Camelback Ranch
Levee and Interior Drainage System
Phasing Plan

April 6, 1990

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April 6, 1990

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ARIZONA, U.S.A.

TABLE OF CONTENTS

Page

1.0 Introduction

1.1 Background 1
1.2 Objective and Scope 1

2.0 Phasing Plan

2.1 Background 2
2.2 Phase I 2
2.3 Phase II 5

3.0 Revised Hydrologic Analyses

3.1 Background 5
3.2 Post Phase I Interior Drainage System 6
3.3 Post Phase II Interior Drainage System 8

4.0 Conclusion 8

5.0 References 9

Appendices

I. Correspondence
II. Post Phase I: TR20 model
III. Post Phase II: TR20 model
IV. Infiltration Computation
V. Exhibits A & B

Attachments

Camelback Ranch Levee, Channelization, and Retention Basin Plans - Phases I & II.

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1.0 INTRODUCTION

1.1 Background

The Camelback Ranch Development Project site is located in Phoenix, Maricopa County, Arizona. The Camelback Ranch project is a masterplanned community development involving a levee and an interior drainage system. The government agencies that have reviewed the proposed Camelback Ranch flood control improvements include the:

a. Federal Emergency Management Agency (FEMA);
b. City of Phoenix; and
c. the Flood Control District of Maricopa County (FCDMC).

The following reports and plans were submitted to FEMA in 1988 (Case #88-09-25R).

a. "Camelback Ranch - Floodplain Study and Conditional LOMR Request", dated January, 1988;
b. Preliminary Levee Design Plans, dated January, 1988;
c. "Addendum To: Camelback Ranch - Floodplain Study and Conditional LOMR Request", dated May, 1988;
d. "Addendum To: Camelback Ranch - Floodplain Study and Conditional LOMR Request", dated June, 1988.

A "Conditional Letter of Map Revision" (CLOMR) was issued for the Camelback Ranch project on August 16, 1988. (See Appendix I).

In June of 1988, the "Camelback Ranch - Floodplain and Interior Drainage Report", construction plans and the Operation and Maintenance Plan, were submitted to the City of Phoenix and the Flood Control District of Maricopa County. These reports and plans were revised, per agency comments, and resubmitted in November, 1988. In addition, the report titled "Camelback Ranch - Master Interior Drainage Plan - May, 1989", was submitted with the mass grading plans and approved by the City of Phoenix in 1989.

1.2 Objective and Scope

The purpose of this report is to provide the technical support information required for approval of the levee and interior drainage system phasing plan by the Flood Control District of Maricopa County, City of Phoenix, and FEMA. This report includes descriptions of the phasing plan and hydrologic analyses for both the Post Phase I and Post Phase II (or final) interior drainage system; in addition, the phased construction plans for the Camelback Ranch flood control facilities are included as an attachment. This report is intended to be an addendum to all of the previously submitted reports;

therefore, it does not include technical support information for aspects of the project that are not impacted by the construction phasing plan.

2.0 PHASING PLAN

2.1 Background

It is proposed that the Camelback Ranch be constructed in two phases. The project requires phasing in order to efficiently meet the current demand for park, commercial, and residential development sites. It is anticipated that Phase II of the project would be constructed 3 to 5 years following construction of Phase I.

The Camelback Ranch Flood Control facilities include two major components - the levee system and the interior drainage system. The levee system is designed to remove the project site from both the Standard Project Flood (SPF) and the 100 year floodplains of the New River and the Agua Fria River. The height and ultimate configuration of the levee system are not impacted by the proposed construction phasing. Therefore, the floodplain analyses for the Agua Fria River and New River have not been revised or resubmitted with this report.

However, the interior drainage system is impacted by the proposed construction phasing. Therefore, technical support information for the phased interior drainage system is provided in this report.

2.2 Phase I

As shown in Table 1, Phase I involves construction of the permanent flood control facilities north of Camelback Road and the temporary outfall basin south of Camelback Road (See Figure 1: Phasing Plan). Like the permanent flood control facilities, the temporary basin will be maintained by the local government agencies.

The Phase I flood control facilities and the elevated Camelback Road embankment provide flood protection with a freeboard of 4 to 6 feet above the 100 year floodplain elevation and a minimum of 3 feet above the (SPF) elevation. The temporary levee along the north boundary of the site provides a freeboard of 3 feet above the SPF elevation. However, this temporary levee will be abandoned upon completion of the New River Channelization project by the Flood Control District of Maricopa County, or extended to the east (to provide protection for the SPF), if the New River Channelization is not constructed before completion of the Arizona Canal Diversion Channel (ACDC) by the Corps of Engineers.

Table 1 - Construction Phasing
Camelback Ranch Flood Control System

Phase	Item/Description
I	Channelization of New River
I	Levee System North of Camelback Ranch
I	Retention Basins #1 & #2 (formerly Basins 1, 2, & 3)*
I	Outfall Pipes (24" & 36" RCP) for Basins #1 and #2 North of Camelback Road
I	Temporary Earthen Embankment w/Rip Rap Slope Protection at North End
I	Temporary Basin (w/Earthen Levee System and Inflow Pipes) South of Camelback Road (to be removed during Phase II construction)
II	Levee System South of Camelback Road
II	Retention Basin #3 (formerly Basin #4) and pump station
II	Outfall Pipes (24" & 36" RCP) for Basins #1 and #2 South of Camelback Road

* Former Basins 1 & 2 have been combined into Basin #1.

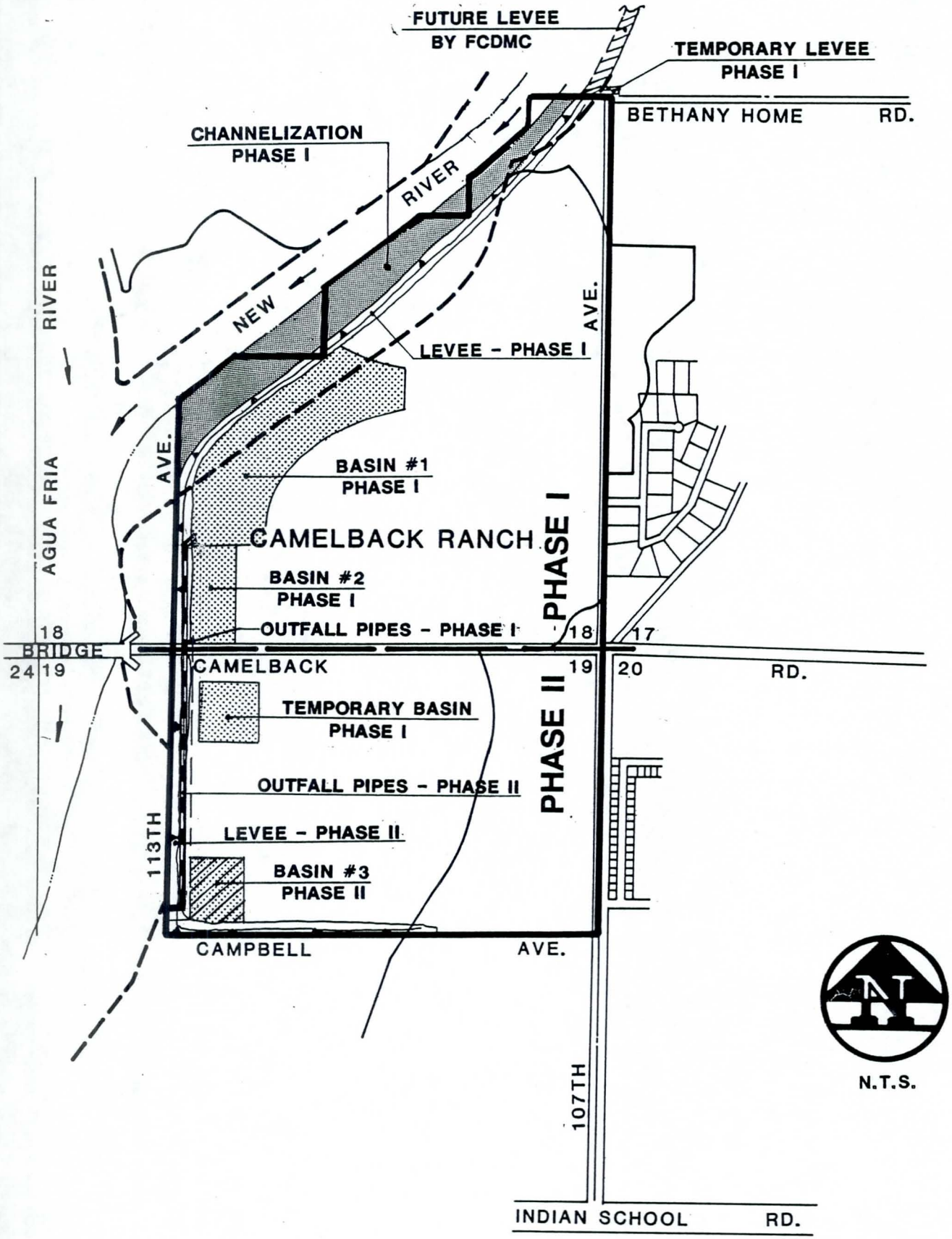

FIGURE 1: PHASING PLAN

2.3 Phase II

As indicated in Table 1 and Figure 1, Phase II construction will include construction of flood control facilities south of Camelback Road and removal of the temporary basin located south of Camelback Road. Construction of the Phase II flood control facilities will complete the project as described in the previous submittals to FEMA, City of Phoenix, and the Flood Control District of Maricopa County, with only one minor exception. Basins #1 and #2 in the previous submittals have been combined and renamed "Basin #1". In order to maintain the numbering system, Basins #3 and #4 in the previous submittals have been renamed Basins #2 and #3.

3.0 REVISED HYDROLOGIC ANALYSES

3.1 Background

The Soil Conservation Service (SCS) TR-20 computer model was used for all of the hydrologic analyses submitted to FEMA, City of Phoenix, and the FCDMC, for the Camelback Ranch Project. The most current and accurate TR-20 models for Camelback Ranch were submitted in the "Master Interior Drainage Report" (May, 1989) and approved by the City of Phoenix (See Appendix I: Correspondence). Therefore, the TR-20 model for "Post Development Conditions", as submitted in the "Camelback Ranch - Master Interior Drainage Report - May, 1989", was used as the basis for the TR-20 models for the "Post Phase I Conditions" and the Post Phase II Conditions", submitted with this report.

The TR-20 model was used to compute offsite and onsite flows for the 10, 50 and 100 year-24 hour storm events. The point rainfall values for these events were obtained from the "Storm Drain Design Manual - Subdivision Drainage Design - September, 1985" by the City of Phoenix and are as indicated in Table 2.

Table 2
Precipitation Data

Storm Return Periods (Years)	Precipitation (Inches)	Duration (Hours)	Type
10	2.53	24	NOAA DISTRI.
50	3.57	24	NOAA DISTRI.
100	4.04	24	NOAA DISTRI.

The Curve Numbers used for "Post Development Conditions" are consistent with City of Phoenix criteria and have not been changed from those submitted in the "Camelback Ranch - Master Interior Drainage Report" (May, 1989). The City of Phoenix Curve Number Criteria are listed in Table 3.

3.2 Post Phase I Interior Drainage System

The Phase I interior drainage system includes all drainage facilities located north of Camelback Road and the temporary retention basin located south of Camelback Road, as indicated in the attached Camelback Ranch - Levee, Channelization and Retention Basin Plans - Phases I & II. Under Post Phase I conditions, Basins #1 & #2 drain by 36" and 24" RCP, respectively, into the temporary basin which allows the storm runoff to infiltrate into the soil. The temporary basin has a sloped bottom and a rip rap filled trench to enhance infiltration.

Percolation tests have been performed at the Temporary Basin site. From the results of percolation tests, infiltration rates and drain times have been computed as follows (see Appendix IV for computations):

Event	Vol. (Ac-ft)	Average Infiltration Rate cf/hr	Drain Time (Days)
100 yr - 2 hr	48±	10,540	8.3
1 yr - 2 hr	11±	10,370	1.9

The temporary basin is protected from flows in the Agua Fria River by levees with a minimum freeboard of 3 feet above the SPF elevation, which corresponds to approximately 4 feet above the 100 year floodplain elevation. The temporary basin is located in an "inactive flow area" downstream of the Camelback Road embankment and several hundred feet outside of the designated floodway; hence, the levees protecting the temporary basin do not require slope protection.

The TR-20 model schematic for Post Phase I conditions is illustrated in Exhibit A (Appendix V). The TR-20 output for Post Phase Conditions is given in Appendix II and the results of the analysis are as follows:

	High Water Elevations (HW)			T/B	Total
Basin #	10 year	50 year	100 year	Elev.	Capacity (AcFt)
Basin #1	1023.1	1024.0	1024.4	1026	41.0
Basin #2	1020.6	1021.1	1021.5	1024	23.3
Temporary	1014.4	1017.7	1019.3	1027	107.0
				Total	**171.3 @ HW 1024**

TABLE 3: City of Phoenix Curve Numbers

CURVE NUMBERS BY ZONING
FOR USE WITH SCS OR TR-20 METHODS OF
DETERMINING RUNOFF IN THE CITY OF PHOENIX

ZONING	TYPE B	TYPE C	TYPE D
RE-43) S-1)	77	83	86
RE-35	79	84	87
RE-25	79	84	87
E1-18	80	84	87
R1-14	80	85	88
R1-10	81	85	89
R1-8	82	87	90
R1-6	84	88	90
R-3	85	88	90
R-4) R-40) R-5)	86	89	91
A-1) A-2)	85	91	93
C-1) C-2) C-3)	92	94	95
CO	88	91	93
PSC	95	95	95
HR R4A	95 87	95 90	95 92
Hillside (over 10% sloping).	98	98	98

(City of Phoenix, 1985)

The total capacity of Basin #1, Basin #2 and the temporary basin is 171 AcFt (@HW=1024), which is approximately 2.4 times greater than the total runoff generated by the 100 year-24 hour event. Hence, the retention basin system has significant excess storage available for retaining multiple rainfall events.

Retention Basins #1 and #2 are drained by 36" and 24" pipes. The stage-discharge relationships for these pipes, under Post Phase I conditions, have conservatively been assumed to be equal to those for Post Phase II conditions. This is a conservative assumption for several reasons; however, the most important factor controlling the capacity of the pipe system, under Post Phase II conditions, is the "tailwater" conditions at the outlet. Under Post Phase II conditions, the tailwater elevation for the pipe system is set at the 100 year floodplain elevation for the Agua Fria River, which is approximately 1020.1. However, under Post Phase I conditions, the drain pipes outlet into the "temporary" basin, which has a computed highwater elevation of 1019.3. Therefore, the hydraulic gradient of the Post Phase I pipe system will be significantly steeper and will result in higher discharges than that of the Post Phase II pipe system.

