM          L=   0.582 miles, S=  293 feet/mile, Kb= .15
2383          KM
2384          BA   0.069
2385          LG    0.25    0.35    4.35    0.41   35.00
2386          UC   0.371   0.366
2387          UA       0       3       5       8      12      20      43      75      90      96
2388          UA     100
              *
```



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

2389          KK    C564
2390          KM      Hydrograph combine C564R + 208F at C564
2391          HC       2
              *

2392          KK  564565
2393          KM      Normal depth channel route from C564 to C565
2394          KM      Source:  HEC-2 Cross Section: BR 2.236
2395          RS       7    FLOW      -1
2396          RC   0.080   0.080   0.080  3243.0  0.0398
2397          RX  9937.7  9965.8  9985.5 10000.0 10008.6 10016.4 10037.5 10054.4
2398          RY  1998.7  1998.1  1988.9  1988.8  1989.0  1990.4  1990.6  1999.1
              *

2399          KK    208G
2400          KM   Sub-Basin   208G
2401          KM
2402          KM      The Clark Unit Hydrograph is used for this basin.
2403          KM          The HEC-1 time-area relation is used for this basin.
2404          KM
2405          KM      Time of Concentration for this sub-basin is based on the following:
2406          KM          An rainfall areal reduction factor of 1.000
2407          KM
2408          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2409          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2410          KM   .26 .25 .25 .25 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2411          KM
2412          KM          L=   0.772 miles, S=  299 feet/mile, Kb= .13
2413          KM
2414          BA   0.129
2415          LG    0.22    0.34    4.60    0.34   34.30
2416          UC   0.388   0.337
              *

2417          KK    C565
2418          KM      Hydrograph combine 564565 + 208G at C565
2419          HC       2
              *

2420          KK  565568
2421          KM      Normal depth channel route from C565 to C568
2422          KM      Source:  HEC-2 Cross Section: BR 1.853
2423          RS       3    FLOW      -1
2424          RC   0.050   0.060   0.045  2254.0  0.0333
```

```
2425          RX  9966.2  9975.6  9985.0 10000.0 10017.9 10027.6 10040.1 10052.5
2426          RY  1929.1  1924.5  1919.8  1918.3  1918.4  1919.6  1925.2  1930.8
              *

2427          KK    208H
2428          KM   Sub-Basin   208H
2429          KM
2430          KM      The Clark Unit Hydrograph is used for this basin.
2431          KM          The Natural time-area relation is used for this basin.
2432          KM
1                                        HEC-1 INPUT                                                    PAGE 58

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

2433          KM      Time of Concentration for this sub-basin is based on the following:
2434          KM          An rainfall areal reduction factor of 1.000
2435          KM
2436          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2437          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2438          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
2439          KM
2440          KM          L=   0.632 miles, S=  283 feet/mile, Kb= .12
2441          KM
2442          BA   0.043
2443          LG    0.17    0.38    5.60    0.23    8.60
2444          UC   0.346   0.476
2445          UA       0       3       5       8      12      20      43      75      90      96
2446          UA     100
              *

2447          KK   C568L
2448          KM      Hydrograph combine 565568 + 208H at C568 left branch
2449          HC       2
              *
              * *
              * * Start Cholula Wash
              * *
              *

2450          KK    208I
2451          KM   Sub-Basin   208I
2452          KM
2453          KM      The Clark Unit Hydrograph is used for this basin.
2454          KM          The Natural time-area relation is used for this basin.
2455          KM
2456          KM      Time of Concentration for this sub-basin is based on the following:
2457          KM          An rainfall areal reduction factor of 1.000
2458          KM
2459          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2460          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2461          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2462          KM
2463          KM          L=   0.823 miles, S=  363 feet/mile, Kb= .14
2464          KM
2465          BA   0.117
2466          LG    0.25    0.35    4.35    0.42   35.00
2467          UC   0.396   0.384
2468          UA       0       3       5       8      12      20      43      75      90      96
2469          UA     100
              *

2470          KK    208J
2471          KM   Sub-Basin   208J
2472          KM
2473          KM      The Clark Unit Hydrograph is used for this basin.
2474          KM          The Natural time-area relation is used for this basin.
2475          KM
2476          KM      Time of Concentration for this sub-basin is based on the following:
2477          KM          An rainfall areal reduction factor of 1.000
1                                        HEC-1 INPUT                                                    PAGE 59

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

2478          KM
2479          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2480          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2481          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2482          KM
2483          KM          L=   0.974 miles, S=  353 feet/mile, Kb= .15
2484          KM
2485          BA   0.081
2486          LG    0.25    0.35    4.35    0.42   35.00
2487          UC   0.454   0.632
2488          UA       0       3       5       8      12      20      43      75      90      96
2489          UA     100
              *

2490          KK    C566
```

```
2491          KM      Hydrograph combine 208I + 208J at C566
2492          HC       2
              *

2493          KK  566567
2494          KM      Normal depth channel route from C566 to C567
2495          KM      Source:  HEC-2 Cross Section: CH 0.766
2496          RS       4    FLOW      -1
2497          RC   0.080   0.080   0.080  1463.0  0.0410
2498          RX  9925.3  9949.0  9965.7  9988.3 10000.0 10016.2 10029.5 10042.7
2499          RY  2047.9  2043.7  2035.3  2033.3  2031.4  2033.0  2040.1  2047.2
              *

2500          KK    208K
2501          KM   Sub-Basin   208K
2502          KM
2503          KM      The Clark Unit Hydrograph is used for this basin.
2504          KM          The Natural time-area relation is used for this basin.
2505          KM
2506          KM      Time of Concentration for this sub-basin is based on the following:
2507          KM          An rainfall areal reduction factor of 1.000
2508          KM
2509          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2510          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2511          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2512          KM
2513          KM          L=   0.431 miles, S=  317 feet/mile, Kb= .16
2514          KM
2515          BA   0.048
2516          LG    0.25    0.35    4.35    0.43   35.00
2517          UC   0.321   0.303
2518          UA       0       3       5       8      12      20      43      75      90      96
2519          UA     100
              *
```



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

2520          KK   C567L
2521          KM      Hydrograph combine 566567 + 208K at C567 left branch
2522          HC       2
              *

2523          KK    208L
2524          KM   Sub-Basin   208L
2525          KM
2526          KM      The Clark Unit Hydrograph is used for this basin.
2527          KM          The Natural time-area relation is used for this basin.
2528          KM
2529          KM      Time of Concentration for this sub-basin is based on the following:
2530          KM          An rainfall areal reduction factor of 1.000
2531          KM
2532          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2533          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2534          KM   .25 .25 .24 .24 .24 .23 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2535          KM
2536          KM          L=   0.655 miles, S=  334 feet/mile, Kb= .15
2537          KM
2538          BA   0.059
2539          LG    0.25    0.35    4.40    0.43   35.00
2540          UC   0.379   0.452
2541          UA       0       3       5       8      12      20      43      75      90      96
2542          UA     100
              *

2543          KK    C567
2544          KM      Hydrograph combine C567L + 208L at C567
2545          HC       2
              *

2546          KK  567568
2547          KM      Normal depth channel route from C567 to C568
2548          KM      Source:  HEC-2 Cross Section: CH 0.129
2549          RS       6    FLOW      -1
2550          RC   0.050   0.060   0.045  3650.0  0.0389
2551          RX  9945.7  9958.4  9989.8 10000.0 10016.4 10028.3 10045.4 10059.8
2552          RY  1912.1  1905.9  1899.0  1899.3  1898.9  1899.5  1907.1  1911.9
              *

2553          KK    208M
2554          KM   Sub-Basin   208M
2555          KM
2556          KM      The Clark Unit Hydrograph is used for this basin.
2557          KM          The Natural time-area relation is used for this basin.
2558          KM
2559          KM      Time of Concentration for this sub-basin is based on the following:
2560          KM          An rainfall areal reduction factor of 1.000
```

```
2561          KM
2562          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2563          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2564          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2565          KM
```



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

2566          KM          L=   1.031 miles, S=  321 feet/mile, Kb= .14
2567          KM
2568          BA   0.159
2569          LG    0.25    0.35    4.40    0.42   35.50
2570          UC   0.463   0.459
2571          UA       0       3       5       8      12      20      43      75      90      96
2572          UA     100
              *

2573          KK   C568R
2574          KM      Hydrograph combine 567568 + 208M at C568 right branch
2575          HC       2
              *

2576          KK    C568
2577          KM      Hydrograph combine C568L + C568R at C568
2578          HC       2
              *

2579          KK  568573
2580          KM      Normal depth channel route from C568 to C573
2581          KM      Source:  HEC-2 Cross Section: BR 1.340
2582          RS       3    FLOW      -1
2583          RC   0.098   0.075   0.075  2067.0  0.0324
2584          RX  9921.8  9954.1  9968.9  9991.3 10000.0 10006.9 10025.2 10050.4
2585          RY  1843.8  1840.4  1835.1  1834.7  1832.7  1833.3  1838.1  1854.0
              *

2586          KK    208N
2587          KM   Sub-Basin   208N
2588          KM
2589          KM      The Clark Unit Hydrograph is used for this basin.
2590          KM          The Natural time-area relation is used for this basin.
2591          KM
2592          KM      Time of Concentration for this sub-basin is based on the following:
2593          KM          An rainfall areal reduction factor of 1.000
2594          KM
2595          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2596          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2597          KM   .27 .27 .27 .27 .27 .26 .03 .03 .03 .02 .02 .02 .01 .01 .01 .01 .01 .01
2598          KM
2599          KM          L=   0.589 miles, S=  160 feet/mile, Kb= .11
2600          KM
2601          BA   0.047
2602          LG    0.15    0.39    6.20    0.17   34.00
2603          UC   0.371   0.460
2604          UA       0       3       5       8      12      20      43      75      90      96
2605          UA     100
              *
```



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

2606          KK   C573L
2607          KM      Hydrograph combine 568573 + 208N at C573 left branch
2608          HC       2
              *
              * *
              * * C573L is the total flow in Bristol Wash upstream of the confluence with
              * * Zapata Wash
              * *
              * * Start Zapata Wash
              * *
              *

2609          KK    208O
2610          KM   Sub-Basin   208O
2611          KM
2612          KM      The Clark Unit Hydrograph is used for this basin.
2613          KM          The Natural time-area relation is used for this basin.
2614          KM
2615          KM      Time of Concentration for this sub-basin is based on the following:
2616          KM          An rainfall areal reduction factor of 1.000
2617          KM
2618          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2619          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2620          KM   .25 .25 .25 .25 .25 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2621          KM
```

```
2622          KM          L=   1.174 miles, S=  347 feet/mile, Kb= .13
2623          KM
2624          BA   0.230
2625          LG    0.23    0.35    4.60    0.37   33.50
2626          UC   0.463   0.413
2627          UA       0       3       5       8      12      20      43      75      90      96
2628          UA     100
              *

2629          KK  569570
2630          KM      Normal depth channel route from C569 to C570
2631          KM      Source:  HEC-2 Cross Section: ZA 0.493
2632          RS       2    FLOW      -1
2633          RC   0.050   0.035   0.055  1696.0  0.0404
2634          RX  9965.3  9985.5  9998.4 10000.0 10010.6 10019.1 10038.5 10038.5
2635          RY  1919.3  1912.3  1908.1  1907.8  1905.2  1908.1  1920.1  1920.1
              *

2636          KK    208P
2637          KM   Sub-Basin   208P
2638          KM
2639          KM      The Clark Unit Hydrograph is used for this basin.
2640          KM          The Natural time-area relation is used for this basin.
2641          KM
2642          KM      Time of Concentration for this sub-basin is based on the following:
2643          KM          An rainfall areal reduction factor of 1.000
2644          KM
2645          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2646          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```



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

2647          KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2648          KM
2649          KM          L=   0.471 miles, S=  312 feet/mile, Kb= .12
2650          KM
2651          BA   0.058
2652          LG    0.18    0.39    5.70    0.21   27.90
2653          UC   0.283   0.252
2654          UA       0       3       5       8      12      20      43      75      90      96
2655          UA     100
              *

2656          KK   C570R
2657          KM      Hydrograph combine 569570 + 208P at C570 right branch
2658          HC       2
              *

2659          KK    208Q
2660          KM   Sub-Basin   208Q
2661          KM
2662          KM      The Clark Unit Hydrograph is used for this basin.
2663          KM          The Natural time-area relation is used for this basin.
2664          KM
2665          KM      Time of Concentration for this sub-basin is based on the following:
2666          KM          An rainfall areal reduction factor of 1.000
2667          KM
2668          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2669          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2670          KM   .26 .26 .26 .25 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2671          KM
2672          KM          L=   0.823 miles, S=  324 feet/mile, Kb= .13
2673          KM
2674          BA   0.094
2675          LG    0.21    0.36    5.00    0.28   31.50
2676          UC   0.388   0.425
2677          UA       0       3       5       8      12      20      43      75      90      96
2678          UA     100
              *

2679          KK    C570
2680          KM      Hydrograph combine C570R + 208Q at C570
2681          HC       2
              *
              * *
              * * NOTE: 570572 is too short to route
              * *
              *

2682          KK    208R
2683          KM   Sub-Basin   208R
2684          KM
2685          KM      The Clark Unit Hydrograph is used for this basin.
2686          KM          The Natural time-area relation is used for this basin.
2687          KM
2688          KM      Time of Concentration for this sub-basin is based on the following:
2689          KM          An rainfall areal reduction factor of 1.000
```

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

2690          KM
2691          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2692          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2693          KM   .27 .27 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2694          KM
2695          KM          L=   0.238 miles, S=  327 feet/mile, Kb= .13
2696          KM
2697          BA   0.010
2698          LG    0.15    0.39    6.20    0.17   25.30
2699          UC   0.204   0.271
2700          UA       0       3       5       8      12      20      43      75      90      96
2701          UA     100
              *

2702          KK  571572
2703          KM      Normal depth channel route from C571 to C572
2704          KM      Source:  200 Scale Mapping
2705          RS       3    FLOW      -1
2706          RC   0.040   0.020   0.055  1379.0  0.0566
2707          RX  1000.0  1020.0  1040.0  1090.0  1122.0  1125.0  1135.0  1140.0
2708          RY  1894.0  1893.0  1892.0  1891.0  1891.0  1892.0  1894.0  1896.0
              *

2709          KK    C572
2710          KM      Hydrograph combine C570 + 571572 at C572
2711          HC       2
              *

2712          KK  572573
2713          KM      Normal depth channel route from C572 to C573
2714          KM      Source:  HEC-2 Cross Section: ZA 0.142
2715          RS       2    FLOW      -1
2716          RC   0.050   0.035   0.055  1285.0  0.0335
2717          RX  9961.8  9976.8  9982.5  9987.0 10009.5 10014.3 10022.1 10029.3
2718          RY  1840.3  1832.1  1831.2  1829.5  1829.2  1830.6  1831.2  1835.6
              *

2719          KK    208S
2720          KM   Sub-Basin   208S
2721          KM
2722          KM      The Clark Unit Hydrograph is used for this basin.
2723          KM          The Natural time-area relation is used for this basin.
2724          KM
2725          KM      Time of Concentration for this sub-basin is based on the following:
2726          KM          An rainfall areal reduction factor of 1.000
2727          KM
2728          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2729          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2730          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2731          KM
2732          KM          L=   0.568 miles, S=  234 feet/mile, Kb= .11
2733          KM
2734          BA   0.068
2735          LG    0.14    0.39    6.20    0.17   38.30
2736          UC   0.321   0.308
```



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

2737          UA       0       3       5       8      12      20      43      75      90      96
2738          UA     100
              *

2739          KK   C573R
2740          KM      Hydrograph combine 572573 + 208S at C573 right branch
2741          HC       2
              *

2742          KK    C573
2743          KM      Hydrograph combine C573L + C573R at C573
2744          HC       2
              *
              * *
              * * NOTE: 573577 is too short to route
              * *
              * * C573 is the total flow in Bristol Wash upstream of the confluence
              * * with Montezuna Wash
              * *
              * * Start Montezuna Wash
              * *
              *

2745          KK    208T
2746          KM   Sub-Basin   208T
```

```
2747          KM
2748          KM      The Clark Unit Hydrograph is used for this basin.
2749          KM          The Natural time-area relation is used for this basin.
2750          KM
2751          KM      Time of Concentration for this sub-basin is based on the following:
2752          KM          An rainfall areal reduction factor of 1.000
2753          KM
2754          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2755          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2756          KM   .26 .26 .25 .25 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2757          KM
2758          KM          L=   0.787 miles, S=  340 feet/mile, Kb= .12
2759          KM
2760          BA   0.132
2761          LG    0.20    0.37    5.20    0.27   29.80
2762          UC   0.358   0.310
2763          UA       0       3       5       8      12      20      43      75      90      96
2764          UA     100
              *

2765          KK    208U
2766          KM   Sub-Basin   208U
2767          KM
2768          KM      The Clark Unit Hydrograph is used for this basin.
2769          KM          The Natural time-area relation is used for this basin.
2770          KM
2771          KM      Time of Concentration for this sub-basin is based on the following:
2772          KM          An rainfall areal reduction factor of 1.000
2773          KM
2774          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```



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

2775          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2776          KM   .26 .26 .26 .25 .25 .25 .02 .02 .02 .01 .01 .01 .01 .01 .01 .01 .01 .01
2777          KM
2778          KM          L=   0.507 miles, S=  360 feet/mile, Kb= .12
2779          KM
2780          BA   0.134
2781          LG    0.19    0.37    5.30    0.26   29.20
2782          UC   0.283   0.167
2783          UA       0       3       5       8      12      20      43      75      90      96
2784          UA     100
              *

2785          KK    C574
2786          KM      Hydrograph combine 208T + 208U at C574
2787          HC       2
              *

2788          KK  574575
2789          KM      Normal depth channel route from C574 to C575
2790          KM      Source:  HEC-2 Cross Section: MO 0.587
2791          RS       1    FLOW      -1
2792          RC   0.070   0.050   0.055   823.0  0.0365
2793          RX  9945.0  9970.6  9986.7  9995.9 10002.3 10019.0 10036.7 10055.5
2794          RY  1932.6  1928.5  1922.9  1917.8  1917.7  1924.0  1931.1  1934.1
              *

2795          KK    208V
2796          KM   Sub-Basin   208V
2797          KM
2798          KM      The Clark Unit Hydrograph is used for this basin.
2799          KM          The Natural time-area relation is used for this basin.
2800          KM
2801          KM      Time of Concentration for this sub-basin is based on the following:
2802          KM          An rainfall areal reduction factor of 1.000
2803          KM
2804          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2805          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2806          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2807          KM
2808          KM          L=   0.354 miles, S=  319 feet/mile, Kb= .12
2809          KM
2810          BA   0.028
2811          LG    0.15    0.38    6.40    0.17   25.00
2812          UC   0.242   0.257
2813          UA       0       3       5       8      12      20      43      75      90      96
2814          UA     100
              *

2815          KK    C575
2816          KM      Hydrograph combine 574575 + 208V at C575
2817          HC       2
              *
```

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

2818          KK  575576
2819          KM      Normal depth channel route from C575 to C576
2820          KM      Source:  HEC-2 Cross Section: MO 0.307
2821          RS       2    FLOW      -1
2822          RC   0.070   0.050   0.055  2342.0  0.0423
2823          RX  9973.7  9974.0  9986.7 10000.0 10000.5 10009.7 10026.7 10037.3
2824          RY  1861.6  1861.5  1855.0  1853.0  1853.1  1854.8  1863.0  1867.1
              *

2825          KK    208W
2826          KM   Sub-Basin   208W
2827          KM
2828          KM      The Clark Unit Hydrograph is used for this basin.
2829          KM          The Natural time-area relation is used for this basin.
2830          KM
2831          KM      Time of Concentration for this sub-basin is based on the following:
2832          KM          An rainfall areal reduction factor of 1.000
2833          KM
2834          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2835          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2836          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2837          KM
2838          KM          L=   0.475 miles, S=  288 feet/mile, Kb= .11
2839          KM
2840          BA   0.050
2841          LG    0.15    0.39    6.20    0.18   22.70
2842          UC   0.279   0.272
2843          UA       0       3       5       8      12      20      43      75      90      96
2844          UA     100
              *

2845          KK    C576
2846          KM      Hydrograph combine 575576 + 208W at C576
2847          HC       2
              *

2848          KK  576577
2849          KM      Normal depth channel route from C576 to C577
2850          KM      Source:  HEC-2 Cross Section: MO 0.116
2851          RS       1    FLOW      -1
2852          RC   0.070   0.050   0.055   740.0  0.0338
2853          RX  9915.1  9960.0  9985.5 10000.0 10000.1 10007.0 10023.3 10023.4
2854          RY  1826.5  1826.4  1814.5  1812.3  1812.3  1814.8  1830.3  1830.4
              *
              * *
              * * 576577 is the total flow in Montezuna Wash just upstream of the confluence
              * * with Bristol Wash
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 68

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

2855          KK    C577
2856          KM      Hydrograph combine C577L + 576577 at C570
2857          HC       2
              *
              * *
              * * C577 is the total flow in Bristol Wash downstream of the confluence
              * * with Montezuma Wash
              * *
              *

2858          KK  577578
2859          KM      Normal depth channel route from C577 to C578
2860          KM      Source:  HEC-2 Cross Section: BR 1.099
2861          RS       1    FLOW      -1
2862          RC   0.055   0.045   0.055  1078.0  0.0147
2863          RX  9865.3  9956.6  9991.1 10010.2 10034.3 10063.4 10139.7 10201.7
2864          RY  1821.8  1810.8  1793.2  1792.5  1795.5  1796.1  1813.8  1822.8
              *

2865          KK    208X
2866          KM   Sub-Basin   208X
2867          KM
2868          KM      The Clark Unit Hydrograph is used for this basin.
2869          KM          The Natural time-area relation is used for this basin.
2870          KM
2871          KM      Time of Concentration for this sub-basin is based on the following:
2872          KM          An rainfall areal reduction factor of 1.000
2873          KM
2874          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2875          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2876          KM   .26 .26 .26 .25 .25 .25 .02 .02 .02 .01 .01 .01 .01 .01 .01 .01 .01 .01
```

```
2877          KM
2878          KM          L=   0.417 miles, S=  223 feet/mile, Kb= .10
2879          KM
2880          BA   0.075
2881          LG    0.17    0.38    5.60    0.23   23.90
2882          UC   0.271   0.188
2883          UA       0       3       5       8      12      20      43      75      90      96
2884          UA     100
              *

2885          KK   C578I
2886          KM      Hydrograph combine 577578 + 208X at C578I
2887          HC       2
              *
              * *
              * * C578I is the total flow in Bristol Wash upstream of Dam 11
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 69

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

2888          KK   C578O
2889          KM      Reservoir route at C578 (Dam 11).
2890          RS       1    ELEV  1779.2
2891          SV    0.00   16.38   31.30   53.65   84.39  126.17  138.00  143.00  147.00  154.47
2892          SV  161.00  167.00  174.00  181.00  187.43  194.00  202.00  205.00
2893          SE  1779.2  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2  1811.6  1812.0
2894          SE  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
2895          SQ       0     131     181     221     254     283     305     325     328     366
2896          SQ     522     812    1194    1651    2176    2763    3406    4104    4855    5250
2897          SE  1779.2  1786.0  1790.0  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2
2898          SE  1811.6  1812.0  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
2899          RL                   0.97
              *
              * *
              * * End Basin 208.  Rejoin Basin 210
              * *
              *

2900          KK  578587
2901          KM      Normal depth channel route from C578 to C587
2902          KM      Source:  HEC-2 Cross Section: BR 0.697
2903          RS       4    FLOW      -1
2904          RC   0.055   0.045   0.055  1628.0  0.0191
2905          RX  9926.4  9949.5  9960.1  9984.7 10000.0 10014.1 10031.5 10049.4
2906          RY  1763.0  1762.6  1761.8  1757.0  1757.1  1756.9  1761.4  1768.1
              *

2907          KK    210B
2908          KM   Sub-Basin   210B
2909          KM
2910          KM      The Clark Unit Hydrograph is used for this basin.
2911          KM          The HEC-1 time-area relation is used for this basin.
2912          KM
2913          KM      Time of Concentration for this sub-basin is based on the following:
2914          KM          An rainfall areal reduction factor of 1.000
2915          KM
2916          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2917          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2918          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
2919          KM
2920          KM          L=   0.930 miles, S=  251 feet/mile, Kb= .10
2921          KM
2922          BA   0.107
2923          LG    0.15    0.39    5.80    0.20    9.50
2924          UC   0.392   0.442
              *

2925          KK   C586O
2926          KM      Reservoir route at C586.
2927          RS       1    ELEV  1804.4
2928          SV    0.00    0.05    0.36    1.09    2.45    4.45    7.00    9.50    9.60   10.00
2929          SV   10.34   10.70   11.20   11.60   12.10   12.50
2930          SE  1804.4  1806.0  1808.0  1810.0  1812.0  1814.0  1816.0 1817.55  1817.6  1817.8
2931          SE  1818.0  1818.2  1818.4  1818.6  1818.8  1819.0
1                                          HEC-1 INPUT                                          PAGE 70

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

2932          SQ       0      37     130     219     284     322     353     375     377     393
2933          SQ     432     492     574     680     808     959
              *

2934          KK  586587
2935          KM      Normal depth channel route from C586 to C587
2936          KM      Source:  200 Scale Mapping
```

```
2937          RS        4     FLOW       -1
2938          RC    0.040    0.035    0.040   1905.0   0.0313
2939          RX   1000.0   1020.0   1050.0   1055.0   1065.0   1070.0   1130.0   1150.0
2940          RY   1782.0   1780.0   1772.0   1771.0   1771.0   1772.0   1778.0   1782.0
              *

2941          KK    C587
2942          KM      Hydrograph combine 578587 + 586587 at C578
2943          HC       2
              *

2944          KK   587595
2945          KM      Normal depth channel route from C587 to C595
2946          KM      Source:  HEC-2 Cross Section: BR 0.533
2947          RS       2     FLOW       -1
2948          RC    0.055    0.045    0.055   1039.0   0.0173
2949          RX   9977.2   9980.4   9983.6   9989.9  10009.9  10020.3  10028.8  10037.3
2950          RY   1745.2   1744.0   1742.8   1740.3   1740.3   1742.4   1743.0   1743.6
              *

2951          KK    210C
2952          KM   Sub-Basin    210C
2953          KM
2954          KM      The Clark Unit Hydrograph is used for this basin.
2955          KM          The Natural time-area relation is used for this basin.
2956          KM
2957          KM      Time of Concentration for this sub-basin is based on the following:
2958          KM          An rainfall areal reduction factor of 1.000
2959          KM
2960          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2961          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2962          KM   .24 .24 .24 .24 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
2963          KM
2964          KM          L=    0.637 miles, S=  198 feet/mile, Kb= .09
2965          KM
2966          BA    0.082
2967          LG     0.21     0.35     4.80     0.32     7.00
2968          UC    0.338    0.322
2969          UA        0        3        5        8       12       20       43       75       90       96
2970          UA      100
              *

2971          KK    C595L
2972          KM      Hydrograph combine 587595 + 210C at C595 left branch
2973          HC       2
              *
              * *
              * * C595L is the total flow in Bristol Wash upstream of the confluence
              * * with Longmont Wash
              * *
              * * Start Longmont Wash Left Branch
              * *
              *
```



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

2974          KK    210D
2975          KM   Sub-Basin    210D
2976          KM
2977          KM      The Clark Unit Hydrograph is used for this basin.
2978          KM          The Natural time-area relation is used for this basin.
2979          KM
2980          KM      Time of Concentration for this sub-basin is based on the following:
2981          KM          An rainfall areal reduction factor of 1.000
2982          KM
2983          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2984          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2985          KM   .26 .26 .26 .26 .25 .25 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01 .01 .01
2986          KM
2987          KM          L=    0.832 miles, S=  325 feet/mile, Kb= .11
2988          KM
2989          BA    0.140
2990          LG     0.18     0.39     5.80     0.20    18.70
2991          UC    0.358    0.314
2992          UA        0        3        5        8       12       20       43       75       90       96
2993          UA      100
              *

2994          KK   588590
2995          KM      Normal depth channel route from C588 to C590
2996          KM      Source:  HEC-2 Cross Section: LO-LB1 0.128
2997          RS       1     FLOW       -1
2998          RC    0.065    0.050    0.060   1117.0   0.0340
2999          RX   9931.7   9960.6   9984.9  10005.7  10019.1  10033.8  10151.6  10172.9
3000          RY   1839.3   1833.5   1825.9   1824.7   1825.9   1828.8   1832.9   1838.0
              *
```

```
3001          KK    210E
3002          KM   Sub-Basin   210E
3003          KM
3004          KM      The Clark Unit Hydrograph is used for this basin.
3005          KM          The Natural time-area relation is used for this basin.
3006          KM
3007          KM      Time of Concentration for this sub-basin is based on the following:
3008          KM          An rainfall areal reduction factor of 1.000
3009          KM
3010          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3011          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3012          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .00 .00 .00 .00 .00 .00
3013          KM
3014          KM          L=   0.339 miles, S=  151 feet/mile, Kb= .12
3015          KM
3016          BA   0.028
3017          LG    0.15    0.36    6.80    0.14    0.00
3018          UC   0.300   0.317
3019          UA       0       3       5       8      12      20      43      75      90      96
3020          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 72

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


3021          KK   C590L
3022          KM      Hydrograph combine 588590 + 210E at C590 left branch
3023          HC       2
              *
              * *
              * * C590L is the total flow in Longmont Wash Left Branch upstream of the
              * * confluence with Longmont Wash
              * *
              * * Start Longmont Wash
              * *
              *

3024          KK    210F
3025          KM   Sub-Basin   210F
3026          KM
3027          KM      The Clark Unit Hydrograph is used for this basin.
3028          KM          The Natural time-area relation is used for this basin.
3029          KM
3030          KM      Time of Concentration for this sub-basin is based on the following:
3031          KM          An rainfall areal reduction factor of 1.000
3032          KM
3033          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3034          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3035          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3036          KM
3037          KM          L=   0.668 miles, S=  349 feet/mile, Kb= .15
3038          KM
3039          BA   0.093
3040          LG    0.25    0.35    4.40    0.39   34.40
3041          UC   0.375   0.350
3042          UA       0       3       5       8      12      20      43      75      90      96
3043          UA     100
              *

3044          KK  589590
3045          KM      Normal depth channel route from C589 to C590
3046          KM      Source:  HEC-2 Cross Section: LO 0.813
3047          RS       3    FLOW      -1
3048          RC   0.065   0.050   0.060  1751.0  0.0423
3049          RX  9957.0  9963.5  9984.5  9996.1 10008.8 10017.4 10040.1 10060.8
3050          RY  1843.8  1842.9  1837.0  1831.2  1830.6  1836.1  1838.3  1842.1
              *

3051          KK    210G
3052          KM   Sub-Basin   210G
3053          KM
3054          KM      The Clark Unit Hydrograph is used for this basin.
3055          KM          The Natural time-area relation is used for this basin.
3056          KM
3057          KM      Time of Concentration for this sub-basin is based on the following:
3058          KM          An rainfall areal reduction factor of 1.000
3059          KM
3060          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3061          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE 73

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

3062          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
3063          KM
3064          KM          L=   0.969 miles, S=  333 feet/mile, Kb= .13
```

```
3065          KM
3066          BA   0.162
3067          LG    0.22    0.37    5.30    0.25   24.20
3068          UC   0.421   0.390
3069          UA       0       3       5       8      12      20      43      75      90      96
3070          UA     100
              *

3071          KK   C590R
3072          KM      Hydrograph combine 589590 + 210G at C590 right branch
3073          HC       2
              *
              * * NOTE: 590593 is too short to route
              * *
              * * C590R is the total flow in Longmont Wash upstream of the confluence
              * * with Longmont Wash Left Branch
              * *
              *

3074          KK    C590
3075          KM      Hydrograph combine C590L + C590R at C590
3076          HC       2
              *
              * * C590 is the total flow in Longmont Wash upstream of the confluence
              * * Longmont Wash Right Branch
              * *
              * * Start Longmont Wash Right Branch
              * *
              *

3077          KK    210H
3078          KM   Sub-Basin   210H
3079          KM
3080          KM      The Clark Unit Hydrograph is used for this basin.
3081          KM          The Natural time-area relation is used for this basin.
3082          KM
3083          KM      Time of Concentration for this sub-basin is based on the following:
3084          KM          An rainfall areal reduction factor of 1.000
3085          KM
3086          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3087          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3088          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
3089          KM
3090          KM          L=   0.565 miles, S=  340 feet/mile, Kb= .11
3091          KM
3092          BA   0.070
3093          LG    0.16    0.39    6.20    0.19    6.70
3094          UC   0.292   0.272
3095          UA       0       3       5       8      12      20      43      75      90      96
3096          UA     100
              *
```



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

3097          KK  592593
3098          KM      Normal depth channel route from C592 to C593
3099          KM      Source:  HEC-2 Cross Section: LO-RB1 0.027
3100          RS       3    FLOW      -1
3101          RC   0.065   0.050   0.060  2062.0  0.0412
3102          RX  9920.6  9964.0  9984.7  9996.1 10003.9 10025.4 10041.1 10057.9
3103          RY  1820.0  1804.5  1801.2  1797.3  1797.3  1808.5  1818.3  1820.1
              *
              * *
              * * 592593 is the total flow in Longmont Wash Right Branch upstream
              * * of the confluence with Longmont Wash
              * *
              *

3104          KK    C593
3105          KM      Hydrograph combine C590 + C593R at C593
3106          HC       2
              *
              * *
              * * C593 is the total flow in Longmont Wash below the confluence with
              * * Longmont Wash Right Branch
              * *
              *

3107          KK  593594
3108          KM      Normal depth channel route from C593 to C594
3109          KM      Source:  HEC-2 Cross Section: LO0.413
3110          RS       2    FLOW      -1
3111          RC   0.065   0.050   0.060   988.0  0.0202
3112          RX  9937.2  9958.5  9981.7  9992.8 10007.7 10024.4 10041.9 10067.8
3113          RY  1783.6  1773.5  1773.9  1771.3  1771.2  1774.5  1778.7  1788.7
              *
```

```
3114          KK    210I
3115          KM   Sub-Basin   210I
3116          KM
3117          KM      The Clark Unit Hydrograph is used for this basin.
3118          KM          The Natural time-area relation is used for this basin.
3119          KM
3120          KM      Time of Concentration for this sub-basin is based on the following:
3121          KM          An rainfall areal reduction factor of 1.000
3122          KM
3123          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3124          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3125          KM   .27 .27 .27 .27 .27 .26 .02 .02 .02 .02 .02 .02 .00 .00 .00 .00 .00 .00
3126          KM
3127          KM          L=   0.634 miles, S=  250 feet/mile, Kb= .11
3128          KM
3129          BA   0.049
3130          LG    0.15    0.32    7.60    0.11    0.00
3131          UC   0.333   0.423
3132          UA       0       3       5       8      12      20      43      75      90      96
3133          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 75

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


3134          KK    C594
3135          KM      Hydrograph combine 593594 + 210I at C594
3136          HC       2
              *

3137          KK  594595
3138          KM      Normal depth channel route from C594 to C595
3139          KM      Source:  HEC-2 Cross Section: LO 0.184
3140          RS       5    FLOW      -1
3141          RC   0.065   0.050   0.060  2093.0  0.0201
3142          RX  9814.0  9836.5  9878.5  9988.2  9994.1 10010.9 10030.4 10030.5
3143          RY  1769.3  1766.6  1752.8  1750.6  1747.9  1749.2  1770.5  1770.6
              *

3144          KK    210J
3145          KM   Sub-Basin   210J
3146          KM
3147          KM      The Clark Unit Hydrograph is used for this basin.
3148          KM          The Natural time-area relation is used for this basin.
3149          KM
3150          KM      Time of Concentration for this sub-basin is based on the following:
3151          KM          An rainfall areal reduction factor of 1.000
3152          KM
3153          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3154          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3155          KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .01 .01 .00 .00 .00 .00 .00 .00
3156          KM
3157          KM          L=   0.684 miles, S=  187 feet/mile, Kb= .10
3158          KM
3159          BA   0.103
3160          LG    0.15    0.37    6.60    0.15    0.00
3161          UC   0.367   0.327
3162          UA       0       3       5       8      12      20      43      75      90      96
3163          UA     100
              *

3164          KK   C595R
3165          KM      Hydrograph combine 594595 + 210J at C595
3166          HC       2
              *
              * *
              * * C595R is the total flow in Longmont Wash upstream of the confluence
              * * with Bristol Wash
              * *
              *

3167          KK    C595
3168          KM      Hydrograph combine C595L + C595R at C595
3169          HC       2
              *
              * *
              * * C595 is the total flow in Bristol Wash just downstream of the
              * * confluence with Longmont Wash
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 76

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


3170          KK  595596
```

```
3171          KM      Normal depth channel route from C595 to C596
3172          KM      Source:  HEC-2 Cross Section: BR0.290
3173          RS       3    FLOW      -1
3174          RC   0.055   0.045   0.055  1095.0  0.0110
3175          RX  9886.8  9904.8  9948.0 10000.0 10032.4 10081.5 10107.3 10130.4
3176          RY  1727.2  1724.1  1725.9  1720.2  1725.6  1725.3  1721.3  1731.4
              *

3177          KK    210K
3178          KM   Sub-Basin   210K
3179          KM
3180          KM      The Clark Unit Hydrograph is used for this basin.
3181          KM          The Natural time-area relation is used for this basin.
3182          KM
3183          KM      Time of Concentration for this sub-basin is based on the following:
3184          KM          An rainfall areal reduction factor of 1.000
3185          KM
3186          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3187          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3188          KM   .26 .26 .26 .26 .25 .25 .02 .02 .02 .02 .01 .01 .00 .00 .00 .00 .00 .00
3189          KM
3190          KM          L=   0.425 miles, S=  207 feet/mile, Kb= .10
3191          KM
3192          BA   0.077
3193          LG    0.18    0.37    6.60    0.15    0.10
3194          UC   0.279   0.195
3195          UA       0       3       5       8      12      20      43      75      90      96
3196          UA     100
              *

3197          KK    C596
3198          KM      Hydrograph combine 595596 + 210K at C596
3199          HC       2
              *
              * *
              * * C596 is the total flow in Bristol Wash at Golden Eagle Blvd.
              * * upstream of DAM 4
              * *
              * * Leave Basin 210 temporarily and move to Basin 209
              * *
              * * Start Cloudburst Wash
              *

3200          KK    209A
3201          KM   Sub-Basin   209A
3202          KM
3203          KM      The Clark Unit Hydrograph is used for this basin.
3204          KM          The Natural time-area relation is used for this basin.
3205          KM
3206          KM      Time of Concentration for this sub-basin is based on the following:
3207          KM          An rainfall areal reduction factor of 1.000
3208          KM
3209          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```



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

3210          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3211          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3212          KM
3213          KM          L=   1.028 miles, S=  367 feet/mile, Kb= .13
3214          KM
3215          BA   0.368
3216          LG    0.25    0.35    4.35    0.40   35.00
3217          UC   0.425   0.259
3218          UA       0       3       5       8      12      20      43      75      90      96
3219          UA     100
              *

3220          KK  579580
3221          KM      Normal depth channel route from C579 to C580
3222          KM      Source:  100 Scale 4' CI Mapping
3223          RS       2    FLOW      -1
3224          RC   0.050   0.045   0.050  1751.0  0.0600
3225          RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1045.0  1048.0
3226          RY  2336.0  2332.0  2328.0  2327.5  2327.5  2328.0  2332.0  2336.0
              *

3227          KK    209C
3228          KM   Sub-Basin   209C
3229          KM
3230          KM      The Clark Unit Hydrograph is used for this basin.
3231          KM          The Natural time-area relation is used for this basin.
3232          KM
3233          KM      Time of Concentration for this sub-basin is based on the following:
3234          KM          An rainfall areal reduction factor of 1.000
3235          KM
3236          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```

```
3237          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3238          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3239          KM
3240          KM          L=   0.723 miles, S=  342 feet/mile, Kb= .15
3241          KM
3242          BA   0.064
3243          LG    0.25    0.35    4.35    0.40   35.00
3244          UC   0.392   0.484
3245          UA       0       3       5       8      12      20      43      75      90      96
3246          UA     100
              *

3247          KK   C580R
3248          KM      Hydrograph combine 579580 + 209C at C580 right branch
3249          HC       2
              *

3250          KK    209B
3251          KM   Sub-Basin   209B
3252          KM
3253          KM      The Clark Unit Hydrograph is used for this basin.
3254          KM          The Natural time-area relation is used for this basin.
3255          KM
3256          KM      Time of Concentration for this sub-basin is based on the following:
1                                          HEC-1 INPUT                                                    PAGE 78

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

3257          KM          An rainfall areal reduction factor of 1.000
3258          KM
3259          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3260          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3261          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3262          KM
3263          KM          L=   0.716 miles, S=  403 feet/mile, Kb= .15
3264          KM
3265          BA   0.083
3266          LG    0.25    0.35    4.35    0.40   35.00
3267          UC   0.371   0.389
3268          UA       0       3       5       8      12      20      43      75      90      96
3269          UA     100
              *

3270          KK    C580
3271          KM      Hydrograph combine 580R + 209B at C580
3272          HC       2
              *

3273          KK  580581
3274          KM      Normal depth channel route from C580 to C581
3275          KM      Source:  100 Scale 4' CI Mapping
3276          RS       3    FLOW      -1
3277          RC   0.050   0.045   0.050  2339.0  0.0440
3278          RX  1000.0  1010.0  1025.0  1030.0  1040.0  1045.0  1070.0  1075.0
3279          RY  2452.0  2448.0  2444.0  2443.5  2443.5  2444.0  2448.0  2452.0
              *

3280          KK    209D
3281          KM   Sub-Basin   209D
3282          KM
3283          KM      The Clark Unit Hydrograph is used for this basin.
3284          KM          The Natural time-area relation is used for this basin.
3285          KM
3286          KM      Time of Concentration for this sub-basin is based on the following:
3287          KM          An rainfall areal reduction factor of 1.000
3288          KM
3289          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3290          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3291          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3292          KM
3293          KM          L=   0.800 miles, S=  354 feet/mile, Kb= .13
3294          KM
3295          BA   0.244
3296          LG    0.25    0.35    4.35    0.42   35.00
3297          UC   0.379   0.236
3298          UA       0       3       5       8      12      20      43      75      90      96
3299          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 79

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

3300          KK   C581R
3301          KM      Hydrograph combine 580581 + 209D at C581 right branch
3302          HC       2
              *
```

```
3303          KK    209E
3304          KM   Sub-Basin   209E
3305          KM
3306          KM      The Clark Unit Hydrograph is used for this basin.
3307          KM          The Natural time-area relation is used for this basin.
3308          KM
3309          KM      Time of Concentration for this sub-basin is based on the following:
3310          KM          An rainfall areal reduction factor of 1.000
3311          KM
3312          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3313          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3314          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3315          KM
3316          KM          L=   1.018 miles, S=  341 feet/mile, Kb= .14
3317          KM
3318          BA   0.149
3319          LG    0.25    0.35    4.35    0.40   35.00
3320          UC   0.450   0.458
3321          UA       0       3       5       8      12      20      43      75      90      96
3322          UA     100
              *

3323          KK    C581
3324          KM      Hydrograph combine 581R + 209E at C581
3325          HC       2
              *

3326          KK  581582
3327          KM      Normal depth channel route from C581 to C582
3328          KM      Source:  100 Scale 4' CI Mapping
3329          RS       4    FLOW      -1
3330          RC   0.050   0.045   0.050  4012.0  0.0459
3331          RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1050.0  1065.0
3332          RY  2100.0  2096.0  2092.0  2091.5  2091.5  2092.0  2096.0  2100.0
              *

3333          KK    209F
3334          KM   Sub-Basin   209F
3335          KM
3336          KM      The Clark Unit Hydrograph is used for this basin.
3337          KM          The Natural time-area relation is used for this basin.
3338          KM
3339          KM      Time of Concentration for this sub-basin is based on the following:
3340          KM          An rainfall areal reduction factor of 1.000
3341          KM
3342          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3343          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3344          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3345          KM
```



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

3346          KM          L=   1.191 miles, S=  332 feet/mile, Kb= .13
3347          KM
3348          BA   0.226
3349          LG    0.24    0.35    4.50    0.39   30.90
3350          UC   0.475   0.435
3351          UA       0       3       5       8      12      20      43      75      90      96
3352          UA     100
              *

3353          KK   C582R
3354          KM      Hydrograph combine 581582 + 209F at C582 right branch
3355          HC       2
              *

3356          KK    209G
3357          KM   Sub-Basin   209G
3358          KM
3359          KM      The Clark Unit Hydrograph is used for this basin.
3360          KM          The Natural time-area relation is used for this basin.
3361          KM
3362          KM      Time of Concentration for this sub-basin is based on the following:
3363          KM          An rainfall areal reduction factor of 1.000
3364          KM
3365          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3366          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3367          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3368          KM
3369          KM          L=   1.050 miles, S=  306 feet/mile, Kb= .14
3370          KM
3371          BA   0.204
3372          LG    0.25    0.35    4.35    0.40   35.00
3373          UC   0.471   0.413
3374          UA       0       3       5       8      12      20      43      75      90      96
3375          UA     100
              *
```

```
3376          KK    C582
3377          KM      Hydrograph combine C582R + 209G at C582
3378          HC       2
              *

3379          KK  582583
3380          KM      Normal depth channel route from C582 to C583
3381          KM      Source:  100 Scale 4' CI Mapping.
3382          RS       2    FLOW      -1
3383          RC   0.060   0.050   0.060  1725.0  0.0232
3384          RX   960.0  1020.0  1035.0  1040.0  1050.0  1055.0  1065.0  1073.0
3385          RY  2024.0  2018.0  2016.0  2015.5  2015.5  2016.0  2020.0  2024.0
              *
1                                          HEC-1 INPUT                                                    PAGE 81

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


3386          KK    209H
3387          KM   Sub-Basin   209H
3388          KM
3389          KM      The Clark Unit Hydrograph is used for this basin.
3390          KM          The Natural time-area relation is used for this basin.
3391          KM
3392          KM      Time of Concentration for this sub-basin is based on the following:
3393          KM          An rainfall areal reduction factor of 1.000
3394          KM
3395          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3396          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3397          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
3398          KM
3399          KM          L=   0.542 miles, S=  343 feet/mile, Kb= .12
3400          KM
3401          BA   0.083
3402          LG    0.18    0.38    5.60    0.24   18.30
3403          UC   0.300   0.245
3404          UA       0       3       5       8      12      20      43      75      90      96
3405          UA     100
              *

3406          KK    C583
3407          KM      Hydrograph combine 582583 + 209H at C583
3408          HC       2
              *

3409          KK  583584
3410          KM      Normal depth channel route from C583 to C584
3411          KM      Source:  HEC-2 Cross Section: CL 1.664
3412          RS       5    FLOW      -1
3413          RC   0.055   0.070   0.055  3107.0  0.0356
3414          RX  9859.8  9910.3  9933.5  9995.6 10021.7 10051.0 10083.0 10127.8
3415          RY  1948.3  1944.2  1943.7  1930.9  1932.4  1941.6  1937.3  1945.2
              *

3416          KK    209I
3417          KM   Sub-Basin   209I
3418          KM
3419          KM      The Clark Unit Hydrograph is used for this basin.
3420          KM          The Natural time-area relation is used for this basin.
3421          KM
3422          KM      Time of Concentration for this sub-basin is based on the following:
3423          KM          An rainfall areal reduction factor of 1.000
3424          KM
3425          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3426          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3427          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
3428          KM
3429          KM          L=   0.691 miles, S=  347 feet/mile, Kb= .10
3430          KM
3431          BA   0.182
3432          LG    0.15    0.40    6.00    0.18    5.30
3433          UC   0.304   0.194
1                                          HEC-1 INPUT                                                    PAGE 82

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

3434          UA       0       3       5       8      12      20      43      75      90      96
3435          UA     100
              *

3436          KK   C584I
3437          KM      Hydrograph combine 583584 + 209I at C584I
3438          HC       2
              *
              * *
              * * C584I is the total flow in Cloudburst Wash upstream of Dam 7
              * *
```

```
*

KK   C584O
KM      Reservoir route at C584 (Dam 7).
RS       1     ELEV  1884.8
SV    0.00   14.55   37.17   57.52   86.65   94.00   97.00  101.00  104.90  109.00
SV  113.00  118.00  122.00  126.25  131.00  133.00  136.00  139.00
SE  1884.8  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6  1926.0  1926.4
SE  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
SQ       0     135     223     285     326     341     355     358     385     493
SQ     704    1007    1394    1852    2374    2956    3596    3937    4292    4661
SE  1884.8  1892.0  1900.0  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6
SE  1926.0  1926.4  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
RL                    0.15
*
* *
* * End Basin 209.  Rejoin Basin 210
* *
*

KK  584597
KM      Normal depth channel route from C584 to C597
KM      Source:  HEC-2 Cross Section: CL 1.032
RS      10    FLOW      -1
RC   0.065   0.050   0.065  3704.0  0.0261
RX  9902.1  9923.0  9938.7  9984.6 10049.3 10056.0 10091.7 10120.0
RY  1839.1  1830.1  1826.6  1824.1  1824.9  1826.7  1828.5  1838.8
*

KK    210L
KM   Sub-Basin   210L
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The HEC-1 time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .24 .24 .23 .23 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
KM
KM          L=   0.820 miles, S=  251 feet/mile, Kb= .09
KM
```



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

BA   0.137
LG    0.18    0.37    5.20    0.28    0.00
UC   0.358   0.313
*

KK    C597
KM      Hydrograph combine 584597 + 210L at C597
HC       2
*

KK  597598
KM      Normal depth channel route from C597 to C598
KM      Source:  HEC-2 Cross Section: CL 0.328
RS       7    FLOW      -1
RC   0.065   0.050   0.065  2822.0  0.0252
RX  9961.0  9961.9  9969.1  9986.3 10018.5 10082.6 10155.2 10278.8
RY  1740.2  1740.2  1738.1  1731.6  1732.3  1737.1  1740.0  1740.8
*

KK    210M
KM   Sub-Basin   210M
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Natural time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
KM
KM          L=   1.022 miles, S=  232 feet/mile, Kb= .09
KM
BA   0.162
LG    0.18    0.39    5.80    0.20    0.10
UC   0.404   0.388
UA       0       3       5       8      12      20      43      75      90      96
UA     100
*
```

```
3506          KK    C598
3507          KM      Hydrograph combine 597598 + 210M at C598
3508          HC       2
              *
              * *
              * * C598 is the total flow in Cloudburst Wash at Golden Eagle Blvd.
              * * upstream of DAM 4
              * *
              *
1                                          HEC-1 INPUT                                                    PAGE 84

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


3509          KK    210N
3510          KM   Sub-Basin   210N
3511          KM
3512          KM      The Clark Unit Hydrograph is used for this basin.
3513          KM          The Natural time-area relation is used for this basin.
3514          KM
3515          KM      Time of Concentration for this sub-basin is based on the following:
3516          KM          An rainfall areal reduction factor of 1.000
3517          KM
3518          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3519          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3520          KM   .23 .22 .22 .22 .22 .21 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
3521          KM
3522          KM          L=   0.309 miles, S=  178 feet/mile, Kb= .08
3523          KM
3524          BA   0.049
3525          LG    0.26    0.35    4.10    0.46   10.40
3526          UC   0.233   0.161
3527          UA       0       3       5       8      12      20      43      75      90      96
3528          UA     100
              *

3529          KK   C599I
3530          KM      Hydrograph combine C585 + C596 + C598 + 210N at C599I
3531          HC       4
              *
              * *
              * * C599I is the total flow in Ashbrook Wash upstream of DAM 4
              * *
              *

3532          KK   C599O
3533          KM      Reservoir route at C599 (Dam 4).
3534          RS       1    ELEV  1694.7
3535          SV    0.00   16.85   31.66   52.71   80.85   95.00   98.00  102.00  105.00  109.00
3536          SV  113.00  116.14  120.00  124.00  128.00  136.00  139.00  144.00  148.00  152.00
3537          SE  1694.7  1708.0  1710.0  1712.0  1714.0  1714.8  1715.0  1715.2  1715.4  1715.6
3538          SE  1715.8  1716.0  1716.2  1716.4  1716.6  1717.0  1717.2  1717.4  1717.6  1717.8
3539          SQ       0      77     180     367     589     803    1001    1176    1331    1470
3540          SQ    1595    1625    1647    1695    3011    7421   14322   22656   28975   32522
3541          SE  1694.5  1696.0  1698.0  1700.0  1702.0  1704.0  1706.0  1708.0  1710.0  1712.0
3542          SE  1714.0  1714.5 1714.86  1715.0  1716.0  1717.5  1719.0  1720.5  1721.5  1722.0
3543          RL                    0.97
              *
              * * End Basin 210.  Start Basin 211
              * *
              *

3544          KK  599608
3545          KM      Normal depth channel route from C599 to C608
3546          KM      Source:  HEC-2 Cross Section: AS 3.621
3547          RS       2    FLOW      -1
3548          RC   0.055   0.045   0.025  1476.0  0.0148
3549          RX  9675.4  9726.8  9929.0  9990.7 10005.9 10033.3 10061.9 10082.2
1                                          HEC-1 INPUT                                                    PAGE 85

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

3550          RY  1691.3  1687.2  1685.5  1678.6  1678.1  1682.1  1689.8  1691.8
              *

3551          KK    211K
3552          KM   Sub-Basin   211K
3553          KM
3554          KM      The Clark Unit Hydrograph is used for this basin.
3555          KM          The HEC-1 time-area relation is used for this basin.
3556          KM
3557          KM      Time of Concentration for this sub-basin is based on the following:
3558          KM          An rainfall areal reduction factor of 1.000
3559          KM
3560          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3561          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3562          KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
```

```
3563          KM
3564          KM          L=   0.376 miles, S=  157 feet/mile, Kb= .08
3565          KM
3566          BA   0.102
3567          LG    0.18     0.38     6.00     0.18    17.80
3568          UC   0.254    0.136
              *

3569          KK   C608L
3570          KM      Hydrograph combine 599608 + 211K at C608 left branch
3571          HC       2
              *

3572          KK    211G
3573          KM   Sub-Basin   211G
3574          KM
3575          KM      The Clark Unit Hydrograph is used for this basin.
3576          KM          The Urban time-area relation is used for this basin.
3577          KM
3578          KM      Time of Concentration for this sub-basin is based on the following:
3579          KM          An rainfall areal reduction factor of 1.000
3580          KM
3581          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3582          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3583          KM   .30 .30 .29 .29 .29 .29 .05 .05 .05 .05 .05 .05 .03 .03 .03 .03 .03 .03
3584          KM
3585          KM          L=   0.448 miles, S=  190 feet/mile, Kb= .04
3586          KM
3587          BA   0.008
3588          LG    0.06     0.25     5.70     0.18    90.00
3589          UC   0.175    0.454
3590          UA       0        5       16       30       65       77       84       90       94       97
3591          UA     100
              *
1                                                HEC-1 INPUT                                                PAGE 86

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

3592          KK  604606
3593          KM      Normal depth channel route from C604 to C606
3594          KM      Source:  200 Scale Mapping
3595          RS      11     FLOW      -1
3596          RC   0.040    0.018    0.040   2784.0   0.0647
3597          RX  1000.0   1040.0   1060.0   1076.0   1092.0   1093.2   1098.2   1113.2
3598          RY  1814.0   1811.0   1810.8   1811.1   1810.8   1811.2   1812.0   1816.0
              *

3599          KK    211I
3600          KM   Sub-Basin   211I
3601          KM
3602          KM      The Clark Unit Hydrograph is used for this basin.
3603          KM          The Natural time-area relation is used for this basin.
3604          KM
3605          KM      Time of Concentration for this sub-basin is based on the following:
3606          KM          An rainfall areal reduction factor of 1.000
3607          KM
3608          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3609          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3610          KM   .27 .27 .27 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3611          KM
3612          KM          L=   0.626 miles, S=  257 feet/mile, Kb= .11
3613          KM
3614          BA   0.041
3615          LG    0.13     0.39     5.70     0.20    35.00
3616          UC   0.329    0.459
3617          UA       0        3        5        8       12       20       43       75       90       96
3618          UA     100
              *

3619          KK   C606R
3620          KM      Hydrograph combine 604606 + 211I at C606 right branch
3621          HC       2
              *

3622          KK    211H
3623          KM   Sub-Basin   211H
3624          KM
3625          KM      The Clark Unit Hydrograph is used for this basin.
3626          KM          The Natural time-area relation is used for this basin.
3627          KM
3628          KM      Time of Concentration for this sub-basin is based on the following:
3629          KM          An rainfall areal reduction factor of 1.000
3630          KM
3631          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3632          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3633          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
3634          KM
```

```
3635          KM          L=   0.501 miles, S=  289 feet/mile, Kb= .11
3636          KM
3637          BA   0.073
3638          LG    0.15    0.40    6.00    0.18    3.40
3639          UC   0.288   0.236
                                        HEC-1 INPUT                                                    PAGE 87

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

3640          UA       0       3       5       8      12      20      43      75      90      96
3641          UA     100
              *

3642          KK   C605O
3643          KM      Reservoir route at C605.
3644          RS       1    ELEV  1722.5
3645          SV    0.00    0.20    0.20    0.20    0.20    0.30    0.30    0.30    0.40    0.60
3646          SV    0.70    0.90    1.00    1.20    1.40    1.60    1.90    2.80    3.40    4.10
3647          SE  1722.5  1726.8  1727.0  1727.2  1727.4  1727.6  1727.8  1728.0  1728.2  1728.4
3648          SE  1728.6  1728.8  1729.0  1729.2  1729.4  1729.6  1730.0  1730.4  1730.7  1731.0
3649          SQ       0       0       5      10      20      43      63      73      78      85
3650          SQ      91      96     101     105     109     113     122     130     136     200
              *

3651          KK    C606
3652          KM      Hydrograph combine C606R + C605O at C606
3653          HC       2
              *

3654          KK  606607
3655          KM      Normal depth channel route from C606 to C607
3656          KM      Source:  200 Scale Mapping
3657          RS       2    FLOW      -1
3658          RC   0.020   0.055   0.035  1061.0  0.0286
3659          RX  1000.0  1032.0  1082.0  1095.0  1105.0  1117.0  1123.0  1153.0
3660          RY  1704.3  1704.0  1703.5  1700.0  1700.0  1703.0  1704.0  1706.0
              *

3661          KK    211J
3662          KM   Sub-Basin   211J
3663          KM
3664          KM      The Clark Unit Hydrograph is used for this basin.
3665          KM          The HEC-1 time-area relation is used for this basin.
3666          KM
3667          KM      Time of Concentration for this sub-basin is based on the following:
3668          KM          An rainfall areal reduction factor of 1.000
3669          KM
3670          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3671          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3672          KM   .27 .27 .27 .27 .26 .26 .03 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3673          KM
3674          KM          L=   0.249 miles, S=  166 feet/mile, Kb= .11
3675          KM
3676          BA   0.015
3677          LG    0.13    0.37    6.20    0.18   32.40
3678          UC   0.238   0.272
              *

3679          KK    C607
3680          KM      Hydrograph combine 606607 + 211J at C607
3681          HC       2
              *
1                                       HEC-1 INPUT                                                    PAGE 88

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

3682          KK  607608
3683          KM      Normal depth channel route from C607 to C608
3684          KM      Source:  200 Scale Mapping
3685          RS       2    FLOW      -1
3686          RC   0.040   0.050   0.035  1008.0  0.0145
3687          RX  1000.0  1060.0  1070.0  1082.0  1083.0  1095.0  1115.0  1133.0
3688          RY  1688.0  1686.0  1684.0  1681.0  1681.0  1684.0  1685.0  1685.4
              *

3689          KK    C608
3690          KM      Hydrograph combine C608L + 607608 at C608
3691          HC       2
              *

3692          KK  608613
3693          KM      Normal depth channel route from C608 to C613
3694          KM      Source:  HEC-2 Cross Section: AS 3.421
3695          RS       1    FLOW      -1
3696          RC   0.100   0.045   0.100  1338.0  0.0202
3697          RX  9885.0  9887.9  9957.3  9986.7 10012.9 10054.7 10086.3 10122.2
3698          RY  1670.2  1670.1  1668.0  1660.0  1659.9  1661.6  1669.9  1670.8
```

```
                *
                * *
                * * Move to the top of Sunflower Wash
                * *
                *

3699            KK    211M
3700            KM   Sub-Basin   211M
3701            KM
3702            KM      The Clark Unit Hydrograph is used for this basin.
3703            KM          The Natural time-area relation is used for this basin.
3704            KM
3705            KM      Time of Concentration for this sub-basin is based on the following:
3706            KM          An rainfall areal reduction factor of 1.000
3707            KM
3708            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3709            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3710            KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3711            KM
3712            KM          L=   0.541 miles, S=  266 feet/mile, Kb= .11
3713            KM
3714            BA   0.081
3715            LG    0.13    0.39    5.70    0.21   30.30
3716            UC   0.304   0.252
3717            UA       0       3       5       8      12      20      43      75      90      96
3718            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 89

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


3719            KK  610611
3720            KM      Normal depth channel route from C610 to 1611
3721            KM      Source:  HEC-2 Cross Section: SU 0.216
3722            RS       2    FLOW      -1
3723            RC   0.050   0.045   0.050  1090.0  0.0211
3724            RX  9911.9  9948.1  9973.6  9988.6 10007.1 10027.0 10049.8 10143.7
3725            RY  1699.3  1691.7  1686.3  1680.1  1679.7  1686.6  1687.3  1698.6
                *

3726            KK    211N
3727            KM   Sub-Basin   211N
3728            KM
3729            KM      The Clark Unit Hydrograph is used for this basin.
3730            KM          The HEC-1 time-area relation is used for this basin.
3731            KM
3732            KM      Time of Concentration for this sub-basin is based on the following:
3733            KM          An rainfall areal reduction factor of 1.000
3734            KM
3735            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3736            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3737            KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3738            KM
3739            KM          L=   0.261 miles, S=  235 feet/mile, Kb= .12
3740            KM
3741            BA   0.020
3742            LG    0.14    0.39    5.70    0.20   20.20
3743            UC   0.229   0.226
                *

3744            KK   C611R
3745            KM      Hydrograph combine 610611 + 211N at C611 right branch
3746            HC       2
                *

3747            KK    211O
3748            KM   Sub-Basin   211O
3749            KM
3750            KM      The Clark Unit Hydrograph is used for this basin.
3751            KM          The HEC-1 time-area relation is used for this basin.
3752            KM
3753            KM      Time of Concentration for this sub-basin is based on the following:
3754            KM          An rainfall areal reduction factor of 1.000
3755            KM
3756            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3757            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3758            KM   .27 .27 .27 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3759            KM
3760            KM          L=   0.371 miles, S=  257 feet/mile, Kb= .11
3761            KM
3762            BA   0.041
3763            LG    0.13    0.39    5.70    0.20   34.60
3764            UC   0.254   0.225
                *
1                                          HEC-1 INPUT                                          PAGE 90

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
3765          KK   C609O
3766          KM      Reservoir route at C609.
3767          RS       1    ELEV  1694.0
3768          SV    0.00    0.10    0.21    0.50    0.86    1.40    1.93    2.60    3.10    3.20
3769          SV    3.39    3.60    3.80    4.00    4.10    4.30    4.50    4.70    4.90    5.10
3770          SE  1694.0  1695.0  1696.0  1697.0  1698.0  1699.0  1700.0  1701.0  1701.6  1701.8
3771          SE  1702.0  1702.2  1702.4  1702.6  1702.8  1703.0  1703.2  1703.4  1703.6  1703.8
3772          SQ       0       6      16      33      48      59      68      75      79      85
3773          SQ     108     149     209     289     390     512     658     829    1025    1247
              *

3774          KK  609611
3775          KM      Normal depth channel route from C609 to C611
3776          KM      Source:  200 Scale Mapping
3777          RS       1    FLOW      -1
3778          RC   0.035   0.050   0.035   470.0  0.0200
3779          RX  1000.0  1025.0  1050.0  1054.0  1064.0  1068.0  1088.0  1103.0
3780          RY  1690.0  1688.0  1684.0  1682.0  1682.0  1684.0  1688.0  1690.0
              *

3781          KK   C611I
3782          KM      Hydrograph combine 609611 + C611R at C611I
3783          HC       2
              *

3784          KK   C611O
3785          KM      Reservoir route at C611.
3786          RS       1    ELEV  1668.4
3787          SV    0.00    0.41    1.10    2.49    4.34    6.64    6.72    6.81    6.89    6.97
3788          SV    7.06    7.14    7.22    7.31    7.39    7.47    7.56    7.64    7.72    7.81
3789          SE  1674.0  1676.0  1678.0  1680.0  1682.0  1684.0  1684.2  1684.4  1684.6  1684.8
3790          SE  1685.0  1685.2  1685.4  1685.6  1685.8  1686.0  1686.2  1686.4  1686.6  1686.8
3791          SQ       0       0      86     117     141     162     164     170     181     199
3792          SQ     225     262     313     378     460     558     673     807     958    1118
              *

3793          KK   D611L
3794          KM      Hydrograph diversion at C611.  Main flow continues in the left branch.
3795          KM      Diverted flow is in the right branch.
3796          DT   D611R
3797          DI       0       0      86     117     141     162     164     170     181     199
3798          DI     225     262     313     378     460     558     673     807     958    1118
3799          DQ       0       0      86     117     141     162     164     165     167     169
3800          DQ     171     173     175     176     178     180     182     183     185     187
              *

3801          KK  611612
3802          KM      Normal depth channel route from C611 to C612
3803          KM      Source:  200 Scale Mapping
3804          RS       1    FLOW      -1
3805          RC   0.040   0.018   0.040   925.0  0.0270
3806          RX  1000.0  1020.0  1023.0  1041.0  1059.0  1060.2  1071.2  1136.2
3807          RY  1666.0  1664.0  1663.5  1663.9  1663.5  1663.9  1664.0  1666.0
              *
```



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

3808          KK    211P
3809          KM   Sub-Basin   211P
3810          KM
3811          KM      The Clark Unit Hydrograph is used for this basin.
3812          KM          The Urban time-area relation is used for this basin.
3813          KM
3814          KM      Time of Concentration for this sub-basin is based on the following:
3815          KM          An rainfall areal reduction factor of 1.000
3816          KM
3817          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3818          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3819          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
3820          KM
3821          KM          L=   0.307 miles, S=  192 feet/mile, Kb= .03
3822          KM
3823          BA   0.033
3824          LG    0.08    0.15    7.00    0.11   44.90
3825          UC   0.125   0.099
3826          UA       0       5      16      30      65      77      84      90      94      97
3827          UA     100
              *

3828          KK    C612
3829          KM      Hydrograph combine 611612 + 211P at C612
3830          HC       2
              *
              * *
              * * NOTE: 612613 is too short to route
```

```
                * *
                *

3831            KK    C613
3832            KM      Hydrograph combine 608613 + C612 at C613
3833            HC       2
                *

3834            KK  613621
3835            KM      Normal depth channel route from C613 to C621
3836            KM      Source:  HEC-2 Cross Section: AS 3.241
3837            RS       1    FLOW      -1
3838            RC   0.100   0.045   0.100   718.0  0.0251
3839            RX  9695.4  9884.0  9985.0  9991.1 10033.8 10062.8 10097.5 10165.1
3840            RY  1655.5  1647.5  1645.8  1641.1  1640.6  1642.1  1648.7  1654.3
                *

3841            KK    211L
3842            KM   Sub-Basin   211L
3843            KM
3844            KM      The Clark Unit Hydrograph is used for this basin.
3845            KM          The Urban time-area relation is used for this basin.
3846            KM
3847            KM      Time of Concentration for this sub-basin is based on the following:
3848            KM          An rainfall areal reduction factor of 1.000
3849            KM
1                                          HEC-1 INPUT                                          PAGE 92

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

3850            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3851            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3852            KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3853            KM
3854            KM          L=   0.508 miles, S=  181 feet/mile, Kb= .04
3855            KM
3856            BA   0.096
3857            LG    0.16    0.28    4.35    0.36   37.80
3858            UC   0.196   0.134
3859            UA       0       5      16      30      65      77      84      90      94      97
3860            UA     100
                *

3861            KK   C621L
3862            KM      Hydrograph combine 613621 + 211L at C621 left branch
3863            HC       2
                *
                * *
                * * Move to the top of Arrow Wash
                * *
                *

3864            KK    211Q
3865            KM   Sub-Basin   211Q
3866            KM
3867            KM      The Clark Unit Hydrograph is used for this basin.
3868            KM          The HEC-1 time-area relation is used for this basin.
3869            KM
3870            KM      Time of Concentration for this sub-basin is based on the following:
3871            KM          An rainfall areal reduction factor of 1.000
3872            KM
3873            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3874            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3875            KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
3876            KM
3877            KM          L=   0.255 miles, S=  295 feet/mile, Kb= .12
3878            KM
3879            BA   0.021
3880            LG    0.14    0.38    5.70    0.20    8.50
3881            UC   0.213   0.201
                *

3882            KK  616617
3883            KM      Normal depth channel route from C616 to C617
3884            KM      Source:  200 Scale Mapping
3885            RS       3    FLOW      -1
3886            RC   0.070   0.060   0.070  1131.0  0.0553
3887            RX  1000.0  1008.0  1015.0  1045.0  1050.0  1080.0  1100.0  1110.0
3888            RY  1834.0  1832.0  1830.0  1826.0  1826.0  1830.0  1834.0  1836.0
                *
1                                          HEC-1 INPUT                                          PAGE 93

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

3889            KK    211R
3890            KM   Sub-Basin   211R
3891            KM
```

```
3892          KM      The Clark Unit Hydrograph is used for this basin.
3893          KM          The HEC-1 time-area relation is used for this basin.
3894          KM
3895          KM      Time of Concentration for this sub-basin is based on the following:
3896          KM          An rainfall areal reduction factor of 1.000
3897          KM
3898          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3899          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3900          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3901          KM
3902          KM          L=   0.572 miles, S=  271 feet/mile, Kb= .10
3903          KM
3904          BA   0.084
3905          LG    0.13    0.38    5.70    0.20   22.00
3906          UC   0.296   0.251
              *

3907          KK   C617L
3908          KM      Hydrograph combine 616617 + 211R at C617 left branch
3909          HC       2
              *

3910          KK    211U
3911          KM   Sub-Basin   211U
3912          KM
3913          KM      The Clark Unit Hydrograph is used for this basin.
3914          KM          The Urban time-area relation is used for this basin.
3915          KM
3916          KM      Time of Concentration for this sub-basin is based on the following:
3917          KM          An rainfall areal reduction factor of 1.000
3918          KM
3919          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3920          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3921          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
3922          KM
3923          KM          L=   0.831 miles, S=  214 feet/mile, Kb= .04
3924          KM
3925          BA   0.027
3926          LG    0.07    0.26    5.70    0.18   65.50
3927          UC   0.229   0.483
3928          UA       0       5      16      30      65      77      84      90      94      97
3929          UA     100
              *

3930          KK   D614L
3931          KM      Hydrograph diversion at C614.  Main flow continues in the left branch.
3932          KM      Diverted flow is in the right branch.
3933          DT   D614R
3934          DI       0     4.3     8.5    20.0    49.0    85.5
3935          DQ       0     2.5     5.0    13.5    35.0    60.0
              *
```



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

3936          KK    C617
3937          KM      Hydrograph combine C617L + D614L at C617
3938          HC       2
              *

3939          KK  617618
3940          KM      Normal depth channel route from C617 to C618
3941          KM      Source:  HEC-2 Cross Section: AR 0.836
3942          RS       5    FLOW      -1
3943          RC   0.070   0.060   0.070  1912.0  0.0345
3944          RX  9983.3  9987.2  9989.2  9991.1 10031.5 10053.5 10070.6 10097.7
3945          RY  1766.5  1762.3  1760.2  1758.1  1757.8  1760.8  1764.2  1770.6
              *

3946          KK    211S
3947          KM   Sub-Basin   211S
3948          KM
3949          KM      The Clark Unit Hydrograph is used for this basin.
3950          KM          The HEC-1 time-area relation is used for this basin.
3951          KM
3952          KM      Time of Concentration for this sub-basin is based on the following:
3953          KM          An rainfall areal reduction factor of 1.000
3954          KM
3955          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3956          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3957          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3958          KM
3959          KM          L=   0.445 miles, S=  272 feet/mile, Kb= .10
3960          KM
3961          BA   0.050
3962          LG    0.13    0.36    5.70    0.20   26.10
3963          UC   0.263   0.241
```

```
                *

3964            KK   C618I
3965            KM      Hydrograph combine 617618 + 211S at C618I
3966            HC       2
                *

3967            KK   C618O
3968            KM      Reservoir route at C618.
3969            RS       1    ELEV  1730.6
3970            SV    0.00    0.01    0.06    0.24    0.50    0.75    1.20    1.66    2.30    2.94
3971            SV    3.20    3.30    3.40    3.60    3.80    3.90    4.10    4.30    4.50    4.65
3972            SE  1730.6  1734.0  1736.0  1738.0  1739.0  1740.0  1741.0  1742.0  1743.0  1744.0
3973            SE  1744.3  1744.4  1744.6  1744.8  1745.0  1745.2  1745.4  1745.6  1745.8  1746.0
3974            SQ       0     2.2     2.6     3.0     3.1     3.2     3.3     3.5     3.6     3.7
3975            SQ     3.7     3.8       8      21      48      88     143     212     295     390
                *
1                                          HEC-1 INPUT                                          PAGE 95

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


3976            KK  BB614R
3977            KM      Retrieve previously diverted hydrograph at C614 in the right branch.
3978            DR   D614R
                *

3979            KK  614615
3980            KM      Normal depth channel route from C614 to C615
3981            KM      Source:  Hydrology Field Reconnaissance
3982            RS       2    FLOW      -1
3983            RC   0.040   0.018   0.040  1114.0  0.0397
3984            RX  1000.0  1020.0  1025.0  1059.0  1091.0  1093.0  1098.0  1103.0
3985            RY  1828.0  1822.0  1821.5  1822.2  1821.8  1822.0  1824.0  1826.0
                *

3986            KK    211V
3987            KM   Sub-Basin   211V
3988            KM
3989            KM      The Clark Unit Hydrograph is used for this basin.
3990            KM          The Urban time-area relation is used for this basin.
3991            KM
3992            KM      Time of Concentration for this sub-basin is based on the following:
3993            KM          An rainfall areal reduction factor of 1.000
3994            KM
3995            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3996            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3997            KM   .30 .30 .29 .29 .29 .29 .05 .05 .05 .05 .05 .05 .03 .03 .03 .03 .03 .03
3998            KM
3999            KM          L=   0.222 miles, S=  212 feet/mile, Kb= .04
4000            KM
4001            BA   0.005
4002            LG    0.06    0.25    5.80    0.18   90.00
4003            UC   0.117   0.212
4004            UA       0       5      16      30      65      77      84      90      94      97
4005            UA     100
                *

4006            KK    C615
4007            KM      Hydrograph combine 614615 + 211V at C615
4008            HC       2    0.03
                *

4009            KK   D615L
4010            KM      Hydrograph diversion at C615.  Main flow continues in the left branch.
4011            KM      Diverted flow is in the right branch.
4012            DT   D615R
4013            DI       0     1.3     2.5     5.3     8.6    14.2    23.0    36.8    55.5    77.5
4014            DQ       0       0       0     1.3     2.6     4.2     7.0    12.8    19.5    29.5
                *
1                                          HEC-1 INPUT                                          PAGE 96

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


4015            KK  615618
4016            KM      Normal depth channel route from C615 to C618
4017            KM      Source:  Hydrology Field Reconnaissance
4018            RS       1    FLOW      -1
4019            RC   0.040   0.018   0.040   499.0  0.1338
4020            RX  1000.0  1008.0  1009.2  1013.2  1027.2  1028.4  1036.4  1045.4
4021            RY  1800.4  1799.6  1799.2  1798.8  1798.3  1798.7  1798.9  1800.4
                *

4022            KK    C618
4023            KM      Hydrograph combine C618O + 615618 at C618
4024            HC       2    0.19
                *
```

```
4025          KK  618619
4026          KM      Normal depth channel route from C618 to C619
4027          KM      Source:  HEC-2 Cross Section: AR 0.441
4028          RS       4    FLOW      -1
4029          RC   0.070   0.060   0.070  1837.0  0.0285
4030          RX  9870.6  9928.6  9957.1  9996.9 10004.9 10022.1 10062.0 10116.4
4031          RY  1709.2  1700.9  1698.8  1690.0  1689.8  1699.6  1700.3  1711.3
              *

4032          KK    211T
4033          KM   Sub-Basin   211T
4034          KM
4035          KM      The Clark Unit Hydrograph is used for this basin.
4036          KM          The HEC-1 time-area relation is used for this basin.
4037          KM
4038          KM      Time of Concentration for this sub-basin is based on the following:
4039          KM          An rainfall areal reduction factor of 1.000
4040          KM
4041          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4042          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4043          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
4044          KM
4045          KM          L=   0.488 miles, S=  250 feet/mile, Kb= .10
4046          KM
4047          BA   0.066
4048          LG    0.13    0.37    5.70    0.20   21.00
4049          UC   0.283   0.241
              *

4050          KK   C619L
4051          KM      Hydrograph combine 618619 + 211T at C619 left branch
4052          HC       2
              *

4053          KK  BB615R
4054          KM      Retrieve previously diverted hydrograph at C615 in the right branch.
4055          DR   D615R
              *
```



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

4056          KK  615619
4057          KM      Normal depth channel route from C615 to C619
4058          KM      Source:  Hydrology Field Reconnaissance
4059          RS       7    FLOW      -1
4060          RC   0.045   0.024   0.025  2444.0  0.0493
4061          RX  1000.0  1009.3  1018.5  1037.0  1039.3  1053.0  1065.0  1065.0
4062          RY  1727.2  1726.5  1725.8  1724.4  1724.6  1725.8  1725.9  1725.9
              *

4063          KK   C619I
4064          KM      Hydrograph combine C619L + 615619 at C619I
4065          HC       2    0.25
              *

4066          KK   C619O
4067          KM      Reservoir route at C619.
4068          RS       1    ELEV  1675.6
4069          SV    0.00    1.72    2.98    4.70    7.00    7.08    7.17    7.26    7.34    7.43
4070          SV    7.51    7.60    7.69    7.77    7.86
4071          SE  1675.6  1686.0  1688.0  1690.0  1692.0  1692.2  1692.4  1692.6  1692.8  1693.0
4072          SE  1693.2  1693.4  1693.6  1693.8  1694.0
4073          SQ       0       4      25      72     128     155     163     172     178     187
4074          SQ     195     213     238     273     318     374     441     518     606     706
4075          SE  1675.6  1676.0  1678.0  1680.0  1682.0  1684.0  1686.0  1688.0  1690.0  1692.0
4076          SE  1692.2  1692.4  1692.6  1692.8  1693.0  1693.2  1693.4  1693.6  1693.8  1694.0
              *

4077          KK   D619R
4078          KM      Hydrograph diversion at C619.  Main flow continues in the right branch.
4079          KM      Diverted flow is in the left branch.
4080          DT   D619L
4081          DI       0       4      25      72     128     155     163     172     178     187
4082          DI     195     213     238     273     318     374     441     518     606     706
4083          DQ       0       0       0       0       0       0       0       0       0       0
4084          DQ       8      24      49      83     128     182     249     326     412     512
              *

4085          KK  619620
4086          KM                 Lag route through Palisades Plaza storm drain
4087          RT       0                1
              *

4088          KK  BB619L
4089          KM      Retrieve previously diverted hydrograph at C619 in the left branch.
```

```
4090          DR   D619L
              *

4091          KK  619620
4092          KM   Normal depth channel route from C619 to C620 in Fountain Hills Blvd.
4093          KM   Source:  200 Scale Mapping. Similiar to 523548
4094          RS       1    FLOW      -1
4095          RC   0.040   0.024   0.040   800.0  0.0288
4096          RX   918.0   940.0   960.0  1000.0  1040.0  1040.1  1044.1  1088.1
4097          RY  1648.0  1645.8  1643.8  1644.7  1644.0  1644.5  1644.5  1648.0
              *
1                                          HEC-1 INPUT                                                    PAGE 98

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


4098          KK    211W
4099          KM   Sub-Basin   211W
4100          KM
4101          KM      The Clark Unit Hydrograph is used for this basin.
4102          KM          The Urban time-area relation is used for this basin.
4103          KM
4104          KM      Time of Concentration for this sub-basin is based on the following:
4105          KM          An rainfall areal reduction factor of 1.000
4106          KM
4107          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4108          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4109          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4110          KM
4111          KM          L=   0.289 miles, S=  173 feet/mile, Kb= .04
4112          KM
4113          BA   0.030
4114          LG    0.07    0.27    5.70    0.18   69.90
4115          UC   0.146   0.120
4116          UA       0       5      16      30      65      77      84      90      94      97
4117          UA     100
              *

4118          KK   C620R
4119          KM      Hydrograph combine 619620 + R619L + 211W at C620 right branch
4120          HC       3    0.28
              *

4121          KK  BB611R
4122          KM      Retrieve previously diverted hydrograph at C611 in the right branch.
4123          DR   D611R
              *

4124          KK  611620
4125          KM                 Lag route through Palisades Plaza storm drain
4126          RT       0               1
              *

4127          KK    C620
4128          KM      Hydrograph combine 611620 + C620R at C620
4129          HC       2    0.42
              *

4130          KK  620621
4131          KM      Normal depth channel route from C620 to C621
4132          KM      Source:  HEC-2 Cross Section: AR 0.081
4133          RS       1    FLOW      -1
4134          RC   0.050   0.050   0.050   915.0  0.0394
4135          RX  9790.0  9790.1  9972.2  9994.8 10004.9 10029.7 10048.6 10125.0
4136          RY  1657.9  1657.5  1656.4  1646.8  1646.8  1657.8  1657.0  1657.9
              *
1                                          HEC-1 INPUT                                                    PAGE 99

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


4137          KK    C621
4138          KM      Hydrograph combine C621L + 620621 at C621
4139          HC       2    7.93
              *

4140          KK  621622
4141          KM      Normal depth channel route from C621 to C622
4142          KM      Source:  HEC-2 Cross Section: AS 2.785
4143          RS       6    FLOW      -1
4144          RC   0.100   0.045   0.100  3830.0  0.0144
4145          RX  9827.3  9922.9  9951.0 10000.0 10002.7 10044.7 10071.6 10076.8
4146          RY  1615.2  1611.0  1604.1  1600.8  1601.5  1601.6  1611.0  1613.9
              *

4147          KK    211X
4148          KM   Sub-Basin   211X
4149          KM
```

```
4150          KM      The Clark Unit Hydrograph is used for this basin.
4151          KM          The HEC-1 time-area relation is used for this basin.
4152          KM
4153          KM      Time of Concentration for this sub-basin is based on the following:
4154          KM          An rainfall areal reduction factor of 1.000
4155          KM
4156          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4157          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4158          KM   .27 .27 .27 .27 .27 .26 .03 .03 .03 .02 .02 .02 .01 .01 .01 .01 .01 .01
4159          KM
4160          KM          L=   0.929 miles, S=  111 feet/mile, Kb= .05
4161          KM
4162          BA   0.214
4163          LG    0.16    0.30    4.90    0.27   43.20
4164          UC   0.346   0.259
              *

4165          KK   C622R
4166          KM      Hydrograph combine 621622 + 211X at C622 right branch
4167          HC       2
              *
              * *
              * * Move to the top of Tulip Wash
              * *
              *

4168          KK    211A
4169          KM   Sub-Basin   211A
4170          KM
4171          KM      The Clark Unit Hydrograph is used for this basin.
4172          KM          The HEC-1 time-area relation is used for this basin.
4173          KM
4174          KM      Time of Concentration for this sub-basin is based on the following:
4175          KM          An rainfall areal reduction factor of 1.000
4176          KM
4177          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4178          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```



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

4179          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
4180          KM
4181          KM          L=   0.820 miles, S=  248 feet/mile, Kb= .10
4182          KM
4183          BA   0.143
4184          LG    0.14    0.38    5.70    0.21   13.80
4185          UC   0.371   0.318
              *

4186          KK   C600O
4187          KM      Reservoir route at C600.
4188          RS       1     ELEV  1754.0
4189          SV    0.00    0.14    0.62    1.52    2.95    5.06    7.98   11.80   16.61   22.67
4190          SV   30.07   38.71   40.50   40.60   41.60   42.70   43.70   44.60   45.70
4191          SE  1754.0  1756.0  1758.0  1760.0  1762.0  1764.0  1766.0  1768.0  1770.0  1772.0
4192          SE  1774.0  1776.0 1776.36  1776.4  1776.6  1776.8  1777.0  1777.2  1777.4
4193          SQ       0      55     183     320     427     513     570     620     665     709
4194          SQ     750     789     795     795     812     849     906     984    1084
              *

4195          KK  600601
4196          KM      Normal depth channel route from C600 to C601
4197          KM      Source:  HEC-2 Cross Section: TU 1.538
4198          RS       4     FLOW      -1
4199          RC   0.040   0.025   0.040  2406.0  0.0176
4200          RX  9945.6  9959.4  9968.3  9985.9 10000.0 10017.2 10038.7 10058.8
4201          RY  1734.5  1732.3  1727.9  1726.2  1725.0  1727.7  1735.2  1736.0
              *

4202          KK    211B
4203          KM   Sub-Basin   211B
4204          KM
4205          KM      The Clark Unit Hydrograph is used for this basin.
4206          KM          The HEC-1 time-area relation is used for this basin.
4207          KM
4208          KM      Time of Concentration for this sub-basin is based on the following:
4209          KM          An rainfall areal reduction factor of 1.000
4210          KM
4211          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4212          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4213          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
4214          KM
4215          KM          L=   0.618 miles, S=  244 feet/mile, Kb= .10
4216          KM
4217          BA   0.109
4218          LG    0.14    0.37    5.80    0.21   13.40
4219          UC   0.321   0.253
```

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                *

4220            KK    C601
4221            KM      Hydrograph combine 600601 + 211B at C601
4222            HC       2
                *
1                                          HEC-1 INPUT                                                    PAGE101

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

4223            KK  601602
4224            KM      Normal depth channel route from C601 to C602
4225            KM      Source:  HEC-2 Cross Section: TU 1.102
4226            RS       4    FLOW      -1
4227            RC   0.065   0.040   0.055  1765.0  0.0146
4228            RX  9916.9  9959.1  9965.8  9980.2 10004.0 10019.5 10047.3 10094.1
4229            RY  1699.9  1699.8  1696.4  1689.8  1688.9  1695.7  1698.2  1698.4
                *

4230            KK    211C
4231            KM   Sub-Basin   211C
4232            KM
4233            KM      The Clark Unit Hydrograph is used for this basin.
4234            KM          The Urban time-area relation is used for this basin.
4235            KM
4236            KM      Time of Concentration for this sub-basin is based on the following:
4237            KM          An rainfall areal reduction factor of 1.000
4238            KM
4239            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4240            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4241            KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4242            KM
4243            KM          L=   0.479 miles, S=  154 feet/mile, Kb= .03
4244            KM
4245            BA   0.043
4246            LG    0.08    0.25    5.70    0.18   44.50
4247            UC   0.167   0.169
4248            UA       0       5      16      30      65      77      84      90      94      97
4249            UA     100
                *

4250            KK   C602L
4251            KM      Hydrograph combine 601602 + 211C at C602 left branch
4252            HC       2
                *

4253            KK    211D
4254            KM   Sub-Basin   211D
4255            KM
4256            KM      The Clark Unit Hydrograph is used for this basin.
4257            KM          The Urban time-area relation is used for this basin.
4258            KM
4259            KM      Time of Concentration for this sub-basin is based on the following:
4260            KM          An rainfall areal reduction factor of 1.000
4261            KM
4262            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4263            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4264            KM   .24 .24 .24 .24 .24 .23 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
4265            KM
4266            KM          L=   0.686 miles, S=  115 feet/mile, Kb= .04
4267            KM
4268            BA   0.071
4269            LG    0.21    0.30    3.85    0.49   28.30
4270            UC   0.271   0.291
1                                          HEC-1 INPUT                                                    PAGE102

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

4271            UA       0       5      16      30      65      77      84      90      94      97
4272            UA     100
                *

4273            KK    C602
4274            KM      Hydrograph combine C602L + 211D at C602
4275            HC       2
                *

4276            KK  602603
4277            KM      Normal depth channel route from C602 to C603
4278            KM      Source:  HEC-2 Cross Section: LE 0.672
4279            RS       4    FLOW      -1
4280            RC   0.060   0.045   0.060  2610.0  0.0211
4281            RX  9891.9  9963.9  9986.5 10000.0 10012.7 10023.8 10085.0 10176.4
4282            RY  1653.5  1653.5  1644.4  1644.1  1645.0  1649.8  1651.7  1656.7
                *

4283            KK    211E
```

```
KM   Sub-Basin   211E
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Urban time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
KM
KM          L=   0.609 miles, S=  118 feet/mile, Kb= .03
KM
BA   0.156
LG    0.11    0.27    5.10    0.24   42.20
UC   0.208   0.126
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK    C603
KM      Hydrograph combine 602603 + 211E at C603
HC       2
*

KK  603622
KM      Normal depth channel route from C603 to C622
KM      Source:  HEC-2 Cross Section: LE 0.287
RS       5    FLOW      -1
RC   0.060   0.045   0.060  2745.0  0.0204
RX  9883.0  9929.7  9967.3  9991.6 10042.2 10073.6 10177.6 10194.5
RY  1619.4  1618.7  1611.8  1602.1  1603.3  1609.4  1610.5  1610.6
*
```



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

KK    211F
KM   Sub-Basin   211F
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Urban time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
KM
KM          L=   0.770 miles, S=  134 feet/mile, Kb= .03
KM
BA   0.113
LG    0.08    0.25    4.30    0.36   62.70
UC   0.225   0.199
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   C622L
KM      Hydrograph combine 603622 + 211F at C622 left branch
HC       2
*

KK    C622
KM      Hydrograph combine C622R + C622L at C622
HC       2
*

KK  622549
KM      Normal depth channel route from C622 to C549
KM      Source:  HEC-2 Cross Section: AS 2.279
RS       6    FLOW      -1
RC   0.113   0.125   0.120  1697.0  0.0118
RX  9847.1  9851.0  9857.5  9862.8 10052.6 10062.8 10075.6 10084.6
RY  1573.5  1571.3  1567.2  1564.6  1565.1  1566.7  1573.7  1573.9
*

KK    211Y
KM   Sub-Basin   211Y
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The HEC-1 time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
```

```
4354          KM
4355          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4356          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4357          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4358          KM
1                                          HEC-1 INPUT                                                    PAGE104

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

4359          KM          L=   0.606 miles, S=  147 feet/mile, Kb= .07
4360          KM
4361          BA   0.089
4362          LG    0.13    0.30    6.60    0.14   16.80
4363          UC   0.304   0.262
              *

4364          KK   C549R
4365          KM      Hydrograph combine 622549 + 211Y at C549 right branch
4366          HC       2
              *

4367          KK    C549
4368          KM      Hydrograph combine C549L + C549R at C549
4369          HC       2
              *

4370          KK  549626
4371          KM      Normal depth channel route from C549 to C626
4372          KM      Source:  HEC-2 Cross Section: AS 1.855
4373          RS       6    FLOW      -1
4374          RC   0.113   0.125   0.120  2044.0  0.0171
4375          RX  9943.2  9963.0  9985.6  9994.1 10007.6 10029.2 10150.5 10171.3
4376          RY  1539.3  1534.5  1531.2  1528.3  1528.2  1531.7  1532.5  1537.4
              *

4377          KK    211Z
4378          KM   Sub-Basin   211Z
4379          KM
4380          KM      The Clark Unit Hydrograph is used for this basin.
4381          KM          The Urban time-area relation is used for this basin.
4382          KM
4383          KM      Time of Concentration for this sub-basin is based on the following:
4384          KM          An rainfall areal reduction factor of 1.000
4385          KM
4386          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4387          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4388          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
4389          KM
4390          KM          L=   0.509 miles, S=  147 feet/mile, Kb= .04
4391          KM
4392          BA   0.083
4393          LG    0.14    0.27    4.50    0.34   34.40
4394          UC   0.208   0.157
4395          UA       0       5      16      30      65      77      84      90      94      97
4396          UA     100
              *

4397          KK   C626C
4398          KM      Hydrograph combine 549626 + 211Z at C626 main branch
4399          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE105

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

4400          KK   211AA
4401          KM   Sub-Basin  211AA
4402          KM
4403          KM      The Clark Unit Hydrograph is used for this basin.
4404          KM          The Urban time-area relation is used for this basin.
4405          KM
4406          KM      Time of Concentration for this sub-basin is based on the following:
4407          KM          An rainfall areal reduction factor of 1.000
4408          KM
4409          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4410          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4411          KM   .28 .28 .28 .28 .28 .28 .04 .03 .03 .03 .03 .03 .02 .02 .02 .01 .01 .01
4412          KM
4413          KM          L=   0.480 miles, S=   85 feet/mile, Kb= .06
4414          KM
4415          BA   0.034
4416          LG    0.09    0.24    6.60    0.14   38.80
4417          UC   0.292   0.360
4418          UA       0       5      16      30      65      77      84      90      94      97
4419          UA     100
              *
```

```
4420          KK  625626
4421          KM      Normal depth channel route from C625 to C626
4422          KM      Source:  200 Scale Mapping
4423          RS       4    FLOW      -1
4424          RC   0.040   0.018   0.040  1350.0  0.0252
4425          RX  1000.0  1020.0  1021.2  1055.2  1089.2  1090.4  1100.4  1105.4
4426          RY  1527.0  1526.0  1525.6  1526.3  1525.6  1526.0  1528.0  1530.0
              *

4427          KK   211AB
4428          KM   Sub-Basin  211AB
4429          KM
4430          KM      The Clark Unit Hydrograph is used for this basin.
4431          KM          The Urban time-area relation is used for this basin.
4432          KM
4433          KM      Time of Concentration for this sub-basin is based on the following:
4434          KM          An rainfall areal reduction factor of 1.000
4435          KM
4436          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4437          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4438          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4439          KM
4440          KM          L=   0.293 miles, S=  321 feet/mile, Kb= .07
4441          KM
4442          BA   0.040
4443          LG    0.11    0.26    6.80    0.13   23.10
4444          UC   0.163   0.116
4445          UA       0       5      16      30      65      77      84      90      94      97
4446          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE106

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

4447          KK  623624
4448          KM      Normal depth channel route from C623 to C624
4449          KM      Source:  200 Scale Mapping
4450          RS       1    FLOW      -1
4451          RC   0.040   0.018   0.040   701.0  0.0114
4452          RX  1000.0  1010.0  1011.2  1027.2  1043.2  1044.4  1059.4  1074.4
4453          RY  1534.0  1532.0  1531.6  1531.9  1531.6  1532.0  1532.5  1533.0
              *

4454          KK   211AC
4455          KM   Sub-Basin  211AC
4456          KM
4457          KM      The Clark Unit Hydrograph is used for this basin.
4458          KM          The Urban time-area relation is used for this basin.
4459          KM
4460          KM      Time of Concentration for this sub-basin is based on the following:
4461          KM          An rainfall areal reduction factor of 1.000
4462          KM
4463          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4464          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4465          KM   .29 .29 .29 .29 .29 .29 .04 .04 .04 .04 .04 .04 .03 .03 .03 .03 .03 .03
4466          KM
4467          KM          L=   0.306 miles, S=   82 feet/mile, Kb= .03
4468          KM
4469          BA   0.027
4470          LG    0.08    0.15    8.40    0.07   44.80
4471          UC   0.163   0.148
4472          UA       0       5      16      30      65      77      84      90      94      97
4473          UA     100
              *

4474          KK    C624
4475          KM      Hydrograph combine 623624 + 211AC at C624
4476          HC       2
              *

4477          KK  624626
4478          KM      Normal depth channel route from C624 to C626
4479          KM      Source:  HEC-2 Cross Section: AS 1.727
4480          RS       3    FLOW      -1
4481          RC   0.080   0.060   0.080   637.0  0.0235
4482          RX  9872.9  9881.0  9893.9  9902.2  9967.6  9976.4 10076.1 10084.3
4483          RY  1526.3  1524.6  1521.7  1520.0  1520.7  1521.6  1520.7  1526.2
              *

4484          KK   211AD
4485          KM   Sub-Basin  211AD
4486          KM
4487          KM      The Clark Unit Hydrograph is used for this basin.
4488          KM          The Urban time-area relation is used for this basin.
4489          KM
4490          KM      Time of Concentration for this sub-basin is based on the following:
4491          KM          An rainfall areal reduction factor of 1.000
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4492          KM
1                                          HEC-1 INPUT                                                    PAGE107

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

4493          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4494          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4495          KM   .29 .29 .29 .29 .29 .29 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4496          KM
4497          KM          L=   0.489 miles, S=  280 feet/mile, Kb= .04
4498          KM
4499          BA   0.041
4500          LG    0.08    0.16    8.00    0.08   42.40
4501          UC   0.163   0.171
4502          UA       0       5      16      30      65      77      84      90      94      97
4503          UA     100
              *

4504          KK   C626R
4505          KM      Hydrograph combine 624626 + 211AD at C626 right branch
4506          HC       2
              *

4507          KK    C626
4508          KM      Hydrograph combine C626C + 625626 at C626R
4509          HC       3
              *

4510          KK  626627
4511          KM      Normal depth channel route from C626 to C627
4512          KM      Source:  HEC-2 Cross Section: AS 1.602
4513          RS       1    FLOW      -1
4514          RC   0.080   0.060   0.080   625.0  0.0208
4515          RX  9889.8  9941.2  9963.0 10011.6 10074.8 10083.9 10191.7 10210.4
4516          RY  1517.6  1516.9  1508.1  1506.6  1508.6  1511.7  1513.1  1518.8
              *

4517          KK   211AE
4518          KM   Sub-Basin  211AE
4519          KM
4520          KM      The Clark Unit Hydrograph is used for this basin.
4521          KM          The Urban time-area relation is used for this basin.
4522          KM
4523          KM      Time of Concentration for this sub-basin is based on the following:
4524          KM          An rainfall areal reduction factor of 1.000
4525          KM
4526          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4527          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4528          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4529          KM
4530          KM          L=   0.313 miles, S=  153 feet/mile, Kb= .04
4531          KM
4532          BA   0.034
4533          LG    0.12    0.24    6.40    0.15   38.20
4534          UC   0.158   0.129
4535          UA       0       5      16      30      65      77      84      90      94      97
4536          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE108

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

4537          KK    C627
4538          KM      Hydrograph combine 626627 + 211AE at C627
4539          HC       2
              *
              * *
              * * C627 is the total flow in Ashbrook Wash at the Study boundary
              * *
              *

4540          KK   211AF
4541          KM   Sub-Basin  211AF
4542          KM
4543          KM      The Clark Unit Hydrograph is used for this basin.
4544          KM          The Urban time-area relation is used for this basin.
4545          KM
4546          KM      Time of Concentration for this sub-basin is based on the following:
4547          KM          An rainfall areal reduction factor of 1.000
4548          KM
4549          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4550          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4551          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4552          KM
4553          KM          L=   0.332 miles, S=  292 feet/mile, Kb= .06
4554          KM
4555          BA   0.053
```

```
4556          LG    0.10    0.30    5.80    0.18   28.30
4557          UC   0.167   0.112
4558          UA       0       5      16      30      65      77      84      90      94      97
4559          UA     100
              *
              * *
              * * End Basin 211.
              * *
              *
4560          ZZ
```

```
1*****************************************                    *****************************************
 *                                       *                    *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS       *
 *              MAY   1991               *                    *    HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.0.1E              *                    *          609 SECOND STREET            *
 *     Lahey F77L-EM/32 version 5.01     *                    *       DAVIS, CALIFORNIA 95616         *
 *       Dodson & Associates, Inc.       *                    *           (916) 551-1748              *
 *  RUN DATE  06/27/97  TIME  15:31:03   *                    *                                       *
 *****************************************                    *****************************************
```

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Fountain Hills Area Drainage Master Plan
Golden Eagle Park Dam Feasibility Study
     FCD 94-16       by GVSCE                          File:  EXMOD24.IH1
Existing Condition Model                               Date:  6/9/97
Proposed Improvements for GEPD Reflected in Rating Curve at C5990
100-Year, 24-Hour Storm

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

   IT          HYDROGRAPH TIME DATA
                     NMIN           1  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1    0  STARTING DATE
                    ITIME        0000  STARTING TIME
                       NQ        1800  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      2    0  ENDING DATE
                   NDTIME        0559  ENDING TIME
                    ICENT          19  CENTURY MARK

              COMPUTATION INTERVAL    0.02 HOURS
                   TOTAL TIME BASE   29.98 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

10 JD          INDEX STORM NO. 1
                    STRM        4.20  PRECIPITATION DEPTH
                    TRDA        0.01  TRANSPOSITION DRAINAGE AREA

11 PI            PRECIPITATION PATTERN
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
```

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

21 JD INDEX STORM NO. 2

STRM 4.12 PRECIPITATION DEPTH

TRDA 5.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

```
22 JD          INDEX STORM NO. 3
                  STRM       3.99   PRECIPITATION DEPTH
                  TRDA      10.00   TRANSPOSITION DRAINAGE AREA