3.3 Post Phase II Interior Drainage System

Phase II construction essentially involves completing the levee and interior drainage system as defined in previous submittals. The TR-20 model schematic for Post Phase II Conditions is illustrated in Exhibit B (Appendix V). The TR-20 output for Post Phase II Conditions is given in Appendix III. The computed highwater elevations for Basins #1 thru #3 are as follows:

	High Water Elevations			T/B
Basin #	10 year	50 year	100 year	Elev.
Basin #1	1023.1	1024.40	1024.40	26.0
Basin #2	1020.6	1021.50	1021.50	24.0
Basin #3	1012.7	1013.32	1013.35	16.5

Due to onsite retention being required for specific commercial parcels, the highwater elevations for the 100 year-24 hour event are slightly lower than those indicated in previous submittals to FEMA and the FCDMC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This report describes the proposed phasing of the Camelback Ranch levee and interior drainage systems. The nature of the proposed phasing and the technical support data, provided in this report, support the conclusion that phasing the construction of the Camelback Ranch flood control facilities does not compromise the effectiveness of

flood control facilities. Therefore, it is recommended that the proposed Phasing Plan for Camelback Ranch be approved.

5.0 REFERENCES

City of Phoenix, "Storm Drain Design Manual - Subdivision Drainage Design", September 1985.

Coe & Van Loo, "Camelback Ranch - Master Interior Drainage Report", May 1989.

APPENDIX I

Federal Emergency Management Agency

Washington, D.C. 20472

AUG 16 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Tom Freestone
Chairman, Maricopa County
Board of Supervisors
111 South 3rd Avenue
Phoenix, Arizona 85003

Case #88-09-25R
RE: Camelback Ranch

Dear Mr. Freestone:

This is in response to a letter dated January 20, 1988, from Mr. Ashok Patel, Coe & Van Loo Consulting Engineers, Inc., in which Mr. Patel requested that our office review the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for the unincorporated areas of Maricopa County, Arizona. The FIS and FIRM are to be reviewed with respect to a proposed project that includes levee improvements along the New River and the Agua Fria River, channelization along the New River; a pumping station along the Agua Fria River, and stormwater detention facilities within the project boundaries.

To support his request, Mr. Patel submitted the following data with his January 20 letter and letters dated June 19 and July 5, 1988:

- A report entitled "Camelback Ranch, Floodplain Study and Conditional LOMR"
- A report entitled "Addendum to: Camelback Ranch, Floodplain Study and Conditional LOMR Request," dated May 1988
- A report entitled "Addendum to: Camelback Ranch, Floodplain Study and Conditional LOMR Request," dated June 1988
- Geotechnical information concerning the potential seismic loadings in the geotechnical analyses by the proposed levees

We have completed our review of the data submitted with regard to the data used to produce the effective FIS for Maricopa County and believe that if the proposed project is constructed as shown on the aforementioned plans the 100-year flood will be attenuated and will be contained by the proposed levees along the New River and the Agua Fria River from Campbell Avenue to Bethany Home Road.

Upon completion of the project, please submit as-built plans, certified by a registered professional engineer, and evidence that maintenance and operation provisions for the proposed levee, stormwater detention facilities and pumping station have been made. For the levees, that evidence must be in the form of an officially adopted plan that meets the requirements set forth in Section 65.10(d) of the enclosed National Flood Insurance Program (NFIP) regulations. For the pumping station and detention facility, the evidence should be in the form of a plan that specifies the activities to be performed, the frequency of their performance, and the community officials reponsible for their performance. All maintenance and operation activities should be under the jurisdiction of a Federal or State agency, an agency created by Federal or State law, or an agency of a community participating in the NFIP that assumes ultimate responsibility for these activities. Upon receipt of this information, we will make a final determination on revising the FIRM.

The basis of this conditional Letter of Map Revision is in part a proposed channel modification project. NFIP regulations, as cited in Section 60.3(b)(7), require that communities "assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained."

This provision is incorporated into your community's existing floodplain management regulations. Consequently, upon completion of this proposed project, the ultimate responsibility for maintenance of the channel modification will rest with your community.

Should you have any questions regarding the matter, please contact the Chief, Natural and Technological Hazards Division of the Federal Emergency Management Agency, in San Francisco, California, at (415) 923-7175 or Mr. William Judkins of my staff in Washington, D.C., at (202) 646-3458.

Sincerely,

John L. Matticks
for Chief, Risk Studies Division
Federal Insurance Administration

Enclosure

cc: Mr. James Morris, P.E.
Arizona Department of Water Resources

Mr. Dan Sagramoso, P.E.
Flood Control District of Maricopa County

Mr. Ashok Patel, P.E., L.S.
Coe & Van Loo Consulting Engineers, Inc.

APPENDIX II

CAMELBACK RANCH - POST PHASE I CONDITIONS - CVL 4/4/90
CAMELBACK RANCH POST-DEVELOPMENT HYDROLOGY MAR 90
TR-20 HYDROLOGY
PROGRAM DATE - FEB. 14, 1974 S/360

PASS= 1

EXECUTIVE CONTROL CARD OPERATION LIST

LISTING OF DATA IN CORE

CAMELBACK RANCH POST-DEVELOPMENT HYDROLOGY MAR 90

VELOCITY INCREMENT
1 CTABLE 0.2000

8	0.0000	0.0800	0.1800	0.2500	0.3200
8	0.3700	0.4100	0.4500	0.4900	0.5100
8	0.5400	0.5700	0.5900	0.6100	0.6300
8	0.6500	0.6600	0.6700	0.6900	0.7000
8	0.7100	0.7200	0.7300	0.7400	0.7500
8	0.7600	0.7700	0.7700	0.7800	0.7900
8	0.7900	0.8000	0.8100	0.8100	0.8200
8	0.8200	0.8300	0.8300	0.8400	0.8400
8	0.8400	0.8500	0.8500	0.8600	0.8600
8	0.8600	0.8600	0.8700	0.8700	0.8700
8	0.8800	0.8800	0.8800	0.8900	0.8900
8	0.8900	0.8900	0.8900	0.8900	0.9000
8	0.9000	0.9000	0.9000	0.9000	0.9100
8	0.9100	0.9100	0.9100	0.9100	0.9100
8	0.9200	0.9200	0.9200	0.9200	0.9200
8	0.9200	0.9200	0.9200	0.9300	0.9300

9 ENDTBL

STRUCT NO.
3 STRUCT 2

	ELEVATION	DISCHARGE	STORAGE
8	1021.0000	0.0000	0.0000
8	1021.5000	3.5000	0.5700
8	1022.0000	7.0000	3.2400
8	1022.5000	14.0000	9.0600
8	1023.0000	20.0000	17.6800
8	1024.0000	25.0000	40.9900
8	1025.0000	28.0000	67.7300
8	1026.0000	30.0000	94.5300

9 ENDTBL

STRUCT NO.
3 STRUCT 3

	ELEVATION	DISCHARGE	STORAGE
8	1020.1000	0.0000	0.0000
8	1022.0000	7.1000	9.0000
8	1023.0000	8.1000	16.0000
8	1024.0000	9.5000	23.3000

9 ENDTBL

STRUCT NO.

3 STRUCT 15

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.6000
8	2.0000	0.0200	1.4000
8	3.0000	0.0300	2.2000
8	3.5000	100.0000	3.3000

9 ENDTBL

STRUCT NO.

3 STRUCT 20

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	1.1000
8	2.0000	0.0200	2.8000
8	3.0000	0.0300	4.3000
8	3.5000	100.0000	6.5000

9 ENDTBL

STRUCT NO.

3 STRUCT 25

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.6000
8	2.0000	0.0200	1.5000
8	3.0000	0.0300	2.3000
8	3.5000	100.0000	3.5000

9 ENDTBL

STRUCT NO.

3 STRUCT 30

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.4000
8	2.0000	0.0200	1.0000
8	3.0000	0.0300	1.5000
8	3.5000	100.0000	2.3000

9 ENDTBL

STRUCT NO.

3 STRUCT 60

	ELEVATION	DISCHARGE	STORAGE
8	1006.0000	0.0000	0.0000
8	1008.0000	0.0500	0.8000
9	1010.0000	0.0700	5.4000
8	1012.0000	0.0900	15.7000
8	1013.0000	0.1000	22.2000
8	1015.0000	0.2000	36.1000
8	1020.0000	5.0000	74.2000
8	1021.0000	6.5000	82.4000

9 ENDTBL

TIME INCREMENT

4 DIMHYD

```
8              0.0000     0.0300     0.1000     0.1900     0.3100
8              0.4700     0.6600     0.8200     0.9300     0.9900
8              1.0000     0.9900     0.9300     0.8600     0.7800
8              0.6800     0.5600     0.4600     0.3900     0.3300
8              0.2800     0.2410     0.2070     0.1740     0.1470
8              0.1260     0.1070     0.0910     0.0770     0.0660
8              0.0550     0.0470     0.0400     0.0340     0.0290
8              0.0250     0.0210     0.0180     0.0150     0.0130
8              0.0110     0.0090     0.0080     0.0070     0.0060
8              0.0050     0.0040     0.0030     0.0020     0.0010
8              0.0000     0.0000     0.0000     0.0000     0.0000
9 ENDTBL

  COMPUTED PEAK K FACTOR =  484.00


                    TIME INCREMENT
5 RAINFL 4                0.5000

8              0.0000     0.0040     0.0080     0.0130     0.0180
8              0.0220     0.0260     0.0310     0.0350     0.0400
8              0.0440     0.0480     0.0530     0.0570     0.0620
8              0.0660     0.0710     0.0750     0.0800     0.0930
8              0.1070     0.1200     0.1400     0.1700     0.5000
8              0.8300     0.8600     0.8800     0.8930     0.9070
8              0.9200     0.9240     0.9280     0.9330     0.9370
8              0.9420     0.9470     0.9510     0.9560     0.9600
8              0.9640     0.9690     0.9730     0.9780     0.9820
8              0.9870     0.9910     0.9950     1.0000     1.0000
9 ENDTBL
```

STANDARD CONTROL INSTRUCTIONS

```
6 RUNOFF 1   2       5      0.0341     83.0000     0.44000 0 0 0 0 1
6 REACH  3   4   5   6   1400.0000      0.6500     0.00000 0 0 0 0 1
6 RUNOFF 1   6       7      0.0366     83.0000     0.41000 0 0 0 0 1
6 ADDHYD 4   8   6 7 5                                   0 0 0 0 0 1
6 REACH  3  10   5   6    400.0000      0.6500     0.00000 0 0 0 0 1
6 RUNOFF 1  12       7      0.0413     72.0000     0.57000 0 0 0 0 1
6 ADDHYD 4  14   6 7 4                                   0 0 0 0 0 1
6 RUNOFF 1  16       5      0.0273     83.0000     0.46000 0 0 0 0 1
6 REACH  3  18   5   6    500.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  20       7      0.0145     83.0000     0.39000 0 0 0 0 1
6 ADDHYD 4  22   6 7 5                                   0 0 0 0 0 1
6 REACH  3  24   5   6   1200.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  26       7      0.0217     83.0000     0.41000 0 0 0 0 1
6 ADDHYD 4  28   6 7 5                                   0 0 0 0 0 1
6 REACH  3  30   5   6    200.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  32       7      0.0108     83.0000     0.31000 0 0 0 0 1
6 ADDHYD 4  34   6 7 5                                   0 0 0 0 0 1
6 ADDHYD 4  36   4 5 6                                   0 0 0 0 0 1
6 RUNOFF 1  38       7      0.0303     72.0000     0.19000 0 0 0 0 1
6 ADDHYD 4  40   6 7 4                                   0 0 0 0 0 1
6 RUNOFF 1  42       7      0.0195     83.0000     0.35000 0 0 0 0 1
6 ADDHYD 4  44   4 7 5                                   0 0 0 0 0 1
6 RUNOFF 1  46       6      0.0359     72.0000     0.08000 0 0 0 0 1
6 ADDHYD 4  48   5 6 4                                   0 0 0 0 0 1
6 RUNOFF 1  50       5      0.3070     77.0000     0.63000 0 0 0 0 1
6 REACH  3  51   5   6    900.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  52       7      0.0280     83.0000     0.39000 0 0 0 0 1
6 ADDHYD 4  54   6 7 5                                   0 0 0 0 0 1
6 RUNOFF 1  56       6      0.0013     95.0000     0.19000 0 0 0 0 1
6 ADDHYD 4  58   5 6 7                                   0 0 0 0 0 1
6 REACH  3  59   7   5    100.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  60       6      0.0075     83.0000     0.28000 0 0 0 0 1
6 ADDHYD 4  62   5 6 7                                   0 0 0 0 0 1
6 REACH  3  63   7   5    800.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  64       6      0.0169     83.0000     0.33000 0 0 0 0 1
6 ADDHYD 4  66   5 6 7                                   0 0 0 0 0 1
6 REACH  3  67   7   5    200.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  68       6      0.0063     83.0000     0.25000 0 0 0 0 1
6 ADDHYD 4  70   5 6 7                                   0 0 0 0 0 1
6 REACH  3  71   7   5   1000.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  72       6      0.0077     83.0000     0.30000 0 0 0 0 1
6 ADDHYD 4  74   5 6 7                                   0 0 0 0 0 1
6 ADDHYD 4  76   4 7 5                                   0 0 0 0 0 1
6 RESVOR 2     2 5   1   1021.0000                        0 0 0 0 0 1
6 RUNOFF 1  78       5      0.0192     85.0000     0.27000 0 0 0 0 1
6 RESVOR 2    15 5   6      0.0000                        0 0 0 0 0 1
6 REACH  3  79   6   7    400.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  80       5      0.0298     92.0000     0.31000 0 0 0 0 1
6 RESVOR 2    20 5   6      0.0000                        0 0 0 0 0 1
6 ADDHYD 4  82   7 6 5                                   0 0 0 0 0 1
6 REACH  3  83   5   6    300.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  84       7      0.0308     84.0000     0.30000 0 0 0 0 1
6 ADDHYD 4  86   6 7 5                                   0 0 0 0 0 1
6 RESVOR 2    25 5   6      0.0000                        0 0 0 0 0 1
6 REACH  3  87   6   7    700.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  88       5      0.0220     84.0000     0.28000 0 0 0 0 1
6 ADDHYD 4  90   7 5 6                                   0 0 0 0 0 1
6 RESVOR 2    30 6   7      0.0000                        0 0 0 0 0 1
6 REACH  3  91   7   5    300.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  92       6      0.0097     84.0000     0.33000 0 0 0 0 1
```

```
6 ADDHYD 4  94   5 6 7                                  0 0 0 0 0 1
6 REACH  3  96   7   5     900.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1  98       6       0.0156     83.0000      0.31000 0 0 0 0 1
6 ADDHYD 4 100   5 6 7                                  0 0 0 0 0 1
6 RUNOFF 1 102       5       0.0192     83.0000      0.31000 0 0 0 0 1
6 ADDHYD 4 104   7 5 6                                  0 0 0 0 0 1
6 RUNOFF 1 106       7       0.0142     72.0000      0.08000 0 0 0 0 1
6 ADDHYD 4 108   6 7 5                                  0 0 0 0 0 1
6 RESVOR 2     3 5   6    1020.1000                     0 0 0 0 0 1
6 ADDHYD 4 110   1 6 5                                  0 0 0 0 0 1
6 RESVOR 2    60 5   6    1006.0000                     0 0 0 0 0 1
  ENDATA


END OF LISTING
```

```
EXECUTIVE CONTROL CARD          OPERATION  INCREM,     MAIN TIME INCREMENT=  0.20
EXECUTIVE CONTROL CARD          OPERATION  COMPUT,     FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT   0/ 60
       STARTING TIME=  0.00    RAIN DEPTH=  2.53    RAIN DURATION=  1.00    RAIN TABLE NO.= 4    SOIL CONDITION= 2
       ALTERNATE NO.= 1        STORM NO.= 1


  ENDCMP
```

```
                                                                                PASS=  2
EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT   0/ 60
      STARTING TIME=  0.00     RAIN DEPTH=  3.57    RAIN DURATION=  1.00    RAIN TABLE NO.= 4     SOIL CONDITION= 2
      ALTERNATE NO.= 1         STORM NO.= 2


 ENDCMP
```

```
                                                                                PASS=  3
EXECUTIVE CONTROL CARD          OPERATION  COMPUT,     FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT   0/ 60
      STARTING TIME=  0.00     RAIN DEPTH=  4.04     RAIN DURATION=  1.00     RAIN TABLE NO.= 4     SOIL CONDITION= 2
      ALTERNATE NO.= 1         STORM NO.= 3


 ENDCMP
```