 0 PI             PRECIPITATION PATTERN
```

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

23 JD INDEX STORM NO. 4

STRM 3.71 PRECIPITATION DEPTH

TRDA 50.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

24 JD INDEX STORM NO. 5
STRM 3.62 PRECIPITATION DEPTH
TRDA 80.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	201A	213.	12.30	32.	8.	6.	0.22		
+	HYDROGRAPH AT	201B	92.	12.20	12.	3.	2.	0.08		
+	2 COMBINED AT	C501	298.	12.25	43.	11.	9.	0.30		
+	ROUTED TO	501502	294.	12.38	43.	11.	9.	0.30		
+	HYDROGRAPH AT	201C	87.	12.22	11.	3.	2.	0.08		
+	2 COMBINED AT	C502R	361.	12.35	54.	14.	11.	0.38		
+	HYDROGRAPH AT	201D	61.	12.27	10.	3.	2.	0.07		
+	2 COMBINED AT	C502	419.	12.33	64.	16.	13.	0.45		
+	ROUTED TO	502503	412.	12.48	64.	16.	13.	0.45		
+	HYDROGRAPH AT	201E	153.	12.32	24.	6.	5.	0.18		
+	2 COMBINED AT	C503I	543.	12.45	88.	22.	18.	0.63		
+	ROUTED TO	C503O	278.	12.95	88.	22.	18.	0.63		
+	DIVERSION TO	D503L	278.	12.95	88.	22.	18.	0.63		
+	HYDROGRAPH AT	D503R	0.	0.02	0.	0.	0.	0.63		
+	ROUTED TO	503504	0.	0.02	0.	0.	0.	0.63		
+	HYDROGRAPH AT	202A	39.	12.20	5.	1.	1.	0.04		
+	2 COMBINED AT	C504I	39.	12.20	5.	1.	1.	0.67		
+	ROUTED TO	C504O	20.	12.52	5.	1.	1.	0.67		
+	DIVERSION TO	D504L	20.	12.52	5.	1.	1.	0.67		
	HYDROGRAPH AT									

+	D504R	0.	12.52	0.	0.	0.	0.67
HYDROGRAPH AT	202B	19.	12.13	2.	1.	0.	0.02
2 COMBINED AT +	C505I	19.	12.13	2.	1.	0.	0.69
DIVERSION TO +	D505L	13.	12.13	2.	0.	0.	0.69
HYDROGRAPH AT +	D505R	6.	12.13	0.	0.	0.	0.69
HYDROGRAPH AT +	202C	10.	12.08	1.	0.	0.	0.01
2 COMBINED AT +	C506	15.	12.12	1.	0.	0.	0.69
DIVERSION TO +	D506L	0.	0.02	0.	0.	0.	0.69
HYDROGRAPH AT +	D506R	15.	12.12	1.	0.	0.	0.69
HYDROGRAPH AT +	202D	60.	12.23	9.	3.	2.	0.06
HYDROGRAPH AT +	202E	124.	12.18	14.	4.	3.	0.10
ROUTED TO +	C508O	122.	12.22	14.	4.	3.	0.10
DIVERSION TO +	D508R	66.	12.22	11.	3.	2.	0.10
HYDROGRAPH AT +	D508L	56.	12.22	4.	1.	1.	0.10
ROUTED TO +	508507	54.	12.32	4.	1.	1.	0.10
3 COMBINED AT +	C507I	118.	12.27	14.	4.	3.	0.86
ROUTED TO +	C507O	118.	12.27	14.	4.	3.	0.86
HYDROGRAPH AT +	202F	20.	12.07	2.	0.	0.	0.01
HYDROGRAPH AT +	202G	20.	12.05	2.	0.	0.	0.01
HYDROGRAPH AT +	202H	208.	12.22	24.	6.	5.	0.18
ROUTED TO +	C511O	201.	12.27	24.	6.	5.	0.18
ROUTED TO +	511512	200.	12.30	24.	6.	5.	0.18
HYDROGRAPH AT +	202I	21.	12.08	3.	1.	1.	0.02
2 COMBINED AT +	C512I	215.	12.27	26.	7.	5.	0.20
ROUTED TO +	C512O	14.	13.33	5.	1.	1.	0.20
DIVERSION TO +	D512R	0.	13.32	0.	0.	0.	0.20
HYDROGRAPH AT +	D512L	14.	13.33	5.	1.	1.	0.20
HYDROGRAPH AT +	203A	262.	12.22	42.	11.	9.	0.28
ROUTED TO	C513O	232.	12.38	42.	11.	9.	0.28
ROUTED TO +	513514	229.	12.50	42.	11.	9.	0.28

	HYDROGRAPH AT							
+		203B	55.	12.10	7.	2.	1.	0.04
	2 COMBINED AT							
+		C514R	251.	12.48	48.	12.	10.	0.32
	HYDROGRAPH AT							
+		203C	99.	12.18	16.	4.	3.	0.10
	2 COMBINED AT							
+		C514	321.	12.43	64.	17.	13.	0.43
	HYDROGRAPH AT							
+		203D	103.	12.25	15.	4.	3.	0.11
	2 COMBINED AT							
+		C515	405.	12.37	79.	20.	16.	0.53
	ROUTED TO							
+		515517	402.	12.52	79.	20.	16.	0.53
	HYDROGRAPH AT							
+		203E	120.	12.18	15.	4.	3.	0.09
	2 COMBINED AT							
+		C517R	462.	12.47	94.	24.	19.	0.63
	HYDROGRAPH AT							
+		203F	345.	12.28	47.	12.	9.	0.33
	ROUTED TO							
+		516517	333.	12.52	47.	12.	9.	0.33
	HYDROGRAPH AT							
+		203G	238.	12.30	35.	9.	7.	0.25
	2 COMBINED AT							
+		C517L	516.	12.45	82.	20.	16.	0.58
	2 COMBINED AT							
+		C517	975.	12.45	175.	44.	36.	1.21
	ROUTED TO							
+		517518	967.	12.58	175.	44.	36.	1.21
	HYDROGRAPH AT							
+		203H	223.	12.27	30.	7.	6.	0.21
	2 COMBINED AT							
+		C518	1091.	12.55	204.	52.	41.	1.41
	ROUTED TO							
+		518519	1087.	12.60	204.	52.	41.	1.41
	HYDROGRAPH AT							
+		203I	116.	12.32	23.	6.	5.	0.17
	2 COMBINED AT							
+		C519	1177.	12.60	226.	57.	46.	1.59
	ROUTED TO							
+		519591	1174.	12.63	226.	57.	46.	1.59
	HYDROGRAPH AT							
+		203J	46.	12.12	7.	2.	1.	0.04
	ROUTED TO							
+		520591	45.	12.20	7.	2.	1.	0.04
	HYDROGRAPH AT							
+		BB512R	0.	13.32	0.	0.	0.	0.20
	3 COMBINED AT							
+		C591	1193.	12.63	233.	59.	47.	1.83
	ROUTED TO							
+		591521	1188.	12.65	233.	59.	47.	1.83
	HYDROGRAPH AT							
+		203K	272.	12.03	36.	11.	9.	0.16
	2 COMBINED AT							
+		C521	1230.	12.65	267.	70.	56.	1.99
	5 COMBINED AT							
+		CLEAR	1278.	12.63	289.	76.	61.	3.07
	HYDROGRAPH AT							

+		204A	130.	12.20	16.	4.	3.	0.11
	ROUTED TO	522523	126.	12.40	16.	4.	3.	0.11
	HYDROGRAPH AT							
+		204B	134.	12.25	18.	4.	4.	0.13
	2 COMBINED AT							
+		C523I	248.	12.30	33.	8.	7.	0.23
	ROUTED TO							
+		C523O	202.	12.50	33.	8.	7.	0.23
	DIVERSION TO							
+		D523R	0.	0.02	0.	0.	0.	0.23
	HYDROGRAPH AT							
+		D523L	202.	12.50	33.	8.	7.	0.23
	ROUTED TO							
+		523524	201.	12.57	33.	8.	7.	0.23
	HYDROGRAPH AT							
+		204C	119.	12.07	15.	4.	3.	0.08
	2 COMBINED AT							
+		C524	228.	12.50	48.	13.	10.	0.31
	ROUTED TO							
+		524525	228.	12.55	48.	13.	10.	0.31
	HYDROGRAPH AT							
+		204D	74.	12.03	10.	3.	2.	0.04
	2 COMBINED AT							
+		C525	249.	12.18	57.	16.	12.	0.35
	ROUTED TO							
+		525526	248.	12.23	57.	16.	12.	0.35
	HYDROGRAPH AT							
+		204E	111.	12.07	15.	5.	4.	0.07
	2 COMBINED AT							
		C526	343.	12.13	73.	20.	16.	0.43
	ROUTED TO							
+		526527	340.	12.20	73.	20.	16.	0.43
	HYDROGRAPH AT							
+		204F	147.	12.02	19.	6.	5.	0.08
	2 COMBINED AT							
+		C527	426.	12.12	92.	26.	21.	0.50
	2 COMBINED AT							
+		CLEAR	1570.	12.62	379.	101.	81.	3.58
	HYDROGRAPH AT							
+		205A	130.	12.23	22.	7.	6.	0.12
	HYDROGRAPH AT							
+		205B	284.	12.18	40.	12.	10.	0.21
	2 COMBINED AT							
+		C528	411.	12.20	62.	19.	15.	0.33
	ROUTED TO							
+		528530	408.	12.23	62.	19.	15.	0.33
	HYDROGRAPH AT							
+		205C	65.	12.22	11.	3.	3.	0.06
	2 COMBINED AT							
+		C530R	472.	12.23	73.	23.	18.	0.39
	HYDROGRAPH AT							
+		205D	405.	12.22	60.	19.	15.	0.32
	HYDROGRAPH AT							
+		205E	203.	12.32	41.	13.	10.	0.22
	2 COMBINED AT							
		C529	596.	12.25	100.	31.	25.	0.54
	2 COMBINED AT							
+		C530	1064.	12.23	173.	54.	43.	0.93

	ROUTED TO							
+		530531	1056.	12.28	173.	54.	43.	0.93
	HYDROGRAPH AT							
+		205F	197.	12.22	30.	9.	8.	0.16
	2 COMBINED AT							
+		C531	1241.	12.27	202.	63.	50.	1.09
	ROUTED TO							
+		531532	1230.	12.33	202.	63.	50.	1.09
	HYDROGRAPH AT							
+		205G	214.	12.23	33.	10.	8.	0.19
	2 COMBINED AT							
+		C532L	1420.	12.32	235.	73.	59.	1.27
	HYDROGRAPH AT							
+		205H	237.	12.33	47.	14.	12.	0.26
	2 COMBINED AT							
+		C532	1654.	12.32	282.	87.	70.	1.53
	ROUTED TO							
+		532533	1649.	12.35	282.	87.	70.	1.53
	HYDROGRAPH AT							
+		205I	367.	12.28	56.	16.	13.	0.35
	2 COMBINED AT							
+		C533	2000.	12.33	337.	103.	82.	1.89
	ROUTED TO							
+		533534	1959.	12.48	337.	103.	82.	1.89
	HYDROGRAPH AT							
+		205J	361.	12.28	50.	13.	10.	0.37
	2 COMBINED AT							
+		C534R	2220.	12.47	386.	115.	93.	2.25
	HYDROGRAPH AT							
+		205K	183.	12.37	35.	9.	7.	0.25
	2 COMBINED AT							
+		C534	2390.	12.47	420.	124.	100.	2.50
	ROUTED TO							
+		534535	2378.	12.52	420.	124.	100.	2.50
	HYDROGRAPH AT							
+		205L	147.	12.17	15.	4.	3.	0.12
	2 COMBINED AT							
+		C535	2425.	12.50	435.	128.	103.	2.62
	ROUTED TO							
+		535536	2397.	12.63	435.	128.	103.	2.62
	HYDROGRAPH AT							
+		205M	195.	12.08	25.	7.	6.	0.14
	2 COMBINED AT							
+		C536R	2443.	12.63	460.	135.	108.	2.76
	HYDROGRAPH AT							
+		205N	141.	12.22	22.	6.	4.	0.16
	2 COMBINED AT							
+		C536I	2520.	12.62	481.	140.	113.	2.91
	ROUTED TO							
+		C536O	321.	14.02	307.	140.	113.	2.91
	ROUTED TO							
+		536537	321.	14.08	307.	140.	113.	2.91
	HYDROGRAPH AT							
+		206A	224.	12.02	26.	8.	6.	0.13
	2 COMBINED AT							
+		C537	348.	12.07	312.	148.	119.	3.04
	ROUTED TO							
+		537538	341.	12.12	312.	148.	119.	3.04
	HYDROGRAPH AT							

+	206B	168.	12.02	21.	6.	5.	0.09
2 COMBINED AT	C538I	489.	12.07	327.	154.	124.	3.14
ROUTED TO +	C538O	446.	12.15	324.	154.	124.	3.14
ROUTED TO +	538540	438.	12.25	324.	154.	124.	3.14
HYDROGRAPH AT +	206C	26.	12.10	4.	1.	1.	0.02
2 COMBINED AT +	C540R	459.	12.25	326.	155.	125.	3.16
HYDROGRAPH AT +	206D	110.	12.02	14.	4.	3.	0.06
ROUTED TO +	539540	108.	12.10	14.	4.	3.	0.06
HYDROGRAPH AT +	206E	25.	12.08	3.	1.	1.	0.02
2 COMBINED AT +	C540L	133.	12.10	17.	5.	4.	0.09
2 COMBINED AT +	C540	560.	12.22	338.	160.	129.	3.24
ROUTED TO +	540541	545.	12.40	338.	160.	129.	3.24
HYDROGRAPH AT +	206F	159.	12.15	21.	6.	4.	0.16
2 COMBINED AT +	C541	655.	12.37	354.	165.	133.	3.40
ROUTED TO +	541548	654.	12.38	354.	165.	133.	3.40
HYDROGRAPH AT +	206G	75.	12.23	14.	4.	3.	0.09
HYDROGRAPH AT +	BB523R	0.	0.02	0.	0.	0.	0.23
ROUTED TO +	523548	0.	0.02	0.	0.	0.	0.23
3 COMBINED AT +	C548L	721.	12.37	367.	169.	136.	3.72
HYDROGRAPH AT +	206H	89.	12.07	12.	3.	3.	0.06
ROUTED TO +	542543	88.	12.10	12.	3.	3.	0.06
HYDROGRAPH AT +	206I	37.	12.02	4.	1.	1.	0.02
2 COMBINED AT +	C543	122.	12.07	16.	5.	4.	0.08
DIVERSION TO +	D543R	122.	12.07	16.	5.	4.	0.08
HYDROGRAPH AT +	D543L	0.	0.02	0.	0.	0.	0.08
ROUTED TO +	543544	0.	0.02	0.	0.	0.	0.08
HYDROGRAPH AT +	206K	62.	12.13	9.	2.	2.	0.06
2 COMBINED AT +	C544	62.	12.13	8.	2.	2.	0.14
ROUTED TO	544545	61.	12.18	8.	2.	2.	0.14
DIVERSION TO +	D545R	31.	12.18	4.	1.	1.	0.14

+	HYDROGRAPH AT	D545L	31.	12.18	4.	1.	1.	0.14
+	ROUTED TO	545546	31.	12.20	4.	1.	1.	0.14
+	HYDROGRAPH AT	206L	73.	12.12	10.	3.	2.	0.06
+	2 COMBINED AT	C546	102.	12.13	14.	4.	3.	0.20
+	ROUTED TO	546547	102.	12.17	14.	4.	3.	0.20
+	HYDROGRAPH AT	BB543R	122.	12.07	16.	5.	4.	0.08
+	ROUTED TO	543547	121.	12.15	16.	5.	4.	0.08
+	HYDROGRAPH AT	BB545R	31.	12.18	4.	1.	1.	0.14
+	ROUTED TO	545547	30.	12.23	4.	1.	1.	0.14
+	HYDROGRAPH AT	206J	111.	12.02	14.	4.	3.	0.06
+	4 COMBINED AT	C547	335.	12.07	48.	14.	11.	0.26
+	ROUTED TO	547548	330.	12.13	48.	14.	11.	0.26
+	HYDROGRAPH AT	206M	109.	12.02	14.	4.	3.	0.06
+	2 COMBINED AT	C548R	412.	12.08	62.	18.	15.	0.32
+	2 COMBINED AT	C548	1038.	12.27	420.	186.	151.	4.04
+	ROUTED TO	548549	1025.	12.38	419.	186.	150.	4.04
+	HYDROGRAPH AT	206N	259.	12.03	35.	11.	9.	0.15
+	2 COMBINED AT	C549L	1105.	12.35	443.	197.	159.	4.19
+	HYDROGRAPH AT	207A	254.	12.30	46.	14.	11.	0.26
+	HYDROGRAPH AT	207B	202.	12.30	38.	12.	9.	0.21
+	2 COMBINED AT	C550	455.	12.30	84.	26.	21.	0.46
+	ROUTED TO	550552	450.	12.37	84.	26.	21.	0.46
+	HYDROGRAPH AT	207C	197.	12.22	27.	8.	6.	0.17
+	2 COMBINED AT	C552L	617.	12.32	111.	33.	27.	0.64
+	HYDROGRAPH AT	207D	219.	12.25	37.	11.	9.	0.20
+	ROUTED TO	551552	216.	12.35	37.	11.	9.	0.20
+	HYDROGRAPH AT	207E	123.	12.35	29.	9.	7.	0.16
+	2 COMBINED AT	C552R	339.	12.35	66.	21.	16.	0.35
+	2 COMBINED AT	C552	951.	12.33	176.	53.	43.	0.99
	ROUTED TO							

+	552553	947.	12.37	176.	53.	43.	0.99
HYDROGRAPH AT	207F	135.	12.18	23.	7.	6.	0.13
2 COMBINED AT							
+	C553	1057.	12.35	199.	61.	49.	1.12
ROUTED TO							
+	553556	1053.	12.40	199.	61.	49.	1.12
HYDROGRAPH AT							
+	207G	201.	12.35	36.	10.	8.	0.24
2 COMBINED AT							
+	C556L	1249.	12.38	234.	70.	56.	1.35
HYDROGRAPH AT							
+	207H	122.	12.27	23.	7.	6.	0.12
ROUTED TO							
+	554555	120.	12.33	23.	7.	6.	0.12
HYDROGRAPH AT							
+	207I	70.	12.27	14.	4.	3.	0.07
2 COMBINED AT							
+	C555	187.	12.30	37.	11.	9.	0.20
ROUTED TO							
+	555556	184.	12.43	37.	11.	9.	0.20
HYDROGRAPH AT							
+	207J	102.	12.17	18.	6.	5.	0.09
2 COMBINED AT							
+	C556R	260.	12.37	55.	17.	14.	0.29
2 COMBINED AT							
+	C556	1505.	12.38	289.	87.	70.	1.64
ROUTED TO							
+	556557	1498.	12.43	289.	87.	70.	1.64
HYDROGRAPH AT							
.	207K	171.	12.12	26.	8.	6.	0.13
2 COMBINED AT							
+	C557R	1595.	12.42	314.	94.	76.	1.77
HYDROGRAPH AT							
+	207L	119.	12.07	16.	5.	4.	0.08
2 COMBINED AT							
+	C557	1647.	12.40	330.	99.	80.	1.85
ROUTED TO							
+	557558	1640.	12.47	330.	99.	80.	1.85
HYDROGRAPH AT							
+	207M	158.	12.08	18.	5.	4.	0.12
2 COMBINED AT							
+	C558	1696.	12.45	347.	104.	83.	1.97
ROUTED TO							
+	558560	1691.	12.50	347.	104.	83.	1.97
HYDROGRAPH AT							
+	207O	183.	12.15	20.	5.	4.	0.13
2 COMBINED AT							
+	C560R	1745.	12.48	367.	109.	88.	2.10
HYDROGRAPH AT							
+	207N	64.	12.08	8.	2.	2.	0.05
ROUTED TO							
+	559560	62.	12.22	8.	2.	2.	0.05
2 COMBINED AT							
+	C560I	1781.	12.48	375.	111.	89.	2.15
ROUTED TO							
	C560O	275.	13.95	254.	111.	89.	2.15
ROUTED TO							
+	560585	275.	14.03	254.	111.	89.	2.15

+	HYDROGRAPH AT 210A	164.	12.15	18.	5.	4.	0.12
+	2 COMBINED AT C585	282.	12.20	259.	116.	93.	2.27
+	HYDROGRAPH AT 208A	189.	12.17	26.	8.	7.	0.14
+	ROUTED TO 561563	187.	12.22	26.	8.	7.	0.14
+	HYDROGRAPH AT 208B	27.	12.20	5.	2.	1.	0.03
+	2 COMBINED AT C563R	214.	12.22	31.	10.	8.	0.17
+	HYDROGRAPH AT 208C	76.	12.20	12.	4.	3.	0.07
+	ROUTED TO 562563	74.	12.28	12.	4.	3.	0.07
+	HYDROGRAPH AT 208D	74.	12.25	14.	4.	3.	0.08
+	2 COMBINED AT C563L	148.	12.27	26.	8.	7.	0.14
+	2 COMBINED AT C563	359.	12.23	57.	18.	14.	0.31
+	ROUTED TO 563564	355.	12.30	57.	18.	14.	0.31
+	HYDROGRAPH AT 208E	66.	12.22	12.	4.	3.	0.06
+	2 COMBINED AT C564R	417.	12.28	69.	21.	17.	0.37
+	HYDROGRAPH AT 208F	80.	12.20	13.	4.	3.	0.07
+	2 COMBINED AT C564	492.	12.27	82.	25.	20.	0.44
+	ROUTED TO 564565	484.	12.38	82.	25.	20.	0.44
+	HYDROGRAPH AT 208G	153.	12.15	25.	8.	6.	0.13
+	2 COMBINED AT C565	598.	12.35	106.	33.	26.	0.57
+	ROUTED TO 565568	593.	12.40	106.	33.	26.	0.57
+	HYDROGRAPH AT 208H	44.	12.20	7.	2.	1.	0.04
+	2 COMBINED AT C568L	625.	12.40	113.	35.	28.	0.61
+	HYDROGRAPH AT 208I	131.	12.23	22.	7.	5.	0.12
+	HYDROGRAPH AT 208J	70.	12.28	15.	5.	4.	0.08
+	2 COMBINED AT C566	198.	12.25	37.	11.	9.	0.20
+	ROUTED TO 566567	196.	12.32	37.	11.	9.	0.20
+	HYDROGRAPH AT 208K	60.	12.17	9.	3.	2.	0.05
+	2 COMBINED AT C567L	245.	12.27	46.	14.	11.	0.25
+	HYDROGRAPH AT 208L	61.	12.22	11.	3.	3.	0.06
	2 COMBINED AT						

+	C567	305.	12.25	57.	18.	14.	0.31
ROUTED TO	567568	301.	12.35	57.	18.	14.	0.31
HYDROGRAPH AT +	208M	162.	12.28	30.	9.	7.	0.16
2 COMBINED AT +	C568R	455.	12.32	86.	27.	22.	0.46
2 COMBINED AT +	C568	1067.	12.37	198.	61.	49.	1.07
ROUTED TO +	568573	1060.	12.42	198.	61.	49.	1.07
HYDROGRAPH AT +	208N	54.	12.22	10.	3.	2.	0.05
2 COMBINED AT +	C573L	1101.	12.42	208.	64.	52.	1.12
HYDROGRAPH AT +	208O	249.	12.27	43.	13.	11.	0.23
ROUTED TO +	569570	248.	12.30	43.	13.	11.	0.23
HYDROGRAPH AT +	208P	84.	12.13	11.	3.	3.	0.06
2 COMBINED AT +	C570R	310.	12.23	54.	16.	13.	0.29
HYDROGRAPH AT +	208Q	106.	12.23	18.	5.	4.	0.09
2 COMBINED AT +	C570	414.	12.23	71.	22.	17.	0.38
HYDROGRAPH AT +	208R	15.	12.10	2.	1.	0.	0.01
ROUTED TO	571572	14.	12.15	2.	1.	0.	0.01
2 COMBINED AT +	C572	427.	12.22	73.	22.	18.	0.39
ROUTED TO +	572573	426.	12.25	73.	22.	18.	0.39
HYDROGRAPH AT +	208S	95.	12.17	14.	4.	4.	0.07
2 COMBINED AT +	C573R	514.	12.23	88.	27.	21.	0.46
2 COMBINED AT +	C573	1532.	12.38	294.	91.	73.	1.58
HYDROGRAPH AT +	208T	170.	12.18	25.	7.	6.	0.13
HYDROGRAPH AT +	208U	209.	12.10	25.	7.	6.	0.13
2 COMBINED AT +	C574	372.	12.13	49.	15.	12.	0.27
ROUTED TO +	574575	371.	12.15	49.	15.	12.	0.27
HYDROGRAPH AT +	208V	41.	12.12	5.	2.	1.	0.03
2 COMBINED AT +	C575	411.	12.15	55.	16.	13.	0.29
ROUTED TO +	575576	407.	12.18	55.	16.	13.	0.29
HYDROGRAPH AT	208W	71.	12.13	9.	3.	2.	0.05
2 COMBINED AT +	C576	475.	12.18	64.	19.	15.	0.34

	ROUTED TO							
+		576577	474.	12.20	64.	19.	15.	0.34
	2 COMBINED AT							
+		C577	1879.	12.35	357.	109.	88.	1.92
	ROUTED TO							
+		577578	1874.	12.37	357.	109.	88.	1.92
	HYDROGRAPH AT							
+		208X	115.	12.12	13.	4.	3.	0.08
	2 COMBINED AT							
+		C578I	1922.	12.35	370.	113.	91.	2.00
	ROUTED TO							
+		C578O	319.	13.52	298.	113.	91.	2.00
	ROUTED TO							
+		578587	319.	13.58	298.	113.	91.	2.00
	HYDROGRAPH AT							
+		210B	110.	12.18	17.	5.	4.	0.11
	ROUTED TO							
+		C586O	108.	12.22	17.	5.	4.	0.11
	ROUTED TO							
+		586587	108.	12.28	17.	5.	4.	0.11
	2 COMBINED AT							
+		C587	375.	12.42	311.	118.	95.	2.11
	ROUTED TO							
+		587595	374.	12.45	311.	118.	95.	2.11
	HYDROGRAPH AT							
+		210C	95.	12.18	12.	3.	2.	0.08
	2 COMBINED AT							
+		C595L	436.	12.30	320.	121.	97.	2.19
	HYDROGRAPH AT							
+		210D	180.	12.20	24.	7.	6.	0.14
	ROUTED TO							
+		588590	178.	12.22	24.	7.	6.	0.14
	HYDROGRAPH AT							
+		210E	37.	12.17	4.	1.	1.	0.03
	2 COMBINED AT							
+		C590L	212.	12.20	29.	8.	6.	0.17
	HYDROGRAPH AT							
+		210F	110.	12.20	17.	5.	4.	0.09
	ROUTED TO							
+		589590	109.	12.25	17.	5.	4.	0.09
	HYDROGRAPH AT							
+		210G	185.	12.23	29.	8.	7.	0.16
	2 COMBINED AT							
+		C590R	293.	12.25	46.	14.	11.	0.25
	2 COMBINED AT							
+		C590	502.	12.23	75.	22.	17.	0.42
	HYDROGRAPH AT							
+		210H	94.	12.15	11.	3.	2.	0.07
	ROUTED TO							
+		592593	93.	12.20	11.	3.	2.	0.07
	2 COMBINED AT							
+		C593	593.	12.22	85.	25.	20.	0.49
	ROUTED TO							
+		593594	590.	12.25	85.	25.	20.	0.49
	HYDROGRAPH AT							
+		210I	58.	12.20	8.	2.	2.	0.05
	2 COMBINED AT							
+		C594	645.	12.25	93.	27.	21.	0.54
	ROUTED TO							

+	594595	635.	12.33	93.	27.	21.	0.54
HYDROGRAPH AT	210J	130.	12.20	16.	4.	3.	0.10
2 COMBINED AT +	C595R	741.	12.32	109.	31.	24.	0.64
2 COMBINED AT +	C595	1172.	12.32	423.	151.	121.	2.83
ROUTED TO +	595596	1167.	12.37	423.	151.	121.	2.83
HYDROGRAPH AT +	210K	117.	12.12	12.	3.	2.	0.08
2 COMBINED AT +	C596	1221.	12.33	433.	154.	124.	2.91
HYDROGRAPH AT +	209A	478.	12.22	69.	21.	17.	0.37
ROUTED TO +	579580	477.	12.25	69.	21.	17.	0.37
HYDROGRAPH AT +	209C	65.	12.23	12.	4.	3.	0.06
2 COMBINED AT +	C580R	541.	12.25	81.	25.	20.	0.43
HYDROGRAPH AT +	209B	94.	12.22	16.	5.	4.	0.08
2 COMBINED AT +	C580	633.	12.23	96.	30.	24.	0.51
ROUTED TO +	580581	629.	12.28	96.	30.	24.	0.51
HYDROGRAPH AT +	209D	327.	12.18	45.	14.	11.	0.24
2 COMBINED AT +	C581R	935.	12.23	141.	44.	35.	0.76
HYDROGRAPH AT +	209E	153.	12.27	28.	9.	7.	0.15
2 COMBINED AT +	C581	1085.	12.23	169.	53.	42.	0.91
ROUTED TO +	581582	1076.	12.30	169.	53.	42.	0.91
HYDROGRAPH AT +	209F	233.	12.28	41.	12.	10.	0.23
2 COMBINED AT +	C582R	1306.	12.30	209.	65.	52.	1.13
HYDROGRAPH AT +	209G	219.	12.27	38.	12.	10.	0.20
2 COMBINED AT +	C582	1521.	12.30	247.	77.	61.	1.34
ROUTED TO +	582583	1510.	12.33	247.	77.	61.	1.34
HYDROGRAPH AT +	209H	115.	12.15	14.	4.	3.	0.08
2 COMBINED AT +	C583	1580.	12.32	261.	80.	65.	1.42
ROUTED TO +	583584	1568.	12.40	261.	80.	65.	1.42
HYDROGRAPH AT +	209I	270.	12.13	28.	7.	6.	0.18
2 COMBINED AT	C584I	1683.	12.37	289.	88.	70.	1.60
ROUTED TO +	C584O	351.	13.23	283.	88.	70.	1.60

+	ROUTED TO 584597	351.	13.40	283.	88.	70.	1.60
+	HYDROGRAPH AT 210L	153.	12.13	18.	4.	4.	0.14
+	2 COMBINED AT C597	388.	12.35	300.	92.	74.	1.74
+	ROUTED TO 597598	387.	12.47	299.	92.	74.	1.74
+	HYDROGRAPH AT 210M	178.	12.23	23.	6.	5.	0.16
+	2 COMBINED AT C598	517.	12.37	321.	98.	78.	1.90
+	HYDROGRAPH AT 210N	66.	12.08	7.	2.	1.	0.05
+	4 COMBINED AT C599I	1967.	12.33	1000.	360.	290.	7.13
+	ROUTED TO C599O	1384.	12.83	997.	360.	290.	7.13
+	ROUTED TO 599608	1384.	12.87	996.	360.	290.	7.13
+	HYDROGRAPH AT 211K	169.	12.03	18.	5.	4.	0.10
+	2 COMBINED AT C608L	1389.	12.83	1006.	365.	293.	7.24
+	HYDROGRAPH AT 211G	11.	12.05	2.	1.	1.	0.01
+	ROUTED TO 604606	11.	12.23	2.	1.	1.	0.01
+	HYDROGRAPH AT 211I	47.	12.20	8.	3.	2.	0.04
+	2 COMBINED AT C606R	58.	12.20	11.	3.	3.	0.05
+	HYDROGRAPH AT 211H	103.	12.13	11.	3.	2.	0.07
+	ROUTED TO C605O	89.	12.23	11.	3.	2.	0.07
+	2 COMBINED AT C606	146.	12.22	22.	6.	5.	0.12
+	ROUTED TO 606607	145.	12.25	22.	6.	5.	0.12
+	HYDROGRAPH AT 211J	22.	12.07	3.	1.	1.	0.01
+	2 COMBINED AT C607	161.	12.23	25.	7.	6.	0.14
+	ROUTED TO 607608	160.	12.27	25.	7.	6.	0.14
+	2 COMBINED AT C608	1469.	12.45	1027.	371.	298.	7.37
+	ROUTED TO 608613	1467.	12.48	1027.	371.	298.	7.37
+	HYDROGRAPH AT 211M	117.	12.15	16.	5.	4.	0.08
+	ROUTED TO 610611	116.	12.18	16.	5.	4.	0.08
+	HYDROGRAPH AT 211N	30.	12.05	4.	1.	1.	0.02
+	2 COMBINED AT C611R	142.	12.15	19.	6.	5.	0.10
	HYDROGRAPH AT						

+	211O	62.	12.07	8.	3.	2.	0.04
ROUTED TO	C609O	48.	12.22	8.	3.	2.	0.04
ROUTED TO +	609611	48.	12.23	8.	3.	2.	0.04
2 COMBINED AT +	C611I	188.	12.17	28.	8.	7.	0.14
ROUTED TO +	C611O	126.	12.38	28.	8.	6.	0.14
DIVERSION TO +	D611R	126.	12.38	28.	8.	6.	0.14
HYDROGRAPH AT +	D611L	0.	0.02	0.	0.	0.	0.14
ROUTED TO +	611612	0.	0.02	0.	0.	0.	0.14
HYDROGRAPH AT +	211P	65.	12.00	8.	3.	2.	0.03
2 COMBINED AT +	C612	64.	12.00	8.	3.	2.	0.17
2 COMBINED AT +	C613	1477.	12.48	1030.	373.	300.	7.55
ROUTED TO +	613621	1476.	12.50	1030.	373.	300.	7.55
HYDROGRAPH AT +	211L	162.	12.02	19.	6.	5.	0.10
2 COMBINED AT +	C621L	1496.	12.48	1041.	378.	304.	7.64
HYDROGRAPH AT +	211Q	32.	12.05	3.	1.	1.	0.02
ROUTED TO	616617	31.	12.10	3.	1.	1.	0.02
HYDROGRAPH AT +	211R	118.	12.08	15.	4.	4.	0.08
2 COMBINED AT +	C617L	149.	12.08	19.	5.	4.	0.10
HYDROGRAPH AT +	211U	34.	12.08	7.	2.	2.	0.03
DIVERSION TO +	D614R	24.	12.08	5.	1.	1.	0.03
HYDROGRAPH AT +	D614L	10.	12.08	2.	1.	1.	0.03
2 COMBINED AT +	C617	159.	12.08	21.	6.	5.	0.13
ROUTED TO +	617618	157.	12.17	21.	6.	5.	0.13
HYDROGRAPH AT +	211S	73.	12.07	10.	3.	2.	0.05
2 COMBINED AT +	C618I	225.	12.13	31.	9.	7.	0.18
ROUTED TO +	C618O	220.	12.18	24.	8.	7.	0.18
HYDROGRAPH AT +	BB614R	24.	12.08	5.	1.	1.	0.03
ROUTED TO +	614615	24.	12.12	5.	1.	1.	0.03
HYDROGRAPH AT	211V	9.	12.02	2.	1.	0.	0.00
2 COMBINED AT +	C615	31.	12.07	6.	2.	2.	0.03

	DIVERSION TO						
+	D615R	11.	12.07	1.	0.	0.	0.03
	HYDROGRAPH AT						
+	D615L	21.	12.07	5.	2.	1.	0.03
	ROUTED TO						
+	615618	21.	12.08	5.	2.	1.	0.03
	2 COMBINED AT						
+	C618	239.	12.18	29.	10.	8.	0.19
	ROUTED TO						
+	618619	235.	12.25	29.	10.	8.	0.19
	HYDROGRAPH AT						
+	211T	95.	12.08	12.	3.	3.	0.07
	2 COMBINED AT						
+	C619L	307.	12.23	41.	13.	11.	0.26
	HYDROGRAPH AT						
+	BB615R	11.	12.07	1.	0.	0.	0.03
	ROUTED TO						
+	615619	10.	12.18	1.	0.	0.	0.03
	2 COMBINED AT						
+	C619I	317.	12.23	42.	14.	11.	0.25
	ROUTED TO						
+	C619O	176.	12.53	42.	14.	11.	0.25
	DIVERSION TO						
+	D619L	0.	0.02	0.	0.	0.	0.25
	HYDROGRAPH AT						
+	D619R	176.	12.53	42.	14.	11.	0.25
	ROUTED TO						
+	619620	176.	12.55	42.	14.	11.	0.25
	HYDROGRAPH AT						
+	BB619L	0.	0.02	0.	0.	0.	0.25
	ROUTED TO						
+	619620	0.	0.02	0.	0.	0.	0.25
	HYDROGRAPH AT						
+	211W	58.	12.00	8.	3.	2.	0.03
	3 COMBINED AT						
+	C620R	187.	12.33	50.	16.	13.	0.28
	HYDROGRAPH AT						
+	BB611R	126.	12.38	28.	8.	6.	0.14
	ROUTED TO						
+	611620	126.	12.40	28.	8.	6.	0.14
	2 COMBINED AT						
+	C620	312.	12.40	77.	24.	20.	0.42
	ROUTED TO						
+	620621	312.	12.42	77.	24.	20.	0.42
	2 COMBINED AT						
+	C621	1802.	12.47	1109.	401.	323.	7.93
	ROUTED TO						
+	621622	1799.	12.57	1108.	401.	323.	7.93
	HYDROGRAPH AT						
+	211X	304.	12.10	46.	15.	12.	0.21
	2 COMBINED AT						
+	C622R	1925.	12.42	1142.	414.	334.	8.14
	HYDROGRAPH AT						
+	211A	173.	12.13	24.	7.	5.	0.14
	ROUTED TO						
+	C600O	171.	12.18	24.	7.	5.	0.14
	ROUTED TO						
+	600601	169.	12.25	24.	7.	5.	0.14
	HYDROGRAPH AT						

+	211B	147.	12.10	18.	5.	4.	0.11
2 COMBINED AT	C601	300.	12.17	42.	12.	9.	0.25
ROUTED TO +	601602	298.	12.23	42.	12.	9.	0.25
HYDROGRAPH AT +	211C	77.	12.02	10.	3.	2.	0.04
2 COMBINED AT +	C602L	338.	12.18	51.	15.	12.	0.30
HYDROGRAPH AT +	211D	89.	12.07	12.	4.	3.	0.07
2 COMBINED AT +	C602	418.	12.13	64.	18.	15.	0.37
ROUTED TO +	602603	415.	12.20	64.	18.	15.	0.37
HYDROGRAPH AT +	211E	279.	12.02	34.	11.	9.	0.16
2 COMBINED AT +	C603	617.	12.08	97.	29.	23.	0.52
ROUTED TO +	603622	605.	12.17	97.	29.	23.	0.52
HYDROGRAPH AT +	211F	190.	12.03	28.	9.	7.	0.11
2 COMBINED AT +	C622L	753.	12.13	125.	38.	31.	0.63
2 COMBINED AT +	C622	2440.	12.35	1249.	448.	362.	8.78
ROUTED TO +	622549	2430.	12.43	1247.	448.	362.	8.78
HYDROGRAPH AT	211Y	128.	12.10	17.	5.	4.	0.09
2 COMBINED AT +	C549R	2487.	12.43	1259.	452.	365.	8.87
2 COMBINED AT +	C549	3464.	12.42	1665.	628.	508.	13.06
ROUTED TO +	549626	3453.	12.50	1663.	628.	508.	13.06
HYDROGRAPH AT +	211Z	137.	12.02	16.	5.	4.	0.08
2 COMBINED AT +	C626C	3470.	12.50	1670.	632.	511.	13.14
HYDROGRAPH AT +	211AA	47.	12.08	8.	2.	2.	0.03
ROUTED TO +	625626	46.	12.15	8.	2.	2.	0.03
HYDROGRAPH AT +	211AB	74.	12.02	8.	2.	2.	0.04
ROUTED TO +	623624	73.	12.02	8.	2.	2.	0.04
HYDROGRAPH AT +	211AC	51.	12.02	7.	2.	2.	0.03
2 COMBINED AT +	C624	125.	12.02	15.	5.	4.	0.07
ROUTED TO +	624626	124.	12.07	15.	5.	4.	0.07
HYDROGRAPH AT	211AD	76.	12.02	10.	3.	3.	0.04
2 COMBINED AT +	C626R	198.	12.03	26.	8.	6.	0.11

	3 COMBINED AT						
+	C626	3537.	12.48	1689.	641.	518.	13.28
	ROUTED TO						
+	626627	3536.	12.50	1689.	641.	518.	13.28
	HYDROGRAPH AT						
+	211AE	63.	12.02	8.	2.	2.	0.03
	2 COMBINED AT						
+	C627	3545.	12.50	1693.	643.	520.	13.32
	HYDROGRAPH AT						
+	211AF	96.	12.02	11.	3.	3.	0.05

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

APPENDIX D

HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways (100 year, 6-hour)

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              MAY   1991               *
 *           VERSION 4.0.1E              *
 *     Lahey F77L-EM/32 version 5.01     *
 *       Dodson & Associates, Inc.       *
 *  RUN DATE  06/30/96  TIME  09:14:33   *
 *****************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
```

```
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

    1           ID   Fountain Hills Area Drainage Master Plan
    2           ID   Golden Eagle Park Dam Feasibility Study
    3           ID        FCD 94-16       by GVSCE                          File:  FUMOD6.IH1
    4           ID    Future Condition Model                                Date:  6/30/97
    5           ID    Proposed Improvements for GEPD Reflected in Rating Curve at C5990
    6           ID    100-Year, 6-Hour Storm
                * ******************************************************************************
                *  Fountain Hills North Floodplain Delineation Study
                *       FCD 92-04       by GVSCE                          File:  FU100-6.IH1
                *   Future Condition Model                                Date:    07-19-94   dtp
                *    100-Year 6-Hour Storm, Clark Unit Hydrograph     Revised:    10-31-94   dtp
                * ******************************************************************************
                *
    7           IT       1                    1080
    8           IO       5
    9           IN      15
                *DIAGRAM
                *
   10           JD    3.30    0.01
   11           PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
   12           PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
   13           PC   0.962   0.972   0.983   0.991   1.000
   14           JD    3.28    0.50
   15           JD    3.23    2.80
   16           PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
   17           PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
   18           PC   0.950   0.963   0.975   0.988   1.000
   19           JD    3.04    16.0
   20           PC   0.000   0.015   0.020   0.030   0.048   0.063   0.076   0.090   0.105   0.119
   21           PC   0.135   0.152   0.175   0.222   0.304   0.472   0.670   0.796   0.868   0.912
   22           PC   0.946   0.960   0.973   0.987   1.000
   23           JD    2.67    90.0
   24           PC   0.000   0.021   0.035   0.051   0.071   0.087   0.105   0.125   0.143   0.160
   25           PC   0.179   0.201   0.232   0.281   0.364   0.500   0.658   0.773   0.841   0.888
   26           PC   0.927   0.945   0.964   0.982   1.000
   27           JD    1.88   500.0
   28           PC   0.000   0.024   0.043   0.059   0.078   0.098   0.119   0.141   0.162   0.186
   29           PC   0.212   0.239   0.271   0.321   0.408   0.515   0.627   0.735   0.814   0.864
   30           PC   0.907   0.930   0.954   0.977   1.000
                *

   31           KK    201A
   32           KM   Sub-Basin   201A
   33           KM
   34           KM      The Clark Unit Hydrograph is used for this basin.
   35           KM          The HEC-1 time-area relation is used for this basin.
   36           KM
   37           KM      Time of Concentration for this sub-basin is based on the following:
   38           KM          6-Hour Rainfall, Pattern No.  1.00
   39           KM          An rainfall areal reduction factor of 0.997
```

```
 40          KM
 41          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 42          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 43          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .01 .01 .00 .00 .00 .00 .00 .00
 44          KM
1                                          HEC-1 INPUT                                                    PAGE  2

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

 45          KM          L=   1.269 miles, S=  208 feet/mile, Kb= .07
 46          KM
 47          BA   0.217
 48          LG    0.13    0.35    5.70    0.19    7.94
 49          UC   0.354   0.338
             *

 50          KK    201B
 51          KM   Sub-Basin   201B
 52          KM
 53          KM      The Clark Unit Hydrograph is used for this basin.
 54          KM          The HEC-1 time-area relation is used for this basin.
 55          KM
 56          KM      Time of Concentration for this sub-basin is based on the following:
 57          KM          6-Hour Rainfall, Pattern No.  1.00
 58          KM          An rainfall areal reduction factor of 0.999
 59          KM
 60          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 61          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 62          KM   .45 .44 .44 .13 .10 .09 .04 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
 63          KM
 64          KM          L=   0.680 miles, S=  223 feet/mile, Kb= .10
 65          KM
 66          BA   0.081
 67          LG    0.15    0.38    5.70    0.20    1.84
 68          UC   0.292   0.291
             *

 69          KK    C501
 70          KM      Hydrograph combine 201A + 201B at C501
 71          HC       2
             *

 72          KK  501502
 73          KM      Normal depth channel route from C501 to C502
 74          KM      Source:  200 Scale Mapping
 75          RS       6    FLOW      -1
 76          RC   0.055   0.045   0.055  3000.0  0.0203
 77          RX  1000.0  1010.0  1025.0  1045.0  1075.0  1105.0  1125.0  1155.0
 78          RY  1624.0  1622.0  1620.0  1618.0  1618.0  1620.0  1622.0  1624.0
             *

 79          KK    201C
 80          KM   Sub-Basin   201C
 81          KM
 82          KM      The Clark Unit Hydrograph is used for this basin.
 83          KM          The Urban time-area relation is used for this basin.
 84          KM
 85          KM      Time of Concentration for this sub-basin is based on the following:
 86          KM          6-Hour Rainfall, Pattern No.  1.00
 87          KM          An rainfall areal reduction factor of 0.999
 88          KM
 89          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 90          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 91          KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
1                                          HEC-1 INPUT                                                    PAGE  3

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

 92          KM
 93          KM          L=   0.674 miles, S=  206 feet/mile, Kb= .03
 94          KM
 95          BA   0.079
 96          LG    0.09    0.26    5.70    0.18   23.84
 97          UC   0.150   0.140
 98          UA       0       5      16      30      65      77      84      90      94      97
 99          UA     100
             *

100          KK   C502R
101          KM      Hydrograph combine 501502 + 201C at C502 right branch
102          HC       2
             *

103          KK    201D
104          KM   Sub-Basin   201D
105          KM
106          KM      The Clark Unit Hydrograph is used for this basin.
107          KM          The HEC-1 time-area relation is used for this basin.
```

```
108          KM
109          KM      Time of Concentration for this sub-basin is based on the following:
110          KM          6-Hour Rainfall, Pattern No.  1.00
111          KM          An rainfall areal reduction factor of 0.999
112          KM
113          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
114          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
115          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .01 .01 .00 .00 .00 .00 .00 .00
116          KM
117          KM          L=   0.898 miles, S=  207 feet/mile, Kb= .08
118          KM
119          BA   0.071
120          LG    0.13    0.34    5.70    0.19    8.74
121          UC   0.304   0.409
             *

122          KK    C502
123          KM      Hydrograph combine 502R + 201D at C502
124          HC       2
             *

125          KK  502503
126          KM      Normal depth channel route from C502 to C503
127          KM      Source:  200 Scale Mapping
128          RS       7    FLOW      -1
129          RC   0.050   0.045   0.050  2453.0  0.0183
130          RX  1000.0  1010.0  1025.0  1095.0  1215.0  1295.0  1305.0  1325.0
131          RY  1554.0  1553.0  1552.0  1550.0  1549.8  1551.0  1552.0  1554.0
             *
```



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

132          KK    201E
133          KM   Sub-Basin   201E
134          KM
135          KM      The Clark Unit Hydrograph is used for this basin.
136          KM          The HEC-1 time-area relation is used for this basin.
137          KM
138          KM      Time of Concentration for this sub-basin is based on the following:
139          KM          6-Hour Rainfall, Pattern No.  1.00
140          KM          An rainfall areal reduction factor of 0.998
141          KM
142          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
143          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
144          KM   .45 .45 .44 .14 .10 .09 .04 .04 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
145          KM
146          KM          L=   1.245 miles, S=  178 feet/mile, Kb= .08
147          KM
148          BA   0.183
149          LG    0.13    0.34    5.60    0.23    8.39
150          UC   0.413   0.434
             *

151          KK   C503I
152          KM      Hydrograph combine 502503 + 201E at C503I
153          HC       2
             *

154          KK   C503O
155          KM      Reservoir route at C503.
156          RS       1    ELEV  1535.1
157          SV    0.00    0.67    2.87    7.16   13.82   22.77   34.37   38.00   41.80   32.20
158          SV   44.70   46.10   47.80   49.11   50.90   52.80   54.60   56.40
159          SE  1525.1  1538.0  1540.0  1542.0  1544.0  1546.0  1548.0  1548.5  1549.0  1549.2
160          SE  1549.4  1549.6  1549.8  1550.0  1550.2  1550.4  1550.6  1550.8
161          SQ       0      50     133     210     273     325     367     377     407     441
162          SQ     481     545     612     715     818     971    1115    1268
             *

163          KK   D503R
164          KM      Hydrograph diversion at C503.  Main flow continues in the right branch.
165          KM      Diverted flow is in the left branch.
166          DT   D503L
167          DI       0      50     133     210     273     325     367     377     407     441
168          DI     481     545     612     715     818     971    1115    1268
169          DQ       0      50     133     210     273     325     367     377     386     391
170          DQ     394     398     402     405     408     412     415     418
             *

171          KK  503504
172          KM      Normal depth channel route from C503 to C504
173          KM      Source:  200 Scale Mapping
174          RS       1    FLOW      -1
175          RC   0.050   0.040   0.050  1151.0  0.0098
176          RX   940.0  1060.0  1100.0  1140.0  1190.0  1210.0  1230.0  1242.0
177          RY  1552.0  1548.0  1547.0  1546.2  1546.2  1548.0  1549.0  1552.0
```

```
                 *
                 * *
                 * *  End Basin 201.  Start Basin 202
                 * *
                 *
1                                          HEC-1 INPUT                                                    PAGE  5

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

 178             KK    202A
 179             KM   Sub-Basin   202A
 180             KM
 181             KM      The Clark Unit Hydrograph is used for this basin.
 182             KM          The Urban time-area relation is used for this basin.
 183             KM
 184             KM      Time of Concentration for this sub-basin is based on the following:
 185             KM          6-Hour Rainfall, Pattern No.  1.00
 186             KM          An rainfall areal reduction factor of 1.000
 187             KM
 188             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 189             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 190             KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
 191             KM
 192             KM          L=   0.409 miles, S=  129 feet/mile, Kb= .03
 193             KM
 194             BA   0.038
 195             LG    0.09    0.25    4.40    0.34   29.61
 196             UC   0.138   0.129
 197             UA      0       5      16      30      65      77      84      90      94      97
 198             UA    100
                 *

 199             KK   C504I
 200             KM      Hydrograph combine D503R + 202A at C504I
 201             HC       2
                 *

 202             KK   C504O
 203             KM      Reservoir route at C504.
 204             RS       1    ELEV  1538.1
 205             SV    0.00    0.17    0.90    1.00    1.10    1.30    1.60    1.80    2.00    2.30
 206             SV    2.50    2.70    3.00    3.10
 207             SE  1538.1  1540.0  1541.66 1541.80 1542.0  1542.2  1542.4  1542.6  1542.8  1543.0
 208             SE  1543.2  1543.4  1543.6  1543.7
 209             SQ       0      11      20      22      24      30      41      60      85     121
 210             SQ     171     240     322     396
                 *

 211             KK   D504R
 212             KM      Hydrograph diversion at C504.  Main flow continues in the right branch.
 213             KM      Diverted flow is in the left branch.
 214             DT   D504L
 215             DI       0      11      20      22      24      30      41      60      85     121
 216             DI     171     240     322     396
 217             DQ       0      11      20      20      21      22      22      23      23      24
 218             DQ      24      25      26      26
                 *
1                                          HEC-1 INPUT                                                    PAGE  6

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

 219             KK    202B
 220             KM   Sub-Basin   202B
 221             KM
 222             KM      The Clark Unit Hydrograph is used for this basin.
 223             KM          The Urban time-area relation is used for this basin.
 224             KM
 225             KM      Time of Concentration for this sub-basin is based on the following:
 226             KM          6-Hour Rainfall, Pattern No.  1.00
 227             KM          An rainfall areal reduction factor of 1.000
 228             KM
 229             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 230             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 231             KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .02 .01 .01 .01 .01 .01 .01
 232             KM
 233             KM          L=   0.364 miles, S=  322 feet/mile, Kb= .03
 234             KM
 235             BA   0.018
 236             LG    0.09    0.25    4.55    0.31   29.03
 237             UC   0.096   0.121
 238             UA      0       5      16      30      65      77      84      90      94      97
 239             UA    100
                 *

 240             KK   C505I
 241             KM      Hydrograph combine D504R + 202B at C505I
```

```
242          HC       2
             *

243          KK   D505R
244          KM      Hydrograph diversion at C505.  Main flow continues in the right branch.
245          KM      Diverted flow is in the left branch.
246          DT   D505L
247          DI       0       3       7       9      11      14      15      17      23      31
248          DI      44      55      75      95     123     134
249          DQ       0       3       7       9      11      12      12      13      14      14
250          DQ      15      15      16      16      16      17
             *

251          KK    202C
252          KM   Sub-Basin   202C
253          KM
254          KM      The Clark Unit Hydrograph is used for this basin.
255          KM          The Urban time-area relation is used for this basin.
256          KM
257          KM      Time of Concentration for this sub-basin is based on the following:
258          KM          6-Hour Rainfall, Pattern No.  1.00
259          KM          An rainfall areal reduction factor of 1.000
260          KM
261          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
262          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
263          KM   .47 .46 .46 .16 .12 .12 .05 .05 .05 .03 .03 .03 .01 .01 .01 .01 .01 .01
264          KM
265          KM          L=   0.192 miles, S=  363 feet/mile, Kb= .04
266          KM
```



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

267          BA   0.008
268          LG    0.08    0.25    4.35    0.35   38.72
269          UC   0.083   0.101
270          UA       0       5      16      30      65      77      84      90      94      97
271          UA     100
             *

272          KK    C506
273          KM      Hydrograph combine C505R + 202C at C506
274          HC       2
             *

275          KK   D506R
276          KM      Hydrograph diversion at C506.  Main flow continues in the right branch.
277          KM      Diverted flow is in the left branch.
278          DT   D506L
279          DI       0       3      13      37      77     100     151     206     276     355
280          DI     437     532     698     809     928    1104
281          DQ       0       0       0       0       0       0       4      12      28      52
282          DQ      85     128     183     249     328     421
             *

283          KK    202D
284          KM   Sub-Basin   202D
285          KM
286          KM      The Clark Unit Hydrograph is used for this basin.
287          KM          The Urban time-area relation is used for this basin.
288          KM
289          KM      Time of Concentration for this sub-basin is based on the following:
290          KM          6-Hour Rainfall, Pattern No.  1.00
291          KM          An rainfall areal reduction factor of 0.999
292          KM
293          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
294          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
295          KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
296          KM
297          KM          L=   0.800 miles, S=  248 feet/mile, Kb= .03
298          KM
299          BA   0.063
300          LG    0.09    0.25    5.60    0.20   28.04
301          UC   0.154   0.189
302          UA       0       5      16      30      65      77      84      90      94      97
303          UA     100
             *

304          KK    202E
305          KM   Sub-Basin   202E
306          KM
307          KM      The Clark Unit Hydrograph is used for this basin.
308          KM          The Urban time-area relation is used for this basin.
309          KM
310          KM      Time of Concentration for this sub-basin is based on the following:
311          KM          6-Hour Rainfall, Pattern No.  1.00
312          KM          An rainfall areal reduction factor of 0.999
313          KM
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 314          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 315          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 316          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
 317          KM
 318          KM          L=   0.732 miles, S=  270 feet/mile, Kb= .03
 319          KM
 320          BA   0.104
 321          LG    0.09    0.25    5.70    0.18   26.88
 322          UC   0.142   0.120
 323          UA       0       5      16      30      65      77      84      90      94      97
 324          UA     100
              *

 325          KK   C508O
 326          KM      Reservoir route at C508.
 327          RS       1    ELEV  1524.2
 328          SV    0.00    0.05    0.09    0.13    0.17    0.21    0.25    0.28    0.36    0.46
 329          SV    0.55    0.64    0.72    0.81    0.90    1.00    1.02    1.09    1.17
 330          SE  1524.1  1525.0  1525.5  1526.0  1526.5  1527.0  1527.6  1528.0  1528.2  1528.4
 331          SE  1528.6  1528.8  1529.0  1529.2  1529.4  1529.6 1529.64  1529.8  1530.0
 332          SQ       0       6       9      16      22      28      38      51      58      70
 333          SQ      84     100     122     149     183     216     227     274     353
              *

 334          KK   D508L
 335          KM      Hydrograph diversion at C508.  Main flow continues in the left branch.
 336          KM      Diverted flow is in the right branch.
 337          DT   D508R
 338          DI       0       6       9      16      22      28      38      51      58      70
 339          DI      84     100     122     149     183     216     227     274     353
 340          DQ       0       6       9      16      22      28      38      47      52      56
 341          DQ      60      63      66      68      71      73      73      78     103
              *

 342          KK  508507
 343          KM      Normal depth channel route from C508 to C507
 344          KM      Source:  200 Scale Mapping
 345          RS       4    FLOW      -1
 346          RC   0.020   0.035   0.055   934.0  0.0028
 347          RX   893.0  1014.0  1022.0  1026.0  1040.0  1050.0  1060.0  1066.0
 348          RY  1532.0  1529.4  1528.6  1527.6  1529.0  1530.2  1531.3  1532.0
              *

 349          KK   C507I
 350          KM      Hydrograph combine D506R + 202D + D508L at C507I
 351          HC       3
              *

 352          KK   C507O
 353          KM      Reservoir route at C507
 354          RS       1    ELEV  1525.2
 355          SV    0.00    0.28    0.46    0.65    0.85    1.03    1.38    1.40    1.44    1.48
 356          SV    1.52    1.55    1.59    1.64    1.67    1.70    1.75    1.77
 357          SE  1525.2  1526.0  1526.5  1527.0  1527.5  1528.0  1529.0  1529.0  1529.1  1529.2
 358          SE  1529.3  1529.4  1529.5  1529.6  1529.7  1529.8  1529.9  1530.0
```



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

 359          SQ       0       2       5       9      13      15      18      20      36      69
 360          SQ     118     185     272     378     506     652     816     997
              *

 361          KK    202F
 362          KM   Sub-Basin   202F
 363          KM
 364          KM      The Clark Unit Hydrograph is used for this basin.
 365          KM          The Urban time-area relation is used for this basin.
 366          KM
 367          KM      Time of Concentration for this sub-basin is based on the following:
 368          KM          6-Hour Rainfall, Pattern No.  1.00
 369          KM          An rainfall areal reduction factor of 1.000
 370          KM
 371          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 372          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 373          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
 374          KM
 375          KM          L=   0.188 miles, S=  337 feet/mile, Kb= .03
 376          KM
 377          BA   0.013
 378          LG    0.08    0.25    5.60    0.20   38.05
 379          UC   0.083   0.073
 380          UA       0       5      16      30      65      77      84      90      94      97
 381          UA     100
```

```
                *
 382            KK    202G
 383            KM   Sub-Basin   202G
 384            KM
 385            KM      The Clark Unit Hydrograph is used for this basin.
 386            KM          The Urban time-area relation is used for this basin.
 387            KM
 388            KM      Time of Concentration for this sub-basin is based on the following:
 389            KM          6-Hour Rainfall, Pattern No.  1.00
 390            KM          An rainfall areal reduction factor of 1.000
 391            KM
 392            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 393            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 394            KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
 395            KM
 396            KM          L=   0.175 miles, S=  338 feet/mile, Kb= .03
 397            KM
 398            BA   0.013
 399            LG    0.08    0.25    5.70    0.18   35.52
 400            UC   0.083   0.069
 401            UA       0       5      16      30      65      77      84      90      94      97
 402            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 10

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

 403            KK    202H
 404            KM   Sub-Basin   202H
 405            KM
 406            KM      The Clark Unit Hydrograph is used for this basin.
 407            KM          The Urban time-area relation is used for this basin.
 408            KM
 409            KM      Time of Concentration for this sub-basin is based on the following:
 410            KM          6-Hour Rainfall, Pattern No.  1.00
 411            KM          An rainfall areal reduction factor of 0.998
 412            KM
 413            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 414            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 415            KM   .47 .47 .46 .16 .13 .12 .05 .05 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
 416            KM
 417            KM          L=   0.861 miles, S=  243 feet/mile, Kb= .03
 418            KM
 419            BA   0.179
 420            LG    0.09    0.25    5.20    0.22   26.85
 421            UC   0.163   0.116
 422            UA       0       5      16      30      65      77      84      90      94      97
 423            UA     100
                *

 424            KK   C511O
 425            KM      Reservoir route at C511.
 426            RS       1    ELEV  1535.2
 427            SV    0.00    0.40    0.70    1.19    3.10    3.20    3.55    4.00    4.50    4.90
 428            SV    5.40    5.80    6.30    6.80    7.20    7.70    8.13
 429            SE  1535.2  1537.0  1538.0  1540.0  1541.6  1541.8  1542.0  1542.2  1542.4  1542.6
 430            SE  1542.8  1543.0  1543.2  1543.4  1543.6  1543.8  1544.0
 431            SQ       0      42      88     200     274     286     325     393     491     622
 432            SQ     790    1000    1241    1518    1835    2189    2580
                *

 433            KK  511512
 434            KM      Normal depth channel route from C511 to C512
 435            KM      Source:  200 Scale Mapping
 436            RS       3    FLOW      -1
 437            RC   0.055   0.045   0.055   760.0  0.0112
 438            RX  1000.0  1060.0  1070.0  1090.0  1110.0  1120.0  1180.0  1220.0
 439            RY  1536.0  1534.2  1534.0  1532.0  1532.0  1534.0  1535.0  1536.0
                *

 440            KK    202I
 441            KM   Sub-Basin   202I
 442            KM
 443            KM      The Clark Unit Hydrograph is used for this basin.
 444            KM          The Urban time-area relation is used for this basin.
 445            KM
 446            KM      Time of Concentration for this sub-basin is based on the following:
 447            KM          6-Hour Rainfall, Pattern No.  1.00
 448            KM          An rainfall areal reduction factor of 1.000
 449            KM
 450            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1                                          HEC-1 INPUT                                          PAGE 11

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

 451            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
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```
452          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .06 .02 .02 .02 .02 .02 .02
453          KM
454          KM          L=   0.247 miles, S=  122 feet/mile, Kb= .03
455          KM
456          BA   0.017
457          LG    0.06    0.25    5.10    0.24   73.16
458          UC   0.104   0.099
459          UA       0       5      16      30      65      77      84      90      94      97
460          UA     100
             *

461          KK   C512I
462          KM      Hydrograph combine 511512 + 202I at C512
463          KM      Inflow to reservoir route at C512
464          KM      This is the inflow to the Stock Tank at the end of Bahia Drive
465          HC       2
             *

466          KK   C512O
467          KM      Reservoir route at C512 (Stock Tank).
468          RS       1    ELEV  1517.0
469          SV    0.00    0.03    0.29    0.75    1.38    2.39    4.17    7.43   10.30   12.20
470          SV   12.70   13.36   14.10   15.10   16.20   17.00   17.90
471          SE  1517.0  1518.0  1520.0  1522.0  1524.0  1526.0  1528.0  1530.0  1531.0  1531.6
472          SE  1531.8  1532.0  1532.2  1532.4  1532.6  1532.8  1533.0
473          SQ       0       0       0       0       0       0       0       0       0      15
474          SQ      35      65     137     244     376     541     725
             *

475          KK   D512L
476          KM      Hydrograph diversion at C512.
477          KM      Main flow continues in the left branch (weir).
478          KM      Diverted flow enters Bahia Drive (channel) and continues to C591.
479          KM      Diverted flow is in the right branch.
480          DT   D512R
481          DI       0      15      35      65     137     244     376     541     725
482          DQ       0       0       4      10      49     112     190     289     395
             *
             * *
             * *  Note:  512591 too short to route
             * *
             *
             * *
             * *  End Basin 202.  Start Basin 203.
             * *
             *

483          KK    203A
484          KM   Sub-Basin   203A
485          KM
486          KM      The Clark Unit Hydrograph is used for this basin.
487          KM          The HEC-1 time-area relation is used for this basin.
488          KM
489          KM      Time of Concentration for this sub-basin is based on the following:
```



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

490          KM          6-Hour Rainfall, Pattern No.  1.00
491          KM          An rainfall areal reduction factor of 0.996
492          KM
493          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
494          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
495          KM   .45 .44 .44 .14 .10 .09 .04 .04 .03 .01 .00 .00 .00 .00 .00 .00 .00 .00
496          KM
497          KM          L=   1.569 miles, S=  229 feet/mile, Kb= .08
498          KM
499          BA   0.279
500          LG    0.14    0.37    5.70    0.20    4.62
501          UC   0.433   0.434
             *

502          KK   C513O
503          KM      Reservoir route at C513.
504          RS       1    ELEV  1789.0
505          SV    0.00    0.35    0.97    2.05    3.54    5.54    8.17
506          SE  1789.0  1794.0  1796.0  1798.0  1800.0  1802.0  1804.0
507          SQ       0       0      20      70     135     315    1995
             *

508          KK  513514
509          KM      Normal depth channel route from C513 to C514
510          KM      Source:  200 Scale Mapping
511          RS       7    FLOW      -1
512          RC   0.050   0.045   0.050  2403.0  0.0240
513          RX  1000.0  1010.0  1035.0  1080.0  1100.0  1120.0  1135.0  1145.0
514          RY  1780.0  1778.0  1770.0  1768.0  1768.0  1770.0  1778.0  1780.0
             *
```

```
515          KK    203B
516          KM   Sub-Basin   203B
517          KM
518          KM      The Clark Unit Hydrograph is used for this basin.
519          KM          The Urban time-area relation is used for this basin.
520          KM
521          KM      Time of Concentration for this sub-basin is based on the following:
522          KM          6-Hour Rainfall, Pattern No.  1.00
523          KM          An rainfall areal reduction factor of 0.999
524          KM
525          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
526          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
527          KM   .47 .47 .47 .16 .13 .12 .06 .05 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
528          KM
529          KM          L=   0.484 miles, S=  236 feet/mile, Kb= .04
530          KM
531          BA   0.044
532          LG    0.09    0.27    5.70    0.18   22.92
533          UC   0.142   0.140
534          UA       0       5      16      30      65      77      84      90      94      97
535          UA     100
             *
1                                          HEC-1 INPUT                                                PAGE 13

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


536          KK   C514R
537          KM      Hydrograph combine 513514 + 203B at C514 right channel
538          HC       2
             *

539          KK    203C
540          KM   Sub-Basin   203C
541          KM
542          KM      The Clark Unit Hydrograph is used for this basin.
543          KM          The HEC-1 time-area relation is used for this basin.
544          KM
545          KM      Time of Concentration for this sub-basin is based on the following:
546          KM          6-Hour Rainfall, Pattern No.  1.00
547          KM          An rainfall areal reduction factor of 0.999
548          KM
549          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
550          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
551          KM   .46 .45 .45 .15 .11 .11 .05 .04 .04 .02 .01 .01 .00 .00 .00 .00 .00 .00
552          KM
553          KM          L=   0.988 miles, S=  258 feet/mile, Kb= .07
554          KM
555          BA   0.103
556          LG    0.12    0.33    5.70    0.20   13.59
557          UC   0.271   0.314
             *

558          KK    C514
559          KM      Hydrograph combine C514R + 203C at C514
560          HC       2
             *
             * *
             * * Note: 514515 too short to route
             * *
             *

561          KK    203D
562          KM   Sub-Basin   203D
563          KM
564          KM      The Clark Unit Hydrograph is used for this basin.
565          KM          The HEC-1 time-area relation is used for this basin.
566          KM
567          KM      Time of Concentration for this sub-basin is based on the following:
568          KM          6-Hour Rainfall, Pattern No.  1.00
569          KM          An rainfall areal reduction factor of 0.999
570          KM
571          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
572          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
573          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .01 .01 .01 .00 .00 .00 .00 .00 .00
574          KM
575          KM          L=   1.025 miles, S=  252 feet/mile, Kb= .08
576          KM
577          BA   0.108
578          LG    0.13    0.34    5.70    0.20    8.61
579          UC   0.308   0.363
             *
1                                          HEC-1 INPUT                                                PAGE 14

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

```
580          KK    C515
581          KM      Hydrograph combine C514 + 203D at C515
582          HC       2
             *

583          KK  515517
584          KM      Normal depth channel route from C515 to C517
585          KM      Source:  200 Scale Mapping
586          RS       6    FLOW      -1
587          RC   0.050   0.045   0.060  3340.0  0.0186
588          RX  1000.0  1020.0  1045.0  1065.0  1085.0  1125.0  1135.0  1145.0
589          RY  1708.0  1704.0  1702.0  1698.0  1698.0  1700.0  1705.0  1710.0
             *

590          KK    203E
591          KM   Sub-Basin   203E
592          KM
593          KM      The Clark Unit Hydrograph is used for this basin.
594          KM          The Urban time-area relation is used for this basin.
595          KM
596          KM      Time of Concentration for this sub-basin is based on the following:
597          KM          6-Hour Rainfall, Pattern No.  1.00
598          KM          An rainfall areal reduction factor of 0.999
599          KM
600          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
601          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
602          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .06 .05 .05 .01 .01 .01 .01 .01 .01
603          KM
604          KM          L=   0.640 miles, S=  219 feet/mile, Kb= .03
605          KM
606          BA   0.093
607          LG    0.09    0.19    6.60    0.13   25.00
608          UC   0.142   0.114
609          UA       0       5      16      30      65      77      84      90      94      97
610          UA     100
             *

611          KK   C517R
612          KM      Hydrograph combine 515517 + 203E at C517 right branch
613          HC       2
             *

614          KK    203F
615          KM   Sub-Basin   203F
616          KM
617          KM      The Clark Unit Hydrograph is used for this basin.
618          KM          The Natural time-area relation is used for this basin.
619          KM
620          KM      Time of Concentration for this sub-basin is based on the following:
621          KM          6-Hour Rainfall, Pattern No.  1.00
622          KM          An rainfall areal reduction factor of 0.996
623          KM
624          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
625          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```



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

626          KM   .44 .44 .43 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
627          KM
628          KM          L=   1.460 miles, S=  237 feet/mile, Kb= .09
629          KM
630          BA   0.333
631          LG    0.15    0.39    5.70    0.21    0.00
632          UC   0.450   0.386
633          UA       0       3       5       8      12      20      43      75      90      96
634          UA     100
             *

635          KK  516517
636          KM      Normal depth channel route from C516 to C517
637          KM      Source:  200 Scale Mapping
638          RS      14    FLOW      -1
639          RC   0.065   0.045   0.055  6720.0  0.0213
640          RX  1000.0  1015.0  1020.0  1040.0  1080.0  1095.0  1100.0  1125.0
641          RY  1724.0  1718.0  1716.0  1714.0  1714.0  1716.0  1718.0  1724.0
             *

642          KK    203G
643          KM   Sub-Basin   203G
644          KM
645          KM      The Clark Unit Hydrograph is used for this basin.
646          KM          The HEC-1 time-area relation is used for this basin.
647          KM
648          KM      Time of Concentration for this sub-basin is based on the following:
649          KM          6-Hour Rainfall, Pattern No.  1.00
650          KM          An rainfall areal reduction factor of 0.997
651          KM
```

```
652          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
653          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
654          KM   .46 .45 .45 .14 .11 .10 .04 .04 .04 .02 .01 .01 .00 .00 .00 .00 .00 .00
655          KM
656          KM          L=   1.424 miles, S=  215 feet/mile, Kb= .07
657          KM
658          BA   0.248
659          LG    0.13     0.34     6.00     0.18     9.21
660          UC   0.375    0.366
             *

661          KK   C517L
662          KM      Hydrograph combine 516517 + 203G at C517 left branch
663          HC       2
             *

664          KK    C517
665          KM      Hydrograph combine C517R + C517L at C517
666          HC       2
             *
1                                          HEC-1 INPUT                                                    PAGE 16

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

667          KK  517518
668          KM      Normal depth channel route from C517 to C518
669          KM      Source:  HEC-2 Cross Section: ES 3.522
670          RS       7     FLOW       -1
671          RC   0.055    0.035    0.060   4367.0   0.0174
672          RX  9808.1   9845.6   9957.0   9990.4 10007.0 10015.9 10076.5 10176.0
673          RY  1628.2   1618.6   1617.5   1614.8  1614.7  1619.7  1622.9  1631.3
             *

674          KK    203H
675          KM   Sub-Basin    203H
676          KM
677          KM      The Clark Unit Hydrograph is used for this basin.
678          KM          The Urban time-area relation is used for this basin.
679          KM
680          KM      Time of Concentration for this sub-basin is based on the following:
681          KM          6-Hour Rainfall, Pattern No.  1.00
682          KM          An rainfall areal reduction factor of 0.997
683          KM
684          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
685          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
686          KM   .47 .46 .46 .16 .13 .12 .05 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
687          KM
688          KM          L=   1.035 miles, S=  178 feet/mile, Kb= .03
689          KM
690          BA   0.207
691          LG    0.09     0.25     5.40     0.21    25.00
692          UC   0.196    0.153
693          UA       0        5       16       30       65       77       84       90       94       97
694          UA     100
             *

695          KK    C518
696          KM      Hydrograph combine 517518 + 203H at C518
697          HC       2
             *

698          KK  518519
699          KM      Normal depth channel route from C518 to C519
700          KM      Source:  HEC-2 Cross Section: ES 3.072
701          RS       2     FLOW       -1
702          RC   0.090    0.050    0.085   1796.0   0.0217
703          RX  9851.4   9884.7   9955.8   9983.5 10028.9 10036.3 10057.6 10087.9
704          RY  1586.3   1569.6   1568.4   1565.8  1565.4  1566.0  1575.0  1589.3
             *

705          KK    203I
706          KM   Sub-Basin    203I
707          KM
708          KM      The Clark Unit Hydrograph is used for this basin.
709          KM          The Urban time-area relation is used for this basin.
710          KM
711          KM      Time of Concentration for this sub-basin is based on the following:
712          KM          6-Hour Rainfall, Pattern No.  1.00
1                                          HEC-1 INPUT                                                    PAGE 17

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

713          KM          An rainfall areal reduction factor of 0.998
714          KM
715          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
716          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
717          KM   .47 .46 .46 .16 .12 .12 .05 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
```

```
718          KM
719          KM          L=   1.323 miles, S=  161 feet/mile, Kb= .03
720          KM
721          BA   0.171
722          LG    0.09    0.25    4.80    0.27   29.11
723          UC   0.229   0.247
724          UA       0       5      16      30      65      77      84      90      94      97
725          UA     100
             *

726          KK    C519
727          KM      Hydrograph combine 518519 + 203I at C519
728          HC       2
             *

729          KK  519591
730          KM      Normal depth channel route from C519 to C591
731          KM      Source:  HEC-2 Cross Section: ES 2.695
732          RS       2    FLOW      -1
733          RC   0.090   0.050   0.085  1274.0  0.0181
734          RX  9851.3  9905.0  9927.9  9949.0 10017.8 10053.7 10096.8 10135.1
735          RY  1540.3  1537.0  1536.5  1529.2  1528.6  1537.7  1539.6  1540.1
             *

736          KK    203J
737          KM   Sub-Basin   203J
738          KM
739          KM      The Clark Unit Hydrograph is used for this basin.
740          KM          The Urban time-area relation is used for this basin.
741          KM
742          KM      Time of Concentration for this sub-basin is based on the following:
743          KM          6-Hour Rainfall, Pattern No.  1.00
744          KM          An rainfall areal reduction factor of 0.999
745          KM
746          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
747          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
748          KM   .49 .49 .48 .18 .15 .15 .07 .07 .07 .06 .06 .06 .01 .01 .01 .01 .01 .01
749          KM
750          KM          L=   0.533 miles, S=  237 feet/mile, Kb= .03
751          KM
752          BA   0.039
753          LG    0.07    0.25    5.60    0.20   64.82
754          UC   0.125   0.142
755          UA       0       5      16      30      65      77      84      90      94      97
756          UA     100
             *
```



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

757          KK  520591
758          KM      Normal depth channel route from C520 to C591
759          KM      Source:  Hydrology Field Reconnaissance
760          RS       2    FLOW      -1
761          RC   0.050   0.018   0.040  2014.0  0.0248
762          RX  1000.0  1030.0  1041.2  1057.2  1073.2  1074.4  1086.4  1116.0
763          RY  1570.0  1566.0  1564.8  1565.2  1564.9  1565.3  1565.9  1568.0
             *

764          KK  BB512R
765          KM      Retrieve previously diverted hydrograph at C512 in the right branch.
766          DR   D512R
             *

767          KK    C591
768          KM      Hydrograph combine 519591 + 520591 + D512R at C591
769          HC       3    1.83
             *

770          KK  591521
771          KM      Normal depth channel route from C591 to C521
772          KM      Source:  HEC-2 Cross Section: ES 2.614
773          RS       2    FLOW      -1
774          RC   0.090   0.050   0.085   915.0  0.0142
775          RX  9827.7  9921.5  9950.2  9970.7 10046.6 10078.1 10120.0 10177.5
776          RY  1531.1  1524.8  1524.4  1520.8  1520.0  1530.3  1531.1  1532.3
             *

777          KK    203K
778          KM   Sub-Basin   203K
779          KM
780          KM      The Clark Unit Hydrograph is used for this basin.
781          KM          The Urban time-area relation is used for this basin.
782          KM
783          KM      Time of Concentration for this sub-basin is based on the following:
784          KM          6-Hour Rainfall, Pattern No.  1.00
785          KM          An rainfall areal reduction factor of 0.998
```

```
 786          KM
 787          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 788          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 789          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
 790          KM
 791          KM          L=   0.878 miles, S=  158 feet/mile, Kb= .03
 792          KM
 793          BA   0.160
 794          LG    0.08    0.25    5.60    0.19   44.98
 795          UC   0.183   0.144
 796          UA       0       5      16      30      65      77      84      90      94      97
 797          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 19

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

 798          KK    C521
 799          KM      Hydrograph combine 591521 + 203K at C521
 800          HC       2
              *
              * *
              * * C521 is the total flow in Escalante Wash at the Study boundary
              * *
              * * End Basin 203.  Start Basin 204
              * *
              *

 801          KK   CLEAR
 802          KM      Clear hydrographs from stack
 803          HC       5
              *

 804          KK    204A
 805          KM   Sub-Basin   204A
 806          KM
 807          KM      The Clark Unit Hydrograph is used for this basin.
 808          KM          The Urban time-area relation is used for this basin.
 809          KM
 810          KM      Time of Concentration for this sub-basin is based on the following:
 811          KM          6-Hour Rainfall, Pattern No.  1.00
 812          KM          An rainfall areal reduction factor of 0.999
 813          KM
 814          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 815          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 816          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
 817          KM
 818          KM          L=   0.687 miles, S=  175 feet/mile, Kb= .03
 819          KM
 820          BA   0.108
 821          LG    0.09    0.25    5.80    0.18   25.00
 822          UC   0.158   0.126
 823          UA       0       5      16      30      65      77      84      90      94      97
 824          UA     100
              *

 825          KK  522523
 826          KM      Normal depth channel route from C522 to C523
 827          KM      Source:  200 Scale Mapping
 828          RS       9    FLOW      -1
 829          RC   0.060   0.050   0.060  3275.0  0.0197
 830          RX  1000.0  1020.0  1035.0  1065.0  1080.0  1120.0  1160.0  1185.0
 831          RY  1678.0  1676.0  1674.0  1672.0  1672.0  1674.0  1676.0  1678.0
              *

 832          KK    204B
 833          KM   Sub-Basin   204B
 834          KM
 835          KM      The Clark Unit Hydrograph is used for this basin.
 836          KM          The Urban time-area relation is used for this basin.
 837          KM
1                                          HEC-1 INPUT                                          PAGE 20

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

 838          KM      Time of Concentration for this sub-basin is based on the following:
 839          KM          6-Hour Rainfall, Pattern No.  1.00
 840          KM          An rainfall areal reduction factor of 0.998
 841          KM
 842          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 843          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 844          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
 845          KM
 846          KM          L=   0.775 miles, S=  128 feet/mile, Kb= .03
 847          KM
 848          BA   0.126
 849          LG    0.09    0.25    5.80    0.18   26.66
```

```
850          UC   0.188   0.153
851          UA       0       5      16      30      65      77      84      90      94      97
852          UA     100
             *

853          KK   C523I
854          KM      Hydrograph combine 522523 + 204B at C523I
855          HC       2
             *

856          KK   C523O
857          KM      Reservoir route at C523.
858          RS       1    ELEV  1650.3
859          SV    0.00    0.01    0.12    0.71    2.23    2.50    2.80    3.10    3.20    3.40
860          SV    3.70    4.00    4.30    4.60    4.90    5.20    5.50
861          SE  1650.3  1652.0  1654.0  1656.0  1658.0  1658.2  1658.4  1658.6  1658.7  1658.8
862          SE  1659.0  1659.2  1659.4  1659.6  1659.8  1660.0  1660.2
863          SQ       0      22      78     144     209     214     220     224     226     232
864          SQ     239     249     288     384     529     726     960
             *

865          KK   D523L
866          KM      Hydrograph diversion at C523.  Main flow continues in the left branch.
867          KM      Diverted flow is in the right branch.
868          DT   D523R
869          DI       0      22      78     144     209     214     220     224     226     232
870          DI     239     249     288     384     529     726     960
871          DQ       0       0       0       0       0       0       0       0       0       3
872          DQ       5      10      20      37      61      96     139
             *

873          KK  523524
874          KM      Normal depth channel route from C523 to C524
875          KM      Source:  HEC-2 Cross Section: CA 2.072
876          KM      This is flow in Fountain Hills Blvd. which is routed to C548
877          RS       5    FLOW      -1
878          RC   0.080   0.050   0.075  1732.0  0.0177
879          RX  9827.8  9925.9  9978.5 10000.0 10020.8 10041.9 10110.6 10151.9
880          RY  1639.8  1635.7  1634.3  1629.9  1630.2  1631.8  1633.5  1636.7
             *
```



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

881          KK    204C
882          KM   Sub-Basin   204C
883          KM
884          KM      The Clark Unit Hydrograph is used for this basin.
885          KM          The Urban time-area relation is used for this basin.
886          KM
887          KM      Time of Concentration for this sub-basin is based on the following:
888          KM          6-Hour Rainfall, Pattern No.  1.00
889          KM          An rainfall areal reduction factor of 0.999
890          KM
891          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
892          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
893          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .06 .02 .02 .02 .02 .02 .02
894          KM
895          KM          L=   0.400 miles, S=  142 feet/mile, Kb= .03
896          KM
897          BA   0.077
898          LG    0.07    0.25    5.70    0.18   66.42
899          UC   0.129   0.079
900          UA       0       5      16      30      65      77      84      90      94      97
901          UA     100
             *

902          KK    C524
903          KM      Hydrograph combine 523524 + 204C at C524
904          HC       2
             *

905          KK  524525
906          KM      Normal depth channel route from C524 to C525
907          KM      Source:  HEC-2 Cross Section: CA 1.898
908          RS       2    FLOW      -1
909          RC   0.050   0.035   0.060  1045.0  0.0211
910          RX  9823.1  9873.0  9960.0  9986.1 10008.3 10049.7 10070.0 10078.4
911          RY  1617.9  1616.7  1616.3  1609.2  1609.0  1616.4  1616.8  1617.3
             *

912          KK    204D
913          KM   Sub-Basin   204D
914          KM
915          KM      The Clark Unit Hydrograph is used for this basin.
916          KM          The Urban time-area relation is used for this basin.
917          KM
```

```
918          KM      Time of Concentration for this sub-basin is based on the following:
919          KM          6-Hour Rainfall, Pattern No.  1.00
920          KM          An rainfall areal reduction factor of 0.999
921          KM
922          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
923          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
924          KM   .49 .48 .48 .18 .15 .14 .07 .07 .06 .06 .06 .05 .01 .01 .01 .01 .01 .01
925          KM
926          KM          L=   0.345 miles, S=   96 feet/mile, Kb= .03
927          KM
928          BA   0.044
1                                          HEC-1 INPUT                                                    PAGE 22

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

929          LG    0.07    0.25    5.70    0.18   53.85
930          UC   0.133   0.100
931          UA       0       5      16      30      65      77      84      90      94      97
932          UA     100
             *

933          KK    C525
934          KM      Hydrograph combine 524525 + 204D at C525
935          HC       2
             *

936          KK  525526
937          KM      Normal depth channel route from C525 to C526
938          KM      Source:  HEC-2 Cross Section: CA 1.663
939          RS       2    FLOW      -1
940          RC   0.050   0.035   0.060  1520.0  0.0211
941          RX  9915.0  9940.0  9968.0  9992.6 10012.4 10032.0 10049.6 10106.9
942          RY  1592.8  1592.3  1591.8  1585.0  1584.8  1591.3  1592.1  1592.5
             *

943          KK    204E
944          KM   Sub-Basin   204E
945          KM
946          KM      The Clark Unit Hydrograph is used for this basin.
947          KM          The Urban time-area relation is used for this basin.
948          KM
949          KM      Time of Concentration for this sub-basin is based on the following:
950          KM          6-Hour Rainfall, Pattern No.  1.00
951          KM          An rainfall areal reduction factor of 0.999
952          KM
953          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
954          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
955          KM   .48 .48 .47 .17 .14 .13 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
956          KM
957          KM          L=   0.508 miles, S=  108 feet/mile, Kb= .03
958          KM
959          BA   0.071
960          LG    0.08    0.25    5.70    0.18   41.17
961          UC   0.158   0.126
962          UA       0       5      16      30      65      77      84      90      94      97
963          UA     100
             *

964          KK    C526
965          KM      Hydrograph combine 525526 + 204E at C526
966          HC       2
             *

967          KK  526527
968          KM      Normal depth channel route from C526 to C527
969          KM      Source:  HEC-2 Cross Section: CA 1.186
970          RS       2    FLOW      -1
971          RC   0.050   0.035   0.060  2129.0  0.0183
972          RX  9867.7  9898.1  9967.2  9981.2 10023.8 10035.6 10080.6 10145.3
973          RY  1545.6  1544.4  1539.5  1536.9  1536.7  1539.6  1541.1  1542.3
             *
1                                          HEC-1 INPUT                                                    PAGE 23

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

974          KK    204F
975          KM   Sub-Basin   204F
976          KM
977          KM      The Clark Unit Hydrograph is used for this basin.
978          KM          The Urban time-area relation is used for this basin.
979          KM
980          KM      Time of Concentration for this sub-basin is based on the following:
981          KM          6-Hour Rainfall, Pattern No.  1.00
982          KM          An rainfall areal reduction factor of 0.999
983          KM
984          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
985          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
 986          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
 987          KM
 988          KM          L=   0.495 miles, S=  135 feet/mile, Kb= .03
 989          KM
 990          BA   0.077
 991          LG    0.08    0.15    7.00    0.11   45.00
 992          UC   0.146   0.107
 993          UA       0       5      16      30      65      77      84      90      94      97
 994          UA     100
              *

 995          KK    C527
 996          KM      Hydrograph combine 526527 + 204F at C527
 997          HC       2
              *
              * *
              * * C527 is the total flow in Caliente Wash at the Study boundary
              * *
              * * End Basin 204.  Start Basin 205
              * *
              *

 998          KK   CLEAR
 999          KM      Clear hydrographs from stack
1000          HC       2
              *

1001          KK    205A
1002          KM   Sub-Basin   205A
1003          KM
1004          KM      The Clark Unit Hydrograph is used for this basin.
1005          KM          The Natural time-area relation is used for this basin.
1006          KM
1007          KM      Time of Concentration for this sub-basin is based on the following:
1008          KM          6-Hour Rainfall, Pattern No.  1.00
1009          KM          An rainfall areal reduction factor of 0.998
1010          KM
1011          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1012          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1013          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1014          KM
1015          KM          L=   0.870 miles, S=  378 feet/mile, Kb= .14
```



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

1016          KM
1017          BA   0.118
1018          LG    0.25    0.35    4.35    0.40   35.00
1019          UC   0.350   0.350
1020          UA       0       3       5       8      12      20      43      75      90      96
1021          UA     100
              *

1022          KK    205B
1023          KM   Sub-Basin   205B
1024          KM
1025          KM      The Clark Unit Hydrograph is used for this basin.
1026          KM          The Natural time-area relation is used for this basin.
1027          KM
1028          KM      Time of Concentration for this sub-basin is based on the following:
1029          KM          6-Hour Rainfall, Pattern No.  1.00
1030          KM          An rainfall areal reduction factor of 0.997
1031          KM
1032          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1033          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1034          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1035          KM
1036          KM          L=   0.759 miles, S=  129 feet/mile, Kb= .14
1037          KM
1038          BA   0.211
1039          LG    0.25    0.35    4.35    0.40   35.00
1040          UC   0.508   0.340
1041          UA       0       3       5       8      12      20      43      75      90      96
1042          UA     100
              *

1043          KK    C528
1044          KM      Hydrograph combine 205A + 205B at C528
1045          HC       2
              *

1046          KK  528530
1047          KM      Normal depth channel route from C528 to C530
1048          KM      Source:  Hydrology Field Reconnaissance
1049          RS       3    FLOW      -1
1050          RC   0.060   0.043   0.060  2594.0  0.0709
1051          RX  1000.0  1018.0  1031.0  1042.0  1052.0  1066.0  1093.0  1107.0
```

```
1052          RY    96.3    92.2    89.9    85.9    85.7    91.5    91.2    96.3
              *

1053          KK    205C
1054          KM   Sub-Basin   205C
1055          KM
1056          KM      The Clark Unit Hydrograph is used for this basin.
1057          KM          The Natural time-area relation is used for this basin.
1058          KM
1059          KM      Time of Concentration for this sub-basin is based on the following:
1060          KM          6-Hour Rainfall, Pattern No.  1.00
1061          KM          An rainfall areal reduction factor of 0.999
1062          KM
1                                          HEC-1 INPUT                                                    PAGE 25

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

1063          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1064          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1065          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1066          KM
1067          KM          L=   0.618 miles, S=  331 feet/mile, Kb= .15
1068          KM
1069          BA   0.059
1070          LG    0.25    0.35    4.35    0.41   35.00
1071          UC   0.308   0.343
1072          UA       0       3       5       8      12      20      43      75      90      96
1073          UA     100
              *

1074          KK   C530R
1075          KM      Hydrograph combine 528530 + 205C at C530 right branch
1076          HC       2
              *

1077          KK    205D
1078          KM   Sub-Basin   205D
1079          KM
1080          KM      The Clark Unit Hydrograph is used for this basin.
1081          KM          The Natural time-area relation is used for this basin.
1082          KM
1083          KM      Time of Concentration for this sub-basin is based on the following:
1084          KM          6-Hour Rainfall, Pattern No.  1.00
1085          KM          An rainfall areal reduction factor of 0.996
1086          KM
1087          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1088          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1089          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1090          KM
1091          KM          L=   1.020 miles, S=  361 feet/mile, Kb= .13
1092          KM
1093          BA   0.319
1094          LG    0.25    0.35    4.35    0.40   35.00
1095          UC   0.379   0.246
1096          UA       0       3       5       8      12      20      43      75      90      96
1097          UA     100
              *

1098          KK    205E
1099          KM   Sub-Basin   205E
1100          KM
1101          KM      The Clark Unit Hydrograph is used for this basin.
1102          KM          The Natural time-area relation is used for this basin.
1103          KM
1104          KM      Time of Concentration for this sub-basin is based on the following:
1105          KM          6-Hour Rainfall, Pattern No.  1.00
1106          KM          An rainfall areal reduction factor of 0.997
1107          KM
1108          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1109          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1110          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1111          KM
1                                          HEC-1 INPUT                                                    PAGE 26

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

1112          KM          L=   1.357 miles, S=  358 feet/mile, Kb= .14
1113          KM
1114          BA   0.218
1115          LG    0.25    0.35    4.35    0.40   35.00
1116          UC   0.488   0.508
1117          UA       0       3       5       8      12      20      43      75      90      96
1118          UA     100
              *

1119          KK    C529
1120          KM      Hydrograph combine 205D + 205E at C529
1121          HC       2
```

```
                *
                * *
                * * NOTE:  529530 too short to route
                * *
                *

1122            KK    C530
1123            KM      Hydrograph combine C529 + C530R at C530
1124            HC       2
                *

1125            KK  530531
1126            KM      Normal depth channel route from C530 to C531
1127            KM      Source:  Hydrology Field Reconnaissance
1128            RS       3    FLOW      -1
1129            RC   0.060   0.059   0.060  2426.0  0.0404
1130            RX  1000.0  1035.0  1050.0  1060.0  1075.0  1081.0  1088.0  1094.0
1131            RY    95.9    86.5    86.2    83.1    84.0    90.2    95.6    99.3
                *

1132            KK    205F
1133            KM   Sub-Basin   205F
1134            KM
1135            KM      The Clark Unit Hydrograph is used for this basin.
1136            KM          The Natural time-area relation is used for this basin.
1137            KM
1138            KM      Time of Concentration for this sub-basin is based on the following:
1139            KM          6-Hour Rainfall, Pattern No.  1.00
1140            KM          An rainfall areal reduction factor of 0.998
1141            KM
1142            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1143            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1144            KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1145            KM
1146            KM          L=   0.786 miles, S=  326 feet/mile, Kb= .14
1147            KM
1148            BA   0.161
1149            LG    0.25    0.35    4.35    0.41   35.00
1150            UC   0.350   0.269
1151            UA       0       3       5       8      12      20      43      75      90      96
1152            UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 27

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

1153            KK    C531
1154            KM      Hydrograph combine 530531 + 205F at C531
1155            HC       2
                *

1156            KK  531532
1157            KM      Normal depth channel route from C531 to C532
1158            KM      Source:  Hydrology Field Reconnaissance
1159            RS       4    FLOW      -1
1160            RC   0.060   0.065   0.060  3391.0  0.0463
1161            RX  1000.0  1012.0  1022.0  1032.0  1050.0  1056.0  1068.0  1092.0
1162            RY    98.8    93.8    89.1    86.4    86.5    89.1    91.0    97.6
                *

1163            KK    205G
1164            KM   Sub-Basin   205G
1165            KM
1166            KM      The Clark Unit Hydrograph is used for this basin.
1167            KM          The Natural time-area relation is used for this basin.
1168            KM
1169            KM      Time of Concentration for this sub-basin is based on the following:
1170            KM          6-Hour Rainfall, Pattern No.  1.00
1171            KM          An rainfall areal reduction factor of 0.998
1172            KM
1173            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1174            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1175            KM   .45 .44 .44 .13 .09 .07 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1176            KM
1177            KM          L=   0.924 miles, S=  338 feet/mile, Kb= .13
1178            KM
1179            BA   0.185
1180            LG    0.24    0.35    4.50    0.40   31.23
1181            UC   0.367   0.298
1182            UA       0       3       5       8      12      20      43      75      90      96
1183            UA     100
                *

1184            KK   C532L
1185            KM      Hydrograph combine 531532 + 205G at C532 left branch
1186            HC       2
                *
```

```
1187          KK    205H
1188          KM   Sub-Basin   205H
1189          KM
1190          KM      The Clark Unit Hydrograph is used for this basin.
1191          KM          The Natural time-area relation is used for this basin.
1192          KM
1193          KM      Time of Concentration for this sub-basin is based on the following:
1194          KM          6-Hour Rainfall, Pattern No.  1.00
1195          KM          An rainfall areal reduction factor of 0.997
1196          KM
1197          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1198          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE 28

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

1199          KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1200          KM
1201          KM          L=   1.464 miles, S=  325 feet/mile, Kb= .13
1202          KM
1203          BA   0.261
1204          LG    0.24    0.35    4.50    0.39   31.55
1205          UC   0.513   0.514
1206          UA       0       3       5       8      12      20      43      75      90      96
1207          UA     100
              *

1208          KK    C532
1209          KM      Hydrograph combine C532L + 205H at C532
1210          HC       2
              *

1211          KK  532533
1212          KM      Normal depth channel route from C532 to C533
1213          KM      Source:  Hydrology Field Reconnaissance
1214          RS       2    FLOW      -1
1215          RC   0.060   0.045   0.060  1555.0  0.0283
1216          RX  1000.0  1020.0  1030.0  1048.0  1065.0  1077.0  1092.0  1119.0
1217          RY    98.0    89.4    88.1    85.6    85.9    92.2    93.8    97.0
              *

1218          KK    205I
1219          KM   Sub-Basin   205I
1220          KM
1221          KM      The Clark Unit Hydrograph is used for this basin.
1222          KM          The Natural time-area relation is used for this basin.
1223          KM
1224          KM      Time of Concentration for this sub-basin is based on the following:
1225          KM          6-Hour Rainfall, Pattern No.  1.00
1226          KM          An rainfall areal reduction factor of 0.995
1227          KM
1228          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1229          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1230          KM   .44 .44 .43 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
1231          KM
1232          KM          L=   1.487 miles, S=  326 feet/mile, Kb= .11
1233          KM
1234          BA   0.354
1235          LG    0.20    0.37    5.20    0.28   15.18
1236          UC   0.458   0.386
1237          UA       0       3       5       8      12      20      43      75      90      96
1238          UA     100
              *

1239          KK    C533
1240          KM      Hydrograph combine 532533 + 205I at C533
1241          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 29

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

1242          KK  533534
1243          KM      Normal depth channel route from C533 to C534
1244          KM      Source:  Hydrology Field Reconnaissance
1245          RS      10    FLOW      -1
1246          RC   0.060   0.046   0.060  7145.0  0.0241
1247          RX  1000.0  1010.0  1060.0  1073.0  1160.0  1181.0  1223.0  1237.0
1248          RY    97.8    93.7    94.7    90.8    89.9    92.4    94.0    96.8
              *

1249          KK    205J
1250          KM   Sub-Basin   205J
1251          KM
1252          KM      The Clark Unit Hydrograph is used for this basin.
1253          KM          The Natural time-area relation is used for this basin.
```

```
1254          KM
1255          KM      Time of Concentration for this sub-basin is based on the following:
1256          KM          6-Hour Rainfall, Pattern No.  1.00
1257          KM          An rainfall areal reduction factor of 0.995
1258          KM
1259          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1260          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1261          KM    .44 .43 .42 .12 .08 .06 .03 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
1262          KM
1263          KM          L=   1.633 miles, S=  243 feet/mile, Kb= .08
1264          KM
1265          BA    0.369
1266          LG     0.21     0.35     4.90     0.30     3.48
1267          UC    0.450    0.398
1268          UA        0        3        5        8       12       20       43       75       90       96
1269          UA      100
              *

1270          KK    C534R
1271          KM      Hydrograph combine 533534 + 205J at C534 right branch
1272          HC        2
              *

1273          KK     205K
1274          KM    Sub-Basin   205K
1275          KM
1276          KM      The Clark Unit Hydrograph is used for this basin.
1277          KM          The Natural time-area relation is used for this basin.
1278          KM
1279          KM      Time of Concentration for this sub-basin is based on the following:
1280          KM          6-Hour Rainfall, Pattern No.  1.00
1281          KM          An rainfall areal reduction factor of 0.997
1282          KM
1283          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1284          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1285          KM    .44 .44 .43 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
1286          KM
1287          KM          L=   1.772 miles, S=  249 feet/mile, Kb= .10
1288          KM
1289          BA    0.245
```



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

1290          LG     0.16     0.38     5.60     0.22     1.54
1291          UC    0.546    0.665
1292          UA        0        3        5        8       12       20       43       75       90       96
1293          UA      100
              *

1294          KK     C534
1295          KM      Hydrograph combine C534R + 205K at C534
1296          HC        2
              *

1297          KK   534535
1298          KM      Normal depth channel route from C534 to C535
1299          KM      Source:  Hydrology Field Reconnaissance
1300          RS        3    FLOW      -1
1301          RC    0.065    0.046    0.065   2037.0   0.0221
1302          RX   1000.0   1010.0   1016.0   1075.0   1150.0   1162.0   1174.0   1182.0
1303          RY     97.1     93.4     91.6     89.6     86.9     90.8     92.2     92.3
              *

1304          KK     205L
1305          KM    Sub-Basin   205L
1306          KM
1307          KM      The Clark Unit Hydrograph is used for this basin.
1308          KM          The Natural time-area relation is used for this basin.
1309          KM
1310          KM      Time of Concentration for this sub-basin is based on the following:
1311          KM          6-Hour Rainfall, Pattern No.  1.00
1312          KM          An rainfall areal reduction factor of 0.998
1313          KM
1314          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1315          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1316          KM    .44 .43 .42 .12 .08 .06 .02 .02 .02 .00 .00 .00 .00 .00 .00 .00 .00 .00
1317          KM
1318          KM          L=   0.701 miles, S=  284 feet/mile, Kb= .09
1319          KM
1320          BA    0.118
1321          LG     0.19     0.36     5.00     0.29     0.00
1322          UC    0.254    0.206
1323          UA        0        3        5        8       12       20       43       75       90       96
1324          UA      100
              *

1325          KK     C535
```

```
1326          KM      Hydrograph combine 534535 + 205L at C535
1327          HC       2
              *

1328          KK  535536
1329          KM      Normal depth channel route from C535 to C536
1330          KM      Source:  HEC-2 Cross Section: HE 3.275
1331          RS       8    FLOW      -1
1332          RC   0.075   0.050   0.075  2975.0  0.0236
1333          RX  9852.8  9871.5  9957.7 10000.0 10015.6 10052.4 10142.4 10183.6
1334          RY  1911.6  1904.3  1906.9  1900.8  1900.8  1905.4  1905.2  1912.6
              *
1                                          HEC-1 INPUT                                                    PAGE 31

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


1335          KK    205M
1336          KM   Sub-Basin   205M
1337          KM
1338          KM      The Clark Unit Hydrograph is used for this basin.
1339          KM          The Urban time-area relation is used for this basin.
1340          KM
1341          KM      Time of Concentration for this sub-basin is based on the following:
1342          KM          6-Hour Rainfall, Pattern No.  1.00
1343          KM          An rainfall areal reduction factor of 0.998
1344          KM
1345          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1346          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1347          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
1348          KM
1349          KM          L=   0.839 miles, S=  230 feet/mile, Kb= .05
1350          KM
1351          BA   0.139
1352          LG    0.15    0.31    5.40    0.22   22.35
1353          UC   0.213   0.178
1354          UA       0       5      16      30      65      77      84      90      94      97
1355          UA     100
              *

1356          KK   C536R
1357          KM      Hydrograph combine 535536 + 205M at C536 right branch
1358          HC       2
              *

1359          KK    205N
1360          KM   Sub-Basin   205N
1361          KM
1362          KM      The Clark Unit Hydrograph is used for this basin.
1363          KM          The HEC-1 time-area relation is used for this basin.
1364          KM
1365          KM      Time of Concentration for this sub-basin is based on the following:
1366          KM          6-Hour Rainfall, Pattern No.  1.00
1367          KM          An rainfall areal reduction factor of 0.998
1368          KM
1369          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1370          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1371          KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .00 .00 .00 .00 .00 .00 .00 .00 .00
1372          KM
1373          KM          L=   1.183 miles, S=  245 feet/mile, Kb= .10
1374          KM
1375          BA   0.156
1376          LG    0.15    0.39    5.70    0.21    0.80
1377          UC   0.413   0.457
              *
1                                          HEC-1 INPUT                                                    PAGE 32

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


1378          KK   C536I
1379          KM      Hydrograph combine C536R + 205N at C536I
1380          HC       2
              *
              * *
              * * C536I is the total flow in Hesperus Wash upstream of Dam 36
              * *
              *

1381          KK   C536O
1382          KM      Reservoir route at C536 (Dam 36).
1383          RS       1    ELEV  1852.1
1384          SV    0.00   14.41   35.94   67.64  108.61  158.07  218.14  276.00  280.00  289.00
1385          SV  298.02  308.00  317.00  327.00  337.00  346.95  358.00  374.00
1386          SE  1852.1  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0  1889.2  1889.6
1387          SE  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1388          SQ       0     108     168     211     245     276     301     320     338     347
1389          SQ     356     459     679     995    1408    1905    2477    3119    3826    5009
```

```
1390          SE  1852.1  1858.0  1862.0  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0
1391          SE  1889.2  1889.6  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1392          RL                    0.17
              *
              * *
              * * End Basin 205.  Start Basin 206
              * *
              *

1393          KK  536537
1394          KM      Normal depth channel route from C536 to C537
1395          KM      Source:  HEC-2 Cross Section: HE 2.729
1396          RS       3    FLOW      -1
1397          RC   0.075   0.050   0.075  1480.0  0.0209
1398          RX  9900.0  9912.0  9947.3  9979.3 10025.0 10044.5 10051.0 10060.0
1399          RY  1846.5  1845.4  1843.1  1834.3  1833.6  1840.5  1843.3  1843.5
              *

1400          KK    206A
1401          KM   Sub-Basin   206A
1402          KM
1403          KM      The Clark Unit Hydrograph is used for this basin.
1404          KM          The Urban time-area relation is used for this basin.
1405          KM
1406          KM      Time of Concentration for this sub-basin is based on the following:
1407          KM          6-Hour Rainfall, Pattern No.  1.00
1408          KM          An rainfall areal reduction factor of 0.998
1409          KM
1410          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1411          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1412          KM   .47 .47 .46 .16 .13 .12 .05 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
1413          KM
1414          KM          L=   0.631 miles, S=  256 feet/mile, Kb= .04
1415          KM
1416          BA   0.128
1417          LG    0.12    0.28    5.30    0.23   33.34
```



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

1418          UC   0.158   0.107
1419          UA       0       5      16      30      65      77      84      90      94      97
1420          UA     100
              *

1421          KK    C537
1422          KM      Hydrograph combine 536537 + 206A at C537
1423          HC       2
              *

1424          KK  537538
1425          KM      Normal depth channel route from C537 to C538
1426          KM      Source:  HEC-2 Cross Section: HE 2.493
1427          RS       4    FLOW      -1
1428          RC   0.075   0.050   0.075  2155.0  0.0210
1429          RX  9946.0  9957.6  9984.8  9994.8 10000.0 10036.5 10070.1 10107.3
1430          RY  1817.0  1815.2  1807.4  1803.2  1803.2  1805.5  1814.3  1815.4
              *

1431          KK    206B
1432          KM   Sub-Basin   206B
1433          KM
1434          KM      The Clark Unit Hydrograph is used for this basin.
1435          KM          The Urban time-area relation is used for this basin.
1436          KM
1437          KM      Time of Concentration for this sub-basin is based on the following:
1438          KM          6-Hour Rainfall, Pattern No.  1.00
1439          KM          An rainfall areal reduction factor of 0.999
1440          KM
1441          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1442          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1443          KM   .48 .47 .47 .17 .13 .13 .06 .06 .05 .05 .04 .04 .01 .01 .01 .01 .01 .01
1444          KM
1445          KM          L=   0.570 miles, S=  139 feet/mile, Kb= .03
1446          KM
1447          BA   0.095
1448          LG    0.10    0.26    5.20    0.23   41.42
1449          UC   0.154   0.113
1450          UA       0       5      16      30      65      77      84      90      94      97
1451          UA     100
              *

1452          KK   C538I
1453          KM      Hydrograph combine 537538 + 206B at C538I
1454          HC       2
              *

1455          KK   C538O
```

```
1456          KM      Reservoir route at C538.
1457          RS       1    ELEV  1778.2
1458          SV    0.00    0.10    0.57    1.69    2.60    2.70    2.90    3.00    3.20    3.38
1459          SV    3.60    3.90    4.10    4.30    4.60    5.10    5.60    6.10    7.10    8.10
1460          SE  1778.2  1782.0  1784.0  1786.0  1787.1  1787.2  1787.4  1787.6  1787.8  1788.0
1461          SE  1788.2  1788.4  1788.6  1788.8  1789.0  1789.4  1789.8  1790.2  1790.8  1791.4
1462          SQ       0      82     133     185     207     208     212     218     226     235
1                                         HEC-1 INPUT                                                PAGE 34

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

1463          SQ     249     265     286     310     338     400     482     611     942    1439
              *

1464          KK  538540
1465          KM      Normal depth channel route from C538 to C540
1466          KM      Source:  HEC-2 Cross Section: HE 1.990
1467          RS       7    FLOW      -1
1468          RC   0.075   0.050   0.075  2176.0  0.0210
1469          RX  9907.7  9931.8  9978.4 10000.0 10041.1 10056.9 10143.7 10164.9
1470          RY  1767.5  1754.9  1755.2  1753.2  1753.1  1755.1  1757.3  1769.4
              *

1471          KK    206C
1472          KM   Sub-Basin   206C
1473          KM
1474          KM      The Clark Unit Hydrograph is used for this basin.
1475          KM          The Urban time-area relation is used for this basin.
1476          KM
1477          KM      Time of Concentration for this sub-basin is based on the following:
1478          KM          6-Hour Rainfall, Pattern No.  1.00
1479          KM          An rainfall areal reduction factor of 1.000
1480          KM
1481          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1482          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1483          KM   .46 .45 .45 .15 .11 .11 .04 .04 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
1484          KM
1485          KM          L=   0.427 miles, S=  138 feet/mile, Kb= .04
1486          KM
1487          BA   0.024
1488          LG    0.11    0.26    4.35    0.36   28.55
1489          UC   0.158   0.204
1490          UA       0       5      16      30      65      77      84      90      94      97
1491          UA     100
              *

1492          KK   C540R
1493          KM      Hydrograph combine 538540 + 206C at C540 right branch
1494          HC       2
              *

1495          KK    206D
1496          KM   Sub-Basin   206D
1497          KM
1498          KM      The Clark Unit Hydrograph is used for this basin.
1499          KM          The Urban time-area relation is used for this basin.
1500          KM
1501          KM      Time of Concentration for this sub-basin is based on the following:
1502          KM          6-Hour Rainfall, Pattern No.  1.00
1503          KM          An rainfall areal reduction factor of 0.999
1504          KM
1505          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1506          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1507          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
1508          KM
1509          KM          L=   0.531 miles, S=  236 feet/mile, Kb= .03
1                                         HEC-1 INPUT                                                PAGE 35

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

1510          KM
1511          BA   0.062
1512          LG    0.08    0.25    5.70    0.18   43.01
1513          UC   0.125   0.109
1514          UA       0       5      16      30      65      77      84      90      94      97
1515          UA     100
              *

1516          KK  539540
1517          KM      Normal depth channel route from C539 to C540
1518          KM      Source:  200 Scale Mapping
1519          RS       5    FLOW      -1
1520          RC   0.060   0.050   0.055  1872.0  0.0256
1521          RX  1000.0  1007.0  1016.0  1036.0  1046.0  1080.0  1150.0  1210.0
1522          RY  1750.0  1748.0  1746.0  1744.0  1744.0  1746.0  1748.0  1750.0
              *

1523          KK    206E
```

```
1524          KM   Sub-Basin   206E
1525          KM
1526          KM      The Clark Unit Hydrograph is used for this basin.
1527          KM          The Urban time-area relation is used for this basin.
1528          KM
1529          KM      Time of Concentration for this sub-basin is based on the following:
1530          KM          6-Hour Rainfall, Pattern No.  1.00
1531          KM          An rainfall areal reduction factor of 1.000
1532          KM
1533          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1534          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1535          KM   .46 .45 .45 .15 .11 .11 .04 .04 .04 .02 .02 .02 .01 .01 .01 .01 .01 .01
1536          KM
1537          KM          L=   0.343 miles, S=  175 feet/mile, Kb= .03
1538          KM
1539          BA   0.023
1540          LG    0.09    0.25    4.30    0.36   25.75
1541          UC   0.113   0.120
1542          UA       0       5      16      30      65      77      84      90      94      97
1543          UA     100
              *

1544          KK   C540L
1545          KM      Hydrograph combine 539540 + 206E at C540 left branch
1546          HC       2
              *

1547          KK    C540
1548          KM      Hydrograph combine C540R + C540L at C540
1549          HC       2
              *
              * *
              * * C540 is the end of Hesperus Wash and the start of Balboa Wash
              * *
              *
```



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

1550          KK  540541
1551          KM      Normal depth channel route from C540 to C541
1552          KM      Source:  HEC-2 Cross Section: BA 1.645
1553          RS      12    FLOW      -1
1554          RC   0.065   0.035   0.065  4207.0  0.0204
1555          RX  9960.8  9968.0  9975.1  9975.7  9993.2 10018.2 10297.5 10343.9
1556          RY  1725.2  1721.8  1718.4  1716.2  1716.4  1718.4  1719.8  1730.5
              *

1557          KK    206F
1558          KM   Sub-Basin   206F
1559          KM
1560          KM      The Clark Unit Hydrograph is used for this basin.
1561          KM          The Urban time-area relation is used for this basin.
1562          KM
1563          KM      Time of Concentration for this sub-basin is based on the following:
1564          KM          6-Hour Rainfall, Pattern No.  1.00
1565          KM          An rainfall areal reduction factor of 0.998
1566          KM
1567          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1568          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1569          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .02 .01 .01 .01 .01 .01 .01
1570          KM
1571          KM          L=   0.975 miles, S=  217 feet/mile, Kb= .03
1572          KM
1573          BA   0.157
1574          LG    0.09    0.25    4.60    0.30   24.97
1575          UC   0.179   0.154
1576          UA       0       5      16      30      65      77      84      90      94      97
1577          UA     100
              *

1578          KK    C541
1579          KM      Hydrograph combine 540541 + 206F at C541
1580          HC       2
              *

1581          KK  541548
1582          KM      Normal depth channel route from C541 to C548
1583          KM      Source:  HEC-2 Cross Section: BA 0.905
1584          RS       3    FLOW      -1
1585          RC   0.060   0.045   0.060  1138.0  0.0316
1586          RX  9761.7  9936.7  9955.2  9986.9  9994.7 10039.2 10065.3 10066.0
1587          RY  1647.4  1644.1  1638.1  1637.3  1636.2  1637.5  1652.9  1653.0
              *

1588          KK    206G
1589          KM   Sub-Basin   206G
```

```
1590          KM
1591          KM      The Clark Unit Hydrograph is used for this basin.
1592          KM          The Urban time-area relation is used for this basin.
1593          KM
1594          KM      Time of Concentration for this sub-basin is based on the following:
1595          KM          6-Hour Rainfall, Pattern No.  1.00
1                                        HEC-1 INPUT                                          PAGE 37

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

1596          KM          An rainfall areal reduction factor of 0.999
1597          KM
1598          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1599          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1600          KM   .47 .47 .46 .16 .13 .12 .05 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
1601          KM
1602          KM          L=   0.950 miles, S=  132 feet/mile, Kb= .03
1603          KM
1604          BA   0.089
1605          LG    0.11    0.26    5.20    0.23   29.86
1606          UC   0.204   0.241
1607          UA       0       5      16      30      65      77      84      90      94      97
1608          UA     100
              *

1609          KK  BB523R
1610          KM      Retrieve previously diverted hydrograph at C523 in the right branch.
1611          DR   D523R
              *

1612          KK  523548
1613          KM      Normal depth channel route from C523 to C548
1614          KM      Source:  200 Scale Mapping
1615          RS      11    FLOW      -1
1616          RC   0.040   0.018   0.040  2680.0  0.0189
1617          RX  1000.0  1040.0  1090.0  1130.0  1170.0  1171.2  1181.2  1196.2
1618          RY  1646.0  1645.0  1643.8  1644.7  1644.0  1644.4  1646.0  1648.0
              *

1619          KK   C548L
1620          KM      Hydrograph combine 541548 + 206G + BB523R at C548 left branch
1621          HC       3    3.72
              *
              * *
              * * C548L is the total flow in Balboa Wash above confluence with Oxford Wash
              * *
              *

1622          KK    206H
1623          KM   Sub-Basin   206H
1624          KM
1625          KM      The Clark Unit Hydrograph is used for this basin.
1626          KM          The Urban time-area relation is used for this basin.
1627          KM
1628          KM      Time of Concentration for this sub-basin is based on the following:
1629          KM          6-Hour Rainfall, Pattern No.  1.00
1630          KM          An rainfall areal reduction factor of 0.999
1631          KM
1632          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1633          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1634          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
1635          KM
1636          KM          L=   0.515 miles, S=  183 feet/mile, Kb= .03
1637          KM
1638          BA   0.059
1                                        HEC-1 INPUT                                          PAGE 38

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

1639          LG    0.08    0.25    5.70    0.18   36.29
1640          UC   0.138   0.121
1641          UA       0       5      16      30      65      77      84      90      94      97
1642          UA     100
              *

1643          KK  542543
1644          KM      Normal depth channel route from C542 to C543
1645          KM      Source:  HEC-2 Cross Section: OX 0.931
1646          RS       1    FLOW      -1
1647          RC   0.075   0.040   0.050   686.0  0.0066
1648          RX  9846.9  9881.6  9967.5  9983.2 10010.0 10025.0 10033.8 10039.6
1649          RY  1732.3  1723.5  1724.1  1717.8  1717.0  1724.0  1728.2  1730.7
              *

1650          KK    206I
1651          KM   Sub-Basin   206I
1652          KM
1653          KM      The Clark Unit Hydrograph is used for this basin.
```

```
1654        KM          The Urban time-area relation is used for this basin.
1655        KM
1656        KM      Time of Concentration for this sub-basin is based on the following:
1657        KM          6-Hour Rainfall, Pattern No.  1.00
1658        KM          An rainfall areal reduction factor of 1.000
1659        KM
1660        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1661        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1662        KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
1663        KM
1664        KM          L=   0.232 miles, S=  286 feet/mile, Kb= .03
1665        KM
1666        BA   0.021
1667        LG    0.08    0.25    5.70    0.18   34.78
1668        UC   0.083   0.066
1669        UA       0       5      16      30      65      77      84      90      94      97
1670        UA     100
            *

1671        KK    C543
1672        KM      Hydrograph combine 542543 + 206I at C543
1673        HC       2
            *

1674        KK   D543L
1675        KM      Hydrograph diversion at C543.  Main flow continues in the left branch.
1676        KM      Diverted flow is in the right branch.
1677        DT   D543R
1678        DI       0      38      45      50      65      85      97     122     141     162
1679        DI     194     350     395     432     475     522     570     612
1680        DQ       0      38      45      50      65      85      97     122     141     162
1681        DQ     194     350     395     425     460     500     540     575
            *
```



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

1682        KK  543544
1683        KM      Normal depth channel route from C543 to C544
1684        KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1685        RS       1    FLOW      -1
1686        RC   0.040   0.018   0.040   597.0  0.0277
1687        RX  1000.0  1020.0  1045.0  1075.0  1105.0  1106.2  1146.2  1266.2
1688        RY  1720.0  1718.0  1712.0  1712.3  1712.0  1712.4  1714.0  1720.0
            *

1689        KK    206K
1690        KM   Sub-Basin   206K
1691        KM
1692        KM      The Clark Unit Hydrograph is used for this basin.
1693        KM          The Urban time-area relation is used for this basin.
1694        KM
1695        KM      Time of Concentration for this sub-basin is based on the following:
1696        KM          6-Hour Rainfall, Pattern No.  1.00
1697        KM          An rainfall areal reduction factor of 0.999
1698        KM
1699        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1700        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1701        KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
1702        KM
1703        KM          L=   0.615 miles, S=  255 feet/mile, Kb= .03
1704        KM
1705        BA   0.056
1706        LG    0.09    0.25    5.70    0.18   25.80
1707        UC   0.133   0.139
1708        UA       0       5      16      30      65      77      84      90      94      97
1709        UA     100
            *

1710        KK    C544
1711        KM      Hydrograph combine 543544 + 206K at C544
1712        HC       2
            *

1713        KK  544545
1714        KM      Normal depth channel route from C544 to C545
1715        KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1716        RS       1    FLOW      -1
1717        RC   0.040   0.018   0.040   985.0  0.0234
1718        RX  1000.0  1008.0  1018.0  1048.0  1078.0  1079.2  1089.2  1109.2
1719        RY  1690.0  1688.0  1686.0  1686.3  1686.0  1686.4  1688.0  1689.0
            *

1720        KK   D545L
1721        KM      Hydrograph diversion at C545.  Main flow continues in the left branch.
1722        KM      Diverted flow is in the right branch.
1723        DT   D545R
```

```
1724        DI       0      50     100     200     400     800    1600    3200    5000
1725        DQ       0      25      50     100     200     400     800    1600    2500
            *
                                          HEC-1 INPUT                                                    PAGE 40

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


1726        KK  545546
1727        KM      Normal depth channel route from C545 to C546
1728        KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1729        RS       1    FLOW      -1
1730        RC   0.040   0.018   0.040   428.0  0.0164
1731        RX  1000.0  1020.0  1050.0  1080.0  1110.0  1111.2  1121.2  1151.2
1732        RY  1680.0  1678.0  1676.0  1676.3  1676.0  1676.4  1678.0  1678.5
            *

1733        KK    206L
1734        KM   Sub-Basin   206L
1735        KM
1736        KM      The Clark Unit Hydrograph is used for this basin.
1737        KM          The Urban time-area relation is used for this basin.
1738        KM
1739        KM      Time of Concentration for this sub-basin is based on the following:
1740        KM          6-Hour Rainfall, Pattern No.  1.00
1741        KM          An rainfall areal reduction factor of 0.999
1742        KM
1743        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1744        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1745        KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
1746        KM
1747        KM          L=   0.546 miles, S=  231 feet/mile, Kb= .03
1748        KM
1749        BA   0.060
1750        LG    0.09    0.25    5.80    0.18   25.01
1751        UC   0.129   0.117
1752        UA       0       5      16      30      65      77      84      90      94      97
1753        UA     100
            *

1754        KK    C546
1755        KM      Hydrograph combine 545546 + 206L at C546
1756        HC       2
            *

1757        KK  546547
1758        KM      Normal depth channel route from C546 to C547
1759        KM      Source:  200 Scale Mapping
1760        RS       1    FLOW      -1
1761        RC   0.040   0.018   0.040   749.0  0.0327
1762        RX  1000.0  1005.0  1011.0  1013.0  1029.0  1047.0  1052.0  1057.0
1763        RY  1666.0  1664.0  1662.0  1661.9  1662.4  1662.0  1664.0  1666.0
            *

1764        KK  BB543R
1765        KM      Retrieve previously diverted hydrograph at C543 in the right branch.
1766        DR   D543R
            *
1                                         HEC-1 INPUT                                                    PAGE 41

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


1767        KK  543547
1768        KM      Normal depth channel route from C543 to C547
1769        KM      Source:  HEC-2 Cross Section: OX 0.638
1770        RS       5    FLOW      -1
1771        RC   0.075   0.040   0.050  2395.0  0.0278
1772        RX  9720.9  9769.0  9970.7  9985.5 10020.0 10038.1 10097.0 10102.0
1773        RY  1690.4  1681.2  1683.1  1676.2  1677.0  1687.1  1687.4  1690.0
            *

1774        KK  BB545R
1775        KM      Retrieve previously diverted hydrograph at C545 in the right branch.
1776        DR   D545R
            *

1777        KK  545547
1778        KM      Normal depth channel route from C545 to C547
1779        KM      Source:  HEC-2 Cross Section: OX 0.542
1780        RS       3    FLOW      -1
1781        RC   0.075   0.040   0.050  1216.0  0.0259
1782        RX  9668.2  9778.4  9957.9  9986.0 10012.7 10043.6 10067.6 10163.4
1783        RY  1674.1  1674.1  1673.3  1662.1  1662.2  1680.4  1680.9  1681.1
            *

1784        KK    206J
1785        KM   Sub-Basin   206J
```

```
1786          KM
1787          KM      The Clark Unit Hydrograph is used for this basin.
1788          KM          The Urban time-area relation is used for this basin.
1789          KM
1790          KM      Time of Concentration for this sub-basin is based on the following:
1791          KM          6-Hour Rainfall, Pattern No.  1.00
1792          KM          An rainfall areal reduction factor of 0.999
1793          KM
1794          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1795          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1796          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
1797          KM
1798          KM          L=   0.502 miles, S=  214 feet/mile, Kb= .03
1799          KM
1800          BA   0.060
1801          LG    0.08    0.25    5.70    0.18   44.51
1802          UC   0.125   0.105
1803          UA       0       5      16      30      65      77      84      90      94      97
1804          UA     100
              *

1805          KK    C547
1806          KM      Hydrograph combine 546547 + 543547 + 545547 + 206J at C547
1807          HC       4    0.26
              *
```

1 HEC-1 INPUT PAGE 42

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

1808          KK  547548
1809          KM      Normal depth channel route from C547 to C548
1810          KM      Source:  HEC-2 Cross Section: OX 0.235
1811          RS       3    FLOW      -1
1812          RC   0.075   0.040   0.050  2165.0  0.0182
1813          RX  9910.0  9911.4  9968.5  9987.6 10017.4 10032.3 10077.4 10080.0
1814          RY  1639.0  1638.9  1637.9  1635.7  1635.8  1641.7  1642.9  1643.0
              *

1815          KK    206M
1816          KM   Sub-Basin   206M
1817          KM
1818          KM      The Clark Unit Hydrograph is used for this basin.
1819          KM          The Urban time-area relation is used for this basin.
1820          KM
1821          KM      Time of Concentration for this sub-basin is based on the following:
1822          KM          6-Hour Rainfall, Pattern No.  1.00
1823          KM          An rainfall areal reduction factor of 0.999
1824          KM
1825          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1826          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1827          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
1828          KM
1829          KM          L=   0.465 miles, S=  166 feet/mile, Kb= .03
1830          KM
1831          BA   0.060
1832          LG    0.08    0.25    5.20    0.23   46.18
1833          UC   0.133   0.107
1834          UA       0       5      16      30      65      77      84      90      94      97
1835          UA     100
              *

1836          KK   C548R
1837          KM      Hydrograph combine 547548 + 206M at C548 right branch
1838          HC       2
              *
              * *
              * * C548R is the total flow in Oxford Wash above confluence with Balboa Wash
              * *
              *

1839          KK    C548
1840          KM      Hydrograph combine C548L + C548R at C548
1841          HC       2
              *
              * *
              * * C548 is the total flow in Balboa Wash below the confluence of Balboa Wash
              * * and Oxford Wash
              * *
              *
```

1 HEC-1 INPUT PAGE 43

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

1842          KK  548549
1843          KM      Normal depth channel route from C548 to C549
1844          KM      Source:  HEC-2 Cross Section: BA0.246
```

```
1845          RS       9    FLOW      -1
1846          RC   0.070   0.080   0.070  3258.0  0.0172
1847          RX  9889.1  9912.5  9940.2  9960.0 10026.1 10046.8 10067.8 10079.3
1848          RY  1586.2  1585.7  1577.5  1573.6  1573.2  1579.5  1585.7  1586.2
              *

1849          KK    206N
1850          KM   Sub-Basin   206N
1851          KM
1852          KM      The Clark Unit Hydrograph is used for this basin.
1853          KM          The Urban time-area relation is used for this basin.
1854          KM
1855          KM      Time of Concentration for this sub-basin is based on the following:
1856          KM          6-Hour Rainfall, Pattern No.  1.00
1857          KM          An rainfall areal reduction factor of 0.998
1858          KM
1859          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1860          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1861          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
1862          KM
1863          KM          L=   0.767 miles, S=  120 feet/mile, Kb= .03
1864          KM
1865          BA   0.152
1866          LG    0.11    0.27    4.65    0.29   52.66
1867          UC   0.188   0.137
1868          UA       0       5      16      30      65      77      84      90      94      97
1869          UA     100
              *

1870          KK   C549L
1871          KM      Hydrograph combine 548549 + 206N at C549 left branch
1872          HC       2
              *
              * *
              * * C549L is the total flow in Balboa Wash above confluence with Ashbrook Wash
              * *
              * * End Basin 206.  Start Basin 207
              * *
              *

1873          KK    207A
1874          KM   Sub-Basin   207A
1875          KM
1876          KM      The Clark Unit Hydrograph is used for this basin.
1877          KM          The Natural time-area relation is used for this basin.
1878          KM
1879          KM      Time of Concentration for this sub-basin is based on the following:
1880          KM          6-Hour Rainfall, Pattern No.  1.00
1881          KM          An rainfall areal reduction factor of 0.997
1882          KM
1883          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```



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

1884          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1885          KM   .45 .44 .44 .13 .09 .08 .04 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1886          KM
1887          KM          L=   1.356 miles, S=  351 feet/mile, Kb= .13
1888          KM
1889          BA   0.256
1890          LG    0.24    0.35    4.55    0.37   29.81
1891          UC   0.467   0.440
1892          UA       0       3       5       8      12      20      43      75      90      96
1893          UA     100
              *

1894          KK    207B
1895          KM   Sub-Basin   207B
1896          KM
1897          KM      The Clark Unit Hydrograph is used for this basin.
1898          KM          The Natural time-area relation is used for this basin.
1899          KM
1900          KM      Time of Concentration for this sub-basin is based on the following:
1901          KM          6-Hour Rainfall, Pattern No.  1.00
1902          KM          An rainfall areal reduction factor of 0.997
1903          KM
1904          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1905          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1906          KM   .45 .44 .44 .13 .09 .08 .04 .04 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1907          KM
1908          KM          L=   1.312 miles, S=  359 feet/mile, Kb= .13
1909          KM
1910          BA   0.208
1911          LG    0.24    0.35    4.45    0.38   32.42
1912          UC   0.450   0.463
1913          UA       0       3       5       8      12      20      43      75      90      96
1914          UA     100
```

```
                *

1915            KK    C550
1916            KM      Hydrograph combine 207A + 207B at C550
1917            HC       2
                *

1918            KK  550552
1919            KM      Normal depth channel route from C550 to C552
1920            KM      Source:  Hydrology Field Reconnaissance
1921            RS       4    FLOW      -1
1922            RC   0.050   0.045   0.050  4410.0  0.0528
1923            RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1924            RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
                *

1925            KK    207C
1926            KM   Sub-Basin   207C
1927            KM
1928            KM      The Clark Unit Hydrograph is used for this basin.
1929            KM          The Natural time-area relation is used for this basin.
1930            KM
```



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

1931            KM      Time of Concentration for this sub-basin is based on the following:
1932            KM          6-Hour Rainfall, Pattern No.  1.00
1933            KM          An rainfall areal reduction factor of 0.998
1934            KM
1935            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1936            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1937            KM   .45 .44 .44 .13 .09 .08 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
1938            KM
1939            KM          L=   0.974 miles, S=  297 feet/mile, Kb= .11
1940            KM
1941            BA   0.173
1942            LG    0.19    0.37    5.30    0.26   13.69
1943            UC   0.354   0.311
1944            UA       0       3       5       8      12      20      43      75      90      96
1945            UA     100
                *

1946            KK   C552L
1947            KM      Hydrograph combine 550552 + 207C at C552 left branch
1948            HC       2
                *

1949            KK    207D
1950            KM   Sub-Basin   207D
1951            KM
1952            KM      The Clark Unit Hydrograph is used for this basin.
1953            KM          The HEC-1 time-area relation is used for this basin.
1954            KM
1955            KM      Time of Concentration for this sub-basin is based on the following:
1956            KM          6-Hour Rainfall, Pattern No.  1.00
1957            KM          An rainfall areal reduction factor of 0.997
1958            KM
1959            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1960            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1961            KM   .46 .45 .45 .15 .11 .10 .05 .05 .04 .04 .04 .04 .01 .01 .01 .01 .01 .01
1962            KM
1963            KM          L=   1.036 miles, S=  373 feet/mile, Kb= .09
1964            KM
1965            BA   0.197
1966            LG    0.18    0.31    4.35    0.38   41.30
1967            UC   0.288   0.241
                *

1968            KK  551552
1969            KM      Normal depth channel route from C551 to C552
1970            KM      Source:  100 Scale 4' CI Mapping
1971            RS       5    FLOW      -1
1972            RC   0.050   0.045   0.050  4410.0  0.0528
1973            RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1974            RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
                *
```



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

1975            KK    207E
1976            KM   Sub-Basin   207E
1977            KM
1978            KM      The Clark Unit Hydrograph is used for this basin.
1979            KM          The Urban time-area relation is used for this basin.
1980            KM
```

```
1981        KM      Time of Concentration for this sub-basin is based on the following:
1982        KM          6-Hour Rainfall, Pattern No.  1.00
1983        KM          An rainfall areal reduction factor of 0.998
1984        KM
1985        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1986        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1987        KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .04 .04 .04 .01 .01 .01 .01 .01 .01
1988        KM
1989        KM          L=   1.366 miles, S=  315 feet/mile, Kb= .07
1990        KM
1991        BA   0.157
1992        LG    0.15    0.29    4.35    0.38   44.41
1993        UC   0.308   0.370
1994        UA       0       5      16      30      65      77      84      90      94      97
1995        UA     100
            *

1996        KK   C552R
1997        KM      Hydrograph combine 551552 + 207E at C552 right branch
1998        HC       2
            *

1999        KK    C552
2000        KM      Hydrograph combine C552L + C552R at C552
2001        HC       2
            *

2002        KK  552553
2003        KM      Normal depth channel route from C552 to C553
2004        KM      Source:  Hydrology Field Reconnaissance
2005        RS       2    FLOW      -1
2006        RC   0.060   0.050   0.060  1336.0  0.0337
2007        RX   993.0  1010.0  1055.0  1061.0  1082.0  1096.0  1105.0  1127.0
2008        RY    98.0    94.3    94.4    94.0    94.3    94.5    96.2    98.0
            *

2009        KK    207F
2010        KM   Sub-Basin   207F
2011        KM
2012        KM      The Clark Unit Hydrograph is used for this basin.
2013        KM          The HEC-1 time-area relation is used for this basin.
2014        KM
2015        KM      Time of Concentration for this sub-basin is based on the following:
2016        KM          6-Hour Rainfall, Pattern No.  1.00
2017        KM          An rainfall areal reduction factor of 0.998
2018        KM
2019        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2020        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```



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

2021        KM   .46 .45 .45 .14 .11 .09 .04 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
2022        KM
2023        KM          L=   0.794 miles, S=  296 feet/mile, Kb= .11
2024        KM
2025        BA   0.126
2026        LG    0.20    0.32    4.40    0.39   38.35
2027        UC   0.304   0.267
            *

2028        KK    C553
2029        KM      Hydrograph combine 552553 + 207F at C553
2030        HC       2
            *

2031        KK  553556
2032        KM      Normal depth channel route from C553 to C556
2033        KM      Source:  HEC-2 Cross Section: AS 6.118
2034        RS       2    FLOW      -1
2035        RC   0.055   0.045   0.060  2393.0  0.0255
2036        RX  9904.4  9945.9  9974.0  9987.4  9994.9 10008.6 10027.0 10045.3
2037        RY  2004.2  2003.9  1991.7  1990.4  1987.9  1988.2  1997.5  2006.7
            *

2038        KK    207G
2039        KM   Sub-Basin   207G
2040        KM
2041        KM      The Clark Unit Hydrograph is used for this basin.
2042        KM          The HEC-1 time-area relation is used for this basin.
2043        KM
2044        KM      Time of Concentration for this sub-basin is based on the following:
2045        KM          6-Hour Rainfall, Pattern No.  1.00
2046        KM          An rainfall areal reduction factor of 0.997
2047        KM
2048        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2049        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2050        KM   .45 .44 .44 .13 .10 .08 .04 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
```

```
2051          KM
2052          KM          L=   1.467 miles, S=  198 feet/mile, Kb= .10
2053          KM
2054          BA   0.236
2055          LG    0.17    0.37    5.60    0.23    9.10
2056          UC   0.521   0.555
              *

2057          KK   C556L
2058          KM      Hydrograph combine 553556 + 207G at C556 left branch
2059          HC       2
              *

2060          KK    207H
2061          KM   Sub-Basin   207H
2062          KM
2063          KM      The Clark Unit Hydrograph is used for this basin.
2064          KM          The Urban time-area relation is used for this basin.
2065          KM
1                                        HEC-1 INPUT                                                    PAGE 48

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

2066          KM      Time of Concentration for this sub-basin is based on the following:
2067          KM          6-Hour Rainfall, Pattern No.  1.00
2068          KM          An rainfall areal reduction factor of 0.998
2069          KM
2070          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2071          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2072          KM   .47 .46 .46 .16 .13 .12 .05 .05 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2073          KM
2074          KM          L=   1.044 miles, S=  371 feet/mile, Kb= .05
2075          KM
2076          BA   0.124
2077          LG    0.13    0.27    4.35    0.36   46.78
2078          UC   0.204   0.215
2079          UA       0       5      16      30      65      77      84      90      94      97
2080          UA     100
              *

2081          KK  554555
2082          KM      Normal depth channel route from C554 to C555
2083          KM      Source:  100 Scale 4' CI Mapping
2084          RS       3    FLOW      -1
2085          RC   0.050   0.045   0.050  2497.0  0.0649
2086          RX  1000.0  1025.0  1080.0  1100.0  1120.0  1130.0  1140.0  1155.0
2087          RY  2192.0  2188.0  2186.0  2184.0  2184.0  2188.0  2192.0  2194.0
              *

2088          KK    207I
2089          KM   Sub-Basin   207I
2090          KM
2091          KM      The Clark Unit Hydrograph is used for this basin.
2092          KM          The Urban time-area relation is used for this basin.
2093          KM
2094          KM      Time of Concentration for this sub-basin is based on the following:
2095          KM          6-Hour Rainfall, Pattern No.  1.00
2096          KM          An rainfall areal reduction factor of 0.999
2097          KM
2098          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2099          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2100          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2101          KM
2102          KM          L=   0.810 miles, S=  320 feet/mile, Kb= .03
2103          KM
2104          BA   0.073
2105          LG    0.09    0.25    4.40    0.35   50.00
2106          UC   0.142   0.159
2107          UA       0       5      16      30      65      77      84      90      94      97
2108          UA     100
              *

2109          KK    C555
2110          KM      Hydrograph combine 554555 + 207I at C555
2111          HC       2
              *
1                                        HEC-1 INPUT                                                    PAGE 49

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

2112          KK  555556
2113          KM      Normal depth channel route from C555 to C556
2114          KM      Source:  200 Scale Mapping
2115          RS       5    FLOW      -1
2116          RC   0.050   0.050   0.055  3353.0  0.0480
2117          RX  1000.0  1050.0  1090.0  1095.0  1130.0  1150.0  1160.0  1185.0
2118          RY  2020.0  2016.5  2006.0  2004.0  2005.0  2006.0  2010.0  2020.0
```

```
                *

2119            KK    207J
2120            KM   Sub-Basin   207J
2121            KM
2122            KM      The Clark Unit Hydrograph is used for this basin.
2123            KM          The Urban time-area relation is used for this basin.
2124            KM
2125            KM      Time of Concentration for this sub-basin is based on the following:
2126            KM          6-Hour Rainfall, Pattern No.  1.00
2127            KM          An rainfall areal reduction factor of 0.999
2128            KM
2129            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2130            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2131            KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2132            KM
2133            KM          L=   0.714 miles, S=  248 feet/mile, Kb= .04
2134            KM
2135            BA   0.093
2136            LG    0.10    0.26    4.40    0.34   48.61
2137            UC   0.171   0.154
2138            UA       0       5      16      30      65      77      84      90      94      97
2139            UA     100
                *

2140            KK   C556R
2141            KM      Hydrograph combine 555556 + 207J at C556 right branch
2142            HC       2
                *

2143            KK    C556
2144            KM      Hydrograph combine C556L + C556R at C556
2145            HC       2
                *

2146            KK  556557
2147            KM      Normal depth channel route from C556 to C557
2148            KM      Source:  HEC-2 Cross Section: AS 5.765
2149            RS       3    FLOW      -1
2150            RC   0.055   0.045   0.060  2298.0  0.0260
2151            RX  9957.1  9995.6 10000.0 10010.0 10040.4 10084.4 10104.2 10180.7
2152            RY  1949.3  1935.9  1935.8  1936.7  1936.7  1938.2  1947.1  1949.9
                *
1                                          HEC-1 INPUT                                          PAGE 50

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


2153            KK    207K
2154            KM   Sub-Basin   207K
2155            KM
2156            KM      The Clark Unit Hydrograph is used for this basin.
2157            KM          The Urban time-area relation is used for this basin.
2158            KM
2159            KM      Time of Concentration for this sub-basin is based on the following:
2160            KM          6-Hour Rainfall, Pattern No.  1.00
2161            KM          An rainfall areal reduction factor of 0.998
2162            KM
2163            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2164            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2165            KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
2166            KM
2167            KM          L=   0.859 miles, S=  294 feet/mile, Kb= .05
2168            KM
2169            BA   0.130
2170            LG    0.11    0.27    5.40    0.21   37.19
2171            UC   0.196   0.172
2172            UA       0       5      16      30      65      77      84      90      94      97
2173            UA     100
                *

2174            KK   C557R
2175            KM      Hydrograph combine 556557 + 207K at C557
2176            HC       2
                *

2177            KK    207L
2178            KM   Sub-Basin   207L
2179            KM
2180            KM      The Clark Unit Hydrograph is used for this basin.
2181            KM          The Urban time-area relation is used for this basin.
2182            KM
2183            KM      Time of Concentration for this sub-basin is based on the following:
2184            KM          6-Hour Rainfall, Pattern No.  1.00
2185            KM          An rainfall areal reduction factor of 0.999
2186            KM
2187            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2188            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
2189          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
2190          KM
2191          KM          L=   0.667 miles, S=  236 feet/mile, Kb= .04
2192          KM
2193          BA   0.080
2194          LG    0.09    0.26    6.00    0.16   33.25
2195          UC   0.167   0.154
2196          UA       0       5      16      30      65      77      84      90      94      97
2197          UA     100
              *
1                                          HEC-1 INPUT                                                PAGE 51

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


2198          KK    C557
2199          KM      Hydrograph combine C557R + 207L at C557
2200          HC       2
              *
              * *
              * * C557 is the total flow in Ashbrook Wash downstream of Golden Eagle Blvd.
              * * at fire station
              * *
              *

2201          KK  557558
2202          KM      Normal depth channel route from C557 to C558
2203          KM      Source:  HEC-2 Cross Section: AS 5.254
2204          RS       3    FLOW      -1
2205          RC   0.055   0.045   0.060  2652.0  0.0242
2206          RX  9662.0  9965.0  9967.0 10000.0 10072.0 10095.0 10122.0 10175.0
2207          RY  1890.0  1885.9  1884.0  1878.0  1880.0  1886.0  1888.0  1890.0
              *

2208          KK    207M
2209          KM   Sub-Basin   207M
2210          KM
2211          KM      The Clark Unit Hydrograph is used for this basin.
2212          KM          The Urban time-area relation is used for this basin.
2213          KM
2214          KM      Time of Concentration for this sub-basin is based on the following:
2215          KM          6-Hour Rainfall, Pattern No.  1.00
2216          KM          An rainfall areal reduction factor of 0.998
2217          KM
2218          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2219          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2220          KM   .47 .47 .46 .16 .13 .12 .06 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
2221          KM
2222          KM          L=   0.636 miles, S=  295 feet/mile, Kb= .04
2223          KM
2224          BA   0.116
2225          LG    0.11    0.28    6.00    0.17   23.09
2226          UC   0.150   0.107
2227          UA       0       5      16      30      65      77      84      90      94      97
2228          UA     100
              *

2229          KK    C558
2230          KM      Hydrograph combine 557558 + 207M at C558
2231          HC       2
              *

2232          KK  558560
2233          KM      Normal depth channel route from C558 to C560
2234          KM      Source:  HEC-2 Cross Section: AS 4.839
2235          RS       3    FLOW      -1
2236          RC   0.055   0.045   0.060  1986.0  0.0185
2237          RX  9777.0  9897.0  9933.1  9970.6 10042.2 10063.4 10121.6 10204.9
2238          RY  1840.3  1837.3  1836.3  1824.3  1822.7  1828.5  1827.7  1842.7
              *
1                                          HEC-1 INPUT                                                PAGE 52

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


2239          KK    207O
2240          KM   Sub-Basin   207O
2241          KM
2242          KM      The Clark Unit Hydrograph is used for this basin.
2243          KM          The Urban time-area relation is used for this basin.
2244          KM
2245          KM      Time of Concentration for this sub-basin is based on the following:
2246          KM          6-Hour Rainfall, Pattern No.  1.00
2247          KM          An rainfall areal reduction factor of 0.998
2248          KM
2249          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2250          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2251          KM   .47 .46 .46 .15 .12 .11 .05 .05 .05 .03 .02 .02 .01 .01 .01 .01 .01 .01
```

```
2252          KM
2253          KM          L=   0.643 miles, S=  275 feet/mile, Kb= .04
2254          KM
2255          BA   0.131
2256          LG    0.13    0.29    5.60    0.21   23.47
2257          UC   0.158   0.107
2258          UA       0       5      16      30      65      77      84      90      94      97
2259          UA     100
              *

2260          KK   C560R
2261          KM      Hydrograph combine 558560 + 207O at C560 right branch
2262          HC       2
              *

2263          KK    207N
2264          KM   Sub-Basin   207N
2265          KM
2266          KM      The Clark Unit Hydrograph is used for this basin.
2267          KM          The Urban time-area relation is used for this basin.
2268          KM
2269          KM      Time of Concentration for this sub-basin is based on the following:
2270          KM          6-Hour Rainfall, Pattern No.  1.00
2271          KM          An rainfall areal reduction factor of 0.999
2272          KM
2273          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2274          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2275          KM   .47 .47 .47 .16 .13 .12 .06 .05 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
2276          KM
2277          KM          L=   0.431 miles, S=  190 feet/mile, Kb= .03
2278          KM
2279          BA   0.049
2280          LG    0.09    0.25    4.80    0.27   35.87
2281          UC   0.125   0.104
2282          UA       0       5      16      30      65      77      84      90      94      97
2283          UA     100
              *
```



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

2284          KK  559560
2285          KM      Normal depth channel route from C559 to C560
2286          KM      Source:  200 Scale Mapping
2287          RS       5    FLOW      -1
2288          RC   0.050   0.045   0.050  2170.0  0.0230
2289          RX  1000.0  1050.0  1080.0  1100.0  1110.0  1140.0  1170.0  1205.0
2290          RY  1854.0  1852.0  1850.0  1848.0  1848.0  1850.0  1852.0  1854.0
              *

2291          KK   C560I
2292          KM      Hydrograph combine C560R + 559560 at C560I
2293          HC       2
              *
              * *
              * * C560I is the total flow in Ashbrook Wash upstream of Dam 6
              * *
              *

2294          KK   C560O
2295          KM      Reservoir route at C560 (Dam 6).
2296          RS       1    ELEV  1808.8
2297          SV    0.00    1.71   14.81   34.65   60.43   93.47  135.64  183.00  186.00  191.44
2298          SV  197.00  205.00  212.00  219.00  226.40  234.00  242.00  246.00  250.00  254.00
2299          SE  1808.8  1812.0  1816.0  1820.0  1824.0  1828.0  1832.0  1835.4  1835.6  1836.0
2300          SE  1836.4  1836.8  1837.2  1837.6  1838.0  1838.4  1838.8  1839.0  1839.2  1839.4
2301          SQ       0      57     136     184     224     257     285     303     319     440
2302          SQ     691    1055    1500    2018    2600    3243    3944    4315    4699    5097
2303          RL                    0.40
              *
              * *
              * * End Basin 207.  Start Basin 210 temporarily
              * *
              *

2304          KK  560585
2305          KM      Normal depth channel route from C560 to C585
2306          KM      Source:  HEC-2 Cross Section: AS4.311
2307          RS       5    FLOW      -1
2308          RC   0.050   0.025   0.050  3127.0  0.0272
2309          RX  9850.4  9950.4  9974.4 10000.0 10035.5 10059.8 10080.4 10104.4
2310          RY  1772.0  1771.7  1765.3  1765.3  1765.9  1768.5  1773.3  1773.7
              *

2311          KK    210A
2312          KM   Sub-Basin   210A
2313          KM
```

```
2314          KM      The Clark Unit Hydrograph is used for this basin.
2315          KM          The Urban time-area relation is used for this basin.
2316          KM
2317          KM      Time of Concentration for this sub-basin is based on the following:
2318          KM          6-Hour Rainfall, Pattern No.  1.00
2319          KM          An rainfall areal reduction factor of 0.998
2320          KM
2321          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1                                          HEC-1 INPUT                                                    PAGE 54

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

2322          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2323          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .02 .00 .00 .00 .00 .00 .00
2324          KM
2325          KM          L=   0.631 miles, S=  233 feet/mile, Kb= .03
2326          KM
2327          BA   0.123
2328          LG    0.09    0.25    5.00    0.24   16.65
2329          UC   0.142   0.097
2330          UA       0       5      16      30      65      77      84      90      94      97
2331          UA     100
              *

2332          KK    C585
2333          KM      Hydrograph combine 560585 + 210A at C585
2334          HC       2
              *
              * *
              * * C585 is the total flow in Ashbrook Wash at Golden Eagle Blvd. just
              * * upstream of DAM 4
              * *
              * * Temporarily stop Basin 210.  Start Basin 208
              * *
              * * Start Bristol Wash
              * *
              *

2335          KK    208A
2336          KM   Sub-Basin   208A
2337          KM
2338          KM      The Clark Unit Hydrograph is used for this basin.
2339          KM          The Urban time-area relation is used for this basin.
2340          KM
2341          KM      Time of Concentration for this sub-basin is based on the following:
2342          KM          6-Hour Rainfall, Pattern No.  1.00
2343          KM          An rainfall areal reduction factor of 0.998
2344          KM
2345          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2346          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2347          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2348          KM
2349          KM          L=   0.626 miles, S=  366 feet/mile, Kb= .03
2350          KM
2351          BA   0.139
2352          LG    0.09    0.25    4.35    0.35   49.86
2353          UC   0.121   0.075
2354          UA       0       5      16      30      65      77      84      90      94      97
2355          UA     100
              *

2356          KK  561563
2357          KM      Normal depth channel route from C561 to C563
2358          KM      Source:  100 Scale 4' CI Mapping
2359          RS       1    FLOW      -1
2360          RC   0.050   0.045   0.050  2335.0  0.0856
2361          RX  1000.0  1004.0  1009.0  1019.0  1037.0  1045.0  1060.0  1075.0
1                                          HEC-1 INPUT                                                    PAGE 55

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

2362          RY  2280.0  2276.0  2272.0  2268.0  2268.0  2272.0  2274.0  2276.0
              *

2363          KK    208B
2364          KM   Sub-Basin   208B
2365          KM
2366          KM      The Clark Unit Hydrograph is used for this basin.
2367          KM          The Urban time-area relation is used for this basin.
2368          KM
2369          KM      Time of Concentration for this sub-basin is based on the following:
2370          KM          6-Hour Rainfall, Pattern No.  1.00
2371          KM          An rainfall areal reduction factor of 1.000
2372          KM
2373          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2374          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2375          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2376          KM
```

```
2377          KM          L=   0.491 miles, S=  325 feet/mile, Kb= .03
2378          KM
2379          BA   0.027
2380          LG    0.09    0.25    4.35    0.35   50.00
2381          UC   0.113   0.146
2382          UA       0       5      16      30      65      77      84      90      94      97
2383          UA     100
              *

2384          KK   C563R
2385          KM      Hydrograph combine 561563 + 206B at C563 right branch
2386          HC       2
              *

2387          KK    208C
2388          KM   Sub-Basin   208C
2389          KM
2390          KM      The Clark Unit Hydrograph is used for this basin.
2391          KM          The HEC-1 time-area relation is used for this basin.
2392          KM
2393          KM      Time of Concentration for this sub-basin is based on the following:
2394          KM          6-Hour Rainfall, Pattern No.  1.00
2395          KM          An rainfall areal reduction factor of 0.999
2396          KM
2397          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2398          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2399          KM   .46 .45 .45 .14 .11 .10 .05 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
2400          KM
2401          KM          L=   0.639 miles, S=  387 feet/mile, Kb= .11
2402          KM
2403          BA   0.066
2404          LG    0.20    0.32    4.35    0.38   40.11
2405          UC   0.238   0.246
              *
```



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

2406          KK  562563
2407          KM      Normal depth channel route from C562 to C563
2408          KM      Source:  100 Scale 4' CI Mapping
2409          RS       4    FLOW      -1
2410          RC   0.050   0.045   0.050  3745.0  0.1106
2411          RX  1000.0  1007.0  1012.0  1017.0  1022.0  1027.0  1044.0  1064.0
2412          RY  2420.0  2416.0  2412.0  2411.8  2411.8  2412.0  2416.0  2420.0
              *

2413          KK    208D
2414          KM   Sub-Basin   208D
2415          KM
2416          KM      The Clark Unit Hydrograph is used for this basin.
2417          KM          The Urban time-area relation is used for this basin.
2418          KM
2419          KM      Time of Concentration for this sub-basin is based on the following:
2420          KM          6-Hour Rainfall, Pattern No.  1.00
2421          KM          An rainfall areal reduction factor of 0.999
2422          KM
2423          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2424          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2425          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2426          KM
2427          KM          L=   0.772 miles, S=  327 feet/mile, Kb= .03
2428          KM
2429          BA   0.075
2430          LG    0.09    0.25    4.35    0.35   50.00
2431          UC   0.138   0.146
2432          UA       0       5      16      30      65      77      84      90      94      97
2433          UA     100
              *

2434          KK   C563L
2435          KM      Hydrograph combine 562563 + 208D at C563 left branch
2436          HC       2
              *

2437          KK    C563
2438          KM      Hydrograph combine C563R + C563L at C563
2439          HC       2
              *

2440          KK  563564
2441          KM      Normal depth channel route from C563 to C564
2442          KM      Source:  HEC-2 Cross Section: BR 2.667
2443          RS       3    FLOW      -1
2444          RC   0.080   0.080   0.080  2762.0  0.0540
2445          RX  9947.0  9980.4  9986.4  9995.5 10000.0 10005.8 10021.9 10037.2
2446          RY  2103.4  2089.5  2089.2  2084.5  2084.4  2084.3  2098.5  2100.6
```

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

2447            KK    208E
2448            KM   Sub-Basin   208E
2449            KM
2450            KM      The Clark Unit Hydrograph is used for this basin.
2451            KM          The Urban time-area relation is used for this basin.
2452            KM
2453            KM      Time of Concentration for this sub-basin is based on the following:
2454            KM          6-Hour Rainfall, Pattern No.  1.00
2455            KM          An rainfall areal reduction factor of 0.999
2456            KM
2457            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2458            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2459            KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2460            KM
2461            KM          L=   0.644 miles, S=  306 feet/mile, Kb= .03
2462            KM
2463            BA   0.062
2464            LG    0.09    0.25    4.35    0.35   50.00
2465            UC   0.129   0.131
2466            UA       0       5      16      30      65      77      84      90      94      97
2467            UA     100
                *

2468            KK   C564R
2469            KM      Hydrograph combine 563564 + 208E at C564 right branch
2470            HC       2
                *

2471            KK    208F
2472            KM   Sub-Basin   208F
2473            KM
2474            KM      The Clark Unit Hydrograph is used for this basin.
2475            KM          The Urban time-area relation is used for this basin.
2476            KM
2477            KM      Time of Concentration for this sub-basin is based on the following:
2478            KM          6-Hour Rainfall, Pattern No.  1.00
2479            KM          An rainfall areal reduction factor of 0.999
2480            KM
2481            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2482            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2483            KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2484            KM
2485            KM          L=   0.582 miles, S=  293 feet/mile, Kb= .03
2486            KM
2487            BA   0.069
2488            LG    0.09    0.25    4.35    0.35   49.92
2489            UC   0.125   0.109
2490            UA       0       5      16      30      65      77      84      90      94      97
2491            UA     100
                *
```



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

2492            KK    C564
2493            KM      Hydrograph combine C564R + 208F at C564
2494            HC       2
                *

2495            KK  564565
2496            KM      Normal depth channel route from C564 to C565
2497            KM      Source:  HEC-2 Cross Section: BR 2.236
2498            RS       5    FLOW      -1
2499            RC   0.080   0.080   0.080  3243.0  0.0398
2500            RX  9937.7  9965.8  9985.5 10000.0 10008.6 10016.4 10037.5 10054.4
2501            RY  1998.7  1998.1  1988.9  1988.8  1989.0  1990.4  1990.6  1999.1
                *

2502            KK    208G
2503            KM   Sub-Basin   208G
2504            KM
2505            KM      The Clark Unit Hydrograph is used for this basin.
2506            KM          The Urban time-area relation is used for this basin.
2507            KM
2508            KM      Time of Concentration for this sub-basin is based on the following:
2509            KM          6-Hour Rainfall, Pattern No.  1.00
2510            KM          An rainfall areal reduction factor of 0.998
2511            KM
2512            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2513            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2514            KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
```

```
2515          KM
2516          KM          L=   0.772 miles, S=  299 feet/mile, Kb= .04
2517          KM
2518          BA   0.129
2519          LG    0.11    0.26    4.60    0.31   54.19
2520          UC   0.167   0.132
2521          UA       0       5      16      30      65      77      84      90      94      97
2522          UA     100
              *

2523          KK    C565
2524          KM      Hydrograph combine 564565 + 208G at C565
2525          HC       2
              *

2526          KK  565568
2527          KM      Normal depth channel route from C565 to C568
2528          KM      Source:  HEC-2 Cross Section: BR 1.853
2529          RS       2    FLOW      -1
2530          RC   0.050   0.060   0.045  2254.0  0.0333
2531          RX  9966.2  9975.6  9985.0 10000.0 10017.9 10027.6 10040.1 10052.5
2532          RY  1929.1  1924.5  1919.8  1918.3  1918.4  1919.6  1925.2  1930.8
              *
1                                          HEC-1 INPUT                                          PAGE 59

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


2533          KK    208H
2534          KM   Sub-Basin   208H
2535          KM
2536          KM      The Clark Unit Hydrograph is used for this basin.
2537          KM          The Urban time-area relation is used for this basin.
2538          KM
2539          KM      Time of Concentration for this sub-basin is based on the following:
2540          KM          6-Hour Rainfall, Pattern No.  1.00
2541          KM          An rainfall areal reduction factor of 0.999
2542          KM
2543          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2544          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2545          KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
2546          KM
2547          KM          L=   0.632 miles, S=  283 feet/mile, Kb= .07
2548          KM
2549          BA   0.043
2550          LG    0.12    0.30    5.60    0.21   35.43
2551          UC   0.204   0.265
2552          UA       0       5      16      30      65      77      84      90      94      97
2553          UA     100
              *

2554          KK   C568L
2555          KM      Hydrograph combine 565568 + 208H at C568 left branch
2556          HC       2
              *
              * *
              * * Start Cholula Wash
              * *
              *

2557          KK    208I
2558          KM   Sub-Basin   208I
2559          KM
2560          KM      The Clark Unit Hydrograph is used for this basin.
2561          KM          The Urban time-area relation is used for this basin.
2562          KM
2563          KM      Time of Concentration for this sub-basin is based on the following:
2564          KM          6-Hour Rainfall, Pattern No.  1.00
2565          KM          An rainfall areal reduction factor of 0.998
2566          KM
2567          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2568          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2569          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2570          KM
2571          KM          L=   0.823 miles, S=  363 feet/mile, Kb= .03
2572          KM
2573          BA   0.117
2574          LG    0.09    0.25    4.35    0.35   50.00
2575          UC   0.138   0.119
2576          UA       0       5      16      30      65      77      84      90      94      97
2577          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 60

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


2578          KK    208J
```

```
2579          KM   Sub-Basin   208J
2580          KM
2581          KM      The Clark Unit Hydrograph is used for this basin.
2582          KM          The Urban time-area relation is used for this basin.
2583          KM
2584          KM      Time of Concentration for this sub-basin is based on the following:
2585          KM          6-Hour Rainfall, Pattern No.  1.00
2586          KM          An rainfall areal reduction factor of 0.999
2587          KM
2588          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2589          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2590          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2591          KM
2592          KM          L=   0.974 miles, S=  353 feet/mile, Kb= .03
2593          KM
2594          BA   0.081
2595          LG    0.09    0.25    4.35    0.35   50.00
2596          UC   0.154   0.190
2597          UA       0       5      16      30      65      77      84      90      94      97
2598          UA     100
              *

2599          KK    C566
2600          KM      Hydrograph combine 208I + 208J at C566
2601          HC       2
              *

2602          KK  566567
2603          KM      Normal depth channel route from C566 to C567
2604          KM      Source:  HEC-2 Cross Section: CH 0.766
2605          RS       2    FLOW      -1
2606          RC   0.080   0.080   0.080  1463.0  0.0410
2607          RX  9925.3  9949.0  9965.7  9988.3 10000.0 10016.2 10029.5 10042.7
2608          RY  2047.9  2043.7  2035.3  2033.3  2031.4  2033.0  2040.1  2047.2
              *

2609          KK    208K
2610          KM   Sub-Basin   208K
2611          KM
2612          KM      The Clark Unit Hydrograph is used for this basin.
2613          KM          The Urban time-area relation is used for this basin.
2614          KM
2615          KM      Time of Concentration for this sub-basin is based on the following:
2616          KM          6-Hour Rainfall, Pattern No.  1.00
2617          KM          An rainfall areal reduction factor of 0.999
2618          KM
2619          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2620          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2621          KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
2622          KM
2623          KM          L=   0.431 miles, S=  317 feet/mile, Kb= .03
2624          KM
2625          BA   0.048
```



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

2626          LG    0.09    0.25    4.35    0.35   54.38
2627          UC   0.104   0.087
2628          UA       0       5      16      30      65      77      84      90      94      97
2629          UA     100
              *

2630          KK   C567L
2631          KM      Hydrograph combine 566567 + 208K at C567 left branch
2632          HC       2
              *

2633          KK    208L
2634          KM   Sub-Basin   208L
2635          KM
2636          KM      The Clark Unit Hydrograph is used for this basin.
2637          KM          The Urban time-area relation is used for this basin.
2638          KM
2639          KM      Time of Concentration for this sub-basin is based on the following:
2640          KM          6-Hour Rainfall, Pattern No.  1.00
2641          KM          An rainfall areal reduction factor of 0.999
2642          KM
2643          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2644          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2645          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
2646          KM
2647          KM          L=   0.655 miles, S=  334 feet/mile, Kb= .03
2648          KM
2649          BA   0.059
2650          LG    0.09    0.25    4.40    0.35   51.31
2651          UC   0.125   0.132
2652          UA       0       5      16      30      65      77      84      90      94      97
```

```
2653          UA     100
              *

2654          KK    C567
2655          KM      Hydrograph combine C567L + 208L at C567
2656          HC       2
              *

2657          KK  567568
2658          KM      Normal depth channel route from C567 to C568
2659          KM      Source:  HEC-2 Cross Section: CH 0.129
2660          RS       5    FLOW      -1
2661          RC   0.050   0.060   0.045  3650.0  0.0389
2662          RX  9945.7  9958.4  9989.8 10000.0 10016.4 10028.3 10045.4 10059.8
2663          RY  1912.1  1905.9  1899.0  1899.3  1898.9  1899.5  1907.1  1911.9
              *

2664          KK    208M
2665          KM   Sub-Basin   208M
2666          KM
2667          KM      The Clark Unit Hydrograph is used for this basin.
2668          KM          The Urban time-area relation is used for this basin.
2669          KM
2670          KM      Time of Concentration for this sub-basin is based on the following:
1                                        HEC-1 INPUT                                          PAGE 62

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

2671          KM          6-Hour Rainfall, Pattern No.  1.00
2672          KM          An rainfall areal reduction factor of 0.998
2673          KM
2674          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2675          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2676          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
2677          KM
2678          KM          L=   1.031 miles, S=  321 feet/mile, Kb= .03
2679          KM
2680          BA   0.159
2681          LG    0.09    0.25    4.40    0.34   62.04
2682          UC   0.163   0.144
2683          UA       0       5      16      30      65      77      84      90      94      97
2684          UA     100
              *

2685          KK   C568R
2686          KM      Hydrograph combine 567568 + 208M at C568 right branch
2687          HC       2
              *

2688          KK    C568
2689          KM      Hydrograph combine C568L + C568R at C568
2690          HC       2
              *

2691          KK  568573
2692          KM      Normal depth channel route from C568 to C573
2693          KM      Source:  HEC-2 Cross Section: BR 1.340
2694          RS       3    FLOW      -1
2695          RC   0.098   0.075   0.075  2067.0  0.0324
2696          RX  9921.8  9954.1  9968.9  9991.3 10000.0 10006.9 10025.2 10050.4
2697          RY  1843.8  1840.4  1835.1  1834.7  1832.7  1833.3  1838.1  1854.0
              *

2698          KK    208N
2699          KM   Sub-Basin   208N
2700          KM
2701          KM      The Clark Unit Hydrograph is used for this basin.
2702          KM          The Urban time-area relation is used for this basin.
2703          KM
2704          KM      Time of Concentration for this sub-basin is based on the following:
2705          KM          6-Hour Rainfall, Pattern No.  1.00
2706          KM          An rainfall areal reduction factor of 0.999
2707          KM
2708          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2709          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2710          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .06 .06 .01 .01 .01 .01 .01 .01
2711          KM
2712          KM          L=   0.589 miles, S=  160 feet/mile, Kb= .04
2713          KM
2714          BA   0.047
2715          LG    0.09    0.25    6.20    0.15   62.49
2716          UC   0.175   0.200
2717          UA       0       5      16      30      65      77      84      90      94      97
                                         HEC-1 INPUT                                          PAGE 63

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

2718          UA     100
```

```
*

KK   C573L
KM      Hydrograph combine 568573 + 208N at C573 left branch
HC       2
*
* *
* * C573L is the total flow in Bristol Wash upstream of the confluence with
* * Zapata Wash
* *
* * Start Zapata Wash
* *
*

KK    208O
KM   Sub-Basin   208O
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Urban time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          6-Hour Rainfall, Pattern No.  1.00
KM          An rainfall areal reduction factor of 0.997
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .05 .04 .04 .01 .01 .01 .01 .01 .01
KM
KM          L=   1.174 miles, S=  347 feet/mile, Kb= .03
KM
BA   0.230
LG    0.09    0.25    4.60    0.31   48.49
UC   0.167   0.133
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK  569570
KM      Normal depth channel route from C569 to C570
KM      Source:  HEC-2 Cross Section: ZA 0.493
RS       1    FLOW      -1
RC   0.050   0.035   0.055  1696.0  0.0404
RX  9965.3  9985.5  9998.4 10000.0 10010.6 10019.1 10038.5 10038.5
RY  1919.3  1912.3  1908.1  1907.8  1905.2  1908.1  1920.1  1920.1
*

KK    208P
KM   Sub-Basin   208P
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Urban time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          6-Hour Rainfall, Pattern No.  1.00
```



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

KM          An rainfall areal reduction factor of 0.999
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .49 .48 .48 .18 .15 .14 .07 .07 .07 .06 .06 .06 .01 .01 .01 .01 .01 .01
KM
KM          L=   0.471 miles, S=  312 feet/mile, Kb= .03
KM
BA   0.058
LG    0.08    0.25    5.70    0.18   59.29
UC   0.108   0.087
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   C570R
KM      Hydrograph combine 569570 + 208P at C570 right branch
HC       2
*

KK    208Q
KM   Sub-Basin   208Q
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Urban time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          6-Hour Rainfall, Pattern No.  1.00
KM          An rainfall areal reduction factor of 0.999
KM
```

```
2784          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2785          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2786          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
2787          KM
2788          KM          L=   0.823 miles, S=  324 feet/mile, Kb= .04
2789          KM
2790          BA   0.094
2791          LG    0.10    0.26    5.00    0.25   54.26
2792          UC   0.167   0.166
2793          UA       0       5      16      30      65      77      84      90      94      97
2794          UA     100
              *

2795          KK    C570
2796          KM      Hydrograph combine C570R + 208Q at C570
2797          HC       2
              *
              * *
              * * NOTE: 570572 is too short to route
              * *
              *
```



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

2798          KK    208R
2799          KM   Sub-Basin   208R
2800          KM
2801          KM      The Clark Unit Hydrograph is used for this basin.
2802          KM          The Urban time-area relation is used for this basin.
2803          KM
2804          KM      Time of Concentration for this sub-basin is based on the following:
2805          KM          6-Hour Rainfall, Pattern No.  1.00
2806          KM          An rainfall areal reduction factor of 1.000
2807          KM
2808          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2809          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2810          KM   .49 .48 .48 .18 .15 .14 .07 .07 .07 .06 .06 .06 .01 .01 .01 .01 .01 .01
2811          KM
2812          KM          L=   0.238 miles, S=  327 feet/mile, Kb= .03
2813          KM
2814          BA   0.010
2815          LG    0.08    0.23    6.20    0.15   55.16
2816          UC   0.083   0.100
2817          UA       0       5      16      30      65      77      84      90      94      97
2818          UA     100
              *

2819          KK  571572
2820          KM      Normal depth channel route from C571 to C572
2821          KM      Source:  200 Scale Mapping
2822          RS       2    FLOW      -1
2823          RC   0.040   0.020   0.055  1379.0  0.0566
2824          RX  1000.0  1020.0  1040.0  1090.0  1122.0  1125.0  1135.0  1140.0
2825          RY  1894.0  1893.0  1892.0  1891.0  1891.0  1892.0  1894.0  1896.0
              *

2826          KK    C572
2827          KM      Hydrograph combine C570 + 571572 at C572
2828          HC       2
              *

2829          KK  572573
2830          KM      Normal depth channel route from C572 to C573
2831          KM      Source:  HEC-2 Cross Section: ZA 0.142
2832          RS       1    FLOW      -1
2833          RC   0.050   0.035   0.055  1285.0  0.0335
2834          RX  9961.8  9976.8  9982.5  9987.0 10009.5 10014.3 10022.1 10029.3
2835          RY  1840.3  1832.1  1831.2  1829.5  1829.2  1830.6  1831.2  1835.6
              *

2836          KK    208S
2837          KM   Sub-Basin   208S
2838          KM
2839          KM      The Clark Unit Hydrograph is used for this basin.
2840          KM          The Urban time-area relation is used for this basin.
2841          KM
2842          KM      Time of Concentration for this sub-basin is based on the following:
2843          KM          6-Hour Rainfall, Pattern No.  1.00
```



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

2844          KM          An rainfall areal reduction factor of 0.999
2845          KM
2846          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2847          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
2848          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .02 .02 .02 .02 .02 .02
2849          KM
2850          KM          L=   0.568 miles, S=  234 feet/mile, Kb= .03
2851          KM
2852          BA   0.068
2853          LG    0.08    0.24    6.20    0.15   67.07
2854          UC   0.129   0.112
2855          UA       0       5      16      30      65      77      84      90      94      97
2856          UA     100
              *

2857          KK   C573R
2858          KM      Hydrograph combine 572573 + 208S at C573 right branch
2859          HC       2
              *

2860          KK    C573
2861          KM      Hydrograph combine C573L + C573R at C573
2862          HC       2
              *
              * *
              * * NOTE: 573577 is too short to route
              * *
              * * C573 is the total flow in Bristol Wash upstream of the confluence
              * * with Montezuna Wash
              * *
              * * Start Montezuna Wash
              * *
              *

2863          KK    208T
2864          KM   Sub-Basin   208T
2865          KM
2866          KM      The Clark Unit Hydrograph is used for this basin.
2867          KM          The Urban time-area relation is used for this basin.
2868          KM
2869          KM      Time of Concentration for this sub-basin is based on the following:
2870          KM          6-Hour Rainfall, Pattern No.  1.00
2871          KM          An rainfall areal reduction factor of 0.998
2872          KM
2873          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2874          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2875          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
2876          KM
2877          KM          L=   0.787 miles, S=  340 feet/mile, Kb= .03
2878          KM
2879          BA   0.132
2880          LG    0.09    0.25    5.20    0.22   44.80
2881          UC   0.138   0.107
2882          UA       0       5      16      30      65      77      84      90      94      97
2883          UA     100
              *
```



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

2884          KK    208U
2885          KM   Sub-Basin   208U
2886          KM
2887          KM      The Clark Unit Hydrograph is used for this basin.
2888          KM          The Urban time-area relation is used for this basin.
2889          KM
2890          KM      Time of Concentration for this sub-basin is based on the following:
2891          KM          6-Hour Rainfall, Pattern No.  1.00
2892          KM          An rainfall areal reduction factor of 0.998
2893          KM
2894          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2895          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2896          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
2897          KM
2898          KM          L=   0.507 miles, S=  360 feet/mile, Kb= .03
2899          KM
2900          BA   0.134
2901          LG    0.09    0.25    5.30    0.21   44.19
2902          UC   0.108   0.057
2903          UA       0       5      16      30      65      77      84      90      94      97
2904          UA     100
              *

2905          KK    C574
2906          KM      Hydrograph combine 208T + 208U at C574
2907          HC       2
              *

2908          KK  574575
2909          KM      Normal depth channel route from C574 to C575
2910          KM      Source:  HEC-2 Cross Section: MO 0.587
```

```
2911          RS       1    FLOW      -1
2912          RC   0.070   0.050   0.055   823.0  0.0365
2913          RX  9945.0  9970.6  9986.7  9995.9 10002.3 10019.0 10036.7 10055.5
2914          RY  1932.6  1928.5  1922.9  1917.8  1917.7  1924.0  1931.1  1934.1
              *

2915          KK    208V
2916          KM   Sub-Basin   208V
2917          KM
2918          KM      The Clark Unit Hydrograph is used for this basin.
2919          KM          The Urban time-area relation is used for this basin.
2920          KM
2921          KM      Time of Concentration for this sub-basin is based on the following:
2922          KM          6-Hour Rainfall, Pattern No.  1.00
2923          KM          An rainfall areal reduction factor of 1.000
2924          KM
2925          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2926          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2927          KM   .48 .48 .48 .17 .14 .14 .07 .07 .06 .06 .06 .05 .01 .01 .01 .01 .01 .01
2928          KM
2929          KM          L=   0.354 miles, S=  319 feet/mile, Kb= .03
2930          KM
2931          BA   0.028
```



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

2932          LG    0.09    0.21    6.40    0.15   41.15
2933          UC   0.096   0.092
2934          UA       0       5      16      30      65      77      84      90      94      97
2935          UA     100
              *

2936          KK    C575
2937          KM      Hydrograph combine 574575 + 208V at C575
2938          HC       2
              *

2939          KK  575576
2940          KM      Normal depth channel route from C575 to C576
2941          KM      Source:  HEC-2 Cross Section: MO 0.307
2942          RS       2    FLOW      -1
2943          RC   0.070   0.050   0.055  2342.0  0.0423
2944          RX  9973.7  9974.0  9986.7 10000.0 10000.5 10009.7 10026.7 10037.3
2945          RY  1861.6  1861.5  1855.0  1853.0  1853.1  1854.8  1863.0  1867.1
              *

2946          KK    208W
2947          KM   Sub-Basin   208W
2948          KM
2949          KM      The Clark Unit Hydrograph is used for this basin.
2950          KM          The Urban time-area relation is used for this basin.
2951          KM
2952          KM      Time of Concentration for this sub-basin is based on the following:
2953          KM          6-Hour Rainfall, Pattern No.  1.00
2954          KM          An rainfall areal reduction factor of 0.999
2955          KM
2956          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2957          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2958          KM   .48 .48 .48 .17 .14 .14 .07 .07 .06 .06 .05 .05 .01 .01 .01 .01 .01 .01
2959          KM
2960          KM          L=   0.475 miles, S=  288 feet/mile, Kb= .03
2961          KM
2962          BA   0.050
2963          LG    0.09    0.23    6.20    0.16   42.74
2964          UC   0.113   0.099
2965          UA       0       5      16      30      65      77      84      90      94      97
2966          UA     100
              *

2967          KK    C576
2968          KM      Hydrograph combine 575576 + 208W at C576
2969          HC       2
              *

2970          KK  576577
2971          KM      Normal depth channel route from C576 to C577
2972          KM      Source:  HEC-2 Cross Section: MO 0.116
2973          RS       1    FLOW      -1
2974          RC   0.070   0.050   0.055   740.0  0.0338
2975          RX  9915.1  9960.0  9985.5 10000.0 10000.1 10007.0 10023.3 10023.4
2976          RY  1826.5  1826.4  1814.5  1812.3  1812.3  1814.8  1830.3  1830.4
              *
              * *
              * * 576577 is the total flow in Montezuna Wash just upstream of the confluence
              * * with Bristol Wash
              * *
              *
```

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

2977          KK    C577
2978          KM      Hydrograph combine C577L + 576577 at C570
2979          HC       2
              *
              * *
              * * C577 is the total flow in Bristol Wash downstream of the confluence
              * * with Montezuma Wash
              * *
              *

2980          KK  577578
2981          KM      Normal depth channel route from C577 to C578
2982          KM      Source:  HEC-2 Cross Section: BR 1.099
2983          RS       1    FLOW      -1
2984          RC   0.055   0.045   0.055  1078.0  0.0147
2985          RX  9865.3  9956.6  9991.1 10010.2 10034.3 10063.4 10139.7 10201.7
2986          RY  1821.8  1810.8  1793.2  1792.5  1795.5  1796.1  1813.8  1822.8
              *

2987          KK    208X
2988          KM   Sub-Basin   208X
2989          KM
2990          KM      The Clark Unit Hydrograph is used for this basin.
2991          KM          The Urban time-area relation is used for this basin.
2992          KM
2993          KM      Time of Concentration for this sub-basin is based on the following:
2994          KM          6-Hour Rainfall, Pattern No.  1.00
2995          KM          An rainfall areal reduction factor of 0.999
2996          KM
2997          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2998          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2999          KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
3000          KM
3001          KM          L=   0.417 miles, S=  223 feet/mile, Kb= .05
3002          KM
3003          BA   0.075
3004          LG    0.13    0.29    5.60    0.21   39.42
3005          UC   0.150   0.098
3006          UA       0       5      16      30      65      77      84      90      94      97
3007          UA     100
              *

3008          KK   C578I
3009          KM      Hydrograph combine 577578 + 208X at C578I
3010          HC       2
              *
              * *
              * * C578I is the total flow in Bristol Wash upstream of Dam 11
              * *
              *
```



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

3011          KK   C578O
3012          KM      Reservoir route at C578 (Dam 11).
3013          RS       1    ELEV  1779.2
3014          SV    0.00   16.38   31.30   53.65   84.39  126.17  138.00  143.00  147.00  154.47
3015          SV  161.00  167.00  174.00  181.00  187.43  194.00  202.00  205.00
3016          SE  1779.2  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2  1811.6  1812.0
3017          SE  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
3018          SQ       0     131     181     221     254     283     305     325     328     366
3019          SQ     522     812    1194    1651    2176    2763    3406    4104    4855    5250
3020          SE  1779.2  1786.0  1790.0  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2
3021          SE  1811.6  1812.0  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
3022          RL                    0.97
              *
              * *
              * * End Basin 208.  Rejoin Basin 210
              * *
              *

3023          KK  578587
3024          KM      Normal depth channel route from C578 to C587
3025          KM      Source:  HEC-2 Cross Section: BR 0.697
3026          RS       3    FLOW      -1
3027          RC   0.055   0.045   0.055  1628.0  0.0191
3028          RX  9926.4  9949.5  9960.1  9984.7 10000.0 10014.1 10031.5 10049.4
3029          RY  1763.0  1762.6  1761.8  1757.0  1757.1  1756.9  1761.4  1768.1
              *

3030          KK    210B
```

```
3031          KM   Sub-Basin   210B
3032          KM
3033          KM      The Clark Unit Hydrograph is used for this basin.
3034          KM          The Urban time-area relation is used for this basin.
3035          KM
3036          KM      Time of Concentration for this sub-basin is based on the following:
3037          KM          6-Hour Rainfall, Pattern No.  1.00
3038          KM          An rainfall areal reduction factor of 0.999
3039          KM
3040          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3041          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3042          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
3043          KM
3044          KM          L=   0.930 miles, S=  251 feet/mile, Kb= .03
3045          KM
3046          BA   0.107
3047          LG    0.08    0.25    5.80    0.17   37.15
3048          UC   0.167   0.171
3049          UA       0       5      16      30      65      77      84      90      94      97
3050          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 71

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


3051          KK   C586O
3052          KM      Reservoir route at C586.
3053          RS       1    ELEV  1804.4
3054          SV    0.00    0.05    0.36    1.09    2.45    4.45    7.00    9.50    9.60   10.00
3055          SV   10.34   10.70   11.20   11.60   12.10   12.50
3056          SE  1804.4  1806.0  1808.0  1810.0  1812.0  1814.0  1816.0 1817.55  1817.6  1817.8
3057          SE  1818.0  1818.2  1818.4  1818.6  1818.8  1819.0
3058          SQ       0      37     130     219     284     322     353     375     377     393
3059          SQ     432     492     574     680     808     959
              *

3060          KK  586587
3061          KM      Normal depth channel route from C586 to C587
3062          KM      Source:  200 Scale Mapping
3063          RS       3    FLOW      -1
3064          RC   0.040   0.035   0.040  1905.0  0.0313
3065          RX  1000.0  1020.0  1050.0  1055.0  1065.0  1070.0  1130.0  1150.0
3066          RY  1782.0  1780.0  1772.0  1771.0  1771.0  1772.0  1778.0  1782.0
              *

3067          KK    C587
3068          KM      Hydrograph combine 578587 + 586587 at C578
3069          HC       2
              *

3070          KK  587595
3071          KM      Normal depth channel route from C587 to C595
3072          KM      Source:  HEC-2 Cross Section: BR 0.533
3073          RS       1    FLOW      -1
3074          RC   0.055   0.045   0.055  1039.0  0.0173
3075          RX  9977.2  9980.4  9983.6  9989.9 10009.9 10020.3 10028.8 10037.3
3076          RY  1745.2  1744.0  1742.8  1740.3  1740.3  1742.4  1743.0  1743.6
              *

3077          KK    210C
3078          KM   Sub-Basin   210C
3079          KM
3080          KM      The Clark Unit Hydrograph is used for this basin.
3081          KM          The Urban time-area relation is used for this basin.
3082          KM
3083          KM      Time of Concentration for this sub-basin is based on the following:
3084          KM          6-Hour Rainfall, Pattern No.  1.00
3085          KM          An rainfall areal reduction factor of 0.999
3086          KM
3087          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3088          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3089          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .02 .01 .01 .01 .01 .01 .01
3090          KM
3091          KM          L=   0.637 miles, S=  198 feet/mile, Kb= .03
3092          KM
3093          BA   0.082
3094          LG    0.11    0.26    4.80    0.28   22.29
3095          UC   0.150   0.131
3096          UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                          PAGE 72

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

3097          UA     100
              *

3098          KK   C595L
```

```
3099          KM      Hydrograph combine 587595 + 210C at C595 left branch
3100          HC       2
              *
              * *
              * * C595L is the total flow in Bristol Wash upstream of the confluence
              * * with Longmont Wash
              * *
              * * Start Longmont Wash Left Branch
              * *
              *

3101          KK    210D
3102          KM   Sub-Basin   210D
3103          KM
3104          KM      The Clark Unit Hydrograph is used for this basin.
3105          KM          The Urban time-area relation is used for this basin.
3106          KM
3107          KM      Time of Concentration for this sub-basin is based on the following:
3108          KM          6-Hour Rainfall, Pattern No.  1.00
3109          KM          An rainfall areal reduction factor of 0.998
3110          KM
3111          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3112          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3113          KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
3114          KM
3115          KM          L=   0.832 miles, S=  325 feet/mile, Kb= .03
3116          KM
3117          BA   0.140
3118          LG    0.09    0.25    5.80    0.18   33.66
3119          UC   0.146   0.116
3120          UA       0       5      16      30      65      77      84      90      94      97
3121          UA     100
              *

3122          KK  588590
3123          KM      Normal depth channel route from C588 to C590
3124          KM      Source:  HEC-2 Cross Section: LO-LB1 0.128
3125          RS       1    FLOW      -1
3126          RC   0.065   0.050   0.060  1117.0  0.0340
3127          RX  9931.7  9960.6  9984.9 10005.7 10019.1 10033.8 10151.6 10172.9
3128          RY  1839.3  1833.5  1825.9  1824.7  1825.9  1828.8  1832.9  1838.0
              *

3129          KK    210E
3130          KM   Sub-Basin   210E
3131          KM
3132          KM      The Clark Unit Hydrograph is used for this basin.
3133          KM          The Urban time-area relation is used for this basin.
3134          KM
3135          KM      Time of Concentration for this sub-basin is based on the following:
3136          KM          6-Hour Rainfall, Pattern No.  1.00
```



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

3137          KM          An rainfall areal reduction factor of 1.000
3138          KM
3139          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3140          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3141          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .06 .05 .05 .00 .00 .00 .00 .00 .00
3142          KM
3143          KM          L=   0.339 miles, S=  151 feet/mile, Kb= .03
3144          KM
3145          BA   0.028
3146          LG    0.09    0.17    6.80    0.12   15.00
3147          UC   0.117   0.111
3148          UA       0       5      16      30      65      77      84      90      94      97
3149          UA     100
              *

3150          KK   C590L
3151          KM      Hydrograph combine 588590 + 210E at C590 left branch
3152          HC       2
              *
              * *
              * * C590L is the total flow in Longmont Wash Left Branch upstream of the
              * * confluence with Longmont Wash
              * *
              * * Start Longmont Wash
              * *
              *

3153          KK    210F
3154          KM   Sub-Basin   210F
3155          KM
3156          KM      The Clark Unit Hydrograph is used for this basin.
3157          KM          The Urban time-area relation is used for this basin.
3158          KM
```

```
3159          KM      Time of Concentration for this sub-basin is based on the following:
3160          KM          6-Hour Rainfall, Pattern No.  1.00
3161          KM          An rainfall areal reduction factor of 0.999
3162          KM
3163          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3164          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3165          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
3166          KM
3167          KM          L=   0.668 miles, S=  349 feet/mile, Kb= .03
3168          KM
3169          BA   0.093
3170          LG    0.09    0.25    4.40    0.34   49.44
3171          UC   0.125   0.103
3172          UA       0       5      16      30      65      77      84      90      94      97
3173          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 74

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


3174          KK  589590
3175          KM      Normal depth channel route from C589 to C590
3176          KM      Source:  HEC-2 Cross Section: LO 0.813
3177          RS       2    FLOW      -1
3178          RC   0.065   0.050   0.060  1751.0  0.0423
3179          RX  9957.0  9963.5  9984.5  9996.1 10008.8 10017.4 10040.1 10060.8
3180          RY  1843.8  1842.9  1837.0  1831.2  1830.6  1836.1  1838.3  1842.1
              *

3181          KK    210G
3182          KM   Sub-Basin   210G
3183          KM
3184          KM      The Clark Unit Hydrograph is used for this basin.
3185          KM          The Urban time-area relation is used for this basin.
3186          KM
3187          KM      Time of Concentration for this sub-basin is based on the following:
3188          KM          6-Hour Rainfall, Pattern No.  1.00
3189          KM          An rainfall areal reduction factor of 0.998
3190          KM
3191          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3192          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3193          KM   .48 .47 .47 .17 .13 .13 .06 .06 .05 .05 .04 .04 .01 .01 .01 .01 .01 .01
3194          KM
3195          KM          L=   0.969 miles, S=  333 feet/mile, Kb= .03
3196          KM
3197          BA   0.162
3198          LG    0.09    0.25    5.30    0.22   39.22
3199          UC   0.154   0.128
3200          UA       0       5      16      30      65      77      84      90      94      97
3201          UA     100
              *

3202          KK   C590R
3203          KM      Hydrograph combine 589590 + 210G at C590 right branch
3204          HC       2
              *
              * * NOTE: 590593 is too short to route
              * *
              * * C590R is the total flow in Longmont Wash upstream of the confluence
              * * with Longmont Wash Left Branch
              * *
              *

3205          KK    C590
3206          KM      Hydrograph combine C590L + C590R at C590
3207          HC       2
              *
              * * C590 is the total flow in Longmont Wash upstream of the confluence
              * * Longmont Wash Right Branch
              * *
              * * Start Longmont Wash Right Branch
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 75

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


3208          KK    210H
3209          KM   Sub-Basin   210H
3210          KM
3211          KM      The Clark Unit Hydrograph is used for this basin.
3212          KM          The Urban time-area relation is used for this basin.
3213          KM
3214          KM      Time of Concentration for this sub-basin is based on the following:
3215          KM          6-Hour Rainfall, Pattern No.  1.00
3216          KM          An rainfall areal reduction factor of 0.999
```

```
3217          KM
3218          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3219          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3220          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .05 .04 .04 .01 .01 .01 .01 .01 .01
3221          KM
3222          KM          L=   0.565 miles, S=  340 feet/mile, Kb= .03
3223          KM
3224          BA   0.070
3225          LG    0.09    0.23    6.20    0.16   21.74
3226          UC   0.117   0.098
3227          UA       0       5      16      30      65      77      84      90      94      97
3228          UA     100
              *

3229          KK  592593
3230          KM      Normal depth channel route from C592 to C593
3231          KM      Source:  HEC-2 Cross Section: LO-RB1 0.027
3232          RS       3    FLOW      -1
3233          RC   0.065   0.050   0.060  2062.0  0.0412
3234          RX  9920.6  9964.0  9984.7  9996.1 10003.9 10025.4 10041.1 10057.9
3235          RY  1820.0  1804.5  1801.2  1797.3  1797.3  1808.5  1818.3  1820.1
              *
              * *
              * * 592593 is the total flow in Longmont Wash Right Branch upstream
              * * of the confluence with Longmont Wash
              * *
              *

3236          KK    C593
3237          KM      Hydrograph combine C590 + C593R at C593
3238          HC       2
              *
              * *
              * * C593 is the total flow in Longmont Wash below the confluence with
              * * Longmont Wash Right Branch
              * *
              *

3239          KK  593594
3240          KM      Normal depth channel route from C593 to C594
3241          KM      Source:  HEC-2 Cross Section: LO0.413
3242          RS       2    FLOW      -1
3243          RC   0.065   0.050   0.060   988.0  0.0202
3244          RX  9937.2  9958.5  9981.7  9992.8 10007.7 10024.4 10041.9 10067.8
3245          RY  1783.6  1773.5  1773.9  1771.3  1771.2  1774.5  1778.7  1788.7
              *
```



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

3246          KK    210I
3247          KM   Sub-Basin   210I
3248          KM
3249          KM      The Clark Unit Hydrograph is used for this basin.
3250          KM          The Urban time-area relation is used for this basin.
3251          KM
3252          KM      Time of Concentration for this sub-basin is based on the following:
3253          KM          6-Hour Rainfall, Pattern No.  1.00
3254          KM          An rainfall areal reduction factor of 0.999
3255          KM
3256          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3257          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3258          KM   .49 .48 .48 .18 .15 .14 .07 .07 .06 .06 .06 .06 .01 .01 .01 .00 .00 .00
3259          KM
3260          KM          L=   0.634 miles, S=  250 feet/mile, Kb= .03
3261          KM
3262          BA   0.049
3263          LG    0.09    0.15    7.60    0.09   15.00
3264          UC   0.138   0.158
3265          UA       0       5      16      30      65      77      84      90      94      97
3266          UA     100
              *

3267          KK    C594
3268          KM      Hydrograph combine 593594 + 210I at C594
3269          HC       2
              *

3270          KK  594595
3271          KM      Normal depth channel route from C594 to C595
3272          KM      Source:  HEC-2 Cross Section: LO 0.184
3273          RS       3    FLOW      -1
3274          RC   0.065   0.050   0.060  2093.0  0.0201
3275          RX  9814.0  9836.5  9878.5  9988.2  9994.1 10010.9 10030.4 10030.5
3276          RY  1769.3  1766.6  1752.8  1750.6  1747.9  1749.2  1770.5  1770.6
              *
```

```
3277          KK    210J
3278          KM   Sub-Basin   210J
3279          KM
3280          KM      The Clark Unit Hydrograph is used for this basin.
3281          KM          The Urban time-area relation is used for this basin.
3282          KM
3283          KM      Time of Concentration for this sub-basin is based on the following:
3284          KM          6-Hour Rainfall, Pattern No.  1.00
3285          KM          An rainfall areal reduction factor of 0.999
3286          KM
3287          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3288          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3289          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .05 .00 .00 .00 .00 .00 .00
3290          KM
3291          KM          L=   0.684 miles, S=  187 feet/mile, Kb= .03
3292          KM
3293          BA   0.103
1                                          HEC-1 INPUT                                                    PAGE 77

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

3294          LG    0.09    0.19    6.60    0.13   15.00
3295          UC   0.154   0.125
3296          UA       0       5      16      30      65      77      84      90      94      97
3297          UA     100
              *

3298          KK   C595R
3299          KM      Hydrograph combine 594595 + 210J at C595
3300          HC       2
              *
              * *
              * * C595R is the total flow in Longmont Wash upstream of the confluence
              * * with Bristol Wash
              * *
              *

3301          KK    C595
3302          KM      Hydrograph combine C595L + C595R at C595
3303          HC       2
              *
              * *
              * * C595 is the total flow in Bristol Wash just downstream of the
              * * confluence with Longmont Wash
              * *
              *

3304          KK  595596
3305          KM      Normal depth channel route from C595 to C596
3306          KM      Source:  HEC-2 Cross Section: BR0.290
3307          RS       4    FLOW      -1
3308          RC   0.055   0.045   0.055  1095.0  0.0110
3309          RX  9886.8  9904.8  9948.0 10000.0 10032.4 10081.5 10107.3 10130.4
3310          RY  1727.2  1724.1  1725.9  1720.2  1725.6  1725.3  1721.3  1731.4
              *

3311          KK    210K
3312          KM   Sub-Basin   210K
3313          KM
3314          KM      The Clark Unit Hydrograph is used for this basin.
3315          KM          The Urban time-area relation is used for this basin.
3316          KM
3317          KM      Time of Concentration for this sub-basin is based on the following:
3318          KM          6-Hour Rainfall, Pattern No.  1.00
3319          KM          An rainfall areal reduction factor of 0.999
3320          KM
3321          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3322          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3323          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .05 .00 .00 .00 .00 .00 .00
3324          KM
3325          KM          L=   0.425 miles, S=  207 feet/mile, Kb= .03
3326          KM
3327          BA   0.077
3328          LG    0.09    0.19    6.60    0.13   15.00
3329          UC   0.117   0.074
3330          UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                                    PAGE 78

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

3331          UA     100
              *

3332          KK    C596
3333          KM      Hydrograph combine 595596 + 210K at C596
3334          HC       2
              *
              * *
```

```
                * * C596 is the total flow in Bristol Wash at Golden Eagle Blvd.
                * * upstream of DAM 4
                * *
                * * Leave Basin 210 temporarily and move to Basin 209
                * *
                * * Start Cloudburst Wash
                *

3335            KK    209A
3336            KM   Sub-Basin   209A
3337            KM
3338            KM      The Clark Unit Hydrograph is used for this basin.
3339            KM          The HEC-1 time-area relation is used for this basin.
3340            KM
3341            KM      Time of Concentration for this sub-basin is based on the following:
3342            KM          6-Hour Rainfall, Pattern No.  1.00
3343            KM          An rainfall areal reduction factor of 0.995
3344            KM
3345            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3346            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3347            KM   .46 .45 .45 .15 .11 .10 .05 .05 .04 .04 .04 .04 .01 .01 .01 .01 .01 .01
3348            KM
3349            KM          L=   1.028 miles, S=  367 feet/mile, Kb= .08
3350            KM
3351            BA   0.368
3352            LG    0.18    0.31    4.35    0.38   41.41
3353            UC   0.263   0.152
                *

3354            KK  579580
3355            KM      Normal depth channel route from C579 to C580
3356            KM      Source:  100 Scale 4' CI Mapping
3357            RS       1    FLOW      -1
3358            RC   0.050   0.045   0.050  1751.0  0.0600
3359            RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1045.0  1048.0
3360            RY  2336.0  2332.0  2328.0  2327.5  2327.5  2328.0  2332.0  2336.0
                *

3361            KK    209C
3362            KM   Sub-Basin   209C
3363            KM
3364            KM      The Clark Unit Hydrograph is used for this basin.
3365            KM          The Urban time-area relation is used for this basin.
3366            KM
3367            KM      Time of Concentration for this sub-basin is based on the following:
3368            KM          6-Hour Rainfall, Pattern No.  1.00
3369            KM          An rainfall areal reduction factor of 0.999
```



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

3370            KM
3371            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3372            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3373            KM   .47 .47 .47 .16 .13 .12 .06 .05 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
3374            KM
3375            KM          L=   0.723 miles, S=  342 feet/mile, Kb= .05
3376            KM
3377            BA   0.064
3378            LG    0.11    0.26    4.35    0.36   48.03
3379            UC   0.175   0.198
3380            UA       0       5      16      30      65      77      84      90      94      97
3381            UA     100
                *

3382            KK   C580R
3383            KM      Hydrograph combine 579580 + 209C at C580 right branch
3384            HC       2
                *

3385            KK    209B
3386            KM   Sub-Basin   209B
3387            KM
3388            KM      The Clark Unit Hydrograph is used for this basin.
3389            KM          The Urban time-area relation is used for this basin.
3390            KM
3391            KM      Time of Concentration for this sub-basin is based on the following:
3392            KM          6-Hour Rainfall, Pattern No.  1.00
3393            KM          An rainfall areal reduction factor of 0.999
3394            KM
3395            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3396            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3397            KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
3398            KM
3399            KM          L=   0.716 miles, S=  403 feet/mile, Kb= .03
3400            KM
3401            BA   0.083
3402            LG    0.09    0.25    4.35    0.35   50.00
```

```
3403          UC   0.125   0.116
3404          UA       0       5      16      30      65      77      84      90      94      97
3405          UA     100
              *

3406          KK    C580
3407          KM      Hydrograph combine 580R + 209B at C580
3408          HC       2
              *

3409          KK  580581
3410          KM      Normal depth channel route from C580 to C581
3411          KM      Source:  100 Scale 4' CI Mapping
3412          RS       2    FLOW      -1
3413          RC   0.050   0.045   0.050  2339.0  0.0440
3414          RX  1000.0  1010.0  1025.0  1030.0  1040.0  1045.0  1070.0  1075.0
3415          RY  2452.0  2448.0  2444.0  2443.5  2443.5  2444.0  2448.0  2452.0
              *
1                                          HEC-1 INPUT                                          PAGE 80

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

3416          KK    209D
3417          KM   Sub-Basin   209D
3418          KM
3419          KM      The Clark Unit Hydrograph is used for this basin.
3420          KM          The Urban time-area relation is used for this basin.
3421          KM
3422          KM      Time of Concentration for this sub-basin is based on the following:
3423          KM          6-Hour Rainfall, Pattern No.  1.00
3424          KM          An rainfall areal reduction factor of 0.997
3425          KM
3426          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3427          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3428          KM   .47 .47 .46 .16 .13 .12 .06 .05 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
3429          KM
3430          KM          L=   0.800 miles, S=  354 feet/mile, Kb= .04
3431          KM
3432          BA   0.244
3433          LG    0.11    0.26    4.35    0.36   48.63
3434          UC   0.163   0.092
3435          UA       0       5      16      30      65      77      84      90      94      97
3436          UA     100
              *

3437          KK   C581R
3438          KM      Hydrograph combine 580581 + 209D at C581 right branch
3439          HC       2
              *

3440          KK    209E
3441          KM   Sub-Basin   209E
3442          KM
3443          KM      The Clark Unit Hydrograph is used for this basin.
3444          KM          The Urban time-area relation is used for this basin.
3445          KM
3446          KM      Time of Concentration for this sub-basin is based on the following:
3447          KM          6-Hour Rainfall, Pattern No.  1.00
3448          KM          An rainfall areal reduction factor of 0.998
3449          KM
3450          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3451          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3452          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
3453          KM
3454          KM          L=   1.018 miles, S=  341 feet/mile, Kb= .03
3455          KM
3456          BA   0.149
3457          LG    0.09    0.25    4.35    0.35   50.00
3458          UC   0.158   0.144
3459          UA       0       5      16      30      65      77      84      90      94      97
3460          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 81

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

3461          KK    C581
3462          KM      Hydrograph combine 581R + 209E at C581
3463          HC       2
              *

3464          KK  581582
3465          KM      Normal depth channel route from C581 to C582
3466          KM      Source:  100 Scale 4' CI Mapping
3467          RS       3    FLOW      -1
3468          RC   0.050   0.045   0.050  4012.0  0.0459
```

```
3469          RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1050.0  1065.0
3470          RY  2100.0  2096.0  2092.0  2091.5  2091.5  2092.0  2096.0  2100.0
              *

3471          KK    209F
3472          KM   Sub-Basin   209F
3473          KM
3474          KM      The Clark Unit Hydrograph is used for this basin.
3475          KM          The HEC-1 time-area relation is used for this basin.
3476          KM
3477          KM      Time of Concentration for this sub-basin is based on the following:
3478          KM          6-Hour Rainfall, Pattern No.  1.00
3479          KM          An rainfall areal reduction factor of 0.997
3480          KM
3481          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3482          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3483          KM   .46 .45 .45 .15 .11 .10 .05 .05 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
3484          KM
3485          KM          L=   1.191 miles, S=  332 feet/mile, Kb= .09
3486          KM
3487          BA   0.226
3488          LG    0.18    0.31    4.50    0.36   40.21
3489          UC   0.329   0.290
              *

3490          KK   C582R
3491          KM      Hydrograph combine 581582 + 209F at C582 right branch
3492          HC       2
              *

3493          KK    209G
3494          KM   Sub-Basin   209G
3495          KM
3496          KM      The Clark Unit Hydrograph is used for this basin.
3497          KM          The Urban time-area relation is used for this basin.
3498          KM
3499          KM      Time of Concentration for this sub-basin is based on the following:
3500          KM          6-Hour Rainfall, Pattern No.  1.00
3501          KM          An rainfall areal reduction factor of 0.997
3502          KM
3503          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3504          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3505          KM   .47 .47 .47 .16 .13 .13 .06 .06 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
3506          KM
1                                          HEC-1 INPUT                                          PAGE 82

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

3507          KM          L=   1.050 miles, S=  306 feet/mile, Kb= .03
3508          KM
3509          BA   0.204
3510          LG    0.09    0.25    4.35    0.35   49.93
3511          UC   0.167   0.130
3512          UA       0       5      16      30      65      77      84      90      94      97
3513          UA     100
              *

3514          KK    C582
3515          KM      Hydrograph combine C582R + 209G at C582
3516          HC       2
              *

3517          KK  582583
3518          KM      Normal depth channel route from C582 to C583
3519          KM      Source:  100 Scale 4' CI Mapping.
3520          RS       2    FLOW      -1
3521          RC   0.060   0.050   0.060  1725.0  0.0232
3522          RX   960.0  1020.0  1035.0  1040.0  1050.0  1055.0  1065.0  1073.0
3523          RY  2024.0  2018.0  2016.0  2015.5  2015.5  2016.0  2020.0  2024.0
              *

3524          KK    209H
3525          KM   Sub-Basin   209H
3526          KM
3527          KM      The Clark Unit Hydrograph is used for this basin.
3528          KM          The Urban time-area relation is used for this basin.
3529          KM
3530          KM      Time of Concentration for this sub-basin is based on the following:
3531          KM          6-Hour Rainfall, Pattern No.  1.00
3532          KM          An rainfall areal reduction factor of 0.999
3533          KM
3534          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3535          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3536          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .02 .02 .01 .01 .01 .01 .01 .01
3537          KM
3538          KM          L=   0.542 miles, S=  343 feet/mile, Kb= .07
3539          KM
3540          BA   0.083
```

```
3541          LG    0.15    0.31    5.60    0.22   26.57
3542          UC   0.179   0.138
3543          UA       0       5      16      30      65      77      84      90      94      97
3544          UA     100
              *

3545          KK    C583
3546          KM      Hydrograph combine 582583 + 209H at C583
3547          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 83

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


3548          KK  583584
3549          KM      Normal depth channel route from C583 to C584
3550          KM      Source:  HEC-2 Cross Section: CL 1.664
3551          RS       5    FLOW      -1
3552          RC   0.055   0.070   0.055  3107.0  0.0356
3553          RX  9859.8  9910.3  9933.5  9995.6 10021.7 10051.0 10083.0 10127.8
3554          RY  1948.3  1944.2  1943.7  1930.9  1932.4  1941.6  1937.3  1945.2
              *

3555          KK    209I
3556          KM   Sub-Basin   209I
3557          KM
3558          KM      The Clark Unit Hydrograph is used for this basin.
3559          KM          The Urban time-area relation is used for this basin.
3560          KM
3561          KM      Time of Concentration for this sub-basin is based on the following:
3562          KM          6-Hour Rainfall, Pattern No.  1.00
3563          KM          An rainfall areal reduction factor of 0.998
3564          KM
3565          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3566          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3567          KM   .47 .46 .46 .16 .13 .12 .05 .05 .05 .04 .03 .02 .00 .00 .00 .00 .00 .00
3568          KM
3569          KM          L=   0.691 miles, S=  347 feet/mile, Kb= .04
3570          KM
3571          BA   0.182
3572          LG    0.10    0.27    6.00    0.17   17.98
3573          UC   0.150   0.088
3574          UA       0       5      16      30      65      77      84      90      94      97
3575          UA     100
              *

3576          KK   C584I
3577          KM      Hydrograph combine 583584 + 209I at C584I
3578          HC       2
              *
              * *
              * * C584I is the total flow in Cloudburst Wash upstream of Dam 7
              * *
              *

3579          KK   C584O
3580          KM      Reservoir route at C584 (Dam 7).
3581          RS       1    ELEV  1884.8
3582          SV    0.00   14.55   37.17   57.52   86.65   94.00   97.00  101.00  104.90  109.00
3583          SV  113.00  118.00  122.00  126.25  131.00  133.00  136.00  139.00
3584          SE  1884.8  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6  1926.0  1926.4
3585          SE  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
3586          SQ       0     135     223     285     326     341     355     358     385     493
3587          SQ     704    1007    1394    1852    2374    2956    3596    3937    4292    4661
3588          SE  1884.8  1892.0  1900.0  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6
3589          SE  1926.0  1926.4  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
3590          RL                   0.15
              *
              * *
              * * End Basin 209.  Rejoin Basin 210
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 84

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


3591          KK  584597
3592          KM      Normal depth channel route from C584 to C597
3593          KM      Source:  HEC-2 Cross Section: CL 1.032
3594          RS       8    FLOW      -1
3595          RC   0.065   0.050   0.065  3704.0  0.0261
3596          RX  9902.1  9923.0  9938.7  9984.6 10049.3 10056.0 10091.7 10120.0
3597          RY  1839.1  1830.1  1826.6  1824.1  1824.9  1826.7  1828.5  1838.8
              *

3598          KK    210L
```

```
3599          KM   Sub-Basin   210L
3600          KM
3601          KM      The Clark Unit Hydrograph is used for this basin.
3602          KM          The Urban time-area relation is used for this basin.
3603          KM
3604          KM      Time of Concentration for this sub-basin is based on the following:
3605          KM          6-Hour Rainfall, Pattern No.  1.00
3606          KM          An rainfall areal reduction factor of 0.998
3607          KM
3608          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3609          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3610          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .02 .00 .00 .00 .00 .00 .00
3611          KM
3612          KM          L=   0.820 miles, S=  251 feet/mile, Kb= .03
3613          KM
3614          BA   0.137
3615          LG    0.09    0.25    5.20    0.23   15.90
3616          UC   0.158   0.127
3617          UA       0       5      16      30      65      77      84      90      94      97
3618          UA     100
              *

3619          KK    C597
3620          KM      Hydrograph combine 584597 + 210L at C597
3621          HC       2
              *

3622          KK  597598
3623          KM      Normal depth channel route from C597 to C598
3624          KM      Source:  HEC-2 Cross Section: CL 0.328
3625          RS       5    FLOW      -1
3626          RC   0.065   0.050   0.065  2822.0  0.0252
3627          RX  9961.0  9961.9  9969.1  9986.3 10018.5 10082.6 10155.2 10278.8
3628          RY  1740.2  1740.2  1738.1  1731.6  1732.3  1737.1  1740.0  1740.8
              *

3629          KK    210M
3630          KM   Sub-Basin   210M
3631          KM
3632          KM      The Clark Unit Hydrograph is used for this basin.
3633          KM          The Urban time-area relation is used for this basin.
3634          KM
3635          KM      Time of Concentration for this sub-basin is based on the following:
3636          KM          6-Hour Rainfall, Pattern No.  1.00
```



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

3637          KM          An rainfall areal reduction factor of 0.998
3638          KM
3639          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3640          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3641          KM   .47 .47 .46 .16 .13 .12 .05 .05 .05 .04 .04 .03 .00 .00 .00 .00 .00 .00
3642          KM
3643          KM          L=   1.022 miles, S=  232 feet/mile, Kb= .03
3644          KM
3645          BA   0.162
3646          LG    0.09    0.25    5.80    0.17   15.02
3647          UC   0.179   0.157
3648          UA       0       5      16      30      65      77      84      90      94      97
3649          UA     100
              *

3650          KK    C598
3651          KM      Hydrograph combine 597598 + 210M at C598
3652          HC       2
              *
              * *
              * * C598 is the total flow in Cloudburst Wash at Golden Eagle Blvd.
              * * upstream of DAM 4
              * *
              *

3653          KK    210N
3654          KM   Sub-Basin   210N
3655          KM
3656          KM      The Clark Unit Hydrograph is used for this basin.
3657          KM          The Urban time-area relation is used for this basin.
3658          KM
3659          KM      Time of Concentration for this sub-basin is based on the following:
3660          KM          6-Hour Rainfall, Pattern No.  1.00
3661          KM          An rainfall areal reduction factor of 0.999
3662          KM
3663          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3664          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3665          KM   .45 .44 .44 .13 .10 .09 .03 .03 .03 .01 .01 .01 .00 .00 .00 .00 .00 .00
3666          KM
3667          KM          L=   0.309 miles, S=  178 feet/mile, Kb= .03
```

```
3668          KM
3669          BA   0.049
3670          LG    0.09    0.25    4.10    0.40   16.38
3671          UC   0.108   0.069
3672          UA       0       5      16      30      65      77      84      90      94      97
3673          UA     100
              *

3674          KK   C599I
3675          KM      Hydrograph combine C585 + C596 + C598 + 210N at C599I
3676          HC       4
              *
              * *
              * * C599I is the total flow in Ashbrook Wash upstream of DAM 4
              * *
              *
              *
1                                          HEC-1 INPUT                                                PAGE 86

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


3677          KK   C599O
3678          KM      Reservoir route at C599 (Dam 4).
3679          RS       1    ELEV  1694.7
3680          SV    0.00   16.85   31.66   52.71   80.85   95.00   98.00  102.00  105.00  109.00
3681          SV  113.00  116.14  120.00  124.00  128.00  136.00  139.00  144.00  148.00  152.00
3682          SE  1694.5  1708.0  1710.0  1712.0  1714.0  1714.8  1715.0  1715.2  1715.4  1715.6
3683          SE  1715.8  1716.0  1716.2  1716.4  1716.6  1717.0  1717.2  1717.4  1717.6  1717.8
3684          SQ       0      77     180     367     589     803    1001    1176    1331    1470
3685          SQ    1595    1625    1647    1695    3011    7421   14322   22656   28975   32522
3686          SE  1694.5  1696.0  1698.0  1700.0  1702.0  1704.0  1706.0  1708.0  1710.0  1712.0
3687          SE  1714.0  1714.5 1714.86  1715.0  1716.0  1717.5  1719.0  1720.5  1721.5  1722.0
3688          RL                   0.97
              *
              * * End Basin 210.  Start Basin 211
              * *
              *

3689          KK  599608
3690          KM      Normal depth channel route from C599 to C608
3691          KM      Source:  HEC-2 Cross Section: AS 3.621
3692          RS       2    FLOW      -1
3693          RC   0.055   0.045   0.025  1476.0  0.0148
3694          RX  9675.4  9726.8  9929.0  9990.7 10005.9 10033.3 10061.9 10082.2
3695          RY  1691.3  1687.2  1685.5  1678.6  1678.1  1682.1  1689.8  1691.8
              *

3696          KK    211K
3697          KM   Sub-Basin   211K
3698          KM
3699          KM      The Clark Unit Hydrograph is used for this basin.
3700          KM          The Urban time-area relation is used for this basin.
3701          KM
3702          KM      Time of Concentration for this sub-basin is based on the following:
3703          KM          6-Hour Rainfall, Pattern No.  1.00
3704          KM          An rainfall areal reduction factor of 0.999
3705          KM
3706          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3707          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3708          KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .03 .01 .01 .01 .01 .01 .01
3709          KM
3710          KM          L=   0.376 miles, S=  157 feet/mile, Kb= .03
3711          KM
3712          BA   0.102
3713          LG    0.13    0.27    6.00    0.16   31.48
3714          UC   0.121   0.060
3715          UA       0       5      16      30      65      77      84      90      94      97
3716          UA     100
              *
1                                          HEC-1 INPUT                                                PAGE 87

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


3717          KK   C608L
3718          KM      Hydrograph combine 599608 + 211K at C608 left branch
3719          HC       2
              *

3720          KK    211G
3721          KM   Sub-Basin   211G
3722          KM
3723          KM      The Clark Unit Hydrograph is used for this basin.
3724          KM          The Urban time-area relation is used for this basin.
3725          KM
3726          KM      Time of Concentration for this sub-basin is based on the following:
3727          KM          6-Hour Rainfall, Pattern No.  1.00
```

```
3728        KM          An rainfall areal reduction factor of 1.000
3729        KM
3730        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3731        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3732        KM   .50 .50 .50 .19 .16 .16 .08 .08 .08 .08 .08 .08 .02 .02 .02 .02 .02 .02
3733        KM
3734        KM          L=   0.448 miles, S=  190 feet/mile, Kb= .04
3735        KM
3736        BA   0.008
3737        LG    0.06    0.25    5.70    0.18   90.00
3738        UC   0.142   0.359
3739        UA       0       5      16      30      65      77      84      90      94      97
3740        UA     100
            *

3741        KK  604606
3742        KM      Normal depth channel route from C604 to C606
3743        KM      Source:  200 Scale Mapping
3744        RS      11    FLOW      -1
3745        RC   0.040   0.018   0.040  2784.0  0.0647
3746        RX  1000.0  1040.0  1060.0  1076.0  1092.0  1093.2  1098.2  1113.2
3747        RY  1814.0  1811.0  1810.8  1811.1  1810.8  1811.2  1812.0  1816.0
            *

3748        KK    211I
3749        KM   Sub-Basin   211I
3750        KM
3751        KM      The Clark Unit Hydrograph is used for this basin.
3752        KM          The Urban time-area relation is used for this basin.
3753        KM
3754        KM      Time of Concentration for this sub-basin is based on the following:
3755        KM          6-Hour Rainfall, Pattern No.  1.00
3756        KM          An rainfall areal reduction factor of 0.999
3757        KM
3758        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3759        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3760        KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .06 .05 .05 .01 .01 .01 .01 .01 .01
3761        KM
3762        KM          L=   0.626 miles, S=  257 feet/mile, Kb= .03
3763        KM
3764        BA   0.041
```



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

3765        LG    0.08    0.25    5.70    0.18   45.00
3766        UC   0.133   0.168
3767        UA       0       5      16      30      65      77      84      90      94      97
3768        UA     100
            *

3769        KK   C606R
3770        KM      Hydrograph combine 604606 + 211I at C606 right branch
3771        HC       2
            *

3772        KK    211H
3773        KM   Sub-Basin   211H
3774        KM
3775        KM      The Clark Unit Hydrograph is used for this basin.
3776        KM          The Urban time-area relation is used for this basin.
3777        KM
3778        KM      Time of Concentration for this sub-basin is based on the following:
3779        KM          6-Hour Rainfall, Pattern No.  1.00
3780        KM          An rainfall areal reduction factor of 0.999
3781        KM
3782        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3783        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3784        KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .03 .00 .00 .00 .00 .00 .00
3785        KM
3786        KM          L=   0.501 miles, S=  289 feet/mile, Kb= .03
3787        KM
3788        BA   0.073
3789        LG    0.09    0.25    6.00    0.16   17.93
3790        UC   0.117   0.087
3791        UA       0       5      16      30      65      77      84      90      94      97
3792        UA     100
            *

3793        KK   C605O
3794        KM      Reservoir route at C605.
3795        RS       1    ELEV  1722.5
3796        SV    0.00    0.20    0.20    0.20    0.20    0.30    0.30    0.30    0.40    0.60
3797        SV    0.70    0.90    1.00    1.20    1.40    1.60    1.90    2.80    3.40    4.10
3798        SE  1722.5  1726.8  1727.0  1727.2  1727.4  1727.6  1727.8  1728.0  1728.2  1728.4
3799        SE  1728.6  1728.8  1729.0  1729.2  1729.4  1729.6  1730.0  1730.4  1730.7  1731.0
3800        SQ       0       0       5      10      20      43      63      73      78      85
3801        SQ      91      96     101     105     109     113     122     130     136     200
```

```
                 *
3802             KK    C606
3803             KM      Hydrograph combine C606R + C605O at C606
3804             HC       2
                 *
1                                          HEC-1 INPUT                                                    PAGE 89

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


3805             KK  606607
3806             KM      Normal depth channel route from C606 to C607
3807             KM      Source:  200 Scale Mapping
3808             RS       2    FLOW      -1
3809             RC   0.020   0.055   0.035  1061.0  0.0286
3810             RX  1000.0  1032.0  1082.0  1095.0  1105.0  1117.0  1123.0  1153.0
3811             RY  1704.3  1704.0  1703.5  1700.0  1700.0  1703.0  1704.0  1706.0
                 *

3812             KK    211J
3813             KM   Sub-Basin   211J
3814             KM
3815             KM      The Clark Unit Hydrograph is used for this basin.
3816             KM          The Urban time-area relation is used for this basin.
3817             KM
3818             KM      Time of Concentration for this sub-basin is based on the following:
3819             KM          6-Hour Rainfall, Pattern No.  1.00
3820             KM          An rainfall areal reduction factor of 1.000
3821             KM
3822             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3823             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3824             KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
3825             KM
3826             KM          L=   0.249 miles, S=  166 feet/mile, Kb= .03
3827             KM
3828             BA   0.015
3829             LG    0.08    0.23    6.20    0.16   39.19
3830             UC   0.096   0.099
3831             UA       0       5      16      30      65      77      84      90      94      97
3832             UA     100
                 *

3833             KK    C607
3834             KM      Hydrograph combine 606607 + 211J at C607
3835             HC       2
                 *

3836             KK  607608
3837             KM      Normal depth channel route from C607 to C608
3838             KM      Source:  200 Scale Mapping
3839             RS       2    FLOW      -1
3840             RC   0.040   0.050   0.035  1008.0  0.0145
3841             RX  1000.0  1060.0  1070.0  1082.0  1083.0  1095.0  1115.0  1133.0
3842             RY  1688.0  1686.0  1684.0  1681.0  1681.0  1684.0  1685.0  1685.4
                 *

3843             KK    C608
3844             KM      Hydrograph combine C608L + 607608 at C608
3845             HC       2
                 *
1                                          HEC-1 INPUT                                                    PAGE 90

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


3846             KK  608613
3847             KM      Normal depth channel route from C608 to C613
3848             KM      Source:  HEC-2 Cross Section: AS 3.421
3849             RS       2    FLOW      -1
3850             RC   0.100   0.045   0.100  1338.0  0.0202
3851             RX  9885.0  9887.9  9957.3  9986.7 10012.9 10054.7 10086.3 10122.2
3852             RY  1670.2  1670.1  1668.0  1660.0  1659.9  1661.6  1669.9  1670.8
                 *
                 * *
                 * * Move to the top of Sunflower Wash
                 * *
                 *