SUMMARY TABLE 1

0	ALT	STORM	ID	DA SQ-MI.	RAIN TBLE	AMC	DELTA-T HRS.	TZERO HRS.	PRECIP IN.	PRECIP DURATION	PEAK-Q CFS	PEAK-TIME	PEAK-ELEV	RUNOFF IN.	CSM
	1	1	2	0.03	4	2	0.20	0.00	2.53	24.00	21.17	12.55	0.00	1.08	620.83
	1	1	4	0.03	4	2	0.20	0.00	2.53	24.00	19.52	12.61	0.00	1.08	572.32
	1	1	6	0.04	4	2	0.20	0.00	2.53	24.00	23.09	12.53	0.00	1.08	630.93
	1	1	8	0.07	4	2	0.20	0.00	2.53	24.00	42.32	12.56	0.00	1.08	598.60
	1	1	10	0.07	4	2	0.20	0.00	2.53	24.00	41.54	12.57	0.00	1.08	587.52
	1	1	12	0.04	4	2	0.20	0.00	2.53	24.00	12.16	12.65	0.00	0.54	294.38
	1	1	14	0.11	4	2	0.20	0.00	2.53	24.00	53.41	12.59	0.00	0.88	476.89
	1	1	16	0.03	4	2	0.20	0.00	2.53	24.00	16.62	12.55	0.00	1.08	608.94
	1	1	18	0.03	4	2	0.20	0.00	2.53	24.00	16.02	12.58	0.00	1.08	586.70
	1	1	20	0.01	4	2	0.20	0.00	2.53	24.00	9.28	12.53	0.00	1.08	639.81
	1	1	22	0.04	4	2	0.20	0.00	2.53	24.00	25.22	12.56	0.00	1.08	603.36
	1	1	24	0.04	4	2	0.20	0.00	2.53	24.00	22.47	12.67	0.00	1.08	537.60
	1	1	26	0.02	4	2	0.20	0.00	2.53	24.00	13.69	12.53	0.00	1.08	630.93
	1	1	28	0.06	4	2	0.20	0.00	2.53	24.00	35.52	12.60	0.00	1.08	559.33
	1	1	30	0.06	4	2	0.20	0.00	2.53	24.00	35.08	12.61	0.00	1.08	552.47
	1	1	32	0.01	4	2	0.20	0.00	2.53	24.00	7.19	12.50	0.00	1.09	665.72
	1	1	34	0.07	4	2	0.20	0.00	2.53	24.00	41.88	12.58	0.00	1.08	563.72
	1	1	36	0.19	4	2	0.20	0.00	2.53	24.00	95.27	12.59	0.00	0.96	511.39
	1	1	38	0.03	4	2	0.20	0.00	2.53	24.00	11.16	12.45	0.00	0.55	368.39
	1	1	40	0.22	4	2	0.20	0.00	2.53	24.00	105.52	12.57	0.00	0.90	487.15
	1	1	42	0.02	4	2	0.20	0.00	2.53	24.00	12.78	12.52	0.00	1.09	655.46
	1	1	44	0.24	4	2	0.20	0.00	2.53	24.00	118.11	12.56	0.00	0.92	500.26
	1	1	46	0.04	4	2	0.20	0.00	2.53	24.00	15.10	12.35	0.00	0.50	420.64
	1	1	48	0.27	4	2	0.20	0.00	2.53	24.00	124.15	12.52	0.00	0.86	456.42
	1	1	50	0.31	4	2	0.20	0.00	2.53	24.00	117.94	12.66	0.00	0.76	384.16
	1	1	51	0.31	4	2	0.20	0.00	2.53	24.00	114.63	12.69	0.00	0.76	373.38
	1	1	52	0.03	4	2	0.20	0.00	2.53	24.00	17.91	12.53	0.00	1.08	639.81
	1	1	54	0.33	4	2	0.20	0.00	2.53	24.00	130.18	12.66	0.00	0.78	388.60
	1	1	56	0.00	4	2	0.20	0.00	2.53	24.00	1.34	12.32	0.00	2.00	1029.73
	1	1	58	0.34	4	2	0.20	0.00	2.53	24.00	130.98	12.65	0.00	0.79	389.48
	1	1	59	0.34	4	2	0.20	0.00	2.53	24.00	130.52	12.66	0.00	0.79	388.12
	1	1	60	0.01	4	2	0.20	0.00	2.53	24.00	4.77	12.47	0.00	1.09	635.42
	1	1	62	0.34	4	2	0.20	0.00	2.53	24.00	134.58	12.65	0.00	0.80	391.46
	1	1	63	0.34	4	2	0.20	0.00	2.53	24.00	131.09	12.68	0.00	0.80	381.31
	1	1	64	0.02	4	2	0.20	0.00	2.53	24.00	11.18	12.51	0.00	1.09	661.32
	1	1	66	0.36	4	2	0.20	0.00	2.53	24.00	140.46	12.65	0.00	0.81	389.42
	1	1	67	0.36	4	2	0.20	0.00	2.53	24.00	139.49	12.66	0.00	0.81	386.73
	1	1	68	0.01	4	2	0.20	0.00	2.53	24.00	4.06	12.45	0.00	1.10	643.74
	1	1	70	0.37	4	2	0.20	0.00	2.53	24.00	142.79	12.65	0.00	0.81	389.09
	1	1	71	0.37	4	2	0.20	0.00	2.53	24.00	138.28	12.69	0.00	0.81	376.78
	1	1	72	0.01	4	2	0.20	0.00	2.53	24.00	5.17	12.50	0.00	1.09	672.02
	1	1	74	0.37	4	2	0.20	0.00	2.53	24.00	142.26	12.67	0.00	0.82	379.67
	1	1	76	0.65	4	2	0.20	0.00	2.53	24.00	260.48	12.60	0.00	0.84	402.79
	1	1	-2	0.65	4	2	0.20	0.00	2.53	24.00	20.38	14.17	1023.08	0.84	31.51
	1	1	78	0.02	4	2	0.20	0.00	2.53	24.00	13.39	12.45	0.00	1.22	697.59
	1	1	-15	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.07	0.92
	1	1	79	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.07	0.92
	1	1	80	0.03	4	2	0.20	0.00	2.53	24.00	26.87	12.42	0.00	1.74	901.71
	1	1	-20	0.03	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.05	0.65
	1	1	82	0.05	4	2	0.20	0.00	2.53	24.00	0.04	0.00	0.00	0.05	0.76
	1	1	83	0.05	4	2	0.20	0.00	2.53	24.00	0.04	0.00	0.00	0.05	0.76
	1	1	84	0.03	4	2	0.20	0.00	2.53	24.00	21.60	12.50	0.00	1.15	701.38
	1	1	86	0.08	4	2	0.20	0.00	2.53	24.00	21.62	12.50	0.00	0.48	270.98
	1	1	-25	0.08	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.32
	1	1	87	0.08	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.32
	1	1	88	0.02	4	2	0.20	0.00	2.53	24.00	14.62	12.46	0.00	1.15	664.34
	1	1	90	0.10	4	2	0.20	0.00	2.53	24.00	14.63	12.46	0.00	0.27	143.68
	1	1	-30	0.10	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.26
	1	1	91	0.10	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.26
	1	1	92	0.01	4	2	0.20	0.00	2.53	24.00	6.70	12.51	0.00	1.15	690.87
	1	1	94	0.11	4	2	0.20	0.00	2.53	24.00	6.72	12.51	0.00	0.12	60.23

1	1	96	0.11	4	2	0.20	0.00	2.53	24.00	6.22	12.55	0.00	0.12	55.77
1	1	98	0.02	4	2	0.20	0.00	2.53	24.00	10.39	12.50	0.00	1.09	665.72
1	1	100	0.13	4	2	0.20	0.00	2.53	24.00	16.55	12.52	0.00	0.24	130.25
1	1	102	0.02	4	2	0.20	0.00	2.53	24.00	12.78	12.50	0.00	1.09	665.72
1	1	104	0.15	4	2	0.20	0.00	2.53	24.00	29.33	12.51	0.00	0.35	200.46
1	1	106	0.01	4	2	0.20	0.00	2.53	24.00	5.97	12.35	0.00	0.50	420.64
1	1	108	0.16	4	2	0.20	0.00	2.53	24.00	32.81	12.43	0.00	0.36	204.41
1	1	-3	0.16	4	2	0.20	0.00	2.53	24.00	1.70	14.99	1020.55	0.34	10.59
1	1	110	0.81	4	2	0.20	0.00	2.53	24.00	22.08	14.08	0.00	0.74	27.35
1	1	-60	0.81	4	2	0.20	0.00	2.53	24.00	0.17	0.00	0.00	0.01	0.20
1	2	2	0.03	4	2	0.20	0.00	3.57	24.00	36.23	12.53	0.00	1.92	1062.37
1	2	4	0.03	4	2	0.20	0.00	3.57	24.00	33.89	12.59	0.00	1.92	993.70
1	2	6	0.04	4	2	0.20	0.00	3.57	24.00	39.39	12.52	0.00	1.92	1076.28
1	2	8	0.07	4	2	0.20	0.00	3.57	24.00	72.92	12.54	0.00	1.92	1031.39
1	2	10	0.07	4	2	0.20	0.00	3.57	24.00	71.81	12.55	0.00	1.92	1015.73
1	2	12	0.04	4	2	0.20	0.00	3.57	24.00	25.90	12.62	0.00	1.17	627.18
1	2	14	0.11	4	2	0.20	0.00	3.57	24.00	97.35	12.57	0.00	1.64	869.21
1	2	16	0.03	4	2	0.20	0.00	3.57	24.00	28.54	12.53	0.00	1.92	1045.26
1	2	18	0.03	4	2	0.20	0.00	3.57	24.00	27.69	12.56	0.00	1.92	1014.14
1	2	20	0.01	4	2	0.20	0.00	3.57	24.00	15.78	12.51	0.00	1.92	1088.57
1	2	22	0.04	4	2	0.20	0.00	3.57	24.00	43.38	12.54	0.00	1.92	1037.84
1	2	24	0.04	4	2	0.20	0.00	3.57	24.00	39.34	12.64	0.00	1.91	941.17
1	2	26	0.02	4	2	0.20	0.00	3.57	24.00	23.36	12.52	0.00	1.92	1076.28
1	2	28	0.06	4	2	0.20	0.00	3.57	24.00	61.86	12.57	0.00	1.92	974.20
1	2	30	0.06	4	2	0.20	0.00	3.57	24.00	61.22	12.58	0.00	1.92	964.10
1	2	32	0.01	4	2	0.20	0.00	3.57	24.00	11.55	12.47	0.00	1.94	1069.46
1	2	34	0.07	4	2	0.20	0.00	3.57	24.00	72.83	12.56	0.00	1.92	980.21
1	2	36	0.19	4	2	0.20	0.00	3.57	24.00	170.15	12.57	0.00	1.75	913.32
1	2	38	0.03	4	2	0.20	0.00	3.57	24.00	22.73	12.41	0.00	1.18	750.14
1	2	40	0.22	4	2	0.20	0.00	3.57	24.00	190.80	12.55	0.00	1.67	880.89
1	2	42	0.02	4	2	0.20	0.00	3.57	24.00	21.63	12.50	0.00	1.93	1109.31
1	2	44	0.24	4	2	0.20	0.00	3.57	24.00	212.23	12.54	0.00	1.69	898.91
1	2	46	0.04	4	2	0.20	0.00	3.57	24.00	30.36	12.34	0.00	1.10	845.70
1	2	48	0.27	4	2	0.20	0.00	3.57	24.00	225.89	12.48	0.00	1.62	830.47
1	2	50	0.31	4	2	0.20	0.00	3.57	24.00	228.06	12.63	0.00	1.48	742.88
1	2	51	0.31	4	2	0.20	0.00	3.57	24.00	222.51	12.66	0.00	1.48	724.79
1	2	52	0.03	4	2	0.20	0.00	3.57	24.00	30.48	12.51	0.00	1.92	1088.57
1	2	54	0.33	4	2	0.20	0.00	3.57	24.00	250.08	12.63	0.00	1.52	746.52
1	2	56	0.00	4	2	0.20	0.00	3.57	24.00	1.95	12.31	0.00	3.03	1501.77
1	2	58	0.34	4	2	0.20	0.00	3.57	24.00	251.37	12.63	0.00	1.52	747.45
1	2	59	0.34	4	2	0.20	0.00	3.57	24.00	250.62	12.63	0.00	1.52	745.24
1	2	60	0.01	4	2	0.20	0.00	3.57	24.00	8.09	12.43	0.00	1.94	1078.26
1	2	62	0.34	4	2	0.20	0.00	3.57	24.00	257.80	12.62	0.00	1.53	749.84
1	2	63	0.34	4	2	0.20	0.00	3.57	24.00	252.08	12.65	0.00	1.53	733.22
1	2	64	0.02	4	2	0.20	0.00	3.57	24.00	17.98	12.49	0.00	1.93	1063.86
1	2	66	0.36	4	2	0.20	0.00	3.57	24.00	268.60	12.63	0.00	1.55	744.65
1	2	67	0.36	4	2	0.20	0.00	3.57	24.00	267.01	12.63	0.00	1.55	740.27
1	2	68	0.01	4	2	0.20	0.00	3.57	24.00	6.87	12.41	0.00	1.95	1091.08
1	2	70	0.37	4	2	0.20	0.00	3.57	24.00	272.84	12.63	0.00	1.56	743.43
1	2	71	0.37	4	2	0.20	0.00	3.57	24.00	265.38	12.66	0.00	1.56	723.11
1	2	72	0.01	4	2	0.20	0.00	3.57	24.00	8.27	12.47	0.00	1.94	1074.59
1	2	74	0.37	4	2	0.20	0.00	3.57	24.00	272.50	12.65	0.00	1.56	727.24
1	2	76	0.65	4	2	0.20	0.00	3.57	24.00	487.61	12.57	0.00	1.59	753.99
1	2	-2	0.65	4	2	0.20	0.00	3.57	24.00	24.88	15.20	1023.98	1.58	38.47
1	2	78	0.02	4	2	0.20	0.00	3.57	24.00	22.10	12.42	0.00	2.11	1151.23
1	2	-15	0.02	4	2	0.20	0.00	3.57	24.00	0.03	0.00	0.00	0.11	1.50
1	2	79	0.02	4	2	0.20	0.00	3.57	24.00	0.03	0.00	0.00	0.11	1.50
1	2	80	0.03	4	2	0.20	0.00	3.57	24.00	40.70	12.39	0.00	2.73	1365.93
1	2	-20	0.03	4	2	0.20	0.00	3.57	24.00	0.03	0.00	0.00	0.07	1.00
1	2	82	0.05	4	2	0.20	0.00	3.57	24.00	0.06	0.00	0.00	0.09	1.19
1	2	83	0.05	4	2	0.20	0.00	3.57	24.00	0.06	0.00	0.00	0.09	1.19
1	2	84	0.03	4	2	0.20	0.00	3.57	24.00	34.12	12.46	0.00	2.02	1107.95
1	2	86	0.08	4	2	0.20	0.00	3.57	24.00	34.16	12.46	0.00	0.83	428.03
1	2	-25	0.08	4	2	0.20	0.00	3.57	24.00	7.72	13.03	3.04	0.28	96.70
1	2	87	0.08	4	2	0.20	0.00	3.57	24.00	6.29	13.09	0.00	0.28	78.77
1	2	88	0.02	4	2	0.20	0.00	3.57	24.00	24.47	12.43	0.00	2.02	1112.35