3853             KK    211M
3854             KM   Sub-Basin   211M
3855             KM
3856             KM      The Clark Unit Hydrograph is used for this basin.
3857             KM          The Urban time-area relation is used for this basin.
3858             KM
3859             KM      Time of Concentration for this sub-basin is based on the following:
3860             KM          6-Hour Rainfall, Pattern No.  1.00
3861             KM          An rainfall areal reduction factor of 0.999
```

```
3862          KM
3863          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3864          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3865          KM   .48 .48 .48 .17 .14 .14 .07 .07 .06 .06 .06 .05 .01 .01 .01 .01 .01 .01
3866          KM
3867          KM          L=   0.541 miles, S=  266 feet/mile, Kb= .03
3868          KM
3869          BA   0.081
3870          LG    0.07    0.25    5.70    0.18   50.05
3871          UC   0.125   0.094
3872          UA       0       5      16      30      65      77      84      90      94      97
3873          UA     100
              *

3874          KK  610611
3875          KM     Normal depth channel route from C610 to 1611
3876          KM     Source:  HEC-2 Cross Section: SU 0.216
3877          RS       2    FLOW      -1
3878          RC   0.050   0.045   0.050  1090.0  0.0211
3879          RX  9911.9  9948.1  9973.6  9988.6 10007.1 10027.0 10049.8 10143.7
3880          RY  1699.3  1691.7  1686.3  1680.1  1679.7  1686.6  1687.3  1698.6
              *

3881          KK    211N
3882          KM   Sub-Basin   211N
3883          KM
3884          KM     The Clark Unit Hydrograph is used for this basin.
3885          KM         The Urban time-area relation is used for this basin.
3886          KM
3887          KM     Time of Concentration for this sub-basin is based on the following:
3888          KM         6-Hour Rainfall, Pattern No.  1.00
3889          KM         An rainfall areal reduction factor of 1.000
```



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

3890          KM
3891          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3892          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3893          KM   .49 .48 .48 .18 .15 .14 .07 .07 .07 .06 .06 .06 .01 .01 .01 .01 .01 .01
3894          KM
3895          KM          L=   0.261 miles, S=  235 feet/mile, Kb= .03
3896          KM
3897          BA   0.020
3898          LG    0.07    0.25    5.70    0.18   56.58
3899          UC   0.088   0.078
3900          UA       0       5      16      30      65      77      84      90      94      97
3901          UA     100
              *

3902          KK   C611R
3903          KM     Hydrograph combine 610611 + 211N at C611 right branch
3904          HC       2
              *

3905          KK    211O
3906          KM   Sub-Basin   211O
3907          KM
3908          KM     The Clark Unit Hydrograph is used for this basin.
3909          KM         The Urban time-area relation is used for this basin.
3910          KM
3911          KM     Time of Concentration for this sub-basin is based on the following:
3912          KM         6-Hour Rainfall, Pattern No.  1.00
3913          KM         An rainfall areal reduction factor of 0.999
3914          KM
3915          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3916          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3917          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .06 .05 .05 .01 .01 .01 .01 .01 .01
3918          KM
3919          KM          L=   0.371 miles, S=  257 feet/mile, Kb= .03
3920          KM
3921          BA   0.041
3922          LG    0.08    0.25    5.70    0.18   45.31
3923          UC   0.104   0.084
3924          UA       0       5      16      30      65      77      84      90      94      97
3925          UA     100
              *

3926          KK   C609O
3927          KM     Reservoir route at C609.
3928          RS       1    ELEV  1694.0
3929          SV    0.00    0.10    0.21    0.50    0.86    1.40    1.93    2.60    3.10    3.20
3930          SV    3.39    3.60    3.80    4.00    4.10    4.30    4.50    4.70    4.90    5.10
3931          SE  1694.0  1695.0  1696.0  1697.0  1698.0  1699.0  1700.0  1701.0  1701.6  1701.8
3932          SE  1702.0  1702.2  1702.4  1702.6  1702.8  1703.0  1703.2  1703.4  1703.6  1703.8
3933          SQ       0       6      16      33      48      59      68      75      79      85
3934          SQ     108     149     209     289     390     512     658     829    1025    1247
              *
```

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

3935          KK  609611
3936          KM      Normal depth channel route from C609 to C611
3937          KM      Source:  200 Scale Mapping
3938          RS       2    FLOW      -1
3939          RC   0.035   0.050   0.035   470.0  0.0200
3940          RX  1000.0  1025.0  1050.0  1054.0  1064.0  1068.0  1088.0  1103.0
3941          RY  1690.0  1688.0  1684.0  1682.0  1682.0  1684.0  1688.0  1690.0
              *

3942          KK   C611I
3943          KM      Hydrograph combine 609611 + C611R at C611I
3944          HC       2
              *

3945          KK   C611O
3946          KM      Reservoir route at C611.
3947          RS       1    ELEV  1668.4
3948          SV    0.00    0.41    1.10    2.49    4.34    6.64    6.72    6.81    6.89    6.97
3949          SV    7.06    7.14    7.22    7.31    7.39    7.47    7.56    7.64    7.72    7.81
3950          SE  1674.0  1676.0  1678.0  1680.0  1682.0  1684.0  1684.2  1684.4  1684.6  1684.8
3951          SE  1685.0  1685.2  1685.4  1685.6  1685.8  1686.0  1686.2  1686.4  1686.6  1686.8
3952          SQ       0       0      86     117     141     162     164     170     181     199
3953          SQ     225     262     313     378     460     558     673     807     958    1118
              *

3954          KK   D611L
3955          KM      Hydrograph diversion at C611.  Main flow continues in the left branch.
3956          KM      Diverted flow is in the right branch.
3957          DT   D611R
3958          DI       0       0      86     117     141     162     164     170     181     199
3959          DI     225     262     313     378     460     558     673     807     958    1118
3960          DQ       0       0      86     117     141     162     164     165     167     169
3961          DQ     171     173     175     176     178     180     182     183     185     187
              *

3962          KK  611612
3963          KM      Normal depth channel route from C611 to C612
3964          KM      Source:  200 Scale Mapping
3965          RS       4    FLOW      -1
3966          RC   0.040   0.018   0.040   925.0  0.0270
3967          RX  1000.0  1020.0  1023.0  1041.0  1059.0  1060.2  1071.2  1136.2
3968          RY  1666.0  1664.0  1663.5  1663.9  1663.5  1663.9  1664.0  1666.0
              *

3969          KK    211P
3970          KM   Sub-Basin   211P
3971          KM
3972          KM      The Clark Unit Hydrograph is used for this basin.
3973          KM          The Urban time-area relation is used for this basin.
3974          KM
3975          KM      Time of Concentration for this sub-basin is based on the following:
3976          KM          6-Hour Rainfall, Pattern No.  1.00
3977          KM          An rainfall areal reduction factor of 1.000
3978          KM
```



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

3979          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3980          KM      5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3981          KM    .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
3982          KM
3983          KM          L=   0.307 miles, S=  192 feet/mile, Kb= .03
3984          KM
3985          BA   0.033
3986          LG    0.08    0.15    7.00    0.11   45.00
3987          UC   0.100   0.077
3988          UA       0       5      16      30      65      77      84      90      94      97
3989          UA     100
              *

3990          KK    C612
3991          KM      Hydrograph combine 611612 + 211P at C612
3992          HC       2
              *
              * *
              * * NOTE: 612613 is too short to route
              * *
              *

3993          KK    C613
3994          KM      Hydrograph combine 608613 + C612 at C613
3995          HC       2
```

```
                *

3996            KK  613621
3997            KM      Normal depth channel route from C613 to C621
3998            KM      Source:  HEC-2 Cross Section: AS 3.241
3999            RS       1    FLOW      -1
4000            RC   0.100   0.045   0.100   718.0  0.0251
4001            RX  9695.4  9884.0  9985.0  9991.1 10033.8 10062.8 10097.5 10165.1
4002            RY  1655.5  1647.5  1645.8  1641.1  1640.6  1642.1  1648.7  1654.3
                *

4003            KK    211L
4004            KM   Sub-Basin   211L
4005            KM
4006            KM      The Clark Unit Hydrograph is used for this basin.
4007            KM          The Urban time-area relation is used for this basin.
4008            KM
4009            KM      Time of Concentration for this sub-basin is based on the following:
4010            KM          6-Hour Rainfall, Pattern No.  1.00
4011            KM          An rainfall areal reduction factor of 0.999
4012            KM
4013            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4014            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4015            KM   .47 .46 .46 .16 .12 .12 .05 .05 .05 .04 .04 .04 .01 .01 .01 .01 .01 .01
4016            KM
4017            KM          L=   0.508 miles, S=  181 feet/mile, Kb= .03
4018            KM
4019            BA   0.096
4020            LG    0.11    0.26    4.35    0.36   42.40
4021            UC   0.138   0.091
1                                          HEC-1 INPUT                                          PAGE 94

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

4022            UA       0       5      16      30      65      77      84      90      94      97
4023            UA     100
                *

4024            KK   C621L
4025            KM      Hydrograph combine 613621 + 211L at C621 left branch
4026            HC       2
                *
                * *
                * * Move to the top of Arrow Wash
                * *
                *

4027            KK    211Q
4028            KM   Sub-Basin   211Q
4029            KM
4030            KM      The Clark Unit Hydrograph is used for this basin.
4031            KM          The Urban time-area relation is used for this basin.
4032            KM
4033            KM      Time of Concentration for this sub-basin is based on the following:
4034            KM          6-Hour Rainfall, Pattern No.  1.00
4035            KM          An rainfall areal reduction factor of 1.000
4036            KM
4037            KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4038            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4039            KM   .48 .47 .47 .17 .13 .13 .06 .06 .05 .05 .04 .04 .01 .01 .01 .01 .01 .01
4040            KM
4041            KM          L=   0.255 miles, S=  295 feet/mile, Kb= .03
4042            KM
4043            BA   0.021
4044            LG    0.08    0.25    5.70    0.18   30.04
4045            UC   0.083   0.071
4046            UA       0       5      16      30      65      77      84      90      94      97
4047            UA     100
                *

4048            KK  616617
4049            KM      Normal depth channel route from C616 to C617
4050            KM      Source:  200 Scale Mapping
4051            RS       2    FLOW      -1
4052            RC   0.070   0.060   0.070  1131.0  0.0553
4053            RX  1000.0  1008.0  1015.0  1045.0  1050.0  1080.0  1100.0  1110.0
4054            RY  1834.0  1832.0  1830.0  1826.0  1826.0  1830.0  1834.0  1836.0
                *

4055            KK    211R
4056            KM   Sub-Basin   211R
4057            KM
4058            KM      The Clark Unit Hydrograph is used for this basin.
4059            KM          The Urban time-area relation is used for this basin.
4060            KM
4061            KM      Time of Concentration for this sub-basin is based on the following:
4062            KM          6-Hour Rainfall, Pattern No.  1.00
4063            KM          An rainfall areal reduction factor of 0.999
```

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4064          KM
1                                          HEC-1 INPUT                                                    PAGE 95

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

4065          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4066          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4067          KM   .48 .47 .47 .17 .14 .13 .06 .06 .06 .05 .05 .04 .01 .01 .01 .01 .01 .01
4068          KM
4069          KM          L=   0.572 miles, S=  271 feet/mile, Kb= .03
4070          KM
4071          BA   0.084
4072          LG    0.08    0.25    5.70    0.18   37.77
4073          UC   0.125   0.096
4074          UA       0       5      16      30      65      77      84      90      94      97
4075          UA     100
              *

4076          KK   C617L
4077          KM      Hydrograph combine 616617 + 211R at C617 left branch
4078          HC       2
              *

4079          KK    211U
4080          KM   Sub-Basin   211U
4081          KM
4082          KM      The Clark Unit Hydrograph is used for this basin.
4083          KM          The Urban time-area relation is used for this basin.
4084          KM
4085          KM      Time of Concentration for this sub-basin is based on the following:
4086          KM          6-Hour Rainfall, Pattern No.  1.00
4087          KM          An rainfall areal reduction factor of 1.000
4088          KM
4089          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4090          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4091          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .06 .02 .02 .02 .02 .02 .02
4092          KM
4093          KM          L=   0.831 miles, S=  214 feet/mile, Kb= .03
4094          KM
4095          BA   0.027
4096          LG    0.07    0.25    5.70    0.18   65.99
4097          UC   0.163   0.330
4098          UA       0       5      16      30      65      77      84      90      94      97
4099          UA     100
              *

4100          KK   D614L
4101          KM      Hydrograph diversion at C614.  Main flow continues in the left branch.
4102          KM      Diverted flow is in the right branch.
4103          DT   D614R
4104          DI       0     4.3     8.5    20.0    49.0    85.5
4105          DQ       0     2.5     5.0    13.5    35.0    60.0
              *

4106          KK    C617
4107          KM      Hydrograph combine C617L + D614L at C617
4108          HC       2
              *
1                                          HEC-1 INPUT                                                    PAGE 96

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

4109          KK  617618
4110          KM      Normal depth channel route from C617 to C618
4111          KM      Source:  HEC-2 Cross Section: AR 0.836
4112          RS       3    FLOW      -1
4113          RC   0.070   0.060   0.070  1912.0  0.0345
4114          RX  9983.3  9987.2  9989.2  9991.1 10031.5 10053.5 10070.6 10097.7
4115          RY  1766.5  1762.3  1760.2  1758.1  1757.8  1760.8  1764.2  1770.6
              *

4116          KK    211S
4117          KM   Sub-Basin   211S
4118          KM
4119          KM      The Clark Unit Hydrograph is used for this basin.
4120          KM          The Urban time-area relation is used for this basin.
4121          KM
4122          KM      Time of Concentration for this sub-basin is based on the following:
4123          KM          6-Hour Rainfall, Pattern No.  1.00
4124          KM          An rainfall areal reduction factor of 0.999
4125          KM
4126          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4127          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4128          KM   .47 .47 .46 .16 .13 .12 .06 .05 .05 .04 .03 .03 .01 .01 .01 .01 .01 .01
4129          KM
4130          KM          L=   0.445 miles, S=  272 feet/mile, Kb= .07
4131          KM
```

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4132          BA   0.050
4133          LG    0.11    0.31    5.70    0.19   30.06
4134          UC   0.175   0.154
4135          UA       0       5      16      30      65      77      84      90      94      97
4136          UA     100
              *

4137          KK   C618I
4138          KM      Hydrograph combine 617618 + 211S at C618I
4139          HC       2
              *

4140          KK   C618O
4141          KM      Reservoir route at C618.
4142          RS       1    ELEV  1730.6
4143          SV    0.00    0.06    0.24    0.50    0.75    1.20    1.66    2.30    2.94    3.20
4144          SV    3.30    3.40    3.60    3.80    3.90    4.10    4.30    4.50    4.65     5.0
4145          SE  1730.6  1736.0  1738.0  1739.0  1740.0  1741.0  1742.0  1743.0  1744.0  1744.3
4146          SE  1744.4  1744.6  1744.8  1745.0  1745.2  1745.4  1745.6  1745.8  1746.0  1746.2
4147          SQ       0     2.6     3.0     3.1     3.2     3.3     3.5     3.6     3.7     3.7
4148          SQ     3.8       8      21      48      88     143     212     295     390     499
              *

4149          KK  BB614R
4150          KM      Retrieve previously diverted hydrograph at C614 in the right branch.
4151          DR   D614R
              *
1                                          HEC-1 INPUT                                          PAGE 97

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

4152          KK  614615
4153          KM      Normal depth channel route from C614 to C615
4154          KM      Source:  Hydrology Field Reconnaissance
4155          RS       3    FLOW      -1
4156          RC   0.040   0.018   0.040  1114.0  0.0397
4157          RX  1000.0  1020.0  1025.0  1059.0  1091.0  1093.0  1098.0  1103.0
4158          RY  1828.0  1822.0  1821.5  1822.2  1821.8  1822.0  1824.0  1826.0
              *

4159          KK    211V
4160          KM   Sub-Basin   211V
4161          KM
4162          KM      The Clark Unit Hydrograph is used for this basin.
4163          KM          The Urban time-area relation is used for this basin.
4164          KM
4165          KM      Time of Concentration for this sub-basin is based on the following:
4166          KM          6-Hour Rainfall, Pattern No.  1.00
4167          KM          An rainfall areal reduction factor of 1.000
4168          KM
4169          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4170          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4171          KM   .50 .50 .50 .19 .16 .16 .08 .08 .08 .08 .08 .08 .02 .02 .02 .02 .02 .02
4172          KM
4173          KM          L=   0.222 miles, S=  212 feet/mile, Kb= .04
4174          KM
4175          BA   0.005
4176          LG    0.06    0.25    5.80    0.18   90.00
4177          UC   0.096   0.170
4178          UA       0       5      16      30      65      77      84      90      94      97
4179          UA     100
              *

4180          KK    C615
4181          KM      Hydrograph combine 614615 + 211V at C615
4182          HC       2    0.03
              *

4183          KK   D615L
4184          KM      Hydrograph diversion at C615.  Main flow continues in the left branch.
4185          KM      Diverted flow is in the right branch.
4186          DT   D615R
4187          DI       0     1.3     2.5     5.3     8.6    14.2    23.0    36.8    55.5    77.5
4188          DQ       0       0       0     1.3     2.6     4.2     7.0    12.8    19.5    29.5
              *

4189          KK  615618
4190          KM      Normal depth channel route from C615 to C618
4191          KM      Source:  Hydrology Field Reconnaissance
4192          RS       1    FLOW      -1
4193          RC   0.040   0.018   0.040   499.0  0.1338
4194          RX  1000.0  1008.0  1009.2  1013.2  1027.2  1028.4  1036.4  1045.4
4195          RY  1800.4  1799.6  1799.2  1798.8  1798.3  1798.7  1798.9  1800.4
              *
1                                          HEC-1 INPUT                                          PAGE 98

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
4196          KK    C618
4197          KM      Hydrograph combine C618O + 615618 at C618
4198          HC       2    0.19
              *

4199          KK  618619
4200          KM      Normal depth channel route from C618 to C619
4201          KM      Source:  HEC-2 Cross Section: AR 0.441
4202          RS       3    FLOW      -1
4203          RC   0.070   0.060   0.070  1837.0  0.0285
4204          RX  9870.6  9928.6  9957.1  9996.9 10004.9 10022.1 10062.0 10116.4
4205          RY  1709.2  1700.9  1698.8  1690.0  1689.8  1699.6  1700.3  1711.3
              *

4206          KK    211T
4207          KM   Sub-Basin   211T
4208          KM
4209          KM      The Clark Unit Hydrograph is used for this basin.
4210          KM          The Urban time-area relation is used for this basin.
4211          KM
4212          KM      Time of Concentration for this sub-basin is based on the following:
4213          KM          6-Hour Rainfall, Pattern No.  1.00
4214          KM          An rainfall areal reduction factor of 0.999
4215          KM
4216          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4217          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4218          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .06 .06 .01 .01 .01 .01 .01 .01
4219          KM
4220          KM          L=   0.488 miles, S=  250 feet/mile, Kb= .03
4221          KM
4222          BA   0.066
4223          LG    0.07    0.25    5.70    0.18   64.25
4224          UC   0.117   0.090
4225          UA       0       5      16      30      65      77      84      90      94      97
4226          UA     100
              *

4227          KK   C619L
4228          KM      Hydrograph combine 618619 + 211T at C619 left branch
4229          HC       2
              *

4230          KK  BB615R
4231          KM      Retrieve previously diverted hydrograph at C615 in the right branch.
4232          DR   D615R
              *

4233          KK  615619
4234          KM      Normal depth channel route from C615 to C619
4235          KM      Source:  Hydrology Field Reconnaissance
4236          RS       6    FLOW      -1
4237          RC   0.045   0.024   0.025  2444.0  0.0493
4238          RX  1000.0  1009.3  1018.5  1037.0  1039.3  1053.0  1065.0  1065.0
4239          RY  1727.2  1726.5  1725.8  1724.4  1724.6  1725.8  1725.9  1725.9
              *
```



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

4240          KK   C619I
4241          KM      Hydrograph combine C619L + 615619 at C619I
4242          HC       2    0.25
              *

4243          KK   C619O
4244          KM      Reservoir route at C619.
4245          RS       1    ELEV  1675.6
4246          SV    0.00    1.72    2.98    4.70    7.00    7.08    7.17    7.26    7.34    7.43
4247          SV    7.51    7.60    7.69    7.77    7.86
4248          SE  1675.6  1686.0  1688.0  1690.0  1692.0  1692.2  1692.4  1692.6  1692.8  1693.0
4249          SE  1693.2  1693.4  1693.6  1693.8  1694.0
4250          SQ       0       4      25      72     128     155     163     172     178     187
4251          SQ     195     213     238     273     318     374     441     518     606     706
4252          SE  1675.6  1676.0  1678.0  1680.0  1682.0  1684.0  1686.0  1688.0  1690.0  1692.0
4253          SE  1692.2  1692.4  1692.6  1692.8  1693.0  1693.2  1693.4  1693.6  1693.8  1694.0
              *

4254          KK   D619R
4255          KM      Hydrograph diversion at C619.  Main flow continues in the right branch.
4256          KM      Diverted flow is in the left branch.
4257          DT   D619L
4258          DI       0       4      25      72     128     155     163     172     178     187
4259          DI     195     213     238     273     318     374     441     518     606     706
4260          DQ       0       0       0       0       0       0       0       0       0       0
4261          DQ       8      24      49      83     128     182     249     326     412     512
              *
```

```
4262          KK  619620
4263          KM                 Lag route through Palisades Plaza storm drain
4264          RT       0               1
              *

4265          KK  BB619L
4266          KM      Retrieve previously diverted hydrograph at C619 in the left branch.
4267          DR   D619L
              *

4268          KK  619620
4269          KM   Normal depth channel route from C619 to C620 in Fountain Hills Blvd.
4270          KM   Source:  200 Scale Mapping. Similiar to 523548
4271          RS       1    FLOW      -1
4272          RC   0.040   0.024   0.040   800.0  0.0288
4273          RX   918.0   940.0   960.0  1000.0  1040.0  1040.1  1044.1  1088.1
4274          RY  1648.0  1645.8  1643.8  1644.7  1644.0  1644.5  1644.5  1648.0
              *

4275          KK    211W
4276          KM   Sub-Basin   211W
4277          KM
4278          KM      The Clark Unit Hydrograph is used for this basin.
4279          KM          The Urban time-area relation is used for this basin.
4280          KM
4281          KM      Time of Concentration for this sub-basin is based on the following:
1                                          HEC-1 INPUT                                          PAGE100

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

4282          KM          6-Hour Rainfall, Pattern No.  1.00
4283          KM          An rainfall areal reduction factor of 1.000
4284          KM
4285          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4286          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4287          KM   .49 .49 .49 .19 .16 .15 .08 .08 .07 .07 .07 .07 .02 .02 .02 .02 .02 .02
4288          KM
4289          KM          L=   0.289 miles, S=  173 feet/mile, Kb= .03
4290          KM
4291          BA   0.030
4292          LG    0.06    0.25    5.70    0.18   73.65
4293          UC   0.100   0.079
4294          UA       0       5      16      30      65      77      84      90      94      97
4295          UA     100
              *

4296          KK   C620R
4297          KM      Hydrograph combine 619620 + R619L + 211W at C620 right branch
4298          HC       3    0.28
              *

4299          KK  BB611R
4300          KM      Retrieve previously diverted hydrograph at C611 in the right branch.
4301          DR   D611R
              *

4302          KK  611620
4303          KM                 Lag route through Palisades Plaza storm drain
4304          RT       0               1
              *

4305          KK    C620
4306          KM      Hydrograph combine 611620 + C620R at C620
4307          HC       2    0.42
              *

4308          KK  620621
4309          KM      Normal depth channel route from C620 to C621
4310          KM      Source:  HEC-2 Cross Section: AR 0.081
4311          RS       1    FLOW      -1
4312          RC   0.050   0.050   0.050   915.0  0.0394
4313          RX  9790.0  9790.1  9972.2  9994.8 10004.9 10029.7 10048.6 10125.0
4314          RY  1657.9  1657.5  1656.4  1646.8  1646.8  1657.8  1657.0  1657.9
              *

4315          KK    C621
4316          KM      Hydrograph combine C621L + 620621 at C621
4317          HC       2    7.93
              *
1                                          HEC-1 INPUT                                          PAGE101

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

4318          KK  621622
4319          KM      Normal depth channel route from C621 to C622
4320          KM      Source:  HEC-2 Cross Section: AS 2.785
```

```
4321          RS       6    FLOW      -1
4322          RC   0.100   0.045   0.100  3830.0  0.0144
4323          RX  9827.3  9922.9  9951.0 10000.0 10002.7 10044.7 10071.6 10076.8
4324          RY  1615.2  1611.0  1604.1  1600.8  1601.5  1601.6  1611.0  1613.9
              *

4325          KK    211X
4326          KM   Sub-Basin   211X
4327          KM
4328          KM      The Clark Unit Hydrograph is used for this basin.
4329          KM          The Urban time-area relation is used for this basin.
4330          KM
4331          KM      Time of Concentration for this sub-basin is based on the following:
4332          KM          6-Hour Rainfall, Pattern No.  1.00
4333          KM          An rainfall areal reduction factor of 0.997
4334          KM
4335          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4336          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4337          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4338          KM
4339          KM          L=   0.929 miles, S=  111 feet/mile, Kb= .03
4340          KM
4341          BA   0.214
4342          LG    0.10    0.26    4.90    0.26   56.64
4343          UC   0.213   0.151
4344          UA       0       5      16      30      65      77      84      90      94      97
4345          UA     100
              *

4346          KK   C622R
4347          KM      Hydrograph combine 621622 + 211X at C622 right branch
4348          HC       2
              *
              * *
              * * Move to the top of Tulip Wash
              * *
              *

4349          KK    211A
4350          KM   Sub-Basin   211A
4351          KM
4352          KM      The Clark Unit Hydrograph is used for this basin.
4353          KM          The Urban time-area relation is used for this basin.
4354          KM
4355          KM      Time of Concentration for this sub-basin is based on the following:
4356          KM          6-Hour Rainfall, Pattern No.  1.00
4357          KM          An rainfall areal reduction factor of 0.998
4358          KM
4359          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4360          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4361          KM   .47 .47 .47 .16 .13 .12 .06 .06 .05 .04 .04 .03 .01 .01 .01 .01 .01 .01
```



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

4362          KM
4363          KM          L=   0.820 miles, S=  248 feet/mile, Kb= .03
4364          KM
4365          BA   0.143
4366          LG    0.09    0.25    5.70    0.18   23.09
4367          UC   0.158   0.124
4368          UA       0       5      16      30      65      77      84      90      94      97
4369          UA     100
              *

4370          KK   C600O
4371          KM      Reservoir route at C600.
4372          RS       1    ELEV  1754.0
4373          SV    0.00    0.14    0.62    1.52    2.95    5.06    7.98   11.80   16.61   22.67
4374          SV   30.07   38.71   40.50   40.60   41.60   42.70   43.70   44.60   45.70
4375          SE  1754.0  1756.0  1758.0  1760.0  1762.0  1764.0  1766.0  1768.0  1770.0  1772.0
4376          SE  1774.0  1776.0 1776.36  1776.4  1776.6  1776.8  1777.0  1777.2  1777.4
4377          SQ       0      55     183     320     427     513     570     620     665     709
4378          SQ     750     789     795     795     812     849     906     984    1084
              *

4379          KK  600601
4380          KM      Normal depth channel route from C600 to C601
4381          KM      Source:  HEC-2 Cross Section: TU 1.538
4382          RS       3    FLOW      -1
4383          RC   0.040   0.025   0.040  2406.0  0.0176
4384          RX  9945.6  9959.4  9968.3  9985.9 10000.0 10017.2 10038.7 10058.8
4385          RY  1734.5  1732.3  1727.9  1726.2  1725.0  1727.7  1735.2  1736.0
              *

4386          KK    211B
4387          KM   Sub-Basin   211B
4388          KM
```

```
4389          KM      The Clark Unit Hydrograph is used for this basin.
4390          KM          The Urban time-area relation is used for this basin.
4391          KM
4392          KM      Time of Concentration for this sub-basin is based on the following:
4393          KM          6-Hour Rainfall, Pattern No.  1.00
4394          KM          An rainfall areal reduction factor of 0.999
4395          KM
4396          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4397          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4398          KM   .47 .47 .46 .16 .13 .12 .05 .05 .05 .04 .04 .03 .00 .00 .00 .00 .00 .00
4399          KM
4400          KM          L=   0.618 miles, S=  244 feet/mile, Kb= .03
4401          KM
4402          BA   0.109
4403          LG    0.09    0.25    5.80    0.18   20.22
4404          UC   0.138   0.099
4405          UA       0       5      16      30      65      77      84      90      94      97
4406          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE103

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

4407          KK    C601
4408          KM      Hydrograph combine 600601 + 211B at C601
4409          HC       2
              *

4410          KK  601602
4411          KM      Normal depth channel route from C601 to C602
4412          KM      Source:  HEC-2 Cross Section: TU 1.102
4413          RS       3    FLOW      -1
4414          RC   0.065   0.040   0.055  1765.0  0.0146
4415          RX  9916.9  9959.1  9965.8  9980.2 10004.0 10019.5 10047.3 10094.1
4416          RY  1699.9  1699.8  1696.4  1689.8  1688.9  1695.7  1698.2  1698.4
              *

4417          KK    211C
4418          KM   Sub-Basin   211C
4419          KM
4420          KM      The Clark Unit Hydrograph is used for this basin.
4421          KM          The Urban time-area relation is used for this basin.
4422          KM
4423          KM      Time of Concentration for this sub-basin is based on the following:
4424          KM          6-Hour Rainfall, Pattern No.  1.00
4425          KM          An rainfall areal reduction factor of 0.999
4426          KM
4427          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4428          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4429          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4430          KM
4431          KM          L=   0.479 miles, S=  154 feet/mile, Kb= .03
4432          KM
4433          BA   0.043
4434          LG    0.08    0.25    5.70    0.18   44.48
4435          UC   0.138   0.137
4436          UA       0       5      16      30      65      77      84      90      94      97
4437          UA     100
              *

4438          KK   C602L
4439          KM      Hydrograph combine 601602 + 211C at C602 left branch
4440          HC       2
              *

4441          KK    211D
4442          KM   Sub-Basin   211D
4443          KM
4444          KM      The Clark Unit Hydrograph is used for this basin.
4445          KM          The Urban time-area relation is used for this basin.
4446          KM
4447          KM      Time of Concentration for this sub-basin is based on the following:
4448          KM          6-Hour Rainfall, Pattern No.  1.00
4449          KM          An rainfall areal reduction factor of 0.999
4450          KM
4451          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4452          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                          PAGE104

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

4453          KM   .46 .45 .45 .15 .11 .11 .04 .04 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
4454          KM
4455          KM          L=   0.686 miles, S=  115 feet/mile, Kb= .03
4456          KM
4457          BA   0.071
4458          LG    0.08    0.25    3.85    0.46   37.42
```

```
4459          UC   0.183   0.189
4460          UA       0       5      16      30      65      77      84      90      94      97
4461          UA     100
              *

4462          KK    C602
4463          KM      Hydrograph combine C602L + 211D at C602
4464          HC       2
              *

4465          KK  602603
4466          KM      Normal depth channel route from C602 to C603
4467          KM      Source:  HEC-2 Cross Section: LE 0.672
4468          RS       3    FLOW      -1
4469          RC   0.060   0.045   0.060  2610.0  0.0211
4470          RX  9891.9  9963.9  9986.5 10000.0 10012.7 10023.8 10085.0 10176.4
4471          RY  1653.5  1653.5  1644.4  1644.1  1645.0  1649.8  1651.7  1656.7
              *

4472          KK    211E
4473          KM   Sub-Basin   211E
4474          KM
4475          KM      The Clark Unit Hydrograph is used for this basin.
4476          KM          The Urban time-area relation is used for this basin.
4477          KM
4478          KM      Time of Concentration for this sub-basin is based on the following:
4479          KM          6-Hour Rainfall, Pattern No.  1.00
4480          KM          An rainfall areal reduction factor of 0.998
4481          KM
4482          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4483          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4484          KM   .48 .47 .47 .17 .13 .13 .06 .06 .06 .05 .04 .04 .01 .01 .01 .01 .01 .01
4485          KM
4486          KM          L=   0.609 miles, S=  118 feet/mile, Kb= .03
4487          KM
4488          BA   0.156
4489          LG    0.08    0.25    5.10    0.24   42.21
4490          UC   0.171   0.101
4491          UA       0       5      16      30      65      77      84      90      94      97
4492          UA     100
              *

4493          KK    C603
4494          KM      Hydrograph combine 602603 + 211E at C603
4495          HC       2
              *
```



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

4496          KK  603622
4497          KM      Normal depth channel route from C603 to C622
4498          KM      Source:  HEC-2 Cross Section: LE 0.287
4499          RS       4    FLOW      -1
4500          RC   0.060   0.045   0.060  2745.0  0.0204
4501          RX  9883.0  9929.7  9967.3  9991.6 10042.2 10073.6 10177.6 10194.5
4502          RY  1619.4  1618.7  1611.8  1602.1  1603.3  1609.4  1610.5  1610.6
              *

4503          KK    211F
4504          KM   Sub-Basin   211F
4505          KM
4506          KM      The Clark Unit Hydrograph is used for this basin.
4507          KM          The Urban time-area relation is used for this basin.
4508          KM
4509          KM      Time of Concentration for this sub-basin is based on the following:
4510          KM          6-Hour Rainfall, Pattern No.  1.00
4511          KM          An rainfall areal reduction factor of 0.999
4512          KM
4513          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4514          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4515          KM   .48 .48 .48 .17 .14 .14 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4516          KM
4517          KM          L=   0.770 miles, S=  134 feet/mile, Kb= .03
4518          KM
4519          BA   0.113
4520          LG    0.08    0.25    4.30    0.36   62.81
4521          UC   0.183   0.158
4522          UA       0       5      16      30      65      77      84      90      94      97
4523          UA     100
              *

4524          KK   C622L
4525          KM      Hydrograph combine 603622 + 211F at C622 left branch
4526          HC       2
              *
```

```
4527          KK    C622
4528          KM      Hydrograph combine C622R + C622L at C622
4529          HC       2
              *

4530          KK  622549
4531          KM      Normal depth channel route from C622 to C549
4532          KM      Source:  HEC-2 Cross Section: AS 2.279
4533          RS       5    FLOW      -1
4534          RC   0.113   0.125   0.120  1697.0  0.0118
4535          RX  9847.1  9851.0  9857.5  9862.8 10052.6 10062.8 10075.6 10084.6
4536          RY  1573.5  1571.3  1567.2  1564.6  1565.1  1566.7  1573.7  1573.9
              *
1                                          HEC-1 INPUT                                                          PAGE106

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

4537          KK    211Y
4538          KM   Sub-Basin   211Y
4539          KM
4540          KM      The Clark Unit Hydrograph is used for this basin.
4541          KM          The Urban time-area relation is used for this basin.
4542          KM
4543          KM      Time of Concentration for this sub-basin is based on the following:
4544          KM          6-Hour Rainfall, Pattern No.  1.00
4545          KM          An rainfall areal reduction factor of 0.999
4546          KM
4547          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4548          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4549          KM   .49 .48 .48 .18 .15 .14 .07 .07 .07 .06 .06 .06 .01 .01 .01 .01 .01 .01
4550          KM
4551          KM          L=   0.606 miles, S=  147 feet/mile, Kb= .04
4552          KM
4553          BA   0.089
4554          LG    0.09    0.21    6.60    0.13   50.06
4555          UC   0.183   0.149
4556          UA       0       5      16      30      65      77      84      90      94      97
4557          UA     100
              *

4558          KK   C549R
4559          KM      Hydrograph combine 622549 + 211Y at C549 right branch
4560          HC       2
              *

4561          KK    C549
4562          KM      Hydrograph combine C549L + C549R at C549
4563          HC       2
              *

4564          KK  549626
4565          KM      Normal depth channel route from C549 to C626
4566          KM      Source:  HEC-2 Cross Section: AS 1.855
4567          RS       6    FLOW      -1
4568          RC   0.113   0.125   0.120  2044.0  0.0171
4569          RX  9943.2  9963.0  9985.6  9994.1 10007.6 10029.2 10150.5 10171.3
4570          RY  1539.3  1534.5  1531.2  1528.3  1528.2  1531.7  1532.5  1537.4
              *

4571          KK    211Z
4572          KM   Sub-Basin   211Z
4573          KM
4574          KM      The Clark Unit Hydrograph is used for this basin.
4575          KM          The Urban time-area relation is used for this basin.
4576          KM
4577          KM      Time of Concentration for this sub-basin is based on the following:
4578          KM          6-Hour Rainfall, Pattern No.  1.00
4579          KM          An rainfall areal reduction factor of 0.999
4580          KM
4581          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4582          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1                                          HEC-1 INPUT                                                          PAGE107

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

4583          KM   .46 .46 .46 .15 .12 .11 .05 .05 .04 .03 .03 .03 .01 .01 .01 .01 .01 .01
4584          KM
4585          KM          L=   0.509 miles, S=  147 feet/mile, Kb= .04
4586          KM
4587          BA   0.083
4588          LG    0.14    0.27    4.50    0.34   34.43
4589          UC   0.171   0.126
4590          UA       0       5      16      30      65      77      84      90      94      97
4591          UA     100
              *

4592          KK   C626C
```

```
4593          KM      Hydrograph combine 549626 + 211Z at C626 main branch
4594          HC       2
              *

4595          KK   211AA
4596          KM   Sub-Basin  211AA
4597          KM
4598          KM      The Clark Unit Hydrograph is used for this basin.
4599          KM          The Urban time-area relation is used for this basin.
4600          KM
4601          KM      Time of Concentration for this sub-basin is based on the following:
4602          KM          6-Hour Rainfall, Pattern No.  1.00
4603          KM          An rainfall areal reduction factor of 1.000
4604          KM
4605          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4606          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4607          KM   .49 .48 .48 .18 .15 .14 .07 .07 .06 .06 .06 .06 .01 .01 .01 .01 .01 .01
4608          KM
4609          KM          L=   0.480 miles, S=   85 feet/mile, Kb= .03
4610          KM
4611          BA   0.034
4612          LG    0.08    0.19    6.60    0.13   39.38
4613          UC   0.167   0.193
4614          UA      0       5      16      30      65      77      84      90      94      97
4615          UA    100
              *

4616          KK  625626
4617          KM      Normal depth channel route from C625 to C626
4618          KM      Source:  200 Scale Mapping
4619          RS       2    FLOW      -1
4620          RC   0.040   0.018   0.040  1350.0  0.0252
4621          RX  1000.0  1020.0  1021.2  1055.2  1089.2  1090.4  1100.4  1105.4
4622          RY  1527.0  1526.0  1525.6  1526.3  1525.6  1526.0  1528.0  1530.0
              *

4623          KK   211AB
4624          KM   Sub-Basin  211AB
4625          KM
4626          KM      The Clark Unit Hydrograph is used for this basin.
4627          KM          The Urban time-area relation is used for this basin.
4628          KM
4629          KM      Time of Concentration for this sub-basin is based on the following:
```



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

4630          KM          6-Hour Rainfall, Pattern No.  1.00
4631          KM          An rainfall areal reduction factor of 0.999
4632          KM
4633          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4634          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4635          KM   .49 .49 .49 .18 .15 .15 .07 .07 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
4636          KM
4637          KM          L=   0.293 miles, S=  321 feet/mile, Kb= .03
4638          KM
4639          BA   0.040
4640          LG    0.07    0.17    6.80    0.12   54.72
4641          UC   0.083   0.055
4642          UA      0       5      16      30      65      77      84      90      94      97
4643          UA    100
              *

4644          KK  623624
4645          KM      Normal depth channel route from C623 to C624
4646          KM      Source:  200 Scale Mapping
4647          RS       1    FLOW      -1
4648          RC   0.040   0.018   0.040   701.0  0.0114
4649          RX  1000.0  1010.0  1011.2  1027.2  1043.2  1044.4  1059.4  1074.4
4650          RY  1534.0  1532.0  1531.6  1531.9  1531.6  1532.0  1532.5  1533.0
              *

4651          KK   211AC
4652          KM   Sub-Basin  211AC
4653          KM
4654          KM      The Clark Unit Hydrograph is used for this basin.
4655          KM          The Urban time-area relation is used for this basin.
4656          KM
4657          KM      Time of Concentration for this sub-basin is based on the following:
4658          KM          6-Hour Rainfall, Pattern No.  1.00
4659          KM          An rainfall areal reduction factor of 1.000
4660          KM
4661          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4662          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4663          KM   .49 .49 .49 .19 .16 .15 .08 .08 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
4664          KM
4665          KM          L=   0.306 miles, S=   82 feet/mile, Kb= .03
4666          KM
```

```
4667          BA   0.027
4668          LG    0.08    0.15    8.40    0.07   44.76
4669          UC   0.133   0.119
4670          UA       0       5      16      30      65      77      84      90      94      97
4671          UA     100
              *

4672          KK    C624
4673          KM      Hydrograph combine 623624 + 211AC at C624
4674          HC       2
              *
1                                        HEC-1 INPUT                                          PAGE109

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


4675          KK  624626
4676          KM      Normal depth channel route from C624 to C626
4677          KM      Source:  HEC-2 Cross Section: AS 1.727
4678          RS       2    FLOW      -1
4679          RC   0.080   0.060   0.080   637.0  0.0235
4680          RX  9872.9  9881.0  9893.9  9902.2  9967.6  9976.4 10076.1 10084.3
4681          RY  1526.3  1524.6  1521.7  1520.0  1520.7  1521.6  1520.7  1526.2
              *

4682          KK   211AD
4683          KM   Sub-Basin  211AD
4684          KM
4685          KM      The Clark Unit Hydrograph is used for this basin.
4686          KM          The Urban time-area relation is used for this basin.
4687          KM
4688          KM      Time of Concentration for this sub-basin is based on the following:
4689          KM          6-Hour Rainfall, Pattern No.  1.00
4690          KM          An rainfall areal reduction factor of 0.999
4691          KM
4692          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4693          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4694          KM   .49 .49 .49 .19 .16 .15 .08 .08 .07 .07 .07 .07 .01 .01 .01 .01 .01 .01
4695          KM
4696          KM          L=   0.489 miles, S=  280 feet/mile, Kb= .03
4697          KM
4698          BA   0.041
4699          LG    0.08    0.15    8.00    0.08   46.16
4700          UC   0.113   0.114
4701          UA       0       5      16      30      65      77      84      90      94      97
4702          UA     100
              *

4703          KK   C626R
4704          KM      Hydrograph combine 624626 + 211AD at C626 right branch
4705          HC       2
              *

4706          KK    C626
4707          KM      Hydrograph combine C626C + 625626 at C626R
4708          HC       3
              *

4709          KK  626627
4710          KM      Normal depth channel route from C626 to C627
4711          KM      Source:  HEC-2 Cross Section: AS 1.602
4712          RS       1    FLOW      -1
4713          RC   0.080   0.060   0.080   625.0  0.0208
4714          RX  9889.8  9941.2  9963.0 10011.6 10074.8 10083.9 10191.7 10210.4
4715          RY  1517.6  1516.9  1508.1  1506.6  1508.6  1511.7  1513.1  1518.8
              *
1                                        HEC-1 INPUT                                          PAGE110

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


4716          KK   211AE
4717          KM   Sub-Basin  211AE
4718          KM
4719          KM      The Clark Unit Hydrograph is used for this basin.
4720          KM          The Urban time-area relation is used for this basin.
4721          KM
4722          KM      Time of Concentration for this sub-basin is based on the following:
4723          KM          6-Hour Rainfall, Pattern No.  1.00
4724          KM          An rainfall areal reduction factor of 1.000
4725          KM
4726          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4727          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4728          KM   .48 .48 .48 .17 .14 .13 .06 .06 .06 .05 .05 .05 .01 .01 .01 .01 .01 .01
4729          KM
4730          KM          L=   0.313 miles, S=  153 feet/mile, Kb= .04
4731          KM
4732          BA   0.034
```

```
4733          LG    0.12    0.24    6.40    0.15   38.15
4734          UC   0.129   0.103
4735          UA       0       5      16      30      65      77      84      90      94      97
4736          UA     100
              *

4737          KK    C627
4738          KM      Hydrograph combine 626627 + 211AE at C627
4739          HC       2
              *
              * *
              * * C627 is the total flow in Ashbrook Wash at the Study boundary
              * *
              *

4740          KK   211AF
4741          KM   Sub-Basin  211AF
4742          KM
4743          KM      The Clark Unit Hydrograph is used for this basin.
4744          KM          The Urban time-area relation is used for this basin.
4745          KM
4746          KM      Time of Concentration for this sub-basin is based on the following:
4747          KM          6-Hour Rainfall, Pattern No.  1.00
4748          KM          An rainfall areal reduction factor of 0.999
4749          KM
4750          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4751          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4752          KM   .49 .48 .48 .18 .15 .14 .07 .07 .06 .06 .06 .06 .01 .01 .01 .01 .01 .01
4753          KM
4754          KM          L=   0.332 miles, S=  292 feet/mile, Kb= .03
4755          KM
4756          BA   0.053
4757          LG    0.07    0.25    5.80    0.17   52.43
4758          UC   0.092   0.058
4759          UA       0       5      16      30      65      77      84      90      94      97
4760          UA     100
              *
              * *
              * * End Basin 211.
              * *
              *
1                                                HEC-1 INPUT                                                PAGE111

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

4761          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   31        201A
                .
                .
   50           .        201B
                .           .
                .           .
   69        C501............
                V
                V
   72       501502
                .
                .
   79           .        201C
                .           .
                .           .
  100       C502R...........
                .
                .
  103           .        201D
                .           .
                .           .
  122        C502............
                V
                V
  125       502503
                .
                .
  132           .        201E
                .           .
                .           .
  151       C503I...........
                V
                V
  154       C503O
                .
```

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                .
166             .-------> D503L
163         D503R
                V
                V
171        503504
                .
                .
178             .        202A
                .           .
                .           .
199         C504I............
                V
                V
202         C504O
                .
                .
214             .-------> D504L
211         D504R
                .
                .
219             .        202B
                .           .
                .           .
240         C505I............
                .
                .
246             .-------> D505L
243         D505R
                .
                .
251             .        202C
                .           .
                .           .
272          C506............
                .
                .
278             .-------> D506L
275         D506R
                .
                .
283             .        202D
                .           .
                .           .
304             .           .       202E
                .           .          V
                .           .          V
325             .           .      C508O
                .           .          .
                .           .          .
337             .           .          .-------> D508R
334             .           .      D508L
                .           .          V
                .           .          V
342             .           .     508507
                .           .          .
                .           .          .
349         C507I......................
                V
                V
352         C507O
                .
                .
361             .        202F
                .           .
                .           .
382             .           .       202G
                .           .          .
                .           .          .
403             .           .          .        202H
                .           .          .           V
                .           .          .           V
424             .           .          .       C511O
                .           .          .           V
                .           .          .           V
433             .           .          .      511512
                .           .          .           .
                .           .          .           .
440             .           .          .           .        202I
                .           .          .           .           .
                .           .          .           .           .
461             .           .          .       C512I............
                .           .          .           V
                .           .          .           V
466             .           .          .       C512O
                .           .          .           .
                .           .          .           .
480             .           .          .           .-------> D512R
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475          .          .          .      D512L
             .          .          .          .
             .          .          .          .
483          .          .          .          .        203A
             .          .          .          .          V
             .          .          .          .          V
502          .          .          .          .      C513O
             .          .          .          .          V
             .          .          .          .          V
508          .          .          .          .     513514
             .          .          .          .          .
             .          .          .          .          .
515          .          .          .          .          .        203B
             .          .          .          .          .          .
             .          .          .          .          .          .
536          .          .          .          .      C514R............
             .          .          .          .          .
             .          .          .          .          .
539          .          .          .          .          .        203C
             .          .          .          .          .          .
             .          .          .          .          .          .
558          .          .          .          .        C514............
             .          .          .          .          .
             .          .          .          .          .
561          .          .          .          .          .        203D
             .          .          .          .          .          .
             .          .          .          .          .          .
580          .          .          .          .        C515............
             .          .          .          .          V
             .          .          .          .          V
583          .          .          .          .     515517
             .          .          .          .          .
             .          .          .          .          .
590          .          .          .          .          .        203E
             .          .          .          .          .          .
             .          .          .          .          .          .
611          .          .          .          .      C517R............
             .          .          .          .          .
             .          .          .          .          .
614          .          .          .          .          .        203F
             .          .          .          .          .          V
             .          .          .          .          .          V
635          .          .          .          .          .     516517
             .          .          .          .          .          .
             .          .          .          .          .          .
642          .          .          .          .          .          .        203G
             .          .          .          .          .          .          .
             .          .          .          .          .          .          .
661          .          .          .          .          .      C517L............
             .          .          .          .          .          .
             .          .          .          .          .          .
664          .          .          .          .        C517............
             .          .          .          .          V
             .          .          .          .          V
667          .          .          .          .     517518
             .          .          .          .          .
             .          .          .          .          .
674          .          .          .          .          .        203H
             .          .          .          .          .          .
             .          .          .          .          .          .
695          .          .          .          .        C518............
             .          .          .          .          V
             .          .          .          .          V
698          .          .          .          .     518519
             .          .          .          .          .
             .          .          .          .          .
705          .          .          .          .          .        203I
             .          .          .          .          .          .
             .          .          .          .          .          .
726          .          .          .          .        C519............
             .          .          .          .          V
             .          .          .          .          V
729          .          .          .          .     519591
             .          .          .          .          .
             .          .          .          .          .
736          .          .          .          .          .        203J
             .          .          .          .          .          V
             .          .          .          .          .          V
757          .          .          .          .          .     520591
             .          .          .          .          .          .
             .          .          .          .          .          .
766          .          .          .          .          .          .          .<-------   D512R
764          .          .          .          .          .          .      BB512R
             .          .          .          .          .          .          .
             .          .          .          .          .          .          .
767          .          .          .          .        C591........................
             .          .          .          .          V
             .          .          .          .          V
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 770          .           .           .      591521
              .           .           .           .
              .           .           .           .
 777          .           .           .           .        203K
              .           .           .           .           .
              .           .           .           .           .
 798          .           .           .       C521............
              .           .           .           .
              .           .           .           .
 801      CLEAR.............................................
              .
              .
 804          .        204A
              .           V
              .           V
 825          .      522523
              .           .
              .           .
 832          .           .        204B
              .           .           .
              .           .           .
 853          .       C523I............
              .           V
              .           V
 856          .       C523O
              .           .
              .           .
 868          .           .------->   D523R
 865          .       D523L
              .           V
              .           V
 873          .      523524
              .           .
              .           .
 881          .           .        204C
              .           .           .
              .           .           .
 902          .        C524............
              .           V
              .           V
 905          .      524525
              .           .
              .           .
 912          .           .        204D
              .           .           .
              .           .           .
 933          .        C525............
              .           V
              .           V
 936          .      525526
              .           .
              .           .
 943          .           .        204E
              .           .           .
              .           .           .
 964          .        C526............
              .           V
              .           V
 967          .      526527
              .           .
              .           .
 974          .           .        204F
              .           .           .
              .           .           .
 995          .        C527............
              .           .
              .           .
 998      CLEAR............
              .
              .
1001          .        205A
              .           .
              .           .
1022          .           .        205B
              .           .           .
              .           .           .
1043          .        C528............
              .           V
              .           V
1046          .      528530
              .           .
              .           .
1053          .           .        205C
              .           .           .
              .           .           .
1074          .       C530R............
              .           .
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1077          .           .        205D
              .           .           .
              .           .           .
1098          .           .           .        205E
              .           .           .           .
              .           .           .           .
1119          .           .        C529............
              .           .           .
              .           .           .
1122          .        C530............
              .           V
              .           V
1125          .      530531
              .           .
              .           .
1132          .           .        205F
              .           .           .
              .           .           .
1153          .        C531............
              .           V
              .           V
1156          .      531532
              .           .
              .           .
1163          .           .        205G
              .           .           .
              .           .           .
1184          .       C532L............
              .           .
              .           .
1187          .           .        205H
              .           .           .
              .           .           .
1208          .        C532............
              .           V
              .           V
1211          .      532533
              .           .
              .           .
1218          .           .        205I
              .           .           .
              .           .           .
1239          .        C533............
              .           V
              .           V
1242          .      533534
              .           .
              .           .
1249          .           .        205J
              .           .           .
              .           .           .
1270          .       C534R............
              .           .
              .           .
1273          .           .        205K
              .           .           .
              .           .           .
1294          .        C534............
              .           V
              .           V
1297          .      534535
              .           .
              .           .
1304          .           .        205L
              .           .           .
              .           .           .
1325          .        C535............
              .           V
              .           V
1328          .      535536
              .           .
              .           .
1335          .           .        205M
              .           .           .
              .           .           .
1356          .       C536R............
              .           .
              .           .
1359          .           .        205N
              .           .           .
              .           .           .
1378          .       C536I............
              .           V
              .           V
1381          .       C536O
              .           V
              .           V
1393          .      536537
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                .          .
                .          .
1400            .          .        206A
                .          .          .
                .          .          .
1421            .       C537............
                .          V
                .          V
1424            .     537538
                .          .
                .          .
1431            .          .        206B
                .          .          .
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1452            .      C538I............
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1455            .      C538O
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                .          V
1464            .     538540
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1471            .          .        206C
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1492            .      C540R............
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1495            .          .        206D
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1516            .          .     539540
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1523            .          .          .        206E
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1544            .          .      C540L............
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1547            .       C540............
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1550            .     540541
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1557            .          .        206F
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1578            .       C541............
                .          V
                .          V
1581            .     541548
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1588            .          .        206G
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1611            .          .          .          .<-------   D523R
1609            .          .          .     BB523R
                .          .          .          V
                .          .          .          V
1612            .          .          .     523548
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1619            .      C548L......................
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1622            .          .        206H
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1643            .          .     542543
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1650            .          .          .        206I
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1671            .          .        C543............
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1677            .          .          .------->   D543R
1674            .          .      D543L
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1682            .          .     543544
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1710          .           .        C544............
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1713          .           .      544545
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1723          .           .           .-------->   D545R
1720          .           .       D545L
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              .           .           V
1726          .           .      545546
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1733          .           .           .        206L
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1754          .           .        C546............
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              .           .           V
1757          .           .      546547
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1766          .           .           .           .<-------   D543R
1764          .           .           .      BB543R
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              .           .           .           V
1767          .           .           .      543547
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1776          .           .           .           .           .<-------   D545R
1774          .           .           .           .      BB545R
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1777          .           .           .           .      545547
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1784          .           .           .           .           .        206J
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1805          .           .        C547.................................
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1808          .           .      547548
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1815          .           .           .        206M
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1836          .           .       C548R............
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1839          .        C548............
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1842          .      548549
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1849          .           .        206N
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1870          .       C549L............
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1873          .           .        207A
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1894          .           .           .        207B
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1915          .           .        C550............
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1918          .           .      550552
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1925          .           .           .        207C
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1946          .           .       C552L............
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1949          .           .           .        207D
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1968          .           .           .      551552
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1975            .          .          .          .        207E
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1996            .          .          .      C552R............
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1999            .          .       C552............
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2002            .          .     552553
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2009            .          .          .       207F
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2028            .          .       C553............
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2038            .          .          .       207G
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2057            .          .      C556L............
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2060            .          .          .       207H
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2081            .          .          .     554555
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2088            .          .          .          .        207I
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2119            .          .          .          .        207J
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2146            .          .     556557
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2153            .          .          .       207K
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2174            .          .      C557R............
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2177            .          .          .       207L
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2198            .          .       C557............
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2201            .          .     557558
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2208            .          .          .       207M
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2229            .          .       C558............
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2232            .          .     558560
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2239            .          .          .       207O
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2260            .          .      C560R............
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2263            .          .          .       207N
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2294             .          .     C560O
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2304             .          .     560585
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2311             .          .          .       210A
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2332             .          .      C585...........
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2335             .          .          .       208A
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2356             .          .          .     561563
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2363             .          .          .          .       208B
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2384             .          .          .     C563R...........
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2387             .          .          .          .       208C
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2406             .          .          .          .     562563
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2413             .          .          .          .          .       208D
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2434             .          .          .          .     C563L...........
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2437             .          .          .       C563...........
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2440             .          .          .     563564
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2447             .          .          .          .       208E
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2468             .          .          .     C564R...........
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2471             .          .          .          .       208F
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2492             .          .          .       C564...........
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2495             .          .          .     564565
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2502             .          .          .          .       208G
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2523             .          .          .       C565...........
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2526             .          .          .     565568
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2533             .          .          .          .       208H
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2554             .          .          .     C568L...........
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2557             .          .          .          .       208I
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2578             .          .          .          .          .       208J
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2599             .          .          .          .       C566...........
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2602          .           .           .           .      566567
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2609          .           .           .           .           .        208K
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2630          .           .           .           .     C567L............
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2633          .           .           .           .           .        208L
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2654          .           .           .           .      C567............
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2657          .           .           .           .      567568
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2664          .           .           .           .           .        208M
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2685          .           .           .           .     C568R............
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2688          .           .           .       C568............
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2691          .           .           .      568573
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2698          .           .           .           .       208N
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2719          .           .           .      C573L............
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2722          .           .           .           .       208O
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2743          .           .           .           .      569570
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2750          .           .           .           .           .        208P
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2771          .           .           .           .     C570R............
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2774          .           .           .           .           .        208Q
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2795          .           .           .           .      C570............
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2798          .           .           .           .           .        208R
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2819          .           .           .           .           .      571572
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2826          .           .           .           .      C572............
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2829          .           .           .           .      572573
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2836          .           .           .           .           .        208S
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2857          .           .           .           .     C573R............
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2863          .           .           .           .       208T
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2884          .           .           .           .           .        208U
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2905          .           .           .           .      C574............
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2915          .           .           .           .           .        208V
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2936            .         .         .         .      C575.........
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2939            .         .         .         .    575576
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2946            .         .         .         .         .      208W
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2967            .         .         .         .      C576.........
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2977            .         .         .     C577.........
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3008            .         .         .    C578I........
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3011            .         .         .    C578O
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3023            .         .         .    578587
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3030            .         .         .         .      210B
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3051            .         .         .         .     C586O
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3067            .         .         .     C587.........
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3070            .         .         .    587595
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3077            .         .         .         .      210C
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3098            .         .         .    C595L........
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3101            .         .         .         .      210D
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3129            .         .         .         .         .      210E
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3150            .         .         .         .     C590L........
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3153            .         .         .         .         .      210F
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3174            .         .         .         .         .    589590
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3181            .         .         .         .         .         .      210G
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3202            .         .         .         .         .    C590R........
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3205            .         .         .         .      C590.........
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3208            .         .         .         .         .      210H
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3229            .         .         .         .         .    592593
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3236                    C593............
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3239                 593594
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3246                       .        210I
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3267                    C594............
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3270                 594595
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3277                       .        210J
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3298                 C595R............
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3301              C595............
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3304           595596
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3311                    210K
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3332              C596............
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3335                    209A
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3354                 579580
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3361                       .        209C
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3382                 C580R............
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3385                       .        209B
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3406                    C580............
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3409                 580581
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3416                       .        209D
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3437                 C581R............
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3440                       .        209E
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3461                    C581............
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3464                 581582
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3471                       .        209F
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3490                 C582R............
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3493                       .        209G
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3514                    C582............
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3517                 582583
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3524                       .        209H
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3545          .           .           .           .        C583............
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3576          .           .           .           .       C584I...........
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3598          .           .           .           .           .        210L
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3619          .           .           .           .        C597...........
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3650          .           .           .           .        C598...........
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3653          .           .           .           .           .        210N
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3674          .           .       C599I...................................
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3677          .           .       C599O
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3689          .           .      599608
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3696          .           .           .        211K
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3717          .           .       C608L...........
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3720          .           .           .        211G
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3741          .           .           .      604606
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3748          .           .           .           .        211I
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3769          .           .           .       C606R...........
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3772          .           .           .           .        211H
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3793          .           .           .           .       C605O
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3802          .           .           .        C606...........
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3812          .           .           .           .        211J
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3833          .           .           .        C607...........
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3843          .           .        C608...........
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3846          .           .      608613
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3874            .          .          .     610611
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3881            .          .          .          .        211N
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3902            .          .          .     C611R............
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3905            .          .          .          .        211O
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3926            .          .          .          .       C609O
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3935            .          .          .          .     609611
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3942            .          .          .     C611I............
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3945            .          .          .     C611O
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                .          .          .          .
3969            .          .          .          .        211P
                .          .          .          .           .
                .          .          .          .           .
3990            .          .          .       C612............
                .          .          .          .
                .          .          .          .
3993            .          .       C613............
                .          .          V
                .          .          V
3996            .          .     613621
                .          .          .
                .          .          .
4003            .          .          .       211L
                .          .          .          .
                .          .          .          .
4024            .          .     C621L............
                .          .          .
                .          .          .
4027            .          .          .       211Q
                .          .          .          V
                .          .          .          V
4048            .          .          .     616617
                .          .          .          .
                .          .          .          .
4055            .          .          .          .        211R
                .          .          .          .           .
                .          .          .          .           .
4076            .          .          .     C617L............
                .          .          .          .
                .          .          .          .
4079            .          .          .          .        211U
                .          .          .          .           .
                .          .          .          .           .
4103            .          .          .          .           .-------->   D614R
4100            .          .          .          .       D614L
                .          .          .          .           .
                .          .          .          .           .
4106            .          .          .       C617............
                .          .          .          V
                .          .          .          V
4109            .          .          .     617618
                .          .          .          .
                .          .          .          .
4116            .          .          .          .        211S
                .          .          .          .           .
                .          .          .          .           .
4137            .          .          .     C618I............
                .          .          .          V
                .          .          .          V
4140            .          .          .     C618O
                .          .          .          .
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4151          .           .           .           .           .<-------   D614R
4149          .           .           .           .      BB614R
              .           .           .           .           V
              .           .           .           .           V
4152          .           .           .           .      614615
              .           .           .           .           .
              .           .           .           .           .
4159          .           .           .           .           .        211V
              .           .           .           .           .           .
              .           .           .           .           .           .
4180          .           .           .           .        C615............
              .           .           .           .           .
              .           .           .           .           .
4186          .           .           .           .           .------->   D615R
4183          .           .           .           .       D615L
              .           .           .           .           V
              .           .           .           .           V
4189          .           .           .           .      615618
              .           .           .           .           .
              .           .           .           .           .
4196          .           .           .        C618............
              .           .           .           V
              .           .           .           V
4199          .           .           .      618619
              .           .           .           .
              .           .           .           .
4206          .           .           .           .        211T
              .           .           .           .           .
              .           .           .           .           .
4227          .           .           .      C619L............
              .           .           .           .
              .           .           .           .
4232          .           .           .           .           .<-------   D615R
4230          .           .           .           .      BB615R
              .           .           .           .           V
              .           .           .           .           V
4233          .           .           .           .      615619
              .           .           .           .           .
              .           .           .           .           .
4240          .           .           .      C619I............
              .           .           .           V
              .           .           .           V
4243          .           .           .      C619O
              .           .           .           .
              .           .           .           .
4257          .           .           .           .------->   D619L
4254          .           .           .      D619R
              .           .           .           V
              .           .           .           V
4262          .           .           .      619620
              .           .           .           .
              .           .           .           .
4267          .           .           .           .           .<-------   D619L
4265          .           .           .           .      BB619L
              .           .           .           .           V
              .           .           .           .           V
4268          .           .           .           .      619620
              .           .           .           .           .
              .           .           .           .           .
4275          .           .           .           .           .        211W
              .           .           .           .           .           .
              .           .           .           .           .           .
4296          .           .           .      C620R........................
              .           .           .           .
              .           .           .           .
4301          .           .           .           .           .<-------   D611R
4299          .           .           .           .      BB611R
              .           .           .           .           V
              .           .           .           .           V
4302          .           .           .           .      611620
              .           .           .           .           .
              .           .           .           .           .
4305          .           .           .        C620............
              .           .           .           V
              .           .           .           V
4308          .           .           .      620621
              .           .           .           .
              .           .           .           .
4315          .           .        C621............
              .           .           V
              .           .           V
4318          .           .      621622
              .           .           .
              .           .           .
4325          .           .           .        211X
              .           .           .           .
              .           .           .           .
4346          .           .       C622R............
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                .          .          .
                .          .          .
4349            .          .          .       211A
                .          .          .          V
                .          .          .          V
4370            .          .          .      C600O
                .          .          .          V
                .          .          .          V
4379            .          .          .     600601
                .          .          .          .
                .          .          .          .
4386            .          .          .          .        211B
                .          .          .          .          .
                .          .          .          .          .
4407            .          .          .       C601............
                .          .          .          V
                .          .          .          V
4410            .          .          .     601602
                .          .          .          .
                .          .          .          .
4417            .          .          .          .        211C
                .          .          .          .          .
                .          .          .          .          .
4438            .          .          .      C602L...........
                .          .          .          .
                .          .          .          .
4441            .          .          .          .        211D
                .          .          .          .          .
                .          .          .          .          .
4462            .          .          .       C602............
                .          .          .          V
                .          .          .          V
4465            .          .          .     602603
                .          .          .          .
                .          .          .          .
4472            .          .          .          .        211E
                .          .          .          .          .
                .          .          .          .          .
4493            .          .          .       C603............
                .          .          .          V
                .          .          .          V
4496            .          .          .     603622
                .          .          .          .
                .          .          .          .
4503            .          .          .          .        211F
                .          .          .          .          .
                .          .          .          .          .
4524            .          .          .      C622L...........
                .          .          .          .
                .          .          .          .
4527            .          .       C622............
                .          .          V
                .          .          V
4530            .          .     622549
                .          .          .
                .          .          .
4537            .          .          .       211Y
                .          .          .          .
                .          .          .          .
4558            .          .      C549R............
                .          .          .
                .          .          .
4561            .       C549............
                .          V
                .          V
4564            .     549626
                .          .
                .          .
4571            .          .       211Z
                .          .          .
                .          .          .
4592            .      C626C............
                .          .
                .          .
4595            .          .      211AA
                .          .          V
                .          .          V
4616            .          .     625626
                .          .          .
                .          .          .
4623            .          .          .      211AB
                .          .          .          V
                .          .          .          V
4644            .          .          .     623624
                .          .          .          .
                .          .          .          .
4651            .          .          .          .       211AC
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                .          .          .          .          .
 4672           .          .          .       C624...........
                .          .          .          V
                .          .          .          V
 4675           .          .          .     624626
                .          .          .          .
                .          .          .          .
 4682           .          .          .          .       211AD
                .          .          .          .          .
                .          .          .          .          .
 4703           .          .          .      C626R...........
                .          .          .          .
                .          .          .          .
 4706           .        C626.......................
                .           V
                .           V
 4709           .      626627
                .           .
                .           .
 4716           .           .       211AE
                .           .          .
                .           .          .
 4737           .        C627............
                .           .
                .           .
 4740           .           .       211AF

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                                    ****************************************
*                                        *                                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *                                    *    U.S. ARMY CORPS OF ENGINEERS      *
*              MAY   1991                *                                    *    HYDROLOGIC ENGINEERING CENTER     *
*            VERSION 4.0.1E              *                                    *          609 SECOND STREET           *
*     Lahey F77L-EM/32 version 5.01      *                                    *       DAVIS, CALIFORNIA 95616        *
*       Dodson & Associates, Inc.        *                                    *           (916) 551-1748             *
*  RUN DATE  06/30/96  TIME  09:14:33    *                                    *                                      *
****************************************                                    ****************************************
```

Fountain Hills Area Drainage Master Plan
Golden Eagle Park Dam Feasibility Study
FCD 94-16 by GVSCE File: FUMOD6.IH1
Future Condition Model Date: 6/30/97
Proposed Improvements for GEPD Reflected in Rating Curve at C5990
100-Year, 6-Hour Storm

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

    IT          HYDROGRAPH TIME DATA
                       NMIN           1  MINUTES IN COMPUTATION INTERVAL
                      IDATE      1    0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ        1080  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1    0  ENDING DATE
                     NDTIME        1759  ENDING TIME
                      ICENT          19  CENTURY MARK

                 COMPUTATION INTERVAL    0.02 HOURS
                      TOTAL TIME BASE   17.98 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

 10 JD          INDEX STORM NO. 1
                       STRM        3.30  PRECIPITATION DEPTH
                       TRDA        0.01  TRANSPOSITION DRAINAGE AREA

 11 PI            PRECIPITATION PATTERN
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.03      0.03      0.03      0.03      0.03
          0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
14 JD   INDEX STORM NO. 2
            STRM        3.28  PRECIPITATION DEPTH
            TRDA        0.50  TRANSPOSITION DRAINAGE AREA

 0 PI     PRECIPITATION PATTERN
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.03      0.03      0.03      0.03      0.03
          0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
15 JD   INDEX STORM NO. 3
            STRM        3.23  PRECIPITATION DEPTH
            TRDA        2.80  TRANSPOSITION DRAINAGE AREA

16 PI     PRECIPITATION PATTERN
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.02      0.02      0.02      0.02      0.02
          0.02      0.02      0.02      0.02      0.02      0.02      0.02      0.02      0.02      0.02
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

19 JD     INDEX STORM NO. 4
             STRM        3.04  PRECIPITATION DEPTH
             TRDA       16.00  TRANSPOSITION DRAINAGE AREA

20 PI       PRECIPITATION PATTERN
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
          0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

23 JD     INDEX STORM NO. 5
             STRM        2.67  PRECIPITATION DEPTH
             TRDA       90.00  TRANSPOSITION DRAINAGE AREA

24 PI       PRECIPITATION PATTERN
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

27 JD         INDEX STORM NO. 6
                  STRM        1.88  PRECIPITATION DEPTH
                  TRDA      500.00  TRANSPOSITION DRAINAGE AREA

28 PI          PRECIPITATION PATTERN
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01      0.01
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
        WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
1
                                        RUNOFF SUMMARY
                                   FLOW IN CUBIC FEET PER SECOND
                                TIME IN HOURS,  AREA IN SQUARE MILES

                                   PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
        OPERATION        STATION   FLOW    PEAK                                          AREA     STAGE    MAX STAGE
+                                                     6-HOUR     24-HOUR     72-HOUR

        HYDROGRAPH AT
+                          201A    376.    4.18        44.         15.         15.       0.22

        HYDROGRAPH AT
+                          201B    151.    4.15        15.          5.          5.       0.08

        2 COMBINED AT
+                          C501    524.    4.18        60.         20.         20.       0.30

        ROUTED TO
+                        501502    511.    4.28        60.         20.         20.       0.30

        HYDROGRAPH AT
+                          201C    238.    4.03        19.          6.          6.       0.08
```

	2 COMBINED AT							
+		C502R	592.	4.25	79.	26.	26.	0.38
	HYDROGRAPH AT							
		201D	115.	4.17	15.	5.	5.	0.07
	2 COMBINED AT							
+		C502	699.	4.25	93.	31.	31.	0.45
	ROUTED TO							
+		502503	687.	4.37	93.	31.	31.	0.45
	HYDROGRAPH AT							
+		201E	263.	4.25	36.	12.	12.	0.18
	2 COMBINED AT							
+		C503I	891.	4.35	127.	43.	43.	0.63
	ROUTED TO							
+		C503O	344.	4.87	127.	43.	43.	0.63
	DIVERSION TO							
+		D503L	344.	4.87	127.	43.	43.	0.63
	HYDROGRAPH AT							
+		D503R	0.	0.02	0.	0.	0.	0.63
	ROUTED TO							
+		503504	0.	0.02	0.	0.	0.	0.63
	HYDROGRAPH AT							
+		202A	115.	4.03	9.	3.	3.	0.04
	2 COMBINED AT							
+		C504I	105.	4.03	9.	3.	3.	0.67
	ROUTED TO							
+		C504O	64.	4.13	9.	3.	3.	0.67
	DIVERSION TO							
+		D504L	23.	4.08	6.	2.	2.	0.67
	HYDROGRAPH AT							
		D504R	41.	4.13	2.	1.	1.	0.67
	HYDROGRAPH AT							
+		202B	56.	4.02	4.	1.	1.	0.02
	2 COMBINED AT							
+		C505I	72.	4.10	6.	2.	2.	0.69
	DIVERSION TO							
+		D505L	16.	4.05	3.	1.	1.	0.69
	HYDROGRAPH AT							
+		D505R	56.	4.10	4.	1.	1.	0.69
	HYDROGRAPH AT							
+		202C	26.	4.02	2.	1.	1.	0.01
	2 COMBINED AT							
+		C506	74.	4.05	5.	2.	2.	0.69
	DIVERSION TO							
+		D506L	0.	0.02	0.	0.	0.	0.69
	HYDROGRAPH AT							
+		D506R	74.	4.05	5.	2.	2.	0.69
	HYDROGRAPH AT							
+		202D	171.	4.03	16.	5.	5.	0.06
	HYDROGRAPH AT							
+		202E	328.	4.03	26.	9.	9.	0.10
	ROUTED TO							
+		C508O	327.	4.03	26.	9.	9.	0.10
	DIVERSION TO							
+		D508R	95.	4.03	13.	4.	4.	0.10
	HYDROGRAPH AT							
+		D508L	232.	4.03	12.	4.	4.	0.10
	ROUTED TO							
+		508507	224.	4.10	12.	4.	4.	0.10
	3 COMBINED AT							

+		C507I	392.	4.07	31.	11.	11.	0.86
	ROUTED TO							
+		C507O	392.	4.07	31.	11.	11.	0.86
	HYDROGRAPH AT							
+		202F	46.	4.00	3.	1.	1.	0.01
	HYDROGRAPH AT							
+		202G	46.	4.00	3.	1.	1.	0.01
	HYDROGRAPH AT							
+		202H	561.	4.03	43.	14.	14.	0.18
	ROUTED TO							
+		C511O	482.	4.08	43.	14.	14.	0.18
	ROUTED TO							
+		511512	472.	4.13	43.	14.	14.	0.18
	HYDROGRAPH AT							
+		202I	59.	4.02	5.	2.	2.	0.02
	2 COMBINED AT							
+		C512I	504.	4.12	49.	16.	16.	0.20
	ROUTED TO							
+		C512O	276.	4.33	28.	9.	9.	0.20
	DIVERSION TO							
+		D512R	131.	4.33	9.	3.	3.	0.20
	HYDROGRAPH AT							
+		D512L	145.	4.33	19.	6.	6.	0.20
	HYDROGRAPH AT							
+		203A	397.	4.27	54.	18.	18.	0.28
	ROUTED TO							
+		C513O	380.	4.33	54.	18.	18.	0.28
	ROUTED TO							
+		513514	366.	4.45	54.	18.	18.	0.28
	HYDROGRAPH AT							
+		203B	133.	4.03	11.	4.	4.	0.04
	2 COMBINED AT							
+		C514R	381.	4.43	64.	21.	21.	0.32
	HYDROGRAPH AT							
+		203C	197.	4.13	22.	7.	7.	0.10
	2 COMBINED AT							
+		C514	486.	4.42	86.	29.	29.	0.43
	HYDROGRAPH AT							
+		203D	184.	4.17	22.	7.	7.	0.11
	2 COMBINED AT							
+		C515	599.	4.40	107.	36.	36.	0.53
	ROUTED TO							
+		515517	590.	4.50	107.	36.	36.	0.53
	HYDROGRAPH AT							
+		203E	302.	4.02	24.	8.	8.	0.09
	2 COMBINED AT							
+		C517R	597.	4.48	129.	43.	43.	0.63
	HYDROGRAPH AT							
+		203F	524.	4.28	61.	20.	20.	0.33
	ROUTED TO							
+		516517	495.	4.52	61.	20.	20.	0.33
	HYDROGRAPH AT							
+		203G	412.	4.22	52.	17.	17.	0.25
	2 COMBINED AT							
+		C517L	720.	4.50	111.	37.	37.	0.58
	2 COMBINED AT							
+		C517	1181.	4.50	228.	76.	76.	1.21
	ROUTED TO							
+		517518	1163.	4.62	228.	76.	76.	1.21

+	HYDROGRAPH AT 203H	592.	4.05	50.	17.	17.	0.21
+	2 COMBINED AT C518	1199.	4.60	271.	91.	91.	1.41
+	ROUTED TO 518519	1192.	4.63	271.	91.	91.	1.41
+	HYDROGRAPH AT 203I	397.	4.07	41.	14.	14.	0.17
+	2 COMBINED AT C519	1257.	4.62	307.	103.	103.	1.59
+	ROUTED TO 519591	1254.	4.65	307.	103.	103.	1.59
+	HYDROGRAPH AT 203J	123.	4.03	12.	4.	4.	0.04
+	ROUTED TO 520591	119.	4.07	12.	4.	4.	0.04
+	HYDROGRAPH AT BB512R	131.	4.33	9.	3.	3.	0.20
+	3 COMBINED AT C591	1321.	4.35	321.	108.	108.	1.83
+	ROUTED TO 591521	1319.	4.38	321.	108.	108.	1.83
+	HYDROGRAPH AT 203K	482.	4.05	44.	15.	15.	0.16
+	2 COMBINED AT C521	1453.	4.32	360.	121.	121.	1.99
+	5 COMBINED AT CLEAR	1610.	4.32	396.	134.	134.	3.07
+	HYDROGRAPH AT 204A	334.	4.03	26.	9.	9.	0.11
+	ROUTED TO 522523	309.	4.18	26.	9.	9.	0.11
+	HYDROGRAPH AT 204B	365.	4.05	31.	10.	10.	0.13
+	2 COMBINED AT C523I	586.	4.08	57.	19.	19.	0.23
+	ROUTED TO C523O	570.	4.15	57.	19.	19.	0.23
+	DIVERSION TO D523R	68.	4.15	3.	1.	1.	0.23
+	HYDROGRAPH AT D523L	502.	4.15	54.	18.	18.	0.23
+	ROUTED TO 523524	484.	4.23	54.	18.	18.	0.23
+	HYDROGRAPH AT 204C	275.	4.02	23.	8.	8.	0.08
+	2 COMBINED AT C524	555.	4.22	78.	26.	26.	0.31
+	ROUTED TO 524525	550.	4.25	78.	26.	26.	0.31
+	HYDROGRAPH AT 204D	149.	4.02	13.	4.	4.	0.04
+	2 COMBINED AT C525	596.	4.05	90.	30.	30.	0.35
+	ROUTED TO 525526	586.	4.07	90.	30.	30.	0.35
+	HYDROGRAPH AT 204E	224.	4.03	19.	6.	6.	0.07

2 COMBINED AT

+	C526	798.	4.05	109.	37.	37.	0.43
ROUTED TO +	526527	776.	4.10	109.	37.	37.	0.43
HYDROGRAPH AT +	204F	260.	4.02	22.	7.	7.	0.08
2 COMBINED AT +	C527	987.	4.07	131.	44.	44.	0.50
2 COMBINED AT +	CLEAR	2109.	4.30	512.	174.	174.	3.58
HYDROGRAPH AT +	205A	210.	4.22	26.	9.	9.	0.12
HYDROGRAPH AT +	205B	362.	4.32	47.	16.	16.	0.21
2 COMBINED AT +	C528	548.	4.28	73.	25.	25.	0.33
ROUTED TO +	528530	545.	4.33	73.	25.	25.	0.33
HYDROGRAPH AT +	205C	107.	4.20	13.	4.	4.	0.06
2 COMBINED AT +	C530R	629.	4.32	86.	29.	29.	0.39
HYDROGRAPH AT +	205D	665.	4.23	71.	24.	24.	0.32
HYDROGRAPH AT +	205E	301.	4.33	48.	16.	16.	0.22
2 COMBINED AT +	C529	917.	4.25	119.	40.	40.	0.54
2 COMBINED AT +	C530	1340.	4.27	197.	66.	66.	0.93
ROUTED TO +	530531	1326.	4.32	197.	66.	66.	0.93
HYDROGRAPH AT +	205F	325.	4.22	36.	12.	12.	0.16
2 COMBINED AT +	C531	1504.	4.30	228.	77.	77.	1.09
ROUTED TO +	531532	1490.	4.37	228.	77.	77.	1.09
HYDROGRAPH AT +	205G	349.	4.23	40.	13.	13.	0.19
2 COMBINED AT +	C532L	1661.	4.35	262.	88.	88.	1.27
HYDROGRAPH AT +	205H	350.	4.35	56.	19.	19.	0.26
2 COMBINED AT +	C532	1854.	4.35	310.	104.	104.	1.53
ROUTED TO +	532533	1850.	4.38	310.	104.	104.	1.53
HYDROGRAPH AT +	205I	559.	4.30	70.	23.	23.	0.35
2 COMBINED AT +	C533	2132.	4.37	367.	123.	123.	1.89
ROUTED TO +	533534	2100.	4.53	367.	123.	123.	1.89
HYDROGRAPH AT +	205J	551.	4.28	65.	22.	22.	0.37
2 COMBINED AT +	C534R	2306.	4.52	416.	140.	140.	2.25
HYDROGRAPH AT +	205K	266.	4.38	45.	15.	15.	0.25

+	2 COMBINED AT C534	2427.	4.53	450.	151.	151.	2.50
+	ROUTED TO 534535	2417.	4.58	450.	151.	151.	2.50
+	HYDROGRAPH AT 205L	263.	4.15	20.	7.	7.	0.12
+	2 COMBINED AT C535	2441.	4.57	464.	156.	156.	2.62
+	ROUTED TO 535536	2419.	4.70	464.	156.	156.	2.62
+	HYDROGRAPH AT 205M	366.	4.07	31.	11.	11.	0.14
+	2 COMBINED AT C536R	2427.	4.68	490.	165.	165.	2.76
+	HYDROGRAPH AT 205N	211.	4.25	29.	10.	10.	0.16
+	2 COMBINED AT C536I	2496.	4.68	511.	172.	172.	2.91
+	ROUTED TO C536O	326.	6.08	312.	172.	172.	2.91
+	ROUTED TO 536537	326.	6.13	312.	172.	172.	2.91
+	HYDROGRAPH AT 206A	408.	4.03	32.	11.	11.	0.13
+	2 COMBINED AT C537	346.	4.27	317.	181.	181.	3.04
+	ROUTED TO 537538	343.	4.33	317.	181.	181.	3.04
+	HYDROGRAPH AT 206B	304.	4.03	25.	8.	8.	0.09
+	2 COMBINED AT C538I	473.	4.08	330.	188.	188.	3.14
+	ROUTED TO C538O	442.	4.23	327.	188.	188.	3.14
+	ROUTED TO 538540	441.	4.35	327.	188.	188.	3.14
+	HYDROGRAPH AT 206C	61.	4.05	5.	2.	2.	0.02
+	2 COMBINED AT C540R	464.	4.32	329.	189.	189.	3.16
+	HYDROGRAPH AT 206D	205.	4.02	17.	6.	6.	0.06
+	ROUTED TO 539540	196.	4.10	17.	6.	6.	0.06
+	HYDROGRAPH AT 206E	71.	4.02	5.	2.	2.	0.02
+	2 COMBINED AT C540L	254.	4.05	22.	7.	7.	0.09
+	2 COMBINED AT C540	560.	4.27	342.	196.	196.	3.24
+	ROUTED TO 540541	553.	4.47	342.	196.	196.	3.24
+	HYDROGRAPH AT 206F	441.	4.05	36.	12.	12.	0.16
+	2 COMBINED AT C541	658.	4.28	362.	205.	205.	3.40
+	ROUTED TO 541548	657.	4.33	362.	205.	205.	3.40

HYDROGRAPH AT

+	206G	213.	4.07	22.	7.	7.	0.09
HYDROGRAPH AT +	BB523R	68.	4.15	3.	1.	1.	0.23
ROUTED TO +	523548	60.	4.33	3.	1.	1.	0.23
3 COMBINED AT +	C548L	747.	4.30	377.	210.	210.	3.72
HYDROGRAPH AT +	206H	188.	4.03	15.	5.	5.	0.06
ROUTED TO +	542543	184.	4.05	15.	5.	5.	0.06
HYDROGRAPH AT +	206I	75.	4.00	5.	2.	2.	0.02
2 COMBINED AT +	C543	252.	4.02	21.	7.	7.	0.08
DIVERSION TO +	D543R	252.	4.02	21.	7.	7.	0.08
HYDROGRAPH AT +	D543L	0.	0.02	0.	0.	0.	0.08
ROUTED TO +	543544	0.	0.02	0.	0.	0.	0.08
HYDROGRAPH AT +	206K	171.	4.03	14.	5.	5.	0.06
2 COMBINED AT +	C544	171.	4.03	14.	5.	5.	0.14
ROUTED TO +	544545	167.	4.05	14.	5.	5.	0.14
DIVERSION TO +	D545R	84.	4.05	7.	2.	2.	0.14
HYDROGRAPH AT +	D545L	84.	4.05	7.	2.	2.	0.14
ROUTED TO +	545546	83.	4.07	7.	2.	2.	0.14
HYDROGRAPH AT +	206L	191.	4.02	15.	5.	5.	0.06
2 COMBINED AT +	C546	271.	4.03	22.	7.	7.	0.20
ROUTED TO +	546547	269.	4.03	22.	7.	7.	0.20
HYDROGRAPH AT +	BB543R	252.	4.02	21.	7.	7.	0.08
ROUTED TO +	543547	241.	4.10	21.	7.	7.	0.08
HYDROGRAPH AT +	BB545R	84.	4.05	7.	2.	2.	0.14
ROUTED TO +	545547	81.	4.10	7.	2.	2.	0.14
HYDROGRAPH AT +	206J	200.	4.02	16.	5.	5.	0.06
4 COMBINED AT +	C547	758.	4.05	66.	22.	22.	0.26
ROUTED TO +	547548	732.	4.10	66.	22.	22.	0.26
HYDROGRAPH AT +	206M	198.	4.02	16.	5.	5.	0.06
2 COMBINED AT +	C548R	883.	4.08	82.	27.	27.	0.32
2 COMBINED AT +	C548	1172.	4.10	440.	233.	233.	4.04

+	ROUTED TO 548549	1160.	4.25	440.	233.	233.	4.04
	HYDROGRAPH AT 206N	459.	4.05	42.	14.	14.	0.15
+	2 COMBINED AT C549L	1331.	4.23	466.	245.	245.	4.19
+	HYDROGRAPH AT 207A	382.	4.30	55.	18.	18.	0.26
+	HYDROGRAPH AT 207B	306.	4.30	46.	15.	15.	0.21
+	2 COMBINED AT C550	687.	4.30	101.	34.	34.	0.46
+	ROUTED TO 550552	675.	4.37	100.	34.	34.	0.46
+	HYDROGRAPH AT 207C	321.	4.22	34.	11.	11.	0.17
+	2 COMBINED AT C552L	878.	4.35	132.	44.	44.	0.64
+	HYDROGRAPH AT 207D	424.	4.13	48.	16.	16.	0.20
+	ROUTED TO 551552	416.	4.22	48.	16.	16.	0.20
+	HYDROGRAPH AT 207E	286.	4.12	39.	13.	13.	0.16
+	2 COMBINED AT C552R	679.	4.18	87.	29.	29.	0.35
+	2 COMBINED AT C552	1312.	4.28	211.	71.	71.	0.99
+	ROUTED TO 552553	1308.	4.32	211.	71.	71.	0.99
+	HYDROGRAPH AT 207F	253.	4.15	30.	10.	10.	0.13
+	2 COMBINED AT C553	1440.	4.30	237.	80.	80.	1.12
+	ROUTED TO 553556	1432.	4.33	237.	80.	80.	1.12
+	HYDROGRAPH AT 207G	277.	4.33	46.	15.	15.	0.24
+	2 COMBINED AT C556L	1601.	4.35	276.	93.	93.	1.35
+	HYDROGRAPH AT 207H	312.	4.07	32.	11.	11.	0.12
+	ROUTED TO 554555	303.	4.12	32.	11.	11.	0.12
+	HYDROGRAPH AT 207I	213.	4.03	19.	7.	7.	0.07
+	2 COMBINED AT C555	489.	4.07	51.	17.	17.	0.20
+	ROUTED TO 555556	475.	4.15	51.	17.	17.	0.20
+	HYDROGRAPH AT 207J	270.	4.05	25.	8.	8.	0.09
+	2 COMBINED AT C556R	682.	4.10	76.	25.	25.	0.29
+	2 COMBINED AT C556	1906.	4.30	343.	115.	115.	1.64
+	ROUTED TO 556557	1899.	4.35	343.	115.	115.	1.64
	HYDROGRAPH AT						

+	207K	362.	4.05	33.	11.	11.	0.13
2 COMBINED AT +	C557R	2002.	4.33	372.	125.	125.	1.77
HYDROGRAPH AT +	207L	236.	4.03	21.	7.	7.	0.08
2 COMBINED AT +	C557	2067.	4.32	390.	132.	132.	1.85
ROUTED TO +	557558	2055.	4.37	390.	132.	132.	1.85
HYDROGRAPH AT +	207M	372.	4.03	28.	9.	9.	0.12
2 COMBINED AT +	C558	2110.	4.35	414.	140.	140.	1.97
ROUTED TO +	558560	2104.	4.40	414.	140.	140.	1.97
HYDROGRAPH AT +	207O	413.	4.03	30.	10.	10.	0.13
2 COMBINED AT +	C560R	2157.	4.38	440.	148.	148.	2.10
HYDROGRAPH AT +	207N	160.	4.02	12.	4.	4.	0.05
ROUTED TO +	559560	151.	4.10	12.	4.	4.	0.05
2 COMBINED AT +	C560I	2201.	4.37	451.	152.	152.	2.15
ROUTED TO +	C560O	294.	5.77	274.	152.	152.	2.15
ROUTED TO +	560585	294.	5.85	274.	152.	152.	2.15
HYDROGRAPH AT +	210A	397.	4.02	28.	9.	9.	0.12
2 COMBINED AT +	C585	360.	4.03	283.	160.	160.	2.27
HYDROGRAPH AT +	208A	480.	4.02	37.	12.	12.	0.14
ROUTED TO +	561563	468.	4.03	37.	12.	12.	0.14
HYDROGRAPH AT +	208B	82.	4.02	7.	2.	2.	0.03
2 COMBINED AT +	C563R	549.	4.03	44.	15.	15.	0.17
HYDROGRAPH AT +	208C	144.	4.10	16.	5.	5.	0.07
ROUTED TO +	562563	141.	4.17	16.	5.	5.	0.07
HYDROGRAPH AT +	208D	225.	4.03	20.	7.	7.	0.08
2 COMBINED AT +	C563L	319.	4.05	36.	12.	12.	0.14
2 COMBINED AT +	C563	864.	4.03	80.	27.	27.	0.31
ROUTED TO +	563564	833.	4.08	80.	27.	27.	0.31
HYDROGRAPH AT +	208E	192.	4.03	17.	6.	6.	0.06
2 COMBINED AT +	C564R	994.	4.07	96.	32.	32.	0.37
HYDROGRAPH AT +	208F	224.	4.02	18.	6.	6.	0.07

	2 COMBINED AT							
+		C564	1195.	4.05	114.	38.	38.	0.44
	ROUTED TO							
+		564565	1151.	4.13	114.	38.	38.	0.44
	HYDROGRAPH AT							
+		208G	398.	4.03	35.	12.	12.	0.13
	2 COMBINED AT							
+		C565	1398.	4.12	149.	50.	50.	0.57
	ROUTED TO							
+		565568	1371.	4.15	148.	50.	50.	0.57
	HYDROGRAPH AT							
+		208H	99.	4.07	11.	4.	4.	0.04
	2 COMBINED AT							
+		C568L	1429.	4.15	159.	53.	53.	0.61
	HYDROGRAPH AT							
+		208I	370.	4.03	31.	10.	10.	0.12
	HYDROGRAPH AT							
+		208J	221.	4.05	22.	7.	7.	0.08
	2 COMBINED AT							
+		C566	590.	4.03	53.	18.	18.	0.20
	ROUTED TO							
+		566567	572.	4.07	53.	18.	18.	0.20
	HYDROGRAPH AT							
+		208K	165.	4.02	13.	4.	4.	0.05
	2 COMBINED AT							
+		C567L	713.	4.05	66.	22.	22.	0.25
	HYDROGRAPH AT							
+		208L	183.	4.02	16.	5.	5.	0.06
	2 COMBINED AT							
+		C567	892.	4.03	82.	27.	27.	0.31
	ROUTED TO							
+		567568	855.	4.12	81.	27.	27.	0.31
	HYDROGRAPH AT							
+		208M	484.	4.03	46.	15.	15.	0.16
	2 COMBINED AT							
+		C568R	1263.	4.08	127.	43.	43.	0.46
	2 COMBINED AT							
+		C568	2210.	4.12	278.	93.	93.	1.07
	ROUTED TO							
+		568573	2187.	4.17	277.	93.	93.	1.07
	HYDROGRAPH AT							
+		208N	131.	4.05	14.	5.	5.	0.05
	2 COMBINED AT							
+		C573L	2245.	4.17	291.	98.	98.	1.12
	HYDROGRAPH AT							
+		208O	703.	4.03	61.	20.	20.	0.23
	ROUTED TO							
+		569570	693.	4.05	61.	20.	20.	0.23
	HYDROGRAPH AT							
+		208P	204.	4.02	17.	6.	6.	0.06
	2 COMBINED AT							
+		C570R	882.	4.03	78.	26.	26.	0.29
	HYDROGRAPH AT							
+		208Q	273.	4.05	26.	9.	9.	0.09
	2 COMBINED AT							
+		C570	1154.	4.03	104.	35.	35.	0.38
	HYDROGRAPH AT							
+		208R	35.	4.02	3.	1.	1.	0.01
	ROUTED TO							

+	571572	33.	4.05	3.	1.	1.	0.01
2 COMBINED AT +	C572	1187.	4.03	107.	36.	36.	0.39
ROUTED TO +	572573	1172.	4.05	107.	36.	36.	0.39
HYDROGRAPH AT +	208S	229.	4.02	21.	7.	7.	0.07
2 COMBINED AT +	C573R	1391.	4.05	128.	43.	43.	0.46
2 COMBINED AT +	C573	2843.	4.12	409.	138.	138.	1.58
HYDROGRAPH AT +	208T	433.	4.02	36.	12.	12.	0.13
HYDROGRAPH AT +	208U	483.	4.00	36.	12.	12.	0.13
2 COMBINED AT +	C574	911.	4.02	72.	24.	24.	0.27
ROUTED TO +	574575	906.	4.02	72.	24.	24.	0.27
HYDROGRAPH AT +	208V	97.	4.02	8.	3.	3.	0.03
2 COMBINED AT +	C575	1002.	4.02	79.	26.	26.	0.29
ROUTED TO +	575576	985.	4.05	79.	26.	26.	0.29
HYDROGRAPH AT +	208W	170.	4.02	14.	5.	5.	0.05
2 COMBINED AT +	C576	1146.	4.03	93.	31.	31.	0.34
ROUTED TO +	576577	1143.	4.05	93.	31.	31.	0.34
2 COMBINED AT +	C577	3345.	4.10	494.	166.	166.	1.92
ROUTED TO +	577578	3329.	4.12	494.	166.	166.	1.92
HYDROGRAPH AT +	208X	247.	4.02	19.	6.	6.	0.08
2 COMBINED AT +	C578I	3404.	4.10	511.	172.	172.	2.00
ROUTED TO +	C578O	1078.	4.67	390.	172.	172.	2.00
ROUTED TO +	578587	1073.	4.72	390.	172.	172.	2.00
HYDROGRAPH AT +	210B	307.	4.05	28.	9.	9.	0.11
ROUTED TO +	C586O	246.	4.12	28.	9.	9.	0.11
ROUTED TO +	586587	245.	4.17	28.	9.	9.	0.11
2 COMBINED AT +	C587	1112.	4.72	411.	181.	181.	2.11
ROUTED TO +	587595	1105.	4.73	410.	181.	181.	2.11
HYDROGRAPH AT +	210C	245.	4.03	19.	6.	6.	0.08
2 COMBINED AT +	C595L	1110.	4.73	423.	186.	186.	2.19
HYDROGRAPH AT +	210D	448.	4.03	36.	12.	12.	0.14

	ROUTED TO						
+	588590	437.	4.05	36.	12.	12.	0.14
	HYDROGRAPH AT						
+	210E	93.	4.02	7.	2.	2.	0.03
	2 COMBINED AT						
+	C590L	524.	4.03	43.	14.	14.	0.17
	HYDROGRAPH AT						
+	210F	306.	4.02	25.	8.	8.	0.09
	ROUTED TO						
+	589590	299.	4.05	25.	8.	8.	0.09
	HYDROGRAPH AT						
+	210G	504.	4.03	42.	14.	14.	0.16
	2 COMBINED AT						
+	C590R	800.	4.03	67.	22.	22.	0.25
	2 COMBINED AT						
+	C590	1323.	4.03	110.	37.	37.	0.42
	HYDROGRAPH AT						
+	210H	234.	4.02	17.	6.	6.	0.07
	ROUTED TO						
+	592593	226.	4.07	17.	6.	6.	0.07
	2 COMBINED AT						
+	C593	1545.	4.03	127.	42.	42.	0.49
	ROUTED TO						
+	593594	1532.	4.07	127.	42.	42.	0.49
	HYDROGRAPH AT						
+	210I	149.	4.03	13.	4.	4.	0.05
	2 COMBINED AT						
+	C594	1636.	4.05	139.	46.	46.	0.54
	ROUTED TO						
+	594595	1595.	4.10	139.	46.	46.	0.54
	HYDROGRAPH AT						
+	210J	324.	4.03	25.	8.	8.	0.10
	2 COMBINED AT						
+	C595R	1764.	4.10	163.	54.	54.	0.64
	2 COMBINED AT						
+	C595	1603.	4.12	558.	236.	236.	2.83
	ROUTED TO						
+	595596	1595.	4.18	557.	236.	236.	2.83
	HYDROGRAPH AT						
+	210K	270.	4.02	19.	6.	6.	0.08
	2 COMBINED AT						
+	C596	1679.	4.17	572.	241.	241.	2.91
	HYDROGRAPH AT						
+	209A	951.	4.10	89.	30.	30.	0.37
	ROUTED TO						
+	579580	942.	4.12	89.	30.	30.	0.37
	HYDROGRAPH AT						
+	209C	170.	4.05	17.	6.	6.	0.06
	2 COMBINED AT						
+	C580R	1090.	4.10	106.	35.	35.	0.43
	HYDROGRAPH AT						
+	209B	266.	4.02	22.	7.	7.	0.08
	2 COMBINED AT						
+	C580	1285.	4.08	128.	43.	43.	0.51
	ROUTED TO						
+	580581	1267.	4.12	127.	43.	43.	0.51
	HYDROGRAPH AT						
+	209D	802.	4.02	64.	21.	21.	0.24
	2 COMBINED AT						

+	C581R	1747.	4.07	187.	63.	63.	0.76
HYDROGRAPH AT +	209E	445.	4.03	40.	13.	13.	0.15
2 COMBINED AT +	C581	2031.	4.05	224.	75.	75.	0.91
ROUTED TO +	581582	1981.	4.10	224.	75.	75.	0.91
HYDROGRAPH AT +	209F	439.	4.17	55.	18.	18.	0.23
2 COMBINED AT +	C582R	2209.	4.12	274.	92.	92.	1.13
HYDROGRAPH AT +	209G	625.	4.03	54.	18.	18.	0.20
2 COMBINED AT +	C582	2498.	4.10	323.	108.	108.	1.34
ROUTED TO +	582583	2472.	4.13	323.	108.	108.	1.34
HYDROGRAPH AT +	209H	242.	4.03	19.	6.	6.	0.08
2 COMBINED AT +	C583	2567.	4.12	340.	114.	114.	1.42
ROUTED TO +	583584	2536.	4.20	340.	114.	114.	1.42
HYDROGRAPH AT +	209I	604.	4.02	42.	14.	14.	0.18
2 COMBINED AT +	C584I	2656.	4.18	377.	127.	127.	1.60
ROUTED TO +	C584O	925.	4.65	357.	127.	127.	1.60
ROUTED TO +	584597	903.	4.78	356.	127.	127.	1.60
HYDROGRAPH AT +	210L	413.	4.03	31.	10.	10.	0.14
2 COMBINED AT +	C597	900.	4.80	381.	136.	136.	1.74
ROUTED TO +	597598	883.	4.88	380.	136.	136.	1.74
HYDROGRAPH AT +	210M	462.	4.05	38.	13.	13.	0.16
2 COMBINED AT +	C598	884.	4.88	411.	147.	147.	1.90
HYDROGRAPH AT +	210N	162.	4.00	10.	3.	3.	0.05
4 COMBINED AT +	C599I	2474.	4.17	1162.	508.	508.	7.13
ROUTED TO +	C599O	1574.	5.15	1159.	508.	508.	7.13
ROUTED TO +	599608	1572.	5.20	1159.	508.	508.	7.13
HYDROGRAPH AT +	211K	363.	4.00	26.	9.	9.	0.10
2 COMBINED AT +	C608L	1573.	5.20	1174.	515.	515.	7.24
HYDROGRAPH AT +	211G	18.	4.05	3.	1.	1.	0.01
ROUTED TO +	604606	17.	4.23	3.	1.	1.	0.01
HYDROGRAPH AT +	211I	121.	4.03	11.	4.	4.	0.04

	2 COMBINED AT						
+	C606R	131.	4.03	14.	5.	5.	0.05
	HYDROGRAPH AT						
+	211H	247.	4.02	17.	6.	6.	0.07
	ROUTED TO						
+	C605O	129.	4.12	17.	6.	6.	0.07
	2 COMBINED AT						
+	C606	256.	4.05	31.	10.	10.	0.12
	ROUTED TO						
+	606607	253.	4.08	31.	10.	10.	0.12
	HYDROGRAPH AT						
+	211J	51.	4.02	4.	1.	1.	0.01
	2 COMBINED AT						
+	C607	295.	4.05	35.	12.	12.	0.14
	ROUTED TO						
+	607608	290.	4.08	35.	12.	12.	0.14
	2 COMBINED AT						
+	C608	1683.	4.28	1199.	525.	525.	7.37
	ROUTED TO						
+	608613	1681.	4.32	1199.	525.	525.	7.37
	HYDROGRAPH AT						
+	211M	278.	4.02	23.	8.	8.	0.08
	ROUTED TO						
+	610611	272.	4.05	23.	8.	8.	0.08
	HYDROGRAPH AT						
+	211N	72.	4.00	6.	2.	2.	0.02
	2 COMBINED AT						
+	C611R	338.	4.03	29.	10.	10.	0.10
	HYDROGRAPH AT						
+	211O	143.	4.02	11.	4.	4.	0.04
	ROUTED TO						
+	C609O	69.	4.12	11.	4.	4.	0.04
	ROUTED TO						
+	609611	69.	4.15	11.	4.	4.	0.04
	2 COMBINED AT						
+	C611I	402.	4.03	40.	13.	13.	0.14
	ROUTED TO						
+	C611O	201.	4.20	39.	13.	13.	0.14
	DIVERSION TO						
+	D611R	169.	4.20	38.	13.	13.	0.14
	HYDROGRAPH AT						
+	D611L	32.	4.20	1.	0.	0.	0.14
	ROUTED TO						
+	611612	27.	4.27	1.	0.	0.	0.14
	HYDROGRAPH AT						
+	211P	119.	4.00	10.	3.	3.	0.03
	2 COMBINED AT						
+	C612	119.	4.00	10.	3.	3.	0.17
	2 COMBINED AT						
+	C613	1708.	4.30	1203.	527.	527.	7.55
	ROUTED TO						
+	613621	1707.	4.32	1203.	527.	527.	7.55
	HYDROGRAPH AT						
+	211L	317.	4.02	24.	8.	8.	0.10
	2 COMBINED AT						
+	C621L	1783.	4.28	1218.	533.	533.	7.64
	HYDROGRAPH AT						
+	211Q	74.	4.00	5.	2.	2.	0.02
	ROUTED TO						

+		616617	72.	4.03	5.	2.	2.	0.02
	HYDROGRAPH AT							
+		211R	283.	4.02	22.	7.	7.	0.08
	2 COMBINED AT							
+		C617L	355.	4.02	27.	9.	9.	0.10
	HYDROGRAPH AT							
+		211U	61.	4.05	8.	3.	3.	0.03
	DIVERSION TO							
+		D614R	43.	4.05	5.	2.	2.	0.03
	HYDROGRAPH AT							
+		D614L	18.	4.05	3.	1.	1.	0.03
	2 COMBINED AT							
+		C617	372.	4.02	30.	10.	10.	0.13
	ROUTED TO							
+		617618	359.	4.07	30.	10.	10.	0.13
	HYDROGRAPH AT							
+		211S	144.	4.05	12.	4.	4.	0.05
	2 COMBINED AT							
+		C618I	499.	4.07	42.	14.	14.	0.18
	ROUTED TO							
+		C618O	482.	4.08	36.	14.	14.	0.18
	HYDROGRAPH AT							
+		BB614R	43.	4.05	5.	2.	2.	0.03
	ROUTED TO							
+		614615	43.	4.10	5.	2.	2.	0.03
	HYDROGRAPH AT							
+		211V	16.	4.02	2.	1.	1.	0.00
	2 COMBINED AT							
+		C615	55.	4.07	7.	2.	2.	0.03
	DIVERSION TO							
+		D615R	19.	4.07	2.	1.	1.	0.03
	HYDROGRAPH AT							
+		D615L	36.	4.07	5.	2.	2.	0.03
	ROUTED TO							
+		615618	36.	4.08	5.	2.	2.	0.03
	2 COMBINED AT							
+		C618	518.	4.08	41.	16.	16.	0.19
	ROUTED TO							
+		618619	507.	4.13	41.	16.	16.	0.19
	HYDROGRAPH AT							
+		211T	231.	4.02	20.	7.	7.	0.07
	2 COMBINED AT							
+		C619L	637.	4.08	60.	22.	22.	0.26
	HYDROGRAPH AT							
+		BB615R	19.	4.07	2.	1.	1.	0.03
	ROUTED TO							
+		615619	19.	4.17	2.	1.	1.	0.03
	2 COMBINED AT							
+		C619I	655.	4.10	62.	23.	23.	0.25
	ROUTED TO							
+		C619O	596.	4.18	62.	23.	23.	0.25
	DIVERSION TO							
+		D619L	402.	4.18	12.	4.	4.	0.25
	HYDROGRAPH AT							
+		D619R	194.	4.18	51.	19.	19.	0.25
	ROUTED TO							
+		619620	194.	4.20	51.	19.	19.	0.25
	HYDROGRAPH AT							
+		BB619L	402.	4.18	12.	4.	4.	0.25

	ROUTED TO						
+	619620	353.	4.22	12.	4.	4.	0.25
	HYDROGRAPH AT						
+	211W	108.	4.00	9.	3.	3.	0.03
	3 COMBINED AT						
+	C620R	573.	4.22	72.	26.	26.	0.28
	HYDROGRAPH AT						
+	BB611R	169.	4.20	38.	13.	13.	0.14
	ROUTED TO						
+	611620	169.	4.22	38.	13.	13.	0.14
	2 COMBINED AT						
+	C620	741.	4.22	110.	39.	39.	0.42
	ROUTED TO						
+	620621	723.	4.23	110.	39.	39.	0.42
	2 COMBINED AT						
+	C621	2122.	4.28	1301.	566.	566.	7.93
	ROUTED TO						
+	621622	2117.	4.37	1301.	566.	566.	7.93
	HYDROGRAPH AT						
+	211X	629.	4.05	60.	20.	20.	0.21
	2 COMBINED AT						
+	C622R	2346.	4.17	1338.	583.	583.	8.14
	HYDROGRAPH AT						
+	211A	444.	4.03	35.	12.	12.	0.14
	ROUTED TO						
+	C600O	373.	4.10	35.	12.	12.	0.14
	ROUTED TO						
+	600601	366.	4.15	35.	12.	12.	0.14
	HYDROGRAPH AT						
+	211B	357.	4.02	26.	9.	9.	0.11
	2 COMBINED AT						
+	C601	663.	4.03	60.	20.	20.	0.25
	ROUTED TO						
+	601602	651.	4.08	60.	20.	20.	0.25
	HYDROGRAPH AT						
+	211C	134.	4.03	12.	4.	4.	0.04
	2 COMBINED AT						
+	C602L	769.	4.07	72.	24.	24.	0.30
	HYDROGRAPH AT						
+	211D	184.	4.05	17.	6.	6.	0.07
	2 COMBINED AT						
+	C602	950.	4.07	89.	30.	30.	0.37
	ROUTED TO						
+	602603	923.	4.12	89.	30.	30.	0.37
	HYDROGRAPH AT						
+	211E	509.	4.03	41.	14.	14.	0.16
	2 COMBINED AT						
+	C603	1313.	4.07	129.	43.	43.	0.52
	ROUTED TO						
+	603622	1284.	4.13	129.	43.	43.	0.52
	HYDROGRAPH AT						
+	211F	332.	4.05	33.	11.	11.	0.11
	2 COMBINED AT						
+	C622L	1474.	4.12	160.	54.	54.	0.63
	2 COMBINED AT						
+	C622	3130.	4.15	1452.	626.	626.	8.78
	ROUTED TO						
+	622549	3112.	4.25	1451.	626.	626.	8.78
	HYDROGRAPH AT						

+		211Y	271.	4.05	26.	9.	9.	0.09
	2 COMBINED AT							
+		C549R	3209.	4.23	1466.	633.	633.	8.87
	2 COMBINED AT							
+		C549	4218.	4.25	1849.	831.	831.	13.06
	ROUTED TO							
+		549626	4199.	4.33	1848.	831.	831.	13.06
	HYDROGRAPH AT							
+		211Z	249.	4.03	20.	7.	7.	0.08
	2 COMBINED AT							
+		C626C	4256.	4.33	1857.	835.	835.	13.14
	HYDROGRAPH AT							
+		211AA	96.	4.05	9.	3.	3.	0.03
	ROUTED TO							
+		625626	92.	4.08	9.	3.	3.	0.03
	HYDROGRAPH AT							
+		211AB	149.	4.00	12.	4.	4.	0.04
	ROUTED TO							
+		623624	148.	4.02	12.	4.	4.	0.04
	HYDROGRAPH AT							
+		211AC	90.	4.02	8.	3.	3.	0.03
	2 COMBINED AT							
+		C624	238.	4.02	20.	7.	7.	0.07
	ROUTED TO							
+		624626	231.	4.05	20.	7.	7.	0.07
	HYDROGRAPH AT							
+		211AD	139.	4.02	12.	4.	4.	0.04
	2 COMBINED AT							
+		C626R	367.	4.03	32.	11.	11.	0.11
	3 COMBINED AT							
+		C626	4385.	4.32	1881.	847.	847.	13.28
	ROUTED TO							
+		626627	4382.	4.33	1881.	847.	847.	13.28
	HYDROGRAPH AT							
+		211AE	114.	4.02	9.	3.	3.	0.03
	2 COMBINED AT							
+		C627	4407.	4.33	1885.	849.	849.	13.32
	HYDROGRAPH AT							
+		211AF	194.	4.00	15.	5.	5.	0.05

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

AVERY

APPENDIX E

HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways (100-year, 24-hour)

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              MAY   1991               *
 *            VERSION 4.0.1E             *
 *     Lahey F77L-EM/32 version 5.01     *
 *       Dodson & Associates, Inc.       *
 *  RUN DATE  06/30/97  TIME  08:01:14   *
 *****************************************
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*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

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

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

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1                                    HEC-1 INPUT                                                    PAGE  1

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

  1           ID   Fountain Hills Area Drainage Master Plan
  2           ID   Golden Eagle Park Dam Feasibility Study
  3           ID        FCD 94-16       by GVSCE                          File:  FUMOD24.IH1
  4           ID    Future Condition Model                                Date:  6/30/97
  5           ID    Proposed Improvements for GEPD Reflected in Rating Curve at C5990
  6           ID    100-Year, 24-Hour Storm
              * ******************************************************************************
              *  Fountain Hills North Floodplain Delineation Study
              *       FCD 92-04       by GVSCE                          File:  FU100-24.IH1
              *   Future Condition Model                                Date:    07-21-94   dtp
              *   100-Year 24-Hour Storm, Clark Unit Hydrograph     Revised:    10-31-94   dtp
              * ******************************************************************************
              *
  7           IT       1                    1800
  8           IO       5
  9           IN      15
              *
              * Point precipitation values are are based on Hydro-40 DARF.
              *   0.01    5.00   10.00   50.00   80.00  100.00  200.00
              *  1.000   0.980   0.949   0.883   0.861   0.850   0.819
              *
 10           JD    4.20    0.01
              * The following PC records are a 24-hour SCS Type II rainfall distribution.
 11           PC   0.000   0.002   0.005   0.008   0.011   0.013   0.016   0.019   0.022   0.025
 12           PC   0.028   0.032   0.035   0.038   0.041   0.044   0.048   0.053   0.056   0.060
 13           PC   0.063   0.067   0.071   0.075   0.080   0.084   0.089   0.093   0.098   0.103
 14           PC   0.109   0.114   0.120   0.127   0.133   0.140   0.147   0.155   0.163   0.172
 15           PC   0.181   0.192   0.204   0.220   0.235   0.259   0.283   0.473   0.663   0.699
 16           PC   0.735   0.754   0.772   0.785   0.799   0.810   0.820   0.829   0.838   0.846
 17           PC   0.854   0.861   0.868   0.874   0.880   0.885   0.891   0.900   0.902   0.910
 18           PC   0.912   0.920   0.921   0.926   0.929   0.930   0.937   0.941   0.945   0.950
 19           PC   0.952   0.957   0.959   0.962   0.965   0.970   0.972   0.973   0.978   0.981
 20           PC   0.984   0.987   0.989   0.992   0.995   0.998   1.000
 21           JD    4.12    5.00
 22           JD    3.99   10.00
 23           JD    3.71   50.00
 24           JD    3.62   80.00
              *

 25           KK    201A
 26           KM   Sub-Basin   201A
 27           KM
 28           KM      The Clark Unit Hydrograph is used for this basin.
 29           KM          The HEC-1 time-area relation is used for this basin.
 30           KM
 31           KM      Time of Concentration for this sub-basin is based on the following:
 32           KM          An rainfall areal reduction factor of 1.000
 33           KM
 34           KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 35           KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

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 36          KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .01 .01 .00 .00 .00 .00 .00 .00
 37          KM
 38          KM          L=   1.269 miles, S=  208 feet/mile, Kb= .07
 39          KM
 40          BA   0.217
1                                        HEC-1 INPUT                                                    PAGE  2

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

 41          LG    0.13    0.35    5.70    0.19    7.94
 42          UC   0.400   0.387
             *

 43          KK    201B
 44          KM   Sub-Basin   201B
 45          KM
 46          KM      The Clark Unit Hydrograph is used for this basin.
 47          KM          The HEC-1 time-area relation is used for this basin.
 48          KM
 49          KM      Time of Concentration for this sub-basin is based on the following:
 50          KM          An rainfall areal reduction factor of 1.000
 51          KM
 52          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 53          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 54          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
 55          KM
 56          KM          L=   0.680 miles, S=  223 feet/mile, Kb= .10
 57          KM
 58          BA   0.081
 59          LG    0.15    0.38    5.70    0.20    1.84
 60          UC   0.350   0.356
             *

 61          KK    C501
 62          KM      Hydrograph combine 201A + 201B at C501
 63          HC       2
             *

 64          KK  501502
 65          KM      Normal depth channel route from C501 to C502
 66          KM      Source:  200 Scale Mapping
 67          RS       7    FLOW      -1
 68          RC   0.055   0.045   0.055  3000.0  0.0203
 69          RX  1000.0  1010.0  1025.0  1045.0  1075.0  1105.0  1125.0  1155.0
 70          RY  1624.0  1622.0  1620.0  1618.0  1618.0  1620.0  1622.0  1624.0
             *

 71          KK    201C
 72          KM   Sub-Basin   201C
 73          KM
 74          KM      The Clark Unit Hydrograph is used for this basin.
 75          KM          The Urban time-area relation is used for this basin.
 76          KM
 77          KM      Time of Concentration for this sub-basin is based on the following:
 78          KM          An rainfall areal reduction factor of 1.000
 79          KM
 80          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 81          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 82          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 83          KM
 84          KM          L=   0.674 miles, S=  206 feet/mile, Kb= .03
 85          KM
 86          BA   0.079
 87          LG    0.09    0.26    5.70    0.18   23.84
1                                        HEC-1 INPUT                                                    PAGE  3

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

 88          UC   0.183   0.175
 89          UA       0       5      16      30      65      77      84      90      94      97
 90          UA     100
             *

 91          KK   C502R
 92          KM      Hydrograph combine 501502 + 201C at C502 right branch
 93          HC       2
             *

 94          KK    201D
 95          KM   Sub-Basin   201D
 96          KM
 97          KM      The Clark Unit Hydrograph is used for this basin.
 98          KM          The HEC-1 time-area relation is used for this basin.
 99          KM
100          KM      Time of Concentration for this sub-basin is based on the following:
101          KM          An rainfall areal reduction factor of 1.000
102          KM
103          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```

```
104          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
105          KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .02 .01 .00 .00 .00 .00 .00 .00
106          KM
107          KM          L=   0.898 miles, S=  207 feet/mile, Kb= .08
108          KM
109          BA   0.071
110          LG    0.13    0.34    5.70    0.19    8.74
111          UC   0.363   0.497
             *

112          KK    C502
113          KM      Hydrograph combine 502R + 201D at C502
114          HC       2
             *

115          KK  502503
116          KM      Normal depth channel route from C502 to C503
117          KM      Source:  200 Scale Mapping
118          RS       8    FLOW      -1
119          RC   0.050   0.045   0.050  2453.0  0.0183
120          RX  1000.0  1010.0  1025.0  1095.0  1215.0  1295.0  1305.0  1325.0
121          RY  1554.0  1553.0  1552.0  1550.0  1549.8  1551.0  1552.0  1554.0
             *

122          KK    201E
123          KM   Sub-Basin   201E
124          KM
125          KM      The Clark Unit Hydrograph is used for this basin.
126          KM          The HEC-1 time-area relation is used for this basin.
127          KM
128          KM      Time of Concentration for this sub-basin is based on the following:
129          KM          An rainfall areal reduction factor of 1.000
130          KM
131          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
132          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```



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

133          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
134          KM
135          KM          L=   1.245 miles, S=  178 feet/mile, Kb= .08
136          KM
137          BA   0.183
138          LG    0.13    0.34    5.60    0.23    8.39
139          UC   0.450   0.478
             *

140          KK   C503I
141          KM      Hydrograph combine 502503 + 201E at C503I
142          HC       2
             *

143          KK   C503O
144          KM      Reservoir route at C503.
145          RS       1    ELEV  1535.1
146          SV    0.00    0.67    2.87    7.16   13.82   22.77   34.37   38.00   41.80   32.20
147          SV   44.70   46.10   47.80   49.11   50.90   52.80   54.60   56.40
148          SE  1525.1  1538.0  1540.0  1542.0  1544.0  1546.0  1548.0  1548.5  1549.0  1549.2
149          SE  1549.4  1549.6  1549.8  1550.0  1550.2  1550.4  1550.6  1550.8
150          SQ       0      50     133     210     273     325     367     377     407     441
151          SQ     481     545     612     715     818     971    1115    1268
             *

152          KK   D503R
153          KM      Hydrograph diversion at C503.  Main flow continues in the right branch.
154          KM      Diverted flow is in the left branch.
155          DT   D503L
156          DI       0      50     133     210     273     325     367     377     407     441
157          DI     481     545     612     715     818     971    1115    1268
158          DQ       0      50     133     210     273     325     367     377     386     391
159          DQ     394     398     402     405     408     412     415     418
             *

160          KK  503504
161          KM      Normal depth channel route from C503 to C504
162          KM      Source:  200 Scale Mapping
163          RS       1    FLOW      -1
164          RC   0.050   0.040   0.050  1151.0  0.0098
165          RX   940.0  1060.0  1100.0  1140.0  1190.0  1210.0  1230.0  1242.0
166          RY  1552.0  1548.0  1547.0  1546.2  1546.2  1548.0  1549.0  1552.0
             *
             * *
             * *  End Basin 201.  Start Basin 202
             * *
             *

167          KK    202A
```

```
 168          KM   Sub-Basin   202A
 169          KM
 170          KM      The Clark Unit Hydrograph is used for this basin.
 171          KM          The Urban time-area relation is used for this basin.
 172          KM
 173          KM      Time of Concentration for this sub-basin is based on the following:
1                                   HEC-1 INPUT                                                    PAGE  5

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

 174          KM          An rainfall areal reduction factor of 1.000
 175          KM
 176          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 177          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 178          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 179          KM
 180          KM          L=   0.409 miles, S=  129 feet/mile, Kb= .03
 181          KM
 182          BA   0.038
 183          LG    0.09    0.25    4.40    0.34   29.61
 184          UC   0.171   0.165
 185          UA       0       5      16      30      65      77      84      90      94      97
 186          UA     100
              *

 187          KK   C504I
 188          KM      Hydrograph combine D503R + 202A at C504I
 189          HC       2
              *

 190          KK   C504O
 191          KM      Reservoir route at C504.
 192          RS       1    ELEV  1538.1
 193          SV    0.00    0.17    0.90    1.00    1.10    1.30    1.60    1.80    2.00    2.30
 194          SV    2.50    2.70    3.00    3.10
 195          SE  1538.1  1540.0  1541.66 1541.80 1542.0  1542.2  1542.4  1542.6  1542.8  1543.0
 196          SE  1543.2  1543.4  1543.6  1543.7
 197          SQ       0      11      20      22      24      30      41      60      85     121
 198          SQ     171     240     322     396
              *

 199          KK   D504R
 200          KM      Hydrograph diversion at C504.  Main flow continues in the right branch.
 201          KM      Diverted flow is in the left branch.
 202          DT   D504L
 203          DI       0      11      20      22      24      30      41      60      85     121
 204          DI     171     240     322     396
 205          DQ       0      11      20      20      21      22      22      23      23      24
 206          DQ      24      25      26      26
              *

 207          KK    202B
 208          KM   Sub-Basin   202B
 209          KM
 210          KM      The Clark Unit Hydrograph is used for this basin.
 211          KM          The Urban time-area relation is used for this basin.
 212          KM
 213          KM      Time of Concentration for this sub-basin is based on the following:
 214          KM          An rainfall areal reduction factor of 1.000
 215          KM
 216          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 217          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 218          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 219          KM
 220          KM          L=   0.364 miles, S=  322 feet/mile, Kb= .03
1                                   HEC-1 INPUT                                                    PAGE  6

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

 221          KM
 222          BA   0.018
 223          LG    0.09    0.25    4.55    0.31   29.03
 224          UC   0.121   0.156
 225          UA       0       5      16      30      65      77      84      90      94      97
 226          UA     100
              *

 227          KK   C505I
 228          KM      Hydrograph combine D504R + 202B at C505I
 229          HC       2
              *

 230          KK   D505R
 231          KM      Hydrograph diversion at C505.  Main flow continues in the right branch.
 232          KM      Diverted flow is in the left branch.
 233          DT   D505L
 234          DI       0       3       7       9      11      14      15      17      23      31
 235          DI      44      55      75      95     123     134
```

```
236          DQ       0       3       7       9      11      12      12      13      14      14
237          DQ      15      15      16      16      16      17
             *

238          KK    202C
239          KM   Sub-Basin   202C
240          KM
241          KM      The Clark Unit Hydrograph is used for this basin.
242          KM          The Urban time-area relation is used for this basin.
243          KM
244          KM      Time of Concentration for this sub-basin is based on the following:
245          KM          An rainfall areal reduction factor of 1.000
246          KM
247          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
248          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
249          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
250          KM
251          KM          L=   0.192 miles, S=  363 feet/mile, Kb= .04
252          KM
253          BA   0.008
254          LG    0.08    0.25    4.35    0.35   38.72
255          UC   0.096   0.118
256          UA       0       5      16      30      65      77      84      90      94      97
257          UA     100
             *

258          KK    C506
259          KM      Hydrograph combine C505R + 202C at C506
260          HC       2
             *
```



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

261          KK   D506R
262          KM      Hydrograph diversion at C506.  Main flow continues in the right branch.
263          KM      Diverted flow is in the left branch.
264          DT   D506L
265          DI       0       3      13      37      77     100     151     206     276     355
266          DI     437     532     698     809     928    1104
267          DQ       0       0       0       0       0       0       4      12      28      52
268          DQ      85     128     183     249     328     421
             *

269          KK    202D
270          KM   Sub-Basin   202D
271          KM
272          KM      The Clark Unit Hydrograph is used for this basin.
273          KM          The Urban time-area relation is used for this basin.
274          KM
275          KM      Time of Concentration for this sub-basin is based on the following:
276          KM          An rainfall areal reduction factor of 1.000
277          KM
278          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
279          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
280          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
281          KM
282          KM          L=   0.800 miles, S=  248 feet/mile, Kb= .03
283          KM
284          BA   0.063
285          LG    0.09    0.25    5.60    0.20   28.04
286          UC   0.192   0.240
287          UA       0       5      16      30      65      77      84      90      94      97
288          UA     100
             *

289          KK    202E
290          KM   Sub-Basin   202E
291          KM
292          KM      The Clark Unit Hydrograph is used for this basin.
293          KM          The Urban time-area relation is used for this basin.
294          KM
295          KM      Time of Concentration for this sub-basin is based on the following:
296          KM          An rainfall areal reduction factor of 1.000
297          KM
298          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
299          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
300          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
301          KM
302          KM          L=   0.732 miles, S=  270 feet/mile, Kb= .03
303          KM
304          BA   0.104
305          LG    0.09    0.25    5.70    0.18   26.88
306          UC   0.175   0.151
307          UA       0       5      16      30      65      77      84      90      94      97
308          UA     100
             *
```

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

 309          KK   C508O
 310          KM      Reservoir route at C508.
 311          RS       1    ELEV  1524.2
 312          SV    0.00    0.05    0.09    0.13    0.17    0.21    0.25    0.28    0.36    0.46
 313          SV    0.55    0.64    0.72    0.81    0.90    1.00    1.02
 314          SE  1524.1  1525.0  1525.5  1526.0  1526.5  1527.0  1527.6  1528.0  1528.2  1528.4
 315          SE  1528.6  1528.8  1529.0  1529.2  1529.4  1529.6 1529.64
 316          SQ       0       6       9      16      22      28      38      51      58      70
 317          SQ      84     100     122     149     183     216     227
              *

 318          KK   D508L
 319          KM      Hydrograph diversion at C508.  Main flow continues in the left branch.
 320          KM      Diverted flow is in the right branch.
 321          DT   D508R
 322          DI       0       6       9      16      22      28      38      51      58      70
 323          DI      84     100     122     149     183     216     227
 324          DQ       0       6       9      16      22      28      38      47      52      56
 325          DQ      60      63      66      68      71      73      73
              *

 326          KK  508507
 327          KM      Normal depth channel route from C508 to C507
 328          KM      Source:  200 Scale Mapping
 329          RS       4    FLOW      -1
 330          RC   0.020   0.035   0.055   934.0  0.0028
 331          RX   893.0  1014.0  1022.0  1026.0  1040.0  1050.0  1060.0  1066.0
 332          RY  1532.0  1529.4  1528.6  1527.6  1529.0  1530.2  1531.3  1532.0
              *

 333          KK   C507I
 334          KM      Hydrograph combine D506R + 202D + D508L at C507I
 335          HC       3
              *

 336          KK   C507O
 337          KM      Reservoir route at C507
 338          RS       1    ELEV  1525.2
 339          SV    0.00    0.28    0.46    0.65    0.85    1.03    1.38    1.40    1.44    1.48
 340          SV    1.52    1.55    1.59    1.64    1.67    1.70    1.75    1.77
 341          SE  1525.2  1526.0  1526.5  1527.0  1527.5  1528.0  1529.0  1529.0  1529.1  1529.2
 342          SE  1529.3  1529.4  1529.5  1529.6  1529.7  1529.8  1529.9  1530.0
 343          SQ       0       2       5       9      13      15      18      20      36      69
 344          SQ     118     185     272     378     506     652     816     997
              *

 345          KK    202F
 346          KM   Sub-Basin   202F
 347          KM
 348          KM      The Clark Unit Hydrograph is used for this basin.
 349          KM          The Urban time-area relation is used for this basin.
 350          KM
 351          KM      Time of Concentration for this sub-basin is based on the following:
 352          KM          An rainfall areal reduction factor of 1.000
```



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

 353          KM
 354          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 355          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 356          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 357          KM
 358          KM          L=   0.188 miles, S=  337 feet/mile, Kb= .03
 359          KM
 360          BA   0.013
 361          LG    0.08    0.25    5.60    0.20   38.05
 362          UC   0.083   0.073
 363          UA       0       5      16      30      65      77      84      90      94      97
 364          UA     100
              *

 365          KK    202G
 366          KM   Sub-Basin   202G
 367          KM
 368          KM      The Clark Unit Hydrograph is used for this basin.
 369          KM          The Urban time-area relation is used for this basin.
 370          KM
 371          KM      Time of Concentration for this sub-basin is based on the following:
 372          KM          An rainfall areal reduction factor of 1.000
 373          KM
 374          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 375          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
 376          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 377          KM
 378          KM          L=   0.175 miles, S=  338 feet/mile, Kb= .03
 379          KM
 380          BA   0.013
 381          LG    0.08    0.25    5.70    0.18   35.52
 382          UC   0.083   0.069
 383          UA       0       5      16      30      65      77      84      90      94      97
 384          UA     100
              *

 385          KK    202H
 386          KM   Sub-Basin   202H
 387          KM
 388          KM      The Clark Unit Hydrograph is used for this basin.
 389          KM          The Urban time-area relation is used for this basin.
 390          KM
 391          KM      Time of Concentration for this sub-basin is based on the following:
 392          KM          An rainfall areal reduction factor of 1.000
 393          KM
 394          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 395          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 396          KM   .27 .27 .27 .27 .27 .27 .03 .03 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 397          KM
 398          KM          L=   0.861 miles, S=  243 feet/mile, Kb= .03
 399          KM
 400          BA   0.179
 401          LG    0.09    0.25    5.20    0.22   26.85
 402          UC   0.200   0.146
 403          UA       0       5      16      30      65      77      84      90      94      97
```



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

 404          UA     100
              *

 405          KK   C511O
 406          KM      Reservoir route at C511.
 407          RS       1    ELEV  1535.2
 408          SV    0.00    0.40    0.70    1.19    3.10    3.20    3.55    4.00    4.50    4.90
 409          SV    5.40    5.80    6.30    6.80    7.20    7.70    8.13
 410          SE  1535.2  1537.0  1538.0  1540.0  1541.6  1541.8  1542.0  1542.2  1542.4  1542.6
 411          SE  1542.8  1543.0  1543.2  1543.4  1543.6  1543.8  1544.0
 412          SQ       0      42      88     200     274     286     325     393     491     622
 413          SQ     790    1000    1241    1518    1835    2189    2580
              *

 414          KK  511512
 415          KM      Normal depth channel route from C511 to C512
 416          KM      Source:  200 Scale Mapping
 417          RS       3    FLOW      -1
 418          RC   0.055   0.045   0.055   760.0  0.0112
 419          RX  1000.0  1060.0  1070.0  1090.0  1110.0  1120.0  1180.0  1220.0
 420          RY  1536.0  1534.2  1534.0  1532.0  1532.0  1534.0  1535.0  1536.0
              *

 421          KK    202I
 422          KM   Sub-Basin   202I
 423          KM
 424          KM      The Clark Unit Hydrograph is used for this basin.
 425          KM          The Urban time-area relation is used for this basin.
 426          KM
 427          KM      Time of Concentration for this sub-basin is based on the following:
 428          KM          An rainfall areal reduction factor of 1.000
 429          KM
 430          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 431          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 432          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
 433          KM
 434          KM          L=   0.247 miles, S=  122 feet/mile, Kb= .03
 435          KM
 436          BA   0.017
 437          LG    0.06    0.25    5.10    0.24   73.16
 438          UC   0.129   0.125
 439          UA       0       5      16      30      65      77      84      90      94      97
 440          UA     100
              *

 441          KK   C512I
 442          KM      Hydrograph combine 511512 + 202I at C512
 443          KM      Inflow to reservoir route at C512
 444          KM      This is the inflow to the Stock Tank at the end of Bahia Drive
 445          HC       2
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
446          KK   C512O
447          KM      Reservoir route at C512 (Stock Tank).
448          RS       1    ELEV  1517.0
449          SV    0.00    0.03    0.29    0.75    1.38    2.39    4.17    7.43   10.30   12.20
450          SV   12.70   13.36   14.10   15.10   16.20   17.00   17.90
451          SE  1517.0  1518.0  1520.0  1522.0  1524.0  1526.0  1528.0  1530.0  1531.0  1531.6
452          SE  1531.8  1532.0  1532.2  1532.4  1532.6  1532.8  1533.0
453          SQ       0       0       0       0       0       0       0       0       0      15
454          SQ      35      65     137     244     376     541     725
             *

455          KK   D512L
456          KM      Hydrograph diversion at C512.
457          KM      Main flow continues in the left branch (weir).
458          KM      Diverted flow enters Bahia Drive (channel) and continues to C591.
459          KM      Diverted flow is in the right branch.
460          DT   D512R
461          DI       0      15      35      65     137     244     376     541     725
462          DQ       0       0       4      10      49     112     190     289     395
             *
             * *
             * *  Note :  512591 too short to route
             * *
             *
             * *
             * *  End Basin 202.  Start Basin 203.
             * *
             *

463          KK    203A
464          KM   Sub-Basin   203A
465          KM
466          KM      The Clark Unit Hydrograph is used for this basin.
467          KM          The HEC-1 time-area relation is used for this basin.
468          KM
469          KM      Time of Concentration for this sub-basin is based on the following:
470          KM          An rainfall areal reduction factor of 1.000
471          KM
472          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
473          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
474          KM   .26 .25 .25 .25 .25 .25 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
475          KM
476          KM          L=   1.569 miles, S=  229 feet/mile, Kb= .08
477          KM
478          BA   0.279
479          LG    0.14    0.37    5.70    0.20    4.62
480          UC   0.467   0.471
             *
1                                          HEC-1 INPUT                                          PAGE 12

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

481          KK   C513O
482          KM      Reservoir route at C513.
483          RS       1    ELEV  1789.0
484          SV    0.00    0.35    0.97    2.05    3.54    5.54    8.17
485          SE  1789.0  1794.0  1796.0  1798.0  1800.0  1802.0  1804.0
486          SQ       0       0      20      70     135     315    1995
             *

487          KK  513514
488          KM      Normal depth channel route from C513 to C514
489          KM      Source:  200 Scale Mapping
490          RS       7    FLOW      -1
491          RC   0.050   0.045   0.050  2403.0  0.0240
492          RX  1000.0  1010.0  1035.0  1080.0  1100.0  1120.0  1135.0  1145.0
493          RY  1780.0  1778.0  1770.0  1768.0  1768.0  1770.0  1778.0  1780.0
             *

494          KK    203B
495          KM   Sub-Basin   203B
496          KM
497          KM      The Clark Unit Hydrograph is used for this basin.
498          KM          The Urban time-area relation is used for this basin.
499          KM
500          KM      Time of Concentration for this sub-basin is based on the following:
501          KM          An rainfall areal reduction factor of 1.000
502          KM
503          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
504          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
505          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
506          KM
507          KM          L=   0.484 miles, S=  236 feet/mile, Kb= .04
508          KM
509          BA   0.044
510          LG    0.09    0.27    5.70    0.18   22.92
```

```
511          UC   0.175   0.176
512          UA       0       5      16      30      65      77      84      90      94      97
513          UA     100
             *

514          KK   C514R
515          KM      Hydrograph combine 513514 + 203B at C514 right channel
516          HC       2
             *

517          KK    203C
518          KM   Sub-Basin   203C
519          KM
520          KM      The Clark Unit Hydrograph is used for this basin.
521          KM          The HEC-1 time-area relation is used for this basin.
522          KM
523          KM      Time of Concentration for this sub-basin is based on the following:
524          KM          An rainfall areal reduction factor of 1.000
525          KM
526          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1                                          HEC-1 INPUT                                          PAGE 13

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

527          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
528          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .00 .00 .00 .00 .00 .00
529          KM
530          KM          L=   0.988 miles, S=  258 feet/mile, Kb= .07
531          KM
532          BA   0.103
533          LG    0.12    0.33    5.70    0.20   13.59
534          UC   0.329   0.390
             *

535          KK    C514
536          KM      Hydrograph combine C514R + 203C at C514
537          HC       2
             *
             * *
             * * Note: 514515 too short to route
             * *
             *

538          KK    203D
539          KM   Sub-Basin   203D
540          KM
541          KM      The Clark Unit Hydrograph is used for this basin.
542          KM          The HEC-1 time-area relation is used for this basin.
543          KM
544          KM      Time of Concentration for this sub-basin is based on the following:
545          KM          An rainfall areal reduction factor of 1.000
546          KM
547          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
548          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
549          KM   .26 .26 .26 .26 .25 .25 .02 .02 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
550          KM
551          KM          L=   1.025 miles, S=  252 feet/mile, Kb= .08
552          KM
553          BA   0.108
554          LG    0.13    0.34    5.70    0.20    8.61
555          UC   0.363   0.435
             *

556          KK    C515
557          KM      Hydrograph combine C514 + 203D at C515
558          HC       2
             *

559          KK  515517
560          KM      Normal depth channel route from C515 to C517
561          KM      Source:  200 Scale Mapping
562          RS       9    FLOW      -1
563          RC   0.050   0.045   0.060  3340.0  0.0186
564          RX  1000.0  1020.0  1045.0  1065.0  1085.0  1125.0  1135.0  1145.0
565          RY  1708.0  1704.0  1702.0  1698.0  1698.0  1700.0  1705.0  1710.0
             *
1                                          HEC-1 INPUT                                          PAGE 14

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

566          KK    203E
567          KM   Sub-Basin   203E
568          KM
569          KM      The Clark Unit Hydrograph is used for this basin.
570          KM          The Urban time-area relation is used for this basin.
571          KM
572          KM      Time of Concentration for this sub-basin is based on the following:
```

```
573          KM          An rainfall areal reduction factor of 1.000
574          KM
575          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
576          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
577          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .02 .02 .02 .01 .01 .01
578          KM
579          KM          L=   0.640 miles, S=  219 feet/mile, Kb= .03
580          KM
581          BA   0.093
582          LG    0.09    0.19    6.60    0.13   25.00
583          UC   0.175   0.145
584          UA       0       5      16      30      65      77      84      90      94      97
585          UA     100
             *

586          KK   C517R
587          KM      Hydrograph combine 515517 + 203E at C517 right branch
588          HC       2
             *

589          KK    203F
590          KM   Sub-Basin   203F
591          KM
592          KM      The Clark Unit Hydrograph is used for this basin.
593          KM          The Natural time-area relation is used for this basin.
594          KM
595          KM      Time of Concentration for this sub-basin is based on the following:
596          KM          An rainfall areal reduction factor of 1.000
597          KM
598          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
599          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
600          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
601          KM
602          KM          L=   1.460 miles, S=  237 feet/mile, Kb= .09
603          KM
604          BA   0.333
605          LG    0.15    0.39    5.70    0.21    0.00
606          UC   0.479   0.414
607          UA       0       3       5       8      12      20      43      75      90      96
608          UA     100
             *
```



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

609          KK  516517
610          KM      Normal depth channel route from C516 to C517
611          KM      Source:  200 Scale Mapping
612          RS      14    FLOW      -1
613          RC   0.065   0.045   0.055  6720.0  0.0213
614          RX  1000.0  1015.0  1020.0  1040.0  1080.0  1095.0  1100.0  1125.0
615          RY  1724.0  1718.0  1716.0  1714.0  1714.0  1716.0  1718.0  1724.0
             *

616          KK    203G
617          KM   Sub-Basin   203G
618          KM
619          KM      The Clark Unit Hydrograph is used for this basin.
620          KM          The HEC-1 time-area relation is used for this basin.
621          KM
622          KM      Time of Concentration for this sub-basin is based on the following:
623          KM          An rainfall areal reduction factor of 1.000
624          KM
625          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
626          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
627          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .00 .00 .00 .00 .00 .00
628          KM
629          KM          L=   1.424 miles, S=  215 feet/mile, Kb= .07
630          KM
631          BA   0.248
632          LG    0.13    0.34    6.00    0.18    9.21
633          UC   0.421   0.416
             *

634          KK   C517L
635          KM      Hydrograph combine 516517 + 203G at C517 left branch
636          HC       2
             *

637          KK    C517
638          KM      Hydrograph combine C517R + C517L at C517
639          HC       2
             *

640          KK  517518
641          KM      Normal depth channel route from C517 to C518
642          KM      Source:  HEC-2 Cross Section: ES 3.522
```

```
643          RS       8    FLOW      -1
644          RC   0.055   0.035   0.060  4367.0  0.0174
645          RX  9808.1  9845.6  9957.0  9990.4 10007.0 10015.9 10076.5 10176.0
646          RY  1628.2  1618.6  1617.5  1614.8  1614.7  1619.7  1622.9  1631.3
             *

647          KK    203H
648          KM   Sub-Basin   203H
649          KM
650          KM      The Clark Unit Hydrograph is used for this basin.
651          KM          The Urban time-area relation is used for this basin.
652          KM
1                                          HEC-1 INPUT                                                    PAGE 16

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

653          KM      Time of Concentration for this sub-basin is based on the following:
654          KM          An rainfall areal reduction factor of 1.000
655          KM
656          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
657          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
658          KM   .27 .27 .27 .27 .27 .27 .03 .03 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
659          KM
660          KM          L=   1.035 miles, S=  178 feet/mile, Kb= .03
661          KM
662          BA   0.207
663          LG    0.09    0.25    5.40    0.21   25.00
664          UC   0.242   0.193
665          UA       0       5      16      30      65      77      84      90      94      97
666          UA     100
             *

667          KK    C518
668          KM      Hydrograph combine 517518 + 203H at C518
669          HC       2
             *

670          KK  518519
671          KM      Normal depth channel route from C518 to C519
672          KM      Source:  HEC-2 Cross Section: ES 3.072
673          RS       4    FLOW      -1
674          RC   0.090   0.050   0.085  1796.0  0.0217
675          RX  9851.4  9884.7  9955.8  9983.5 10028.9 10036.3 10057.6 10087.9
676          RY  1586.3  1569.6  1568.4  1565.8  1565.4  1566.0  1575.0  1589.3
             *

677          KK    203I
678          KM   Sub-Basin   203I
679          KM
680          KM      The Clark Unit Hydrograph is used for this basin.
681          KM          The Urban time-area relation is used for this basin.
682          KM
683          KM      Time of Concentration for this sub-basin is based on the following:
684          KM          An rainfall areal reduction factor of 1.000
685          KM
686          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
687          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
688          KM   .27 .27 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
689          KM
690          KM          L=   1.323 miles, S=  161 feet/mile, Kb= .03
691          KM
692          BA   0.171
693          LG    0.09    0.25    4.80    0.27   29.11
694          UC   0.283   0.313
695          UA       0       5      16      30      65      77      84      90      94      97
696          UA     100
             *
1                                          HEC-1 INPUT                                                    PAGE 17

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

697          KK    C519
698          KM      Hydrograph combine 518519 + 203I at C519
699          HC       2
             *

700          KK  519591
701          KM      Normal depth channel route from C519 to C591
702          KM      Source:  HEC-2 Cross Section: ES 2.695
703          RS       2    FLOW      -1
704          RC   0.090   0.050   0.085  1274.0  0.0181
705          RX  9851.3  9905.0  9927.9  9949.0 10017.8 10053.7 10096.8 10135.1
706          RY  1540.3  1537.0  1536.5  1529.2  1528.6  1537.7  1539.6  1540.1
             *

707          KK    203J
708          KM   Sub-Basin   203J
```

```
709          KM
710          KM      The Clark Unit Hydrograph is used for this basin.
711          KM          The Urban time-area relation is used for this basin.
712          KM
713          KM      Time of Concentration for this sub-basin is based on the following:
714          KM          An rainfall areal reduction factor of 1.000
715          KM
716          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
717          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
718          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
719          KM
720          KM          L=   0.533 miles, S=  237 feet/mile, Kb= .03
721          KM
722          BA   0.039
723          LG    0.07    0.25    5.60    0.20   64.82
724          UC   0.154   0.179
725          UA       0       5      16      30      65      77      84      90      94      97
726          UA     100
             *

727          KK  520591
728          KM      Normal depth channel route from C520 to C591
729          KM      Source:  Hydrology Field Reconnaissance
730          RS       3    FLOW      -1
731          RC   0.050   0.018   0.040  2014.0  0.0248
732          RX  1000.0  1030.0  1041.2  1057.2  1073.2  1074.4  1086.4  1116.0
733          RY  1570.0  1566.0  1564.8  1565.2  1564.9  1565.3  1565.9  1568.0
             *

734          KK  BB512R
735          KM      Retrieve previously diverted hydrograph at C512 in the right branch.
736          DR   D512R
             *
```



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

737          KK    C591
738          KM      Hydrograph combine 519591 + 520591 + D512R at C591
739          HC       3    1.83
             *

740          KK  591521
741          KM      Normal depth channel route from C591 to C521
742          KM      Source:  HEC-2 Cross Section: ES 2.614
743          RS       1    FLOW      -1
744          RC   0.090   0.050   0.085   915.0  0.0142
745          RX  9827.7  9921.5  9950.2  9970.7 10046.6 10078.1 10120.0 10177.5
746          RY  1531.1  1524.8  1524.4  1520.8  1520.0  1530.3  1531.1  1532.3
             *

747          KK    203K
748          KM   Sub-Basin   203K
749          KM
750          KM      The Clark Unit Hydrograph is used for this basin.
751          KM          The Urban time-area relation is used for this basin.
752          KM
753          KM      Time of Concentration for this sub-basin is based on the following:
754          KM          An rainfall areal reduction factor of 1.000
755          KM
756          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
757          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
758          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
759          KM
760          KM          L=   0.878 miles, S=  158 feet/mile, Kb= .03
761          KM
762          BA   0.160
763          LG    0.08    0.25    5.60    0.19   44.98
764          UC   0.225   0.181
765          UA       0       5      16      30      65      77      84      90      94      97
766          UA     100
             *

767          KK    C521
768          KM      Hydrograph combine 591521 + 203K at C521
769          HC       2
             *
             * *
             * * C521 is the total flow in Escalante Wash at the Study boundary
             * *
             * * End Basin 203.  Start Basin 204
             * *
             *

770          KK   CLEAR
771          KM      Clear hydrographs from stack
772          HC       5
```

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

 773            KK    204A
 774            KM   Sub-Basin   204A
 775            KM
 776            KM      The Clark Unit Hydrograph is used for this basin.
 777            KM          The Urban time-area relation is used for this basin.
 778            KM
 779            KM      Time of Concentration for this sub-basin is based on the following:
 780            KM          An rainfall areal reduction factor of 1.000
 781            KM
 782            KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 783            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 784            KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 785            KM
 786            KM          L=   0.687 miles, S=  175 feet/mile, Kb= .03
 787            KM
 788            BA   0.108
 789            LG    0.09    0.25    5.80    0.18   25.00
 790            UC   0.196   0.160
 791            UA       0       5      16      30      65      77      84      90      94      97
 792            UA     100
                *

 793            KK  522523
 794            KM      Normal depth channel route from C522 to C523
 795            KM      Source:  200 Scale Mapping
 796            RS       9    FLOW      -1
 797            RC   0.060   0.050   0.060  3275.0  0.0197
 798            RX  1000.0  1020.0  1035.0  1065.0  1080.0  1120.0  1160.0  1185.0
 799            RY  1678.0  1676.0  1674.0  1672.0  1672.0  1674.0  1676.0  1678.0
                *

 800            KK    204B
 801            KM   Sub-Basin   204B
 802            KM
 803            KM      The Clark Unit Hydrograph is used for this basin.
 804            KM          The Urban time-area relation is used for this basin.
 805            KM
 806            KM      Time of Concentration for this sub-basin is based on the following:
 807            KM          An rainfall areal reduction factor of 1.000
 808            KM
 809            KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 810            KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 811            KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 812            KM
 813            KM          L=   0.775 miles, S=  128 feet/mile, Kb= .03
 814            KM
 815            BA   0.126
 816            LG    0.09    0.25    5.80    0.18   26.66
 817            UC   0.229   0.192
 818            UA       0       5      16      30      65      77      84      90      94      97
 819            UA     100
                *
```



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

 820            KK   C523I
 821            KM      Hydrograph combine 522523 + 204B at C523I
 822            HC       2
                *

 823            KK   C523O
 824            KM      Reservoir route at C523.
 825            RS       1    ELEV  1650.3
 826            SV    0.00    0.01    0.12    0.71    2.23    2.50    2.80    3.10    3.20    3.40
 827            SV    3.70    4.00    4.30    4.60    4.90    5.20    5.50
 828            SE  1650.3  1652.0  1654.0  1656.0  1658.0  1658.2  1658.4  1658.6  1658.7  1658.8
 829            SE  1659.0  1659.2  1659.4  1659.6  1659.8  1660.0  1660.2
 830            SQ       0      22      78     144     209     214     220     224     226     232
 831            SQ     239     249     288     384     529     726     960
                *

 832            KK   D523L
 833            KM      Hydrograph diversion at C523.  Main flow continues in the left branch.
 834            KM      Diverted flow is in the right branch.
 835            DT   D523R
 836            DI       0      22      78     144     209     214     220     224     226     232
 837            DI     239     249     288     384     529     726     960
 838            DQ       0       0       0       0       0       0       0       0       0       3
 839            DQ       5      10      20      37      61      96     139
                *
```

```
840          KK  523524
841          KM      Normal depth channel route from C523 to C524
842          KM      Source:  HEC-2 Cross Section: CA 2.072
843          KM      This is flow in Fountain Hills Blvd. which is routed to C548
844          RS       5    FLOW      -1
845          RC   0.080   0.050   0.075  1732.0  0.0177
846          RX  9827.8  9925.9  9978.5 10000.0 10020.8 10041.9 10110.6 10151.9
847          RY  1639.8  1635.7  1634.3  1629.9  1630.2  1631.8  1633.5  1636.7
             *

848          KK    204C
849          KM   Sub-Basin   204C
850          KM
851          KM      The Clark Unit Hydrograph is used for this basin.
852          KM          The Urban time-area relation is used for this basin.
853          KM
854          KM      Time of Concentration for this sub-basin is based on the following:
855          KM          An rainfall areal reduction factor of 1.000
856          KM
857          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
858          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
859          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
860          KM
861          KM          L=   0.400 miles, S=  142 feet/mile, Kb= .03
862          KM
863          BA   0.077
864          LG    0.07    0.25    5.70    0.18   66.42
865          UC   0.158   0.099
```



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

866          UA       0       5      16      30      65      77      84      90      94      97
867          UA     100
             *

868          KK    C524
869          KM      Hydrograph combine 523524 + 204C at C524
870          HC       2
             *

871          KK  524525
872          KM      Normal depth channel route from C524 to C525
873          KM      Source:  HEC-2 Cross Section: CA 1.898
874          RS       1    FLOW      -1
875          RC   0.050   0.035   0.060  1045.0  0.0211
876          RX  9823.1  9873.0  9960.0  9986.1 10008.3 10049.7 10070.0 10078.4
877          RY  1617.9  1616.7  1616.3  1609.2  1609.0  1616.4  1616.8  1617.3
             *

878          KK    204D
879          KM   Sub-Basin   204D
880          KM
881          KM      The Clark Unit Hydrograph is used for this basin.
882          KM          The Urban time-area relation is used for this basin.
883          KM
884          KM      Time of Concentration for this sub-basin is based on the following:
885          KM          An rainfall areal reduction factor of 1.000
886          KM
887          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
888          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
889          KM   .28 .28 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
890          KM
891          KM          L=   0.345 miles, S=   96 feet/mile, Kb= .03
892          KM
893          BA   0.044
894          LG    0.07    0.25    5.70    0.18   53.85
895          UC   0.167   0.128
896          UA       0       5      16      30      65      77      84      90      94      97
897          UA     100
             *

898          KK    C525
899          KM      Hydrograph combine 524525 + 204D at C525
900          HC       2
             *

901          KK  525526
902          KM      Normal depth channel route from C525 to C526
903          KM      Source:  HEC-2 Cross Section: CA 1.663
904          RS       2    FLOW      -1
905          RC   0.050   0.035   0.060  1520.0  0.0211
906          RX  9915.0  9940.0  9968.0  9992.6 10012.4 10032.0 10049.6 10106.9
907          RY  1592.8  1592.3  1591.8  1585.0  1584.8  1591.3  1592.1  1592.5
             *
```

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

 908          KK    204E
 909          KM   Sub-Basin   204E
 910          KM
 911          KM      The Clark Unit Hydrograph is used for this basin.
 912          KM          The Urban time-area relation is used for this basin.
 913          KM
 914          KM      Time of Concentration for this sub-basin is based on the following:
 915          KM          An rainfall areal reduction factor of 1.000
 916          KM
 917          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 918          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 919          KM   .28 .28 .28 .28 .28 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
 920          KM
 921          KM          L=   0.508 miles, S=  108 feet/mile, Kb= .03
 922          KM
 923          BA   0.071
 924          LG    0.08    0.25    5.70    0.18   41.17
 925          UC   0.196   0.160
 926          UA       0       5      16      30      65      77      84      90      94      97
 927          UA     100
              *

 928          KK    C526
 929          KM      Hydrograph combine 525526 + 204E at C526
 930          HC       2
              *

 931          KK  526527
 932          KM      Normal depth channel route from C526 to C527
 933          KM      Source:  HEC-2 Cross Section: CA 1.186
 934          RS       3    FLOW      -1
 935          RC   0.050   0.035   0.060  2129.0  0.0183
 936          RX  9867.7  9898.1  9967.2  9981.2 10023.8 10035.6 10080.6 10145.3
 937          RY  1545.6  1544.4  1539.5  1536.9  1536.7  1539.6  1541.1  1542.3
              *

 938          KK    204F
 939          KM   Sub-Basin   204F
 940          KM
 941          KM      The Clark Unit Hydrograph is used for this basin.
 942          KM          The Urban time-area relation is used for this basin.
 943          KM
 944          KM      Time of Concentration for this sub-basin is based on the following:
 945          KM          An rainfall areal reduction factor of 1.000
 946          KM
 947          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 948          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 949          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
 950          KM
 951          KM          L=   0.495 miles, S=  135 feet/mile, Kb= .03
 952          KM
 953          BA   0.077
 954          LG    0.08    0.15    7.00    0.11   45.00
 955          UC   0.175   0.131
```



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

 956          UA       0       5      16      30      65      77      84      90      94      97
 957          UA     100
              *

 958          KK    C527
 959          KM      Hydrograph combine 526527 + 204F at C527
 960          HC       2
              *
              * *
              * * C527 is the total flow in Caliente Wash at the Study boundary
              * *
              * * End Basin 204.  Start Basin 205
              * *
              *

 961          KK   CLEAR
 962          KM      Clear hydrographs from stack
 963          HC       2
              *

 964          KK    205A
 965          KM   Sub-Basin   205A
 966          KM
 967          KM      The Clark Unit Hydrograph is used for this basin.
 968          KM          The Natural time-area relation is used for this basin.
 969          KM
 970          KM      Time of Concentration for this sub-basin is based on the following:
```

```
 971          KM          An rainfall areal reduction factor of 1.000
 972          KM
 973          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 974          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 975          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 976          KM
 977          KM          L=   0.870 miles, S=  378 feet/mile, Kb= .14
 978          KM
 979          BA   0.118
 980          LG    0.25    0.35    4.35    0.40   35.00
 981          UC   0.400   0.406
 982          UA       0       3       5       8      12      20      43      75      90      96
 983          UA     100
              *

 984          KK    205B
 985          KM   Sub-Basin   205B
 986          KM
 987          KM      The Clark Unit Hydrograph is used for this basin.
 988          KM          The Natural time-area relation is used for this basin.
 989          KM
 990          KM      Time of Concentration for this sub-basin is based on the following:
 991          KM          An rainfall areal reduction factor of 1.000
 992          KM
 993          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
 994          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
 995          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
 996          KM
```



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

 997          KM          L=   0.759 miles, S=  129 feet/mile, Kb= .14
 998          KM
 999          BA   0.211
1000          LG    0.25    0.35    4.35    0.40   35.00
1001          UC   0.538   0.361
1002          UA       0       3       5       8      12      20      43      75      90      96
1003          UA     100
              *

1004          KK    C528
1005          KM      Hydrograph combine 205A + 205B at C528
1006          HC       2
              *

1007          KK  528530
1008          KM      Normal depth channel route from C528 to C530
1009          KM      Source:  Hydrology Field Reconnaissance
1010          RS       3    FLOW      -1
1011          RC   0.060   0.043   0.060  2594.0  0.0709
1012          RX  1000.0  1018.0  1031.0  1042.0  1052.0  1066.0  1093.0  1107.0
1013          RY    96.3    92.2    89.9    85.9    85.7    91.5    91.2    96.3
              *

1014          KK    205C
1015          KM   Sub-Basin   205C
1016          KM
1017          KM      The Clark Unit Hydrograph is used for this basin.
1018          KM          The Natural time-area relation is used for this basin.
1019          KM
1020          KM      Time of Concentration for this sub-basin is based on the following:
1021          KM          An rainfall areal reduction factor of 1.000
1022          KM
1023          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1024          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1025          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1026          KM
1027          KM          L=   0.618 miles, S=  331 feet/mile, Kb= .15
1028          KM
1029          BA   0.059
1030          LG    0.25    0.35    4.35    0.41   35.00
1031          UC   0.367   0.416
1032          UA       0       3       5       8      12      20      43      75      90      96
1033          UA     100
              *

1034          KK   C530R
1035          KM      Hydrograph combine 528530 + 205C at C530 right branch
1036          HC       2
              *
```



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

1037          KK    205D
1038          KM   Sub-Basin   205D
```

```
1039          KM
1040          KM      The Clark Unit Hydrograph is used for this basin.
1041          KM          The Natural time-area relation is used for this basin.
1042          KM
1043          KM      Time of Concentration for this sub-basin is based on the following:
1044          KM          An rainfall areal reduction factor of 1.000
1045          KM
1046          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1047          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1048          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1049          KM
1050          KM          L=   1.020 miles, S=  361 feet/mile, Kb= .13
1051          KM
1052          BA   0.319
1053          LG    0.25    0.35    4.35    0.40   35.00
1054          UC   0.425   0.279
1055          UA       0       3       5       8      12      20      43      75      90      96
1056          UA     100
              *

1057          KK    205E
1058          KM   Sub-Basin   205E
1059          KM
1060          KM      The Clark Unit Hydrograph is used for this basin.
1061          KM          The Natural time-area relation is used for this basin.
1062          KM
1063          KM      Time of Concentration for this sub-basin is based on the following:
1064          KM          An rainfall areal reduction factor of 1.000
1065          KM
1066          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1067          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1068          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1069          KM
1070          KM          L=   1.357 miles, S=  358 feet/mile, Kb= .14
1071          KM
1072          BA   0.218
1073          LG    0.25    0.35    4.35    0.40   35.00
1074          UC   0.517   0.541
1075          UA       0       3       5       8      12      20      43      75      90      96
1076          UA     100
              *

1077          KK    C529
1078          KM      Hydrograph combine 205D + 205E at C529
1079          HC       2
              *
              * *
              * * NOTE:  529530 too short to route
              * *
              *
```

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

1080          KK    C530
1081          KM      Hydrograph combine C529 + C530R at C530
1082          HC       2
              *

1083          KK  530531
1084          KM      Normal depth channel route from C530 to C531
1085          KM      Source:  Hydrology Field Reconnaissance
1086          RS       3    FLOW      -1
1087          RC   0.060   0.059   0.060  2426.0  0.0404
1088          RX  1000.0  1035.0  1050.0  1060.0  1075.0  1081.0  1088.0  1094.0
1089          RY    95.9    86.5    86.2    83.1    84.0    90.2    95.6    99.3
              *

1090          KK    205F
1091          KM   Sub-Basin   205F
1092          KM
1093          KM      The Clark Unit Hydrograph is used for this basin.
1094          KM          The Natural time-area relation is used for this basin.
1095          KM
1096          KM      Time of Concentration for this sub-basin is based on the following:
1097          KM          An rainfall areal reduction factor of 1.000
1098          KM
1099          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1100          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1101          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1102          KM
1103          KM          L=   0.786 miles, S=  326 feet/mile, Kb= .14
1104          KM
1105          BA   0.161
1106          LG    0.25    0.35    4.35    0.41   35.00
1107          UC   0.400   0.312
1108          UA       0       3       5       8      12      20      43      75      90      96
```

```
1109          UA     100
              *

1110          KK    C531
1111          KM      Hydrograph combine 530531 + 205F at C531
1112          HC       2
              *

1113          KK  531532
1114          KM      Normal depth channel route from C531 to C532
1115          KM      Source:  Hydrology Field Reconnaissance
1116          RS       4    FLOW      -1
1117          RC   0.060   0.065   0.060  3391.0  0.0463
1118          RX  1000.0  1012.0  1022.0  1032.0  1050.0  1056.0  1068.0  1092.0
1119          RY    98.8    93.8    89.1    86.4    86.5    89.1    91.0    97.6
              *
1                                          HEC-1 INPUT                                                    PAGE 27

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


1120          KK    205G
1121          KM   Sub-Basin   205G
1122          KM
1123          KM      The Clark Unit Hydrograph is used for this basin.
1124          KM          The Natural time-area relation is used for this basin.
1125          KM
1126          KM      Time of Concentration for this sub-basin is based on the following:
1127          KM          An rainfall areal reduction factor of 1.000
1128          KM
1129          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1130          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1131          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1132          KM
1133          KM          L=   0.924 miles, S=  338 feet/mile, Kb= .13
1134          KM
1135          BA   0.185
1136          LG    0.24    0.35    4.50    0.40   31.23
1137          UC   0.417   0.343
1138          UA       0       3       5       8      12      20      43      75      90      96
1139          UA     100
              *

1140          KK   C532L
1141          KM      Hydrograph combine 531532 + 205G at C532 left branch
1142          HC       2
              *

1143          KK    205H
1144          KM   Sub-Basin   205H
1145          KM
1146          KM      The Clark Unit Hydrograph is used for this basin.
1147          KM          The Natural time-area relation is used for this basin.
1148          KM
1149          KM      Time of Concentration for this sub-basin is based on the following:
1150          KM          An rainfall areal reduction factor of 1.000
1151          KM
1152          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1153          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1154          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1155          KM
1156          KM          L=   1.464 miles, S=  325 feet/mile, Kb= .13
1157          KM
1158          BA   0.261
1159          LG    0.24    0.35    4.50    0.39   31.55
1160          UC   0.542   0.547
1161          UA       0       3       5       8      12      20      43      75      90      96
1162          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE 28

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


1163          KK    C532
1164          KM      Hydrograph combine C532L + 205H at C532
1165          HC       2
              *

1166          KK  532533
1167          KM      Normal depth channel route from C532 to C533
1168          KM      Source:  Hydrology Field Reconnaissance
1169          RS       2    FLOW      -1
1170          RC   0.060   0.045   0.060  1555.0  0.0283
1171          RX  1000.0  1020.0  1030.0  1048.0  1065.0  1077.0  1092.0  1119.0
1172          RY    98.0    89.4    88.1    85.6    85.9    92.2    93.8    97.0
              *
```

```
1173          KK    205I
1174          KM   Sub-Basin   205I
1175          KM
1176          KM      The Clark Unit Hydrograph is used for this basin.
1177          KM          The Natural time-area relation is used for this basin.
1178          KM
1179          KM      Time of Concentration for this sub-basin is based on the following:
1180          KM          An rainfall areal reduction factor of 1.000
1181          KM
1182          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1183          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1184          KM   .25 .25 .24 .24 .24 .24 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
1185          KM
1186          KM          L=   1.487 miles, S=  326 feet/mile, Kb= .11
1187          KM
1188          BA   0.354
1189          LG    0.20    0.37    5.20    0.28   15.18
1190          UC   0.488   0.414
1191          UA       0       3       5       8      12      20      43      75      90      96
1192          UA     100
              *

1193          KK    C533
1194          KM      Hydrograph combine 532533 + 205I at C533
1195          HC       2
              *

1196          KK  533534
1197          KM      Normal depth channel route from C533 to C534
1198          KM      Source:  Hydrology Field Reconnaissance
1199          RS      10    FLOW      -1
1200          RC   0.060   0.046   0.060  7145.0  0.0241
1201          RX  1000.0  1010.0  1060.0  1073.0  1160.0  1181.0  1223.0  1237.0
1202          RY    97.8    93.7    94.7    90.8    89.9    92.4    94.0    96.8
              *
```



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

1203          KK    205J
1204          KM   Sub-Basin   205J
1205          KM
1206          KM      The Clark Unit Hydrograph is used for this basin.
1207          KM          The Natural time-area relation is used for this basin.
1208          KM
1209          KM      Time of Concentration for this sub-basin is based on the following:
1210          KM          An rainfall areal reduction factor of 1.000
1211          KM
1212          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1213          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1214          KM   .24 .24 .24 .24 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
1215          KM
1216          KM          L=   1.633 miles, S=  243 feet/mile, Kb= .08
1217          KM
1218          BA   0.369
1219          LG    0.21    0.35    4.90    0.30    3.48
1220          UC   0.479   0.427
1221          UA       0       3       5       8      12      20      43      75      90      96
1222          UA     100
              *

1223          KK   C534R
1224          KM      Hydrograph combine 533534 + 205J at C534 right branch
1225          HC       2
              *

1226          KK    205K
1227          KM   Sub-Basin   205K
1228          KM
1229          KM      The Clark Unit Hydrograph is used for this basin.
1230          KM          The Natural time-area relation is used for this basin.
1231          KM
1232          KM      Time of Concentration for this sub-basin is based on the following:
1233          KM          An rainfall areal reduction factor of 1.000
1234          KM
1235          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1236          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1237          KM   .25 .25 .25 .24 .24 .24 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00 .00
1238          KM
1239          KM          L=   1.772 miles, S=  249 feet/mile, Kb= .10
1240          KM
1241          BA   0.245
1242          LG    0.16    0.38    5.60    0.22    1.54
1243          UC   0.579   0.710
1244          UA       0       3       5       8      12      20      43      75      90      96
1245          UA     100
              *
```

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

1246          KK    C534
1247          KM      Hydrograph combine C534R + 205K at C534
1248          HC       2
              *

1249          KK  534535
1250          KM      Normal depth channel route from C534 to C535
1251          KM      Source:  Hydrology Field Reconnaissance
1252          RS       4    FLOW      -1
1253          RC   0.065   0.046   0.065  2037.0  0.0221
1254          RX  1000.0  1010.0  1016.0  1075.0  1150.0  1162.0  1174.0  1182.0
1255          RY    97.1    93.4    91.6    89.6    86.9    90.8    92.2    92.3
              *

1256          KK    205L
1257          KM   Sub-Basin   205L
1258          KM
1259          KM      The Clark Unit Hydrograph is used for this basin.
1260          KM          The Natural time-area relation is used for this basin.
1261          KM
1262          KM      Time of Concentration for this sub-basin is based on the following:
1263          KM          An rainfall areal reduction factor of 1.000
1264          KM
1265          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1266          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1267          KM   .24 .24 .23 .23 .23 .23 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
1268          KM
1269          KM          L=   0.701 miles, S=  284 feet/mile, Kb= .09
1270          KM
1271          BA   0.118
1272          LG    0.19    0.36    5.00    0.29    0.00
1273          UC   0.317   0.263
1274          UA       0       3       5       8      12      20      43      75      90      96
1275          UA     100
              *

1276          KK    C535
1277          KM      Hydrograph combine 534535 + 205L at C535
1278          HC       2
              *

1279          KK  535536
1280          KM      Normal depth channel route from C535 to C536
1281          KM      Source:  HEC-2 Cross Section: HE 3.275
1282          RS       8    FLOW      -1
1283          RC   0.075   0.050   0.075  2975.0  0.0236
1284          RX  9852.8  9871.5  9957.7 10000.0 10015.6 10052.4 10142.4 10183.6
1285          RY  1911.6  1904.3  1906.9  1900.8  1900.8  1905.4  1905.2  1912.6
              *
```



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

1286          KK    205M
1287          KM   Sub-Basin   205M
1288          KM
1289          KM      The Clark Unit Hydrograph is used for this basin.
1290          KM          The Urban time-area relation is used for this basin.
1291          KM
1292          KM      Time of Concentration for this sub-basin is based on the following:
1293          KM          An rainfall areal reduction factor of 1.000
1294          KM
1295          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1296          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1297          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1298          KM
1299          KM          L=   0.839 miles, S=  230 feet/mile, Kb= .05
1300          KM
1301          BA   0.139
1302          LG    0.15    0.31    5.40    0.22   22.35
1303          UC   0.263   0.225
1304          UA       0       5      16      30      65      77      84      90      94      97
1305          UA     100
              *

1306          KK   C536R
1307          KM      Hydrograph combine 535536 + 205M at C536 right branch
1308          HC       2
              *

1309          KK    205N
1310          KM   Sub-Basin   205N
```

```
1311          KM
1312          KM      The Clark Unit Hydrograph is used for this basin.
1313          KM          The HEC-1 time-area relation is used for this basin.
1314          KM
1315          KM      Time of Concentration for this sub-basin is based on the following:
1316          KM          An rainfall areal reduction factor of 1.000
1317          KM
1318          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1319          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1320          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00 .00
1321          KM
1322          KM          L=   1.183 miles, S=  245 feet/mile, Kb= .10
1323          KM
1324          BA   0.156
1325          LG    0.15    0.39    5.70    0.21    0.80
1326          UC   0.450   0.503
              *

1327          KK   C536I
1328          KM      Hydrograph combine C536R + 205N at C536I
1329          HC       2
              *
              * *
              * * C536I is the total flow in Hesperus Wash upstream of Dam 36
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 32

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


1330          KK   C536O
1331          KM      Reservoir route at C536 (Dam 36).
1332          RS       1    ELEV  1852.1
1333          SV    0.00   14.41   35.94   67.64  108.61  158.07  218.14  276.00  280.00  289.00
1334          SV  298.02  308.00  317.00  327.00  337.00  346.95  358.00  374.00
1335          SE  1852.1  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0  1889.2  1889.6
1336          SE  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1337          SQ       0     108     168     211     245     276     301     320     338     347
1338          SQ     356     459     679     995    1408    1905    2477    3119    3826    5009
1339          SE  1852.1  1858.0  1862.0  1866.0  1870.0  1874.0  1878.0  1882.0  1886.0  1889.0
1340          SE  1889.2  1889.6  1890.0  1890.4  1890.8  1891.2  1891.6  1892.0  1892.4  1893.0
1341          RL                   0.17
              *
              * *
              * * End Basin 205.  Start Basin 206
              * *
              *

1342          KK  536537
1343          KM      Normal depth channel route from C536 to C537
1344          KM      Source:  HEC-2 Cross Section: HE 2.729
1345          RS       3    FLOW      -1
1346          RC   0.075   0.050   0.075  1480.0  0.0209
1347          RX  9900.0  9912.0  9947.3  9979.3 10025.0 10044.5 10051.0 10060.0
1348          RY  1846.5  1845.4  1843.1  1834.3  1833.6  1840.5  1843.3  1843.5
              *

1349          KK    206A
1350          KM   Sub-Basin   206A
1351          KM
1352          KM      The Clark Unit Hydrograph is used for this basin.
1353          KM          The Urban time-area relation is used for this basin.
1354          KM
1355          KM      Time of Concentration for this sub-basin is based on the following:
1356          KM          An rainfall areal reduction factor of 1.000
1357          KM
1358          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1359          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1360          KM   .27 .27 .27 .27 .27 .26 .03 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1361          KM
1362          KM          L=   0.631 miles, S=  256 feet/mile, Kb= .04
1363          KM
1364          BA   0.128
1365          LG    0.12    0.28    5.30    0.23   33.34
1366          UC   0.196   0.135
1367          UA       0       5      16      30      65      77      84      90      94      97
1368          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 33

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


1369          KK    C537
1370          KM      Hydrograph combine 536537 + 206A at C537
1371          HC       2
              *
```

```
1372          KK  537538
1373          KM      Normal depth channel route from C537 to C538
1374          KM      Source:  HEC-2 Cross Section: HE 2.493
1375          RS       3    FLOW      -1
1376          RC   0.075   0.050   0.075  2155.0  0.0210
1377          RX  9946.0  9957.6  9984.8  9994.8 10000.0 10036.5 10070.1 10107.3
1378          RY  1817.0  1815.2  1807.4  1803.2  1803.2  1805.5  1814.3  1815.4
              *

1379          KK   206B
1380          KM   Sub-Basin   206B
1381          KM
1382          KM      The Clark Unit Hydrograph is used for this basin.
1383          KM          The Urban time-area relation is used for this basin.
1384          KM
1385          KM      Time of Concentration for this sub-basin is based on the following:
1386          KM          An rainfall areal reduction factor of 1.000
1387          KM
1388          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1389          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1390          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1391          KM
1392          KM          L=   0.570 miles, S=  139 feet/mile, Kb= .03
1393          KM
1394          BA   0.095
1395          LG    0.10    0.26    5.20    0.23   41.42
1396          UC   0.192   0.144
1397          UA       0       5      16      30      65      77      84      90      94      97
1398          UA     100
              *

1399          KK   C538I
1400          KM      Hydrograph combine 537538 + 206B at C538I
1401          HC       2
              *

1402          KK   C538O
1403          KM      Reservoir route at C538.
1404          RS       1    ELEV  1778.2
1405          SV    0.00    0.10    0.57    1.69    2.60    2.70    2.90    3.00    3.20    3.38
1406          SV    3.60    3.90    4.10    4.30    4.60    5.10    5.60    6.10    7.10    8.10
1407          SE  1778.2  1782.0  1784.0  1786.0  1787.1  1787.2  1787.4  1787.6  1787.8  1788.0
1408          SE  1788.2  1788.4  1788.6  1788.8  1789.0  1789.4  1789.8  1790.2  1790.8  1791.4
1409          SQ       0      82     133     185     207     208     212     218     226     235
1410          SQ     249     265     286     310     338     400     482     611     942    1439
              *
1                                          HEC-1 INPUT                                          PAGE 34

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

1411          KK  538540
1412          KM      Normal depth channel route from C538 to C540
1413          KM      Source:  HEC-2 Cross Section: HE 1.990
1414          RS       6    FLOW      -1
1415          RC   0.075   0.050   0.075  2176.0  0.0210
1416          RX  9907.7  9931.8  9978.4 10000.0 10041.1 10056.9 10143.7 10164.9
1417          RY  1767.5  1754.9  1755.2  1753.2  1753.1  1755.1  1757.3  1769.4
              *

1418          KK   206C
1419          KM   Sub-Basin   206C
1420          KM
1421          KM      The Clark Unit Hydrograph is used for this basin.
1422          KM          The Urban time-area relation is used for this basin.
1423          KM
1424          KM      Time of Concentration for this sub-basin is based on the following:
1425          KM          An rainfall areal reduction factor of 1.000
1426          KM
1427          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1428          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1429          KM   .26 .26 .26 .25 .25 .25 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
1430          KM
1431          KM          L=   0.427 miles, S=  138 feet/mile, Kb= .04
1432          KM
1433          BA   0.024
1434          LG    0.11    0.26    4.35    0.36   28.55
1435          UC   0.196   0.258
1436          UA       0       5      16      30      65      77      84      90      94      97
1437          UA     100
              *

1438          KK   C540R
1439          KM      Hydrograph combine 538540 + 206C at C540 right branch
1440          HC       2
              *
```

```
1441          KK    206D
1442          KM   Sub-Basin   206D
1443          KM
1444          KM      The Clark Unit Hydrograph is used for this basin.
1445          KM          The Urban time-area relation is used for this basin.
1446          KM
1447          KM      Time of Concentration for this sub-basin is based on the following:
1448          KM          An rainfall areal reduction factor of 1.000
1449          KM
1450          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1451          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1452          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1453          KM
1454          KM          L=   0.531 miles, S=  236 feet/mile, Kb= .03
1455          KM
1456          BA   0.062
1457          LG    0.08    0.25    5.70    0.18   43.01
1458          UC   0.154   0.137
1                                          HEC-1 INPUT                                          PAGE 35

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

1459          UA       0       5      16      30      65      77      84      90      94      97
1460          UA     100
              *

1461          KK  539540
1462          KM      Normal depth channel route from C539 to C540
1463          KM      Source:  200 Scale Mapping
1464          RS       4    FLOW      -1
1465          RC   0.060   0.050   0.055  1872.0  0.0256
1466          RX  1000.0  1007.0  1016.0  1036.0  1046.0  1080.0  1150.0  1210.0
1467          RY  1750.0  1748.0  1746.0  1744.0  1744.0  1746.0  1748.0  1750.0
              *

1468          KK    206E
1469          KM   Sub-Basin   206E
1470          KM
1471          KM      The Clark Unit Hydrograph is used for this basin.
1472          KM          The Urban time-area relation is used for this basin.
1473          KM
1474          KM      Time of Concentration for this sub-basin is based on the following:
1475          KM          An rainfall areal reduction factor of 1.000
1476          KM
1477          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1478          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1479          KM   .26 .26 .26 .25 .25 .25 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
1480          KM
1481          KM          L=   0.343 miles, S=  175 feet/mile, Kb= .03
1482          KM
1483          BA   0.023
1484          LG    0.09    0.25    4.30    0.36   25.75
1485          UC   0.142   0.155
1486          UA       0       5      16      30      65      77      84      90      94      97
1487          UA     100
              *

1488          KK   C540L
1489          KM      Hydrograph combine 539540 + 206E at C540 left branch
1490          HC       2
              *

1491          KK    C540
1492          KM      Hydrograph combine C540R + C540L at C540
1493          HC       2
              *
              * *
              * * C540 is the end of Hesperus Wash and the start of Balboa Wash
              * *
              *

1494          KK  540541
1495          KM      Normal depth channel route from C540 to C541
1496          KM      Source:  HEC-2 Cross Section: BA 1.645
1497          RS      12    FLOW      -1
1498          RC   0.065   0.035   0.065  4207.0  0.0204
1499          RX  9960.8  9968.0  9975.1  9975.7  9993.2 10018.2 10297.5 10343.9
1                                          HEC-1 INPUT                                          PAGE 36

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

1500          RY  1725.2  1721.8  1718.4  1716.2  1716.4  1718.4  1719.8  1730.5
              *

1501          KK    206F
1502          KM   Sub-Basin   206F
1503          KM
1504          KM      The Clark Unit Hydrograph is used for this basin.
```

```
1505        KM          The Urban time-area relation is used for this basin.
1506        KM
1507        KM      Time of Concentration for this sub-basin is based on the following:
1508        KM          An rainfall areal reduction factor of 1.000
1509        KM
1510        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1511        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1512        KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1513        KM
1514        KM          L=   0.975 miles, S=  217 feet/mile, Kb= .03
1515        KM
1516        BA   0.157
1517        LG    0.09    0.25    4.60    0.30   24.97
1518        UC   0.221   0.195
1519        UA       0       5      16      30      65      77      84      90      94      97
1520        UA     100
            *

1521        KK    C541
1522        KM      Hydrograph combine 540541 + 206F at C541
1523        HC       2
            *

1524        KK  541548
1525        KM      Normal depth channel route from C541 to C548
1526        KM      Source:  HEC-2 Cross Section: BA 0.905
1527        RS       2    FLOW      -1
1528        RC   0.060   0.045   0.060  1138.0  0.0316
1529        RX  9761.7  9936.7  9955.2  9986.9  9994.7 10039.2 10065.3 10066.0
1530        RY  1647.4  1644.1  1638.1  1637.3  1636.2  1637.5  1652.9  1653.0
            *

1531        KK    206G
1532        KM   Sub-Basin   206G
1533        KM
1534        KM      The Clark Unit Hydrograph is used for this basin.
1535        KM          The Urban time-area relation is used for this basin.
1536        KM
1537        KM      Time of Concentration for this sub-basin is based on the following:
1538        KM          An rainfall areal reduction factor of 1.000
1539        KM
1540        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1541        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1542        KM   .27 .27 .27 .27 .27 .26 .03 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1543        KM
1544        KM          L=   0.950 miles, S=  132 feet/mile, Kb= .03
1545        KM
1546        BA   0.089
```



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

1547        LG    0.11    0.26    5.20    0.23   29.86
1548        UC   0.254   0.307
1549        UA       0       5      16      30      65      77      84      90      94      97
1550        UA     100
            *

1551        KK  BB523R
1552        KM      Retrieve previously diverted hydrograph at C523 in the right branch.
1553        DR   D523R
            *

1554        KK  523548
1555        KM      Normal depth channel route from C523 to C548
1556        KM      Source:  200 Scale Mapping
1557        RS      15    FLOW      -1
1558        RC   0.040   0.018   0.040  2680.0  0.0189
1559        RX  1000.0  1040.0  1090.0  1130.0  1170.0  1171.2  1181.2  1196.2
1560        RY  1646.0  1645.0  1643.8  1644.7  1644.0  1644.4  1646.0  1648.0
            *

1561        KK   C548L
1562        KM      Hydrograph combine 541548 + 206G + BB523R at C548 left branch
1563        HC       3    3.72
            *
            * *
            * * C548L is the total flow in Balboa Wash above confluence with Oxford Wash
            * *
            *

1564        KK    206H
1565        KM   Sub-Basin   206H
1566        KM
1567        KM      The Clark Unit Hydrograph is used for this basin.
1568        KM          The Urban time-area relation is used for this basin.
1569        KM
1570        KM      Time of Concentration for this sub-basin is based on the following:
```

```
1571          KM          An rainfall areal reduction factor of 1.000
1572          KM
1573          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1574          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1575          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1576          KM
1577          KM          L=   0.515 miles, S=  183 feet/mile, Kb= .03
1578          KM
1579          BA   0.059
1580          LG    0.08    0.25    5.70    0.18   36.29
1581          UC   0.167   0.150
1582          UA       0       5      16      30      65      77      84      90      94      97
1583          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 38

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


1584          KK  542543
1585          KM      Normal depth channel route from C542 to C543
1586          KM      Source:  HEC-2 Cross Section: OX 0.931
1587          RS       2    FLOW      -1
1588          RC   0.075   0.040   0.050   686.0  0.0066
1589          RX  9846.9  9881.6  9967.5  9983.2 10010.0 10025.0 10033.8 10039.6
1590          RY  1732.3  1723.5  1724.1  1717.8  1717.0  1724.0  1728.2  1730.7
              *

1591          KK    206I
1592          KM   Sub-Basin   206I
1593          KM
1594          KM      The Clark Unit Hydrograph is used for this basin.
1595          KM          The Urban time-area relation is used for this basin.
1596          KM
1597          KM      Time of Concentration for this sub-basin is based on the following:
1598          KM          An rainfall areal reduction factor of 1.000
1599          KM
1600          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1601          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1602          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1603          KM
1604          KM          L=   0.232 miles, S=  286 feet/mile, Kb= .03
1605          KM
1606          BA   0.021
1607          LG    0.08    0.25    5.70    0.18   34.78
1608          UC   0.096   0.077
1609          UA       0       5      16      30      65      77      84      90      94      97
1610          UA     100
              *

1611          KK    C543
1612          KM      Hydrograph combine 542543 + 206I at C543
1613          HC       2
              *

1614          KK   D543L
1615          KM      Hydrograph diversion at C543.  Main flow continues in the left branch.
1616          KM      Diverted flow is in the right branch.
1617          DT   D543R
1618          DI       0      38      45      50      65      85      97     122     141     162
1619          DI     194     350     395     432     475     522     570     612
1620          DQ       0      38      45      50      65      85      97     122     141     162
1621          DQ     194     350     395     425     460     500     540     575
              *

1622          KK  543544
1623          KM      Normal depth channel route from C543 to C544
1624          KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1625          RS       1    FLOW      -1
1626          RC   0.040   0.018   0.040   597.0  0.0277
1627          RX  1000.0  1020.0  1045.0  1075.0  1105.0  1106.2  1146.2  1266.2
1628          RY  1720.0  1718.0  1712.0  1712.3  1712.0  1712.4  1714.0  1720.0
              *
1                                          HEC-1 INPUT                                          PAGE 39

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


1629          KK    206K
1630          KM   Sub-Basin   206K
1631          KM
1632          KM      The Clark Unit Hydrograph is used for this basin.
1633          KM          The Urban time-area relation is used for this basin.
1634          KM
1635          KM      Time of Concentration for this sub-basin is based on the following:
1636          KM          An rainfall areal reduction factor of 1.000
1637          KM
1638          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```

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1639          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1640          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1641          KM
1642          KM          L=   0.615 miles, S=  255 feet/mile, Kb= .03
1643          KM
1644          BA   0.056
1645          LG    0.09    0.25    5.70    0.18   25.80
1646          UC   0.167   0.178
1647          UA       0       5      16      30      65      77      84      90      94      97
1648          UA     100
              *

1649          KK    C544
1650          KM      Hydrograph combine 543544 + 206K at C544
1651          HC       2
              *

1652          KK  544545
1653          KM      Normal depth channel route from C544 to C545
1654          KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1655          RS       2    FLOW      -1
1656          RC   0.040   0.018   0.040   985.0  0.0234
1657          RX  1000.0  1008.0  1018.0  1048.0  1078.0  1079.2  1089.2  1109.2
1658          RY  1690.0  1688.0  1686.0  1686.3  1686.0  1686.4  1688.0  1689.0
              *

1659          KK   D545L
1660          KM      Hydrograph diversion at C545.  Main flow continues in the left branch.
1661          KM      Diverted flow is in the right branch.
1662          DT   D545R
1663          DI       0      50     100     200     400     800    1600    3200    5000
1664          DQ       0      25      50     100     200     400     800    1600    2500
              *

1665          KK  545546
1666          KM      Normal depth channel route from C545 to C546
1667          KM      Source:  200 Scale Mapping & Hydrology Field Reconnaissance
1668          RS       1    FLOW      -1
1669          RC   0.040   0.018   0.040   428.0  0.0164
1670          RX  1000.0  1020.0  1050.0  1080.0  1110.0  1111.2  1121.2  1151.2
1671          RY  1680.0  1678.0  1676.0  1676.3  1676.0  1676.4  1678.0  1678.5
              *
1                                          HEC-1 INPUT                                          PAGE 40

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


1672          KK    206L
1673          KM   Sub-Basin   206L
1674          KM
1675          KM      The Clark Unit Hydrograph is used for this basin.
1676          KM          The Urban time-area relation is used for this basin.
1677          KM
1678          KM      Time of Concentration for this sub-basin is based on the following:
1679          KM          An rainfall areal reduction factor of 1.000
1680          KM
1681          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1682          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1683          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1684          KM
1685          KM          L=   0.546 miles, S=  231 feet/mile, Kb= .03
1686          KM
1687          BA   0.060
1688          LG    0.09    0.25    5.80    0.18   25.01
1689          UC   0.158   0.147
1690          UA       0       5      16      30      65      77      84      90      94      97
1691          UA     100
              *

1692          KK    C546
1693          KM      Hydrograph combine 545546 + 206L at C546
1694          HC       2
              *

1695          KK  546547
1696          KM      Normal depth channel route from C546 to C547
1697          KM      Source:  200 Scale Mapping
1698          RS       1    FLOW      -1
1699          RC   0.040   0.018   0.040   749.0  0.0327
1700          RX  1000.0  1005.0  1011.0  1013.0  1029.0  1047.0  1052.0  1057.0
1701          RY  1666.0  1664.0  1662.0  1661.9  1662.4  1662.0  1664.0  1666.0
              *

1702          KK  BB543R
1703          KM      Retrieve previously diverted hydrograph at C543 in the right branch.
1704          DR   D543R
              *
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```
1705          KK  543547
1706          KM      Normal depth channel route from C543 to C547
1707          KM      Source:  HEC-2 Cross Section: OX 0.638
1708          RS       4    FLOW      -1
1709          RC   0.075   0.040   0.050  2395.0  0.0278
1710          RX  9720.9  9769.0  9970.7  9985.5 10020.0 10038.1 10097.0 10102.0
1711          RY  1690.4  1681.2  1683.1  1676.2  1677.0  1687.1  1687.4  1690.0
              *
1                                        HEC-1 INPUT                                                    PAGE 41

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


1712          KK  BB545R
1713          KM      Retrieve previously diverted hydrograph at C545 in the right branch.
1714          DR   D545R
              *

1715          KK  545547
1716          KM      Normal depth channel route from C545 to C547
1717          KM      Source:  HEC-2 Cross Section: OX 0.542
1718          RS       3    FLOW      -1
1719          RC   0.075   0.040   0.050  1216.0  0.0259
1720          RX  9668.2  9778.4  9957.9  9986.0 10012.7 10043.6 10067.6 10163.4
1721          RY  1674.1  1674.1  1673.3  1662.1  1662.2  1680.4  1680.9  1681.1
              *

1722          KK    206J
1723          KM   Sub-Basin   206J
1724          KM
1725          KM      The Clark Unit Hydrograph is used for this basin.
1726          KM          The Urban time-area relation is used for this basin.
1727          KM
1728          KM      Time of Concentration for this sub-basin is based on the following:
1729          KM          An rainfall areal reduction factor of 1.000
1730          KM
1731          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1732          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1733          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
1734          KM
1735          KM          L=   0.502 miles, S=  214 feet/mile, Kb= .03
1736          KM
1737          BA   0.060
1738          LG    0.08    0.25    5.70    0.18   44.51
1739          UC   0.154   0.133
1740          UA       0       5      16      30      65      77      84      90      94      97
1741          UA     100
              *

1742          KK    C547
1743          KM      Hydrograph combine 546547 + 543547 + 545547 + 206J at C547
1744          HC       4    0.26
              *

1745          KK  547548
1746          KM      Normal depth channel route from C547 to C548
1747          KM      Source:  HEC-2 Cross Section: OX 0.235
1748          RS       3    FLOW      -1
1749          RC   0.075   0.040   0.050  2165.0  0.0182
1750          RX  9910.0  9911.4  9968.5  9987.6 10017.4 10032.3 10077.4 10080.0
1751          RY  1639.0  1638.9  1637.9  1635.7  1635.8  1641.7  1642.9  1643.0
              *
1                                        HEC-1 INPUT                                                    PAGE 42

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


1752          KK    206M
1753          KM   Sub-Basin   206M
1754          KM
1755          KM      The Clark Unit Hydrograph is used for this basin.
1756          KM          The Urban time-area relation is used for this basin.
1757          KM
1758          KM      Time of Concentration for this sub-basin is based on the following:
1759          KM          An rainfall areal reduction factor of 1.000
1760          KM
1761          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1762          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1763          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
1764          KM
1765          KM          L=   0.465 miles, S=  166 feet/mile, Kb= .03
1766          KM
1767          BA   0.060
1768          LG    0.08    0.25    5.20    0.23   46.18
1769          UC   0.163   0.133
1770          UA       0       5      16      30      65      77      84      90      94      97
1771          UA     100
              *
```

```
1772          KK   C548R
1773          KM      Hydrograph combine 547548 + 206M at C548 right branch
1774          HC       2
              *
              * *
              * * C548R is the total flow in Oxford Wash above confluence with Balboa Wash
              * *
              *

1775          KK    C548
1776          KM      Hydrograph combine C548L + C548R at C548
1777          HC       2
              *
              * *
              * * C548 is the total flow in Balboa Wash below the confluence of Balboa Wash
              * * and Oxford Wash
              * *
              *

1778          KK  548549
1779          KM      Normal depth channel route from C548 to C549
1780          KM      Source:  HEC-2 Cross Section: BA0.246
1781          RS       9    FLOW      -1
1782          RC   0.070   0.080   0.070  3258.0  0.0172
1783          RX  9889.1  9912.5  9940.2  9960.0 10026.1 10046.8 10067.8 10079.3
1784          RY  1586.2  1585.7  1577.5  1573.6  1573.2  1579.5  1585.7  1586.2
              *
1                                        HEC-1 INPUT                                                    PAGE 43

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


1785          KK    206N
1786          KM   Sub-Basin   206N
1787          KM
1788          KM      The Clark Unit Hydrograph is used for this basin.
1789          KM          The Urban time-area relation is used for this basin.
1790          KM
1791          KM      Time of Concentration for this sub-basin is based on the following:
1792          KM          An rainfall areal reduction factor of 1.000
1793          KM
1794          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1795          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1796          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
1797          KM
1798          KM          L=   0.767 miles, S=  120 feet/mile, Kb= .03
1799          KM
1800          BA   0.152
1801          LG    0.11    0.27    4.65    0.29   52.66
1802          UC   0.233   0.174
1803          UA       0       5      16      30      65      77      84      90      94      97
1804          UA     100
              *

1805          KK   C549L
1806          KM      Hydrograph combine 548549 + 206N at C549 left branch
1807          HC       2
              *
              * *
              * * C549L is the total flow in Balboa Wash above confluence with Ashbrook Wash
              * *
              * * End Basin 206.  Start Basin 207
              * *
              *

1808          KK    207A
1809          KM   Sub-Basin   207A
1810          KM
1811          KM      The Clark Unit Hydrograph is used for this basin.
1812          KM          The Natural time-area relation is used for this basin.
1813          KM
1814          KM      Time of Concentration for this sub-basin is based on the following:
1815          KM          An rainfall areal reduction factor of 1.000
1816          KM
1817          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1818          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1819          KM   .25 .25 .24 .24 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1820          KM
1821          KM          L=   1.356 miles, S=  351 feet/mile, Kb= .13
1822          KM
1823          BA   0.256
1824          LG    0.24    0.35    4.55    0.37   29.81
1825          UC   0.496   0.471
1826          UA       0       3       5       8      12      20      43      75      90      96
1827          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 44
```

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

1828          KK    207B
1829          KM   Sub-Basin   207B
1830          KM
1831          KM      The Clark Unit Hydrograph is used for this basin.
1832          KM          The Natural time-area relation is used for this basin.
1833          KM
1834          KM      Time of Concentration for this sub-basin is based on the following:
1835          KM          An rainfall areal reduction factor of 1.000
1836          KM
1837          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1838          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1839          KM   .25 .25 .25 .25 .24 .24 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1840          KM
1841          KM          L=   1.312 miles, S=  359 feet/mile, Kb= .13
1842          KM
1843          BA   0.208
1844          LG    0.24    0.35    4.45    0.38   32.42
1845          UC   0.483   0.502
1846          UA       0       3       5       8      12      20      43      75      90      96
1847          UA     100
              *

1848          KK    C550
1849          KM      Hydrograph combine 207A + 207B at C550
1850          HC       2
              *

1851          KK  550552
1852          KM      Normal depth channel route from C550 to C552
1853          KM      Source:  Hydrology Field Reconnaissance
1854          RS       4    FLOW      -1
1855          RC   0.050   0.045   0.050  4410.0  0.0528
1856          RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
1857          RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
              *

1858          KK    207C
1859          KM   Sub-Basin   207C
1860          KM
1861          KM      The Clark Unit Hydrograph is used for this basin.
1862          KM          The Natural time-area relation is used for this basin.
1863          KM
1864          KM      Time of Concentration for this sub-basin is based on the following:
1865          KM          An rainfall areal reduction factor of 1.000
1866          KM
1867          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1868          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1869          KM   .25 .25 .25 .25 .24 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1870          KM
1871          KM          L=   0.974 miles, S=  297 feet/mile, Kb= .11
1872          KM
1873          BA   0.173
1874          LG    0.19    0.37    5.30    0.26   13.69
1875          UC   0.404   0.360
```



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

1876          UA       0       3       5       8      12      20      43      75      90      96
1877          UA     100
              *

1878          KK   C552L
1879          KM      Hydrograph combine 550552 + 207C at C552 left branch
1880          HC       2
              *

1881          KK    207D
1882          KM   Sub-Basin   207D
1883          KM
1884          KM      The Clark Unit Hydrograph is used for this basin.
1885          KM          The HEC-1 time-area relation is used for this basin.
1886          KM
1887          KM      Time of Concentration for this sub-basin is based on the following:
1888          KM          An rainfall areal reduction factor of 1.000
1889          KM
1890          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1891          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1892          KM   .26 .26 .26 .26 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
1893          KM
1894          KM          L=   1.036 miles, S=  373 feet/mile, Kb= .09
1895          KM
1896          BA   0.197
1897          LG    0.18    0.31    4.35    0.38   41.30
1898          UC   0.346   0.296
```

```
*

KK  551552
KM      Normal depth channel route from C551 to C552
KM      Source:  100 Scale 4' CI Mapping
RS       5    FLOW      -1
RC   0.050   0.045   0.050  4410.0  0.0528
RX  1000.0  1005.0  1018.0  1028.0  1038.0  1043.0  1048.0  1055.0
RY  2188.0  2184.0  2180.0  2176.0  2176.0  2180.0  2184.0  2188.0
*

KK    207E
KM   Sub-Basin   207E
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The Urban time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
KM
KM          L=   1.366 miles, S=  315 feet/mile, Kb= .07
KM
BA   0.157
LG    0.15    0.29    4.35    0.38   44.41
```



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

UC   0.363   0.443
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   C552R
KM      Hydrograph combine 551552 + 207E at C552 right branch
HC       2
*

KK    C552
KM      Hydrograph combine C552L + C552R at C552
HC       2
*

KK  552553
KM      Normal depth channel route from C552 to C553
KM      Source:  Hydrology Field Reconnaissance
RS       2    FLOW      -1
RC   0.060   0.050   0.060  1336.0  0.0337
RX   993.0  1010.0  1055.0  1061.0  1082.0  1096.0  1105.0  1127.0
RY    98.0    94.3    94.4    94.0    94.3    94.5    96.2    98.0
*

KK    207F
KM   Sub-Basin   207F
KM
KM      The Clark Unit Hydrograph is used for this basin.
KM          The HEC-1 time-area relation is used for this basin.
KM
KM      Time of Concentration for this sub-basin is based on the following:
KM          An rainfall areal reduction factor of 1.000
KM
KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
KM   .26 .25 .25 .25 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
KM
KM          L=   0.794 miles, S=  296 feet/mile, Kb= .11
KM
BA   0.126
LG    0.20    0.32    4.40    0.39   38.35
UC   0.363   0.325
*

KK    C553
KM      Hydrograph combine 552553 + 207F at C553
HC       2
*

KK  553556
KM      Normal depth channel route from C553 to C556
KM      Source:  HEC-2 Cross Section: AS 6.118
RS       2    FLOW      -1
RC   0.055   0.045   0.060  2393.0  0.0255
RX  9904.4  9945.9  9974.0  9987.4  9994.9 10008.6 10027.0 10045.3
```

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

1966          RY  2004.2  2003.9  1991.7  1990.4  1987.9  1988.2  1997.5  2006.7
              *

1967          KK    207G
1968          KM   Sub-Basin   207G
1969          KM
1970          KM      The Clark Unit Hydrograph is used for this basin.
1971          KM          The HEC-1 time-area relation is used for this basin.
1972          KM
1973          KM      Time of Concentration for this sub-basin is based on the following:
1974          KM          An rainfall areal reduction factor of 1.000
1975          KM
1976          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1977          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1978          KM   .25 .25 .25 .25 .25 .24 .01 .01 .01 .01 .01 .01 .00 .00 .00 .00 .00 .00
1979          KM
1980          KM          L=   1.467 miles, S=  198 feet/mile, Kb= .10
1981          KM
1982          BA   0.236
1983          LG    0.17    0.37    5.60    0.23    9.10
1984          UC   0.554   0.594
              *

1985          KK   C556L
1986          KM      Hydrograph combine 553556 + 207G at C556 left branch
1987          HC       2
              *

1988          KK    207H
1989          KM   Sub-Basin   207H
1990          KM
1991          KM      The Clark Unit Hydrograph is used for this basin.
1992          KM          The Urban time-area relation is used for this basin.
1993          KM
1994          KM      Time of Concentration for this sub-basin is based on the following:
1995          KM          An rainfall areal reduction factor of 1.000
1996          KM
1997          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
1998          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
1999          KM   .27 .27 .27 .26 .26 .26 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02
2000          KM
2001          KM          L=   1.044 miles, S=  371 feet/mile, Kb= .05
2002          KM
2003          BA   0.124
2004          LG    0.13    0.27    4.35    0.36   46.78
2005          UC   0.250   0.270
2006          UA       0       5      16      30      65      77      84      90      94      97
2007          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 48

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


2008          KK  554555
2009          KM      Normal depth channel route from C554 to C555
2010          KM      Source:  100 Scale 4' CI Mapping
2011          RS       3    FLOW      -1
2012          RC   0.050   0.045   0.050  2497.0  0.0649
2013          RX  1000.0  1025.0  1080.0  1100.0  1120.0  1130.0  1140.0  1155.0
2014          RY  2192.0  2188.0  2186.0  2184.0  2184.0  2188.0  2192.0  2194.0
              *

2015          KK    207I
2016          KM   Sub-Basin   207I
2017          KM
2018          KM      The Clark Unit Hydrograph is used for this basin.
2019          KM          The Urban time-area relation is used for this basin.
2020          KM
2021          KM      Time of Concentration for this sub-basin is based on the following:
2022          KM          An rainfall areal reduction factor of 1.000
2023          KM
2024          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2025          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2026          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2027          KM
2028          KM          L=   0.810 miles, S=  320 feet/mile, Kb= .03
2029          KM
2030          BA   0.073
2031          LG    0.09    0.25    4.40    0.35   50.00
2032          UC   0.175   0.201
2033          UA       0       5      16      30      65      77      84      90      94      97
2034          UA     100
              *

2035          KK    C555
```

```
2036          KM      Hydrograph combine 554555 + 207I at C555
2037          HC       2
              *

2038          KK  555556
2039          KM      Normal depth channel route from C555 to C556
2040          KM      Source:  200 Scale Mapping
2041          RS       7    FLOW      -1
2042          RC   0.050   0.050   0.055  3353.0  0.0480
2043          RX  1000.0  1050.0  1090.0  1095.0  1130.0  1150.0  1160.0  1185.0
2044          RY  2020.0  2016.5  2006.0  2004.0  2005.0  2006.0  2010.0  2020.0
              *

2045          KK    207J
2046          KM   Sub-Basin   207J
2047          KM
2048          KM      The Clark Unit Hydrograph is used for this basin.
2049          KM          The Urban time-area relation is used for this basin.
2050          KM
2051          KM      Time of Concentration for this sub-basin is based on the following:
2052          KM          An rainfall areal reduction factor of 1.000
2053          KM
```



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

2054          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2055          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2056          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .02 .02 .02 .02 .02 .02 .02 .02 .02
2057          KM
2058          KM          L=   0.714 miles, S=  248 feet/mile, Kb= .04
2059          KM
2060          BA   0.093
2061          LG    0.10    0.26    4.40    0.34   48.61
2062          UC   0.208   0.192
2063          UA       0       5      16      30      65      77      84      90      94      97
2064          UA     100
              *

2065          KK   C556R
2066          KM      Hydrograph combine 555556 + 207J at C556 right branch
2067          HC       2
              *

2068          KK    C556
2069          KM      Hydrograph combine C556L + C556R at C556
2070          HC       2
              *

2071          KK  556557
2072          KM      Normal depth channel route from C556 to C557
2073          KM      Source:  HEC-2 Cross Section: AS 5.765
2074          RS       3    FLOW      -1
2075          RC   0.055   0.045   0.060  2298.0  0.0260
2076          RX  9957.1  9995.6 10000.0 10010.0 10040.4 10084.4 10104.2 10180.7
2077          RY  1949.3  1935.9  1935.8  1936.7  1936.7  1938.2  1947.1  1949.9
              *

2078          KK    207K
2079          KM   Sub-Basin   207K
2080          KM
2081          KM      The Clark Unit Hydrograph is used for this basin.
2082          KM          The Urban time-area relation is used for this basin.
2083          KM
2084          KM      Time of Concentration for this sub-basin is based on the following:
2085          KM          An rainfall areal reduction factor of 1.000
2086          KM
2087          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2088          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2089          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2090          KM
2091          KM          L=   0.859 miles, S=  294 feet/mile, Kb= .05
2092          KM
2093          BA   0.130
2094          LG    0.11    0.27    5.40    0.21   37.19
2095          UC   0.242   0.217
2096          UA       0       5      16      30      65      77      84      90      94      97
2097          UA     100
              *
```



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

2098          KK   C557R
2099          KM      Hydrograph combine 556557 + 207K at C557
2100          HC       2
              *
```

```
2101          KK    207L
2102          KM   Sub-Basin   207L
2103          KM
2104          KM      The Clark Unit Hydrograph is used for this basin.
2105          KM          The Urban time-area relation is used for this basin.
2106          KM
2107          KM      Time of Concentration for this sub-basin is based on the following:
2108          KM          An rainfall areal reduction factor of 1.000
2109          KM
2110          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2111          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2112          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2113          KM
2114          KM          L=   0.667 miles, S=  236 feet/mile, Kb= .04
2115          KM
2116          BA   0.080
2117          LG    0.09    0.26    6.00    0.16   33.25
2118          UC   0.204   0.193
2119          UA       0       5      16      30      65      77      84      90      94      97
2120          UA     100
              *

2121          KK    C557
2122          KM      Hydrograph combine C557R + 207L at C557
2123          HC       2
              *
              * *
              * * C557 is the total flow in Ashbrook Wash downstream of Golden Eagle Blvd.
              * * at fire station
              * *
              *

2124          KK  557558
2125          KM      Normal depth channel route from C557 to C558
2126          KM      Source:  HEC-2 Cross Section: AS 5.254
2127          RS       3    FLOW      -1
2128          RC   0.055   0.045   0.060  2652.0  0.0242
2129          RX  9662.0  9965.0  9967.0 10000.0 10072.0 10095.0 10122.0 10175.0
2130          RY  1890.0  1885.9  1884.0  1878.0  1880.0  1886.0  1888.0  1890.0
              *

2131          KK    207M
2132          KM   Sub-Basin   207M
2133          KM
2134          KM      The Clark Unit Hydrograph is used for this basin.
2135          KM          The Urban time-area relation is used for this basin.
2136          KM
2137          KM      Time of Concentration for this sub-basin is based on the following:
2138          KM          An rainfall areal reduction factor of 1.000
```



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

2139          KM
2140          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2141          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2142          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2143          KM
2144          KM          L=   0.636 miles, S=  295 feet/mile, Kb= .04
2145          KM
2146          BA   0.116
2147          LG    0.11    0.28    6.00    0.17   23.09
2148          UC   0.188   0.137
2149          UA       0       5      16      30      65      77      84      90      94      97
2150          UA     100
              *

2151          KK    C558
2152          KM      Hydrograph combine 557558 + 207M at C558
2153          HC       2
              *

2154          KK  558560
2155          KM      Normal depth channel route from C558 to C560
2156          KM      Source:  HEC-2 Cross Section: AS 4.839
2157          RS       2    FLOW      -1
2158          RC   0.055   0.045   0.060  1986.0  0.0185
2159          RX  9777.0  9897.0  9933.1  9970.6 10042.2 10063.4 10121.6 10204.9
2160          RY  1840.3  1837.3  1836.3  1824.3  1822.7  1828.5  1827.7  1842.7
              *

2161          KK    207O
2162          KM   Sub-Basin   207O
2163          KM
2164          KM      The Clark Unit Hydrograph is used for this basin.
2165          KM          The Urban time-area relation is used for this basin.
2166          KM
```

```
2167          KM      Time of Concentration for this sub-basin is based on the following:
2168          KM          An rainfall areal reduction factor of 1.000
2169          KM
2170          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2171          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2172          KM   .27 .27 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2173          KM
2174          KM          L=   0.643 miles, S=  275 feet/mile, Kb= .04
2175          KM
2176          BA   0.131
2177          LG    0.13    0.29    5.60    0.21   23.47
2178          UC   0.192   0.133
2179          UA       0       5      16      30      65      77      84      90      94      97
2180          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 52

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


2181          KK   C560R
2182          KM      Hydrograph combine 558560 + 207O at C560 right branch
2183          HC       2
              *

2184          KK    207N
2185          KM   Sub-Basin   207N
2186          KM
2187          KM      The Clark Unit Hydrograph is used for this basin.
2188          KM          The Urban time-area relation is used for this basin.
2189          KM
2190          KM      Time of Concentration for this sub-basin is based on the following:
2191          KM          An rainfall areal reduction factor of 1.000
2192          KM
2193          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2194          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2195          KM   .27 .27 .27 .27 .27 .26 .03 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2196          KM
2197          KM          L=   0.431 miles, S=  190 feet/mile, Kb= .03
2198          KM
2199          BA   0.049
2200          LG    0.09    0.25    4.80    0.27   35.87
2201          UC   0.150   0.128
2202          UA       0       5      16      30      65      77      84      90      94      97
2203          UA     100
              *

2204          KK  559560
2205          KM      Normal depth channel route from C559 to C560
2206          KM      Source:  200 Scale Mapping
2207          RS       4    FLOW      -1
2208          RC   0.050   0.045   0.050  2170.0  0.0230
2209          RX  1000.0  1050.0  1080.0  1100.0  1110.0  1140.0  1170.0  1205.0
2210          RY  1854.0  1852.0  1850.0  1848.0  1848.0  1850.0  1852.0  1854.0
              *

2211          KK   C560I
2212          KM      Hydrograph combine C560R + 559560 at C560I
2213          HC       2
              *
              * *
              * * C560I is the total flow in Ashbrook Wash upstream of Dam 6
              * *
              *

2214          KK   C560O
2215          KM      Reservoir route at C560 (Dam 6).
2216          RS       1    ELEV  1808.8
2217          SV    0.00    1.71   14.81   34.65   60.43   93.47  135.64  183.00  186.00  191.44
2218          SV  197.00  205.00  212.00  219.00  226.40  234.00  242.00  246.00  250.00  254.00
2219          SE  1808.8  1812.0  1816.0  1820.0  1824.0  1828.0  1832.0  1835.4  1835.6  1836.0
2220          SE  1836.4  1836.8  1837.2  1837.6  1838.0  1838.4  1838.8  1839.0  1839.2  1839.4
2221          SQ       0      57     136     184     224     257     285     303     319     440
2222          SQ     691    1055    1500    2018    2600    3243    3944    4315    4699    5097
1                                          HEC-1 INPUT                                          PAGE 53

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

2223          RL                   0.40
              *
              * *
              * * End Basin 207.  Start Basin 210 temporarily
              * *
              *

2224          KK  560585
2225          KM      Normal depth channel route from C560 to C585
2226          KM      Source:  HEC-2 Cross Section: AS4.311
```

```
2227          RS       6    FLOW      -1
2228          RC   0.050   0.025   0.050  3127.0  0.0272
2229          RX  9850.4  9950.4  9974.4 10000.0 10035.5 10059.8 10080.4 10104.4
2230          RY  1772.0  1771.7  1765.3  1765.3  1765.9  1768.5  1773.3  1773.7
              *

2231          KK    210A
2232          KM   Sub-Basin   210A
2233          KM
2234          KM      The Clark Unit Hydrograph is used for this basin.
2235          KM          The Urban time-area relation is used for this basin.
2236          KM
2237          KM      Time of Concentration for this sub-basin is based on the following:
2238          KM          An rainfall areal reduction factor of 1.000
2239          KM
2240          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2241          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2242          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2243          KM
2244          KM          L=   0.631 miles, S=  233 feet/mile, Kb= .03
2245          KM
2246          BA   0.123
2247          LG    0.09    0.25    5.00    0.24   16.65
2248          UC   0.175   0.122
2249          UA       0       5      16      30      65      77      84      90      94      97
2250          UA     100
              *