1	2	90	0.10	4	2	0.20	0.00	3.57	24.00	24.49	12.43	0.00	0.66	240.57
1	2	-30	0.10	4	2	0.20	0.00	3.57	24.00	13.54	12.86	3.07	0.37	132.96
1	2	91	0.10	4	2	0.20	0.00	3.57	24.00	12.26	12.88	0.00	0.37	120.41
1	2	92	0.01	4	2	0.20	0.00	3.57	24.00	10.64	12.48	0.00	2.01	1097.06
1	2	94	0.11	4	2	0.20	0.00	3.57	24.00	15.87	12.81	0.00	0.51	142.36
1	2	96	0.11	4	2	0.20	0.00	3.57	24.00	13.70	12.89	0.00	0.52	122.84
1	2	98	0.02	4	2	0.20	0.00	3.57	24.00	16.68	12.47	0.00	1.94	1069.46
1	2	100	0.13	4	2	0.20	0.00	3.57	24.00	27.19	12.51	0.00	0.69	213.94
1	2	102	0.02	4	2	0.20	0.00	3.57	24.00	20.53	12.47	0.00	1.94	1069.46
1	2	104	0.15	4	2	0.20	0.00	3.57	24.00	47.31	12.49	0.00	0.85	323.36
1	2	106	0.01	4	2	0.20	0.00	3.57	24.00	12.01	12.34	0.00	1.10	845.70
1	2	108	0.16	4	2	0.20	0.00	3.57	24.00	58.00	12.40	0.00	0.88	361.37
1	2	-3	0.16	4	2	0.20	0.00	3.57	24.00	3.89	15.30	1021.14	0.82	24.22
1	2	110	0.81	4	2	0.20	0.00	3.57	24.00	28.76	15.25	0.00	1.43	35.64
1	2	-60	0.81	4	2	0.20	0.00	3.57	24.00	2.83	0.00	0.00	0.13	3.50
1	3	2	0.03	4	2	0.20	0.00	4.04	24.00	43.24	12.52	0.00	2.33	1268.17
1	3	4	0.03	4	2	0.20	0.00	4.04	24.00	40.63	12.58	0.00	2.32	1191.51
1	3	6	0.04	4	2	0.20	0.00	4.04	24.00	46.98	12.51	0.00	2.32	1283.56
1	3	8	0.07	4	2	0.20	0.00	4.04	24.00	87.23	12.54	0.00	2.32	1233.75
1	3	10	0.07	4	2	0.20	0.00	4.04	24.00	85.99	12.55	0.00	2.32	1216.28
1	3	12	0.04	4	2	0.20	0.00	4.04	24.00	32.83	12.61	0.00	1.49	794.80
1	3	14	0.11	4	2	0.20	0.00	4.04	24.00	118.42	12.57	0.00	2.01	1057.33
1	3	16	0.03	4	2	0.20	0.00	4.04	24.00	34.10	12.53	0.00	2.32	1248.94
1	3	18	0.03	4	2	0.20	0.00	4.04	24.00	33.15	12.55	0.00	2.32	1214.33
1	3	20	0.01	4	2	0.20	0.00	4.04	24.00	18.81	12.51	0.00	2.33	1297.20
1	3	22	0.04	4	2	0.20	0.00	4.04	24.00	51.87	12.53	0.00	2.32	1240.84
1	3	24	0.04	4	2	0.20	0.00	4.04	24.00	47.29	12.63	0.00	2.32	1131.40
1	3	26	0.02	4	2	0.20	0.00	4.04	24.00	27.85	12.51	0.00	2.32	1283.56
1	3	28	0.06	4	2	0.20	0.00	4.04	24.00	74.24	12.57	0.00	2.32	1169.09
1	3	30	0.06	4	2	0.20	0.00	4.04	24.00	73.51	12.58	0.00	2.32	1157.63
1	3	32	0.01	4	2	0.20	0.00	4.04	24.00	13.76	12.46	0.00	2.35	1273.77
1	3	34	0.07	4	2	0.20	0.00	4.04	24.00	87.35	12.55	0.00	2.32	1175.67
1	3	36	0.19	4	2	0.20	0.00	4.04	24.00	205.74	12.56	0.00	2.14	1104.36
1	3	38	0.03	4	2	0.20	0.00	4.04	24.00	28.46	12.40	0.00	1.51	939.12
1	3	40	0.22	4	2	0.20	0.00	4.04	24.00	231.54	12.54	0.00	2.05	1069.00
1	3	42	0.02	4	2	0.20	0.00	4.04	24.00	24.58	12.50	0.00	2.34	1260.42
1	3	44	0.24	4	2	0.20	0.00	4.04	24.00	257.08	12.53	0.00	2.07	1088.85
1	3	46	0.04	4	2	0.20	0.00	4.04	24.00	37.83	12.33	0.00	1.41	1053.84
1	3	48	0.27	4	2	0.20	0.00	4.04	24.00	275.73	12.47	0.00	1.98	1013.72
1	3	50	0.31	4	2	0.20	0.00	4.04	24.00	281.92	12.62	0.00	1.84	918.32
1	3	51	0.31	4	2	0.20	0.00	4.04	24.00	275.41	12.65	0.00	1.84	897.10
1	3	52	0.03	4	2	0.20	0.00	4.04	24.00	36.32	12.51	0.00	2.33	1297.20
1	3	54	0.33	4	2	0.20	0.00	4.04	24.00	308.62	12.62	0.00	1.88	921.25
1	3	56	0.00	4	2	0.20	0.00	4.04	24.00	2.23	12.31	0.00	3.50	1713.54
1	3	58	0.34	4	2	0.20	0.00	4.04	24.00	310.12	12.62	0.00	1.89	922.17
1	3	59	0.34	4	2	0.20	0.00	4.04	24.00	309.26	12.62	0.00	1.89	919.59
1	3	60	0.01	4	2	0.20	0.00	4.04	24.00	9.64	12.42	0.00	2.35	1284.87
1	3	62	0.34	4	2	0.20	0.00	4.04	24.00	317.89	12.61	0.00	1.90	924.65
1	3	63	0.34	4	2	0.20	0.00	4.04	24.00	311.22	12.64	0.00	1.90	905.23
1	3	64	0.02	4	2	0.20	0.00	4.04	24.00	21.41	12.48	0.00	2.34	1266.92
1	3	66	0.36	4	2	0.20	0.00	4.04	24.00	331.09	12.62	0.00	1.92	917.92
1	3	67	0.36	4	2	0.20	0.00	4.04	24.00	329.25	12.62	0.00	1.92	912.80
1	3	68	0.01	4	2	0.20	0.00	4.04	24.00	8.19	12.40	0.00	2.36	1299.47
1	3	70	0.37	4	2	0.20	0.00	4.04	24.00	336.26	12.62	0.00	1.92	916.24
1	3	71	0.37	4	2	0.20	0.00	4.04	24.00	327.52	12.65	0.00	1.92	892.44
1	3	72	0.01	4	2	0.20	0.00	4.04	24.00	9.85	12.45	0.00	2.35	1279.33
1	3	74	0.37	4	2	0.20	0.00	4.04	24.00	336.12	12.64	0.00	1.93	897.04
1	3	76	0.65	4	2	0.20	0.00	4.04	24.00	597.90	12.56	0.00	1.95	924.54
1	3	-2	0.65	4	2	0.20	0.00	4.04	24.00	26.14	15.31	1024.38	1.95	40.43
1	3	78	0.02	4	2	0.20	0.00	4.04	24.00	26.13	12.41	0.00	2.53	1360.73
1	3	-15	0.02	4	2	0.20	0.00	4.04	24.00	1.11	15.04	3.01	0.43	57.72
1	3	79	0.02	4	2	0.20	0.00	4.04	24.00	1.07	15.08	0.00	0.43	55.78
1	3	80	0.03	4	2	0.20	0.00	4.04	24.00	46.94	12.38	0.00	3.19	1575.30
1	3	-20	0.03	4	2	0.20	0.00	4.04	24.00	1.98	14.90	3.01	0.50	66.39
1	3	82	0.05	4	2	0.20	0.00	4.04	24.00	3.00	15.03	0.00	0.47	61.29
1	3	83	0.05	4	2	0.20	0.00	4.04	24.00	2.97	15.05	0.00	0.47	60.53

1	3	84	0.03	4	2	0.20	0.00	4.04	24.00	40.47	12.45	0.00	2.44	1314.09
1	3	86	0.08	4	2	0.20	0.00	4.04	24.00	40.51	12.45	0.00	1.23	507.65
1	3	-25	0.08	4	2	0.20	0.00	4.04	24.00	23.02	12.82	3.12	0.67	288.51
1	3	87	0.08	4	2	0.20	0.00	4.04	24.00	18.14	12.88	0.00	0.67	227.35
1	3	88	0.02	4	2	0.20	0.00	4.04	24.00	29.05	12.41	0.00	2.43	1320.35
1	3	90	0.10	4	2	0.20	0.00	4.04	24.00	31.29	12.56	0.00	1.05	307.33
1	3	-30	0.10	4	2	0.20	0.00	4.04	24.00	29.01	12.82	3.14	0.78	284.97
1	3	91	0.10	4	2	0.20	0.00	4.04	24.00	28.06	12.85	0.00	0.78	275.67
1	3	92	0.01	4	2	0.20	0.00	4.04	24.00	12.63	12.47	0.00	2.43	1301.58
1	3	94	0.11	4	2	0.20	0.00	4.04	24.00	33.09	12.77	0.00	0.92	296.74
1	3	96	0.11	4	2	0.20	0.00	4.04	24.00	30.51	12.87	0.00	0.92	273.62
1	3	98	0.02	4	2	0.20	0.00	4.04	24.00	19.87	12.46	0.00	2.35	1273.77
1	3	100	0.13	4	2	0.20	0.00	4.04	24.00	40.82	12.65	0.00	1.09	321.16
1	3	102	0.02	4	2	0.20	0.00	4.04	24.00	24.46	12.46	0.00	2.35	1273.77
1	3	104	0.15	4	2	0.20	0.00	4.04	24.00	64.32	12.56	0.00	1.26	439.63
1	3	106	0.01	4	2	0.20	0.00	4.04	24.00	14.96	12.33	0.00	1.41	1053.84
1	3	108	0.16	4	2	0.20	0.00	4.04	24.00	70.41	12.46	0.00	1.27	438.70
1	3	-3	0.16	4	2	0.20	0.00	4.04	24.00	5.40	15.62	1021.54	1.19	33.62
1	3	110	0.81	4	2	0.20	0.00	4.04	24.00	31.53	15.47	0.00	1.80	39.06
1	3	-60	0.81	4	2	0.20	0.00	4.04	24.00	4.36	55.13	1019.34	0.21	5.40

SUMMARY TABLE 3

	DISCHARGE,CFS									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
OXSEC/STRUC NO.-60										
ALTERNATE 1	0.17	2.83	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-30										
ALTERNATE 1	0.03	13.54	29.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-25										
ALTERNATE 1	0.03	7.72	23.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-20										
ALTERNATE 1	0.02	0.03	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-15										
ALTERNATE 1	0.02	0.03	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. -3										
ALTERNATE 1	1.70	3.89	5.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. -2										
ALTERNATE 1	20.38	24.88	26.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 2										
ALTERNATE 1	21.17	36.23	43.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 4										
ALTERNATE 1	19.52	33.89	40.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 6										
ALTERNATE 1	23.09	39.39	46.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 8										
ALTERNATE 1	42.32	72.92	87.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 10										
ALTERNATE 1	41.54	71.81	85.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 12										
ALTERNATE 1	12.16	25.90	32.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 14										
ALTERNATE 1	53.41	97.35	118.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 16										
ALTERNATE 1	16.62	28.54	34.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 18										
ALTERNATE 1	16.02	27.69	33.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 20										
ALTERNATE 1	9.28	15.78	18.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 22										
ALTERNATE 1	25.22	43.38	51.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 24										
ALTERNATE 1	22.47	39.34	47.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 26										
ALTERNATE 1	13.69	23.36	27.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 28										
ALTERNATE 1	35.52	61.86	74.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 30										
ALTERNATE 1	35.08	61.22	73.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 32										
ALTERNATE 1	7.19	11.55	13.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 34										
ALTERNATE 1	41.88	72.83	87.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 36										
ALTERNATE 1	95.27	170.15	205.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 38										
ALTERNATE 1	11.16	22.73	28.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 40										
ALTERNATE 1	105.52	190.80	231.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 42										
ALTERNATE 1	12.78	21.63	24.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 44										
ALTERNATE 1	118.11	212.23	257.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 46										

ALTERNATE 1	15.10	30.36	37.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 48										
ALTERNATE 1	124.15	225.89	275.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 50										
ALTERNATE 1	117.94	228.06	281.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 51										
ALTERNATE 1	114.63	222.51	275.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 52										
ALTERNATE 1	17.91	30.48	36.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 54										
ALTERNATE 1	130.18	250.08	308.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 56										
ALTERNATE 1	1.34	1.95	2.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 58										
ALTERNATE 1	130.98	251.37	310.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 59										
ALTERNATE 1	130.52	250.62	309.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 60										
ALTERNATE 1	4.77	8.09	9.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 62										
ALTERNATE 1	134.58	257.80	317.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 63										
ALTERNATE 1	131.09	252.08	311.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 64										
ALTERNATE 1	11.18	17.98	21.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 66										
ALTERNATE 1	140.46	268.60	331.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 67										
ALTERNATE 1	139.49	267.01	329.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 68										
ALTERNATE 1	4.06	6.87	8.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 70										
ALTERNATE 1	142.79	272.84	336.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 71										
ALTERNATE 1	138.28	265.38	327.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 72										
ALTERNATE 1	5.17	8.27	9.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 74										
ALTERNATE 1	142.26	272.50	336.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 76										
ALTERNATE 1	260.48	487.61	597.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 78										
ALTERNATE 1	13.39	22.10	26.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 79										
ALTERNATE 1	0.02	0.03	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 80										
ALTERNATE 1	26.87	40.70	46.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 82										
ALTERNATE 1	0.04	0.06	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 83										
ALTERNATE 1	0.04	0.06	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 84										
ALTERNATE 1	21.60	34.12	40.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 86										
ALTERNATE 1	21.62	34.16	40.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 87										
ALTERNATE 1	0.03	6.29	18.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 88										
ALTERNATE 1	14.62	24.47	29.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 90										
ALTERNATE 1	14.63	24.49	31.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 91										
ALTERNATE 1	0.03	12.26	28.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 92										
ALTERNATE 1	6.70	10.64	12.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 94										

ALTERNATE 1	6.72	15.87	33.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 96										
ALTERNATE 1	6.22	13.70	30.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 98										
ALTERNATE 1	10.39	16.68	19.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.100										
ALTERNATE 1	16.55	27.19	40.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.102										
ALTERNATE 1	12.78	20.53	24.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.104										
ALTERNATE 1	29.33	47.31	64.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.106										
ALTERNATE 1	5.97	12.01	14.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.108										
ALTERNATE 1	32.81	58.00	70.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.110										
ALTERNATE 1	22.08	28.76	31.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDJOB CARD ENCOUNTERED. END OF JOB.

APPENDIX III

CAMELBACK RANCH - POST PHASE II CONSTRUCTION CONDITIONS - CVL 4/4/90
CAMELBACK RANCH POST-DEVELOPMENT HYDROLOGY MAR 90
TR-20 HYDROLOGY
PROGRAM DATE - FEB. 14, 1974 S/360

PASS= 1

EXECUTIVE CONTROL CARD OPERATION LIST

LISTING OF DATA IN CORE

CAMELBACK RANCH POST-DEVELOPMENT HYDROLOGY MAR 90

VELOCITY INCREMENT
1 CTABLE 0.2000

8	0.0000	0.0800	0.1800	0.2500	0.3200
8	0.3700	0.4100	0.4500	0.4900	0.5100
8	0.5400	0.5700	0.5900	0.6100	0.6300
8	0.6500	0.6600	0.6700	0.6900	0.7000
8	0.7100	0.7200	0.7300	0.7400	0.7500
8	0.7600	0.7700	0.7700	0.7800	0.7900
8	0.7900	0.8000	0.8100	0.8100	0.8200
8	0.8200	0.8300	0.8300	0.8400	0.8400
8	0.8400	0.8500	0.8500	0.8600	0.8600
8	0.8600	0.8600	0.8700	0.8700	0.8700
8	0.8800	0.8800	0.8800	0.8900	0.8900
8	0.8900	0.8900	0.8900	0.8900	0.9000
8	0.9000	0.9000	0.9000	0.9000	0.9100
8	0.9100	0.9100	0.9100	0.9100	0.9100
8	0.9200	0.9200	0.9200	0.9200	0.9200
8	0.9200	0.9200	0.9200	0.9300	0.9300

9 ENDTBL

STRUCT NO.
3 STRUCT 2

	ELEVATION	DISCHARGE	STORAGE
8	1021.0000	0.0000	0.0000
8	1021.5000	3.5000	0.5700
8	1022.0000	7.0000	3.2400
8	1022.5000	14.0000	9.0600
8	1023.0000	20.0000	17.6800
8	1024.0000	25.0000	40.9900
8	1025.0000	28.0000	67.7300
8	1026.0000	30.0000	94.5300

9 ENDTBL

STRUCT NO.
3 STRUCT 3

	ELEVATION	DISCHARGE	STORAGE
8	1020.1000	0.0000	0.0000
8	1022.0000	7.1000	9.0000
8	1023.0000	8.1000	16.0000
8	1024.0000	9.5000	23.3000

9 ENDTBL

STRUCT NO.

3 STRUCT 4

	ELEVATION	DISCHARGE	STORAGE
8	1009.0000	0.0000	0.0000
8	1009.6000	16.0000	0.5000
8	1011.5000	16.2000	4.6000
8	1011.7000	16.3000	5.2000
8	1012.5000	16.5000	8.6000
8	1013.3000	16.7500	14.9000
8	1015.0000	17.0000	32.2000
8	1015.6000	17.5000	40.0000
8	1016.0000	17.7000	46.0000
8	1016.5000	17.7500	53.5000

9 ENDTBL

STRUCT NO.

3 STRUCT 15

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.6000
8	2.0000	0.0200	1.4000
8	3.0000	0.0300	2.2000
8	3.5000	100.0000	3.3000

9 ENDTBL

STRUCT NO.

3 STRUCT 20

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	1.1000
8	2.0000	0.0200	2.8000
8	3.0000	0.0300	4.3000
8	3.5000	100.0000	6.5000

9 ENDTBL

STRUCT NO.

3 STRUCT 25

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.6000
8	2.0000	0.0200	1.5000
8	3.0000	0.0300	2.3000
8	3.5000	100.0000	3.5000

9 ENDTBL

STRUCT NO.

3 STRUCT 30

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.4000
8	2.0000	0.0200	1.0000
8	3.0000	0.0300	1.5000
8	3.5000	100.0000	2.3000

9 ENDTBL

STRUCT NO.

3 STRUCT 40

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.9000
8	2.0000	0.0200	2.2000
8	3.0000	0.0300	3.4000
8	3.5000	100.0000	5.1000

9 ENDTBL

STRUCT NO.
3 STRUCT 45

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.4000
8	2.0000	0.0200	1.1000
8	3.0000	0.0300	1.7000
8	3.5000	100.0000	2.6000

9 ENDTBL

STRUCT NO.
3 STRUCT 50

	ELEVATION	DISCHARGE	STORAGE
8	0.0000	0.0000	0.0000
8	1.0000	0.0100	0.5000
8	2.0000	0.0200	1.3000
8	3.0000	0.0300	2.0000
8	3.5000	100.0000	3.0000

9 ENDTBL

TIME INCREMENT
4 DIMHYD

8	0.0000	0.0300	0.1000	0.1900	0.3100
8	0.4700	0.6600	0.8200	0.9300	0.9900
8	1.0000	0.9900	0.9300	0.8600	0.7800
8	0.6800	0.5600	0.4600	0.3900	0.3300
8	0.2800	0.2410	0.2070	0.1740	0.1470
8	0.1260	0.1070	0.0910	0.0770	0.0660
8	0.0550	0.0470	0.0400	0.0340	0.0290
8	0.0250	0.0210	0.0180	0.0150	0.0130
8	0.0110	0.0090	0.0080	0.0070	0.0060
8	0.0050	0.0040	0.0030	0.0020	0.0010
8	0.0000	0.0000	0.0000	0.0000	0.0000

9 ENDTBL

COMPUTED PEAK K FACTOR = 484.00

TIME INCREMENT
5 RAINFL 4 0.5000

8	0.0000	0.0040	0.0080	0.0130	0.0180
8	0.0220	0.0260	0.0310	0.0350	0.0400
8	0.0440	0.0480	0.0530	0.0570	0.0620
8	0.0660	0.0710	0.0750	0.0800	0.0930
8	0.1070	0.1200	0.1400	0.1700	0.5000
8	0.8300	0.8600	0.8800	0.8930	0.9070
8	0.9200	0.9240	0.9280	0.9330	0.9370
8	0.9420	0.9470	0.9510	0.9560	0.9600

```
-                 ------    ------    ------    ------    ------
8                 0.9640    0.9690    0.9730    0.9780    0.9820
8                 0.9870    0.9910    0.9950    1.0000    1.0000
9 ENDTBL
```

STANDARD CONTROL INSTRUCTIONS

```
6 RUNOFF 1   2       5      0.0341     83.0000     0.44000 0 0 0 0 1
6 REACH  3   4   5   6   1400.0000      0.6500     0.00000 0 0 0 0 1
6 RUNOFF 1   6       7      0.0366     83.0000     0.41000 0 0 0 0 1
6 ADDHYD 4   8   6 7 5                                   0 0 0 0 0 1
6 REACH  3  10   5   6    400.0000      0.6500     0.00000 0 0 0 0 1
6 RUNOFF 1  12       7      0.0413     72.0000     0.57000 0 0 0 0 1
6 ADDHYD 4  14   6 7 4                                   0 0 0 0 0 1
6 RUNOFF 1  16       5      0.0273     83.0000     0.46000 0 0 0 0 1
6 REACH  3  18   5   6    500.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  20       7      0.0145     83.0000     0.39000 0 0 0 0 1
6 ADDHYD 4  22   6 7 5                                   0 0 0 0 0 1
6 REACH  3  24   5   6   1200.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  26       7      0.0217     83.0000     0.41000 0 0 0 0 1
6 ADDHYD 4  28   6 7 5                                   0 0 0 0 0 1
6 REACH  3  30   5   6    200.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  32       7      0.0108     83.0000     0.31000 0 0 0 0 1
6 ADDHYD 4  34   6 7 5                                   0 0 0 0 0 1
6 ADDHYD 4  36   4 5 6                                   0 0 0 0 0 1
6 RUNOFF 1  38       7      0.0303     72.0000     0.19000 0 0 0 0 1
6 ADDHYD 4  40   6 7 4                                   0 0 0 0 0 1
6 RUNOFF 1  42       7      0.0195     83.0000     0.35000 0 0 0 0 1
6 ADDHYD 4  44   4 7 5                                   0 0 0 0 0 1
6 RUNOFF 1  46       6      0.0359     72.0000     0.08000 0 0 0 0 1
6 ADDHYD 4  48   5 6 4                                   0 0 0 0 0 1
6 RUNOFF 1  50       5      0.3070     77.0000     0.63000 0 0 0 0 1
6 REACH  3  51   5   6    900.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  52       7      0.0280     83.0000     0.39000 0 0 0 0 1
6 ADDHYD 4  54   6 7 5                                   0 0 0 0 0 1
6 RUNOFF 1  56       6      0.0013     95.0000     0.19000 0 0 0 0 1
6 ADDHYD 4  58   5 6 7                                   0 0 0 0 0 1
6 REACH  3  59   7   5    100.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  60       6      0.0075     83.0000     0.28000 0 0 0 0 1
6 ADDHYD 4  62   5 6 7                                   0 0 0 0 0 1
6 REACH  3  63   7   5    800.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  64       6      0.0169     83.0000     0.33000 0 0 0 0 1
6 ADDHYD 4  66   5 6 7                                   0 0 0 0 0 1
6 REACH  3  67   7   5    200.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  68       6      0.0063     83.0000     0.25000 0 0 0 0 1
6 ADDHYD 4  70   5 6 7                                   0 0 0 0 0 1
6 REACH  3  71   7   5   1000.0000      0.7600     0.00000 0 0 0 0 1
6 RUNOFF 1  72       6      0.0077     83.0000     0.30000 0 0 0 0 1
6 ADDHYD 4  74   5 6 7                                   0 0 0 0 0 1
6 ADDHYD 4  76   4 7 5                                   0 0 0 0 0 1
6 RESVOR 2     2 5   1   1021.0000                       0 0 0 0 0 1
6 RUNOFF 1  78       5      0.0192     85.0000     0.27000 0 0 0 0 1
6 RESVOR 2    15 5   6      0.0000                       0 0 0 0 0 1
6 REACH  3  79   6   7    400.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  80       5      0.0298     92.0000     0.31000 0 0 0 0 1
6 RESVOR 2    20 5   6      0.0000                       0 0 0 0 0 1
6 ADDHYD 4  82   7 6 5                                   0 0 0 0 0 1
6 REACH  3  83   5   6    300.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  84       7      0.0308     84.0000     0.30000 0 0 0 0 1
6 ADDHYD 4  86   6 7 5                                   0 0 0 0 0 1
6 RESVOR 2    25 5   6      0.0000                       0 0 0 0 0 1
6 REACH  3  87   6   7    700.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  88       5      0.0220     84.0000     0.28000 0 0 0 0 1
6 ADDHYD 4  90   7 5 6                                   0 0 0 0 0 1
6 RESVOR 2    30 6   7      0.0000                       0 0 0 0 0 1
6 REACH  3  91   7   5    300.0000      0.5400     0.00000 0 0 0 0 1
6 RUNOFF 1  92       6      0.0097     84.0000     0.33000 0 0 0 0 1
```

```
6 ADDHYD 4  94   5 6 7                                  0 0 0 0 0 1
6 REACH  3  96   7   5     900.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1  98       6       0.0156     83.0000      0.31000 0 0 0 0 1
6 ADDHYD 4 100   5 6 7                                  0 0 0 0 0 1
6 RUNOFF 1 102       5       0.0192     83.0000      0.31000 0 0 0 0 1
6 ADDHYD 4 104   7 5 6                                  0 0 0 0 0 1
6 RUNOFF 1 106       7       0.0142     72.0000      0.08000 0 0 0 0 1
6 ADDHYD 4 108   6 7 5                                  0 0 0 0 0 1
6 RESVOR 2     3 5   1    1020.1000                     0 0 0 0 0 1
6 RUNOFF 1 110       5       0.0267     92.0000      0.31000 0 0 0 0 1
6 RESVOR 2    40 5   6       0.0000                     0 0 0 0 0 1
6 REACH  3 112   6   7     700.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1 114       5       0.0159     85.0000      0.23000 0 0 0 0 1
6 RESVOR 2    45 5   6       0.0000                     0 0 0 0 0 1
6 ADDHYD 4 116   7 6 5                                  0 0 0 0 0 1
6 REACH  3 118   5   6     600.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1 120       7       0.0058     95.0000      0.28000 0 0 0 0 1
6 ADDHYD 4 121   6 7 5                                  0 0 0 0 0 1
6 RUNOFF 1 122       6       0.0175     84.0000      0.33000 0 0 0 0 1
6 ADDHYD 4 124   5 6 7                                  0 0 0 0 0 1
6 REACH  3 126   7   5     100.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1 128       6       0.0194     83.0000      0.39000 0 0 0 0 1
6 ADDHYD 4 130   5 6 7                                  0 0 0 0 0 1
6 REACH  3 132   7   5     500.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1 134       6       0.0348     84.0000      0.48000 0 0 0 0 1
6 ADDHYD 4 136   5 6 7                                  0 0 0 0 0 1
6 RUNOFF 1 138       5       0.0180     83.0000      0.35000 0 0 0 0 1
6 ADDHYD 4 140   7 5 6                                  0 0 0 0 0 1
6 REACH  3 142   6   4    1400.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1 144       5       0.0239     85.0000      0.31000 0 0 0 0 1
6 RESVOR 2    50 5   6       0.0000                     0 0 0 0 0 1
6 REACH  3 145   6   7    1600.0000      0.5400      0.00000 0 0 0 0 1
6 RUNOFF 1 146       5       0.0377     84.0000      0.43000 0 0 0 0 1
6 ADDHYD 4 148   7 5 6                                  0 0 0 0 0 1
6 ADDHYD 4 150   4 6 3                                  0 0 0 0 0 1
6 RUNOFF 1 152       5       0.0298     84.0000      0.39000 0 0 0 0 1
6 RUNOFF 1 154       6       0.0161     84.0000      0.33000 0 0 0 0 1
6 ADDHYD 4 156   5 6 7                                  0 0 0 0 0 1
6 REACH  3 158   7   5     900.0000      0.5400      0.00000 0 0 0 0 1
6 ADDHYD 4 160   3 5 6                                  0 0 0 0 0 1
6 RUNOFF 1 162       7       0.0270     83.0000      0.39000 0 0 0 0 1
6 ADDHYD 4 164   6 7 4                                  0 0 0 0 0 1
6 RUNOFF 1 166       5       0.0088     84.0000      0.30000 0 0 0 0 1
6 REACH  3 168   5   6     350.0000      0.6500      0.00000 0 0 0 0 1
6 RUNOFF 1 170       7       0.0098     84.0000      0.31000 0 0 0 0 1
6 ADDHYD 4 172   6 7 5                                  0 0 0 0 0 1
6 REACH  3 174   5   6     500.0000      0.6500      0.00000 0 0 0 0 1
6 RUNOFF 1 176       7       0.0153     83.0000      0.39000 0 0 0 0 1
6 ADDHYD 4 178   6 7 5                                  0 0 0 0 0 1
6 REACH  3 180   5   6     500.0000      0.7100      0.00000 0 0 0 0 1
6 RUNOFF 1 182       7       0.0208     83.0000      0.43000 0 0 0 0 1
6 ADDHYD 4 184   6 7 5                                  0 0 0 0 0 1
6 ADDHYD 4 186   4 5 6                                  0 0 0 0 0 1
6 RUNOFF 1 188       7       0.0270     72.0000      0.08000 0 0 0 0 1
6 ADDHYD 4 190   6 7 5                                  0 0 0 0 0 1
6 RESVOR 2     4 5   1    1009.0000                     0 0 0 0 0 1
  ENDATA


END OF LISTING
```

```
                                                                                    PASS=  1
EXECUTIVE CONTROL CARD          OPERATION  INCREM,    MAIN TIME INCREMENT=  0.20
EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT   0/  4
      STARTING TIME=  0.00     RAIN DEPTH=  2.53    RAIN DURATION=  1.00    RAIN TABLE NO.= 4     SOIL CONDITION= 2
      ALTERNATE NO.= 1         STORM NO.= 1


 ENDCMP
```

```
                                                                                PASS=  2
EXECUTIVE CONTROL CARD          OPERATION  COMPUT,     FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT   0/  4
      STARTING TIME=  0.00     RAIN DEPTH=  3.57     RAIN DURATION=  1.00     RAIN TABLE NO.= 4     SOIL CONDITION= 2
      ALTERNATE NO.= 1         STORM NO.= 2


 ENDCMP
```

```
                                                                                PASS=  3
EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0    TO XSECTN/STRUCT   0/  4
      STARTING TIME=  0.00    RAIN DEPTH=  4.04    RAIN DURATION=  1.00    RAIN TABLE NO.= 4    SOIL CONDITION= 2
      ALTERNATE NO.= 1        STORM NO.= 3


 ENDCMP
```