2251          KK    C585
2252          KM      Hydrograph combine 560585 + 210A at C585
2253          HC       2
              *
              * *
              * * C585 is the total flow in Ashbrook Wash at Golden Eagle Blvd. just
              * * upstream of DAM 4
              * *
              * * Temporarily stop Basin 210.  Start Basin 208
              * *
              * * Start Bristol Wash
              * *
              *
```



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

2254          KK    208A
2255          KM   Sub-Basin   208A
2256          KM
2257          KM      The Clark Unit Hydrograph is used for this basin.
2258          KM          The Urban time-area relation is used for this basin.
2259          KM
2260          KM      Time of Concentration for this sub-basin is based on the following:
2261          KM          An rainfall areal reduction factor of 1.000
2262          KM
2263          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2264          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2265          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2266          KM
2267          KM          L=   0.626 miles, S=  366 feet/mile, Kb= .03
2268          KM
2269          BA   0.139
2270          LG    0.09    0.25    4.35    0.35   49.86
2271          UC   0.150   0.096
2272          UA       0       5      16      30      65      77      84      90      94      97
2273          UA     100
              *

2274          KK  561563
2275          KM      Normal depth channel route from C561 to C563
2276          KM      Source:  100 Scale 4' CI Mapping
2277          RS       2    FLOW      -1
2278          RC   0.050   0.045   0.050  2335.0  0.0856
2279          RX  1000.0  1004.0  1009.0  1019.0  1037.0  1045.0  1060.0  1075.0
2280          RY  2280.0  2276.0  2272.0  2268.0  2268.0  2272.0  2274.0  2276.0
              *

2281          KK    208B
2282          KM   Sub-Basin   208B
2283          KM
2284          KM      The Clark Unit Hydrograph is used for this basin.
2285          KM          The Urban time-area relation is used for this basin.
2286          KM
2287          KM      Time of Concentration for this sub-basin is based on the following:
2288          KM          An rainfall areal reduction factor of 1.000
2289          KM
2290          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2291          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
```

```
2292          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2293          KM
2294          KM          L=   0.491 miles, S=  325 feet/mile, Kb= .03
2295          KM
2296          BA   0.027
2297          LG    0.09    0.25    4.35    0.35   50.00
2298          UC   0.138   0.182
2299          UA       0       5      16      30      65      77      84      90      94      97
2300          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 55

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


2301          KK   C563R
2302          KM      Hydrograph combine 561563 + 206B at C563 right branch
2303          HC       2
              *

2304          KK    208C
2305          KM   Sub-Basin   208C
2306          KM
2307          KM      The Clark Unit Hydrograph is used for this basin.
2308          KM          The HEC-1 time-area relation is used for this basin.
2309          KM
2310          KM      Time of Concentration for this sub-basin is based on the following:
2311          KM          An rainfall areal reduction factor of 1.000
2312          KM
2313          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2314          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2315          KM   .26 .26 .26 .25 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2316          KM
2317          KM          L=   0.639 miles, S=  387 feet/mile, Kb= .11
2318          KM
2319          BA   0.066
2320          LG    0.20    0.32    4.35    0.38   40.11
2321          UC   0.296   0.314
              *

2322          KK  562563
2323          KM      Normal depth channel route from C562 to C563
2324          KM      Source:  100 Scale 4' CI Mapping
2325          RS       5    FLOW      -1
2326          RC   0.050   0.045   0.050  3745.0  0.1106
2327          RX  1000.0  1007.0  1012.0  1017.0  1022.0  1027.0  1044.0  1064.0
2328          RY  2420.0  2416.0  2412.0  2411.8  2411.8  2412.0  2416.0  2420.0
              *

2329          KK    208D
2330          KM   Sub-Basin   208D
2331          KM
2332          KM      The Clark Unit Hydrograph is used for this basin.
2333          KM          The Urban time-area relation is used for this basin.
2334          KM
2335          KM      Time of Concentration for this sub-basin is based on the following:
2336          KM          An rainfall areal reduction factor of 1.000
2337          KM
2338          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2339          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2340          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2341          KM
2342          KM          L=   0.772 miles, S=  327 feet/mile, Kb= .03
2343          KM
2344          BA   0.075
2345          LG    0.09    0.25    4.35    0.35   50.00
2346          UC   0.171   0.186
2347          UA       0       5      16      30      65      77      84      90      94      97
2348          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 56

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


2349          KK   C563L
2350          KM      Hydrograph combine 562563 + 208D at C563 left branch
2351          HC       2
              *

2352          KK    C563
2353          KM      Hydrograph combine C563R + C563L at C563
2354          HC       2
              *

2355          KK  563564
2356          KM      Normal depth channel route from C563 to C564
2357          KM      Source:  HEC-2 Cross Section: BR 2.667
```

```
2358          RS       3    FLOW      -1
2359          RC   0.080   0.080   0.080  2762.0  0.0540
2360          RX  9947.0  9980.4  9986.4  9995.5 10000.0 10005.8 10021.9 10037.2
2361          RY  2103.4  2089.5  2089.2  2084.5  2084.4  2084.3  2098.5  2100.6
              *

2362          KK    208E
2363          KM   Sub-Basin   208E
2364          KM
2365          KM      The Clark Unit Hydrograph is used for this basin.
2366          KM          The Urban time-area relation is used for this basin.
2367          KM
2368          KM      Time of Concentration for this sub-basin is based on the following:
2369          KM          An rainfall areal reduction factor of 1.000
2370          KM
2371          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2372          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2373          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2374          KM
2375          KM          L=   0.644 miles, S=  306 feet/mile, Kb= .03
2376          KM
2377          BA   0.062
2378          LG    0.09    0.25    4.35    0.35   50.00
2379          UC   0.158   0.164
2380          UA       0       5      16      30      65      77      84      90      94      97
2381          UA     100
              *

2382          KK   C564R
2383          KM      Hydrograph combine 563564 + 208E at C564 right branch
2384          HC       2
              *

2385          KK    208F
2386          KM   Sub-Basin   208F
2387          KM
2388          KM      The Clark Unit Hydrograph is used for this basin.
2389          KM          The Urban time-area relation is used for this basin.
2390          KM
2391          KM      Time of Concentration for this sub-basin is based on the following:
2392          KM          An rainfall areal reduction factor of 1.000
```



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

2393          KM
2394          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2395          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2396          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2397          KM
2398          KM          L=   0.582 miles, S=  293 feet/mile, Kb= .03
2399          KM
2400          BA   0.069
2401          LG    0.09    0.25    4.35    0.35   49.92
2402          UC   0.154   0.138
2403          UA       0       5      16      30      65      77      84      90      94      97
2404          UA     100
              *

2405          KK    C564
2406          KM      Hydrograph combine C564R + 208F at C564
2407          HC       2
              *

2408          KK  564565
2409          KM      Normal depth channel route from C564 to C565
2410          KM      Source:  HEC-2 Cross Section: BR 2.236
2411          RS       5    FLOW      -1
2412          RC   0.080   0.080   0.080  3243.0  0.0398
2413          RX  9937.7  9965.8  9985.5 10000.0 10008.6 10016.4 10037.5 10054.4
2414          RY  1998.7  1998.1  1988.9  1988.8  1989.0  1990.4  1990.6  1999.1
              *

2415          KK    208G
2416          KM   Sub-Basin   208G
2417          KM
2418          KM      The Clark Unit Hydrograph is used for this basin.
2419          KM          The Urban time-area relation is used for this basin.
2420          KM
2421          KM      Time of Concentration for this sub-basin is based on the following:
2422          KM          An rainfall areal reduction factor of 1.000
2423          KM
2424          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2425          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2426          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2427          KM
2428          KM          L=   0.772 miles, S=  299 feet/mile, Kb= .04
2429          KM
```

```
2430          BA   0.129
2431          LG    0.11    0.26    4.60    0.31   54.19
2432          UC   0.204   0.165
2433          UA       0       5      16      30      65      77      84      90      94      97
2434          UA     100
              *
```



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

2435          KK    C565
2436          KM      Hydrograph combine 564565 + 208G at C565
2437          HC       2
              *

2438          KK  565568
2439          KM      Normal depth channel route from C565 to C568
2440          KM      Source:  HEC-2 Cross Section: BR 1.853
2441          RS       3    FLOW      -1
2442          RC   0.050   0.060   0.045  2254.0  0.0333
2443          RX  9966.2  9975.6  9985.0 10000.0 10017.9 10027.6 10040.1 10052.5
2444          RY  1929.1  1924.5  1919.8  1918.3  1918.4  1919.6  1925.2  1930.8
              *

2445          KK    208H
2446          KM   Sub-Basin   208H
2447          KM
2448          KM      The Clark Unit Hydrograph is used for this basin.
2449          KM          The Urban time-area relation is used for this basin.
2450          KM
2451          KM      Time of Concentration for this sub-basin is based on the following:
2452          KM          An rainfall areal reduction factor of 1.000
2453          KM
2454          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2455          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2456          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .02 .01 .01 .01 .01 .01 .01
2457          KM
2458          KM          L=   0.632 miles, S=  283 feet/mile, Kb= .07
2459          KM
2460          BA   0.043
2461          LG    0.12    0.30    5.60    0.21   35.43
2462          UC   0.254   0.338
2463          UA       0       5      16      30      65      77      84      90      94      97
2464          UA     100
              *

2465          KK   C568L
2466          KM      Hydrograph combine 565568 + 208H at C568 left branch
2467          HC       2
              *
              * *
              * * Start Cholula Wash
              * *
              *

2468          KK    208I
2469          KM   Sub-Basin   208I
2470          KM
2471          KM      The Clark Unit Hydrograph is used for this basin.
2472          KM          The Urban time-area relation is used for this basin.
2473          KM
2474          KM      Time of Concentration for this sub-basin is based on the following:
2475          KM          An rainfall areal reduction factor of 1.000
2476          KM
```



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

2477          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2478          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2479          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2480          KM
2481          KM          L=   0.823 miles, S=  363 feet/mile, Kb= .03
2482          KM
2483          BA   0.117
2484          LG    0.09    0.25    4.35    0.35   50.00
2485          UC   0.171   0.151
2486          UA       0       5      16      30      65      77      84      90      94      97
2487          UA     100
              *

2488          KK    208J
2489          KM   Sub-Basin   208J
2490          KM
2491          KM      The Clark Unit Hydrograph is used for this basin.
2492          KM          The Urban time-area relation is used for this basin.
2493          KM
```

```
2494          KM      Time of Concentration for this sub-basin is based on the following:
2495          KM          An rainfall areal reduction factor of 1.000
2496          KM
2497          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2498          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2499          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2500          KM
2501          KM          L=   0.974 miles, S=  353 feet/mile, Kb= .03
2502          KM
2503          BA   0.081
2504          LG    0.09    0.25    4.35    0.35   50.00
2505          UC   0.188   0.237
2506          UA       0       5      16      30      65      77      84      90      94      97
2507          UA     100
              *

2508          KK    C566
2509          KM      Hydrograph combine 208I + 208J at C566
2510          HC       2
              *

2511          KK  566567
2512          KM      Normal depth channel route from C566 to C567
2513          KM      Source:  HEC-2 Cross Section: CH 0.766
2514          RS       3    FLOW      -1
2515          RC   0.080   0.080   0.080  1463.0  0.0410
2516          RX  9925.3  9949.0  9965.7  9988.3 10000.0 10016.2 10029.5 10042.7
2517          RY  2047.9  2043.7  2035.3  2033.3  2031.4  2033.0  2040.1  2047.2
              *

2518          KK    208K
2519          KM   Sub-Basin   208K
2520          KM
2521          KM      The Clark Unit Hydrograph is used for this basin.
2522          KM          The Urban time-area relation is used for this basin.
2523          KM
```



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

2524          KM      Time of Concentration for this sub-basin is based on the following:
2525          KM          An rainfall areal reduction factor of 1.000
2526          KM
2527          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2528          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2529          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2530          KM
2531          KM          L=   0.431 miles, S=  317 feet/mile, Kb= .03
2532          KM
2533          BA   0.048
2534          LG    0.09    0.25    4.35    0.35   54.38
2535          UC   0.129   0.110
2536          UA       0       5      16      30      65      77      84      90      94      97
2537          UA     100
              *

2538          KK   C567L
2539          KM      Hydrograph combine 566567 + 208K at C567 left branch
2540          HC       2
              *

2541          KK    208L
2542          KM   Sub-Basin   208L
2543          KM
2544          KM      The Clark Unit Hydrograph is used for this basin.
2545          KM          The Urban time-area relation is used for this basin.
2546          KM
2547          KM      Time of Concentration for this sub-basin is based on the following:
2548          KM          An rainfall areal reduction factor of 1.000
2549          KM
2550          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2551          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2552          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2553          KM
2554          KM          L=   0.655 miles, S=  334 feet/mile, Kb= .03
2555          KM
2556          BA   0.059
2557          LG    0.09    0.25    4.40    0.35   51.31
2558          UC   0.158   0.171
2559          UA       0       5      16      30      65      77      84      90      94      97
2560          UA     100
              *

2561          KK    C567
2562          KM      Hydrograph combine C567L + 208L at C567
2563          HC       2
              *
```

```
2564          KK  567568
2565          KM      Normal depth channel route from C567 to C568
2566          KM      Source:  HEC-2 Cross Section: CH 0.129
2567          RS       5    FLOW      -1
2568          RC   0.050   0.060   0.045  3650.0  0.0389
2569          RX  9945.7  9958.4  9989.8 10000.0 10016.4 10028.3 10045.4 10059.8
2570          RY  1912.1  1905.9  1899.0  1899.3  1898.9  1899.5  1907.1  1911.9
              *
```



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

2571          KK    208M
2572          KM   Sub-Basin   208M
2573          KM
2574          KM      The Clark Unit Hydrograph is used for this basin.
2575          KM          The Urban time-area relation is used for this basin.
2576          KM
2577          KM      Time of Concentration for this sub-basin is based on the following:
2578          KM          An rainfall areal reduction factor of 1.000
2579          KM
2580          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2581          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2582          KM   .28 .28 .28 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2583          KM
2584          KM          L=   1.031 miles, S=  321 feet/mile, Kb= .03
2585          KM
2586          BA   0.159
2587          LG    0.09    0.25    4.40    0.34   62.04
2588          UC   0.196   0.177
2589          UA       0       5      16      30      65      77      84      90      94      97
2590          UA     100
              *

2591          KK   C568R
2592          KM      Hydrograph combine 567568 + 208M at C568 right branch
2593          HC       2
              *

2594          KK    C568
2595          KM      Hydrograph combine C568L + C568R at C568
2596          HC       2
              *

2597          KK  568573
2598          KM      Normal depth channel route from C568 to C573
2599          KM      Source:  HEC-2 Cross Section: BR 1.340
2600          RS       3    FLOW      -1
2601          RC   0.098   0.075   0.075  2067.0  0.0324
2602          RX  9921.8  9954.1  9968.9  9991.3 10000.0 10006.9 10025.2 10050.4
2603          RY  1843.8  1840.4  1835.1  1834.7  1832.7  1833.3  1838.1  1854.0
              *

2604          KK    208N
2605          KM   Sub-Basin   208N
2606          KM
2607          KM      The Clark Unit Hydrograph is used for this basin.
2608          KM          The Urban time-area relation is used for this basin.
2609          KM
2610          KM      Time of Concentration for this sub-basin is based on the following:
2611          KM          An rainfall areal reduction factor of 1.000
2612          KM
2613          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2614          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2615          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
2616          KM
```



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

2617          KM          L=   0.589 miles, S=  160 feet/mile, Kb= .04
2618          KM
2619          BA   0.047
2620          LG    0.09    0.25    6.20    0.15   62.49
2621          UC   0.213   0.248
2622          UA       0       5      16      30      65      77      84      90      94      97
2623          UA     100
              *

2624          KK   C573L
2625          KM      Hydrograph combine 568573 + 208N at C573 left branch
2626          HC       2
              *
              * *
              * * C573L is the total flow in Bristol Wash upstream of the confluence with
              * * Zapata Wash
              * *
```

```
                 * * Start Zapata Wash
                 * *
                 *

2627             KK    208O
2628             KM   Sub-Basin   208O
2629             KM
2630             KM      The Clark Unit Hydrograph is used for this basin.
2631             KM          The Urban time-area relation is used for this basin.
2632             KM
2633             KM      Time of Concentration for this sub-basin is based on the following:
2634             KM          An rainfall areal reduction factor of 1.000
2635             KM
2636             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2637             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2638             KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2639             KM
2640             KM          L=   1.174 miles, S=  347 feet/mile, Kb= .03
2641             KM
2642             BA   0.230
2643             LG    0.09    0.25    4.60    0.31   48.49
2644             UC   0.208   0.170
2645             UA       0       5      16      30      65      77      84      90      94      97
2646             UA     100
                 *

2647             KK  569570
2648             KM      Normal depth channel route from C569 to C570
2649             KM      Source:  HEC-2 Cross Section: ZA 0.493
2650             RS       1    FLOW      -1
2651             RC   0.050   0.035   0.055  1696.0  0.0404
2652             RX  9965.3  9985.5  9998.4 10000.0 10010.6 10019.1 10038.5 10038.5
2653             RY  1919.3  1912.3  1908.1  1907.8  1905.2  1908.1  1920.1  1920.1
                 *
1                                          HEC-1 INPUT                                          PAGE 63

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

2654             KK    208P
2655             KM   Sub-Basin   208P
2656             KM
2657             KM      The Clark Unit Hydrograph is used for this basin.
2658             KM          The Urban time-area relation is used for this basin.
2659             KM
2660             KM      Time of Concentration for this sub-basin is based on the following:
2661             KM          An rainfall areal reduction factor of 1.000
2662             KM
2663             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2664             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2665             KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
2666             KM
2667             KM          L=   0.471 miles, S=  312 feet/mile, Kb= .03
2668             KM
2669             BA   0.058
2670             LG    0.08    0.25    5.70    0.18   59.29
2671             UC   0.133   0.109
2672             UA       0       5      16      30      65      77      84      90      94      97
2673             UA     100
                 *

2674             KK   C570R
2675             KM      Hydrograph combine 569570 + 208P at C570 right branch
2676             HC       2
                 *

2677             KK    208Q
2678             KM   Sub-Basin   208Q
2679             KM
2680             KM      The Clark Unit Hydrograph is used for this basin.
2681             KM          The Urban time-area relation is used for this basin.
2682             KM
2683             KM      Time of Concentration for this sub-basin is based on the following:
2684             KM          An rainfall areal reduction factor of 1.000
2685             KM
2686             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2687             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2688             KM   .28 .28 .28 .28 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2689             KM
2690             KM          L=   0.823 miles, S=  324 feet/mile, Kb= .04
2691             KM
2692             BA   0.094
2693             LG    0.10    0.26    5.00    0.25   54.26
2694             UC   0.204   0.209
2695             UA       0       5      16      30      65      77      84      90      94      97
2696             UA     100
                 *
1                                          HEC-1 INPUT                                          PAGE 64
```

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

2697          KK    C570
2698          KM      Hydrograph combine C570R + 208Q at C570
2699          HC       2
              *
              * *
              * * NOTE: 570572 is too short to route
              * *
              *

2700          KK    208R
2701          KM   Sub-Basin   208R
2702          KM
2703          KM      The Clark Unit Hydrograph is used for this basin.
2704          KM          The Urban time-area relation is used for this basin.
2705          KM
2706          KM      Time of Concentration for this sub-basin is based on the following:
2707          KM          An rainfall areal reduction factor of 1.000
2708          KM
2709          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2710          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2711          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
2712          KM
2713          KM          L=   0.238 miles, S=  327 feet/mile, Kb= .03
2714          KM
2715          BA   0.010
2716          LG    0.08    0.23    6.20    0.15   55.16
2717          UC   0.092   0.111
2718          UA       0       5      16      30      65      77      84      90      94      97
2719          UA     100
              *

2720          KK  571572
2721          KM      Normal depth channel route from C571 to C572
2722          KM      Source:  200 Scale Mapping
2723          RS       1    FLOW      -1
2724          RC   0.040   0.020   0.055  1379.0  0.0566
2725          RX  1000.0  1020.0  1040.0  1090.0  1122.0  1125.0  1135.0  1140.0
2726          RY  1894.0  1893.0  1892.0  1891.0  1891.0  1892.0  1894.0  1896.0
              *

2727          KK    C572
2728          KM      Hydrograph combine C570 + 571572 at C572
2729          HC       2
              *

2730          KK  572573
2731          KM      Normal depth channel route from C572 to C573
2732          KM      Source:  HEC-2 Cross Section: ZA 0.142
2733          RS       1    FLOW      -1
2734          RC   0.050   0.035   0.055  1285.0  0.0335
2735          RX  9961.8  9976.8  9982.5  9987.0 10009.5 10014.3 10022.1 10029.3
2736          RY  1840.3  1832.1  1831.2  1829.5  1829.2  1830.6  1831.2  1835.6
              *
1                                          HEC-1 INPUT                                          PAGE 65

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

2737          KK    208S
2738          KM   Sub-Basin   208S
2739          KM
2740          KM      The Clark Unit Hydrograph is used for this basin.
2741          KM          The Urban time-area relation is used for this basin.
2742          KM
2743          KM      Time of Concentration for this sub-basin is based on the following:
2744          KM          An rainfall areal reduction factor of 1.000
2745          KM
2746          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2747          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2748          KM   .29 .29 .29 .29 .29 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
2749          KM
2750          KM          L=   0.568 miles, S=  234 feet/mile, Kb= .03
2751          KM
2752          BA   0.068
2753          LG    0.08    0.24    6.20    0.15   67.07
2754          UC   0.158   0.141
2755          UA       0       5      16      30      65      77      84      90      94      97
2756          UA     100
              *

2757          KK   C573R
2758          KM      Hydrograph combine 572573 + 208S at C573 right branch
2759          HC       2
              *
```

```
2760          KK    C573
2761          KM      Hydrograph combine C573L + C573R at C573
2762          HC       2
              *
              * *
              * * NOTE: 573577 is too short to route
              * *
              * * C573 is the total flow in Bristol Wash upstream of the confluence
              * * with Montezuna Wash
              * *
              * * Start Montezuna Wash
              * *
              *

2763          KK    208T
2764          KM   Sub-Basin   208T
2765          KM
2766          KM      The Clark Unit Hydrograph is used for this basin.
2767          KM          The Urban time-area relation is used for this basin.
2768          KM
2769          KM      Time of Concentration for this sub-basin is based on the following:
2770          KM          An rainfall areal reduction factor of 1.000
2771          KM
2772          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2773          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2774          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
2775          KM
```



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

2776          KM          L=   0.787 miles, S=  340 feet/mile, Kb= .03
2777          KM
2778          BA   0.132
2779          LG    0.09    0.25    5.20    0.22   44.80
2780          UC   0.171   0.136
2781          UA       0       5      16      30      65      77      84      90      94      97
2782          UA     100
              *

2783          KK    208U
2784          KM   Sub-Basin   208U
2785          KM
2786          KM      The Clark Unit Hydrograph is used for this basin.
2787          KM          The Urban time-area relation is used for this basin.
2788          KM
2789          KM      Time of Concentration for this sub-basin is based on the following:
2790          KM          An rainfall areal reduction factor of 1.000
2791          KM
2792          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2793          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2794          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2795          KM
2796          KM          L=   0.507 miles, S=  360 feet/mile, Kb= .03
2797          KM
2798          BA   0.134
2799          LG    0.09    0.25    5.30    0.21   44.19
2800          UC   0.133   0.072
2801          UA       0       5      16      30      65      77      84      90      94      97
2802          UA     100
              *

2803          KK    C574
2804          KM      Hydrograph combine 208T + 208U at C574
2805          HC       2
              *

2806          KK  574575
2807          KM      Normal depth channel route from C574 to C575
2808          KM      Source:  HEC-2 Cross Section: MO 0.587
2809          RS       1    FLOW      -1
2810          RC   0.070   0.050   0.055   823.0  0.0365
2811          RX  9945.0  9970.6  9986.7  9995.9 10002.3 10019.0 10036.7 10055.5
2812          RY  1932.6  1928.5  1922.9  1917.8  1917.7  1924.0  1931.1  1934.1
              *

2813          KK    208V
2814          KM   Sub-Basin   208V
2815          KM
2816          KM      The Clark Unit Hydrograph is used for this basin.
2817          KM          The Urban time-area relation is used for this basin.
2818          KM
2819          KM      Time of Concentration for this sub-basin is based on the following:
2820          KM          An rainfall areal reduction factor of 1.000
2821          KM
2822          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```

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

2823          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2824          KM   .28 .28 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
2825          KM
2826          KM          L=   0.354 miles, S=  319 feet/mile, Kb= .03
2827          KM
2828          BA   0.028
2829          LG    0.09    0.21    6.40    0.15   41.15
2830          UC   0.117   0.114
2831          UA       0       5      16      30      65      77      84      90      94      97
2832          UA     100
              *

2833          KK    C575
2834          KM      Hydrograph combine 574575 + 208V at C575
2835          HC       2
              *

2836          KK  575576
2837          KM      Normal depth channel route from C575 to C576
2838          KM      Source:  HEC-2 Cross Section: MO 0.307
2839          RS       1    FLOW      -1
2840          RC   0.070   0.050   0.055  2342.0  0.0423
2841          RX  9973.7  9974.0  9986.7 10000.0 10000.5 10009.7 10026.7 10037.3
2842          RY  1861.6  1861.5  1855.0  1853.0  1853.1  1854.8  1863.0  1867.1
              *

2843          KK    208W
2844          KM   Sub-Basin   208W
2845          KM
2846          KM      The Clark Unit Hydrograph is used for this basin.
2847          KM          The Urban time-area relation is used for this basin.
2848          KM
2849          KM      Time of Concentration for this sub-basin is based on the following:
2850          KM          An rainfall areal reduction factor of 1.000
2851          KM
2852          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2853          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2854          KM   .28 .28 .28 .28 .28 .28 .04 .03 .03 .03 .03 .03 .02 .02 .02 .01 .01 .01
2855          KM
2856          KM          L=   0.475 miles, S=  288 feet/mile, Kb= .03
2857          KM
2858          BA   0.050
2859          LG    0.09    0.23    6.20    0.16   42.74
2860          UC   0.138   0.124
2861          UA       0       5      16      30      65      77      84      90      94      97
2862          UA     100
              *

2863          KK    C576
2864          KM      Hydrograph combine 575576 + 208W at C576
2865          HC       2
              *
```



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

2866          KK  576577
2867          KM      Normal depth channel route from C576 to C577
2868          KM      Source:  HEC-2 Cross Section: MO 0.116
2869          RS       1    FLOW      -1
2870          RC   0.070   0.050   0.055   740.0  0.0338
2871          RX  9915.1  9960.0  9985.5 10000.0 10000.1 10007.0 10023.3 10023.4
2872          RY  1826.5  1826.4  1814.5  1812.3  1812.3  1814.8  1830.3  1830.4
              *
              * *
              * * 576577 is the total flow in Montezuna Wash just upstream of the confluence
              * * with Bristol Wash
              * *
              *

2873          KK    C577
2874          KM      Hydrograph combine C577L + 576577 at C570
2875          HC       2
              *
              * *
              * * C577 is the total flow in Bristol Wash downstream of the confluence
              * * with Montezuma Wash
              * *
              *

2876          KK  577578
2877          KM      Normal depth channel route from C577 to C578
2878          KM      Source:  HEC-2 Cross Section: BR 1.099
2879          RS       1    FLOW      -1
2880          RC   0.055   0.045   0.055  1078.0  0.0147
```

```
2881          RX  9865.3  9956.6  9991.1 10010.2 10034.3 10063.4 10139.7 10201.7
2882          RY  1821.8  1810.8  1793.2  1792.5  1795.5  1796.1  1813.8  1822.8
              *

2883          KK    208X
2884          KM   Sub-Basin   208X
2885          KM
2886          KM      The Clark Unit Hydrograph is used for this basin.
2887          KM          The Urban time-area relation is used for this basin.
2888          KM
2889          KM      Time of Concentration for this sub-basin is based on the following:
2890          KM          An rainfall areal reduction factor of 1.000
2891          KM
2892          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2893          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2894          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2895          KM
2896          KM          L=   0.417 miles, S=  223 feet/mile, Kb= .05
2897          KM
2898          BA   0.075
2899          LG    0.13    0.29    5.60    0.21   39.42
2900          UC   0.183   0.122
2901          UA       0       5      16      30      65      77      84      90      94      97
2902          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 69

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


2903          KK   C578I
2904          KM      Hydrograph combine 577578 + 208X at C578I
2905          HC       2
              *
              * *
              * * C578I is the total flow in Bristol Wash upstream of Dam 11
              * *
              *

2906          KK   C578O
2907          KM      Reservoir route at C578 (Dam 11).
2908          RS       1    ELEV  1779.2
2909          SV    0.00   16.38   31.30   53.65   84.39  126.17  138.00  143.00  147.00  154.47
2910          SV  161.00  167.00  174.00  181.00  187.43  194.00  202.00  205.00
2911          SE  1779.2  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2  1811.6  1812.0
2912          SE  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
2913          SQ       0     131     181     221     254     283     305     325     328     366
2914          SQ     522     812    1194    1651    2176    2763    3406    4104    4855    5250
2915          SE  1779.2  1786.0  1790.0  1794.0  1798.0  1802.0  1806.0  1810.0  1810.8  1811.2
2916          SE  1811.6  1812.0  1812.4  1812.8  1813.2  1813.6  1814.0  1814.4  1814.8  1815.0
2917          RL                    0.97
              *
              * *
              * * End Basin 208.  Rejoin Basin 210
              * *
              *

2918          KK  578587
2919          KM      Normal depth channel route from C578 to C587
2920          KM      Source:  HEC-2 Cross Section: BR 0.697
2921          RS       3    FLOW      -1
2922          RC   0.055   0.045   0.055  1628.0  0.0191
2923          RX  9926.4  9949.5  9960.1  9984.7 10000.0 10014.1 10031.5 10049.4
2924          RY  1763.0  1762.6  1761.8  1757.0  1757.1  1756.9  1761.4  1768.1
              *

2925          KK    210B
2926          KM   Sub-Basin   210B
2927          KM
2928          KM      The Clark Unit Hydrograph is used for this basin.
2929          KM          The Urban time-area relation is used for this basin.
2930          KM
2931          KM      Time of Concentration for this sub-basin is based on the following:
2932          KM          An rainfall areal reduction factor of 1.000
2933          KM
2934          KM        EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2935          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2936          KM   .28 .28 .28 .28 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
2937          KM
2938          KM          L=   0.930 miles, S=  251 feet/mile, Kb= .03
2939          KM
2940          BA   0.107
2941          LG    0.08    0.25    5.80    0.17   37.15
2942          UC   0.204   0.214
                                           HEC-1 INPUT                                          PAGE 70

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

```
2943        UA       0       5      16      30      65      77      84      90      94      97
2944        UA     100
            *

2945        KK   C586O
2946        KM      Reservoir route at C586.
2947        RS       1    ELEV  1804.4
2948        SV    0.00    0.05    0.36    1.09    2.45    4.45    7.00    9.50    9.60   10.00
2949        SV   10.34   10.70   11.20   11.60   12.10   12.50
2950        SE  1804.4  1806.0  1808.0  1810.0  1812.0  1814.0  1816.0 1817.55  1817.6  1817.8
2951        SE  1818.0  1818.2  1818.4  1818.6  1818.8  1819.0
2952        SQ       0      37     130     219     284     322     353     375     377     393
2953        SQ     432     492     574     680     808     959
            *

2954        KK  586587
2955        KM      Normal depth channel route from C586 to C587
2956        KM      Source:  200 Scale Mapping
2957        RS       3    FLOW      -1
2958        RC   0.040   0.035   0.040  1905.0  0.0313
2959        RX  1000.0  1020.0  1050.0  1055.0  1065.0  1070.0  1130.0  1150.0
2960        RY  1782.0  1780.0  1772.0  1771.0  1771.0  1772.0  1778.0  1782.0
            *

2961        KK    C587
2962        KM      Hydrograph combine 578587 + 586587 at C578
2963        HC       2
            *

2964        KK  587595
2965        KM      Normal depth channel route from C587 to C595
2966        KM      Source:  HEC-2 Cross Section: BR 0.533
2967        RS       2    FLOW      -1
2968        RC   0.055   0.045   0.055  1039.0  0.0173
2969        RX  9977.2  9980.4  9983.6  9989.9 10009.9 10020.3 10028.8 10037.3
2970        RY  1745.2  1744.0  1742.8  1740.3  1740.3  1742.4  1743.0  1743.6
            *

2971        KK    210C
2972        KM   Sub-Basin   210C
2973        KM
2974        KM      The Clark Unit Hydrograph is used for this basin.
2975        KM          The Urban time-area relation is used for this basin.
2976        KM
2977        KM      Time of Concentration for this sub-basin is based on the following:
2978        KM          An rainfall areal reduction factor of 1.000
2979        KM
2980        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
2981        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
2982        KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
2983        KM
2984        KM          L=   0.637 miles, S=  198 feet/mile, Kb= .03
2985        KM
2986        BA   0.082
2987        LG    0.11    0.26    4.80    0.28   22.29
```



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

2988        UC   0.183   0.164
2989        UA       0       5      16      30      65      77      84      90      94      97
2990        UA     100
            *

2991        KK   C595L
2992        KM      Hydrograph combine 587595 + 210C at C595 left branch
2993        HC       2
            *
            * *
            * * C595L is the total flow in Bristol Wash upstream of the confluence
            * * with Longmont Wash
            * *
            * * Start Longmont Wash Left Branch
            * *
            *

2994        KK    210D
2995        KM   Sub-Basin   210D
2996        KM
2997        KM      The Clark Unit Hydrograph is used for this basin.
2998        KM          The Urban time-area relation is used for this basin.
2999        KM
3000        KM      Time of Concentration for this sub-basin is based on the following:
3001        KM          An rainfall areal reduction factor of 1.000
3002        KM
3003        KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3004        KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3005        KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
```

```
3006          KM
3007          KM          L=   0.832 miles, S=  325 feet/mile, Kb= .03
3008          KM
3009          BA   0.140
3010          LG    0.09    0.25    5.80    0.18   33.66
3011          UC   0.179   0.145
3012          UA       0       5      16      30      65      77      84      90      94      97
3013          UA     100
              *

3014          KK  588590
3015          KM      Normal depth channel route from C588 to C590
3016          KM      Source:  HEC-2 Cross Section: LO-LB1 0.128
3017          RS       2    FLOW      -1
3018          RC   0.065   0.050   0.060  1117.0  0.0340
3019          RX  9931.7  9960.6  9984.9 10005.7 10019.1 10033.8 10151.6 10172.9
3020          RY  1839.3  1833.5  1825.9  1824.7  1825.9  1828.8  1832.9  1838.0
              *

3021          KK    210E
3022          KM   Sub-Basin   210E
3023          KM
3024          KM      The Clark Unit Hydrograph is used for this basin.
3025          KM          The Urban time-area relation is used for this basin.
3026          KM
3027          KM      Time of Concentration for this sub-basin is based on the following:
1                                   HEC-1 INPUT                                          PAGE 72

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

3028          KM          An rainfall areal reduction factor of 1.000
3029          KM
3030          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3031          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3032          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .02 .02 .01 .01 .01 .01
3033          KM
3034          KM          L=   0.339 miles, S=  151 feet/mile, Kb= .03
3035          KM
3036          BA   0.028
3037          LG    0.09    0.17    6.80    0.12   15.00
3038          UC   0.142   0.138
3039          UA       0       5      16      30      65      77      84      90      94      97
3040          UA     100
              *

3041          KK   C590L
3042          KM      Hydrograph combine 588590 + 210E at C590 left branch
3043          HC       2
              *
              * *
              * * C590L is the total flow in Longmont Wash Left Branch upstream of the
              * * confluence with Longmont Wash
              * *
              * * Start Longmont Wash
              * *
              *

3044          KK    210F
3045          KM   Sub-Basin   210F
3046          KM
3047          KM      The Clark Unit Hydrograph is used for this basin.
3048          KM          The Urban time-area relation is used for this basin.
3049          KM
3050          KM      Time of Concentration for this sub-basin is based on the following:
3051          KM          An rainfall areal reduction factor of 1.000
3052          KM
3053          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3054          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3055          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
3056          KM
3057          KM          L=   0.668 miles, S=  349 feet/mile, Kb= .03
3058          KM
3059          BA   0.093
3060          LG    0.09    0.25    4.40    0.34   49.44
3061          UC   0.158   0.134
3062          UA       0       5      16      30      65      77      84      90      94      97
3063          UA     100
              *

3064          KK  589590
3065          KM      Normal depth channel route from C589 to C590
3066          KM      Source:  HEC-2 Cross Section: LO 0.813
3067          RS       2    FLOW      -1
3068          RC   0.065   0.050   0.060  1751.0  0.0423
3069          RX  9957.0  9963.5  9984.5  9996.1 10008.8 10017.4 10040.1 10060.8
1                                   HEC-1 INPUT                                          PAGE 73

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
3070          RY  1843.8  1842.9  1837.0  1831.2  1830.6  1836.1  1838.3  1842.1
              *

3071          KK    210G
3072          KM   Sub-Basin   210G
3073          KM
3074          KM      The Clark Unit Hydrograph is used for this basin.
3075          KM          The Urban time-area relation is used for this basin.
3076          KM
3077          KM      Time of Concentration for this sub-basin is based on the following:
3078          KM          An rainfall areal reduction factor of 1.000
3079          KM
3080          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3081          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3082          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3083          KM
3084          KM          L=   0.969 miles, S=  333 feet/mile, Kb= .03
3085          KM
3086          BA   0.162
3087          LG    0.09    0.25    5.30    0.22   39.22
3088          UC   0.192   0.163
3089          UA       0       5      16      30      65      77      84      90      94      97
3090          UA     100
              *

3091          KK   C590R
3092          KM      Hydrograph combine 589590 + 210G at C590 right branch
3093          HC       2
              *
              * * NOTE: 590593 is too short to route
              * *
              * * C590R is the total flow in Longmont Wash upstream of the confluence
              * * with Longmont Wash Left Branch
              * *
              *

3094          KK    C590
3095          KM      Hydrograph combine C590L + C590R at C590
3096          HC       2
              *
              * * C590 is the total flow in Longmont Wash upstream of the confluence
              * * Longmont Wash Right Branch
              * *
              * * Start Longmont Wash Right Branch
              * *
              *

3097          KK    210H
3098          KM   Sub-Basin   210H
3099          KM
3100          KM      The Clark Unit Hydrograph is used for this basin.
3101          KM          The Urban time-area relation is used for this basin.
3102          KM
3103          KM      Time of Concentration for this sub-basin is based on the following:
3104          KM          An rainfall areal reduction factor of 1.000
```



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

3105          KM
3106          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3107          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3108          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3109          KM
3110          KM          L=   0.565 miles, S=  340 feet/mile, Kb= .03
3111          KM
3112          BA   0.070
3113          LG    0.09    0.23    6.20    0.16   21.74
3114          UC   0.146   0.126
3115          UA       0       5      16      30      65      77      84      90      94      97
3116          UA     100
              *

3117          KK  592593
3118          KM      Normal depth channel route from C592 to C593
3119          KM      Source:  HEC-2 Cross Section: LO-RB1 0.027
3120          RS       2    FLOW      -1
3121          RC   0.065   0.050   0.060  2062.0  0.0412
3122          RX  9920.6  9964.0  9984.7  9996.1 10003.9 10025.4 10041.1 10057.9
3123          RY  1820.0  1804.5  1801.2  1797.3  1797.3  1808.5  1818.3  1820.1
              *
              * *
              * * 592593 is the total flow in Longmont Wash Right Branch upstream
              * * of the confluence with Longmont Wash
              * *
              *

3124          KK    C593
```

```
3125          KM      Hydrograph combine C590 + C593R at C593
3126          HC       2
              *
              * *
              * * C593 is the total flow in Longmont Wash below the confluence with
              * * Longmont Wash Right Branch
              * *
              *

3127          KK  593594
3128          KM      Normal depth channel route from C593 to C594
3129          KM      Source:  HEC-2 Cross Section: LO0.413
3130          RS       1    FLOW      -1
3131          RC   0.065   0.050   0.060   988.0  0.0202
3132          RX  9937.2  9958.5  9981.7  9992.8 10007.7 10024.4 10041.9 10067.8
3133          RY  1783.6  1773.5  1773.9  1771.3  1771.2  1774.5  1778.7  1788.7
              *

3134          KK    210I
3135          KM   Sub-Basin   210I
3136          KM
3137          KM      The Clark Unit Hydrograph is used for this basin.
3138          KM          The Urban time-area relation is used for this basin.
3139          KM
3140          KM      Time of Concentration for this sub-basin is based on the following:
3141          KM          An rainfall areal reduction factor of 1.000
```



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

3142          KM
3143          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3144          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3145          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
3146          KM
3147          KM          L=   0.634 miles, S=  250 feet/mile, Kb= .03
3148          KM
3149          BA   0.049
3150          LG    0.09    0.15    7.60    0.09   15.00
3151          UC   0.167   0.196
3152          UA       0       5      16      30      65      77      84      90      94      97
3153          UA     100
              *

3154          KK    C594
3155          KM      Hydrograph combine 593594 + 210I at C594
3156          HC       2
              *

3157          KK  594595
3158          KM      Normal depth channel route from C594 to C595
3159          KM      Source:  HEC-2 Cross Section: LO 0.184
3160          RS       5    FLOW      -1
3161          RC   0.065   0.050   0.060  2093.0  0.0201
3162          RX  9814.0  9836.5  9878.5  9988.2  9994.1 10010.9 10030.4 10030.5
3163          RY  1769.3  1766.6  1752.8  1750.6  1747.9  1749.2  1770.5  1770.6
              *

3164          KK    210J
3165          KM   Sub-Basin   210J
3166          KM
3167          KM      The Clark Unit Hydrograph is used for this basin.
3168          KM          The Urban time-area relation is used for this basin.
3169          KM
3170          KM      Time of Concentration for this sub-basin is based on the following:
3171          KM          An rainfall areal reduction factor of 1.000
3172          KM
3173          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3174          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3175          KM   .28 .28 .28 .28 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3176          KM
3177          KM          L=   0.684 miles, S=  187 feet/mile, Kb= .03
3178          KM
3179          BA   0.103
3180          LG    0.09    0.19    6.60    0.13   15.00
3181          UC   0.192   0.159
3182          UA       0       5      16      30      65      77      84      90      94      97
3183          UA     100
              *
```



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

3184          KK   C595R
3185          KM      Hydrograph combine 594595 + 210J at C595
3186          HC       2
              *
```

```
                 * *
                 * * C595R is the total flow in Longmont Wash upstream of the confluence
                 * * with Bristol Wash
                 * *
                 *

3187             KK    C595
3188             KM      Hydrograph combine C595L + C595R at C595
3189             HC       2
                 *
                 * *
                 * * C595 is the total flow in Bristol Wash just downstream of the
                 * * confluence with Longmont Wash
                 * *
                 *

3190             KK  595596
3191             KM      Normal depth channel route from C595 to C596
3192             KM      Source:  HEC-2 Cross Section: BR0.290
3193             RS       4    FLOW      -1
3194             RC   0.055   0.045   0.055  1095.0  0.0110
3195             RX  9886.8  9904.8  9948.0 10000.0 10032.4 10081.5 10107.3 10130.4
3196             RY  1727.2  1724.1  1725.9  1720.2  1725.6  1725.3  1721.3  1731.4
                 *

3197             KK    210K
3198             KM   Sub-Basin   210K
3199             KM
3200             KM      The Clark Unit Hydrograph is used for this basin.
3201             KM          The Urban time-area relation is used for this basin.
3202             KM
3203             KM      Time of Concentration for this sub-basin is based on the following:
3204             KM          An rainfall areal reduction factor of 1.000
3205             KM
3206             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3207             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3208             KM   .28 .28 .28 .28 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3209             KM
3210             KM          L=   0.425 miles, S=  207 feet/mile, Kb= .03
3211             KM
3212             BA   0.077
3213             LG    0.09    0.19    6.60    0.13   15.00
3214             UC   0.146   0.095
3215             UA       0       5      16      30      65      77      84      90      94      97
3216             UA     100
                 *
1                                          HEC-1 INPUT                                          PAGE 77

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

3217             KK    C596
3218             KM      Hydrograph combine 595596 + 210K at C596
3219             HC       2
                 *
                 * *
                 * * C596 is the total flow in Bristol Wash at Golden Eagle Blvd.
                 * * upstream of DAM 4
                 * *
                 * * Leave Basin 210 temporarily and move to Basin 209
                 * *
                 * * Start Cloudburst Wash
                 *

3220             KK    209A
3221             KM   Sub-Basin   209A
3222             KM
3223             KM      The Clark Unit Hydrograph is used for this basin.
3224             KM          The HEC-1 time-area relation is used for this basin.
3225             KM
3226             KM      Time of Concentration for this sub-basin is based on the following:
3227             KM          An rainfall areal reduction factor of 1.000
3228             KM
3229             KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3230             KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3231             KM   .26 .26 .26 .26 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3232             KM
3233             KM          L=   1.028 miles, S=  367 feet/mile, Kb= .08
3234             KM
3235             BA   0.368
3236             LG    0.18    0.31    4.35    0.38   41.41
3237             UC   0.325   0.192
                 *

3238             KK  579580
3239             KM      Normal depth channel route from C579 to C580
3240             KM      Source:  100 Scale 4' CI Mapping
3241             RS       1    FLOW      -1
```

```
3242          RC   0.050   0.045   0.050  1751.0  0.0600
3243          RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1045.0  1048.0
3244          RY  2336.0  2332.0  2328.0  2327.5  2327.5  2328.0  2332.0  2336.0
              *

3245          KK    209C
3246          KM   Sub-Basin   209C
3247          KM
3248          KM      The Clark Unit Hydrograph is used for this basin.
3249          KM          The Urban time-area relation is used for this basin.
3250          KM
3251          KM      Time of Concentration for this sub-basin is based on the following:
3252          KM          An rainfall areal reduction factor of 1.000
3253          KM
3254          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3255          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3256          KM   .27 .27 .27 .27 .26 .26 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02
1                                          HEC-1 INPUT                                          PAGE 78

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

3257          KM
3258          KM          L=   0.723 miles, S=  342 feet/mile, Kb= .05
3259          KM
3260          BA   0.064
3261          LG    0.11    0.26    4.35    0.36   48.03
3262          UC   0.213   0.245
3263          UA       0       5      16      30      65      77      84      90      94      97
3264          UA     100
              *

3265          KK   C580R
3266          KM      Hydrograph combine 579580 + 209C at C580 right branch
3267          HC       2
              *

3268          KK    209B
3269          KM   Sub-Basin   209B
3270          KM
3271          KM      The Clark Unit Hydrograph is used for this basin.
3272          KM          The Urban time-area relation is used for this basin.
3273          KM
3274          KM      Time of Concentration for this sub-basin is based on the following:
3275          KM          An rainfall areal reduction factor of 1.000
3276          KM
3277          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3278          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3279          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
3280          KM
3281          KM          L=   0.716 miles, S=  403 feet/mile, Kb= .03
3282          KM
3283          BA   0.083
3284          LG    0.09    0.25    4.35    0.35   50.00
3285          UC   0.154   0.147
3286          UA       0       5      16      30      65      77      84      90      94      97
3287          UA     100
              *

3288          KK    C580
3289          KM      Hydrograph combine 580R + 209B at C580
3290          HC       2
              *

3291          KK  580581
3292          KM      Normal depth channel route from C580 to C581
3293          KM      Source:  100 Scale 4' CI Mapping
3294          RS       3    FLOW      -1
3295          RC   0.050   0.045   0.050  2339.0  0.0440
3296          RX  1000.0  1010.0  1025.0  1030.0  1040.0  1045.0  1070.0  1075.0
3297          RY  2452.0  2448.0  2444.0  2443.5  2443.5  2444.0  2448.0  2452.0
              *
1                                          HEC-1 INPUT                                          PAGE 79

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

3298          KK    209D
3299          KM   Sub-Basin   209D
3300          KM
3301          KM      The Clark Unit Hydrograph is used for this basin.
3302          KM          The Urban time-area relation is used for this basin.
3303          KM
3304          KM      Time of Concentration for this sub-basin is based on the following:
3305          KM          An rainfall areal reduction factor of 1.000
3306          KM
3307          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3308          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3309          KM   .27 .27 .27 .27 .26 .26 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02 .02
```

```
3310          KM
3311          KM          L=   0.800 miles, S=  354 feet/mile, Kb= .04
3312          KM
3313          BA   0.244
3314          LG    0.11    0.26    4.35    0.36   48.63
3315          UC   0.200   0.116
3316          UA       0       5      16      30      65      77      84      90      94      97
3317          UA     100
              *

3318          KK   C581R
3319          KM      Hydrograph combine 580581 + 209D at C581 right branch
3320          HC       2
              *

3321          KK    209E
3322          KM   Sub-Basin   209E
3323          KM
3324          KM      The Clark Unit Hydrograph is used for this basin.
3325          KM          The Urban time-area relation is used for this basin.
3326          KM
3327          KM      Time of Concentration for this sub-basin is based on the following:
3328          KM          An rainfall areal reduction factor of 1.000
3329          KM
3330          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3331          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3332          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
3333          KM
3334          KM          L=   1.018 miles, S=  341 feet/mile, Kb= .03
3335          KM
3336          BA   0.149
3337          LG    0.09    0.25    4.35    0.35   50.00
3338          UC   0.196   0.182
3339          UA       0       5      16      30      65      77      84      90      94      97
3340          UA     100
              *
```



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

3341          KK    C581
3342          KM      Hydrograph combine 581R + 209E at C581
3343          HC       2
              *

3344          KK  581582
3345          KM      Normal depth channel route from C581 to C582
3346          KM      Source:  100 Scale 4' CI Mapping
3347          RS       3    FLOW      -1
3348          RC   0.050   0.045   0.050  4012.0  0.0459
3349          RX  1000.0  1010.0  1025.0  1030.0  1035.0  1040.0  1050.0  1065.0
3350          RY  2100.0  2096.0  2092.0  2091.5  2091.5  2092.0  2096.0  2100.0
              *

3351          KK    209F
3352          KM   Sub-Basin   209F
3353          KM
3354          KM      The Clark Unit Hydrograph is used for this basin.
3355          KM          The HEC-1 time-area relation is used for this basin.
3356          KM
3357          KM      Time of Concentration for this sub-basin is based on the following:
3358          KM          An rainfall areal reduction factor of 1.000
3359          KM
3360          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3361          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3362          KM   .26 .26 .26 .26 .26 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3363          KM
3364          KM          L=   1.191 miles, S=  332 feet/mile, Kb= .09
3365          KM
3366          BA   0.226
3367          LG    0.18    0.31    4.50    0.36   40.21
3368          UC   0.383   0.343
              *

3369          KK   C582R
3370          KM      Hydrograph combine 581582 + 209F at C582 right branch
3371          HC       2
              *

3372          KK    209G
3373          KM   Sub-Basin   209G
3374          KM
3375          KM      The Clark Unit Hydrograph is used for this basin.
3376          KM          The Urban time-area relation is used for this basin.
3377          KM
3378          KM      Time of Concentration for this sub-basin is based on the following:
3379          KM          An rainfall areal reduction factor of 1.000
```

```
3380          KM
3381          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3382          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3383          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
3384          KM
3385          KM          L=   1.050 miles, S=  306 feet/mile, Kb= .03
3386          KM
1                                          HEC-1 INPUT                                                    PAGE 81

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

3387          BA   0.204
3388          LG    0.09    0.25    4.35    0.35   49.93
3389          UC   0.204   0.163
3390          UA       0       5      16      30      65      77      84      90      94      97
3391          UA     100
              *

3392          KK    C582
3393          KM      Hydrograph combine C582R + 209G at C582
3394          HC       2
              *

3395          KK  582583
3396          KM      Normal depth channel route from C582 to C583
3397          KM      Source:  100 Scale 4' CI Mapping.
3398          RS       2    FLOW      -1
3399          RC   0.060   0.050   0.060  1725.0  0.0232
3400          RX   960.0  1020.0  1035.0  1040.0  1050.0  1055.0  1065.0  1073.0
3401          RY  2024.0  2018.0  2016.0  2015.5  2015.5  2016.0  2020.0  2024.0
              *

3402          KK    209H
3403          KM   Sub-Basin   209H
3404          KM
3405          KM      The Clark Unit Hydrograph is used for this basin.
3406          KM          The Urban time-area relation is used for this basin.
3407          KM
3408          KM      Time of Concentration for this sub-basin is based on the following:
3409          KM          An rainfall areal reduction factor of 1.000
3410          KM
3411          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3412          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3413          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3414          KM
3415          KM          L=   0.542 miles, S=  343 feet/mile, Kb= .07
3416          KM
3417          BA   0.083
3418          LG    0.15    0.31    5.60    0.22   26.57
3419          UC   0.221   0.175
3420          UA       0       5      16      30      65      77      84      90      94      97
3421          UA     100
              *

3422          KK    C583
3423          KM      Hydrograph combine 582583 + 209H at C583
3424          HC       2
              *

3425          KK  583584
3426          KM      Normal depth channel route from C583 to C584
3427          KM      Source:  HEC-2 Cross Section: CL 1.664
3428          RS       4    FLOW      -1
3429          RC   0.055   0.070   0.055  3107.0  0.0356
3430          RX  9859.8  9910.3  9933.5  9995.6 10021.7 10051.0 10083.0 10127.8
3431          RY  1948.3  1944.2  1943.7  1930.9  1932.4  1941.6  1937.3  1945.2
              *
1                                          HEC-1 INPUT                                                    PAGE 82

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

3432          KK    209I
3433          KM   Sub-Basin   209I
3434          KM
3435          KM      The Clark Unit Hydrograph is used for this basin.
3436          KM          The Urban time-area relation is used for this basin.
3437          KM
3438          KM      Time of Concentration for this sub-basin is based on the following:
3439          KM          An rainfall areal reduction factor of 1.000
3440          KM
3441          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3442          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3443          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .02 .02 .02 .01 .01 .01 .01 .01 .01
3444          KM
3445          KM          L=   0.691 miles, S=  347 feet/mile, Kb= .04
3446          KM
3447          BA   0.182
```

```
3448          LG    0.10    0.27    6.00    0.17   17.98
3449          UC   0.183   0.110
3450          UA       0       5      16      30      65      77      84      90      94      97
3451          UA     100
              *

3452          KK   C584I
3453          KM      Hydrograph combine 583584 + 209I at C584I
3454          HC       2
              *
              * *
              * * C584I is the total flow in Cloudburst Wash upstream of Dam 7
              * *
              *

3455          KK   C584O
3456          KM      Reservoir route at C584 (Dam 7).
3457          RS       1    ELEV  1884.8
3458          SV    0.00   14.55   37.17   57.52   86.65   94.00   97.00  101.00  104.90  109.00
3459          SV  113.00  118.00  122.00  126.25  131.00  133.00  136.00  139.00
3460          SE  1884.8  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6  1926.0  1926.4
3461          SE  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
3462          SQ       0     135     223     285     326     341     355     358     385     493
3463          SQ     704    1007    1394    1852    2374    2956    3596    3937    4292    4661
3464          SE  1884.8  1892.0  1900.0  1908.0  1916.0  1920.0  1924.0  1924.8  1925.2  1925.6
3465          SE  1926.0  1926.4  1926.8  1927.2  1927.6  1928.0  1928.4  1928.6  1928.8  1929.0
3466          RL                    0.15
              *
              * *
              * * End Basin 209.  Rejoin Basin 210
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 83

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

3467          KK  584597
3468          KM      Normal depth channel route from C584 to C597
3469          KM      Source:  HEC-2 Cross Section: CL 1.032
3470          RS      10    FLOW      -1
3471          RC   0.065   0.050   0.065  3704.0  0.0261
3472          RX  9902.1  9923.0  9938.7  9984.6 10049.3 10056.0 10091.7 10120.0
3473          RY  1839.1  1830.1  1826.6  1824.1  1824.9  1826.7  1828.5  1838.8
              *

3474          KK    210L
3475          KM   Sub-Basin   210L
3476          KM
3477          KM      The Clark Unit Hydrograph is used for this basin.
3478          KM          The Urban time-area relation is used for this basin.
3479          KM
3480          KM      Time of Concentration for this sub-basin is based on the following:
3481          KM          An rainfall areal reduction factor of 1.000
3482          KM
3483          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3484          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3485          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3486          KM
3487          KM          L=   0.820 miles, S=  251 feet/mile, Kb= .03
3488          KM
3489          BA   0.137
3490          LG    0.09    0.25    5.20    0.23   15.90
3491          UC   0.192   0.156
3492          UA       0       5      16      30      65      77      84      90      94      97
3493          UA     100
              *

3494          KK    C597
3495          KM      Hydrograph combine 584597 + 210L at C597
3496          HC       2
              *

3497          KK  597598
3498          KM      Normal depth channel route from C597 to C598
3499          KM      Source:  HEC-2 Cross Section: CL 0.328
3500          RS       6    FLOW      -1
3501          RC   0.065   0.050   0.065  2822.0  0.0252
3502          RX  9961.0  9961.9  9969.1  9986.3 10018.5 10082.6 10155.2 10278.8
3503          RY  1740.2  1740.2  1738.1  1731.6  1732.3  1737.1  1740.0  1740.8
              *

3504          KK    210M
3505          KM   Sub-Basin   210M
3506          KM
3507          KM      The Clark Unit Hydrograph is used for this basin.
3508          KM          The Urban time-area relation is used for this basin.
3509          KM
```

```
3510          KM      Time of Concentration for this sub-basin is based on the following:
3511          KM          An rainfall areal reduction factor of 1.000
3512          KM
1                                          HEC-1 INPUT                                                    PAGE 84

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

3513          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3514          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3515          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .02 .01 .01 .01 .01 .01 .01
3516          KM
3517          KM          L=   1.022 miles, S=  232 feet/mile, Kb= .03
3518          KM
3519          BA   0.162
3520          LG    0.09    0.25    5.80    0.17   15.02
3521          UC   0.221   0.198
3522          UA       0       5      16      30      65      77      84      90      94      97
3523          UA     100
              *

3524          KK    C598
3525          KM      Hydrograph combine 597598 + 210M at C598
3526          HC       2
              *
              * *
              * * C598 is the total flow in Cloudburst Wash at Golden Eagle Blvd.
              * * upstream of DAM 4
              * *
              *

3527          KK    210N
3528          KM   Sub-Basin   210N
3529          KM
3530          KM      The Clark Unit Hydrograph is used for this basin.
3531          KM          The Urban time-area relation is used for this basin.
3532          KM
3533          KM      Time of Concentration for this sub-basin is based on the following:
3534          KM          An rainfall areal reduction factor of 1.000
3535          KM
3536          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3537          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3538          KM   .25 .25 .25 .24 .24 .24 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
3539          KM
3540          KM          L=   0.309 miles, S=  178 feet/mile, Kb= .03
3541          KM
3542          BA   0.049
3543          LG    0.09    0.25    4.10    0.40   16.38
3544          UC   0.138   0.090
3545          UA       0       5      16      30      65      77      84      90      94      97
3546          UA     100
              *

3547          KK   C599I
3548          KM      Hydrograph combine C585 + C596 + C598 + 210N at C599I
3549          HC       4
              *
              * *
              * * C599I is the total flow in Ashbrook Wash upstream of DAM 4
              * *
              *
1                                          HEC-1 INPUT                                                    PAGE 85

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


3550          KK   C599O
3551          KM      Reservoir route at C599 (Dam 4).
3552          RS       1    ELEV  1694.7
3553          SV    0.00   16.85   31.66   52.71   80.85   95.00   98.00  102.00  105.00  109.00
3554          SV  113.00  116.14  120.00  124.00  128.00  136.00  139.00  144.00  148.00  152.00
3555          SE  1694.5  1708.0  1710.0  1712.0  1714.0  1714.8  1715.0  1715.2  1715.4  1715.6
3556          SE  1715.8  1716.0  1716.2  1716.4  1716.6  1717.0  1717.2  1717.4  1717.6  1717.8
3557          SQ       0      77     180     367     589     803    1001    1176    1331    1470
3558          SQ    1595    1625    1647    1695    3011    7421   14322   22656   28975   32522
3559          SE  1694.5  1696.0  1698.0  1700.0  1702.0  1704.0  1706.0  1708.0  1710.0  1712.0
3560          SE  1714.0  1714.5 1714.86  1715.0  1716.0  1717.5  1719.0  1720.5  1721.5  1722.0
3561          RL                    0.97
              *
              * * End Basin 210.  Start Basin 211
              * *
              *

3562          KK  599608
3563          KM      Normal depth channel route from C599 to C608
3564          KM      Source:  HEC-2 Cross Section: AS 3.621
3565          RS       2    FLOW      -1
3566          RC   0.055   0.045   0.025  1476.0  0.0148
3567          RX  9675.4  9726.8  9929.0  9990.7 10005.9 10033.3 10061.9 10082.2
```

```
3568          RY  1691.3  1687.2  1685.5  1678.6  1678.1  1682.1  1689.8  1691.8
              *

3569          KK    211K
3570          KM   Sub-Basin   211K
3571          KM
3572          KM      The Clark Unit Hydrograph is used for this basin.
3573          KM          The Urban time-area relation is used for this basin.
3574          KM
3575          KM      Time of Concentration for this sub-basin is based on the following:
3576          KM          An rainfall areal reduction factor of 1.000
3577          KM
3578          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3579          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3580          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3581          KM
3582          KM          L=   0.376 miles, S=  157 feet/mile, Kb= .03
3583          KM
3584          BA   0.102
3585          LG    0.13    0.27    6.00    0.16   31.48
3586          UC   0.150   0.076
3587          UA       0       5      16      30      65      77      84      90      94      97
3588          UA     100
              *

3589          KK   C608L
3590          KM      Hydrograph combine 599608 + 211K at C608 left branch
3591          HC       2
              *
1                                          HEC-1 INPUT                                          PAGE 86

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


3592          KK    211G
3593          KM   Sub-Basin   211G
3594          KM
3595          KM      The Clark Unit Hydrograph is used for this basin.
3596          KM          The Urban time-area relation is used for this basin.
3597          KM
3598          KM      Time of Concentration for this sub-basin is based on the following:
3599          KM          An rainfall areal reduction factor of 1.000
3600          KM
3601          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3602          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3603          KM   .30 .30 .29 .29 .29 .29 .05 .05 .05 .05 .05 .05 .03 .03 .03 .03 .03 .03
3604          KM
3605          KM          L=   0.448 miles, S=  190 feet/mile, Kb= .04
3606          KM
3607          BA   0.008
3608          LG    0.06    0.25    5.70    0.18   90.00
3609          UC   0.175   0.454
3610          UA       0       5      16      30      65      77      84      90      94      97
3611          UA     100
              *

3612          KK  604606
3613          KM      Normal depth channel route from C604 to C606
3614          KM      Source:  200 Scale Mapping
3615          RS      11    FLOW      -1
3616          RC   0.040   0.018   0.040  2784.0  0.0647
3617          RX  1000.0  1040.0  1060.0  1076.0  1092.0  1093.2  1098.2  1113.2
3618          RY  1814.0  1811.0  1810.8  1811.1  1810.8  1811.2  1812.0  1816.0
              *

3619          KK    211I
3620          KM   Sub-Basin   211I
3621          KM
3622          KM      The Clark Unit Hydrograph is used for this basin.
3623          KM          The Urban time-area relation is used for this basin.
3624          KM
3625          KM      Time of Concentration for this sub-basin is based on the following:
3626          KM          An rainfall areal reduction factor of 1.000
3627          KM
3628          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3629          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3630          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
3631          KM
3632          KM          L=   0.626 miles, S=  257 feet/mile, Kb= .03
3633          KM
3634          BA   0.041
3635          LG    0.08    0.25    5.70    0.18   45.00
3636          UC   0.163   0.210
3637          UA       0       5      16      30      65      77      84      90      94      97
3638          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 87
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

3639          KK   C606R
3640          KM      Hydrograph combine 604606 + 211I at C606 right branch
3641          HC       2
              *

3642          KK    211H
3643          KM   Sub-Basin   211H
3644          KM
3645          KM      The Clark Unit Hydrograph is used for this basin.
3646          KM          The Urban time-area relation is used for this basin.
3647          KM
3648          KM      Time of Concentration for this sub-basin is based on the following:
3649          KM          An rainfall areal reduction factor of 1.000
3650          KM
3651          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3652          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3653          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3654          KM
3655          KM          L=   0.501 miles, S=  289 feet/mile, Kb= .03
3656          KM
3657          BA   0.073
3658          LG    0.09    0.25    6.00    0.16   17.93
3659          UC   0.142   0.108
3660          UA       0       5      16      30      65      77      84      90      94      97
3661          UA     100
              *

3662          KK   C605O
3663          KM      Reservoir route at C605.
3664          RS       1    ELEV  1722.5
3665          SV    0.00    0.20    0.20    0.20    0.30    0.30    0.30    0.40    0.60
3666          SV    0.70    0.90    1.00    1.20    1.40    1.60    1.90    2.80    3.40    4.10
3667          SE  1722.5  1726.8  1727.0  1727.2  1727.4  1727.6  1727.8  1728.0  1728.2  1728.4
3668          SE  1728.6  1728.8  1729.0  1729.2  1729.4  1729.6  1730.0  1730.4  1730.7  1731.0
3669          SQ       0       0       5      10      20      43      63      73      78      85
3670          SQ      91      96     101     105     109     113     122     130     136     200
              *

3671          KK    C606
3672          KM      Hydrograph combine C606R + C605O at C606
3673          HC       2
              *

3674          KK  606607
3675          KM      Normal depth channel route from C606 to C607
3676          KM      Source:  200 Scale Mapping
3677          RS       2    FLOW      -1
3678          RC   0.020   0.055   0.035  1061.0  0.0286
3679          RX  1000.0  1032.0  1082.0  1095.0  1105.0  1117.0  1123.0  1153.0
3680          RY  1704.3  1704.0  1703.5  1700.0  1700.0  1703.0  1704.0  1706.0
              *
1                                          HEC-1 INPUT                                          PAGE 88

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

3681          KK    211J
3682          KM   Sub-Basin   211J
3683          KM
3684          KM      The Clark Unit Hydrograph is used for this basin.
3685          KM          The Urban time-area relation is used for this basin.
3686          KM
3687          KM      Time of Concentration for this sub-basin is based on the following:
3688          KM          An rainfall areal reduction factor of 1.000
3689          KM
3690          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3691          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3692          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3693          KM
3694          KM          L=   0.249 miles, S=  166 feet/mile, Kb= .03
3695          KM
3696          BA   0.015
3697          LG    0.08    0.23    6.20    0.16   39.19
3698          UC   0.117   0.124
3699          UA       0       5      16      30      65      77      84      90      94      97
3700          UA     100
              *

3701          KK    C607
3702          KM      Hydrograph combine 606607 + 211J at C607
3703          HC       2
              *

3704          KK  607608
3705          KM      Normal depth channel route from C607 to C608
```

```
3706          KM      Source:  200 Scale Mapping
3707          RS       2    FLOW      -1
3708          RC   0.040   0.050   0.035  1008.0  0.0145
3709          RX  1000.0  1060.0  1070.0  1082.0  1083.0  1095.0  1115.0  1133.0
3710          RY  1688.0  1686.0  1684.0  1681.0  1681.0  1684.0  1685.0  1685.4
              *

3711          KK    C608
3712          KM      Hydrograph combine C608L + 607608 at C608
3713          HC       2
              *

3714          KK  608613
3715          KM      Normal depth channel route from C608 to C613
3716          KM      Source:  HEC-2 Cross Section: AS 3.421
3717          RS       2    FLOW      -1
3718          RC   0.100   0.045   0.100  1338.0  0.0202
3719          RX  9885.0  9887.9  9957.3  9986.7 10012.9 10054.7 10086.3 10122.2
3720          RY  1670.2  1670.1  1668.0  1660.0  1659.9  1661.6  1669.9  1670.8
              *
              * *
              * * Move to the top of Sunflower Wash
              * *
              *
1                                        HEC-1 INPUT                                                    PAGE 89

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


3721          KK    211M
3722          KM   Sub-Basin   211M
3723          KM
3724          KM      The Clark Unit Hydrograph is used for this basin.
3725          KM          The Urban time-area relation is used for this basin.
3726          KM
3727          KM      Time of Concentration for this sub-basin is based on the following:
3728          KM          An rainfall areal reduction factor of 1.000
3729          KM
3730          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3731          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3732          KM   .28 .28 .28 .28 .28 .28 .04 .04 .04 .04 .04 .03 .02 .02 .02 .02 .02 .02
3733          KM
3734          KM          L=   0.541 miles, S=  266 feet/mile, Kb= .03
3735          KM
3736          BA   0.081
3737          LG    0.07    0.25    5.70    0.18   50.05
3738          UC   0.150   0.115
3739          UA       0       5      16      30      65      77      84      90      94      97
3740          UA     100
              *

3741          KK  610611
3742          KM      Normal depth channel route from C610 to 1611
3743          KM      Source:  HEC-2 Cross Section: SU 0.216
3744          RS       2    FLOW      -1
3745          RC   0.050   0.045   0.050  1090.0  0.0211
3746          RX  9911.9  9948.1  9973.6  9988.6 10007.1 10027.0 10049.8 10143.7
3747          RY  1699.3  1691.7  1686.3  1680.1  1679.7  1686.6  1687.3  1698.6
              *

3748          KK    211N
3749          KM   Sub-Basin   211N
3750          KM
3751          KM      The Clark Unit Hydrograph is used for this basin.
3752          KM          The Urban time-area relation is used for this basin.
3753          KM
3754          KM      Time of Concentration for this sub-basin is based on the following:
3755          KM          An rainfall areal reduction factor of 1.000
3756          KM
3757          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3758          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3759          KM   .28 .28 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
3760          KM
3761          KM          L=   0.261 miles, S=  235 feet/mile, Kb= .03
3762          KM
3763          BA   0.020
3764          LG    0.07    0.25    5.70    0.18   56.58
3765          UC   0.108   0.099
3766          UA       0       5      16      30      65      77      84      90      94      97
3767          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE 90

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


3768          KK   C611R
3769          KM      Hydrograph combine 610611 + 211N at C611 right branch
```

```
3770          HC       2
              *

3771          KK    211O
3772          KM   Sub-Basin   211O
3773          KM
3774          KM      The Clark Unit Hydrograph is used for this basin.
3775          KM          The Urban time-area relation is used for this basin.
3776          KM
3777          KM      Time of Concentration for this sub-basin is based on the following:
3778          KM          An rainfall areal reduction factor of 1.000
3779          KM
3780          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3781          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3782          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
3783          KM
3784          KM          L=   0.371 miles, S=  257 feet/mile, Kb= .03
3785          KM
3786          BA   0.041
3787          LG    0.08    0.25    5.70    0.18   45.31
3788          UC   0.125   0.103
3789          UA       0       5      16      30      65      77      84      90      94      97
3790          UA     100
              *

3791          KK   C609O
3792          KM      Reservoir route at C609.
3793          RS       1    ELEV  1694.0
3794          SV    0.00    0.10    0.21    0.50    0.86    1.40    1.93    2.60    3.10    3.20
3795          SV    3.39    3.60    3.80    4.00    4.10    4.30    4.50    4.70    4.90    5.10
3796          SE  1694.0  1695.0  1696.0  1697.0  1698.0  1699.0  1700.0  1701.0  1701.6  1701.8
3797          SE  1702.0  1702.2  1702.4  1702.6  1702.8  1703.0  1703.2  1703.4  1703.6  1703.8
3798          SQ       0       6      16      33      48      59      68      75      79      85
3799          SQ     108     149     209     289     390     512     658     829    1025    1247
              *

3800          KK  609611
3801          KM      Normal depth channel route from C609 to C611
3802          KM      Source:  200 Scale Mapping
3803          RS       2    FLOW      -1
3804          RC   0.035   0.050   0.035   470.0  0.0200
3805          RX  1000.0  1025.0  1050.0  1054.0  1064.0  1068.0  1088.0  1103.0
3806          RY  1690.0  1688.0  1684.0  1682.0  1682.0  1684.0  1688.0  1690.0
              *

3807          KK   C611I
3808          KM      Hydrograph combine 609611 + C611R at C611I
3809          HC       2
              *
```



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

3810          KK   C611O
3811          KM      Reservoir route at C611.
3812          RS       1    ELEV  1668.4
3813          SV    0.00    0.41    1.10    2.49    4.34    6.64    6.72    6.81    6.89    6.97
3814          SV    7.06    7.14    7.22    7.31    7.39    7.47    7.56    7.64    7.72    7.81
3815          SE  1674.0  1676.0  1678.0  1680.0  1682.0  1684.0  1684.2  1684.4  1684.6  1684.8
3816          SE  1685.0  1685.2  1685.4  1685.6  1685.8  1686.0  1686.2  1686.4  1686.6  1686.8
3817          SQ       0       0      86     117     141     162     164     170     181     199
3818          SQ     225     262     313     378     460     558     673     807     958    1118
              *

3819          KK   D611L
3820          KM      Hydrograph diversion at C611.  Main flow continues in the left branch.
3821          KM      Diverted flow is in the right branch.
3822          DT   D611R
3823          DI       0       0      86     117     141     162     164     170     181     199
3824          DI     225     262     313     378     460     558     673     807     958    1118
3825          DQ       0       0      86     117     141     162     164     165     167     169
3826          DQ     171     173     175     176     178     180     182     183     185     187
              *

3827          KK  611612
3828          KM      Normal depth channel route from C611 to C612
3829          KM      Source:  200 Scale Mapping
3830          RS       1    FLOW      -1
3831          RC   0.040   0.018   0.040   925.0  0.0270
3832          RX  1000.0  1020.0  1023.0  1041.0  1059.0  1060.2  1071.2  1136.2
3833          RY  1666.0  1664.0  1663.5  1663.9  1663.5  1663.9  1664.0  1666.0
              *

3834          KK    211P
3835          KM   Sub-Basin   211P
3836          KM
3837          KM      The Clark Unit Hydrograph is used for this basin.
```

```
3838          KM          The Urban time-area relation is used for this basin.
3839          KM
3840          KM      Time of Concentration for this sub-basin is based on the following:
3841          KM          An rainfall areal reduction factor of 1.000
3842          KM
3843          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3844          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3845          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
3846          KM
3847          KM          L=   0.307 miles, S=  192 feet/mile, Kb= .03
3848          KM
3849          BA   0.033
3850          LG    0.08    0.15    7.00    0.11   45.00
3851          UC   0.125   0.099
3852          UA       0       5      16      30      65      77      84      90      94      97
3853          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE 92

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


3854          KK    C612
3855          KM      Hydrograph combine 611612 + 211P at C612
3856          HC       2
              *
              * *
              * * NOTE: 612613 is too short to route
              * *
              *

3857          KK    C613
3858          KM      Hydrograph combine 608613 + C612 at C613
3859          HC       2
              *

3860          KK  613621
3861          KM      Normal depth channel route from C613 to C621
3862          KM      Source:  HEC-2 Cross Section: AS 3.241
3863          RS       1    FLOW      -1
3864          RC   0.100   0.045   0.100   718.0  0.0251
3865          RX  9695.4  9884.0  9985.0  9991.1 10033.8 10062.8 10097.5 10165.1
3866          RY  1655.5  1647.5  1645.8  1641.1  1640.6  1642.1  1648.7  1654.3
              *

3867          KK    211L
3868          KM   Sub-Basin   211L
3869          KM
3870          KM      The Clark Unit Hydrograph is used for this basin.
3871          KM          The Urban time-area relation is used for this basin.
3872          KM
3873          KM      Time of Concentration for this sub-basin is based on the following:
3874          KM          An rainfall areal reduction factor of 1.000
3875          KM
3876          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3877          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3878          KM   .27 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
3879          KM
3880          KM          L=   0.508 miles, S=  181 feet/mile, Kb= .03
3881          KM
3882          BA   0.096
3883          LG    0.11    0.26    4.35    0.36   42.40
3884          UC   0.167   0.112
3885          UA       0       5      16      30      65      77      84      90      94      97
3886          UA     100
              *

3887          KK   C621L
3888          KM      Hydrograph combine 613621 + 211L at C621 left branch
3889          HC       2
              *
              * *
              * * Move to the top of Arrow Wash
              * *
              *
1                                          HEC-1 INPUT                                          PAGE 93

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


3890          KK    211Q
3891          KM   Sub-Basin   211Q
3892          KM
3893          KM      The Clark Unit Hydrograph is used for this basin.
3894          KM          The Urban time-area relation is used for this basin.
3895          KM
3896          KM      Time of Concentration for this sub-basin is based on the following:
3897          KM          An rainfall areal reduction factor of 1.000
```

```
3898          KM
3899          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3900          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3901          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3902          KM
3903          KM          L=   0.255 miles, S=  295 feet/mile, Kb= .03
3904          KM
3905          BA   0.021
3906          LG    0.08    0.25    5.70    0.18   30.04
3907          UC   0.100   0.087
3908          UA       0       5      16      30      65      77      84      90      94      97
3909          UA     100
              *

3910          KK  616617
3911          KM      Normal depth channel route from C616 to C617
3912          KM      Source:  200 Scale Mapping
3913          RS       1    FLOW      -1
3914          RC   0.070   0.060   0.070  1131.0  0.0553
3915          RX  1000.0  1008.0  1015.0  1045.0  1050.0  1080.0  1100.0  1110.0
3916          RY  1834.0  1832.0  1830.0  1826.0  1826.0  1830.0  1834.0  1836.0
              *

3917          KK    211R
3918          KM   Sub-Basin   211R
3919          KM
3920          KM      The Clark Unit Hydrograph is used for this basin.
3921          KM          The Urban time-area relation is used for this basin.
3922          KM
3923          KM      Time of Concentration for this sub-basin is based on the following:
3924          KM          An rainfall areal reduction factor of 1.000
3925          KM
3926          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3927          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3928          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
3929          KM
3930          KM          L=   0.572 miles, S=  271 feet/mile, Kb= .03
3931          KM
3932          BA   0.084
3933          LG    0.08    0.25    5.70    0.18   37.77
3934          UC   0.154   0.122
3935          UA       0       5      16      30      65      77      84      90      94      97
3936          UA     100
              *
```



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

3937          KK   C617L
3938          KM      Hydrograph combine 616617 + 211R at C617 left branch
3939          HC       2
              *

3940          KK    211U
3941          KM   Sub-Basin   211U
3942          KM
3943          KM      The Clark Unit Hydrograph is used for this basin.
3944          KM          The Urban time-area relation is used for this basin.
3945          KM
3946          KM      Time of Concentration for this sub-basin is based on the following:
3947          KM          An rainfall areal reduction factor of 1.000
3948          KM
3949          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3950          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3951          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
3952          KM
3953          KM          L=   0.831 miles, S=  214 feet/mile, Kb= .03
3954          KM
3955          BA   0.027
3956          LG    0.07    0.25    5.70    0.18   65.99
3957          UC   0.200   0.415
3958          UA       0       5      16      30      65      77      84      90      94      97
3959          UA     100
              *

3960          KK   D614L
3961          KM      Hydrograph diversion at C614.  Main flow continues in the left branch.
3962          KM      Diverted flow is in the right branch.
3963          DT   D614R
3964          DI       0     4.3     8.5    20.0    49.0    85.5
3965          DQ       0     2.5     5.0    13.5    35.0    60.0
              *

3966          KK    C617
3967          KM      Hydrograph combine C617L + D614L at C617
3968          HC       2
              *
```

```
3969          KK  617618
3970          KM      Normal depth channel route from C617 to C618
3971          KM      Source:  HEC-2 Cross Section: AR 0.836
3972          RS       3    FLOW     -1
3973          RC   0.070   0.060   0.070  1912.0  0.0345
3974          RX  9983.3  9987.2  9989.2  9991.1 10031.5 10053.5 10070.6 10097.7
3975          RY  1766.5  1762.3  1760.2  1758.1  1757.8  1760.8  1764.2  1770.6
              *
1                                        HEC-1 INPUT                                                    PAGE 95

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


3976          KK    211S
3977          KM   Sub-Basin   211S
3978          KM
3979          KM      The Clark Unit Hydrograph is used for this basin.
3980          KM          The Urban time-area relation is used for this basin.
3981          KM
3982          KM      Time of Concentration for this sub-basin is based on the following:
3983          KM          An rainfall areal reduction factor of 1.000
3984          KM
3985          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
3986          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
3987          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .02 .02 .01 .01 .01 .01 .01 .01
3988          KM
3989          KM          L=   0.445 miles, S=  272 feet/mile, Kb= .07
3990          KM
3991          BA   0.050
3992          LG    0.11    0.31    5.70    0.19   30.06
3993          UC   0.213   0.190
3994          UA       0       5      16      30      65      77      84      90      94      97
3995          UA     100
              *

3996          KK   C618I
3997          KM      Hydrograph combine 617618 + 211S at C618I
3998          HC       2
              *

3999          KK   C618O
4000          KM      Reservoir route at C618.
4001          RS       1    ELEV  1730.6
4002          SV    0.00    0.01    0.06    0.24    0.50    0.75    1.20    1.66    2.30    2.94
4003          SV    3.20    3.30    3.40    3.60    3.80    3.90    4.10    4.30    4.50    4.65
4004          SE  1730.6  1734.0  1736.0  1738.0  1739.0  1740.0  1741.0  1742.0  1743.0  1744.0
4005          SE  1744.3  1744.4  1744.6  1744.8  1745.0  1745.2  1745.4  1745.6  1745.8  1746.0
4006          SQ       0     2.2     2.6     3.0     3.1     3.2     3.3     3.5     3.6     3.7
4007          SQ     3.7     3.8       8      21      48      88     143     212     295     390
              *

4008          KK  BB614R
4009          KM      Retrieve previously diverted hydrograph at C614 in the right branch.
4010          DR   D614R
              *

4011          KK  614615
4012          KM      Normal depth channel route from C614 to C615
4013          KM      Source:  Hydrology Field Reconnaissance
4014          RS       2    FLOW     -1
4015          RC   0.040   0.018   0.040  1114.0  0.0397
4016          RX  1000.0  1020.0  1025.0  1059.0  1091.0  1093.0  1098.0  1103.0
4017          RY  1828.0  1822.0  1821.5  1822.2  1821.8  1822.0  1824.0  1826.0
              *
1                                        HEC-1 INPUT                                                    PAGE 96

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


4018          KK    211V
4019          KM   Sub-Basin   211V
4020          KM
4021          KM      The Clark Unit Hydrograph is used for this basin.
4022          KM          The Urban time-area relation is used for this basin.
4023          KM
4024          KM      Time of Concentration for this sub-basin is based on the following:
4025          KM          An rainfall areal reduction factor of 1.000
4026          KM
4027          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4028          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4029          KM   .30 .30 .29 .29 .29 .29 .05 .05 .05 .05 .05 .05 .03 .03 .03 .03 .03 .03
4030          KM
4031          KM          L=   0.222 miles, S=  212 feet/mile, Kb= .04
4032          KM
4033          BA   0.005
4034          LG    0.06    0.25    5.80    0.18   90.00
4035          UC   0.117   0.212
```

```
4036          UA       0       5      16      30      65      77      84      90      94      97
4037          UA     100
              *

4038          KK    C615
4039          KM      Hydrograph combine 614615 + 211V at C615
4040          HC       2    0.03
              *

4041          KK   D615L
4042          KM      Hydrograph diversion at C615.  Main flow continues in the left branch.
4043          KM      Diverted flow is in the right branch.
4044          DT   D615R
4045          DI       0     1.3     2.5     5.3     8.6    14.2    23.0    36.8    55.5    77.5
4046          DQ       0       0       0     1.3     2.6     4.2     7.0    12.8    19.5    29.5
              *

4047          KK  615618
4048          KM      Normal depth channel route from C615 to C618
4049          KM      Source:  Hydrology Field Reconnaissance
4050          RS       1    FLOW      -1
4051          RC   0.040   0.018   0.040   499.0  0.1338
4052          RX  1000.0  1008.0  1009.2  1013.2  1027.2  1028.4  1036.4  1045.4
4053          RY  1800.4  1799.6  1799.2  1798.8  1798.3  1798.7  1798.9  1800.4
              *

4054          KK    C618
4055          KM      Hydrograph combine C618O + 615618 at C618
4056          HC       2    0.19
              *
```



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

4057          KK  618619
4058          KM      Normal depth channel route from C618 to C619
4059          KM      Source:  HEC-2 Cross Section: AR 0.441
4060          RS       4    FLOW      -1
4061          RC   0.070   0.060   0.070  1837.0  0.0285
4062          RX  9870.6  9928.6  9957.1  9996.9 10004.9 10022.1 10062.0 10116.4
4063          RY  1709.2  1700.9  1698.8  1690.0  1689.8  1699.6  1700.3  1711.3
              *

4064          KK    211T
4065          KM   Sub-Basin   211T
4066          KM
4067          KM      The Clark Unit Hydrograph is used for this basin.
4068          KM          The Urban time-area relation is used for this basin.
4069          KM
4070          KM      Time of Concentration for this sub-basin is based on the following:
4071          KM          An rainfall areal reduction factor of 1.000
4072          KM
4073          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4074          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4075          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4076          KM
4077          KM          L=   0.488 miles, S=  250 feet/mile, Kb= .03
4078          KM
4079          BA   0.066
4080          LG    0.07    0.25    5.70    0.18   64.25
4081          UC   0.146   0.115
4082          UA       0       5      16      30      65      77      84      90      94      97
4083          UA     100
              *

4084          KK   C619L
4085          KM      Hydrograph combine 618619 + 211T at C619 left branch
4086          HC       2
              *

4087          KK  BB615R
4088          KM      Retrieve previously diverted hydrograph at C615 in the right branch.
4089          DR   D615R
              *

4090          KK  615619
4091          KM      Normal depth channel route from C615 to C619
4092          KM      Source:  Hydrology Field Reconnaissance
4093          RS       6    FLOW      -1
4094          RC   0.045   0.024   0.025  2444.0  0.0493
4095          RX  1000.0  1009.3  1018.5  1037.0  1039.3  1053.0  1065.0  1065.0
4096          RY  1727.2  1726.5  1725.8  1724.4  1724.6  1725.8  1725.9  1725.9
              *
```



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

```
4097          KK   C619I
4098          KM      Hydrograph combine C619L + 615619 at C619I
4099          HC       2    0.25
              *

4100          KK   C619O
4101          KM      Reservoir route at C619.
4102          RS       1    ELEV  1675.6
4103          SV    0.00    1.72    2.98    4.70    7.00    7.08    7.17    7.26    7.34    7.43
4104          SV    7.51    7.60    7.69    7.77    7.86
4105          SE  1675.6  1686.0  1688.0  1690.0  1692.0  1692.2  1692.4  1692.6  1692.8  1693.0
4106          SE  1693.2  1693.4  1693.6  1693.8  1694.0
4107          SQ       0       4      25      72     128     155     163     172     178     187
4108          SQ     195     213     238     273     318     374     441     518     606     706
4109          SE  1675.6  1676.0  1678.0  1680.0  1682.0  1684.0  1686.0  1688.0  1690.0  1692.0
4110          SE  1692.2  1692.4  1692.6  1692.8  1693.0  1693.2  1693.4  1693.6  1693.8  1694.0
              *

4111          KK   D619R
4112          KM      Hydrograph diversion at C619.  Main flow continues in the right branch.
4113          KM      Diverted flow is in the left branch.
4114          DT   D619L
4115          DI       0       4      25      72     128     155     163     172     178     187
4116          DI     195     213     238     273     318     374     441     518     606     706
4117          DQ       0       0       0       0       0       0       0       0       0       0
4118          DQ       8      24      49      83     128     182     249     326     412     512
              *

4119          KK  619620
4120          KM                Lag route through Palisades Plaza storm drain
4121          RT       0               1
              *

4122          KK  BB619L
4123          KM      Retrieve previously diverted hydrograph at C619 in the left branch.
4124          DR   D619L
              *

4125          KK  619620
4126          KM   Normal depth channel route from C619 to C620 in Fountain Hills Blvd.
4127          KM   Source:  200 Scale Mapping. Similiar to 523548
4128          RS       1    FLOW      -1
4129          RC   0.040   0.024   0.040   800.0  0.0288
4130          RX   918.0   940.0   960.0  1000.0  1040.0  1040.1  1044.1  1088.1
4131          RY  1648.0  1645.8  1643.8  1644.7  1644.0  1644.5  1644.5  1648.0
              *

4132          KK    211W
4133          KM   Sub-Basin   211W
4134          KM
4135          KM      The Clark Unit Hydrograph is used for this basin.
4136          KM          The Urban time-area relation is used for this basin.
4137          KM
4138          KM      Time of Concentration for this sub-basin is based on the following:
```



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

4139          KM          An rainfall areal reduction factor of 1.000
4140          KM
4141          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4142          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4143          KM   .29 .29 .29 .29 .29 .29 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4144          KM
4145          KM          L=   0.289 miles, S=  173 feet/mile, Kb= .03
4146          KM
4147          BA   0.030
4148          LG    0.06    0.25    5.70    0.18   73.65
4149          UC   0.125   0.101
4150          UA       0       5      16      30      65      77      84      90      94      97
4151          UA     100
              *

4152          KK   C620R
4153          KM      Hydrograph combine 619620 + R619L + 211W at C620 right branch
4154          HC       3    0.28
              *

4155          KK  BB611R
4156          KM      Retrieve previously diverted hydrograph at C611 in the right branch.
4157          DR   D611R
              *

4158          KK  611620
4159          KM                Lag route through Palisades Plaza storm drain
4160          RT       0               1
              *
```

```
4161          KK    C620
4162          KM      Hydrograph combine 611620 + C620R at C620
4163          HC       2    0.42
              *

4164          KK  620621
4165          KM      Normal depth channel route from C620 to C621
4166          KM      Source:  HEC-2 Cross Section: AR 0.081
4167          RS       2    FLOW      -1
4168          RC   0.050   0.050   0.050   915.0  0.0394
4169          RX  9790.0  9790.1  9972.2  9994.8 10004.9 10029.7 10048.6 10125.0
4170          RY  1657.9  1657.5  1656.4  1646.8  1646.8  1657.8  1657.0  1657.9
              *

4171          KK    C621
4172          KM      Hydrograph combine C621L + 620621 at C621
4173          HC       2    7.93
              *

4174          KK  621622
4175          KM      Normal depth channel route from C621 to C622
4176          KM      Source:  HEC-2 Cross Section: AS 2.785
4177          RS       6    FLOW      -1
4178          RC   0.100   0.045   0.100  3830.0  0.0144
4179          RX  9827.3  9922.9  9951.0 10000.0 10002.7 10044.7 10071.6 10076.8
1                                          HEC-1 INPUT                                                    PAGE100

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

4180          RY  1615.2  1611.0  1604.1  1600.8  1601.5  1601.6  1611.0  1613.9
              *

4181          KK    211X
4182          KM   Sub-Basin   211X
4183          KM
4184          KM      The Clark Unit Hydrograph is used for this basin.
4185          KM          The Urban time-area relation is used for this basin.
4186          KM
4187          KM      Time of Concentration for this sub-basin is based on the following:
4188          KM          An rainfall areal reduction factor of 1.000
4189          KM
4190          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4191          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4192          KM   .28 .28 .28 .28 .28 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
4193          KM
4194          KM          L=   0.929 miles, S=  111 feet/mile, Kb= .03
4195          KM
4196          BA   0.214
4197          LG    0.10    0.26    4.90    0.26   56.64
4198          UC   0.263   0.190
4199          UA       0       5      16      30      65      77      84      90      94      97
4200          UA     100
              *

4201          KK   C622R
4202          KM      Hydrograph combine 621622 + 211X at C622 right branch
4203          HC       2
              *
              * *
              * * Move to the top of Tulip Wash
              * *
              *

4204          KK    211A
4205          KM   Sub-Basin   211A
4206          KM
4207          KM      The Clark Unit Hydrograph is used for this basin.
4208          KM          The Urban time-area relation is used for this basin.
4209          KM
4210          KM      Time of Concentration for this sub-basin is based on the following:
4211          KM          An rainfall areal reduction factor of 1.000
4212          KM
4213          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4214          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4215          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4216          KM
4217          KM          L=   0.820 miles, S=  248 feet/mile, Kb= .03
4218          KM
4219          BA   0.143
4220          LG    0.09    0.25    5.70    0.18   23.09
4221          UC   0.192   0.153
4222          UA       0       5      16      30      65      77      84      90      94      97
4223          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE101

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
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```
4224          KK   C600O
4225          KM      Reservoir route at C600.
4226          RS       1    ELEV  1754.0
4227          SV    0.00    0.14    0.62    1.52    2.95    5.06    7.98   11.80   16.61   22.67
4228          SV   30.07   38.71   40.50   40.60   41.60   42.70   43.70   44.60   45.70
4229          SE  1754.0  1756.0  1758.0  1760.0  1762.0  1764.0  1766.0  1768.0  1770.0  1772.0
4230          SE  1774.0  1776.0 1776.36  1776.4  1776.6  1776.8  1777.0  1777.2  1777.4
4231          SQ       0      55     183     320     427     513     570     620     665     709
4232          SQ     750     789     795     795     812     849     906     984    1084
              *

4233          KK  600601
4234          KM      Normal depth channel route from C600 to C601
4235          KM      Source:  HEC-2 Cross Section: TU 1.538
4236          RS       3    FLOW      -1
4237          RC   0.040   0.025   0.040  2406.0  0.0176
4238          RX  9945.6  9959.4  9968.3  9985.9 10000.0 10017.2 10038.7 10058.8
4239          RY  1734.5  1732.3  1727.9  1726.2  1725.0  1727.7  1735.2  1736.0
              *

4240          KK    211B
4241          KM   Sub-Basin   211B
4242          KM
4243          KM      The Clark Unit Hydrograph is used for this basin.
4244          KM          The Urban time-area relation is used for this basin.
4245          KM
4246          KM      Time of Concentration for this sub-basin is based on the following:
4247          KM          An rainfall areal reduction factor of 1.000
4248          KM
4249          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4250          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4251          KM   .27 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4252          KM
4253          KM          L=   0.618 miles, S=  244 feet/mile, Kb= .03
4254          KM
4255          BA   0.109
4256          LG    0.09    0.25    5.80    0.18   20.22
4257          UC   0.167   0.122
4258          UA       0       5      16      30      65      77      84      90      94      97
4259          UA     100
              *

4260          KK    C601
4261          KM      Hydrograph combine 600601 + 211B at C601
4262          HC       2
              *

4263          KK  601602
4264          KM      Normal depth channel route from C601 to C602
4265          KM      Source:  HEC-2 Cross Section: TU 1.102
4266          RS       3    FLOW      -1
4267          RC   0.065   0.040   0.055  1765.0  0.0146
4268          RX  9916.9  9959.1  9965.8  9980.2 10004.0 10019.5 10047.3 10094.1
4269          RY  1699.9  1699.8  1696.4  1689.8  1688.9  1695.7  1698.2  1698.4
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

4270          KK    211C
4271          KM   Sub-Basin   211C
4272          KM
4273          KM      The Clark Unit Hydrograph is used for this basin.
4274          KM          The Urban time-area relation is used for this basin.
4275          KM
4276          KM      Time of Concentration for this sub-basin is based on the following:
4277          KM          An rainfall areal reduction factor of 1.000
4278          KM
4279          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4280          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4281          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4282          KM
4283          KM          L=   0.479 miles, S=  154 feet/mile, Kb= .03
4284          KM
4285          BA   0.043
4286          LG    0.08    0.25    5.70    0.18   44.48
4287          UC   0.167   0.169
4288          UA       0       5      16      30      65      77      84      90      94      97
4289          UA     100
              *

4290          KK   C602L
4291          KM      Hydrograph combine 601602 + 211C at C602 left branch
4292          HC       2
              *
```

```
4293          KK    211D
4294          KM   Sub-Basin   211D
4295          KM
4296          KM      The Clark Unit Hydrograph is used for this basin.
4297          KM          The Urban time-area relation is used for this basin.
4298          KM
4299          KM      Time of Concentration for this sub-basin is based on the following:
4300          KM          An rainfall areal reduction factor of 1.000
4301          KM
4302          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4303          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4304          KM   .26 .26 .25 .25 .25 .25 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
4305          KM
4306          KM          L=   0.686 miles, S=  115 feet/mile, Kb= .03
4307          KM
4308          BA   0.071
4309          LG    0.08    0.25    3.85    0.46   37.42
4310          UC   0.229   0.242
4311          UA       0       5      16      30      65      77      84      90      94      97
4312          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE103

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


4313          KK    C602
4314          KM      Hydrograph combine C602L + 211D at C602
4315          HC       2
              *

4316          KK  602603
4317          KM      Normal depth channel route from C602 to C603
4318          KM      Source:  HEC-2 Cross Section: LE 0.672
4319          RS       3    FLOW      -1
4320          RC   0.060   0.045   0.060  2610.0  0.0211
4321          RX  9891.9  9963.9  9986.5 10000.0 10012.7 10023.8 10085.0 10176.4
4322          RY  1653.5  1653.5  1644.4  1644.1  1645.0  1649.8  1651.7  1656.7
              *

4323          KK    211E
4324          KM   Sub-Basin   211E
4325          KM
4326          KM      The Clark Unit Hydrograph is used for this basin.
4327          KM          The Urban time-area relation is used for this basin.
4328          KM
4329          KM      Time of Concentration for this sub-basin is based on the following:
4330          KM          An rainfall areal reduction factor of 1.000
4331          KM
4332          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4333          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4334          KM   .28 .27 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4335          KM
4336          KM          L=   0.609 miles, S=  118 feet/mile, Kb= .03
4337          KM
4338          BA   0.156
4339          LG    0.08    0.25    5.10    0.24   42.21
4340          UC   0.208   0.126
4341          UA       0       5      16      30      65      77      84      90      94      97
4342          UA     100
              *

4343          KK    C603
4344          KM      Hydrograph combine 602603 + 211E at C603
4345          HC       2
              *

4346          KK  603622
4347          KM      Normal depth channel route from C603 to C622
4348          KM      Source:  HEC-2 Cross Section: LE 0.287
4349          RS       4    FLOW      -1
4350          RC   0.060   0.045   0.060  2745.0  0.0204
4351          RX  9883.0  9929.7  9967.3  9991.6 10042.2 10073.6 10177.6 10194.5
4352          RY  1619.4  1618.7  1611.8  1602.1  1603.3  1609.4  1610.5  1610.6
              *
1                                          HEC-1 INPUT                                          PAGE104

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


4353          KK    211F
4354          KM   Sub-Basin   211F
4355          KM
4356          KM      The Clark Unit Hydrograph is used for this basin.
4357          KM          The Urban time-area relation is used for this basin.
4358          KM
4359          KM      Time of Concentration for this sub-basin is based on the following:
4360          KM          An rainfall areal reduction factor of 1.000
```

```
4361          KM
4362          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4363          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4364          KM   .28 .28 .27 .27 .27 .27 .03 .03 .03 .03 .03 .03 .02 .02 .02 .02 .02 .02
4365          KM
4366          KM          L=   0.770 miles, S=  134 feet/mile, Kb= .03
4367          KM
4368          BA   0.113
4369          LG    0.08    0.25    4.30    0.36   62.81
4370          UC   0.225   0.199
4371          UA       0       5      16      30      65      77      84      90      94      97
4372          UA     100
              *

4373          KK   C622L
4374          KM      Hydrograph combine 603622 + 211F at C622 left branch
4375          HC       2
              *

4376          KK    C622
4377          KM      Hydrograph combine C622R + C622L at C622
4378          HC       2
              *

4379          KK  622549
4380          KM      Normal depth channel route from C622 to C549
4381          KM      Source:  HEC-2 Cross Section: AS 2.279
4382          RS       5    FLOW      -1
4383          RC   0.113   0.125   0.120  1697.0  0.0118
4384          RX  9847.1  9851.0  9857.5  9862.8 10052.6 10062.8 10075.6 10084.6
4385          RY  1573.5  1571.3  1567.2  1564.6  1565.1  1566.7  1573.7  1573.9
              *

4386          KK    211Y
4387          KM   Sub-Basin   211Y
4388          KM
4389          KM      The Clark Unit Hydrograph is used for this basin.
4390          KM          The Urban time-area relation is used for this basin.
4391          KM
4392          KM      Time of Concentration for this sub-basin is based on the following:
4393          KM          An rainfall areal reduction factor of 1.000
4394          KM
4395          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4396          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4397          KM   .29 .29 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4398          KM
```



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

4399          KM          L=   0.606 miles, S=  147 feet/mile, Kb= .04
4400          KM
4401          BA   0.089
4402          LG    0.09    0.21    6.60    0.13   50.06
4403          UC   0.221   0.184
4404          UA       0       5      16      30      65      77      84      90      94      97
4405          UA     100
              *

4406          KK   C549R
4407          KM      Hydrograph combine 622549 + 211Y at C549 right branch
4408          HC       2
              *

4409          KK    C549
4410          KM      Hydrograph combine C549L + C549R at C549
4411          HC       2
              *

4412          KK  549626
4413          KM      Normal depth channel route from C549 to C626
4414          KM      Source:  HEC-2 Cross Section: AS 1.855
4415          RS       5    FLOW      -1
4416          RC   0.113   0.125   0.120  2044.0  0.0171
4417          RX  9943.2  9963.0  9985.6  9994.1 10007.6 10029.2 10150.5 10171.3
4418          RY  1539.3  1534.5  1531.2  1528.3  1528.2  1531.7  1532.5  1537.4
              *

4419          KK    211Z
4420          KM   Sub-Basin   211Z
4421          KM
4422          KM      The Clark Unit Hydrograph is used for this basin.
4423          KM          The Urban time-area relation is used for this basin.
4424          KM
4425          KM      Time of Concentration for this sub-basin is based on the following:
4426          KM          An rainfall areal reduction factor of 1.000
4427          KM
4428          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
```

```
4429          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4430          KM   .26 .26 .26 .26 .26 .26 .02 .02 .02 .02 .02 .02 .01 .01 .01 .01 .01 .01
4431          KM
4432          KM          L=   0.509 miles, S=  147 feet/mile, Kb= .04
4433          KM
4434          BA   0.083
4435          LG    0.14    0.27    4.50    0.34   34.43
4436          UC   0.208   0.157
4437          UA       0       5      16      30      65      77      84      90      94      97
4438          UA     100
              *
1                                        HEC-1 INPUT                                          PAGE106

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


4439          KK   C626C
4440          KM      Hydrograph combine 549626 + 211Z at C626 main branch
4441          HC       2
              *

4442          KK   211AA
4443          KM   Sub-Basin  211AA
4444          KM
4445          KM      The Clark Unit Hydrograph is used for this basin.
4446          KM          The Urban time-area relation is used for this basin.
4447          KM
4448          KM      Time of Concentration for this sub-basin is based on the following:
4449          KM          An rainfall areal reduction factor of 1.000
4450          KM
4451          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4452          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4453          KM   .29 .28 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4454          KM
4455          KM          L=   0.480 miles, S=   85 feet/mile, Kb= .03
4456          KM
4457          BA   0.034
4458          LG    0.08    0.19    6.60    0.13   39.38
4459          UC   0.200   0.237
4460          UA       0       5      16      30      65      77      84      90      94      97
4461          UA     100
              *

4462          KK  625626
4463          KM      Normal depth channel route from C625 to C626
4464          KM      Source:  200 Scale Mapping
4465          RS       3    FLOW      -1
4466          RC   0.040   0.018   0.040  1350.0  0.0252
4467          RX  1000.0  1020.0  1021.2  1055.2  1089.2  1090.4  1100.4  1105.4
4468          RY  1527.0  1526.0  1525.6  1526.3  1525.6  1526.0  1528.0  1530.0
              *

4469          KK   211AB
4470          KM   Sub-Basin  211AB
4471          KM
4472          KM      The Clark Unit Hydrograph is used for this basin.
4473          KM          The Urban time-area relation is used for this basin.
4474          KM
4475          KM      Time of Concentration for this sub-basin is based on the following:
4476          KM          An rainfall areal reduction factor of 1.000
4477          KM
4478          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4479          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4480          KM   .29 .29 .29 .29 .29 .29 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4481          KM
4482          KM          L=   0.293 miles, S=  321 feet/mile, Kb= .03
4483          KM
4484          BA   0.040
4485          LG    0.07    0.17    6.80    0.12   54.72
4486          UC   0.104   0.071
1                                        HEC-1 INPUT                                          PAGE107

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

4487          UA       0       5      16      30      65      77      84      90      94      97
4488          UA     100
              *

4489          KK  623624
4490          KM      Normal depth channel route from C623 to C624
4491          KM      Source:  200 Scale Mapping
4492          RS       1    FLOW      -1
4493          RC   0.040   0.018   0.040   701.0  0.0114
4494          RX  1000.0  1010.0  1011.2  1027.2  1043.2  1044.4  1059.4  1074.4
4495          RY  1534.0  1532.0  1531.6  1531.9  1531.6  1532.0  1532.5  1533.0
              *

4496          KK   211AC
```

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4497          KM   Sub-Basin  211AC
4498          KM
4499          KM      The Clark Unit Hydrograph is used for this basin.
4500          KM          The Urban time-area relation is used for this basin.
4501          KM
4502          KM      Time of Concentration for this sub-basin is based on the following:
4503          KM          An rainfall areal reduction factor of 1.000
4504          KM
4505          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4506          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4507          KM   .29 .29 .29 .29 .29 .29 .04 .04 .04 .04 .04 .04 .03 .03 .03 .03 .03 .03
4508          KM
4509          KM          L=   0.306 miles, S=   82 feet/mile, Kb= .03
4510          KM
4511          BA   0.027
4512          LG    0.08    0.15    8.40    0.07   44.76
4513          UC   0.163   0.148
4514          UA       0       5      16      30      65      77      84      90      94      97
4515          UA     100
              *

4516          KK    C624
4517          KM      Hydrograph combine 623624 + 211AC at C624
4518          HC       2
              *

4519          KK  624626
4520          KM      Normal depth channel route from C624 to C626
4521          KM      Source:  HEC-2 Cross Section: AS 1.727
4522          RS       2    FLOW      -1
4523          RC   0.080   0.060   0.080   637.0  0.0235
4524          RX  9872.9  9881.0  9893.9  9902.2  9967.6  9976.4 10076.1 10084.3
4525          RY  1526.3  1524.6  1521.7  1520.0  1520.7  1521.6  1520.7  1526.2
              *

4526          KK   211AD
4527          KM   Sub-Basin  211AD
4528          KM
4529          KM      The Clark Unit Hydrograph is used for this basin.
4530          KM          The Urban time-area relation is used for this basin.
4531          KM
```



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

4532          KM      Time of Concentration for this sub-basin is based on the following:
4533          KM          An rainfall areal reduction factor of 1.000
4534          KM
4535          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4536          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4537          KM   .29 .29 .29 .29 .29 .29 .04 .04 .04 .04 .04 .04 .03 .03 .03 .03 .03 .03
4538          KM
4539          KM          L=   0.489 miles, S=  280 feet/mile, Kb= .03
4540          KM
4541          BA   0.041
4542          LG    0.08    0.15    8.00    0.08   46.16
4543          UC   0.138   0.142
4544          UA       0       5      16      30      65      77      84      90      94      97
4545          UA     100
              *

4546          KK   C626R
4547          KM      Hydrograph combine 624626 + 211AD at C626 right branch
4548          HC       2
              *

4549          KK    C626
4550          KM      Hydrograph combine C626C + 625626 at C626R
4551          HC       3
              *

4552          KK  626627
4553          KM      Normal depth channel route from C626 to C627
4554          KM      Source:  HEC-2 Cross Section: AS 1.602
4555          RS       1    FLOW      -1
4556          RC   0.080   0.060   0.080   625.0  0.0208
4557          RX  9889.8  9941.2  9963.0 10011.6 10074.8 10083.9 10191.7 10210.4
4558          RY  1517.6  1516.9  1508.1  1506.6  1508.6  1511.7  1513.1  1518.8
              *

4559          KK   211AE
4560          KM   Sub-Basin  211AE
4561          KM
4562          KM      The Clark Unit Hydrograph is used for this basin.
4563          KM          The Urban time-area relation is used for this basin.
4564          KM
4565          KM      Time of Concentration for this sub-basin is based on the following:
4566          KM          An rainfall areal reduction factor of 1.000
```

```
4567          KM
4568          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4569          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4570          KM   .28 .28 .28 .28 .28 .28 .03 .03 .03 .03 .03 .03 .01 .01 .01 .01 .01 .01
4571          KM
4572          KM          L=   0.313 miles, S=  153 feet/mile, Kb= .04
4573          KM
4574          BA   0.034
4575          LG    0.12    0.24    6.40    0.15   38.15
4576          UC   0.158   0.129
4577          UA       0       5      16      30      65      77      84      90      94      97
4578          UA     100
              *
1                                                HEC-1 INPUT                                                PAGE109

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


4579          KK    C627
4580          KM      Hydrograph combine 626627 + 211AE at C627
4581          HC       2
              *
              * *
              * * C627 is the total flow in Ashbrook Wash at the Study boundary
              * *
              *

4582          KK   211AF
4583          KM   Sub-Basin  211AF
4584          KM
4585          KM      The Clark Unit Hydrograph is used for this basin.
4586          KM          The Urban time-area relation is used for this basin.
4587          KM
4588          KM      Time of Concentration for this sub-basin is based on the following:
4589          KM          An rainfall areal reduction factor of 1.000
4590          KM
4591          KM       EXCESS RAINFALL VALUES EXCEEDED IN 5-MINUTE INTERVALS
4592          KM     5  10  15  20  25  30  35  40  45  50  55  60  65  70  75  80  85  90
4593          KM   .28 .28 .28 .28 .28 .28 .04 .04 .04 .04 .04 .04 .02 .02 .02 .02 .02 .02
4594          KM
4595          KM          L=   0.332 miles, S=  292 feet/mile, Kb= .03
4596          KM
4597          BA   0.053
4598          LG    0.07    0.25    5.80    0.17   52.43
4599          UC   0.113   0.073
4600          UA       0       5      16      30      65      77      84      90      94      97
4601          UA     100
              *
              * *
              * * End Basin 211.
              * *
              *
4602          ZZ
1*****************************************                                  ****************************************
 *                                       *                                  *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                  *    U.S. ARMY CORPS OF ENGINEERS      *
 *              MAY   1991               *                                  *    HYDROLOGIC ENGINEERING CENTER     *
 *           VERSION 4.0.1E              *                                  *          609 SECOND STREET           *
 *     Lahey F77L-EM/32 version 5.01     *                                  *       DAVIS, CALIFORNIA 95616        *
 *       Dodson & Associates, Inc.       *                                  *           (916) 551-1748             *
 *  RUN DATE  06/30/97  TIME  08:01:14   *                                  *                                      *
 *****************************************                                  ****************************************


                        Fountain Hills Area Drainage Master Plan
                        Golden Eagle Park Dam Feasibility Study
                             FCD 94-16       by GVSCE                        File:  FUMOD24.IH1
                         Future Condition Model                              Date:  6/30/97
                         Proposed Improvements for GEPD Reflected in Rating Curve at C5990
                         100-Year, 24-Hour Storm

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

     IT          HYDROGRAPH TIME DATA
                        NMIN           1  MINUTES IN COMPUTATION INTERVAL
                       IDATE      1    0  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ        1800  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      2    0  ENDING DATE
                      NDTIME        0559  ENDING TIME
                       ICENT          19  CENTURY MARK
```

```
            COMPUTATION INTERVAL    0.02 HOURS
                 TOTAL TIME BASE   29.98 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

10 JD         INDEX STORM NO. 1
                 STRM        4.20  PRECIPITATION DEPTH
                 TRDA        0.01  TRANSPOSITION DRAINAGE AREA

11 PI          PRECIPITATION PATTERN
```

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

21 JD INDEX STORM NO. 2

STRM 4.12 PRECIPITATION DEPTH

TRDA 5.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

22 JD        INDEX STORM NO. 3
                   STRM       3.99  PRECIPITATION DEPTH
                   TRDA      10.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00

23 JD          INDEX STORM NO. 4
                      STRM        3.71  PRECIPITATION DEPTH
                      TRDA       50.00  TRANSPOSITION DRAINAGE AREA

 0 PI            PRECIPITATION PATTERN
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
          0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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24 JD         INDEX STORM NO. 5
                  STRM       3.62  PRECIPITATION DEPTH
                  TRDA      80.00  TRANSPOSITION DRAINAGE AREA
```

0 PI PRECIPITATION PATTERN

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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WARNING EXCESS AT PONDING LESS THAN ZERO FOR PERIOD. EXCESS SET TO ZERO
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+										
	HYDROGRAPH AT									
+		201A	241.	12.17	35.	9.	8.	0.22		
	HYDROGRAPH AT									
+		201B	92.	12.13	12.	3.	2.	0.08		
	2 COMBINED AT									
+		C501	332.	12.17	47.	12.	10.	0.30		
	ROUTED TO									
+		501502	327.	12.28	47.	12.	10.	0.30		
	HYDROGRAPH AT									

+	201C	134.	12.02	16.	5.	4.	0.08
2 COMBINED AT +	C502R	388.	12.20	63.	17.	13.	0.38
HYDROGRAPH AT +	201D	71.	12.17	12.	3.	3.	0.07
2 COMBINED AT +	C502	458.	12.20	74.	20.	16.	0.45
ROUTED TO +	502503	453.	12.33	74.	20.	16.	0.45
HYDROGRAPH AT +	201E	175.	12.22	29.	8.	6.	0.18
2 COMBINED AT +	C503I	616.	12.30	102.	27.	22.	0.63
ROUTED TO +	C503O	298.	12.83	102.	28.	22.	0.63
DIVERSION TO +	D503L	298.	12.83	102.	28.	22.	0.63
HYDROGRAPH AT +	D503R	0.	0.02	0.	0.	0.	0.63
ROUTED TO +	503504	0.	0.02	0.	0.	0.	0.63
HYDROGRAPH AT +	202A	63.	12.02	7.	2.	2.	0.04
2 COMBINED AT +	C504I	62.	12.02	7.	2.	2.	0.67
ROUTED TO +	C504O	34.	12.18	7.	2.	2.	0.67
DIVERSION TO +	D504L	22.	12.08	6.	2.	2.	0.67
HYDROGRAPH AT +	D504R	12.	12.18	1.	0.	0.	0.67
HYDROGRAPH AT +	202B	31.	12.02	3.	1.	1.	0.02
2 COMBINED AT +	C505I	35.	12.03	4.	1.	1.	0.69
DIVERSION TO +	D505L	14.	12.03	3.	1.	1.	0.69
HYDROGRAPH AT +	D505R	21.	12.03	1.	0.	0.	0.69
HYDROGRAPH AT +	202C	14.	12.00	2.	1.	0.	0.01
2 COMBINED AT +	C506	34.	12.03	3.	1.	1.	0.69
DIVERSION TO +	D506L	0.	0.02	0.	0.	0.	0.69
HYDROGRAPH AT +	D506R	34.	12.03	3.	1.	1.	0.69
HYDROGRAPH AT +	202D	99.	12.03	13.	4.	3.	0.06
HYDROGRAPH AT +	202E	183.	12.02	21.	6.	5.	0.10
ROUTED TO +	C508O	182.	12.03	21.	6.	5.	0.10
DIVERSION TO +	D508R	71.	12.03	13.	4.	3.	0.10
HYDROGRAPH AT +	D508L	111.	12.03	8.	2.	2.	0.10
ROUTED TO +	508507	108.	12.10	8.	2.	2.	0.10

	3 COMBINED AT						
+	C507I	234.	12.05	23.	6.	5.	0.86
	ROUTED TO						
+	C507O	234.	12.05	23.	6.	5.	0.86
	HYDROGRAPH AT						
+	202F	24.	12.00	3.	1.	1.	0.01
	HYDROGRAPH AT						
+	202G	25.	12.00	3.	1.	1.	0.01
	HYDROGRAPH AT						
+	202H	310.	12.02	35.	10.	8.	0.18
	ROUTED TO						
+	C511O	259.	12.10	35.	10.	8.	0.18
	ROUTED TO						
+	511512	258.	12.15	35.	10.	8.	0.18
	HYDROGRAPH AT						
+	202I	33.	12.00	5.	2.	1.	0.02
	2 COMBINED AT						
+	C512I	279.	12.10	40.	12.	10.	0.20
	ROUTED TO						
+	C512O	190.	12.38	24.	7.	5.	0.20
	DIVERSION TO						
+	D512R	80.	12.38	5.	1.	1.	0.20
	HYDROGRAPH AT						
+	D512L	110.	12.38	19.	6.	4.	0.20
	HYDROGRAPH AT						
+	203A	267.	12.22	43.	11.	9.	0.28
	ROUTED TO						
+	C513O	237.	12.38	43.	11.	9.	0.28
	ROUTED TO						
+	513514	234.	12.48	43.	11.	9.	0.28
	HYDROGRAPH AT						
+	203B	75.	12.02	9.	2.	2.	0.04
	2 COMBINED AT						
+	C514R	249.	12.48	51.	13.	11.	0.32
	HYDROGRAPH AT						
+	203C	119.	12.13	18.	5.	4.	0.10
	2 COMBINED AT						
+	C514	319.	12.43	69.	18.	15.	0.43
	HYDROGRAPH AT						
+	203D	115.	12.17	18.	5.	4.	0.11
	2 COMBINED AT						
+	C515	402.	12.35	86.	23.	18.	0.53
	ROUTED TO						
+	515517	400.	12.50	86.	23.	18.	0.53
	HYDROGRAPH AT						
+	203E	170.	12.02	20.	6.	5.	0.09
	2 COMBINED AT						
+	C517R	433.	12.45	106.	28.	23.	0.63
	HYDROGRAPH AT						
+	203F	345.	12.28	47.	12.	9.	0.33
	ROUTED TO						
+	516517	333.	12.52	47.	12.	9.	0.33
	HYDROGRAPH AT						
+	203G	267.	12.18	41.	11.	9.	0.25
	2 COMBINED AT						
+	C517L	508.	12.45	88.	23.	18.	0.58
	2 COMBINED AT						
+	C517	938.	12.45	193.	51.	41.	1.21
	ROUTED TO						

+	517518	931.	12.58	193.	51.	41.	1.21
HYDROGRAPH AT							
+	203H	337.	12.03	40.	12.	9.	0.21
2 COMBINED AT							
+	C518	996.	12.55	232.	63.	50.	1.41
ROUTED TO							
+	518519	992.	12.62	232.	63.	50.	1.41
HYDROGRAPH AT							
+	203I	233.	12.08	33.	10.	8.	0.17
2 COMBINED AT							
+	C519	1063.	12.60	265.	72.	58.	1.59
ROUTED TO							
+	519591	1060.	12.63	265.	72.	58.	1.59
HYDROGRAPH AT							
+	203J	70.	12.02	10.	3.	3.	0.04
ROUTED TO							
+	520591	70.	12.07	10.	3.	3.	0.04
HYDROGRAPH AT							
+	BB512R	80.	12.38	5.	1.	1.	0.20
3 COMBINED AT							
+	C591	1119.	12.28	280.	77.	62.	1.83
ROUTED TO							
+	591521	1115.	12.30	280.	77.	62.	1.83
HYDROGRAPH AT							
+	203K	276.	12.03	37.	12.	9.	0.16
2 COMBINED AT							
+	C521	1241.	12.25	316.	88.	71.	1.99
5 COMBINED AT							
+	CLEAR	1464.	12.23	360.	101.	82.	3.07
HYDROGRAPH AT							
+	204A	187.	12.02	22.	6.	5.	0.11
ROUTED TO							
+	522523	181.	12.17	22.	6.	5.	0.11
HYDROGRAPH AT							
+	204B	209.	12.03	25.	7.	6.	0.13
2 COMBINED AT							
+	C523I	370.	12.07	47.	14.	11.	0.23
ROUTED TO							
+	C523O	280.	12.25	47.	14.	11.	0.23
DIVERSION TO							
+	D523R	18.	12.25	1.	0.	0.	0.23
HYDROGRAPH AT							
+	D523L	262.	12.25	46.	13.	11.	0.23
ROUTED TO							
+	523524	259.	12.33	46.	13.	11.	0.23
HYDROGRAPH AT							
+	204C	149.	12.00	20.	7.	5.	0.08
2 COMBINED AT							
+	C524	329.	12.07	66.	20.	16.	0.31
ROUTED TO							
+	524525	325.	12.08	66.	20.	16.	0.31
HYDROGRAPH AT							
+	204D	82.	12.02	11.	3.	3.	0.04
2 COMBINED AT							
+	C525	399.	12.07	77.	24.	19.	0.35
ROUTED TO							
+	525526	395.	12.10	77.	24.	19.	0.35
HYDROGRAPH AT							
+	204E	126.	12.02	16.	5.	4.	0.07

	2 COMBINED AT						
+	C526	512.	12.07	93.	29.	23.	0.43
	ROUTED TO						
+	526527	505.	12.12	93.	28.	23.	0.43
	HYDROGRAPH AT						
+	204F	147.	12.02	19.	6.	5.	0.08
	2 COMBINED AT						
+	C527	627.	12.07	112.	34.	28.	0.50
	2 COMBINED AT						
+	CLEAR	2017.	12.13	471.	136.	109.	3.58
	HYDROGRAPH AT						
+	205A	130.	12.23	22.	7.	6.	0.12
	HYDROGRAPH AT						
+	205B	237.	12.30	40.	12.	10.	0.21
	2 COMBINED AT						
+	C528	361.	12.27	62.	19.	15.	0.33
	ROUTED TO						
+	528530	360.	12.32	62.	19.	15.	0.33
	HYDROGRAPH AT						
+	205C	65.	12.22	11.	3.	3.	0.06
	2 COMBINED AT						
+	C530R	417.	12.30	73.	23.	18.	0.39
	HYDROGRAPH AT						
+	205D	405.	12.22	60.	19.	15.	0.32
	HYDROGRAPH AT						
+	205E	203.	12.32	41.	13.	10.	0.22
	2 COMBINED AT						
+	C529	596.	12.25	100.	31.	25.	0.54
	2 COMBINED AT						
+	C530	1005.	12.27	173.	54.	43.	0.93
	ROUTED TO						
+	530531	996.	12.32	173.	54.	43.	0.93
	HYDROGRAPH AT						
+	205F	197.	12.22	30.	9.	8.	0.16
	2 COMBINED AT						
+	C531	1172.	12.30	202.	63.	50.	1.09
	ROUTED TO						
+	531532	1162.	12.37	202.	63.	50.	1.09
	HYDROGRAPH AT						
+	205G	214.	12.23	33.	10.	8.	0.19
	2 COMBINED AT						
+	C532L	1344.	12.33	235.	73.	59.	1.27
	HYDROGRAPH AT						
+	205H	237.	12.33	47.	14.	12.	0.26
	2 COMBINED AT						
+	C532	1578.	12.33	282.	87.	70.	1.53
	ROUTED TO						
+	532533	1575.	12.37	282.	87.	70.	1.53
	HYDROGRAPH AT						
+	205I	367.	12.28	56.	16.	13.	0.35
	2 COMBINED AT						
+	C533	1920.	12.33	337.	103.	82.	1.89
	ROUTED TO						
+	533534	1889.	12.50	337.	103.	82.	1.89
	HYDROGRAPH AT						
+	205J	361.	12.28	50.	13.	10.	0.37
	2 COMBINED AT						
+	C534R	2142.	12.48	386.	115.	93.	2.25
	HYDROGRAPH AT						

+	205K	183.	12.37	35.	9.	7.	0.25
2 COMBINED AT +	C534	2310.	12.47	420.	124.	100.	2.50
ROUTED TO +	534535	2300.	12.53	420.	124.	100.	2.50
HYDROGRAPH AT +	205L	147.	12.17	15.	4.	3.	0.12
2 COMBINED AT +	C535	2346.	12.52	435.	128.	103.	2.62
ROUTED TO +	535536	2320.	12.65	435.	128.	103.	2.62
HYDROGRAPH AT +	205M	210.	12.05	26.	7.	6.	0.14
2 COMBINED AT +	C536R	2354.	12.65	460.	135.	108.	2.76
HYDROGRAPH AT +	205N	141.	12.22	22.	6.	4.	0.16
2 COMBINED AT +	C536I	2430.	12.63	482.	140.	113.	2.91
ROUTED TO +	C536O	321.	14.07	307.	140.	113.	2.91
ROUTED TO +	536537	321.	14.12	307.	140.	113.	2.91
HYDROGRAPH AT +	206A	224.	12.02	26.	8.	6.	0.13
2 COMBINED AT +	C537	358.	12.07	313.	148.	119.	3.04
ROUTED TO +	537538	351.	12.12	313.	148.	119.	3.04
HYDROGRAPH AT +	206B	169.	12.02	21.	6.	5.	0.09
2 COMBINED AT +	C538I	499.	12.07	327.	154.	124.	3.14
ROUTED TO +	C538O	456.	12.15	324.	154.	124.	3.14
ROUTED TO +	538540	448.	12.25	324.	154.	124.	3.14
HYDROGRAPH AT +	206C	35.	12.05	4.	1.	1.	0.02
2 COMBINED AT +	C540R	468.	12.25	326.	155.	125.	3.16
HYDROGRAPH AT +	206D	114.	12.02	14.	4.	4.	0.06
ROUTED TO +	539540	111.	12.08	14.	4.	4.	0.06
HYDROGRAPH AT +	206E	38.	12.02	4.	1.	1.	0.02
2 COMBINED AT +	C540L	147.	12.03	18.	6.	5.	0.09
2 COMBINED AT +	C540	561.	12.20	339.	161.	130.	3.24
ROUTED TO +	540541	548.	12.40	339.	161.	130.	3.24
HYDROGRAPH AT +	206F	247.	12.03	29.	9.	7.	0.16
2 COMBINED AT +	C541	633.	12.22	358.	169.	136.	3.40
ROUTED TO +	541548	632.	12.25	358.	169.	136.	3.40

	HYDROGRAPH AT						
+	206G	125.	12.07	18.	5.	4.	0.09
	HYDROGRAPH AT						
+	BB523R	18.	12.25	1.	0.	0.	0.23
	ROUTED TO						
+	523548	15.	12.50	1.	0.	0.	0.23
	3 COMBINED AT						
+	C548L	726.	12.12	374.	174.	141.	3.72
	HYDROGRAPH AT						
+	206H	106.	12.02	13.	4.	3.	0.06
	ROUTED TO						
+	542543	105.	12.05	13.	4.	3.	0.06
	HYDROGRAPH AT						
+	206I	40.	12.00	5.	1.	1.	0.02
	2 COMBINED AT						
+	C543	143.	12.02	17.	5.	4.	0.08
	DIVERSION TO						
+	D543R	143.	12.02	17.	5.	4.	0.08
	HYDROGRAPH AT						
+	D543L	0.	0.02	0.	0.	0.	0.08
	ROUTED TO						
+	543544	0.	0.02	0.	0.	0.	0.08
	HYDROGRAPH AT						
+	206K	96.	12.02	11.	3.	3.	0.06
	2 COMBINED AT						
+	C544	96.	12.02	11.	3.	3.	0.14
	ROUTED TO						
+	544545	95.	12.05	11.	3.	3.	0.14
	DIVERSION TO						
+	D545R	48.	12.05	6.	2.	1.	0.14
	HYDROGRAPH AT						
+	D545L	48.	12.05	6.	2.	1.	0.14
	ROUTED TO						
+	545546	47.	12.07	6.	2.	1.	0.14
	HYDROGRAPH AT						
+	206L	106.	12.02	12.	3.	3.	0.06
	2 COMBINED AT						
+	C546	152.	12.02	18.	5.	4.	0.20
	ROUTED TO						
+	546547	152.	12.03	18.	5.	4.	0.20
	HYDROGRAPH AT						
+	BB543R	143.	12.02	17.	5.	4.	0.08
	ROUTED TO						
+	543547	140.	12.08	17.	5.	4.	0.08
	HYDROGRAPH AT						
+	BB545R	48.	12.05	6.	2.	1.	0.14
	ROUTED TO						
+	545547	47.	12.10	6.	2.	1.	0.14
	HYDROGRAPH AT						
+	206J	111.	12.02	14.	4.	3.	0.06
	4 COMBINED AT						
+	C547	443.	12.03	54.	16.	13.	0.26
	ROUTED TO						
+	547548	436.	12.08	54.	16.	13.	0.26
	HYDROGRAPH AT						
+	206M	109.	12.02	14.	4.	3.	0.06
	2 COMBINED AT						
+	C548R	535.	12.05	68.	21.	16.	0.32
	2 COMBINED AT						

+	C548	1241.	12.08	436.	194.	157.	4.04
ROUTED TO +	548549	1216.	12.23	435.	194.	157.	4.04
HYDROGRAPH AT +	206N	260.	12.03	35.	11.	9.	0.15
2 COMBINED AT +	C549L	1370.	12.20	462.	205.	166.	4.19
HYDROGRAPH AT +	207A	254.	12.30	46.	14.	11.	0.26
HYDROGRAPH AT +	207B	202.	12.30	38.	12.	9.	0.21
2 COMBINED AT +	C550	455.	12.30	84.	26.	21.	0.46
ROUTED TO +	550552	450.	12.37	84.	26.	21.	0.46
HYDROGRAPH AT +	207C	197.	12.22	27.	8.	6.	0.17
2 COMBINED AT +	C552L	617.	12.32	111.	33.	27.	0.64
HYDROGRAPH AT +	207D	255.	12.12	40.	13.	10.	0.20
ROUTED TO +	551552	252.	12.20	40.	13.	10.	0.20
HYDROGRAPH AT +	207E	178.	12.12	33.	11.	8.	0.16
2 COMBINED AT +	C552R	420.	12.17	73.	23.	19.	0.35
2 COMBINED AT +	C552	1001.	12.27	183.	56.	45.	0.99
ROUTED TO +	552553	998.	12.30	183.	56.	45.	0.99
HYDROGRAPH AT +	207F	153.	12.13	25.	8.	6.	0.13
2 COMBINED AT +	C553	1127.	12.28	208.	64.	51.	1.12
ROUTED TO +	553556	1121.	12.32	208.	64.	51.	1.12
HYDROGRAPH AT +	207G	190.	12.28	36.	10.	8.	0.24
2 COMBINED AT +	C556L	1309.	12.32	244.	73.	59.	1.35
HYDROGRAPH AT +	207H	181.	12.07	27.	9.	7.	0.12
ROUTED TO +	554555	178.	12.12	27.	9.	7.	0.12
HYDROGRAPH AT +	207I	120.	12.03	16.	5.	4.	0.07
2 COMBINED AT +	C555	289.	12.07	43.	14.	11.	0.20
ROUTED TO +	555556	282.	12.18	43.	14.	11.	0.20
HYDROGRAPH AT +	207J	154.	12.03	21.	7.	5.	0.09
2 COMBINED AT +	C556R	404.	12.08	64.	20.	16.	0.29
2 COMBINED AT +	C556	1626.	12.27	307.	94.	75.	1.64
ROUTED TO +	556557	1619.	12.32	307.	94.	75.	1.64

	HYDROGRAPH AT							
+		207K	209.	12.05	28.	9.	7.	0.13
	2 COMBINED AT							
+		C557R	1720.	12.30	334.	102.	82.	1.77
	HYDROGRAPH AT							
+		207L	136.	12.03	17.	5.	4.	0.08
	2 COMBINED AT							
+		C557	1780.	12.28	351.	107.	86.	1.85
	ROUTED TO							
+		557558	1770.	12.33	351.	107.	86.	1.85
	HYDROGRAPH AT							
+		207M	205.	12.02	23.	7.	5.	0.12
	2 COMBINED AT							
+		C558	1821.	12.33	373.	113.	91.	1.97
	ROUTED TO							
+		558560	1813.	12.37	373.	113.	91.	1.97
	HYDROGRAPH AT							
+		207O	227.	12.02	25.	7.	6.	0.13
	2 COMBINED AT							
+		C560R	1857.	12.37	397.	120.	97.	2.10
	HYDROGRAPH AT							
+		207N	87.	12.02	10.	3.	3.	0.05
	ROUTED TO							
+		559560	85.	12.08	10.	3.	3.	0.05
	2 COMBINED AT							
+		C560I	1892.	12.35	407.	124.	99.	2.15
	ROUTED TO							
+		C560O	283.	13.78	263.	123.	99.	2.15
	ROUTED TO							
+		560585	283.	13.88	263.	123.	99.	2.15
	HYDROGRAPH AT							
+		210A	213.	12.02	22.	6.	5.	0.12
	2 COMBINED AT							
+		C585	339.	12.03	270.	129.	104.	2.27
	HYDROGRAPH AT							
+		208A	253.	12.00	31.	10.	8.	0.14
	ROUTED TO							
+		561563	251.	12.03	31.	10.	8.	0.14
	HYDROGRAPH AT							
+		208B	46.	12.02	6.	2.	2.	0.03
	2 COMBINED AT							
+		C563R	297.	12.02	37.	12.	10.	0.17
	HYDROGRAPH AT							
+		208C	85.	12.10	13.	4.	3.	0.07
	ROUTED TO							
+		562563	83.	12.18	13.	4.	3.	0.07
	HYDROGRAPH AT							
+		208D	126.	12.02	17.	5.	4.	0.08
	2 COMBINED AT							
+		C563L	197.	12.05	30.	10.	8.	0.14
	2 COMBINED AT							
+		C563	491.	12.03	67.	22.	17.	0.31
	ROUTED TO							
+		563564	483.	12.08	67.	22.	17.	0.31
	HYDROGRAPH AT							
+		208E	107.	12.02	14.	5.	4.	0.06
	2 COMBINED AT							
+		C564R	579.	12.07	81.	26.	21.	0.37
	HYDROGRAPH AT							

+	208F	122.	12.02	16.	5.	4.	0.07
2 COMBINED AT +	C564	696.	12.05	97.	31.	25.	0.44
ROUTED TO +	564565	681.	12.13	96.	31.	25.	0.44
HYDROGRAPH AT +	208G	224.	12.03	30.	10.	8.	0.13
2 COMBINED AT +	C565	870.	12.08	126.	41.	33.	0.57
ROUTED TO +	565568	862.	12.13	126.	41.	33.	0.57
HYDROGRAPH AT +	208H	59.	12.07	9.	3.	2.	0.04
2 COMBINED AT +	C568L	916.	12.13	135.	43.	35.	0.61
HYDROGRAPH AT +	208I	204.	12.02	26.	8.	7.	0.12
HYDROGRAPH AT +	208J	128.	12.03	18.	6.	5.	0.08
2 COMBINED AT +	C566	330.	12.02	44.	14.	11.	0.20
ROUTED TO +	566567	326.	12.07	44.	14.	11.	0.20
HYDROGRAPH AT +	208K	88.	12.00	11.	4.	3.	0.05
2 COMBINED AT +	C567L	408.	12.03	56.	18.	14.	0.25
HYDROGRAPH AT +	208L	101.	12.02	13.	4.	3.	0.06
2 COMBINED AT +	C567	508.	12.03	69.	22.	18.	0.31
ROUTED TO +	567568	497.	12.12	69.	22.	18.	0.31
HYDROGRAPH AT +	208M	276.	12.03	39.	13.	10.	0.16
2 COMBINED AT +	C568R	752.	12.07	108.	35.	28.	0.46
2 COMBINED AT +	C568	1638.	12.10	243.	78.	63.	1.07
ROUTED TO +	568573	1622.	12.15	242.	78.	63.	1.07
HYDROGRAPH AT +	208N	78.	12.05	12.	4.	3.	0.05
2 COMBINED AT +	C573L	1687.	12.15	255.	82.	66.	1.12
HYDROGRAPH AT +	208O	392.	12.03	52.	17.	13.	0.23
ROUTED TO +	569570	389.	12.05	52.	17.	13.	0.23
HYDROGRAPH AT +	208P	111.	12.00	15.	5.	4.	0.06
2 COMBINED AT +	C570R	496.	12.03	66.	21.	17.	0.29
HYDROGRAPH AT +	208Q	158.	12.03	22.	7.	6.	0.09
2 COMBINED AT +	C570	652.	12.03	89.	29.	23.	0.38
HYDROGRAPH AT +	208R	19.	12.00	3.	1.	1.	0.01

	ROUTED TO						
+	571572	19.	12.02	3.	1.	1.	0.01
	2 COMBINED AT						
+	C572	671.	12.03	91.	29.	23.	0.39
	ROUTED TO						
+	572573	667.	12.05	91.	29.	23.	0.39
	HYDROGRAPH AT						
+	208S	129.	12.02	18.	6.	5.	0.07
	2 COMBINED AT						
+	C573R	792.	12.03	109.	35.	28.	0.46
	2 COMBINED AT						
+	C573	2380.	12.10	363.	117.	94.	1.58
	HYDROGRAPH AT						
+	208T	239.	12.02	30.	9.	8.	0.13
	HYDROGRAPH AT						
+	208U	252.	12.00	30.	10.	8.	0.13
	2 COMBINED AT						
+	C574	489.	12.00	60.	19.	15.	0.27
	ROUTED TO						
+	574575	488.	12.02	60.	19.	15.	0.27
	HYDROGRAPH AT						
+	208V	53.	12.00	6.	2.	2.	0.03
	2 COMBINED AT						
+	C575	541.	12.02	67.	21.	17.	0.29
	ROUTED TO						
+	575576	537.	12.03	67.	21.	17.	0.29
	HYDROGRAPH AT						
+	208W	93.	12.00	12.	4.	3.	0.05
	2 COMBINED AT						
+	C576	628.	12.02	78.	24.	20.	0.34
	ROUTED TO						
+	576577	628.	12.03	78.	24.	20.	0.34
	2 COMBINED AT						
+	C577	2969.	12.08	440.	141.	114.	1.92
	ROUTED TO						
+	577578	2951.	12.10	440.	141.	114.	1.92
	HYDROGRAPH AT						
+	208X	135.	12.02	16.	5.	4.	0.08
	2 COMBINED AT						
+	C578I	3058.	12.10	456.	146.	118.	2.00
	ROUTED TO						
+	C578O	460.	12.93	326.	146.	118.	2.00
	ROUTED TO						
+	578587	459.	12.98	326.	146.	118.	2.00
	HYDROGRAPH AT						
+	210B	178.	12.03	23.	7.	6.	0.11
	ROUTED TO						
+	C586O	168.	12.08	23.	7.	6.	0.11
	ROUTED TO						
+	586587	167.	12.13	23.	7.	6.	0.11
	2 COMBINED AT						
+	C587	477.	12.97	345.	153.	123.	2.11
	ROUTED TO						
+	587595	476.	13.00	345.	153.	123.	2.11
	HYDROGRAPH AT						
+	210C	135.	12.02	15.	4.	3.	0.08
	2 COMBINED AT						
+	C595L	553.	12.08	356.	157.	127.	2.19
	HYDROGRAPH AT						

+	210D	250.	12.02	30.	9.	7.	0.14
ROUTED TO +	588590	248.	12.05	30.	9.	7.	0.14
HYDROGRAPH AT +	210E	52.	12.02	6.	2.	1.	0.03
2 COMBINED AT +	C590L	299.	12.03	36.	11.	8.	0.17
HYDROGRAPH AT +	210F	165.	12.02	21.	7.	5.	0.09
ROUTED TO +	589590	164.	12.05	21.	7.	5.	0.09
HYDROGRAPH AT +	210G	282.	12.02	35.	11.	9.	0.16
2 COMBINED AT +	C590R	444.	12.03	56.	18.	14.	0.25
2 COMBINED AT +	C590	741.	12.03	91.	28.	22.	0.42
HYDROGRAPH AT +	210H	127.	12.02	14.	4.	3.	0.07
ROUTED TO +	592593	126.	12.05	14.	4.	3.	0.07
2 COMBINED AT +	C593	866.	12.03	105.	32.	26.	0.49
ROUTED TO +	593594	859.	12.05	105.	32.	26.	0.49
HYDROGRAPH AT +	210I	86.	12.03	11.	3.	2.	0.05
2 COMBINED AT +	C594	944.	12.05	116.	35.	28.	0.54
ROUTED TO +	594595	929.	12.13	116.	35.	28.	0.54
HYDROGRAPH AT +	210J	183.	12.02	21.	6.	5.	0.10
2 COMBINED AT +	C595R	1082.	12.08	136.	40.	32.	0.64
2 COMBINED AT +	C595	1629.	12.08	485.	197.	159.	2.83
ROUTED TO +	595596	1619.	12.15	484.	197.	159.	2.83
HYDROGRAPH AT +	210K	145.	12.00	16.	4.	3.	0.08
2 COMBINED AT +	C596	1696.	12.13	498.	201.	162.	2.91
HYDROGRAPH AT +	209A	549.	12.08	75.	24.	19.	0.37
ROUTED TO +	579580	546.	12.10	75.	24.	19.	0.37
HYDROGRAPH AT +	209C	98.	12.05	14.	5.	4.	0.06
2 COMBINED AT +	C580R	639.	12.08	89.	28.	23.	0.43
HYDROGRAPH AT +	209B	146.	12.02	19.	6.	5.	0.08
2 COMBINED AT +	C580	771.	12.05	107.	34.	27.	0.51
ROUTED TO +	580581	765.	12.10	107.	34.	27.	0.51
HYDROGRAPH AT +	209D	432.	12.02	54.	17.	14.	0.24

	2 COMBINED AT							
+		C581R	1164.	12.05	161.	51.	41.	0.76
	HYDROGRAPH AT							
+		209E	250.	12.03	34.	11.	9.	0.15
	2 COMBINED AT							
+		C581	1409.	12.05	194.	62.	50.	0.91
	ROUTED TO							
+		581582	1389.	12.10	194.	62.	50.	0.91
	HYDROGRAPH AT							
+		209F	273.	12.15	46.	14.	12.	0.23
	2 COMBINED AT							
+		C582R	1654.	12.10	239.	76.	61.	1.13
	HYDROGRAPH AT							
+		209G	348.	12.02	46.	15.	12.	0.20
	2 COMBINED AT							
+		C582	1968.	12.08	285.	91.	73.	1.34
	ROUTED TO							
+		582583	1950.	12.12	285.	91.	73.	1.34
	HYDROGRAPH AT							
+		209H	136.	12.03	16.	5.	4.	0.08
	2 COMBINED AT							
+		C583	2065.	12.12	300.	95.	77.	1.42
	ROUTED TO							
+		583584	2039.	12.18	300.	95.	77.	1.42
	HYDROGRAPH AT							
+		209I	326.	12.02	34.	10.	8.	0.18
	2 COMBINED AT							
+		C584I	2209.	12.15	334.	105.	84.	1.60
	ROUTED TO							
+		C584O	393.	12.90	319.	105.	84.	1.60
	ROUTED TO							
+		584597	392.	13.07	319.	105.	84.	1.60
	HYDROGRAPH AT							
+		210L	230.	12.02	24.	7.	5.	0.14
	2 COMBINED AT							
+		C597	483.	12.07	340.	111.	90.	1.74
	ROUTED TO							
+		597598	473.	12.17	340.	111.	90.	1.74
	HYDROGRAPH AT							
+		210M	264.	12.03	30.	8.	7.	0.16
	2 COMBINED AT							
+		C598	691.	12.10	367.	120.	96.	1.90
	HYDROGRAPH AT							
+		210N	81.	12.00	8.	2.	2.	0.05
	4 COMBINED AT							
+		C599I	2655.	12.10	1122.	443.	356.	7.13
	ROUTED TO							
+		C599O	1505.	12.53	1118.	442.	356.	7.13
	ROUTED TO							
+		599608	1505.	12.57	1118.	442.	356.	7.13
	HYDROGRAPH AT							
+		211K	191.	12.00	21.	6.	5.	0.10
	2 COMBINED AT							
+		C608L	1526.	12.53	1132.	448.	361.	7.24
	HYDROGRAPH AT							
+		211G	11.	12.05	2.	1.	1.	0.01
	ROUTED TO							
+		604606	11.	12.23	2.	1.	1.	0.01
	HYDROGRAPH AT							

+	211I	70.	12.03	9.	3.	2.	0.04
2 COMBINED AT							
+	C606R	78.	12.03	12.	4.	3.	0.05
HYDROGRAPH AT							
+	211H	133.	12.00	14.	4.	3.	0.07
ROUTED TO							
+	C605O	107.	12.08	14.	4.	3.	0.07
2 COMBINED AT							
+	C606	184.	12.05	26.	8.	6.	0.12
ROUTED TO							
+	606607	182.	12.08	26.	8.	6.	0.12
HYDROGRAPH AT							
+	211J	28.	12.00	3.	1.	1.	0.01
2 COMBINED AT							
+	C607	207.	12.05	29.	9.	7.	0.14
ROUTED TO							
+	607608	206.	12.08	29.	9.	7.	0.14
2 COMBINED AT							
+	C608	1665.	12.07	1157.	456.	367.	7.37
ROUTED TO							
+	608613	1661.	12.10	1157.	456.	368.	7.37
HYDROGRAPH AT							
+	211M	152.	12.00	19.	6.	5.	0.08
ROUTED TO							
+	610611	152.	12.03	19.	6.	5.	0.08
HYDROGRAPH AT							
+	211N	39.	12.00	5.	2.	1.	0.02
2 COMBINED AT							
+	C611R	190.	12.02	24.	8.	6.	0.10
HYDROGRAPH AT							
+	211O	78.	12.00	10.	3.	2.	0.04
ROUTED TO							
+	C609O	56.	12.08	9.	3.	2.	0.04
ROUTED TO							
+	609611	56.	12.12	9.	3.	2.	0.04
2 COMBINED AT							
+	C611I	242.	12.02	34.	11.	9.	0.14
ROUTED TO							
+	C611O	143.	12.20	34.	11.	8.	0.14
DIVERSION TO							
+	D611R	143.	12.20	34.	11.	8.	0.14
HYDROGRAPH AT							
+	D611L	0.	0.02	0.	0.	0.	0.14
ROUTED TO							
+	611612	0.	0.02	0.	0.	0.	0.14
HYDROGRAPH AT							
+	211P	65.	12.00	8.	3.	2.	0.03
2 COMBINED AT							
+	C612	64.	12.00	8.	3.	2.	0.17
2 COMBINED AT							
+	C613	1705.	12.08	1162.	458.	369.	7.55
ROUTED TO							
+	613621	1703.	12.10	1162.	458.	369.	7.55
HYDROGRAPH AT							
+	211L	169.	12.02	20.	6.	5.	0.10
2 COMBINED AT							
+	C621L	1841.	12.07	1177.	464.	374.	7.64
HYDROGRAPH AT							
+	211Q	39.	12.00	4.	1.	1.	0.02

	ROUTED TO							
+		616617	39.	12.02	4.	1.	1.	0.02
	HYDROGRAPH AT							
+		211R	155.	12.02	18.	6.	5.	0.08
	2 COMBINED AT							
+		C617L	193.	12.02	23.	7.	6.	0.10
	HYDROGRAPH AT							
+		211U	37.	12.07	7.	2.	2.	0.03
	DIVERSION TO							
+		D614R	26.	12.07	5.	1.	1.	0.03
	HYDROGRAPH AT							
+		D614L	11.	12.07	2.	1.	1.	0.03
	2 COMBINED AT							
+		C617	204.	12.02	25.	8.	6.	0.13
	ROUTED TO							
+		617618	200.	12.07	25.	8.	6.	0.13
	HYDROGRAPH AT							
+		211S	83.	12.03	10.	3.	2.	0.05
	2 COMBINED AT							
+		C618I	282.	12.05	35.	11.	9.	0.18
	ROUTED TO							
+		C618O	280.	12.07	30.	10.	8.	0.18
	HYDROGRAPH AT							
+		BB614R	26.	12.07	5.	1.	1.	0.03
	ROUTED TO							
+		614615	26.	12.10	5.	1.	1.	0.03
	HYDROGRAPH AT							
+		211V	9.	12.02	2.	1.	0.	0.00
	2 COMBINED AT							
+		C615	34.	12.07	6.	2.	2.	0.03
	DIVERSION TO							
+		D615R	12.	12.07	2.	0.	0.	0.03
	HYDROGRAPH AT							
+		D615L	22.	12.07	5.	2.	1.	0.03
	ROUTED TO							
+		615618	22.	12.07	5.	2.	1.	0.03
	2 COMBINED AT							
+		C618	302.	12.07	34.	11.	10.	0.19
	ROUTED TO							
+		618619	299.	12.13	34.	11.	10.	0.19
	HYDROGRAPH AT							
+		211T	127.	12.00	17.	6.	5.	0.07
	2 COMBINED AT							
+		C619L	399.	12.07	51.	17.	14.	0.26
	HYDROGRAPH AT							
+		BB615R	12.	12.07	2.	0.	0.	0.03
	ROUTED TO							
+		615619	11.	12.17	2.	0.	0.	0.03
	2 COMBINED AT							
+		C619I	408.	12.07	52.	17.	14.	0.25
	ROUTED TO							
+		C619O	185.	12.40	52.	17.	14.	0.25
	DIVERSION TO							
+		D619L	0.	0.02	0.	0.	0.	0.25
	HYDROGRAPH AT							
+		D619R	185.	12.40	52.	17.	14.	0.25
	ROUTED TO							
+		619620	185.	12.42	52.	17.	14.	0.25
	HYDROGRAPH AT							

+	BB619L	0.	0.02	0.	0.	0.	0.25
ROUTED TO							
+	619620	0.	0.02	0.	0.	0.	0.25
HYDROGRAPH AT							
+	211W	59.	12.00	8.	3.	2.	0.03
3 COMBINED AT							
+	C620R	223.	12.03	60.	20.	17.	0.28
HYDROGRAPH AT							
+	BB611R	143.	12.20	34.	11.	8.	0.14
ROUTED TO							
+	611620	143.	12.22	34.	11.	8.	0.14
2 COMBINED AT							
+	C620	355.	12.05	94.	30.	25.	0.42
ROUTED TO							
+	620621	354.	12.08	94.	30.	25.	0.42
2 COMBINED AT							
+	C621	2189.	12.07	1261.	492.	397.	7.93
ROUTED TO							
+	621622	2167.	12.17	1260.	492.	397.	7.93
HYDROGRAPH AT							
+	211X	362.	12.05	52.	17.	14.	0.21
2 COMBINED AT							
+	C622R	2460.	12.13	1299.	507.	410.	8.14
HYDROGRAPH AT							
+	211A	249.	12.02	28.	8.	6.	0.14
ROUTED TO							
+	C600O	241.	12.07	28.	8.	6.	0.14
ROUTED TO							
+	600601	238.	12.12	28.	8.	6.	0.14
HYDROGRAPH AT							
+	211B	195.	12.02	21.	6.	5.	0.11
2 COMBINED AT							
+	C601	419.	12.03	49.	14.	11.	0.25
ROUTED TO							
+	601602	415.	12.08	49.	14.	11.	0.25
HYDROGRAPH AT							
+	211C	77.	12.02	10.	3.	2.	0.04
2 COMBINED AT							
+	C602L	487.	12.07	59.	17.	14.	0.30
HYDROGRAPH AT							
+	211D	103.	12.05	14.	4.	4.	0.07
2 COMBINED AT							
+	C602	589.	12.07	73.	21.	17.	0.37
ROUTED TO							
+	602603	581.	12.12	73.	21.	17.	0.37
HYDROGRAPH AT							
+	211E	281.	12.02	34.	11.	9.	0.16
2 COMBINED AT							
+	C603	833.	12.07	107.	32.	26.	0.52
ROUTED TO							
+	603622	816.	12.13	107.	32.	26.	0.52
HYDROGRAPH AT							
+	211F	190.	12.03	28.	9.	7.	0.11
2 COMBINED AT							
+	C622L	979.	12.12	134.	41.	33.	0.63
2 COMBINED AT							
+	C622	3392.	12.12	1416.	545.	440.	8.78
ROUTED TO							
+	622549	3352.	12.22	1415.	545.	440.	8.78

	HYDROGRAPH AT							
+		211Y	158.	12.03	22.	7.	6.	0.09
	2 COMBINED AT							
+		C549R	3445.	12.20	1430.	551.	445.	8.87
	2 COMBINED AT							
+		C549	4689.	12.20	1854.	733.	593.	13.06
	ROUTED TO							
+		549626	4637.	12.28	1852.	733.	593.	13.06
	HYDROGRAPH AT							
+		211Z	137.	12.02	16.	5.	4.	0.08
	2 COMBINED AT							
+		C626C	4681.	12.28	1861.	738.	597.	13.14
	HYDROGRAPH AT							
+		211AA	57.	12.03	8.	2.	2.	0.03
	ROUTED TO							
+		625626	56.	12.08	8.	2.	2.	0.03
	HYDROGRAPH AT							
+		211AB	79.	12.00	10.	3.	3.	0.04
	ROUTED TO							
+		623624	79.	12.00	10.	3.	3.	0.04
	HYDROGRAPH AT							
+		211AC	51.	12.02	7.	2.	2.	0.03
	2 COMBINED AT							
+		C624	130.	12.00	17.	5.	4.	0.07
	ROUTED TO							
+		624626	129.	12.03	17.	5.	4.	0.07
	HYDROGRAPH AT							
+		211AD	78.	12.02	11.	3.	3.	0.04
	2 COMBINED AT							
+		C626R	207.	12.02	28.	9.	7.	0.11
	3 COMBINED AT							
+		C626	4785.	12.28	1883.	747.	605.	13.28
	ROUTED TO							
+		626627	4778.	12.30	1883.	747.	605.	13.28
	HYDROGRAPH AT							
+		211AE	63.	12.02	8.	2.	2.	0.03
	2 COMBINED AT							
+		C627	4793.	12.30	1887.	749.	606.	13.32
	HYDROGRAPH AT							
+		211AF	102.	12.00	13.	4.	3.	0.05

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

AVERY

APPENDIX F

HEC-1 for future (full buildout) watershed conditions and the modified GEPD spillways for generating the PMF and routing the 0.5 PMF inflow design flood through the spillways

```
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *              MAY   1991               *
 *            VERSION 4.0.1E             *
 *                                       *
 *  RUN DATE  10/15/96  TIME  11:46:31   *
 *                                       *
 *****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

```
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

    1           ID        FOUNTAIN HILLS ADMP
    2           ID        Model for the Computation of PMF for Dam 4      FILE NAME: DAM4-PMF.IH1
    3           ID        ******************************************************************
    4           ID        Analytical Considerations:
    5           ID            Single Basin Models
    6           ID            This model considers areal reduction method.
    7           ID        ******************************************************************
                *DIAGRAM
    8           IT       5       0       0     200
    9           IO       5
   10           IN      15
                *
   11           JD   15.00    0.01
   12           PI   0.075   0.075   0.075   0.075     0.2     0.2     0.2     0.2     8.2     1.8
   13           PI     0.7     0.7     0.4     0.4     0.4     0.4    0.15    0.15    0.15    0.15
   14           PI   0.075   0.075   0.075   0.075
   15           JD   15.00   1.603
   16           PI   0.075   0.075   0.075   0.075     0.2     0.2     0.2     0.2     8.2     1.8
   17           PI     0.7     0.7     0.4     0.4     0.4     0.4    0.15    0.15    0.15    0.15
   18           PI   0.075   0.075   0.075   0.075
   19           JD   14.70   2.000
   20           PI     0.1     0.1     0.1     0.1     0.2     0.2     0.2     0.2     8.0     1.8
   21           PI     0.7     0.5   0.425   0.425   0.425   0.425   0.125   0.125   0.125   0.125
   22           PI   0.075   0.075   0.075   0.075
   23           JD   14.70   2.150
   24           PI     0.1     0.1     0.1     0.1     0.2     0.2     0.2     0.2     8.0     1.8
   25           PI     0.7     0.5   0.425   0.425   0.425   0.425   0.125   0.125   0.125   0.125
   26           PI   0.075   0.075   0.075   0.075
   27           JD   13.70   7.150
   28           PI   0.075   0.075   0.075   0.075     0.2     0.2     0.2     0.2     8.0     1.8
   29           PI     0.7     0.7   0.375   0.375   0.375   0.375    0.15    0.15    0.15    0.15
   30           PI   0.075   0.075   0.075   0.075

   31           KK   C560I
   32           KM        BASIN S207
   33           KM        THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
   34           KM        L=       3.9  Lca=      2.2   S=  464.7  Kn= .030  LAG=  30.6
   35           KM        PHOENIX MOUNTAIN S-GRAPH WAS USED FOR THIS BASIN
   36           BA    2.15
   37           LG     .17     .31    4.90    0.29   31.55
   38           UI    237.    523.   1170.   1651.   2163.   2377.   1509.   1274.   1082.    897.
   39           UI    699.    573.    507.    374.    299.    259.    198.    181.    119.    116.
   40           UI    111.     45.     45.     45.     45.     45.     45.     45.      0.      0.
   41           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
   42           UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
                *

   43           KK   C560O
   44           KM      Reservoir route at C560 (Dam 6).
   45           RS       1    ELEV 1835.36
```

```
  46          SV    0.00    7.09   34.65   75.98  135.64  191.44  208.31  226.53  246.00  266.28
  47          SV  289.00  310.81  336.00  360.88  389.00  416.30  446.00  476.39  509.00  540.78
  48          SE  1808.8 1814.00 1820.00 1826.00 1832.00 1836.00 1837.00 1838.00 1839.00 1840.00
  49          SE  1841.0 1842.00 1843.00 1844.00 1845.00 1846.00 1847.00 1848.00 1849.00 1850.00
  50          SQ       0     102     184     242     285     429    1239    2559    4265    6311
1                                          HEC-1 INPUT                                          PAGE  2

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

  51          SQ    8674   11339   14292   18440   25207   33643   43471   54561   66835   80241
              *

  52          KK  560599
  53          KM      Normal depth channel route
  54          RS       1    FLOW      -1
  55          RC   0.050   0.025   0.050  3127.0  0.0272
  56          RX  9850.4  9950.4  9974.4 10000.0 10035.5 10059.8 10080.4 10104.4
  57          RY  1772.0  1771.7  1765.3  1765.3  1765.9  1768.5  1773.3  1773.7
              *

  58          KK   C578I
  59          KM        BASIN S208
  60          KM        THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  61          KM        L=       3.0  Lca=       1.6   S=  488.9  Kn= .018  LAG=  14.2
  62          KM        PHOENIX MOUNTAIN S-GRAPH WAS USED FOR THIS BASIN
  63          BA    2.00
  64          LG     .10     .25    4.80     .28   50.48
  65          UI    837.   3038.   4371.   2543.   1714.   1106.    677.    446.    282.    192.
  66          UI     91.     91.     91.      0.      0.      0.      0.      0.      0.      0.
  67          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
              *

  68          KK   C578O
  69          KM      Reservoir route at C578 (Dam 11).
  70          KO       5
  71          RS       1    ELEV 1812.29
  72          SV    0.00    2.77   16.38   41.49   84.39  133.00  154.47  171.00  187.43  205.00
  73          SV  223.03  242.00  261.38  282.00  302.00  324.00  345.87  370.00  394.23  419.79
  74          SE  1779.2 1788.00 1794.00 1800.00 1806.00  1810.5 1812.00 1813.00 1814.00 1815.00
  75          SE  1816.0 1817.00 1818.00 1819.00 1820.00 1821.00 1822.00 1823.00 1824.00 1825.00
  76          SQ       0     160     221     269     305     327     799    1888    3383    5222
  77          SQ    7376    9826   12563   15670   21045   28479   37392   47596   58989   71509
  78          SE  1779.2 1788.00 1794.00 1800.00 1806.00  1810.5 1812.00 1813.00 1814.00 1815.00
  79          SE  1816.0 1817.00 1818.00 1819.00 1820.00 1821.00 1822.00 1823.00 1824.00 1825.00
              *

  80          KK  578599
  81          KM      Normal depth channel route
  82          RS       1    FLOW      -1
  83          RC   0.055   0.045   0.055  3762.0 0.01624
  84          RX  9928.9  9945.0  9963.1  9990.6 10012.2 10035.4 10052.8 10069.6
  85          RY  1755.7  1746.3  1746.1  1741.7  1743.3  1743.7  1744.6  1755.7
              *

  86          KK   C584I
  87          KM        BASIN S209
  88          KM        THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
  89          KM        L=       3.2  Lca=       1.7   S=  582.3  Kn= .019  LAG=  15.9
  90          KM        PHOENIX MOUNTAIN S-GRAPH WAS USED FOR THIS BASIN
  91          BA    1.60
  92          LG     .13     .28    4.62     .32   41.50
  93          UI    515.   1951.   3289.   2104.   1510.    997.    702.    442.    308.    202.
  94          UI    154.     65.     65.     65.      0.      0.      0.      0.      0.      0.
  95          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
              *
1                                          HEC-1 INPUT                                          PAGE  3

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

  96          KK   C584O
  97          KM      Reservoir route at C584 (Dam 7).
  98          RS       1    ELEV 1926.31
  99          SV    0.00    0.60    4.30   11.27   23.74   46.29   86.65   96.00  104.90  126.25
 100          SV  151.07  165.00  179.50  195.00  211.23  229.00  246.62  266.00  285.59  306.14
 101          SE  1884.8 1894.00 1900.00 1906.00 1912.00 1918.00 1924.00 1925.00 1926.00 1928.00
 102          SE  1930.0 1931.00 1932.00 1933.00 1934.00 1935.00 1936.00 1937.00 1938.00 1939.00
 103          SQ       0     163     223     272     307     333     355     363     690    2921
 104          SQ    6650    9013   11702   14897   19772   25998   33315   41618   50847   60966
 105          SE  1884.8 1894.00 1900.00 1906.00 1912.00 1918.00 1924.00 1925.00 1926.00 1928.00
 106          SE  1930.0 1931.00 1932.00 1933.00 1934.00 1935.00 1936.00 1937.00 1938.00 1939.00
              *

 107          KK  584599
 108          KM      Normal depth channel route
 109          RS       1    FLOW      -1
 110          RC   0.065   0.050   0.065  6526.0 0.02571
 111          RX  9927.6  9939.8  9951.9  9985.3 10036.0 10067.5 10119.2 10188.7
```

```
112          RY  1796.3  1791.2  1788.3  1784.1  1784.9  1788.0  1790.2  1796.4
             *

113          KK    C210
114          KM        BASIN S210
115          KM        THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
116          KM        L=      1.9  Lca=       .9   S=  360.7  Kn= .024  LAG=  13.6
117          KM        PHOENIX MOUNTAIN S-GRAPH WAS USED FOR THIS BASIN
118          BA    1.38
119          LG     .09     .24    5.61     .19   24.82
120          UI    634.   2291.   3040.   1739.   1122.    723.    433.    286.    170.     96.
121          UI     66.     66.      0.      0.      0.      0.      0.      0.      0.      0.
122          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
             *

123          KK   C599I
124          KO       1                                  21
125          KM      Hydrograph combine C584O + C560O + C578O + C599
126          HC       4
127          ZZ
1
                 SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    31       C560I
                 V
                 V
    43       C560O
                 V
                 V
    52      560599
                 .
                 .
    58           .       C578I
                 .           V
                 .           V
    68           .       C578O
                 .           V
                 .           V
    80           .      578599
                 .           .
                 .           .
    86           .           .       C584I
                 .           .           V
                 .           .           V
    96           .           .       C584O
                 .           .           V
                 .           .           V
   107           .           .      584599
                 .           .           .
                 .           .           .
   113           .           .           .        C210
                 .           .           .           .
                 .           .           .           .
   123       C599I.................................
 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************                                    ****************************************
 *                                       *                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *              MAY   1991               *                                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.0.1E             *                                    *          609 SECOND STREET           *
 *                                       *                                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE  10/15/96  TIME  11:46:31   *                                    *           (916) 551-1748             *
 *                                       *                                    *                                      *
 *****************************************                                    ****************************************


                                 FOUNTAIN HILLS ADMP
                                 Model for the Computation of PMF for Dam 4      FILE NAME: DAM4-PMF.IH1
                                 ******************************************************************
                                 Analytical Considerations:
                                     Single Basin Models
                                     This model considers areal reduction method.
                                 ******************************************************************

    9 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        200  NUMBER OF HYDROGRAPH ORDINATES
            NDDATE      1   0  ENDING DATE
            NDTIME       1635  ENDING TIME
             ICENT         19  CENTURY MARK

        COMPUTATION INTERVAL    0.08 HOURS
             TOTAL TIME BASE   16.58 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

11 JD      INDEX STORM NO. 1
              STRM       15.00  PRECIPITATION DEPTH
              TRDA        0.01  TRANSPOSITION DRAINAGE AREA

12 PI        PRECIPITATION PATTERN
               0.03      0.03      0.02      0.03      0.03      0.02      0.03      0.03      0.02      0.02
               0.03      0.03      0.07      0.07      0.07      0.07      0.07      0.07      0.07      0.07
               0.07      0.07      0.07      0.07      2.73      2.73      2.73      0.60      0.60      0.60
               0.23      0.23      0.23      0.23      0.23      0.23      0.13      0.13      0.13      0.13
               0.13      0.13      0.13      0.13      0.13      0.13      0.13      0.13      0.05      0.05
               0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05
               0.02      0.03      0.02      0.02      0.03      0.02      0.02      0.03      0.02      0.02
               0.03      0.02

15 JD      INDEX STORM NO. 2
              STRM       15.00  PRECIPITATION DEPTH
              TRDA        1.60  TRANSPOSITION DRAINAGE AREA

16 PI        PRECIPITATION PATTERN
               0.03      0.03      0.02      0.03      0.03      0.02      0.03      0.03      0.02      0.02
               0.03      0.03      0.07      0.07      0.07      0.07      0.07      0.07      0.07      0.07
               0.07      0.07      0.07      0.07      2.73      2.73      2.73      0.60      0.60      0.60
               0.23      0.23      0.23      0.23      0.23      0.23      0.13      0.13      0.13      0.13
               0.13      0.13      0.13      0.13      0.13      0.13      0.13      0.13      0.05      0.05
               0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05
               0.02      0.03      0.02      0.02      0.03      0.02      0.02      0.03      0.02      0.02
               0.03      0.02

19 JD      INDEX STORM NO. 3
              STRM       14.70  PRECIPITATION DEPTH
              TRDA        2.00  TRANSPOSITION DRAINAGE AREA

20 PI        PRECIPITATION PATTERN
               0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03
               0.03      0.03      0.07      0.07      0.07      0.07      0.07      0.07      0.07      0.07
               0.07      0.07      0.07      0.07      2.67      2.67      2.67      0.60      0.60      0.60
               0.23      0.23      0.23      0.17      0.17      0.17      0.14      0.14      0.14      0.14
               0.14      0.14      0.14      0.14      0.14      0.14      0.14      0.14      0.04      0.04
               0.04      0.04      0.04      0.04      0.04      0.04      0.04      0.04      0.04      0.04
               0.02      0.03      0.02      0.02      0.03      0.02      0.02      0.03      0.02      0.02
               0.03      0.02

23 JD      INDEX STORM NO. 4
              STRM       14.70  PRECIPITATION DEPTH
              TRDA        2.15  TRANSPOSITION DRAINAGE AREA

24 PI        PRECIPITATION PATTERN
               0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03      0.03
               0.03      0.03      0.07      0.07      0.07      0.07      0.07      0.07      0.07      0.07
               0.07      0.07      0.07      0.07      2.67      2.67      2.67      0.60      0.60      0.60
               0.23      0.23      0.23      0.17      0.17      0.17      0.14      0.14      0.14      0.14
               0.14      0.14      0.14      0.14      0.14      0.14      0.14      0.14      0.04      0.04
               0.04      0.04      0.04      0.04      0.04      0.04      0.04      0.04      0.04      0.04
               0.02      0.03      0.02      0.02      0.03      0.02      0.02      0.03      0.02      0.02
               0.03      0.02

27 JD      INDEX STORM NO. 5
              STRM       13.70  PRECIPITATION DEPTH
              TRDA        7.15  TRANSPOSITION DRAINAGE AREA

28 PI        PRECIPITATION PATTERN
               0.03      0.03      0.02      0.03      0.03      0.02      0.03      0.03      0.02      0.02
               0.03      0.03      0.07      0.07      0.07      0.07      0.07      0.07      0.07      0.07
               0.07      0.07      0.07      0.07      2.67      2.67      2.67      0.60      0.60      0.60
               0.23      0.23      0.23      0.23      0.23      0.23      0.13      0.13      0.13      0.13
               0.13      0.13      0.13      0.13      0.13      0.13      0.13      0.13      0.05      0.05
               0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05      0.05
               0.02      0.03      0.02      0.02      0.03      0.02      0.02      0.03      0.02      0.02
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```
                    0.03      0.02

 70 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           5  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE


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


           **************
           *            *
 123 KK    *     C599I  *
           *            *
           **************

 124 KO          OUTPUT CONTROL VARIABLES
                      IPRNT           1  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE
                      IPNCH           0  PUNCH COMPUTED HYDROGRAPH
                       IOUT          21  SAVE HYDROGRAPH ON THIS UNIT
                      ISAV1           1  FIRST ORDINATE PUNCHED OR SAVED
                      ISAV2         200  LAST ORDINATE PUNCHED OR SAVED
                     TIMINT       0.083  TIME INTERVAL IN HOURS

                            Hydrograph combine C5840 + C5600 + C5780 + C599

 126 HC          HYDROGRAPH COMBINATION
                      ICOMP           4  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

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

                                                HYDROGRAPH AT     C599I
                                          TRANSPOSITION AREA      0.0 SQ MI

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	2557.	1		0410	51	6634.	1		0820	101	894.	1		1230	151	250.
1		0005	2	2392.	1		0415	52	6085.	1		0825	102	888.	1		1235	152	237.
1		0010	3	2091.	1		0420	53	5555.	1		0830	103	880.	1		1240	153	226.
1		0015	4	1842.	1		0425	54	4994.	1		0835	104	873.	1		1245	154	217.
1		0020	5	1640.	1		0430	55	4438.	1		0840	105	865.	1		1250	155	210.
1		0025	6	1506.	1		0435	56	3918.	1		0845	106	857.	1		1255	156	204.
1		0030	7	1408.	1		0440	57	3456.	1		0850	107	848.	1		1300	157	199.
1		0035	8	1327.	1		0445	58	3105.	1		0855	108	838.	1		1305	158	196.
1		0040	9	1261.	1		0450	59	2850.	1		0900	109	827.	1		1310	159	192.
1		0045	10	1206.	1		0455	60	2639.	1		0905	110	814.	1		1315	160	188.
1		0050	11	1164.	1		0500	61	2463.	1		0910	111	801.	1		1320	161	183.
1		0055	12	1135.	1		0505	62	2301.	1		0915	112	785.	1		1325	162	179.
1		0100	13	1115.	1		0510	63	2118.	1		0920	113	767.	1		1330	163	174.
1		0105	14	1108.	1		0515	64	1930.	1		0925	114	745.	1		1335	164	170.
1		0110	15	1121.	1		0520	65	1775.	1		0930	115	710.	1		1340	165	166.
1		0115	16	1145.	1		0525	66	1646.	1		0935	116	673.	1		1345	166	163.
1		0120	17	1157.	1		0530	67	1529.	1		0940	117	643.	1		1350	167	159.
1		0125	18	1171.	1		0535	68	1425.	1		0945	118	618.	1		1355	168	155.
1		0130	19	1193.	1		0540	69	1348.	1		0950	119	598.	1		1400	169	152.
1		0135	20	1221.	1		0545	70	1299.	1		0955	120	580.	1		1405	170	149.
1		0140	21	1251.	1		0550	71	1259.	1		1000	121	565.	1		1410	171	145.
1		0145	22	1286.	1		0555	72	1224.	1		1005	122	552.	1		1415	172	142.
1		0150	23	1324.	1		0600	73	1195.	1		1010	123	543.	1		1420	173	139.
1		0155	24	1362.	1		0605	74	1173.	1		1015	124	535.	1		1425	174	136.
1		0200	25	1400.	1		0610	75	1146.	1		1020	125	528.	1		1430	175	134.
1		0205	26	3162.	1		0615	76	1117.	1		1025	126	521.	1		1435	176	131.
1		0210	27	9986.	1		0620	77	1097.	1		1030	127	514.	1		1440	177	128.
1		0215	28	23393.	1		0625	78	1082.	1		1035	128	508.	1		1445	178	125.
1		0220	29	43113.	1		0630	79	1070.	1		1040	129	502.	1		1450	179	123.
1		0225	30	60927.	1		0635	80	1059.	1		1045	130	496.	1		1455	180	120.
1		0230	31	65342.	1		0640	81	1050.	1		1050	131	489.	1		1500	181	118.
1		0235	32	61517.	1		0645	82	1041.	1		1055	132	483.	1		1505	182	115.
1		0240	33	55043.	1		0650	83	1032.	1		1100	133	476.	1		1510	183	113.
1		0245	34	47603.	1		0655	84	1024.	1		1105	134	470.	1		1515	184	111.
1		0250	35	39951.	1		0700	85	1015.	1		1110	135	463.	1		1520	185	108.
1		0255	36	33485.	1		0705	86	1007.	1		1115	136	456.	1		1525	186	106.
1		0300	37	28766.	1		0710	87	999.	1		1120	137	449.	1		1530	187	103.
1		0305	38	24596.	1		0715	88	992.	1		1125	138	441.	1		1535	188	98.
1		0310	39	21131.	1		0720	89	985.	1		1130	139	433.	1		1540	189	91.
1		0315	40	18187.	1		0725	90	977.	1		1135	140	425.	1		1545	190	83.
1		0320	41	15851.	1		0730	91	969.	1		1140	141	416.	1		1550	191	78.
1		0325	42	13827.	1		0735	92	961.	1		1145	142	408.	1		1555	192	73.
1		0330	43	12145.	1		0740	93	952.	1		1150	143	400.	1		1600	193	67.
1		0335	44	10840.	1		0745	94	944.	1		1155	144	393.	1		1605	194	62.

1	0340	45	9786.	*	1	0750	95	935.	*	1	1200	145	379.	*	1	1610	195	57.
1	0345	46	8967.	*	1	0755	96	927.	*	1	1205	146	357.	*	1	1615	196	52.
1	0350	47	8378.	*	1	0800	97	919.	*	1	1210	147	331.	*	1	1620	197	47.
1	0355	48	7888.	*	1	0805	98	912.	*	1	1215	148	306.	*	1	1625	198	43.
1	0400	49	7474.	*	1	0810	99	906.	*	1	1220	149	283.	*	1	1630	199	39.
1	0405	50	7096.	*	1	0815	100	900.	*	1	1225	150	265.	*	1	1635	200	35.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	16.58-HR
+ 65342.	2.50	(CFS)	10238.	4023.	4023.	4023.
		(INCHES)	13.351	14.498	14.498	14.498
		(AC-FT)	5077.	5513.	5513.	5513.

CUMULATIVE AREA = 7.13 SQ MI

HYDROGRAPH AT C599I
TRANSPOSITION AREA 1.6 SQ MI

DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	2557.	1		0410	51	6634.	1		0820	101	894.	1		1230	151	250.
1		0005	2	2392.	1		0415	52	6085.	1		0825	102	888.	1		1235	152	237.
1		0010	3	2091.	1		0420	53	5555.	1		0830	103	880.	1		1240	153	226.
1		0015	4	1842.	1		0425	54	4994.	1		0835	104	873.	1		1245	154	217.
1		0020	5	1640.	1		0430	55	4438.	1		0840	105	865.	1		1250	155	210.
1		0025	6	1506.	1		0435	56	3918.	1		0845	106	857.	1		1255	156	204.
1		0030	7	1408.	1		0440	57	3456.	1		0850	107	848.	1		1300	157	199.
1		0035	8	1327.	1		0445	58	3105.	1		0855	108	838.	1		1305	158	196.
1		0040	9	1261.	1		0450	59	2850.	1		0900	109	827.	1		1310	159	192.
1		0045	10	1206.	1		0455	60	2639.	1		0905	110	814.	1		1315	160	188.
1		0050	11	1164.	1		0500	61	2463.	1		0910	111	801.	1		1320	161	183.
1		0055	12	1135.	1		0505	62	2301.	1		0915	112	785.	1		1325	162	179.
1		0100	13	1115.	1		0510	63	2118.	1		0920	113	767.	1		1330	163	174.
1		0105	14	1108.	1		0515	64	1930.	1		0925	114	745.	1		1335	164	170.
1		0110	15	1121.	1		0520	65	1775.	1		0930	115	710.	1		1340	165	166.
1		0115	16	1145.	1		0525	66	1646.	1		0935	116	673.	1		1345	166	163.
1		0120	17	1157.	1		0530	67	1529.	1		0940	117	643.	1		1350	167	159.
1		0125	18	1171.	1		0535	68	1425.	1		0945	118	618.	1		1355	168	155.
1		0130	19	1193.	1		0540	69	1348.	1		0950	119	598.	1		1400	169	152.
1		0135	20	1221.	1		0545	70	1299.	1		0955	120	580.	1		1405	170	149.
1		0140	21	1251.	1		0550	71	1259.	1		1000	121	565.	1		1410	171	145.
1		0145	22	1286.	1		0555	72	1224.	1		1005	122	552.	1		1415	172	142.
1		0150	23	1324.	1		0600	73	1195.	1		1010	123	543.	1		1420	173	139.
1		0155	24	1362.	1		0605	74	1173.	1		1015	124	535.	1		1425	174	136.
1		0200	25	1400.	1		0610	75	1146.	1		1020	125	528.	1		1430	175	134.
1		0205	26	3162.	1		0615	76	1117.	1		1025	126	521.	1		1435	176	131.
1		0210	27	9986.	1		0620	77	1097.	1		1030	127	514.	1		1440	177	128.
1		0215	28	23393.	1		0625	78	1082.	1		1035	128	508.	1		1445	178	125.
1		0220	29	43113.	1		0630	79	1070.	1		1040	129	502.	1		1450	179	123.
1		0225	30	60927.	1		0635	80	1059.	1		1045	130	496.	1		1455	180	120.
1		0230	31	65342.	1		0640	81	1050.	1		1050	131	489.	1		1500	181	118.
1		0235	32	61517.	1		0645	82	1041.	1		1055	132	483.	1		1505	182	115.
1		0240	33	55043.	1		0650	83	1032.	1		1100	133	476.	1		1510	183	113.
1		0245	34	47603.	1		0655	84	1024.	1		1105	134	470.	1		1515	184	111.
1		0250	35	39951.	1		0700	85	1015.	1		1110	135	463.	1		1520	185	108.
1		0255	36	33485.	1		0705	86	1007.	1		1115	136	456.	1		1525	186	106.
1		0300	37	28766.	1		0710	87	999.	1		1120	137	449.	1		1530	187	103.
1		0305	38	24596.	1		0715	88	992.	1		1125	138	441.	1		1535	188	98.
1		0310	39	21131.	1		0720	89	985.	1		1130	139	433.	1		1540	189	91.
1		0315	40	18187.	1		0725	90	977.	1		1135	140	425.	1		1545	190	83.
1		0320	41	15851.	1		0730	91	969.	1		1140	141	416.	1		1550	191	78.
1		0325	42	13827.	1		0735	92	961.	1		1145	142	408.	1		1555	192	73.
1		0330	43	12145.	1		0740	93	952.	1		1150	143	400.	1		1600	193	67.
1		0335	44	10840.	1		0745	94	944.	1		1155	144	393.	1		1605	194	62.
1		0340	45	9786.	1		0750	95	935.	1		1200	145	379.	1		1610	195	57.
1		0345	46	8967.	1		0755	96	927.	1		1205	146	357.	1		1615	196	52.
1		0350	47	8378.	1		0800	97	919.	1		1210	147	331.	1		1620	197	47.
1		0355	48	7888.	1		0805	98	912.	1		1215	148	306.	1		1625	198	43.
1		0400	49	7474.	1		0810	99	906.	1		1220	149	283.	1		1630	199	39.
1		0405	50	7096.	1		0815	100	900.	1		1225	150	265.	1		1635	200	35.

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	16.58-HR
+ 65342.	2.50	(CFS)	10238.	4023.	4023.	4023.
		(INCHES)	13.351	14.498	14.498	14.498

(AC-FT) 5077. 5513. 5513. 5513.

CUMULATIVE AREA = 7.13 SQ MI

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HYDROGRAPH AT C599I
TRANSPOSITION AREA 2.0 SQ MI

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	2557.	1		0410	51	6866.	1		0820	101	885.	1		1230	151	239.
1		0005	2	2393.	1		0415	52	6272.	1		0825	102	878.	1		1235	152	228.
1		0010	3	2098.	1		0420	53	5688.	1		0830	103	870.	1		1240	153	219.
1		0015	4	1857.	1		0425	54	5055.	1		0835	104	862.	1		1245	154	211.
1		0020	5	1662.	1		0430	55	4418.	1		0840	105	854.	1		1250	155	205.
1		0025	6	1533.	1		0435	56	3837.	1		0845	106	845.	1		1255	156	199.
1		0030	7	1441.	1		0440	57	3328.	1		0850	107	834.	1		1300	157	196.
1		0035	8	1366.	1		0445	58	2947.	1		0855	108	822.	1		1305	158	192.
1		0040	9	1306.	1		0450	59	2660.	1		0900	109	809.	1		1310	159	187.
1		0045	10	1257.	1		0455	60	2420.	1		0905	110	794.	1		1315	160	183.
1		0050	11	1218.	1		0500	61	2213.	1		0910	111	777.	1		1320	161	178.
1		0055	12	1185.	1		0505	62	2034.	1		0915	112	759.	1		1325	162	174.
1		0100	13	1159.	1		0510	63	1865.	1		0920	113	730.	1		1330	163	170.
1		0105	14	1144.	1		0515	64	1699.	1		0925	114	690.	1		1335	164	166.
1		0110	15	1149.	1		0520	65	1564.	1		0930	115	657.	1		1340	165	162.
1		0115	16	1168.	1		0525	66	1449.	1		0935	116	630.	1		1345	166	158.
1		0120	17	1190.	1		0530	67	1362.	1		0940	117	607.	1		1350	167	155.
1		0125	18	1223.	1		0535	68	1306.	1		0945	118	589.	1		1355	168	151.
1		0130	19	1263.	1		0540	69	1264.	1		0950	119	574.	1		1400	169	148.
1		0135	20	1303.	1		0545	70	1228.	1		0955	120	560.	1		1405	170	145.
1		0140	21	1343.	1		0550	71	1199.	1		1000	121	549.	1		1410	171	142.
1		0145	22	1380.	1		0555	72	1179.	1		1005	122	542.	1		1415	172	139.
1		0150	23	1416.	1		0600	73	1165.	1		1010	123	534.	1		1420	173	136.
1		0155	24	1449.	1		0605	74	1151.	1		1015	124	527.	1		1425	174	133.
1		0200	25	1481.	1		0610	75	1129.	1		1020	125	521.	1		1430	175	130.
1		0205	26	3194.	1		0615	76	1102.	1		1025	126	514.	1		1435	176	128.
1		0210	27	9901.	1		0620	77	1084.	1		1030	127	508.	1		1440	177	125.
1		0215	28	23058.	1		0625	78	1070.	1		1035	128	501.	1		1445	178	122.
1		0220	29	42115.	1		0630	79	1059.	1		1040	129	495.	1		1450	179	120.
1		0225	30	59467.	1		0635	80	1048.	1		1045	130	489.	1		1455	180	117.
1		0230	31	63996.	1		0640	81	1039.	1		1050	131	483.	1		1500	181	115.
1		0235	32	60363.	1		0645	82	1030.	1		1055	132	476.	1		1505	182	113.
1		0240	33	54212.	1		0650	83	1022.	1		1100	133	470.	1		1510	183	110.
1		0245	34	46934.	1		0655	84	1013.	1		1105	134	463.	1		1515	184	108.
1		0250	35	39384.	1		0700	85	1005.	1		1110	135	457.	1		1520	185	106.
1		0255	36	32884.	1		0705	86	997.	1		1115	136	449.	1		1525	186	103.
1		0300	37	27789.	1		0710	87	990.	1		1120	137	442.	1		1530	187	97.
1		0305	38	23307.	1		0715	88	983.	1		1125	138	434.	1		1535	188	89.
1		0310	39	19712.	1		0720	89	975.	1		1130	139	425.	1		1540	189	82.
1		0315	40	16841.	1		0725	90	967.	1		1135	140	417.	1		1545	190	77.
1		0320	41	14710.	1		0730	91	959.	1		1140	141	409.	1		1550	191	72.
1		0325	42	12886.	1		0735	92	951.	1		1145	142	401.	1		1555	192	66.
1		0330	43	11484.	1		0740	93	942.	1		1150	143	393.	1		1600	193	61.
1		0335	44	10391.	1		0745	94	933.	1		1155	144	382.	1		1605	194	56.
1		0340	45	9527.	1		0750	95	925.	1		1200	145	362.	1		1610	195	51.
1		0345	46	8874.	1		0755	96	917.	1		1205	146	337.	1		1615	196	46.
1		0350	47	8409.	1		0800	97	910.	1		1210	147	311.	1		1620	197	42.
1		0355	48	8004.	1		0805	98	904.	1		1215	148	288.	1		1625	198	38.
1		0400	49	7668.	1		0810	99	899.	1		1220	149	268.	1		1630	199	35.
1		0405	50	7335.	1		0815	100	892.	1		1225	150	253.	1		1635	200	31.

****

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	16.58-HR
+		(CFS)				
+ 63996.	2.50		10002.	3931.	3931.	3931.
		(INCHES)	13.043	14.166	14.166	14.166
		(AC-FT)	4960.	5387.	5387.	5387.

CUMULATIVE AREA = 7.13 SQ MI

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HYDROGRAPH AT C599I
TRANSPOSITION AREA 2.2 SQ MI

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DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW	DA	MON	HRMN	ORD	FLOW
1		0000	1	2557.	1		0410	51	6866.	1		0820	101	885.	1		1230	151	239.

1	0005	2	2393.	*	1	0415	52	6272.	*	1	0825	102	878.	*	1	1235	152	228.
1	0010	3	2098.	*	1	0420	53	5688.	*	1	0830	103	870.	*	1	1240	153	219.
1	0015	4	1857.	*	1	0425	54	5055.	*	1	0835	104	862.	*	1	1245	154	211.
1	0020	5	1662.	*	1	0430	55	4418.	*	1	0840	105	854.	*	1	1250	155	205.
1	0025	6	1533.	*	1	0435	56	3837.	*	1	0845	106	845.	*	1	1255	156	199.
1	0030	7	1441.	*	1	0440	57	3328.	*	1	0850	107	834.	*	1	1300	157	196.
1	0035	8	1366.	*	1	0445	58	2947.	*	1	0855	108	822.	*	1	1305	158	192.
1	0040	9	1306.	*	1	0450	59	2660.	*	1	0900	109	809.	*	1	1310	159	187.
1	0045	10	1257.	*	1	0455	60	2420.	*	1	0905	110	794.	*	1	1315	160	183.
1	0050	11	1218.	*	1	0500	61	2213.	*	1	0910	111	777.	*	1	1320	161	178.
1	0055	12	1185.	*	1	0505	62	2034.	*	1	0915	112	759.	*	1	1325	162	174.
1	0100	13	1159.	*	1	0510	63	1865.	*	1	0920	113	730.	*	1	1330	163	170.
1	0105	14	1144.	*	1	0515	64	1699.	*	1	0925	114	690.	*	1	1335	164	166.
1	0110	15	1149.	*	1	0520	65	1564.	*	1	0930	115	657.	*	1	1340	165	162.
1	0115	16	1168.	*	1	0525	66	1449.	*	1	0935	116	630.	*	1	1345	166	158.
1	0120	17	1190.	*	1	0530	67	1362.	*	1	0940	117	607.	*	1	1350	167	155.
1	0125	18	1223.	*	1	0535	68	1306.	*	1	0945	118	589.	*	1	1355	168	151.
1	0130	19	1263.	*	1	0540	69	1264.	*	1	0950	119	574.	*	1	1400	169	148.
1	0135	20	1303.	*	1	0545	70	1228.	*	1	0955	120	560.	*	1	1405	170	145.
1	0140	21	1343.	*	1	0550	71	1199.	*	1	1000	121	549.	*	1	1410	171	142.
1	0145	22	1380.	*	1	0555	72	1179.	*	1	1005	122	542.	*	1	1415	172	139.
1	0150	23	1416.	*	1	0600	73	1165.	*	1	1010	123	534.	*	1	1420	173	136.
1	0155	24	1449.	*	1	0605	74	1151.	*	1	1015	124	527.	*	1	1425	174	133.
1	0200	25	1481.	*	1	0610	75	1129.	*	1	1020	125	521.	*	1	1430	175	130.
1	0205	26	3194.	*	1	0615	76	1102.	*	1	1025	126	514.	*	1	1435	176	128.
1	0210	27	9901.	*	1	0620	77	1084.	*	1	1030	127	508.	*	1	1440	177	125.
1	0215	28	23058.	*	1	0625	78	1070.	*	1	1035	128	501.	*	1	1445	178	122.
1	0220	29	42115.	*	1	0630	79	1059.	*	1	1040	129	495.	*	1	1450	179	120.
1	0225	30	59467.	*	1	0635	80	1048.	*	1	1045	130	489.	*	1	1455	180	117.
1	0230	31	63996.	*	1	0640	81	1039.	*	1	1050	131	483.	*	1	1500	181	115.
1	0235	32	60363.	*	1	0645	82	1030.	*	1	1055	132	476.	*	1	1505	182	113.
1	0240	33	54212.	*	1	0650	83	1022.	*	1	1100	133	470.	*	1	1510	183	110.
1	0245	34	46934.	*	1	0655	84	1013.	*	1	1105	134	463.	*	1	1515	184	108.
1	0250	35	39384.	*	1	0700	85	1005.	*	1	1110	135	457.	*	1	1520	185	106.
1	0255	36	32884.	*	1	0705	86	997.	*	1	1115	136	449.	*	1	1525	186	103.
1	0300	37	27789.	*	1	0710	87	990.	*	1	1120	137	442.	*	1	1530	187	97.
1	0305	38	23307.	*	1	0715	88	983.	*	1	1125	138	434.	*	1	1535	188	89.
1	0310	39	19712.	*	1	0720	89	975.	*	1	1130	139	425.	*	1	1540	189	82.
1	0315	40	16841.	*	1	0725	90	967.	*	1	1135	140	417.	*	1	1545	190	77.
1	0320	41	14710.	*	1	0730	91	959.	*	1	1140	141	409.	*	1	1550	191	72.
1	0325	42	12886.	*	1	0735	92	951.	*	1	1145	142	401.	*	1	1555	192	66.
1	0330	43	11484.	*	1	0740	93	942.	*	1	1150	143	393.	*	1	1600	193	61.
1	0335	44	10391.	*	1	0745	94	933.	*	1	1155	144	382.	*	1	1605	194	56.
1	0340	45	9527.	*	1	0750	95	925.	*	1	1200	145	362.	*	1	1610	195	51.
1	0345	46	8874.	*	1	0755	96	917.	*	1	1205	146	337.	*	1	1615	196	46.
1	0350	47	8409.	*	1	0800	97	910.	*	1	1210	147	311.	*	1	1620	197	42.
1	0355	48	8004.	*	1	0805	98	904.	*	1	1215	148	288.	*	1	1625	198	38.
1	0400	49	7668.	*	1	0810	99	899.	*	1	1220	149	268.	*	1	1630	199	35.
1	0405	50	7335.	*	1	0815	100	892.	*	1	1225	150	253.	*	1	1635	200	31.

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 63996.	2.50		10002.	3931.	3931.	3931.
		(INCHES)	13.043	14.166	14.166	14.166
		(AC-FT)	4960.	5387.	5387.	5387.

CUMULATIVE AREA = 7.13 SQ MI

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HYDROGRAPH AT C599I
TRANSPOSITION AREA 7.2 SQ MI

****

DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	2557.	*	1		0410	51	5740.	*	1		0820	101	888.	*	1		1230	151	239.
1		0005	2	2391.	*	1		0415	52	5247.	*	1		0825	102	880.	*	1		1235	152	228.
1		0010	3	2090.	*	1		0420	53	4786.	*	1		0830	103	873.	*	1		1240	153	219.
1		0015	4	1839.	*	1		0425	54	4319.	*	1		0835	104	865.	*	1		1245	154	211.
1		0020	5	1635.	*	1		0430	55	3859.	*	1		0840	105	857.	*	1		1250	155	205.
1		0025	6	1500.	*	1		0435	56	3423.	*	1		0845	106	848.	*	1		1255	156	200.
1		0030	7	1401.	*	1		0440	57	3063.	*	1		0850	107	838.	*	1		1300	157	196.
1		0035	8	1319.	*	1		0445	58	2791.	*	1		0855	108	827.	*	1		1305	158	192.
1		0040	9	1251.	*	1		0450	59	2565.	*	1		0900	109	814.	*	1		1310	159	188.
1		0045	10	1196.	*	1		0455	60	2375.	*	1		0905	110	801.	*	1		1315	160	183.
1		0050	11	1155.	*	1		0500	61	2209.	*	1		0910	111	785.	*	1		1320	161	179.
1		0055	12	1127.	*	1		0505	62	2062.	*	1		0915	112	766.	*	1		1325	162	174.
1		0100	13	1108.	*	1		0510	63	1898.	*	1		0920	113	744.	*	1		1330	163	170.
1		0105	14	1101.	*	1		0515	64	1733.	*	1		0925	114	709.	*	1		1335	164	166.
1		0110	15	1113.	*	1		0520	65	1604.	*	1		0930	115	673.	*	1		1340	165	162.
1		0115	16	1134.	*	1		0525	66	1491.	*	1		0935	116	642.	*	1		1345	166	159.

1	0120	17	1144.	*	1	0530	67	1399.	*	1	0940	117	618.	*	1	1350	167	155.
1	0125	18	1150.	*	1	0535	68	1334.	*	1	0945	118	597.	*	1	1355	168	152.
1	0130	19	1158.	*	1	0540	69	1286.	*	1	0950	119	580.	*	1	1400	169	148.
1	0135	20	1171.	*	1	0545	70	1246.	*	1	0955	120	565.	*	1	1405	170	145.
1	0140	21	1192.	*	1	0550	71	1212.	*	1	1000	121	552.	*	1	1410	171	142.
1	0145	22	1214.	*	1	0555	72	1185.	*	1	1005	122	544.	*	1	1415	172	139.
1	0150	23	1238.	*	1	0600	73	1167.	*	1	1010	123	536.	*	1	1420	173	136.
1	0155	24	1267.	*	1	0605	74	1152.	*	1	1015	124	529.	*	1	1425	174	133.
1	0200	25	1298.	*	1	0610	75	1129.	*	1	1020	125	522.	*	1	1430	175	131.
1	0205	26	2898.	*	1	0615	76	1103.	*	1	1025	126	515.	*	1	1435	176	128.
1	0210	27	8998.	*	1	0620	77	1085.	*	1	1030	127	509.	*	1	1440	177	125.
1	0215	28	20729.	*	1	0625	78	1072.	*	1	1035	128	502.	*	1	1445	178	123.
1	0220	29	37579.	*	1	0630	79	1060.	*	1	1040	129	496.	*	1	1450	179	120.
1	0225	30	53555.	*	1	0635	80	1050.	*	1	1045	130	490.	*	1	1455	180	118.
1	0230	31	58742.	*	1	0640	81	1040.	*	1	1050	131	483.	*	1	1500	181	115.
1	0235	32	55827.	*	1	0645	82	1032.	*	1	1055	132	477.	*	1	1505	182	113.
1	0240	33	50573.	*	1	0650	83	1023.	*	1	1100	133	471.	*	1	1510	183	111.
1	0245	34	43762.	*	1	0655	84	1015.	*	1	1105	134	464.	*	1	1515	184	108.
1	0250	35	36833.	*	1	0700	85	1007.	*	1	1110	135	457.	*	1	1520	185	106.
1	0255	36	31126.	*	1	0705	86	999.	*	1	1115	136	450.	*	1	1525	186	103.
1	0300	37	26524.	*	1	0710	87	991.	*	1	1120	137	442.	*	1	1530	187	98.
1	0305	38	22645.	*	1	0715	88	984.	*	1	1125	138	434.	*	1	1535	188	90.
1	0310	39	19477.	*	1	0720	89	977.	*	1	1130	139	426.	*	1	1540	189	82.
1	0315	40	16714.	*	1	0725	90	969.	*	1	1135	140	418.	*	1	1545	190	77.
1	0320	41	14531.	*	1	0730	91	961.	*	1	1140	141	410.	*	1	1550	191	72.
1	0325	42	12595.	*	1	0735	92	952.	*	1	1145	142	402.	*	1	1555	192	67.
1	0330	43	11015.	*	1	0740	93	944.	*	1	1150	143	394.	*	1	1600	193	62.
1	0335	44	9741.	*	1	0745	94	935.	*	1	1155	144	382.	*	1	1605	194	56.
1	0340	45	8722.	*	1	0750	95	927.	*	1	1200	145	363.	*	1	1610	195	51.
1	0345	46	7988.	*	1	0755	96	919.	*	1	1205	146	337.	*	1	1615	196	47.
1	0350	47	7401.	*	1	0800	97	912.	*	1	1210	147	311.	*	1	1620	197	42.
1	0355	48	6907.	*	1	0805	98	906.	*	1	1215	148	288.	*	1	1625	198	39.
1	0400	49	6511.	*	1	0810	99	900.	*	1	1220	149	268.	*	1	1630	199	35.
1	0405	50	6157.	*	1	0815	100	894.	*	1	1225	150	253.	*	1	1635	200	32.
				*					*					*				

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PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	16.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 58742.	2.50		9284.	3672.	3672.	3672.
		(INCHES)	12.106	13.234	13.234	13.234
		(AC-FT)	4604.	5032.	5032.	5032.

CUMULATIVE AREA = 7.13 SQ MI

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INTERPOLATED HYDROGRAPH AT C599I

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DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW	*	DA	MON	HRMN	ORD	FLOW
1		0000	1	2557.	*	1		0410	51	5743.	*	1		0820	101	888.	*	1		1230	151	239.
1		0005	2	2391.	*	1		0415	52	5250.	*	1		0825	102	880.	*	1		1235	152	228.
1		0010	3	2090.	*	1		0420	53	4788.	*	1		0830	103	873.	*	1		1240	153	219.
1		0015	4	1839.	*	1		0425	54	4320.	*	1		0835	104	865.	*	1		1245	154	211.
1		0020	5	1635.	*	1		0430	55	3861.	*	1		0840	105	857.	*	1		1250	155	205.
1		0025	6	1501.	*	1		0435	56	3424.	*	1		0845	106	848.	*	1		1255	156	200.
1		0030	7	1401.	*	1		0440	57	3064.	*	1		0850	107	838.	*	1		1300	157	196.
1		0035	8	1319.	*	1		0445	58	2792.	*	1		0855	108	827.	*	1		1305	158	192.
1		0040	9	1252.	*	1		0450	59	2565.	*	1		0900	109	814.	*	1		1310	159	188.
1		0045	10	1196.	*	1		0455	60	2375.	*	1		0905	110	801.	*	1		1315	160	183.
1		0050	11	1155.	*	1		0500	61	2209.	*	1		0910	111	785.	*	1		1320	161	179.
1		0055	12	1127.	*	1		0505	62	2062.	*	1		0915	112	766.	*	1		1325	162	174.
1		0100	13	1109.	*	1		0510	63	1898.	*	1		0920	113	744.	*	1		1330	163	170.
1		0105	14	1101.	*	1		0515	64	1733.	*	1		0925	114	709.	*	1		1335	164	166.
1		0110	15	1113.	*	1		0520	65	1604.	*	1		0930	115	673.	*	1		1340	165	162.
1		0115	16	1134.	*	1		0525	66	1491.	*	1		0935	116	642.	*	1		1345	166	159.
1		0120	17	1144.	*	1		0530	67	1399.	*	1		0940	117	618.	*	1		1350	167	155.
1		0125	18	1151.	*	1		0535	68	1334.	*	1		0945	118	597.	*	1		1355	168	152.
1		0130	19	1158.	*	1		0540	69	1286.	*	1		0950	119	580.	*	1		1400	169	148.
1		0135	20	1172.	*	1		0545	70	1246.	*	1		0955	120	565.	*	1		1405	170	145.
1		0140	21	1192.	*	1		0550	71	1212.	*	1		1000	121	552.	*	1		1410	171	142.
1		0145	22	1214.	*	1		0555	72	1185.	*	1		1005	122	544.	*	1		1415	172	139.
1		0150	23	1239.	*	1		0600	73	1167.	*	1		1010	123	536.	*	1		1420	173	136.
1		0155	24	1267.	*	1		0605	74	1152.	*	1		1015	124	529.	*	1		1425	174	133.
1		0200	25	1298.	*	1		0610	75	1129.	*	1		1020	125	522.	*	1		1430	175	131.
1		0205	26	2898.	*	1		0615	76	1103.	*	1		1025	126	515.	*	1		1435	176	128.
1		0210	27	9000.	*	1		0620	77	1085.	*	1		1030	127	509.	*	1		1440	177	125.
1		0215	28	20735.	*	1		0625	78	1072.	*	1		1035	128	502.	*	1		1445	178	123.
1		0220	29	37590.	*	1		0630	79	1060.	*	1		1040	129	496.	*	1		1450	179	120.
1		0225	30	53569.	*	1		0635	80	1050.	*	1		1045	130	490.	*	1		1455	180	118.
1		0230	31	58754.	*	1		0640	81	1040.	*	1		1050	131	483.	*	1		1500	181	115.
1		0235	32	55837.	*	1		0645	82	1032.	*	1		1055	132	477.	*	1		1505	182	113.

1	0240	33	50581.	*	1	0650	83	1023.	*	1	1100	133	471.	*	1	1510	183	111.
1	0245	34	43769.	*	1	0655	84	1015.	*	1	1105	134	464.	*	1	1515	184	108.
1	0250	35	36839.	*	1	0700	85	1007.	*	1	1110	135	457.	*	1	1520	185	106.
1	0255	36	31131.	*	1	0705	86	999.	*	1	1115	136	450.	*	1	1525	186	103.
1	0300	37	26527.	*	1	0710	87	991.	*	1	1120	137	442.	*	1	1530	187	98.
1	0305	38	22646.	*	1	0715	88	984.	*	1	1125	138	434.	*	1	1535	188	90.
1	0310	39	19477.	*	1	0720	89	977.	*	1	1130	139	426.	*	1	1540	189	82.
1	0315	40	16714.	*	1	0725	90	969.	*	1	1135	140	418.	*	1	1545	190	77.
1	0320	41	14532.	*	1	0730	91	961.	*	1	1140	141	410.	*	1	1550	191	72.
1	0325	42	12596.	*	1	0735	92	952.	*	1	1145	142	402.	*	1	1555	192	67.
1	0330	43	11016.	*	1	0740	93	944.	*	1	1150	143	394.	*	1	1600	193	62.
1	0335	44	9743.	*	1	0745	94	935.	*	1	1155	144	382.	*	1	1605	194	56.
1	0340	45	8724.	*	1	0750	95	927.	*	1	1200	145	363.	*	1	1610	195	51.
1	0345	46	7991.	*	1	0755	96	919.	*	1	1205	146	337.	*	1	1615	196	47.
1	0350	47	7404.	*	1	0800	97	912.	*	1	1210	147	311.	*	1	1620	197	42.
1	0355	48	6910.	*	1	0805	98	906.	*	1	1215	148	288.	*	1	1625	198	39.
1	0400	49	6514.	*	1	0810	99	900.	*	1	1220	149	268.	*	1	1630	199	35.
1	0405	50	6160.	*	1	0815	100	894.	*	1	1225	150	253.	*	1	1635	200	32.
				*					*					*				

****

PEAK FLOW (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	16.58-HR
58754.	2.50	(CFS)	9286.	3673.	3673.	3673.
		(INCHES)	12.108	13.236	13.236	13.236
		(AC-FT)	4604.	5033.	5033.	5033.

CUMULATIVE AREA = 7.13 SQ MI

1

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

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	C560I	17974.	2.58	2897.	1051.	1051.	2.15		
ROUTED TO	C560O	16821.	2.67	2891.	1183.	1183.	2.15		
ROUTED TO	560599	16460.	2.67	2891.	1185.	1185.	2.15		
HYDROGRAPH AT	C578I	26969.	2.33	2850.	1033.	1033.	2.00		
ROUTED TO	C578O	26375.	2.42	2903.	1149.	1149.	2.00		
ROUTED TO	578599	24197.	2.42	2920.	1160.	1160.	2.00		
HYDROGRAPH AT	C584I	20238.	2.33	2265.	821.	821.	1.60		
ROUTED TO	C584O	20283.	2.42	2311.	899.	899.	1.60		
ROUTED TO	584599	17009.	2.50	2335.	916.	916.	1.60		
HYDROGRAPH AT	C210	19580.	2.33	1956.	708.	708.	1.38		
4 COMBINED AT	C599I	58754.	2.50	9286.	3673.	3673.	7.13		

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

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*              MAY   1991           *
*           VERSION 4.0.1E          *
*     Lahey F77L-EM/32 version 5.01 *
*       Dodson & Associates, Inc.   *
*  RUN DATE  07/30/97  TIME  14:32:07*
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*          (916) 551-1748           *
*                                   *
*************************************
```

```
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

  1           ID   Fountain Hills Area Drainage Master Plan
  2           ID   Golden Eagle Park Dam Feasibility Study
  3           ID        FCD 94-16       by GVSCE                        File:  PMF-RT.IH1
  4           ID    PMF Routing Model.  6-hour PMP Storm                Date:   7/29/97
  5           ID    JR Record used to Calculate PMF and 0.5PMF Runoff
  6           ID    Full PMF Inflow Hydrograph from GEPD-PMF.OH1 in Interim Report
  7           ID    Proposed Improvements for GEPD Reflected in Rating Curve at C5990
              *
              *DIAGRAM
              *
  8           IT       5       0       0     210
  9           IN       5
 10           IO       5
 11           JR    FLOW     1.0     0.5
              *

 12           KK   C599I
 13           KM        PMF Inflow Hydrograph to GEPD
 14           BA    7.13
 15           QI    2557    2391    2090    1839    1635    1501    1401    1319    1252    1196
 16           QI    1155    1127    1109    1101    1113    1134    1144    1151    1158    1172
 17           QI    1192    1214    1239    1267    1298    2898    9000   20735   37590   53569
 18           QI   58754   55837   50581   43769   36839   31131   26527   22646   19477   16714
 19           QI   14532   12596   11016    9743    8724    7991    7404    6910    6514    6160
 20           QI    5743    5250    4788    4320    3861    3424    3064    2792    2565    2375
 21           QI    2209    2062    1898    1733    1604    1491    1399    1334    1286    1246
 22           QI    1212    1185    1167    1152    1129    1103    1085    1072    1060    1050
 23           QI    1040    1032    1023    1015    1007     999     991     984     977     969
 24           QI     961     952     944     935     927     919     912     906     900     894
 25           QI     888     880     873     865     857     848     838     827     814     801
 26           QI     785     766     744     709     673     642     618     597     580     565
 27           QI     552     544     536     529     522     515     509     502     496     490
 28           QI     483     477     471     464     457     450     442     434     426     418
 29           QI     410     402     394     382     363     337     311     288     268     253
 30           QI     239     228     219     211     205     200     196     192     187     183
 31           QI     179     174     170     166     162     159     155     152     148     145
 32           QI     142     139     136     133     131     128     125     123     120     118
 33           QI     115     113     111     108     106     103      98      90      82      77
 34           QI      72      67      62      56      51      47      42      39      35      32
              *

 35           KK   C5990
 36           KM      Reservoir route at C599 (GEPD)
 37           KM      Antecedent water surface set at emergency spillway crest
 38           RS       1    ELEV  1715.0
 39           SV    0.00    0.03    0.47   16.85   80.85      98  116.14  136.00  156.22  179.00
 40           SV  200.89  214.00  226.00  252.10  281.00  310.47  344.00  376.60  413.00  450.02
 41           SE  1694.5  1700.0 1702.00 1708.00 1714.00 1715.00 1716.00 1717.00 1718.00  1719.0
 42           SE  1720.0 1720.50 1721.00 1722.00 1723.00 1724.00 1725.00 1726.00 1727.00  1728.0
 43           SQ       0      77     180     367     589     803    1001    1176    1331    1470
 44           SQ    1595    1625    1647    1693    2980    7664   15198   24392   31325   66943
 45           SE  1694.5  1696.0  1698.0  1700.0  1702.0  1704.0  1706.0  1708.0  1710.0  1712.0
 46           SE  1714.0  1714.5 1714.86  1715.0  1716.0  1717.5  1719.0  1720.5  1721.5  1725.0
 47           RL                   0.97
 48           ZZ
```

```
1
                 SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

    12       C599I
                 V
                 V
    35       C599O

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                                    ************************************
 *                                      *                                    *                                  *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *   U.S. ARMY CORPS OF ENGINEERS   *
 *             MAY   1991               *                                    *   HYDROLOGIC ENGINEERING CENTER  *
 *           VERSION 4.0.1E             *                                    *         609 SECOND STREET        *
 *     Lahey F77L-EM/32 version 5.01    *                                    *      DAVIS, CALIFORNIA 95616     *
 *       Dodson & Associates, Inc.      *                                    *          (916) 551-1748          *
 *  RUN DATE  07/30/97  TIME  14:32:07  *                                    *                                  *
 ****************************************                                    ************************************


                         Fountain Hills Area Drainage Master Plan
                         Golden Eagle Park Dam Feasibility Study
                              FCD 94-16       by GVSCE                    File:  PMF-RT.IH1
                          PMF Routing Model.  6-hour PMF Storm            Date:   7/29/97
                          JR Record used to Calculate PMF and 0.5PMF Runoff
                          Full PMF Inflow Hydrograph from GEPD-PMF.OH1 in Interim Report
                          Proposed Improvements for GEPD Reflected in Rating Curve at C5990

  10 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         210  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      1    0  ENDING DATE
                      NDTIME        1725  ENDING TIME
                       ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                       TOTAL TIME BASE   17.42 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 RUNOFF
                    1.00      0.50
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


                                                                  RATIOS APPLIED TO FLOWS
 OPERATION       STATION     AREA    PLAN            RATIO 1  RATIO 2
                                                        1.00     0.50

 HYDROGRAPH AT
+                 C599I      7.13     1   FLOW       58754.   29377.
                                          TIME         2.50     2.50

 ROUTED TO
+                 C599O      7.13     1   FLOW       57303.   28612.
                                          TIME         2.58     2.58

                                       ** PEAK STAGES IN FEET **
                                       1   STAGE     1724.05  1721.11
                                           TIME         2.58     2.58


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

AVERY

APPENDIX G

Supplemental information for developing spillway rating curves

```
*********************************************
    UNEVEN WEIR FLOW PROGRAM
    FORTRAN VERSION 1.0
*********************************************


    PROJECT:  Fountain Hills ADMP - GEPD Emergency Spillway
    ENGINEER:  mcg
    DATE:   7/29/1997
    TIME:  15:40.30




---------------------------------------------
    INPUT PARAMETERS
---------------------------------------------


    STARTING WSEL:       1714.50
    MAXIMUM WSEL:        1725.50
    STEP SIZE:              0.50
    BREADTH OF WEIR:       25.00
```

****

INPUT ELEVATION/STATION TABLE.

PROJECT: Fountain Hills ADMP - GEPD Emergency Spillway

DATE: 7/29/1997

TIME: 15:40.30

****

POINT	ELEVATION	STATION

POINT	ELEVATION	STATION	POINT	ELEVATION	STATION
1	1726.00	667.20	16	1723.00	1605.00
2	1724.00	739.20	17	1723.00	2045.00
3	1722.00	786.20	18	1730.00	2062.00
4	1722.00	961.20			
5	1716.00	961.30			
6	1716.64	991.30			
7	1716.63	1025.70			
8	1716.00	1049.30			
9	1715.96	1050.80			
10	1715.92	1131.40			
11	1715.69	1131.50			
12	1715.33	1180.60			
13	1715.09	1180.70			
14	1714.86	1320.00			
15	1714.86	1580.00			

Note: See attached sketch for station designation

****

WEIR COEFFICIENT TABLE

PROJECT: Fountain Hills ADMP - GEPD Emergency Spillway

DATE: 7/29/1997

TIME: 15:40.30

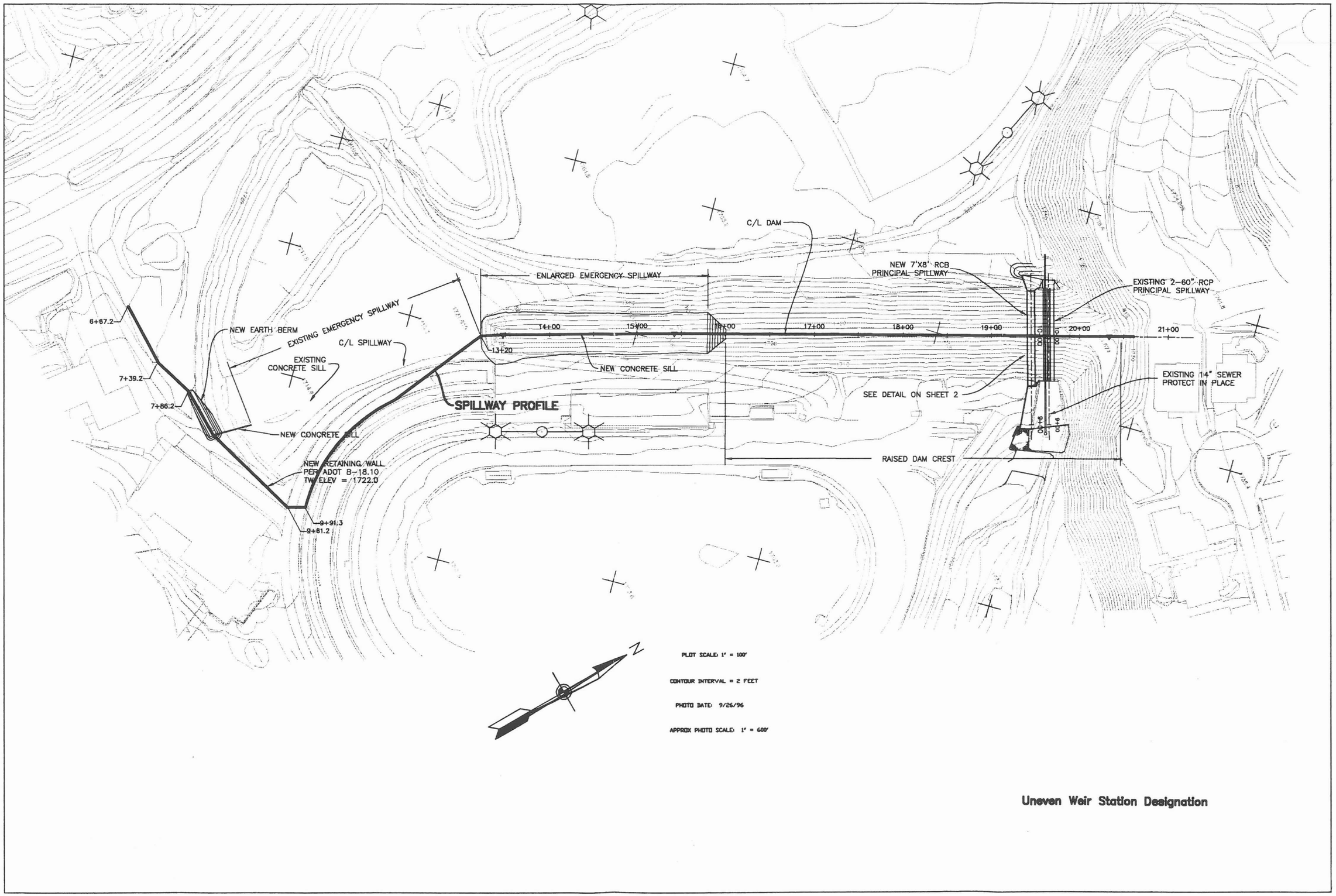
****

REFERENCE: COE CHART - UPPER CURVE

POINT	HEAD	COEFFICIENT	POINT	HEAD	COEFFICIENT
1	0.00	2.5000	16	7.50	3.0333
2	0.50	2.5667	17	8.00	3.0378
3	1.00	2.6333	18	8.50	3.0422
4	1.50	2.7000	19	9.00	3.0467
5	2.00	2.7667	20	9.50	3.0511
6	2.50	2.8333	21	10.00	3.0556
7	3.00	2.9000	22	10.50	3.0600
8	3.50	2.9667	23	11.00	3.0644
9	4.00	3.0022			
10	4.50	3.0067			
11	5.00	3.0111			
12	5.50	3.0156			
13	6.00	3.0200			
14	6.50	3.0244			
15	7.00	3.0289			