SUMMARY TABLE 1

O	ALT	STORM	ID	DA SQ-MI.	RAIN TBLE	AMC	DELTA-T HRS.	TZERO HRS.	PRECIP IN.	PRECIP DURATION	PEAK-Q CFS	PEAK-TIME	PEAK-ELEV	RUNOFF IN.	CSM
	1	1	2	0.03	4	2	0.20	0.00	2.53	24.00	21.17	12.55	0.00	1.08	620.83
	1	1	4	0.03	4	2	0.20	0.00	2.53	24.00	19.52	12.61	0.00	1.08	572.32
	1	1	6	0.04	4	2	0.20	0.00	2.53	24.00	23.09	12.53	0.00	1.08	630.93
	1	1	8	0.07	4	2	0.20	0.00	2.53	24.00	42.32	12.56	0.00	1.08	598.60
	1	1	10	0.07	4	2	0.20	0.00	2.53	24.00	41.54	12.57	0.00	1.08	587.52
	1	1	12	0.04	4	2	0.20	0.00	2.53	24.00	12.16	12.65	0.00	0.54	294.38
	1	1	14	0.11	4	2	0.20	0.00	2.53	24.00	53.41	12.59	0.00	0.88	476.89
	1	1	16	0.03	4	2	0.20	0.00	2.53	24.00	16.62	12.55	0.00	1.08	608.94
	1	1	18	0.03	4	2	0.20	0.00	2.53	24.00	16.02	12.58	0.00	1.08	586.70
	1	1	20	0.01	4	2	0.20	0.00	2.53	24.00	9.28	12.53	0.00	1.08	639.81
	1	1	22	0.04	4	2	0.20	0.00	2.53	24.00	25.22	12.56	0.00	1.08	603.36
	1	1	24	0.04	4	2	0.20	0.00	2.53	24.00	22.47	12.67	0.00	1.08	537.60
	1	1	26	0.02	4	2	0.20	0.00	2.53	24.00	13.69	12.53	0.00	1.08	630.93
	1	1	28	0.06	4	2	0.20	0.00	2.53	24.00	35.52	12.60	0.00	1.08	559.33
	1	1	30	0.06	4	2	0.20	0.00	2.53	24.00	35.08	12.61	0.00	1.08	552.47
	1	1	32	0.01	4	2	0.20	0.00	2.53	24.00	7.19	12.50	0.00	1.09	665.72
	1	1	34	0.07	4	2	0.20	0.00	2.53	24.00	41.88	12.58	0.00	1.08	563.72
	1	1	36	0.19	4	2	0.20	0.00	2.53	24.00	95.27	12.59	0.00	0.96	511.39
	1	1	38	0.03	4	2	0.20	0.00	2.53	24.00	11.16	12.45	0.00	0.55	368.39
	1	1	40	0.22	4	2	0.20	0.00	2.53	24.00	105.52	12.57	0.00	0.90	487.15
	1	1	42	0.02	4	2	0.20	0.00	2.53	24.00	12.78	12.52	0.00	1.09	655.46
	1	1	44	0.24	4	2	0.20	0.00	2.53	24.00	118.11	12.56	0.00	0.92	500.26
	1	1	46	0.04	4	2	0.20	0.00	2.53	24.00	15.10	12.35	0.00	0.50	420.64
	1	1	48	0.27	4	2	0.20	0.00	2.53	24.00	124.15	12.52	0.00	0.86	456.42
	1	1	50	0.31	4	2	0.20	0.00	2.53	24.00	117.94	12.66	0.00	0.76	384.16
	1	1	51	0.31	4	2	0.20	0.00	2.53	24.00	114.63	12.69	0.00	0.76	373.38
	1	1	52	0.03	4	2	0.20	0.00	2.53	24.00	17.91	12.53	0.00	1.08	639.81
	1	1	54	0.33	4	2	0.20	0.00	2.53	24.00	130.18	12.66	0.00	0.78	388.60
	1	1	56	0.00	4	2	0.20	0.00	2.53	24.00	1.34	12.32	0.00	2.00	1029.73
	1	1	58	0.34	4	2	0.20	0.00	2.53	24.00	130.98	12.65	0.00	0.79	389.48
	1	1	59	0.34	4	2	0.20	0.00	2.53	24.00	130.52	12.66	0.00	0.79	388.12
	1	1	60	0.01	4	2	0.20	0.00	2.53	24.00	4.77	12.47	0.00	1.09	635.42
	1	1	62	0.34	4	2	0.20	0.00	2.53	24.00	134.58	12.65	0.00	0.80	391.46
	1	1	63	0.34	4	2	0.20	0.00	2.53	24.00	131.09	12.68	0.00	0.80	381.31
	1	1	64	0.02	4	2	0.20	0.00	2.53	24.00	11.18	12.51	0.00	1.09	661.32
	1	1	66	0.36	4	2	0.20	0.00	2.53	24.00	140.46	12.65	0.00	0.81	389.42
	1	1	67	0.36	4	2	0.20	0.00	2.53	24.00	139.49	12.66	0.00	0.81	386.73
	1	1	68	0.01	4	2	0.20	0.00	2.53	24.00	4.06	12.45	0.00	1.10	643.74
	1	1	70	0.37	4	2	0.20	0.00	2.53	24.00	142.79	12.65	0.00	0.81	389.09
	1	1	71	0.37	4	2	0.20	0.00	2.53	24.00	138.28	12.69	0.00	0.81	376.78
	1	1	72	0.01	4	2	0.20	0.00	2.53	24.00	5.17	12.50	0.00	1.09	672.02
	1	1	74	0.37	4	2	0.20	0.00	2.53	24.00	142.26	12.67	0.00	0.82	379.67
	1	1	76	0.65	4	2	0.20	0.00	2.53	24.00	260.48	12.60	0.00	0.84	402.79
	1	1	-2	0.65	4	2	0.20	0.00	2.53	24.00	20.38	14.17	1023.08	0.84	31.51
	1	1	78	0.02	4	2	0.20	0.00	2.53	24.00	13.39	12.45	0.00	1.22	697.59
	1	1	-15	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.07	0.92
	1	1	79	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.07	0.92
	1	1	80	0.03	4	2	0.20	0.00	2.53	24.00	26.87	12.42	0.00	1.74	901.71
	1	1	-20	0.03	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.05	0.65
	1	1	82	0.05	4	2	0.20	0.00	2.53	24.00	0.04	0.00	0.00	0.05	0.76
	1	1	83	0.05	4	2	0.20	0.00	2.53	24.00	0.04	0.00	0.00	0.05	0.76
	1	1	84	0.03	4	2	0.20	0.00	2.53	24.00	21.60	12.50	0.00	1.15	701.38
	1	1	86	0.08	4	2	0.20	0.00	2.53	24.00	21.62	12.50	0.00	0.48	270.98
	1	1	-25	0.08	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.32
	1	1	87	0.08	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.32
	1	1	88	0.02	4	2	0.20	0.00	2.53	24.00	14.62	12.46	0.00	1.15	664.34
	1	1	90	0.10	4	2	0.20	0.00	2.53	24.00	14.63	12.46	0.00	0.27	143.68
	1	1	-30	0.10	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.26
	1	1	91	0.10	4	2	0.20	0.00	2.53	24.00	0.03	0.00	0.00	0.02	0.26
	1	1	92	0.01	4	2	0.20	0.00	2.53	24.00	6.70	12.51	0.00	1.15	690.87
	1	1	94	0.11	4	2	0.20	0.00	2.53	24.00	6.72	12.51	0.00	0.12	60.23

1	1	96	0.11	4	2	0.20	0.00	2.53	24.00	6.22	12.55	0.00	0.12	55.77
1	1	98	0.02	4	2	0.20	0.00	2.53	24.00	10.39	12.50	0.00	1.09	665.72
1	1	100	0.13	4	2	0.20	0.00	2.53	24.00	16.55	12.52	0.00	0.24	130.25
1	1	102	0.02	4	2	0.20	0.00	2.53	24.00	12.78	12.50	0.00	1.09	665.72
1	1	104	0.15	4	2	0.20	0.00	2.53	24.00	29.33	12.51	0.00	0.35	200.46
1	1	106	0.01	4	2	0.20	0.00	2.53	24.00	5.97	12.35	0.00	0.50	420.64
1	1	108	0.16	4	2	0.20	0.00	2.53	24.00	32.81	12.43	0.00	0.36	204.41
1	1	-3	0.16	4	2	0.20	0.00	2.53	24.00	1.70	14.99	1020.55	0.34	10.59
1	1	110	0.03	4	2	0.20	0.00	2.53	24.00	24.08	12.42	0.00	1.74	901.71
1	1	-40	0.03	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.06	0.82
1	1	112	0.03	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.06	0.82
1	1	114	0.02	4	2	0.20	0.00	2.53	24.00	11.26	12.41	0.00	1.22	708.38
1	1	-45	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.08	1.17
1	1	116	0.04	4	2	0.20	0.00	2.53	24.00	0.04	0.00	0.00	0.07	0.95
1	1	118	0.04	4	2	0.20	0.00	2.53	24.00	0.04	0.00	0.00	0.07	0.95
1	1	120	0.01	4	2	0.20	0.00	2.53	24.00	5.80	12.35	0.00	2.02	999.88
1	1	121	0.05	4	2	0.20	0.00	2.53	24.00	5.82	12.36	0.00	0.30	120.18
1	1	122	0.02	4	2	0.20	0.00	2.53	24.00	12.09	12.51	0.00	1.15	690.87
1	1	124	0.07	4	2	0.20	0.00	2.53	24.00	17.09	12.47	0.00	0.53	259.29
1	1	126	0.07	4	2	0.20	0.00	2.53	24.00	17.03	12.48	0.00	0.53	258.44
1	1	128	0.02	4	2	0.20	0.00	2.53	24.00	12.41	12.53	0.00	1.08	639.81
1	1	130	0.09	4	2	0.20	0.00	2.53	24.00	30.19	12.51	0.00	0.65	353.88
1	1	132	0.09	4	2	0.20	0.00	2.53	24.00	29.27	12.53	0.00	0.65	343.13
1	1	134	0.03	4	2	0.20	0.00	2.53	24.00	22.09	12.56	0.00	1.14	634.88
1	1	136	0.12	4	2	0.20	0.00	2.53	24.00	51.30	12.54	0.00	0.79	427.17
1	1	138	0.02	4	2	0.20	0.00	2.53	24.00	11.80	12.52	0.00	1.09	655.46
1	1	140	0.14	4	2	0.20	0.00	2.53	24.00	63.08	12.53	0.00	0.83	456.75
1	1	142	0.14	4	2	0.20	0.00	2.53	24.00	55.41	12.65	0.00	0.83	401.20
1	1	144	0.02	4	2	0.20	0.00	2.53	24.00	16.47	12.50	0.00	1.21	688.96
1	1	-50	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.07	0.96
1	1	145	0.02	4	2	0.20	0.00	2.53	24.00	0.02	0.00	0.00	0.07	0.96
1	1	146	0.04	4	2	0.20	0.00	2.53	24.00	24.64	12.54	0.00	1.14	653.52
1	1	148	0.06	4	2	0.20	0.00	2.53	24.00	24.65	12.54	0.00	0.72	400.11
1	1	150	0.20	4	2	0.20	0.00	2.53	24.00	79.05	12.60	0.00	0.80	395.86
1	1	152	0.03	4	2	0.20	0.00	2.53	24.00	19.95	12.53	0.00	1.14	669.57
1	1	154	0.02	4	2	0.20	0.00	2.53	24.00	11.12	12.51	0.00	1.15	690.87
1	1	156	0.05	4	2	0.20	0.00	2.53	24.00	31.06	12.52	0.00	1.15	676.74
1	1	158	0.05	4	2	0.20	0.00	2.53	24.00	28.69	12.57	0.00	1.14	625.14
1	1	160	0.25	4	2	0.20	0.00	2.53	24.00	107.64	12.59	0.00	0.86	438.28
1	1	162	0.03	4	2	0.20	0.00	2.53	24.00	17.27	12.53	0.00	1.08	639.81
1	1	164	0.27	4	2	0.20	0.00	2.53	24.00	124.58	12.58	0.00	0.88	457.01
1	1	166	0.01	4	2	0.20	0.00	2.53	24.00	6.17	12.50	0.00	1.15	701.38
1	1	168	0.01	4	2	0.20	0.00	2.53	24.00	6.09	12.51	0.00	1.15	692.04
1	1	170	0.01	4	2	0.20	0.00	2.53	24.00	6.81	12.50	0.00	1.15	695.10
1	1	172	0.02	4	2	0.20	0.00	2.53	24.00	12.90	12.50	0.00	1.15	693.62
1	1	174	0.02	4	2	0.20	0.00	2.53	24.00	12.65	12.51	0.00	1.15	679.99
1	1	176	0.02	4	2	0.20	0.00	2.53	24.00	9.79	12.53	0.00	1.08	639.81
1	1	178	0.03	4	2	0.20	0.00	2.53	24.00	22.43	12.52	0.00	1.12	661.63
1	1	180	0.03	4	2	0.20	0.00	2.53	24.00	22.04	12.53	0.00	1.12	650.17
1	1	182	0.02	4	2	0.20	0.00	2.53	24.00	12.97	12.54	0.00	1.08	623.77
1	1	184	0.05	4	2	0.20	0.00	2.53	24.00	35.01	12.53	0.00	1.10	640.00
1	1	186	0.33	4	2	0.20	0.00	2.53	24.00	159.29	12.57	0.00	0.92	486.67
1	1	188	0.03	4	2	0.20	0.00	2.53	24.00	11.36	12.35	0.00	0.50	420.64
1	1	190	0.35	4	2	0.20	0.00	2.53	24.00	163.36	12.54	0.00	0.89	461.07
1	1	-4	0.35	4	2	0.20	0.00	2.53	24.00	16.56	13.13	1012.70	0.89	46.75
1	2	2	0.03	4	2	0.20	0.00	3.57	24.00	36.23	12.53	0.00	1.92	1062.37
1	2	4	0.03	4	2	0.20	0.00	3.57	24.00	33.89	12.59	0.00	1.92	993.70
1	2	6	0.04	4	2	0.20	0.00	3.57	24.00	39.39	12.52	0.00	1.92	1076.28
1	2	8	0.07	4	2	0.20	0.00	3.57	24.00	72.92	12.54	0.00	1.92	1031.39
1	2	10	0.07	4	2	0.20	0.00	3.57	24.00	71.81	12.55	0.00	1.92	1015.73
1	2	12	0.04	4	2	0.20	0.00	3.57	24.00	25.90	12.62	0.00	1.17	627.18
1	2	14	0.11	4	2	0.20	0.00	3.57	24.00	97.35	12.57	0.00	1.64	869.21
1	2	16	0.03	4	2	0.20	0.00	3.57	24.00	28.54	12.53	0.00	1.92	1045.26
1	2	18	0.03	4	2	0.20	0.00	3.57	24.00	27.69	12.56	0.00	1.92	1014.14
1	2	20	0.01	4	2	0.20	0.00	3.57	24.00	15.78	12.51	0.00	1.92	1088.57
1	2	22	0.04	4	2	0.20	0.00	3.57	24.00	43.38	12.54	0.00	1.92	1037.84