```
*********************************************
    UNEVEN WEIR FLOW PROGRAM
    FORTRAN VERSION 1.0
    PROJECT:  Fountain Hills ADMP - GEPD Emergency Spillway
    DATE:   7/29/1997
    TIME:  15:40.30
*********************************************
```

ELEVATION	DISCHARGE (CFS)	ELEVATION	DISCHARGE (CFS)
1714.50	0.00	1722.00	33031.64
1715.00	38.79	1722.50	37041.76
1715.50	483.88	1723.00	41359.31
1716.00	1272.62	1723.50	46353.74
1716.50	2437.22	1724.00	51976.96
1717.00	3979.87	1724.50	58135.82
1717.50	5877.09	1725.00	64808.24
1718.00	8098.13	1725.50	71987.25
1718.50	10632.84		
1719.00	13332.23		
1719.50	16200.66		
1720.00	19248.89		
1720.50	22450.76		
1721.00	25812.21		
1721.50	29340.81		



Uneven Weir Station Designation

CURRENT DATE: 07-29-1997 FILE DATE: 07-29-1997
NT TIME: 10:51:02 FILE NAME: GED01

****
********** FHWA CULVERT ANALYSIS **********
********** HY-8, VERSION 6.0 **********
****

C U L V NO.	SITE DATA: INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	CULVERT SHAPE, MATERIAL, INLET: BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	1694.51	1693.24	105.01	1 RCP	5.00	5.00	.013	CONVENTIONAL
2	1696.56	1695.10	105.01	1 IRCP	4.91	3.00	.013	CONVENTIONAL
3	1696.00	1693.20	99.04	1 RCB	7.00	8.00	.015	CONVENTIONAL
4								
5								
6								

****

****

SUMMARY OF CULVERT FLOWS (cfs) FILE: GED01 DATE: 07-29-1997

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1694.51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0
1698.63	213.5	94.8	39.3	78.8	0.0	0.0	0.0	0.00	6
1700.53	427.0	160.9	88.0	178.2	0.0	0.0	0.0	0.00	3
2.46	640.5	212.6	123.6	304.2	0.0	0.0	0.0	0.00	3
04.47	854.0	254.5	151.3	448.2	0.0	0.0	0.0	0.00	4
1706.69	1067.5	293.5	176.6	597.9	0.0	0.0	0.0	0.00	4
1709.29	1281.0	333.4	201.5	746.4	0.0	0.0	0.0	0.00	4
1712.35	1494.5	375.3	227.4	891.9	0.0	0.0	0.0	0.00	5
1714.86	1647.0	406.6	246.5	994.3	0.0	0.0	0.0	0.00	4
1720.04	1921.5	463.9	282.0	1175.6	0.0	0.0	0.0	0.00	8
1724.99	2135.0	509.9	312.1	1312.8	0.0	0.0	0.0	0.00	6
1725.00	2135.3	510.0	312.2	1313.1	0.0	0.0	0.0	OVERTOPPING	

****

****

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: GED01 DATE: 07-29-1997

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
1694.51	0.000	0.00	0.00	0.00
1698.63	-0.005	213.50	0.55	0.26
1700.53	0.001	427.00	-0.08	-0.02
1702.46	0.000	640.50	0.05	0.01
1704.47	1.000	854.00	-0.02	-0.00
1706.69	0.006	1067.50	-0.54	-0.05
1709.29	0.004	1281.00	-0.31	-0.02
1712.35	0.001	1494.50	-0.05	-0.00
1714.86	0.005	1647.00	-0.32	-0.02
1720.04	0.000	1921.50	-0.03	-0.00
1724.99	-0.004	2135.00	0.16	0.01

****

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

****

CURRENT DATE: 07-29-1997 FILE DATE: 07-29-1997
CURRENT TIME: 10:51:02 FILE NAME: GED01

****

PERFORMANCE CURVE FOR CULVERT 1 - 1(5.00 (ft) BY 5.00 (ft)) RCP

****

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1694.51	0.00	-1.27	0-NF	0.00	0.00	0.00	-0.09	0.00	0.00
94.80	1698.64	4.13	3.34	1-S2n	1.98	2.76	2.21	1.14	11.34	3.91
160.85	1700.52	6.01	5.14	5-S2n	2.68	3.63	3.03	1.73	12.95	4.90
212.57	1702.46	7.95	6.95	5-S2n	3.21	4.12	3.66	2.19	13.82	5.56
254.49	1704.46	9.95	8.69	5-S2n	3.68	4.44	4.29	2.57	14.25	6.07
293.47	1706.68	12.17	10.56	5-S2n	4.25	4.73	4.63	2.91	15.55	6.48
333.37	1709.28	14.77	12.72	6-FFc	5.00	5.00	5.00	3.21	16.98	6.84
375.26	1712.35	17.84	15.12	6-FFc	5.00	5.00	5.00	3.49	19.11	7.15
406.59	1714.86	20.35	17.11	6-FFc	5.00	5.00	5.00	3.67	20.71	7.35
463.94	1720.03	25.52	21.14	6-FFc	5.00	5.00	5.00	3.98	23.63	7.68
509.94	1724.99	30.48	24.77	6-FFc	5.00	5.00	5.00	4.21	25.97	7.91

****

El. inlet face invert 1694.51 ft El. outlet invert 1693.24 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

****

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	949.00 ft
INLET ELEVATION	1694.51 ft
OUTLET STATION	1054.00 ft
OUTLET ELEVATION	1693.24 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0121
CULVERT LENGTH ALONG SLOPE	105.01 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	5.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE WITH HEADWALL
INLET DEPRESSION	NONE

****

ENT DATE: 07-29-1997 FILE DATE: 07-29-1997
ENT TIME: 10:51:02 FILE NAME: GED01

****

PERFORMANCE CURVE FOR CULVERT 2 - 1(4.91 (ft) BY 3.00 (ft)) IRCP

****

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1696.56	0.00	-1.46	0-NF	0.00	0.00	0.00	-1.95	0.00	0.00
39.33	1698.62	2.06	1.04	1-S2n	0.81	1.25	0.91	-0.72	8.86	3.91
88.03	1700.52	3.96	2.99	1-S2n	1.44	2.09	1.65	-0.13	11.13	4.90
123.63	1702.45	5.89	5.04	5-S2n	1.92	2.49	2.25	0.33	12.05	5.56
151.29	1704.47	7.91	7.02	5-S2n	2.38	2.73	2.63	0.71	13.23	6.07
176.63	1706.68	10.12	9.20	2-M2c	3.00	2.94	2.94	1.05	14.74	6.48
201.52	1709.29	12.73	11.51	6-FFc	3.00	3.00	3.00	1.35	16.70	6.84
227.35	1712.35	15.79	14.23	6-FFc	3.00	3.00	3.00	1.63	18.84	7.15
246.47	1714.85	18.29	16.46	6-FFc	3.00	3.00	3.00	1.81	20.42	7.35
281.95	1720.03	23.47	21.06	6-FFc	3.00	3.00	3.00	2.12	23.36	7.68
312.11	1724.99	28.43	25.47	6-FFc	3.00	3.00	3.00	2.35	25.86	7.91

****

El. inlet face invert 1696.56 ft El. outlet invert 1695.10 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

****

SITE DATA ***** CULVERT INVERT **********

INLET STATION	949.00 ft
INLET ELEVATION	1696.56 ft
OUTLET STATION	1054.00 ft
OUTLET ELEVATION	1695.10 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0139
CULVERT LENGTH ALONG SLOPE	105.01 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	USER DEFINED
BARREL SPAN	4.91 ft
BARREL RISE	3.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.013 FOR SIDES AND TOP
	0.015 FOR BOTTOM
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	HEADWALL
INLET DEPRESSION	NONE

****

CURRENT DATE: 07-29-1997 FILE DATE: 07-29-1997
CURRENT TIME: 10:51:02 FILE NAME: GED01

****

***** USER DEFINED CULVERT CROSS-SECTION - CULVERT # 2

COORDINATE NUMBER	X (ft)	Y-TOP (ft)	Y-BOTTOM (ft)
1	0.00	0.96	0.04
2	0.10	1.33	0.00
3	0.60	2.17	0.00
4	1.10	2.60	0.00
5	1.60	2.85	0.00
6	2.46	3.00	0.00
7	3.31	2.85	0.00
8	3.81	2.60	0.00
9	4.31	2.17	0.00
10	4.81	1.33	0.00
11	4.91	0.96	0.40

****

ENT DATE: 07-29-1997 FILE DATE: 07-29-1997
NT TIME: 10:51:02 FILE NAME: GED01

****

PERFORMANCE CURVE FOR CULVERT 3 - 1(7.00 (ft) BY 8.00 (ft)) RCB

****

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1696.00	0.00	-2.80	0-NF	0.00	0.00	0.00	-0.05	0.00	0.00
78.82	1698.64	2.64	2.05	1-S2n	0.85	1.58	0.90	1.18	12.50	3.91
178.20	1700.53	4.53	2.84	1-S2n	1.47	2.73	1.65	1.77	15.47	4.90
304.24	1702.46	6.46	3.96	1-S2n	2.14	3.89	2.49	2.23	17.43	5.56
448.24	1704.47	8.47	5.49	1-S2n	2.83	5.04	3.38	2.61	18.93	6.07
597.94	1706.69	10.69	7.41	1-S2n	3.51	6.11	4.21	2.95	20.29	6.48
746.43	1709.28	13.28	9.66	5-S2n	4.16	7.08	5.04	3.25	21.14	6.84
891.94	1712.34	16.34	12.20	5-S2n	4.78	7.98	5.78	3.53	22.06	7.15
994.26	1714.85	18.85	13.92	6-FFc	5.20	8.00	5.20	3.71	27.33	7.35
1175.64	1720.04	24.04	17.39	6-FFc	5.94	8.00	5.94	4.02	28.28	7.68
1312.78	1724.98	28.98	20.40	6-FFc	6.49	8.00	6.49	4.25	28.88	7.91

****

El. inlet face invert 1696.00 ft El. outlet invert 1693.20 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

****

SITE DATA ***** CULVERT INVERT **********

INLET STATION	950.00 ft
INLET ELEVATION	1696.00 ft
OUTLET STATION	1049.00 ft
OUTLET ELEVATION	1693.20 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0283
CULVERT LENGTH ALONG SLOPE	99.04 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	BOX
BARREL SPAN	7.00 ft
BARREL RISE	8.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.015
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE (90-45 DEG.)
INLET DEPRESSION	NONE

****

CURRENT DATE: 07-29-1997 FILE DATE: 07-29-1997
CURRENT TIME: 10:51:02 FILE NAME: GED01

****
********** TAILWATER **********
****

******* REGULAR CHANNEL CROSS SECTION **********

BOTTOM WIDTH	37.00 ft
SIDE SLOPE H/V (X:1)	6.0
CHANNEL SLOPE V/H (ft/ft)	0.016
MANNING'S n (.01-0.1)	0.050
CHANNEL INVERT ELEVATION	1693.15 ft
CULVERT NO.1 OUTLET INVERT ELEVATION	1693.24 ft

******* UNIFORM FLOW RATING CURVE FOR DOWNSTREAM CHANNEL

FLOW (cfs)	W.S.E. (ft)	FROUDE NUMBER	DEPTH (ft)	VEL. (f/s)	SHEAR (psf)
0.00	1693.15	0.000	0.00	0.00	0.00
213.50	1694.38	0.621	1.23	3.91	1.24
427.00	1694.97	0.640	1.82	4.90	1.84
640.50	1695.43	0.650	2.28	5.56	2.30
854.00	1695.81	0.656	2.66	6.07	2.69
1067.50	1696.15	0.660	3.00	6.48	3.03
1281.00	1696.45	0.663	3.30	6.84	3.34
1494.50	1696.73	0.666	3.58	7.15	3.62
1647.00	1696.91	0.668	3.76	7.35	3.80
1921.50	1697.22	0.670	4.07	7.68	4.12
2135.00	1697.45	0.672	4.30	7.91	4.35

****
********** ROADWAY OVERTOPPING DATA **********
****

ROADWAY SURFACE	GRAVEL
EMBANKMENT TOP WIDTH	25.00 ft
CREST LENGTH	10.00 ft
OVERTOPPING CREST ELEVATION	1725.00 ft

****

Golden Eagle Park Dam Feasibility Level Design
Storage and Discharge vs Stage Data

HY-8 Output (File:GEP01.LST)

Design Principal Spillway Peak Discharges				
	Existing Principal Spillway		Proposed	
Stage (ft)	60" RCP (cfs)	60" RCP w/sewer (cfs)	7'x 8' Box Culvert (cfs)	Total (cfs)
1694.51	0	0	0	0
1698.63	95	39	79	213
1700.53	161	88	178	427
1702.47	213	124	304	640
1704.48	255	151	448	854
1706.69	294	177	598	1068
1709.29	334	202	746	1281
1712.36	375	227	892	1495
1714.86	407	247	994	1647
1720.05	464	282	1176	1922
1725.00	510	312	1313	2135

Uneven Weir Output (File:propspwy.owr)

Design Emergency Spillway Capacity	
Uneven Weir Output	
Stage (ft)	Discharge (cfs)
1714.50	0
1714.80	0
1714.90	31
1715.00	39
1715.50	484
1716.00	1273
1716.50	2437
1717.00	3980
1717.50	5877
1718.00	8098
1718.50	10633
1719.00	13332
1719.50	16201
1720.00	19249
1720.50	22451
1721.00	25812
1721.50	29341
1722.00	33032
1722.50	37042
1723.00	41359
1723.50	46354
1724.00	51977
1724.50	58136
1725.00	64808

GVSCE Rating Curves					
Stage	Surface	Storage	Discharge, in cfs		
NGVD 29 Datum	Area (acres)	Volume (acre-feet)	Principal Spillway	Emergency Spillway	Total
1694.51	0.00	0.00	0	0	0
1696.00	0.00	0.00	77	0	77
1698.00	0.00	0.00	180	0	180
1700.00	0.05	0.03	367	0	367
1702.00	0.45	0.47	589	0	589
1704.00	1.54	2.35	803	0	803
1706.00	3.61	7.35	1001	0	1001
1708.00	5.99	16.85	1176	0	1176
1710.00	8.91	31.66	1331	0	1331
1712.00	12.23	52.71	1470	0	1470
1714.00	15.99	80.85	1595	0	1595
1714.50	---	89.67	1625	0	1625
1714.86	---	96.02	1647	0	1647
1714.90	---	96.73	1649	31	1680
1715.00	---	98.49	1655	39	1693
1715.50	---	107.32	1681	484	2165
1716.00	19.36	116.14	1708	1273	2980
1716.50	---	126.16	1734	2437	4171
1717.00	---	136.18	1760	3980	5740
1717.50	---	146.20	1787	5877	7664
1718.00	20.73	156.22	1813	8098	9911
1718.50	---	167.39	1840	10633	12472
1719.00	---	178.55	1866	13332	15198
1719.50	---	189.72	1892	16201	18093
1720.00	23.97	200.89	1919	19249	21168
1720.50	---	213.69	1941	22451	24392
1721.00	---	226.49	1962	25812	27775
1721.50	---	239.30	1984	29341	31325
1722.00	27.28	252.10	2005	33032	35037
1722.50	---	266.69	2027	37042	39069
1723.00	---	281.28	2049	41359	43408
1723.50	---	295.88	2070	46354	48424
1724.00	31.13	310.47	2092	51977	54069

Note: NE Corner of High School Cafeteria EL = 1716.49

AVERY

APPENDIX H

HEC-2 for existing watershed conditions (as used in the Fountain HillS(North) FDS) and the modified GEPD principal spillway 100-year peak discharges

```
1*****************************************
*************************************
 *  HEC-2 WATER SURFACE PROFILES            *                                                  *  U.S. ARMY CORPS OF ENGINEERS
 *                                          *                                                  *  HYDROLOGIC ENGINEERING CENTER
 *
 *  Version   4.6.2;  May 1991              *                                                  *  609 SECOND STREET, SUITE D
 *
 *                                          *                                                  *  DAVIS, CALIFORNIA 95616-4687
 *
 *  RUN DATE    30JUN96    TIME   11:11:07  *                                                  *          (916) 756-1104
 *
 *****************************************
*************************************
```

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

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1
   30JUN96      11:11:07                                                                                                  PAGE    1


                                                                                  THIS RUN EXECUTED 30JUN96    11:11:07
 *************************************
  HEC-2 WATER SURFACE PROFILES

  Version   4.6.2;  May 1991
 *************************************
```

```
    *  Fountain Hills North FIS                          File:        AS.IH2
    *  For:  FCDMC #92-04        By:  GVSCE #35         DTP & FB   03-17-94
    *   Ashbrook Wash 100 Year Floodplain              Revised:   03-29-95
    *  GR data taken from stereo model; received 19 Oct 93 from KAM.
    *  Extended section GR data received 19 Oct 93 from KAM.
    *  200 scale 2 ft CI mapping flown by Kenny Aerial Mapping on 8/29/91,
    *  with survey control by Anderson Nelson 12-11-92.
    *  Supplemental cross section data (GR & BT) surveyed by ALS as noted.
    *  Source of 100-yr Flowrate from HEC-1 Analysis By GVSCE.
    *           Files: EX100-6.OH1 and EX100-24.OH1
    *  X5 Records are from Hydrology Report, Section 3.5, Table F8.
    *  Special culvert routine used.   Sub Critical Analysis.
    *  Floodplain limits are plotted at each cross section using starting
    *  (SSTA) and ending (ENDST) stations unless there is ineffective flow area
    *  or a conflict with topographic contours, in which case, the contours are
    *  used to plot the floodplain.

T1     Fountain Hills North ADMP
T2     Golden Eagle Park Dam Improvements
T3     Ashbrook Wash 100 Year Floodplain              Revised:   JUNE 97

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0         2         0         0      0.02         0         0         0    1503.7

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      1         0        -1         0         0         0        -1         0         0         0

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150       101       200

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

```
    -10
1
   30JUN96      11:11:07                                                                                                PAGE    2

        HEC-1 Concentration Point C627

QT        2       3550       3550

        Start Hydraulically Similar Reach AS1
                See Exhibit 1, Manning's n Value Map.
NC    0.080      0.080      0.060        0.1        0.3

  Section 1.521 is section 1 of 3 for Normal Depth Calculation
ET                          9.1                                                                    9944.73    10036.23
          HEC-1 Concentration Point C627.
                START Similar Hydraulic Reach  AS1
                See Exhibit 1, Manning's n Value Map.
                Section 1 of 3 for SLOPE-AREA METHOD (Normal Depth Calculation)
                Left overbank is non effective flow area:  Hard coded GR's
                           from STA 9804.9 to 9826.6 @ EL 1505
X1    1.521        19     9953.3    10031.7          0          0        0.0                    -0.6
GR   1520.9    9765.7     1520.9     9776.5     1510.2     9790.9       1505     9804.9       1505     9819.3
GR     1505    9826.6     1504.9     9837.0     1505.2     9869.5     1505.3     9886.6     1506.6     9894.6
GR   1506.9    9916.2     1505.2     9935.3     1505.0     9943.3     1500.4     9953.3     1500.1     9973.9
GR   1499.9   10000.0     1500.0    10001.2     1500.1    10031.7     1510.6    10042.9

  Section 1.523 is section 2 of 3 for Normal Depth Calculation

ET                          9.1                                                                    9944.72    10036.23
                Section 2 of 3 for SLOPE-AREA METHOD (Normal Depth Calculation)
                Left overbank is non effective flow area:  Hard coded GR's
                           from STA 9804.9 to 9826.6 @ EL 1505
X1    1.523        19     9953.3    10031.7         10         10        10                    -0.4
GR   1520.9    9765.7     1520.9     9776.5     1510.2     9790.9       1505     9804.9       1505     9819.3
GR     1505    9826.6     1504.9     9837.0     1505.2     9869.5     1505.3     9886.6     1506.6     9894.6
GR   1506.9    9916.2     1505.2     9935.3     1505.0     9943.3     1500.4     9953.3     1500.1     9973.9
GR   1499.9   10000.0     1500.0    10001.2     1500.1    10031.7     1510.6    10042.9

  Section 1.525 is section 3 of 3 for Normal Depth Calculation

ET                          9.1                                                                    9944.71    10036.23
                Section 3 of 3 for SLOPE-AREA METHOD (Normal Depth Calculation)
                Left overbank is non effective flow area:  Hard coded GR's
                           from STA 9804.9 to 9826.6 @ EL 1505
X1    1.525        19     9953.3    10031.7         10         10        10                    -0.2
GR   1520.9    9765.7     1520.9     9776.5     1510.2     9790.9       1505     9804.9       1505     9819.3
GR     1505    9826.6     1504.9     9837.0     1505.2     9869.5     1505.3     9886.6     1506.6     9894.6
GR   1506.9    9916.2     1505.2     9935.3     1505.0     9943.3     1500.4     9953.3     1500.1     9973.9
GR   1499.9   10000.0     1500.0    10001.2     1500.1    10031.7     1510.6    10042.9


NH        3        .08     9953.3        .06    10031.7        .08    10042.9
ET                          9.1                                                                    9944.71    10036.24
1
   30JUN96      11:11:07                                                                                                PAGE    3


                Left overbank is non effective flow area:  Hard coded GR's
                           from STA 9804.9 to 9826.6 @ EL 1505
                STREAM DISTANCE IN MILES ABOVE CONFLUENCE WITH VERDE RIVER.
X1    1.527        19     9953.3    10031.7         10         10        10
GR   1520.9    9765.7     1520.9     9776.5     1510.2     9790.9       1505     9804.9       1505     9819.3
GR     1505    9826.6     1504.9     9837.0     1505.2     9869.5     1505.3     9886.6     1506.6     9894.6
GR   1506.9    9916.2     1505.2     9935.3     1505.0     9943.3     1500.4     9953.3     1500.1     9973.9
GR   1499.9   10000.0     1500.0    10001.2     1500.1    10031.7     1510.6    10042.9


NH        3        .08     9983.5        .06    10020.7        .08    10077.8
ET                          9.1                                                                    9918.34    10050.50
X1    1.577        18     9983.5    10020.7        320        250     259.4
GR   1517.9    9859.9     1517.6     9873.1     1510.0     9892.1     1510.5     9914.2     1507.7     9921.4
GR   1506.7    9935.0     1504.4     9943.4     1503.6     9960.5     1504.3     9968.1     1504.3     9983.5
GR   1503.5    9990.1     1503.3    10000.0     1503.2    10015.5     1504.5    10020.7     1506.0    10045.0
GR   1513.2   10058.7     1520.8    10069.3     1515.4    10077.8


NH        3        .08     9951.6        .06    10064.9        .08    10258.6
ET                          9.1                                                                    9945.09    10071.55
X1    1.602        18     9951.6    10064.9        135        150     136.1
GR   1517.6    9879.3     1517.3     9905.8     1516.8     9931.5     1507.8     9951.6     1507.5     9972.2
GR   1506.9   10000.0     1507.5    10009.0     1508.0    10040.9     1508.1    10064.9     1511.6    10073.8
GR   1511.7   10094.5     1512.6    10111.3     1513.1    10146.6     1513.4    10172.0     1513.4    10189.2
GR   1518.4   10204.8     1520.3    10233.0     1520.6    10258.6

        AS 1.636 GR Data Surveyed by ALS
        Check Section # 1
        Ashbrook Wash:  Section #4 = 1.636 River Miles
```

```
NH        3        .08    10021.4        .06     10056.4        .08     10259.4
ET                            9.1                                                                  9995.39    10192.22
                Channel has been filled.  GR Data Surveyed By ALS.
X1    1.636        12     9995.4    10056.4         170         180       180.1
GR   1518.7    9899.4    1518.97     9905.4     1520.40      9921.4     1518.85     9995.4     1511.1     10021.4
GR   1510.6   10051.4    1512.85    10056.4     1514.15     10188.4     1518.85    10199.4     1521.4     10210.4
GR   1523.6   10239.4    1524.35    10259.4

        AS 1.686 GR Data Surveyed by ALS
        Check Section # 2
        Ashbrook Wash:  Section # 5 = 1.686 River Miles

NH        3        .08       9990        .06       10037        .08       10286
ET                            9.1                                                                  9871.80    10079.53
                Channel has been filled.  GR Data Surveyed By ALS.
X1    1.686        18       9990      10037         250         250       262.6
GR   1523.4      9778    1523.54       9787     1523.16       9860     1518.61       9877     1516.21       9990
GR   1515.0      9997    1512.11      10003     1512.11      10008     1514.21      10014     1518.11      10037
GR   1517.7     10064    1521.11      10087     1523.91      10113     1523.41      10140     1526.81      10235
GR   1527.2     10267    1525.61      10281     1526.19      10286

        HEC-1 Concentration Point C626
1
   30JUN96       11:11:07                                                                                                PAGE    4


QT        2       3550       3550

NH        3        .08    10036.3        .06     10076.3        .08     10136.4
ET                            9.1                                                                  9881.69    10080.63
          HEC-1 Concentration Point C626.
X1    1.727        33    10036.3    10076.3         200         220       213.9
GR   1525.4    9773.1     1526.8     9782.8     1528.1      9795.5     1528.2     9811.6     1528.2      9823.0
GR   1527.6    9831.4     1527.6     9847.0     1527.5      9860.8     1526.4     9872.8     1521.1      9888.3
GR   1521.0    9896.3     1520.1     9900.9     1520.6      9909.4     1520.9     9928.2     1519.3      9936.6
GR   1520.9    9944.6     1521.3     9953.6     1520.7      9959.1     1521.3     9980.3     1521.3      9990.2
GR   1521.2   10000.0     1521.7    10010.3     1520.9     10025.6     1519.7    10032.7     1520.6     10036.3
GR   1520.4   10050.7     1519.2    10070.6     1520.6     10076.3     1525.9    10084.6     1525.9     10090.7
GR   1524.0   10103.1     1524.4    10117.7     1524.2     10136.4

NH        3        .08       9987        .06     10035.2        .08     10229.1
ET                            9.1                                                                  9967.78    10160.89
X1    1.855        25       9987    10035.2         680         700       677.4
GR   1539.3    9855.7     1539.0     9869.5     1540.0      9876.5     1540.0     9899.3     1539.0      9947.6
GR   1536.1    9957.5     1533.2     9975.6     1532.2      9987.0     1528.1     9997.9     1527.7     10000.0
GR   1527.4   10006.0     1528.5    10011.5     1530.8     10023.4     1531.5    10035.2     1531.7     10060.0
GR   1531.3   10086.0     1531.0    10104.4     1531.7     10114.8     1532.0    10153.2     1535.7     10164.8
GR   1537.3   10172.5     1536.4    10188.1     1536.7     10195.9     1536.8    10218.8     1536.0     10229.1

        START Hydraulically Similar Reach   AS2
                See Exhibit 1, Manning's n Value Map.

NH        3       .113       9980       .125     10068.8        .12     10159.1
ET                            9.1                                                                  9927.73    10119.83
                START Hydraulically Similar Reach AS2
                See Exhibit 1, Manning's n Value Map.
X1    1.980        20       9980    10112.6         660         640       659.3
GR   1552.8    9825.0     1552.6     9835.2     1554.2      9846.3     1553.9     9873.7     1553.7      9902.3
GR   1548.2    9918.4     1543.8     9934.7     1543.4      9951.4     1543.0     9980.0     1540.4      9991.3
GR   1540.4   10000.0     1540.9    10009.4     1540.9     10031.2     1541.8    10041.5     1542.2     10068.8
GR   1542.5   10112.6     1547.3    10123.5     1550.0     10135.9     1550.2    10147.1     1548.6     10159.1

NH        3       .113     9988.7       .125     10018.5        .12     10374.7
ET                            9.1                                                                  9939.26    10125.75
X1    2.071        25      9948.9    10084.3         490         475       480.4
GR   1558.5    9830.3     1558.2     9841.5     1560.2      9851.9     1561.1     9872.6     1560.7      9903.1
GR   1560.3    9926.3     1555.9     9935.6     1551.6      9948.9     1550.5     9976.2     1549.7      9988.7
GR   1547.4   10000.0     1547.2    10009.4     1548.9     10018.5     1549.7    10051.1     1550.9     10066.1
GR   1551.4   10084.3     1551.3    10115.3     1554.8     10126.0     1556.4    10140.0     1557.0     10181.0
GR   1557.2   10221.1     1556.9    10253.7     1556.8     10302.9     1556.7    10342.5     1556.2     10374.7

         BALBOA  WASH   Tributary

        HEC-1 Concentration Point C549
1
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QT        2       3470       3470

NH        3       .113     9946.9       .125       10000        .12     10156.6
ET                            9.1                                                                  9894.22    10100.95
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          HEC-1 Concentration Point C549.
                BALBOA WASH Tributary
X1    2.095        17     9925.4     10000       120       140     128.7
GR   1563.1    9785.9     1562.5    9828.1    1559.3    9843.4    1558.2    9878.0    1556.2    9905.9
GR   1554.1    9925.4     1553.2    9946.9    1552.7    9967.5    1551.9    9990.9    1553.6   10000.0
GR   1553.6   10020.9     1553.5   10051.4    1552.2   10065.1    1555.0   10078.1    1556.9   10099.0
GR   1558.7   10124.6     1559.1   10156.6

        HEC-1 Concentration Point C549R

QT        2      2490       2490

NH        3      .113     9955.4      .125   10023.9       .12   10088.5
ET                           9.1                                                     9827.06   10054.90
          HEC-1 Concentration Point C549R.
X1    2.200        12     9955.4   10023.9       570       490     552.7
GR   1570.0    9815.8     1566.0    9822.2    1561.3    9843.3    1561.5    9862.7    1561.2    9899.8
GR   1560.8    9955.4     1560.1    9974.9    1560.6    9994.7    1560.5   10000.0    1559.9   10023.9
GR   1564.7   10042.4     1565.5   10088.5


NH        3      .113     9924.6      .125   10048.8       .12   10070.5
ET                           9.1                                                     9840.32   10052.48
X1    2.279        12     9924.6   10048.8       380       430     415.5
GR   1576.1    9821.9     1573.1    9829.6    1566.2    9847.2    1566.0    9924.6    1565.7    9950.2
GR   1565.7    9950.2     1565.3   10000.0    1565.1   10035.2    1565.1   10035.2    1567.0   10048.8
GR   1573.7   10061.8     1573.6   10070.5


NH        3      .113     9895.6      .125   10021.3       .12     10071
ET                           9.1                                                     9856.22   10063.59
X1    2.304        12     9864.7   10021.3       115       150     134.1
GR   1576.0    9842.8     1574.3    9848.1    1566.3    9864.7    1566.1    9895.6    1565.3    9901.8
GR   1566.3    9909.1     1566.2    9959.0    1566.1   10000.0    1567.3   10021.3    1567.4   10051.7
GR   1569.2   10061.5     1574.6   10071.0

  ******************************************************************************
  ***************************    Culvert    622    ******************************
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        HEC-1 Concentration Point C622

QT        2      2530       2530

NH        3      .113     9955.7      .125   10033.7       .12   10081.2
ET                           9.1                                                     9878.25   10065.35
1
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          HEC-1 Concentration Point C622.
         CULVERT  622:  ASHBROOK WASH and SAGUARO BOULEVARD
            Culvert 622     Downstream: expanded flow. (SECTION 1 OF SC ROUTINE)
X1    2.382        17     9955.7   10033.7       405       405     410.2
GR   1587.5    9836.8     1584.1    9848.5    1583.7    9862.1    1572.2    9884.1    1572.8    9921.5
GR   1573.1    9932.4     1571.9    9945.0    1573.2    9955.7    1571.5    9973.7    1571.3    9982.8
GR   1571.7   10000.0     1571.2   10013.0    1571.6   10021.4    1572.5   10033.7    1572.7   10059.9
GR   1577.2   10069.5     1582.8   10081.2

        Use NC Record to set Contraction and Expansion Coefficients for Culvert.

NC     .113       .12       .125        0.3        0.5
NH        3     0.113     9984.6      0.125   10018.2      0.120   10450.2

ET                           9.1                                                     9992.30   10011.71
            Culvert 622  Outlet.  3-60" CMP's          (SECTION 2 OF SC ROUTINE)
              Photogrammetric x-sec. located 28' Downstream. (No Elev. Adjust.)
               Base Channel Elevations were  raised to Culvert Invert EL  1574.0
X1    2.405        23     9992.3   10011.7       115       130     123.1
X3       10                                                          1581.98   1581.98
GR   1590.3    9743.4     1588.7    9776.2    1586.8    9814.6    1586.1    9855.5    1585.0    9898.6
GR   1584.0    9942.0     1574.9    9961.5    1574.4    9984.6      1574   9992.30      1574   10000.0
GR     1574   10011.7       1574   10018.2      1574   10034.9    1575.4   10050.7    1583.7   10077.0
GR   1584.1   10104.3     1585.5   10116.2    1585.1   10161.0    1585.0   10198.3    1585.0   10267.7
GR   1585.0   10347.6     1585.0   10430.9    1592.2   10450.2


SC    3.024       0.9       2.63          0          5          0       121       2.3   1575.82   1574.01

NH        3     0.113     9951.1      0.125   10036.5      0.120   10339.6

ET                           9.1                                                     9853.96   10091.50
            Culvert 622  Inlet.   3-60" CMP's          (SECTION 3 OF SC ROUTINE)
              Photogrammetric x-sec. located 10' Upstream. (No Elev. Adjust.)
               Base Channel Elevations were lowered to Culvert Invert EL 1575.82
            Culvert 622 BT information surveyed by ALS. West top of curb.
            Culvert 622 BT information coded per figure 3.16 (HEC-2, Sept 90)
            Right overbank is non effective flow area:  Hard coded GR's
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                from STA 10194.7 to STA 10308.4 @ EL 1587.6
X1    2.428        32       9995    10012.2        121        121        121
X2                            2    1580.82     1584.12
X3       10                                                                  1584.06    1584.06
X4        2    1584.75       9929     1584.3      10055

BT      -27     9684.3     1588.8                 9704.9     1587.9                 9720.8     1589.3
BT              9739.1     1589.1                 9769.2     1588.2                 9815.4     1587.5
BT              9842.7     1586.7                 9885.4     1586.1                 9927.0     1584.9
BT                9929    1584.75                   9950    1584.73                  10000    1584.06
BT               10050    1584.38                  10055     1584.3                10061.0     1585.6
BT             10103.1     1586.9                10121.0     1586.7                10138.5     1588.1
BT             10179.4     1588.2                10194.7     1587.6                10209.6     1587.6
BT             10223.3     1587.6                10240.6     1587.6                10254.4     1587.6
BT             10276.8     1587.6                10308.4     1587.6                10339.6     1587.9

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GR   1588.8     9684.3     1587.9     9704.9     1589.3     9720.8     1589.1     9739.1     1588.2     9769.2
GR   1587.5     9815.4     1586.7     9842.7     1586.1     9885.4     1584.9     9927.0     1583.9     9940.1
GR   1580.4     9951.1     1578.2     9974.5     1578.3     9994.3    1575.82       9995    1575.82      10000
GR   1575.8    10004.3    1575.82    10012.2     1576.6    10024.8     1580.2    10036.5     1585.6    10061.0
GR   1586.9    10103.1     1586.7    10121.0     1588.1    10138.5     1588.2    10179.4     1587.6    10194.7
GR   1587.6    10209.6     1587.6    10223.3     1587.6    10240.6     1587.6    10254.4     1587.6    10276.8
GR   1587.6    10308.4     1587.9    10339.6

          Return  Contraction and Expansion coefficients to Normal

NC                                       0.1        0.3

NH        3       .113       9987       .125    10037.3        .12    10256.5
ET                            9.1                                                                  9887.27   10119.65
            Culvert 622     Upstream:  expanded flow.  (SECTION 4 OF SC ROUTINE)
                LEGEND WASH Tributary
X1    2.448        21       9987    10037.3        105        110       104.6
GR   1588.2     9881.6     1584.5     9896.3     1580.2     9905.4     1580.5     9927.7     1580.7     9987.0
GR   1579.7    10000.0     1579.3    10023.3     1581.4    10037.3     1581.5    10070.4     1578.8    10079.3
GR   1580.7    10084.0     1582.0    10090.7     1585.8    10099.6     1586.9    10122.3     1587.8    10158.4
GR   1588.1    10191.4     1587.9    10205.6     1586.9    10215.9     1587.1    10233.5     1586.8    10248.9
GR   1587.3    10256.5

       START Hydraulically Similar Reach   AS3
                See Exhibit 1, Manning's n Value Map.

         LEGEND  WASH   Tributary

        HEC-1 Concentration Point C622R

QT        2       1930       1930

  ******************************************************************************
  **************************    Culvert    M7    ******************************
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  Culvert M7    Downstream fully expanded flow.  Special Culvert Section # 1

NH        3         .1     9973.9       .045    10050.6         .1      10236
ET                            9.1                                                                  9936.33   10058.71
          HEC-1 Concentration Point C622R.
                START Hydraulically Similar Reach AS3
                See Exhibit 1, Manning's n Value Map.
         CULVERT  M7 :  ASHBROOK WASH and BAYFIELD DRIVE
            Culvert M7      Downstream: expanded flow. (SECTION 1 OF SC ROUTINE)
X1    2.494        19     9973.9    10050.6        260        220       245.9
GR   1593.7     9831.1     1593.1     9860.6     1592.1     9894.6     1591.5     9922.3     1587.6     9934.7
GR   1583.1     9948.0     1583.0     9973.9     1582.7     9990.8     1582.4    10000.0     1581.7    10022.3
GR   1581.2    10039.0     1584.0    10050.6     1589.6    10065.5     1589.7    10103.0     1590.1    10140.4
GR   1590.5    10179.7     1591.0    10217.4     1589.8    10228.5     1589.0    10236.0

        Use NC Record to set Contraction and Expansion Coefficients for Culvert.
1
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NC                                       0.3        0.5
NH        3      0.100     9975.4     0.045    10029.2      0.100       10246

        Culvert  M7 OUTLET              Special Culvert Section # 2

ET                            9.1                                                                  9991.00   10009.71
            Culvert M7   Outlet.  3-60" CMP's          (SECTION 2 OF SC ROUTINE)
              Photogrammetric x-sec. located 12' Downstream. (No Elev. Adjust.)
X1    2.529        23       9991    10009.7        195        170       180.7
X3       10                                                                  1589.94    1589.94
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GR   1599.3     9738.5     1599.3     9742.0     1599.7     9753.7     1599.8     9774.5     1598.6     9855.8
GR   1596.9     9878.6     1595.1     9919.4     1593.9     9939.3     1585.5     9960.4     1585.4     9975.4
GR   1583.1     9982.0    1583.25     9991.00    1583.4    10000.0    1583.15    10009.70    1582.9    10019.4
GR   1584.9    10029.2     1591.0    10046.7     1592.2    10061.9     1591.8    10083.1     1591.0    10119.4
GR   1590.8    10162.4     1591.0    10209.0     1591.2    10246.0

      3-60" CMP's

SC    3.024        0.9       2.63          0          5          0         84        2.3    1584.98    1584.71

NH        4      0.100     9987.3      0.045    10015.3      0.100    10047.9      0.002    10248.3

ET                            9.1                                                            9945.80   10052.29
                 Right bank is non effective flow area:  Hard coded GR's
                          from STA 10072.3 to 10248.3 @ EL 1600
             Culvert M7    Inlet.   3-60"   CMP's       (SECTION 3 OF SC ROUTINE)
               Photogrammetric x-sec. located 12' Upstream. (No Elev. Adjust.)
                Base Channel Elevations were lowered to Culvert Invert EL 1584.98
             Culvert M7  BT information Surveyed by ALS. North top of curb.
             Culvert M7  BT information coded per figure 3.16 (HEC-2, Sept 90)
X1    2.545         24     9993.7    10007.8         84         84         84
X2                           2    1589.98     1592.5                                                                15
X3       10                                                                     1592.2     1592.2
X4        2     1592.8     9960.5     1592.2      10039

BT      -20     9757.4     1601.3                 9793.4     1601.3                 9824.3     1600.4
BT             9849.3     1599.4                 9882.7     1597.8                 9904.6     1596.8
BT             9916.7     1595.6                 9939.5     1594.8                 9958.1     1593.2
BT            9960.50     1592.8                 9971.5    1592.38                  10000    1592.38
BT              10039     1592.2                10047.9     1593.0                10072.3       1600
BT            10099.9       1600                10138.6       1600                10173.4       1600
BT            10214.6       1600                10248.3       1600

GR   1601.3     9757.4     1601.3     9793.4     1600.4     9824.3     1599.4     9849.3     1597.8     9882.7
GR   1596.8     9904.6     1595.6     9916.7     1594.8     9939.5     1593.2     9958.1     1590.5     9974.9
GR   1589.1     9987.3    1584.98     9993.7    1584.98    10000.0    1584.98    10007.8    1588.8    10015.3
GR   1589.7    10030.8     1592.2    10038.9     1593.0    10047.9       1600    10072.3       1600    10099.9
GR     1600    10138.6       1600    10173.4       1600    10214.6       1600    10248.3

         Return  Contraction and Expansion coefficients to Normal
1
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NC                                        0.1        0.3

NH        3         .1     9989.8       .045    10010.8         .1    10139.4
ET                            9.1                                                            9930.61   10114.81
             Culvert M7      Upstream:  expanded flow.  (SECTION 4 OF SC ROUTINE)
X1    2.558         19     9989.8    10010.8         70         70       71.3
GR   1597.4     9874.5     1596.1     9893.4     1594.9     9929.4     1589.1     9945.1     1589.2     9954.1
GR   1587.8     9960.3     1587.7     9967.7     1588.6     9970.9     1588.5     9989.8     1587.0    10000.0
GR   1587.0    10003.7     1588.4    10010.8     1588.3    10026.5     1589.1    10037.9     1593.7    10053.1
GR   1594.2    10081.5     1594.4    10112.2     1594.7    10126.6     1595.4    10139.4


NH        3         .1    10023.2       .045    10028.9         .1    10066.3
ET                            9.1                                                            9938.75   10044.51
X1    2.670         25     9959.8    10044.5        575        610      593.5
GR   1609.4     9650.9     1606.6     9663.7     1607.0     9681.1     1606.2     9700.5     1606.7     9704.7
GR   1607.0     9721.1     1606.1     9740.1     1605.4     9772.0     1604.4     9828.4     1603.9     9847.0
GR   1602.9     9870.2     1599.8     9888.9     1599.2     9926.0     1594.4     9947.4     1595.0     9959.8
GR   1594.7     9980.3     1594.4     9987.8     1594.3     9995.5     1594.3    10000.0     1594.0    10015.2
GR   1594.5    10023.2     1592.6    10028.9     1599.0    10044.5     1606.1    10059.3     1610.0    10066.3


NH        3         .1     9968.9       .045     9992.6         .1    10066.9
ET                            9.1                                                            9949.46   10045.96
             Left overbank is non effective flow area:  Hard coded GR's
                 from STA 9927.3 to 9946.4 @ EL 1607.5
X1    2.785         21     9968.9     9992.6        610        610      607.2
GR   1615.1     9809.0     1614.0     9841.4     1613.1     9875.0     1612.6     9886.4     1611.9     9903.0
GR   1610.5     9913.4     1607.5     9927.3     1607.5     9935.5     1607.5     9941.1     1607.5     9946.4
GR   1604.9     9953.7     1602.6     9968.9     1601.6     9977.4     1600.4     9988.3     1601.7     9992.6
GR   1601.8    10000.0     1602.1    10007.9     1603.9    10021.0     1605.3    10041.1     1607.4    10050.3
GR   1614.9    10066.9


NH        3         .1      10000       .045      10033         .1    10137.3
ET                            9.1                                                            9934.70   10055.59
X1    2.807         23      10000    10047.1        115        120      112.3
GR   1614.4     9896.8     1613.4     9911.0     1609.9     9929.0     1605.4     9939.7     1603.2     9949.3
GR   1604.1     9959.7     1604.2     9975.1     1603.9     9991.9     1604.4    10000.0     1603.9    10009.4
GR   1602.3    10015.1     1603.1    10033.0     1606.0    10047.1     1607.7    10056.7     1610.5    10070.3
GR   1613.5    10081.1     1617.3    10089.4     1622.1    10096.0     1627.3    10102.8     1632.4    10110.3
GR   1639.4    10119.5     1644.5    10126.9     1650.2    10137.3
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NH        3         .1      10000       .045     10027.6         .1       10133
ET                          9.1                                                          9980.85    10074.87
X1    2.899        21      9990.2    10036.9         485        490        489.4
GR   1623.7    9891.7      1622.9     9911.2      1621.7     9939.2       1621.3     9947.9      1618.1     9965.3
GR   1613.2    9978.1      1611.0     9990.2      1610.7    10000.0       1609.6    10012.9      1610.3    10027.6
GR   1610.6   10036.9      1609.9    10050.9      1610.1    10060.7       1611.2    10070.2      1613.0    10075.8
GR   1615.1   10083.4      1618.4    10092.6      1620.4    10099.0       1621.2    10110.7      1621.5    10116.6
GR   1638.3   10133.0
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NH        3         .1      9971.8       .045     10023.9         .1      10128.6
ET                          9.1                                                          9959.81    10064.07
X1    3.008        29      9962.7    10023.9         575        600        573.7
GR   1630.8    9799.0      1631.8     9817.3      1631.6     9843.0       1631.1     9864.0      1631.0     9876.2
GR   1631.1    9882.4      1630.6     9891.7      1629.0     9913.4       1628.9     9921.5      1627.7     9938.8
GR   1625.3    9948.5      1621.1     9962.7      1619.7     9971.8       1618.7     9986.5      1617.8    10000.0
GR   1618.7   10005.4      1618.1    10015.6      1620.5    10023.9       1620.1    10039.5      1618.7    10052.9
GR   1619.3   10056.9      1622.3    10065.0      1624.3    10076.9       1625.7    10081.4      1628.5    10096.9
GR   1628.8   10111.2      1629.7    10114.7      1629.8    10118.3       1631.1    10128.6

NH        3         .1      9988.7       .045     10017.8         .1      10148.2
ET                          9.1                                                          9948.20    10032.87
                ARROW WASH Tributary
X1    3.121        24      9988.7    10017.8         565        600        598.0
GR   1641.5    9787.2      1640.8     9824.7      1640.9     9830.1       1637.9     9837.6      1637.4     9868.2
GR   1636.6    9880.2      1636.6     9890.8      1636.4     9910.9       1634.2     9929.4      1629.3     9961.2
GR   1629.1    9977.0      1628.9     9988.7      1625.8    10000.0       1629.3    10017.8      1630.5    10027.0
GR   1632.7   10043.1      1636.2    10055.6      1637.4    10065.6       1638.3    10080.0      1638.6    10096.9
GR   1639.3   10113.9      1640.1    10128.6      1640.8    10138.9       1641.3    10148.2
```

ARROW WASH Tributary

HEC-1 Concentration Point C621

```
NH        3         .1       9980       .045     10023.3         .1      10215.8

QT        2       1830       1830

ET                          9.1                                                          9969.40    10050.61
          HEC-1 Concentration Point C621.
X1    3.208        22       9980    10050.6         260        335        456.4
GR   1649.5    9756.0      1651.8     9776.8      1647.5     9794.4       1646.6     9801.3      1647.8     9814.7
GR   1647.5    9869.3      1646.9     9890.1      1645.9     9904.2       1644.9     9915.9      1644.5     9930.6
GR   1642.7    9943.5      1638.2     9980.0      1635.9    10000.0       1637.0    10023.3      1639.7    10050.6
GR   1646.4   10072.8      1647.3    10112.6      1647.8    10137.9       1648.1    10157.1      1648.6    10177.8
GR   1649.1   10195.3      1649.2    10215.8

NH        3         .1      9998.3       .045     10036.8         .1      10258.8
ET                          9.1                                                          9988.22    10058.81
X1    3.241        34      9998.3    10036.8         175        175        177.3
GR   1655.6    9679.6      1654.7     9699.2      1654.0     9722.2       1652.9     9744.9      1651.8     9769.6
GR   1651.6    9787.1      1651.0     9809.3      1649.9     9822.4       1649.0     9839.1      1648.3     9863.0
GR   1647.4    9889.1      1647.0     9922.3      1646.1     9955.6       1646.0     9974.8      1645.7     9983.9
GR   1641.4    9998.3      1640.9    10000.0      1641.4    10013.6       1641.9    10036.8      1643.9    10055.3
GR   1645.5   10066.3      1647.1    10079.1      1649.4    10094.6       1650.9    10109.4      1652.2    10123.1
GR   1652.6   10145.6      1653.7    10155.4      1654.1    10164.4       1654.1    10190.1      1653.6    10210.6
GR   1654.6   10230.9      1656.8    10239.6      1657.3    10248.5       1657.9    10258.8
```

HEC-1 Concentration Point C613


```
QT        2       1490       1490

NH        3         .1      9994.8       .045       10014         .1       10196
ET                          9.1                                                          9986.79    10100.35
          HEC-1 Concentration Point C613.
X1    3.323        30      9986.8    10035.6         420        440        429.5
GR   1661.3    9850.1      1660.8     9863.7      1663.4     9877.7       1663.2     9892.7      1658.3     9909.9
GR   1657.2    9934.0      1656.7     9948.5      1656.4     9961.8       1655.6     9978.7      1654.5     9986.8
GR   1649.8    9994.8      1649.8    10000.0      1651.4    10014.0       1652.0    10035.6      1651.5    10056.8
GR   1651.0   10074.8      1650.4    10089.9      1650.3    10093.9       1653.2    10099.9      1656.3    10104.6
GR   1658.7   10112.2      1660.4    10118.8      1660.6    10128.2       1661.2    10138.4      1662.0    10146.3
GR   1663.1   10154.2      1663.3    10161.8      1663.7    10171.9       1663.6    10187.9      1663.3    10196.0

NH        3         .1       9986       .045     10028.9         .1      10250.3
ET                          9.1                                                          9976.51    10061.39
X1    3.421        29      9977.8    10028.9         510        505        518.2
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GR   1667.8     9775.1     1668.8     9788.5     1669.6     9813.4     1670.1     9817.7     1670.2     9880.7
GR   1669.5     9899.9     1668.4     9935.3     1667.7     9953.4     1667.1     9965.8     1662.4     9977.8
GR   1660.1     9986.0     1660.0    10000.0     1660.5    10016.3     1661.0    10028.9     1661.4    10051.0
GR   1661.9    10057.7     1665.2    10069.8     1668.4    10078.2     1670.4    10084.7     1670.6    10110.0
GR   1670.9    10124.0     1673.8    10138.4     1674.2    10151.7     1674.0    10161.5     1674.3    10210.7
GR   1674.3    10222.3     1675.4    10233.3     1675.3    10239.5     1674.2    10250.3

  ******************************************************************************
  ***************************    Culvert  608     ******************************
  ******************************************************************************

        HEC-1 Concentration Point C608

QT        2       1480       1480

NH        3         .1     9973.3       .045    10019.6         .1    10305.1
ET                            9.1                                                                  9965.79    10048.85
         HEC-1 Concentration Point C608.
        CULVERT  608:  ASHBROOK WASH and HAMPSTEAD DRIVE
           Culvert 608     Downstream: expanded flow. (SECTION 1 OF SC ROUTINE)
X1    3.487          38     9973.3    10019.6         350         340       351.5
GR   1683.7     9708.3     1682.9     9729.6     1682.8     9752.4     1680.6     9768.8     1680.0     9782.9
GR   1679.7     9846.6     1678.4     9856.0     1677.3     9873.6     1677.2     9905.2     1675.0     9916.4
GR   1675.0     9949.4     1670.5     9960.7     1668.0     9973.3     1667.2     9982.3     1666.6     9990.5
GR   1666.6    10000.0     1666.7    10012.0     1668.6    10019.6     1669.8    10032.0     1669.0    10043.4
GR   1670.4    10059.0     1671.5    10065.9     1676.5    10081.4     1677.2    10093.7     1677.2    10109.9
GR   1676.8    10124.4     1678.8    10132.2     1680.3    10140.9     1681.0    10151.4     1681.0    10168.1
GR   1681.6    10224.8     1682.0    10244.0     1682.9    10255.5     1682.1    10265.9     1682.7    10274.1
GR   1683.4    10288.2     1683.5    10303.3     1683.5    10305.1

        Use NC Record to set Contraction and Expansion Coefficients for Culvert.
1
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NC                                       0.3         0.5
NH        3      0.100     9978.5      0.045    10029.4       0.100    10282.7

ET                            9.1                                                                  9988.69    10017.10
           Culvert 608  Outlet.   3-10'x 7' Box       (SECTION 2 OF SC ROUTINE)
             Photogrammetric x-sec. located 24.4' Downstream. (No Elev. Adjust.
X1    3.519          30     9988.7    10017.1         170         170       168.3
X3       10                                                                  1678.5     1678.5
GR   1688.0     9703.2     1686.8     9716.7     1686.3     9734.4     1685.9     9751.2     1684.6     9768.9
GR   1681.6     9793.0     1682.1     9800.9     1681.3     9839.1     1680.2     9861.1     1679.0     9880.8
GR   1680.4     9889.8     1679.0     9923.2     1674.9     9945.8     1673.2     9957.2     1672.5     9978.5
GR   1670.8     9988.7     1670.8    10000.0     1670.6    10017.1     1671.7    10029.4     1675.6    10052.6
GR   1678.0    10070.8     1679.1    10110.3     1680.8    10149.4     1682.6    10183.3     1683.9    10203.9
GR   1683.9    10221.3     1683.4    10222.7     1683.5    10254.8     1683.9    10257.7     1684.3    10282.7


SC    3.013         0.5       2.63          0           7          10       61.5        8.1    1673.19    1672.71

NH        3      0.100     9980.8      0.045    10013.8       0.100    10300

ET                            9.1                                                                  9980.79    10013.80
           Culvert 608  Inlet.    3-10'x7'  Box       (SECTION 3 OF SC ROUTINE)
             Photogrammetric x-sec. located 10' Upstream. (No Elev. Adjust.)
           Culvert 608 BT information Surveyed by ALS. West top of curb.
X1    3.531          21     9980.8    10013.8        61.5        61.5       61.5
X2                            2    1680.19     1681.95
X3       10                                                                  1681.57    1681.57

BT      -11     9708.7     1690.0                  9800     1684.76                 9850    1682.76
BT               9900    1681.89                  9950     1681.57                10000    1681.87
BT              10050    1682.36                 10100     1682.86                10150    1683.35
BT              10200     1683.8                 10300      1685.5

GR   1690.0     9708.7     1686.7     9747.3     1683.8     9786.3     1680.6     9833.4     1678.7     9874.1
GR   1677.5     9920.2     1677.2     9952.6     1677.1     9974.2     1673.1     9980.8     1671.8     9991.0
GR   1673.2    10000.0     1671.7    10013.8     1672.3    10022.9     1677.1    10025.3     1679.3    10033.9
GR   1679.8    10071.4     1680.7    10123.5     1682.0    10161.6     1682.7    10205.9     1682.8    10240.9
GR   1685.5      10300

          Return  Contraction and Expansion coefficients to Normal

NC                                       0.1         0.3

NH        3         .1     9962.2       .045    10028.7         .1    10309.5
ET                            9.1                                                                  9950.19    10057.31
           Culvert 608     Upstream:  expanded flow.  (SECTION 4 OF SC ROUTINE)
X1    3.544          30     9950.2    10057.3          75          75       71.3
GR   1691.5     9663.5     1686.9     9680.4     1686.0     9706.3     1684.4     9731.7     1682.5     9764.7
GR   1680.6     9792.6     1679.2     9806.3     1678.1     9851.1     1677.0     9894.2     1677.4     9903.1
GR   1677.6     9933.6     1676.9     9950.2     1673.8     9962.2     1674.0     9972.0     1674.2    10000.0
GR   1673.7    10013.1     1674.6    10028.7     1675.2    10047.5     1676.7    10057.3     1676.5    10070.2
GR   1682.7    10078.0     1683.3    10092.7     1683.0    10114.2     1684.9    10143.3     1687.2    10167.5
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GR   1689.5    10185.7     1690.3    10216.9      1691.0     10240.9      1690.4     10277.5      1691.3     10309.5
1
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       START Hydraulically Similar Reach   AS4
                See Exhibit 1, Manning's n Value Map.


NH        3       .055     9955.4       .045     10034.2        .025       10161
ET                            9.1                                                                   9955.39    10034.21
                START Hydraulically Similar Reach AS4
                See Exhibit 1, Manning's n Value Map.
X1    3.621         28     9955.4    10034.2          390        390       403.4
GR   1691.4     9676.9     1688.2     9688.9       1686.9     9712.0      1686.0      9717.7      1687.0      9723.9
GR   1687.7     9739.3     1687.0     9758.2       1687.3     9796.4      1686.8      9824.6      1686.0      9865.2
GR   1686.2     9883.7     1685.9     9907.3       1685.1     9933.7      1681.9      9955.4      1681.2      9977.5
GR   1679.1     9988.6     1678.4    10000.0       1678.3    10006.7      1681.4     10019.6      1681.9     10034.2
GR   1684.1    10047.5     1689.9    10063.4       1689.5    10072.5      1691.2     10082.2      1691.6     10106.4
GR   1692.2    10121.9     1693.5    10147.6       1693.4    10161.0


NH        3       .055       9990       .045     10062.7        .025      10093.5
ET                            9.1                                                                   9980.06    10065.09
X1    3.701         19       9990    10062.7          385        420       421.7
GR   1695.8     9795.3     1692.7     9813.0       1693.7     9821.0      1693.5      9846.3      1694.8      9855.2
GR   1694.3     9877.5     1693.0     9914.9       1692.7     9947.1      1691.9      9964.8      1688.7      9981.9
GR   1687.9     9990.0     1685.2     9994.1       1684.8    10000.0      1686.3     10012.3      1687.8     10035.8
GR   1687.5    10048.9     1688.1    10062.7       1694.0    10077.7      1700.2     10093.5


NH        3       .055     9967.1       .045     10049.3        .025      10220.3
ET                            9.1                                                                   9962.68    10051.51
X1    3.764         20     9978.8    10035.2          330        315       332.8
GR   1706.0     9923.7     1699.5     9938.0       1694.2     9951.2      1695.0      9957.9      1691.5      9967.1
GR   1691.8     9978.8     1690.9     9993.0       1690.3    10000.0      1690.6     10008.6      1691.2     10016.2
GR   1689.7    10023.7     1692.7    10035.2       1692.8    10049.3      1696.1     10068.4      1699.2     10081.5
GR   1700.2    10102.1     1701.1    10140.3       1702.4    10180.7      1703.2     10210.1      1703.5     10220.3

  ******************************************************************************
  ***************************        Dam 4         ******************************
  ******************************************************************************

    * Fountain Hills North FIS
    * For:  FCDMC #92-04        By:  GVSCE #35
    * Ashbrook Wash 100 Year Floodway  Method 1
    * GR data taken from stereo model; received 19 Oct 93 from KAM.
    * Extended section GR data received 19 Oct 93 from KAM.
    * 200 scale 2 ft CI mapping flown by Kenny Aerial Mapping on 8/29/91,
    * with survey control by Anderson Nelson 12-11-92.
    * Supplemental cross section data (GR & BT) surveyed by ALS as noted.
    * Source of 100-yr Flowrate from HEC-1 Analysis By GVSCE.
    *          Files: EX100-6.OH1 and EX100-24.OH1
    * X5 Records are from Hydrology Report, Section 3.5, Table F8.
    * Special culvert routine used.   Sub Critical Analysis.
    * Floodway Method 1, Target 1 foot, No Encroachment at Culverts.
    * Floodplain limits are plotted at each cross section using starting
    * (SSTA) and ending (ENDST) stations unless there is ineffective flow area
1
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    * or a conflict with topographic contours, in which case, the contours are
    * used to plot the floodplain.
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      2.55          CWSEL=   1594.95

STA=    9935.     9975.     9987.     9994.    10008.    10015.    10031.    10048.    10055.
  PER Q=      3.8       5.6      11.8      42.8      14.8       8.3       3.5       9.5
   AREA=     70.4      63.9      50.7     140.7      60.5      88.4      53.7       6.7
    VEL=      1.0       1.7       4.5       5.9       4.7       1.8       1.2      27.3
  DEPTH=      1.8       5.2       7.9      10.0       8.1       5.7       3.1       1.0


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T1     Fountain Hills North ADMP
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T2      Golden Eagle Park Dam Improvements
T3      Ashbrook Wash 100 Year Floodway              Revised:   JUNE 97

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

                3                           0.02                                    1503.7

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15                  -1                                      -1

FLOW DISTRIBUTION FOR SECNO=      2.55          CWSEL=   1594.96

STA=    9946.    9975.    9987.    9994.   10008.   10015.   10031.   10048.   10052.
  PER Q=      3.8      5.6     11.8     42.9     14.8      8.4      3.5      9.3
   AREA=     67.5     64.0     50.7    140.7     60.5     88.5     53.8      5.8
    VEL=      1.1      1.7      4.5      5.9      4.7      1.8      1.2     30.6
  DEPTH=      2.3      5.2      7.9     10.0      8.1      5.7      3.1      1.3

1
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                                                                                THIS RUN EXECUTED 30JUN96     11:11:08
************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************

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

shbrook Wash 100 Year Fl

SUMMARY PRINTOUT TABLE  101

      SECNO     EGOC      ELLC      EGIC      ELTRD     QCULV     QWEIR     CLASS     H4        DEPTH     CWSEL     VCH       EG

       2.428  1679.65  1580.82  1680.50  1584.12   731.12  1804.11     16.00      4.87     11.11  1586.91      3.12  1587.
*      2.428  1679.73  1580.82  1680.50  1584.12   731.42  1814.03     16.00       .88     11.12  1586.92      3.11  1587.01

       2.545  1639.11  1589.98  1647.04  1592.50   690.02  1238.60     16.00      5.02      9.97  1594.95      5.87  1595.26
*      2.545  1639.34  1589.98  1647.04  1592.50   690.30  1243.14     16.00      1.59      9.98  1594.96      5.88  1595.27

*      3.531  1680.59  1680.19  1679.99  1681.95  1480.00      .00      7.00      3.27      8.35  1680.05      5.91  1680.59
*      3.531  1680.59  1680.19  1679.99  1681.95  1480.00      .00      7.00      3.27      8.35  1680.05      5.91  1680.59

1
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shbrook Wash 100 Year Fl

SUMMARY PRINTOUT TABLE  150

      SECNO     XLCH      ELTRD     ELLC      ELMIN     Q         CWSEL     CRIWS     EG        10*KS     VCH       AREA      .01K

       1.521      .00       .00       .00  1499.30  3550.00  1504.02  1503.41  1505.42    202.49      9.65    385.65    249.48
       1.521      .00       .00       .00  1499.30  3550.00  1504.03  1503.43  1505.43    200.58      9.62    386.55    250.66

       1.523    10.00       .00       .00  1499.50  3550.00  1504.22  1503.63  1505.63    202.09      9.65    385.88    249.72
       1.523    10.00       .00       .00  1499.50  3550.00  1504.23  1503.61  1505.63    200.49      9.62    386.61    250.72

       1.525    10.00       .00       .00  1499.70  3550.00  1504.43  1503.83  1505.83    201.50      9.64    386.24    250.09
       1.525    10.00       .00       .00  1499.70  3550.00  1504.43  1503.81  1505.83    200.35      9.62    386.70    250.81

       1.527    10.00       .00       .00  1499.90  3550.00  1504.63  1504.03  1506.03    200.88      9.63    386.63    250.47
       1.527    10.00       .00       .00  1499.90  3550.00  1504.63  1504.01  1506.03    200.20      9.62    386.79    250.90

       1.577   259.40       .00       .00  1503.20  3550.00  1509.22  1507.75  1509.90    103.06      8.02    584.89    349.69
       1.577   259.40       .00       .00  1503.20  3550.00  1509.21  1507.75  1509.89    103.30      8.02    584.14    349.28

*      1.602   136.10       .00       .00  1506.90  3550.00  1510.96  1510.70  1512.23    271.67      9.14    401.13    215.38
*      1.602   136.10       .00       .00  1506.90  3550.00  1510.96  1510.71  1512.23    271.37      9.13    400.98    215.50

       1.636   180.10       .00       .00  1510.60  3550.00  1515.97  1515.57  1516.77    229.33      8.62    546.35    234.42
       1.636   180.10       .00       .00  1510.60  3550.00  1515.97  1515.57  1516.77    229.69      8.62    545.99    234.

       1.686   262.60       .00       .00  1512.11  3550.00  1520.23  1519.45  1520.89    117.71      8.00    656.19    327.20
       1.686   262.60       .00       .00  1512.11  3550.00  1520.23  1519.45  1520.88    117.54      7.99    655.95    327.44
```

*	1.727	213.90	.00	.00	1519.20	3550.00	1523.56	1523.06	1524.31	243.59	8.87	554.00	227.46
*	1.727	213.90	.00	.00	1519.20	3550.00	1523.56	1523.06	1524.30	243.92	8.88	553.57	227.30
*	1.855	677.40	.00	.00	1527.40	3550.00	1534.68	1533.73	1535.29	113.78	7.69	653.28	332.81
*	1.855	677.40	.00	.00	1527.40	3550.00	1534.68	1533.73	1535.29	113.69	7.69	653.03	332.94
*	1.980	659.30	.00	.00	1540.40	3550.00	1545.94	1544.45	1546.35	274.73	5.28	708.84	214.18
*	1.980	659.30	.00	.00	1540.40	3550.00	1545.94	1544.45	1546.35	274.95	5.28	708.25	214.09
*	2.071	480.40	.00	.00	1547.20	3550.00	1555.01	1552.53	1555.28	133.69	4.37	857.85	307.03
*	2.071	480.40	.00	.00	1547.20	3550.00	1555.01	1552.53	1555.28	133.65	4.37	857.44	307.08
*	2.095	128.70	.00	.00	1551.90	3470.00	1557.32	1555.72	1557.70	262.50	5.31	711.10	214.17
*	2.095	128.70	.00	.00	1551.90	3470.00	1557.32	1555.72	1557.70	262.69	5.31	709.73	214.09
	2.200	552.70	.00	.00	1559.90	2490.00	1565.24	1562.66	1565.36	74.67	2.96	887.52	288.16
	2.200	552.70	.00	.00	1559.90	2490.00	1565.24	1562.66	1565.36	74.62	2.96	884.13	288.25
	2.279	415.50	.00	.00	1565.10	2490.00	1569.28	1567.44	1569.46	147.67	3.47	726.28	204.90
	2.279	415.50	.00	.00	1565.10	2490.00	1569.27	1567.44	1569.46	147.77	3.47	725.67	204.84
	2.304	134.10	.00	.00	1565.30	2490.00	1570.75	1568.19	1570.89	82.71	3.02	858.35	273.80
	2.304	134.10	.00	.00	1565.30	2490.00	1570.75	1568.19	1570.89	82.73	3.02	857.84	273.75

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	2.382	410.20	.00	.00	1571.20	2530.00	1575.69	1574.09	1575.94	199.39	4.19	634.29	179.17
*	2.382	410.20	.00	.00	1571.20	2530.00	1575.69	1574.09	1575.94	199.31	4.19	633.79	179.21
*	2.405	123.10	.00	.00	1574.00	2530.00	1581.98	1581.98	1582.13	48.56	3.31	806.73	363.07
*	2.405	123.10	.00	.00	1574.00	2530.00	1582.06	1582.06	1586.13	2567.49	16.18	156.36	49.93
	2.428	121.00	1584.12	1580.82	1575.80	2530.00	1586.91	.00	1587.00	27.76	3.12	1075.80	480.22
*	2.428	121.00	1584.12	1580.82	1575.80	2530.00	1586.92	.00	1587.01	27.67	3.11	1068.91	480.96
	2.448	104.60	.00	.00	1578.80	2530.00	1587.19	1582.32	1587.25	19.13	1.95	1353.82	578.41
	2.448	104.60	.00	.00	1578.80	2530.00	1587.20	1582.32	1587.25	19.06	1.95	1344.26	579.48
	2.494	245.90	.00	.00	1581.20	1930.00	1587.52	1584.79	1587.76	17.52	4.18	565.80	461.06
	2.494	245.90	.00	.00	1581.20	1930.00	1587.52	1584.79	1587.76	17.44	4.17	565.80	462.15
*	2.529	180.70	.00	.00	1583.15	1930.00	1589.97	1589.97	1590.24	18.77	5.07	480.08	445.42
*	2.529	180.70	.00	.00	1583.15	1930.00	1590.20	1590.20	1593.67	328.93	14.96	129.05	106.42
	2.545	84.00	1592.50	1589.98	1584.98	1930.00	1594.95	.00	1595.26	14.71	5.87	535.02	503.23
*	2.545	84.00	1592.50	1589.98	1584.98	1930.00	1594.96	.00	1595.27	14.75	5.88	531.62	502.56
	2.558	71.30	.00	.00	1587.00	1930.00	1595.20	1591.28	1595.38	14.72	4.86	824.94	502.99
	2.558	71.30	.00	.00	1587.00	1930.00	1595.21	1591.28	1595.38	14.69	4.86	815.48	503.62
*	2.670	593.50	.00	.00	1592.60	1930.00	1597.37	1596.80	1598.09	516.73	7.01	285.23	84.90
*	2.670	593.50	.00	.00	1592.60	1930.00	1597.36	1596.79	1598.09	519.36	7.02	282.46	84.69
*	2.785	607.20	.00	.00	1600.40	1930.00	1606.99	1605.97	1607.82	76.47	9.01	372.56	220.70
*	2.785	607.20	.00	.00	1600.40	1930.00	1606.99	1605.97	1607.82	76.31	9.00	371.65	220.93
	2.807	112.30	.00	.00	1602.30	1930.00	1608.36	1606.17	1608.64	58.27	4.98	509.71	252.83
	2.807	112.30	.00	.00	1602.30	1930.00	1608.36	1606.17	1608.64	58.43	4.98	506.91	252.49
*	2.899	489.40	.00	.00	1609.60	1930.00	1613.25	1613.11	1614.40	302.98	9.76	257.00	110.88
*	2.899	489.40	.00	.00	1609.60	1930.00	1613.25	1613.10	1614.40	301.36	9.74	256.10	111.18
*	3.008	573.70	.00	.00	1617.80	1930.00	1622.60	1621.80	1623.32	92.18	7.30	334.55	201.02
*	3.008	573.70	.00	.00	1617.80	1930.00	1622.60	1621.80	1623.32	92.45	7.31	332.93	200.72
*	3.121	598.00	.00	.00	1625.80	1930.00	1632.02	1632.02	1633.59	160.78	11.30	264.14	152.21
*	3.121	598.00	.00	.00	1625.80	1930.00	1631.99	1631.99	1633.59	164.79	11.39	258.02	150.34
	3.208	456.40	.00	.00	1635.90	1830.00	1640.21	1640.09	1641.42	202.95	8.88	219.01	128.46
	3.208	456.40	.00	.00	1635.90	1830.00	1640.43	1640.08	1641.46	198.91	8.21	234.06	129.75
*	3.241	177.30	.00	.00	1640.90	1830.00	1645.30	1645.30	1646.87	175.29	10.72	224.68	138.22
*	3.241	177.30	.00	.00	1640.90	1830.00	1645.27	1645.27	1646.87	180.73	10.82	218.41	136.12
	3.323	429.50	.00	.00	1649.80	1490.00	1654.23	1652.99	1654.55	173.87	4.95	335.54	113.00
	3.323	429.50	.00	.00	1649.80	1490.00	1654.26	1652.99	1654.57	168.34	4.89	338.63	114.84

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
3.421	518.20	.00	.00	1660.00	1490.00	1663.53	1663.15	1664.39	204.91	7.98	226.71	104.09

	3.421	518.20	.00	.00	1660.00	1490.00	1663.51	1663.15	1664.38	210.74	8.05	223.55	102.64
*	3.487	351.50	.00	.00	1666.60	1480.00	1670.26	1670.26	1671.55	169.17	9.34	194.27	113.70
*	3.487	351.50	.00	.00	1666.60	1480.00	1670.24	1670.24	1671.55	174.55	9.44	187.40	112.
*	3.519	168.30	.00	.00	1670.60	1480.00	1675.11	1675.11	1677.32	182.74	11.93	124.06	109.46
*	3.519	168.30	.00	.00	1670.60	1480.00	1675.11	1675.11	1677.32	222.37	11.93	124.07	99.25
*	3.531	61.50	1681.95	1680.19	1671.70	1480.00	1680.05	.00	1680.59	21.73	5.91	250.37	317.50
*	3.531	61.50	1681.95	1680.19	1671.70	1480.00	1680.05	.00	1680.59	29.29	5.91	250.36	273.46
*	3.544	71.30	.00	.00	1673.70	1480.00	1680.67	1676.28	1680.71	5.59	1.71	1143.01	626.13
*	3.544	71.30	.00	.00	1673.70	1480.00	1680.67	1676.28	1680.75	10.09	2.25	658.81	465.88
*	3.621	403.40	.00	.00	1678.30	1480.00	1682.64	1682.64	1683.72	223.26	8.37	178.98	99.05
*	3.621	403.40	.00	.00	1678.30	1480.00	1682.61	1682.61	1683.75	242.17	8.57	172.63	95.10
	3.701	421.70	.00	.00	1684.80	1480.00	1689.64	1689.22	1690.38	116.84	7.01	219.06	136.92
*	3.701	421.70	.00	.00	1684.80	1480.00	1689.69	1689.19	1690.41	110.16	6.89	221.93	141.01
	3.764	332.80	.00	.00	1689.70	1480.00	1693.75	1693.52	1694.59	135.82	7.68	209.12	127.00
	3.764	332.80	.00	.00	1689.70	1480.00	1693.72	1693.51	1694.59	141.92	7.80	205.01	124.23

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shbrook Wash 100 Year Fl

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	1.521	3550.00	1504.02	.00	.00	.32	92.39	.00
	1.521	3550.00	1504.03	.01	.00	.01	91.50	.00
	1.523	3550.00	1504.22	.00	.20	.00	92.40	10.00
	1.523	3550.00	1504.23	.01	.20	.01	91.51	10.00
	1.525	3550.00	1504.43	.00	.20	.00	92.41	10.00
	1.525	3550.00	1504.43	.00	.20	.00	91.52	10.00
	1.527	3550.00	1504.63	.00	.20	.00	92.42	10.00
	1.527	3550.00	1504.63	.00	.20	.00	91.53	10.00
	1.577	3550.00	1509.22	.00	4.59	.00	133.60	259.40
	1.577	3550.00	1509.21	.00	4.58	.00	132.16	259.40
*	1.602	3550.00	1510.96	.00	1.75	.00	127.66	136.10
*	1.602	3550.00	1510.96	.00	1.75	.00	126.46	136.10
	1.636	3550.00	1515.97	.00	5.01	.00	187.65	180.10
	1.636	3550.00	1515.97	.00	5.01	.00	187.18	180.10
	1.686	3550.00	1520.23	.00	4.26	.00	210.08	262.60
	1.686	3550.00	1520.23	.00	4.26	.00	207.73	262.60
*	1.727	3550.00	1523.56	.00	3.34	.00	199.84	213.90
*	1.727	3550.00	1523.56	.00	3.33	.00	198.94	213.90
*	1.855	3550.00	1534.68	.00	11.12	.00	195.26	677.40
*	1.855	3550.00	1534.68	.00	11.12	.00	193.11	677.40
*	1.980	3550.00	1545.94	.00	11.26	.00	193.69	659.30
*	1.980	3550.00	1545.94	.00	11.26	.00	192.10	659.30
*	2.071	3550.00	1555.01	.00	9.06	.00	189.48	480.40
*	2.071	3550.00	1555.01	.00	9.06	.00	186.49	480.40
*	2.095	3470.00	1557.32	.00	2.32	.00	214.68	128.70
*	2.095	3470.00	1557.32	.00	2.31	.00	206.73	128.70
	2.200	2490.00	1565.24	.00	7.92	.00	247.85	552.70
	2.200	2490.00	1565.24	.00	7.92	.00	227.84	552.70
	2.279	2490.00	1569.28	.00	4.04	.00	213.87	415.50
	2.279	2490.00	1569.27	.00	4.04	.00	212.16	415.50
	2.304	2490.00	1570.75	.00	1.48	.00	208.78	134.10
	2.304	2490.00	1570.75	.00	1.48	.00	207.37	134.10

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SECNO Q CWSEL DIFWSP DIFWSX DIFKWS TOPWID XLCH

*	2.382	2530.00	1575.69	.00	4.94	.00	188.90	410.20
*	2.382	2530.00	1575.69	.00	4.94	.00	187.10	410.20
*	2.405	2530.00	1581.98	.00	6.29	.00	125.23	123.10
*	2.405	2530.00	1582.06	.08	6.37	.08	19.40	123.10
	2.428	2530.00	1586.91	.00	4.93	.00	288.04	121.00
*	2.428	2530.00	1586.92	.01	4.86	.01	237.54	121.00
	2.448	2530.00	1587.19	.00	.28	.00	290.44	104.60
	2.448	2530.00	1587.20	.01	.28	.01	232.38	104.60
	2.494	1930.00	1587.52	.00	.32	.00	125.01	245.90
	2.494	1930.00	1587.52	.01	.32	.01	122.38	245.90
*	2.529	1930.00	1589.97	.00	2.45	.00	94.56	180.70
*	2.529	1930.00	1590.20	.23	2.68	.23	18.70	180.70
	2.545	1930.00	1594.95	.00	4.99	.00	119.67	84.00
*	2.545	1930.00	1594.96	.00	4.76	.00	106.49	84.00
	2.558	1930.00	1595.20	.00	.25	.00	215.39	71.30
	2.558	1930.00	1595.21	.01	.25	.01	184.20	71.30
*	2.670	1930.00	1597.37	.00	2.16	.00	106.31	593.50
*	2.670	1930.00	1597.36	.00	2.16	.00	101.75	593.50
*	2.785	1930.00	1606.99	.00	9.62	.00	100.64	607.20
*	2.785	1930.00	1606.99	.00	9.63	.00	96.50	607.20
	2.807	1930.00	1608.36	.00	1.37	.00	127.24	112.30
	2.807	1930.00	1608.36	.00	1.37	.00	120.89	112.30
*	2.899	1930.00	1613.25	.00	4.89	.00	98.73	489.40
*	2.899	1930.00	1613.25	.00	4.90	.00	94.02	489.40
*	3.008	1930.00	1622.60	.00	9.35	.00	109.18	573.70
*	3.008	1930.00	1622.60	.00	9.35	.00	104.26	573.70
*	3.121	1930.00	1632.02	.00	9.42	.00	94.57	598.00
*	3.121	1930.00	1631.99	-.03	9.39	-.03	84.67	598.00
	3.208	1830.00	1640.21	.00	8.19	.00	88.67	456.40
	3.208	1830.00	1640.43	.22	8.44	.22	81.21	456.40
*	3.241	1830.00	1645.30	.00	5.08	.00	79.67	177.30
*	3.241	1830.00	1645.27	-.03	4.83	-.03	70.59	177.30
	3.323	1490.00	1654.23	.00	8.93	.00	114.19	429.50
	3.323	1490.00	1654.26	.03	8.99	.03	113.14	429.50

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	3.421	1490.00	1663.53	.00	9.30	.00	88.78	518.20
	3.421	1490.00	1663.51	-.02	9.25	-.02	84.88	518.20
*	3.487	1480.00	1670.26	.00	6.73	.00	95.56	351.50
*	3.487	1480.00	1670.24	-.02	6.73	-.02	83.06	351.50
*	3.519	1480.00	1675.11	.00	4.85	.00	28.40	168.30
*	3.519	1480.00	1675.11	.00	4.87	.00	28.40	168.30
*	3.531	1480.00	1680.05	.00	4.94	.00	33.00	61.50
*	3.531	1480.00	1680.05	.00	4.94	.00	33.00	61.50
*	3.544	1480.00	1680.67	.00	.63	.00	283.93	71.30
*	3.544	1480.00	1680.67	.00	.63	.00	107.11	71.30
*	3.621	1480.00	1682.64	.00	1.97	.00	88.32	403.40
*	3.621	1480.00	1682.61	-.04	1.94	-.04	78.81	403.40
	3.701	1480.00	1689.64	.00	7.00	.00	89.75	421.70
*	3.701	1480.00	1689.69	.05	7.08	.05	85.03	421.70
	3.764	1480.00	1693.75	.00	4.11	.00	93.70	332.80
	3.764	1480.00	1693.72	-.03	4.03	-.03	88.83	332.80

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SUMMARY OF ERRORS AND SPECIAL NOTES

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WARNING SECNO=      1.602  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      1.602  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.727  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      1.727  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.855  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      1.855  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      1.980  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      1.980  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.071  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      2.071  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.095  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      2.095  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.382  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      2.382  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      2.405  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      2.405  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      2.405  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      2.405  PROFILE=  2  SLOPE TOO STEEP
CAUTION SECNO=      2.405  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      2.428  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      2.529  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      2.529  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      2.529  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      2.529  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      2.545  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.670  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      2.670  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.785  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      2.785  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      2.899  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      2.899  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.008  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.008  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      3.121  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.121  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.121  PROFILE=  2  CRITICAL DEPTH ASSUMED
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CAUTION SECNO=      3.121  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      3.241  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.241  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.241  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.241  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      3.487  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.487  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.487  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.487  PROFILE=  2  MINIMUM SPECIFIC ENERGY

CAUTION SECNO=      3.519  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.519  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.519  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.519  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      3.531  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.531  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.544  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.544  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

CAUTION SECNO=      3.621  PROFILE=  1  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.621  PROFILE=  1  MINIMUM SPECIFIC ENERGY
CAUTION SECNO=      3.621  PROFILE=  2  CRITICAL DEPTH ASSUMED
CAUTION SECNO=      3.621  PROFILE=  2  MINIMUM SPECIFIC ENERGY

WARNING SECNO=      3.701  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

1
   30JUN96      11:11:07                                                                    PAGE   26
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FLOODWAY DATA, shbrook Wash 100 Year Fl
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
1.521	91.	387.	9.2	1504.0	1504.0	.0
1.523	92.	387.	9.2	1504.2	1504.2	.0
1.525	92.	387.	9.2	1504.4	1504.4	.0
1.527	92.	387.	9.2	1504.6	1504.6	.0
1.577	132.	584.	6.1	1509.2	1509.2	.0
1.602	126.	401.	8.9	1511.0	1511.0	.0
1.636	187.	546.	6.5	1516.0	1516.0	.0
1.686	208.	656.	5.4	1520.2	1520.2	.0
1.727	199.	554.	6.4	1523.6	1523.6	.0
1.855	193.	653.	5.4	1534.7	1534.7	.0
1.980	192.	708.	5.0	1545.9	1545.9	.0
2.071	186.	857.	4.1	1555.0	1555.0	.0
2.095	207.	710.	4.9	1557.3	1557.3	.0
2.200	228.	884.	2.8	1565.2	1565.2	.0
2.279	212.	726.	3.4	1569.3	1569.3	.0
2.304	207.	858.	2.9	1570.8	1570.8	.0
2.382	187.	634.	4.0	1575.7	1575.7	.0
2.405	19.	156.	16.2	1582.1	1582.0	.1
2.428	238.	1069.	2.4	1586.9	1586.9	.0
2.448	232.	1344.	1.9	1587.2	1587.2	.0
2.494	122.	566.	3.4	1587.5	1587.5	.0
2.529	19.	129.	15.0	1590.2	1590.0	.2
2.545	106.	532.	3.6	1595.0	1595.0	.0
2.558	184.	815.	2.4	1595.2	1595.2	.0
2.670	102.	282.	6.8	1597.4	1597.4	.0
2.785	96.	372.	5.2	1607.0	1607.0	.0
2.807	121.	507.	3.8	1608.4	1608.4	.0
2.899	94.	256.	7.5	1613.2	1613.2	.0
3.008	104.	333.	5.8	1622.6	1622.6	.0
3.121	85.	258.	7.5	1632.0	1632.0	.0
3.208	81.	234.	7.8	1640.4	1640.2	.2
3.241	71.	218.	8.4	1645.3	1645.3	.0
3.323	113.	339.	4.4	1654.2	1654.2	.0
3.421	85.	224.	6.7	1663.5	1663.5	.0
3.487	83.	187.	7.9	1670.3	1670.3	.0
3.519	28.	124.	11.9	1675.1	1675.1	.0
3.531	33.	250.	5.9	1680.0	1680.0	.0
3.544	107.	659.	2.2	1680.7	1680.7	.0
3.621	79.	173.	8.6	1682.6	1682.6	.0
3.701	85.	222.	6.7	1689.6	1689.6	.0
3.764	89.	205.	7.2	1693.8	1693.8	.0

VAESEN

APPENDIX I

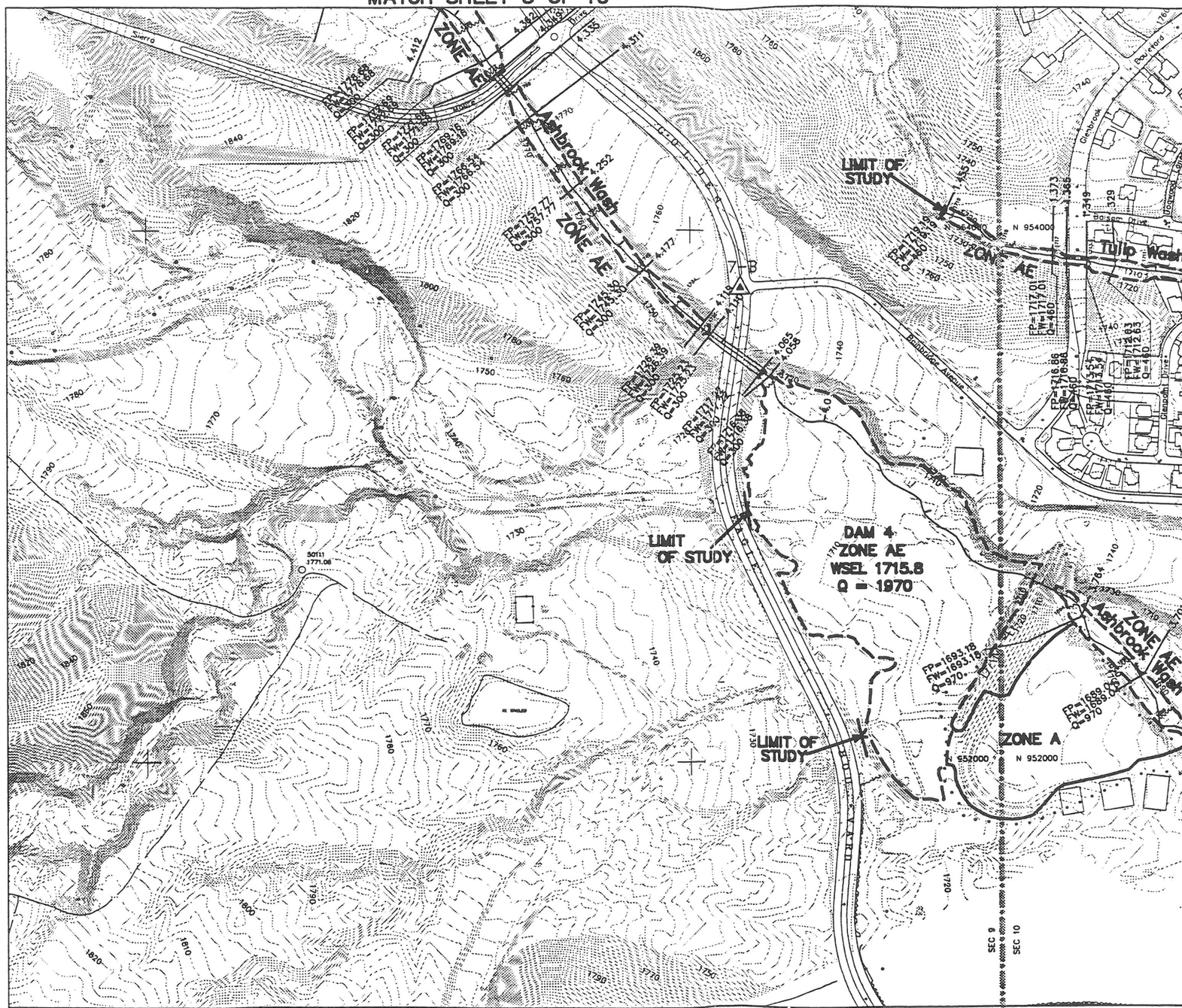
Comparison of 100-year peak discharges and water surface elevations(existing watershed conditions) for Ashbrook Wash using the FEMA floodplain delineation and the GEPD modified principal spillway

Comparison of Ashbrook Wash 100-year water surface elevations downstream of Golden Eagle Park Dam for existing versus proposed modification conditions

	Existing GEPD Improvements		Proposed GEPD Modifications		Water Surface Elevation Difference feet (6)
Cross Section river miles (1)	100-yr Discharge cfs (2)	Water Surface Elevation feet (3)	100-yr Discharge cfs (4)	Water Surface Elevation feet (5)	
1.521	3,190	1,503.7	3,550	1,504.0	0.3
1.523	3,190	1,503.9	3,550	1,504.2	0.3
1.525	3,190	1,504.2	3,550	1,504.4	0.2
1.527	3,190	1,504.4	3,550	1,504.6	0.2
1.577	3,190	1,508.9	3,550	1,509.2	0.3
1.602	3,190	1,510.7	3,550	1,511.0	0.3
1.636	3,190	1,515.8	3,550	1,516.0	0.2
1.686	3,190	1,520.0	3,550	1,520.2	0.2
1.727	3,180	1,523.4	3,550	1,523.6	0.2
1.855	3,180	1,534.5	3,550	1,534.7	0.2
1.980	3,180	1,545.7	3,550	1,545.9	0.2
2.071	3,180	1,554.7	3,550	1,555.0	0.3
2.095	3,100	1,557.0	3,470	1,557.3	0.3
2.200	2,110	1,564.9	2,490	1,565.2	0.3
2.279	2,110	1,568.9	2,490	1,569.3	0.4
2.304	2,110	1,570.4	2,490	1,570.8	0.4
2.382	2,050	1,575.3	2,530	1,575.7	0.4
2.405	2,050	1,581.0	2,530	1,582.1	1.1
2.428	2,050	1,586.5	2,530	1,586.9	0.4
2.448	2,050	1,586.8	2,530	1,587.2	0.4
2.494	1,380	1,587.0	1,930	1,587.5	0.5
2.529	1,380	1,588.8	1,930	1,590.2	1.4
2.545	1,380	1,594.3	1,930	1,595.0	0.7
2.558	1,380	1,594.5	1,930	1,595.2	0.7
2.670	1,380	1,596.3	1,930	1,597.4	1.1
2.785	1,380	1,606.4	1,930	1,607.0	0.6
2.807	1,380	1,607.5	1,930	1,608.4	0.9
2.899	1,380	1,612.7	1,930	1,613.2	0.5
3.008	1,380	1,621.9	1,930	1,622.6	0.7
3.121	1,380	1,631.3	1,930	1,632.0	0.7
3.208	1,180	1,639.5	1,830	1,640.4	0.9
3.241	1,180	1,644.4	1,830	1,645.3	0.9
3.323	970	1,653.5	1,490	1,654.2	0.7
3.421	970	1,662.9	1,490	1,663.5	0.6
3.487	970	1,669.5	1,480	1,670.3	0.8
3.519	970	1,674.0	1,480	1,675.1	1.1
3.531	970	1,678.4	1,480	1,680.0	1.6
3.544	970	1,678.9	1,480	1,680.7	1.8
3.621	970	1,682.2	1,480	1,682.6	0.4
3.701	970	1,689.0	1,480	1,689.6	0.6
3.764	970	1,693.2	1,480	1,693.8	0.6

Note: Discharges in columns 2 and 4 are taken from next downstream flow concentration point of appropriate HEC-1 models.

MATCH SHEET 3 OF 10



MATCH SHEET 6 OF 10

MATCH SHEET 9 OF 10

MATCH SHEET 8 OF 10

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF FOUNTAIN HILLS NORTH

F.C.D. CONTRACT NO. FCD 92-04

LEGEND

100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE & RIVER MILE	2.0
CROSS SECTION	FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
ELEVATION REFERENCE MARK	6-C
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CORPORATE LIMITS	Corporate Limits
SECTION LINE	Section Boundary
LIMITS OF MKE MAPPING	

ELEVATION REFERENCE MARKS

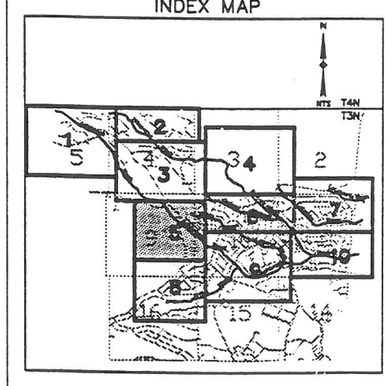
NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
7-B	1758.17	Top of Brass Cap at the intersection of Golden Eagle Boulevard and Saguaroage Avenue, being in the Northeast 1/4 of Section 9, Township 3 North, Range 6 East.

NOTES

1. The topographical data within "Limits of MKE Mapping" were obtained by field information provided by Alcocer Land Surveyors.

INDEX MAP



200' 0' 200' 400'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	3/94
DESIGN CHK.	TRL	3/94
PLANS	PJK	3/94
PLANS CHK.	FEB/TRL	3/95
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

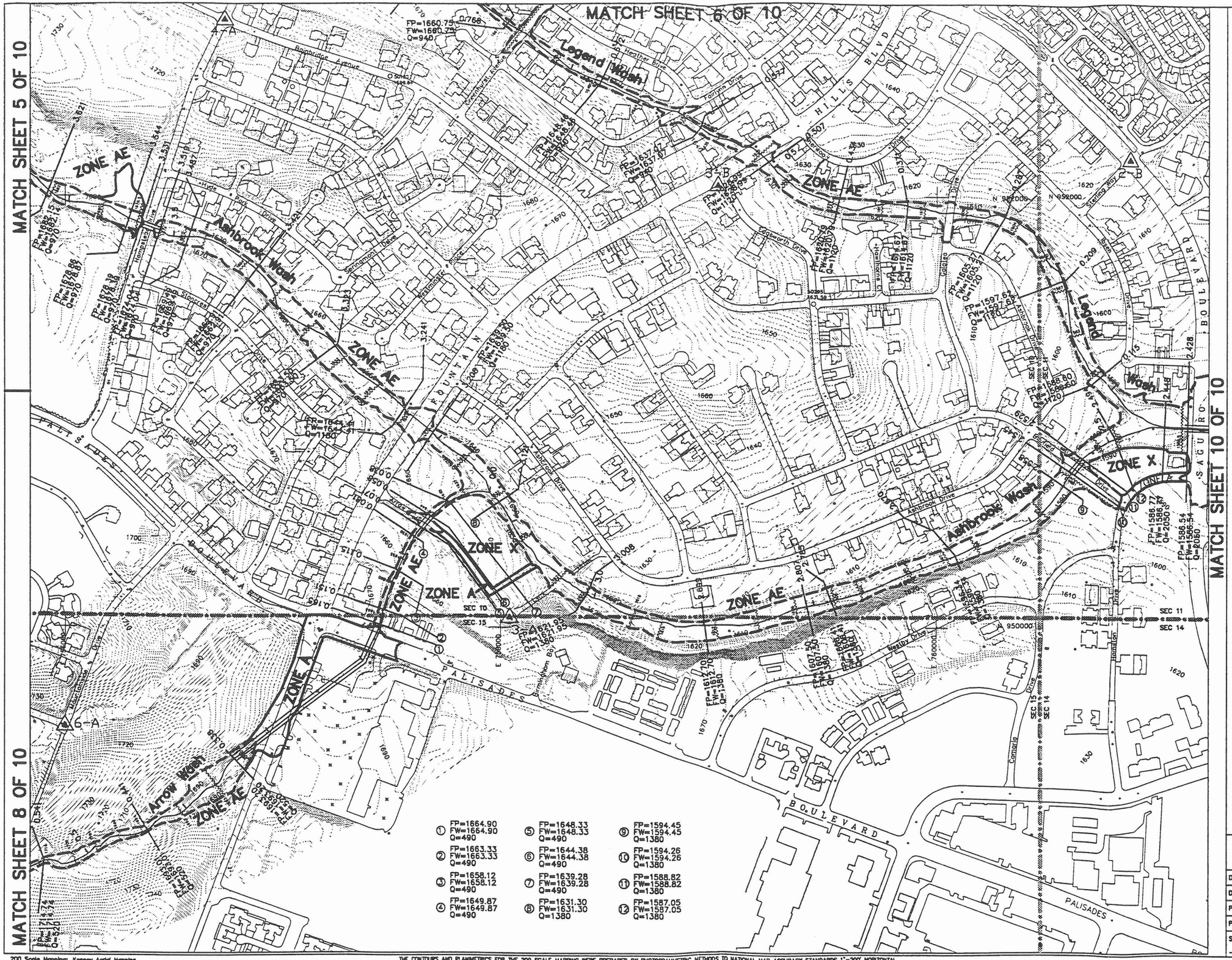
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 5 OF 10

Dwg. Name: \P\92404001\ACAD\h-05.dwg

200 Scale Mapping: Kenney Aerial Mapping
Flight Date = 8/91

THE CONTOURS AND PLANIMETRICS FOR THE 200 SCALE MAPPING WERE PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"=200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY ANDERSON-NELSON, INC.



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF FOUNTAIN HILLS NORTH

F.C.D. CONTRACT NO. FCD 92-04

LEGEND

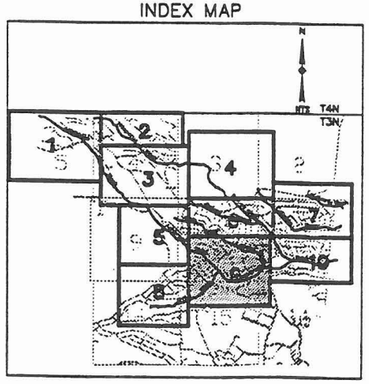
100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE & RIVER MILE	2.0
CROSS SECTION	FP=100 Yr WSEL / FW=Floodway WSEL / Q=100 Yr Flow — 5.519
ELEVATION REFERENCE MARK	6-C
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CORPORATE LIMITS	Corporate Limits
SECTION LINE	Section Boundary

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
2-B	1619.45	Top of Brass Cap at the intersection of Saguaro Boulevard and Sterling Way, being in the Southeast 1/4 of Section 11, Township 3 North, Range 6 East.
3-A	1644.18	Top of Brass Cap at center of cul-de-sac at the South end of Arrow Drive, near the Southeast corner of Southeast 1/4 of Section 10, Township 3 North, Range 6 East.
3-B	1636.82	Top of Brass Cap in concrete at radius of Southeast curb return at the intersection of Fountain Hills Boulevard and Edgeworth Drive, being in the Southeast 1/4 of Section 10, Township 3 North, Range 6 East.
4-A	1700.67	Top of Brass Cap at the intersection of Hampstead Drive and Bainbridge Avenue, being in the Northwest 1/4 of Section 10, Township 3 North, Range 6 East.
6-A	1707.36	Top of Brass Cap at the intersection of Mountainside Drive and Lost Hills Drive, being in the Northwest 1/4 of Section 14, Township 3 North, Range 6 East.

INDEX MAP



200' 0' 200' 400'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	3/94
DESIGN CHK.	TRL	3/94
PLANS	PJK	3/94
PLANS CHK.	FEB/TRL	3/95
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 9 OF 10

Dwg. Name: \P\9240401\ACAD\h-09.dwg
Date: RFV May 10, 1995 07:10am

200 Scale Mapping: Kenney Aerial Mapping
Flight Date = 8/91

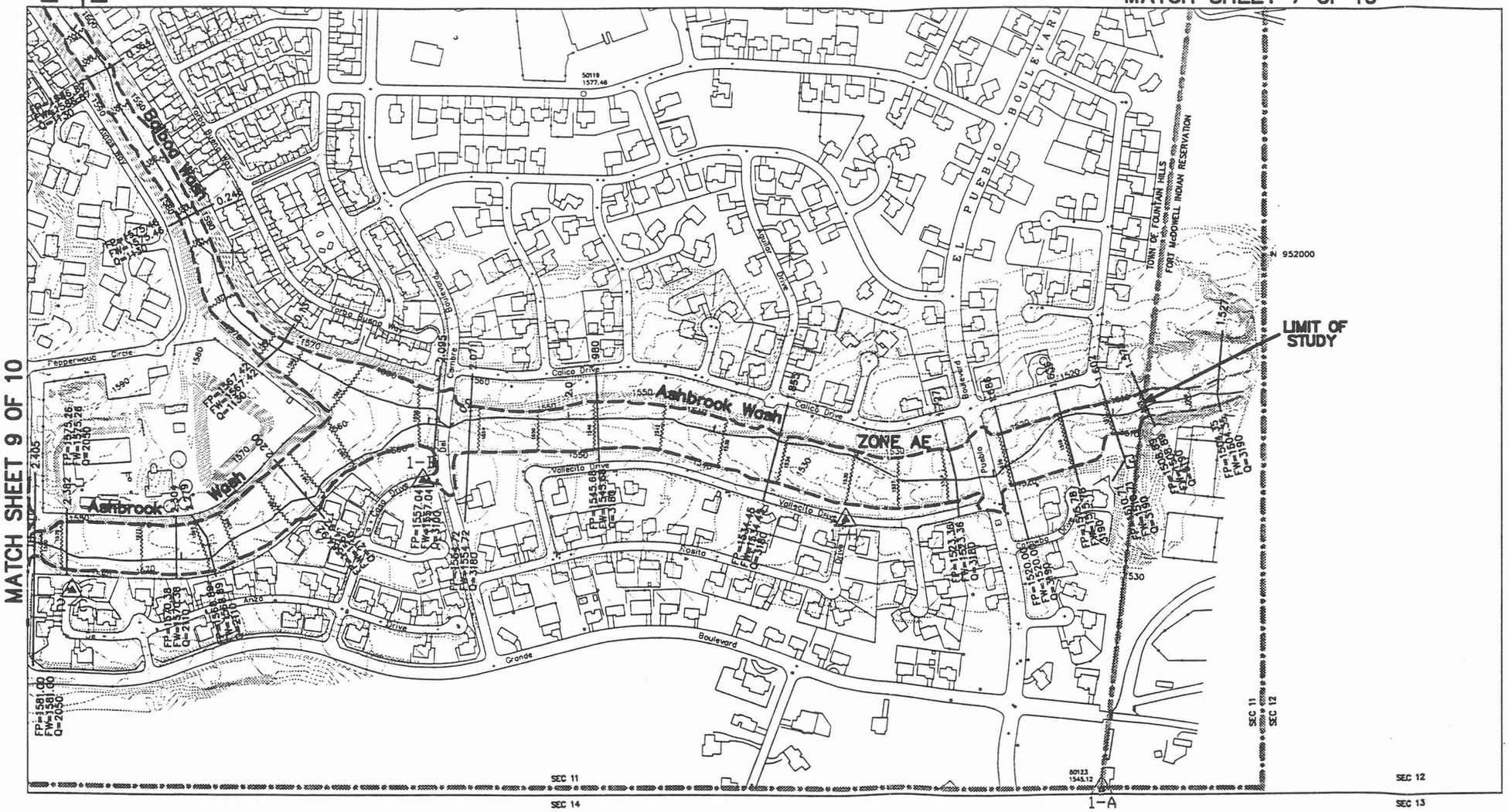
THE CONTOURS AND PLANIMETRICS FOR THE 200 SCALE MAPPING WERE PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"=200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY ANDERSON-NELSON, INC.

MATCH SHEET 6 OF 10

MATCH SHEET 7 OF 10

MATCH SHEET 7 OF 10

MATCH SHEET 9 OF 10



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

FLOOD DELINEATION STUDY OF FOUNTAIN HILLS NORTH

F.C.D. CONTRACT NO. FCD 92-04

LEGEND

100-YR FLOODPLAIN BOUNDARY	
FLOODWAY BOUNDARY	
HYDRAULIC BASE LINE & RIVER MILE	2.0
CROSS SECTION	FP=100 Yr WSEL; FW=Floodway WSEL; Q=100 Yr Flow; 5.519
ELEVATION REFERENCE MARK	6-C
BASE FLOOD ELEVATIONS	1221
ZONE DESIGNATIONS	ZONE AE
CORPORATE LIMITS	Corporate Limits
SECTION LINE	Section Boundary

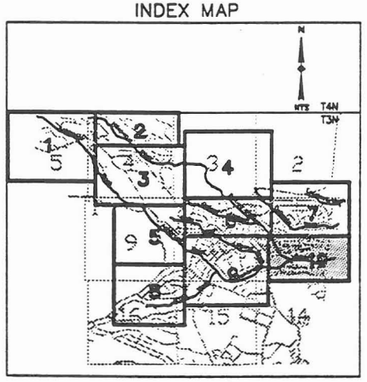
ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUM.	ELEV. (FT)	DESCRIPTION/LOCATION
1-A	1544.63	Top of Brass Cap set by G.L.O. Southeast of the intersection of Grande Boulevard and El Pueblo Boulevard, at the intersection of the South line of Section 11 Township 3 North, Range 6 East and the West boundary of Fort McDowell Indian Reservation.
1-B	1536.20	Top of Brass Cap, at a point of curvature of center line of La Casa Drive approximately 80 feet West of Del Cambre Avenue, being in the Southwest 1/4 of Section 11, Township 3 North, Range 6 East.
1-H	1529.73	Top of Brass Cap at intersection of Vallecito Drive and Rosita Drive, being in the Southeast 1/4 of Section 11, Township 3 North, Range 6 East.
2-C	1581.56	Top of Brass Cap at the center of the cul-de-sac at the West end of De Anza Drive, being in the Southwest 1/4 of Section 11, Township 3 north, Range 6 East.

NOTES

INDEX MAP



200' 0' 200' 400'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2' FEET

GEORGE V. SABOL CONSULTING ENGINEERS, INC.
in association with
McLAUGHLIN KMETTY ENGINEERS, LTD.

	BY	DATE
DESIGN	FEB	3/94
DESIGN CHK.	TRL	3/94
PLANS	PJK	3/94
PLANS CHK.	FEB/TRL	3/95
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 10 OF 10

Dwg. Name: \P\92404001\ACAD\FHCOVER.dwg
Date: April 12, 1995 07:20am

200 Scale Mapping: Kenney Aerial Mapping
Flight Date = 8/91

THE CONTOURS AND PLANIMETRICS FOR THE 200 SCALE MAPPING WERE PREPARED BY PHOTOGRAMMETRIC METHODS TO NATIONAL MAP ACCURACY STANDARDS 1"=200' HORIZONTAL SCALE AND 2' CONTOUR INTERVALS AND BASED ON GROUND CONTROL SURVEY DATA PROVIDED BY ANDERSON-NELSON, INC.

VELEVA

APPENDIX J

HEC-1 and HEC-2 digital files on diskette