1	2	24	0.04	4	2	0.20	0.00	3.57	24.00	39.34	12.64	0.00	1.91	941.17
1	2	26	0.02	4	2	0.20	0.00	3.57	24.00	23.36	12.52	0.00	1.92	1076.28
1	2	28	0.06	4	2	0.20	0.00	3.57	24.00	61.86	12.57	0.00	1.92	974.20
1	2	30	0.06	4	2	0.20	0.00	3.57	24.00	61.22	12.58	0.00	1.92	964.10
1	2	32	0.01	4	2	0.20	0.00	3.57	24.00	11.55	12.47	0.00	1.94	1069.46
1	2	34	0.07	4	2	0.20	0.00	3.57	24.00	72.83	12.56	0.00	1.92	980.21
1	2	36	0.19	4	2	0.20	0.00	3.57	24.00	170.15	12.57	0.00	1.75	913.32
1	2	38	0.03	4	2	0.20	0.00	3.57	24.00	22.73	12.41	0.00	1.18	750.14
1	2	40	0.22	4	2	0.20	0.00	3.57	24.00	190.80	12.55	0.00	1.67	880.89
1	2	42	0.02	4	2	0.20	0.00	3.57	24.00	21.63	12.50	0.00	1.93	1109.31
1	2	44	0.24	4	2	0.20	0.00	3.57	24.00	212.23	12.54	0.00	1.69	898.91
1	2	46	0.04	4	2	0.20	0.00	3.57	24.00	30.36	12.34	0.00	1.10	845.70
1	2	48	0.27	4	2	0.20	0.00	3.57	24.00	225.89	12.48	0.00	1.62	830.47
1	2	50	0.31	4	2	0.20	0.00	3.57	24.00	228.06	12.63	0.00	1.48	742.88
1	2	51	0.31	4	2	0.20	0.00	3.57	24.00	222.51	12.66	0.00	1.48	724.79
1	2	52	0.03	4	2	0.20	0.00	3.57	24.00	30.48	12.51	0.00	1.92	1088.57
1	2	54	0.33	4	2	0.20	0.00	3.57	24.00	250.08	12.63	0.00	1.52	746.52
1	2	56	0.00	4	2	0.20	0.00	3.57	24.00	1.95	12.31	0.00	3.03	1501.77
1	2	58	0.34	4	2	0.20	0.00	3.57	24.00	251.37	12.63	0.00	1.52	747.45
1	2	59	0.34	4	2	0.20	0.00	3.57	24.00	250.62	12.63	0.00	1.52	745.24
1	2	60	0.01	4	2	0.20	0.00	3.57	24.00	8.09	12.43	0.00	1.94	1078.26
1	2	62	0.34	4	2	0.20	0.00	3.57	24.00	257.80	12.62	0.00	1.53	749.84
1	2	63	0.34	4	2	0.20	0.00	3.57	24.00	252.08	12.65	0.00	1.53	733.22
1	2	64	0.02	4	2	0.20	0.00	3.57	24.00	17.98	12.49	0.00	1.93	1063.86
1	2	66	0.36	4	2	0.20	0.00	3.57	24.00	268.60	12.63	0.00	1.55	744.65
1	2	67	0.36	4	2	0.20	0.00	3.57	24.00	267.01	12.63	0.00	1.55	740.27
1	2	68	0.01	4	2	0.20	0.00	3.57	24.00	6.87	12.41	0.00	1.95	1091.08
1	2	70	0.37	4	2	0.20	0.00	3.57	24.00	272.84	12.63	0.00	1.56	743.43
1	2	71	0.37	4	2	0.20	0.00	3.57	24.00	265.38	12.66	0.00	1.56	723.11
1	2	72	0.01	4	2	0.20	0.00	3.57	24.00	8.27	12.47	0.00	1.94	1074.59
1	2	74	0.37	4	2	0.20	0.00	3.57	24.00	272.50	12.65	0.00	1.56	727.24
1	2	76	0.65	4	2	0.20	0.00	3.57	24.00	487.61	12.57	0.00	1.59	753.99
1	2	-2	0.65	4	2	0.20	0.00	3.57	24.00	24.88	15.20	1023.98	1.58	38.47
1	2	78	0.02	4	2	0.20	0.00	3.57	24.00	22.10	12.42	0.00	2.11	1151.23
1	2	-15	0.02	4	2	0.20	0.00	3.57	24.00	0.03	0.00	0.00	0.11	1.50
1	2	79	0.02	4	2	0.20	0.00	3.57	24.00	0.03	0.00	0.00	0.11	1.50
1	2	80	0.03	4	2	0.20	0.00	3.57	24.00	40.70	12.39	0.00	2.73	1365.93
1	2	-20	0.03	4	2	0.20	0.00	3.57	24.00	0.03	0.00	0.00	0.07	1.00
1	2	82	0.05	4	2	0.20	0.00	3.57	24.00	0.06	0.00	0.00	0.09	1.19
1	2	83	0.05	4	2	0.20	0.00	3.57	24.00	0.06	0.00	0.00	0.09	1.19
1	2	84	0.03	4	2	0.20	0.00	3.57	24.00	34.12	12.46	0.00	2.02	1107.95
1	2	86	0.08	4	2	0.20	0.00	3.57	24.00	34.16	12.46	0.00	0.83	428.03
1	2	-25	0.08	4	2	0.20	0.00	3.57	24.00	7.72	13.03	3.04	0.28	96.70
1	2	87	0.08	4	2	0.20	0.00	3.57	24.00	6.29	13.09	0.00	0.28	78.77
1	2	88	0.02	4	2	0.20	0.00	3.57	24.00	24.47	12.43	0.00	2.02	1112.36
1	2	90	0.10	4	2	0.20	0.00	3.57	24.00	24.49	12.43	0.00	0.66	240.57
1	2	-30	0.10	4	2	0.20	0.00	3.57	24.00	13.54	12.86	3.07	0.37	132.96
1	2	91	0.10	4	2	0.20	0.00	3.57	24.00	12.26	12.88	0.00	0.37	120.41
1	2	92	0.01	4	2	0.20	0.00	3.57	24.00	10.64	12.48	0.00	2.01	1097.06
1	2	94	0.11	4	2	0.20	0.00	3.57	24.00	15.87	12.81	0.00	0.51	142.36
1	2	96	0.11	4	2	0.20	0.00	3.57	24.00	13.70	12.89	0.00	0.52	122.84
1	2	98	0.02	4	2	0.20	0.00	3.57	24.00	16.68	12.47	0.00	1.94	1069.46
1	2	100	0.13	4	2	0.20	0.00	3.57	24.00	27.19	12.51	0.00	0.69	213.94
1	2	102	0.02	4	2	0.20	0.00	3.57	24.00	20.53	12.47	0.00	1.94	1069.46
1	2	104	0.15	4	2	0.20	0.00	3.57	24.00	47.31	12.49	0.00	0.85	323.36
1	2	106	0.01	4	2	0.20	0.00	3.57	24.00	12.01	12.34	0.00	1.10	845.70
1	2	108	0.16	4	2	0.20	0.00	3.57	24.00	58.00	12.40	0.00	0.88	361.37
1	2	-3	0.16	4	2	0.20	0.00	3.57	24.00	3.89	15.30	1021.14	0.82	24.22
1	2	110	0.03	4	2	0.20	0.00	3.57	24.00	36.47	12.39	0.00	2.73	1365.93
1	2	-40	0.03	4	2	0.20	0.00	3.57	24.00	1.15	15.22	3.01	0.37	43.11
1	2	112	0.03	4	2	0.20	0.00	3.57	24.00	1.07	15.29	0.00	0.37	40.08
1	2	114	0.02	4	2	0.20	0.00	3.57	24.00	18.59	12.38	0.00	2.11	1169.06
1	2	-45	0.02	4	2	0.20	0.00	3.57	24.00	0.32	23.94	3.00	0.17	20.00
1	2	116	0.04	4	2	0.20	0.00	3.57	24.00	1.10	15.29	0.00	0.30	25.76
1	2	118	0.04	4	2	0.20	0.00	3.57	24.00	1.03	15.39	0.00	0.30	24.08
1	2	120	0.01	4	2	0.20	0.00	3.57	24.00	8.49	12.34	0.00	3.04	1463.42

1	2	121	0.05	4	2	0.20	0.00	3.57	24.00	8.52	12.34	0.00	0.63	175.93
1	2	122	0.02	4	2	0.20	0.00	3.57	24.00	19.20	12.48	0.00	2.01	1097.06
1	2	124	0.07	4	2	0.20	0.00	3.57	24.00	27.49	12.44	0.00	1.00	417.12
1	2	126	0.07	4	2	0.20	0.00	3.57	24.00	27.41	12.44	0.00	0.99	415.90
1	2	128	0.02	4	2	0.20	0.00	3.57	24.00	21.12	12.51	0.00	1.92	1088.57
1	2	130	0.09	4	2	0.20	0.00	3.57	24.00	47.49	12.49	0.00	1.21	556.69
1	2	132	0.09	4	2	0.20	0.00	3.57	24.00	48.39	12.51	0.00	1.20	567.34
1	2	134	0.03	4	2	0.20	0.00	3.57	24.00	37.42	12.54	0.00	1.99	1075.33
1	2	136	0.12	4	2	0.20	0.00	3.57	24.00	85.74	12.52	0.00	1.43	713.93
1	2	138	0.02	4	2	0.20	0.00	3.57	24.00	19.97	12.50	0.00	1.93	1109.30
1	2	140	0.14	4	2	0.20	0.00	3.57	24.00	105.68	12.52	0.00	1.50	765.23
1	2	142	0.14	4	2	0.20	0.00	3.57	24.00	94.68	12.63	0.00	1.49	685.56
1	2	144	0.02	4	2	0.20	0.00	3.57	24.00	27.16	12.45	0.00	2.10	1136.51
1	2	-50	0.02	4	2	0.20	0.00	3.57	24.00	3.40	13.24	3.02	0.57	142.09
1	2	145	0.02	4	2	0.20	0.00	3.57	24.00	2.57	13.47	0.00	0.57	107.51
1	2	146	0.04	4	2	0.20	0.00	3.57	24.00	41.51	12.52	0.00	2.00	1101.14
1	2	148	0.06	4	2	0.20	0.00	3.57	24.00	41.53	12.52	0.00	1.45	674.17
1	2	150	0.20	4	2	0.20	0.00	3.57	24.00	134.91	12.58	0.00	1.48	675.55
1	2	152	0.03	4	2	0.20	0.00	3.57	24.00	33.47	12.51	0.00	2.00	1123.06
1	2	154	0.02	4	2	0.20	0.00	3.57	24.00	17.66	12.48	0.00	2.01	1097.06
1	2	156	0.05	4	2	0.20	0.00	3.57	24.00	51.97	12.50	0.00	2.01	1132.34
1	2	158	0.05	4	2	0.20	0.00	3.57	24.00	48.78	12.55	0.00	2.00	1062.75
1	2	160	0.25	4	2	0.20	0.00	3.57	24.00	183.53	12.57	0.00	1.57	747.28
1	2	162	0.03	4	2	0.20	0.00	3.57	24.00	29.39	12.51	0.00	1.92	1088.57
1	2	164	0.27	4	2	0.20	0.00	3.57	24.00	212.49	12.56	0.00	1.61	779.49
1	2	166	0.01	4	2	0.20	0.00	3.57	24.00	9.75	12.46	0.00	2.02	1107.95
1	2	168	0.01	4	2	0.20	0.00	3.57	24.00	9.67	12.48	0.00	2.02	1099.01
1	2	170	0.01	4	2	0.20	0.00	3.57	24.00	10.81	12.46	0.00	2.02	1102.94
1	2	172	0.02	4	2	0.20	0.00	3.57	24.00	20.48	12.47	0.00	2.02	1100.94
1	2	174	0.02	4	2	0.20	0.00	3.57	24.00	20.25	12.50	0.00	2.01	1088.62
1	2	176	0.02	4	2	0.20	0.00	3.57	24.00	16.66	12.51	0.00	1.92	1088.57
1	2	178	0.03	4	2	0.20	0.00	3.57	24.00	37.78	12.51	0.00	1.97	1114.47
1	2	180	0.03	4	2	0.20	0.00	3.57	24.00	37.27	12.51	0.00	1.97	1099.40
1	2	182	0.02	4	2	0.20	0.00	3.57	24.00	22.18	12.52	0.00	1.92	1066.39
1	2	184	0.05	4	2	0.20	0.00	3.57	24.00	59.44	12.52	0.00	1.95	1086.69
1	2	186	0.33	4	2	0.20	0.00	3.57	24.00	271.53	12.55	0.00	1.67	829.61
1	2	188	0.03	4	2	0.20	0.00	3.57	24.00	22.83	12.34	0.00	1.10	845.70
1	2	190	0.35	4	2	0.20	0.00	3.57	24.00	280.96	12.51	0.00	1.62	793.00
1	2	-4	0.35	4	2	0.20	0.00	3.57	24.00	16.75	21.58	1013.32	1.62	47.28
1	3	2	0.03	4	2	0.20	0.00	4.04	24.00	43.24	12.52	0.00	2.33	1268.17
1	3	4	0.03	4	2	0.20	0.00	4.04	24.00	40.63	12.58	0.00	2.32	1191.51
1	3	6	0.04	4	2	0.20	0.00	4.04	24.00	46.98	12.51	0.00	2.32	1283.56
1	3	8	0.07	4	2	0.20	0.00	4.04	24.00	87.23	12.54	0.00	2.32	1233.75
1	3	10	0.07	4	2	0.20	0.00	4.04	24.00	85.99	12.55	0.00	2.32	1216.28
1	3	12	0.04	4	2	0.20	0.00	4.04	24.00	32.83	12.61	0.00	1.49	794.80
1	3	14	0.11	4	2	0.20	0.00	4.04	24.00	118.42	12.57	0.00	2.01	1057.33
1	3	16	0.03	4	2	0.20	0.00	4.04	24.00	34.10	12.53	0.00	2.32	1248.94
1	3	18	0.03	4	2	0.20	0.00	4.04	24.00	33.15	12.55	0.00	2.32	1214.33
1	3	20	0.01	4	2	0.20	0.00	4.04	24.00	18.81	12.51	0.00	2.33	1297.20
1	3	22	0.04	4	2	0.20	0.00	4.04	24.00	51.87	12.53	0.00	2.32	1240.84
1	3	24	0.04	4	2	0.20	0.00	4.04	24.00	47.29	12.63	0.00	2.32	1131.40
1	3	26	0.02	4	2	0.20	0.00	4.04	24.00	27.85	12.51	0.00	2.32	1283.56
1	3	28	0.06	4	2	0.20	0.00	4.04	24.00	74.24	12.57	0.00	2.32	1169.09
1	3	30	0.06	4	2	0.20	0.00	4.04	24.00	73.51	12.58	0.00	2.32	1157.63
1	3	32	0.01	4	2	0.20	0.00	4.04	24.00	13.76	12.46	0.00	2.35	1273.77
1	3	34	0.07	4	2	0.20	0.00	4.04	24.00	87.35	12.55	0.00	2.32	1175.67
1	3	36	0.19	4	2	0.20	0.00	4.04	24.00	205.74	12.56	0.00	2.14	1104.36
1	3	38	0.03	4	2	0.20	0.00	4.04	24.00	28.46	12.40	0.00	1.51	939.12
1	3	40	0.22	4	2	0.20	0.00	4.04	24.00	231.54	12.54	0.00	2.05	1069.00
1	3	42	0.02	4	2	0.20	0.00	4.04	24.00	24.58	12.50	0.00	2.34	1260.42
1	3	44	0.24	4	2	0.20	0.00	4.04	24.00	257.08	12.53	0.00	2.07	1088.85
1	3	46	0.04	4	2	0.20	0.00	4.04	24.00	37.83	12.33	0.00	1.41	1053.84
1	3	48	0.27	4	2	0.20	0.00	4.04	24.00	275.73	12.47	0.00	1.98	1013.72
1	3	50	0.31	4	2	0.20	0.00	4.04	24.00	281.92	12.62	0.00	1.84	918.32
1	3	51	0.31	4	2	0.20	0.00	4.04	24.00	275.41	12.65	0.00	1.84	897.10
1	3	52	0.03	4	2	0.20	0.00	4.04	24.00	36.32	12.51	0.00	2.33	1297.20

1	3	54	0.33	4	2	0.20	0.00	4.04	24.00	308.62	12.62	0.00	1.88	921.25
1	3	56	0.00	4	2	0.20	0.00	4.04	24.00	2.23	12.31	0.00	3.50	1713.54
1	3	58	0.34	4	2	0.20	0.00	4.04	24.00	310.12	12.62	0.00	1.89	922.17
1	3	59	0.34	4	2	0.20	0.00	4.04	24.00	309.26	12.62	0.00	1.89	919.59
1	3	60	0.01	4	2	0.20	0.00	4.04	24.00	9.64	12.42	0.00	2.35	1284.87
1	3	62	0.34	4	2	0.20	0.00	4.04	24.00	317.89	12.61	0.00	1.90	924.65
1	3	63	0.34	4	2	0.20	0.00	4.04	24.00	311.22	12.64	0.00	1.90	905.23
1	3	64	0.02	4	2	0.20	0.00	4.04	24.00	21.41	12.48	0.00	2.34	1266.92
1	3	66	0.36	4	2	0.20	0.00	4.04	24.00	331.09	12.62	0.00	1.92	917.92
1	3	67	0.36	4	2	0.20	0.00	4.04	24.00	329.25	12.62	0.00	1.92	912.80
1	3	68	0.01	4	2	0.20	0.00	4.04	24.00	8.19	12.40	0.00	2.36	1299.47
1	3	70	0.37	4	2	0.20	0.00	4.04	24.00	336.26	12.62	0.00	1.92	916.24
1	3	71	0.37	4	2	0.20	0.00	4.04	24.00	327.52	12.65	0.00	1.92	892.44
1	3	72	0.01	4	2	0.20	0.00	4.04	24.00	9.85	12.45	0.00	2.35	1279.33
1	3	74	0.37	4	2	0.20	0.00	4.04	24.00	336.12	12.64	0.00	1.93	897.04
1	3	76	0.65	4	2	0.20	0.00	4.04	24.00	597.90	12.56	0.00	1.95	924.54
1	3	-2	0.65	4	2	0.20	0.00	4.04	24.00	26.14	15.31	1024.38	1.95	40.43
1	3	78	0.02	4	2	0.20	0.00	4.04	24.00	26.13	12.41	0.00	2.53	1360.73
1	3	-15	0.02	4	2	0.20	0.00	4.04	24.00	1.11	15.04	3.01	0.43	57.72
1	3	79	0.02	4	2	0.20	0.00	4.04	24.00	1.07	15.08	0.00	0.43	55.78
1	3	80	0.03	4	2	0.20	0.00	4.04	24.00	46.94	12.38	0.00	3.19	1575.30
1	3	-20	0.03	4	2	0.20	0.00	4.04	24.00	1.98	14.90	3.01	0.50	66.39
1	3	82	0.05	4	2	0.20	0.00	4.04	24.00	3.00	15.03	0.00	0.47	61.29
1	3	83	0.05	4	2	0.20	0.00	4.04	24.00	2.97	15.05	0.00	0.47	60.53
1	3	84	0.03	4	2	0.20	0.00	4.04	24.00	40.47	12.45	0.00	2.44	1314.09
1	3	86	0.08	4	2	0.20	0.00	4.04	24.00	40.51	12.45	0.00	1.23	507.65
1	3	-25	0.08	4	2	0.20	0.00	4.04	24.00	23.02	12.82	3.12	0.67	288.51
1	3	87	0.08	4	2	0.20	0.00	4.04	24.00	18.14	12.88	0.00	0.67	227.35
1	3	88	0.02	4	2	0.20	0.00	4.04	24.00	29.05	12.41	0.00	2.43	1320.35
1	3	90	0.10	4	2	0.20	0.00	4.04	24.00	31.29	12.56	0.00	1.05	307.33
1	3	-30	0.10	4	2	0.20	0.00	4.04	24.00	29.01	12.82	3.14	0.78	284.97
1	3	91	0.10	4	2	0.20	0.00	4.04	24.00	28.06	12.85	0.00	0.78	275.67
1	3	92	0.01	4	2	0.20	0.00	4.04	24.00	12.63	12.47	0.00	2.43	1301.58
1	3	94	0.11	4	2	0.20	0.00	4.04	24.00	33.09	12.77	0.00	0.92	296.74
1	3	96	0.11	4	2	0.20	0.00	4.04	24.00	30.51	12.87	0.00	0.92	273.62
1	3	98	0.02	4	2	0.20	0.00	4.04	24.00	19.87	12.46	0.00	2.35	1273.77
1	3	100	0.13	4	2	0.20	0.00	4.04	24.00	40.82	12.65	0.00	1.09	321.16
1	3	102	0.02	4	2	0.20	0.00	4.04	24.00	24.46	12.46	0.00	2.35	1273.77
1	3	104	0.15	4	2	0.20	0.00	4.04	24.00	64.32	12.56	0.00	1.26	439.63
1	3	106	0.01	4	2	0.20	0.00	4.04	24.00	14.96	12.33	0.00	1.41	1053.84
1	3	108	0.16	4	2	0.20	0.00	4.04	24.00	70.41	12.46	0.00	1.27	438.70
1	3	-3	0.16	4	2	0.20	0.00	4.04	24.00	5.40	15.62	1021.54	1.19	33.62
1	3	110	0.03	4	2	0.20	0.00	4.04	24.00	42.06	12.38	0.00	3.19	1575.30
1	3	-40	0.03	4	2	0.20	0.00	4.04	24.00	7.79	13.06	3.04	0.84	291.64
1	3	112	0.03	4	2	0.20	0.00	4.04	24.00	6.20	13.18	0.00	0.83	232.37
1	3	114	0.02	4	2	0.20	0.00	4.04	24.00	21.96	12.37	0.00	2.53	1381.42
1	3	-45	0.02	4	2	0.20	0.00	4.04	24.00	1.41	13.65	3.01	0.59	88.46
1	3	116	0.04	4	2	0.20	0.00	4.04	24.00	6.24	13.23	0.00	0.74	146.52
1	3	118	0.04	4	2	0.20	0.00	4.04	24.00	6.07	13.29	0.00	0.74	142.39
1	3	120	0.01	4	2	0.20	0.00	4.04	24.00	9.70	12.33	0.00	3.51	1671.57
1	3	121	0.05	4	2	0.20	0.00	4.04	24.00	9.73	12.33	0.00	1.07	200.97
1	3	122	0.02	4	2	0.20	0.00	4.04	24.00	22.78	12.47	0.00	2.43	1301.58
1	3	124	0.07	4	2	0.20	0.00	4.04	24.00	32.28	12.43	0.00	1.43	489.89
1	3	126	0.07	4	2	0.20	0.00	4.04	24.00	32.19	12.43	0.00	1.43	488.52
1	3	128	0.02	4	2	0.20	0.00	4.04	24.00	25.17	12.51	0.00	2.33	1297.20
1	3	130	0.09	4	2	0.20	0.00	4.04	24.00	56.14	12.47	0.00	1.63	658.14
1	3	132	0.09	4	2	0.20	0.00	4.04	24.00	57.20	12.51	0.00	1.63	670.54
1	3	134	0.03	4	2	0.20	0.00	4.04	24.00	44.54	12.53	0.00	2.40	1279.99
1	3	136	0.12	4	2	0.20	0.00	4.04	24.00	101.67	12.52	0.00	1.85	846.50
1	3	138	0.02	4	2	0.20	0.00	4.04	24.00	22.69	12.50	0.00	2.34	1260.42
1	3	140	0.14	4	2	0.20	0.00	4.04	24.00	125.39	12.51	0.00	1.92	907.94
1	3	142	0.14	4	2	0.20	0.00	4.04	24.00	113.07	12.62	0.00	1.91	818.78
1	3	144	0.02	4	2	0.20	0.00	4.04	24.00	32.11	12.44	0.00	2.52	1343.50
1	3	-50	0.02	4	2	0.20	0.00	4.04	24.00	17.32	12.84	3.09	0.94	724.48
1	3	145	0.02	4	2	0.20	0.00	4.04	24.00	11.08	13.05	0.00	0.99	463.41
1	3	146	0.04	4	2	0.20	0.00	4.04	24.00	49.34	12.52	0.00	2.41	1308.65

1	3	148	0.06	4	2	0.20	0.00	4.04	24.00	48.81	12.52	0.00	1.86	792.37
1	3	150	0.20	4	2	0.20	0.00	4.04	24.00	160.77	12.58	0.00	1.89	805.08
1	3	152	0.03	4	2	0.20	0.00	4.04	24.00	39.72	12.51	0.00	2.42	1332.85
1	3	154	0.02	4	2	0.20	0.00	4.04	24.00	20.96	12.47	0.00	2.43	1301.58
1	3	156	0.05	4	2	0.20	0.00	4.04	24.00	61.64	12.50	0.00	2.42	1342.88
1	3	158	0.05	4	2	0.20	0.00	4.04	24.00	58.13	12.54	0.00	2.41	1266.49
1	3	160	0.25	4	2	0.20	0.00	4.04	24.00	218.64	12.57	0.00	1.99	890.22
1	3	162	0.03	4	2	0.20	0.00	4.04	24.00	35.02	12.51	0.00	2.33	1297.20
1	3	164	0.27	4	2	0.20	0.00	4.04	24.00	253.11	12.56	0.00	2.02	928.49
1	3	166	0.01	4	2	0.20	0.00	4.04	24.00	11.56	12.45	0.00	2.44	1314.09
1	3	168	0.01	4	2	0.20	0.00	4.04	24.00	11.47	12.46	0.00	2.43	1303.92
1	3	170	0.01	4	2	0.20	0.00	4.04	24.00	12.83	12.45	0.00	2.43	1308.69
1	3	172	0.02	4	2	0.20	0.00	4.04	24.00	24.30	12.46	0.00	2.43	1306.28
1	3	174	0.02	4	2	0.20	0.00	4.04	24.00	24.03	12.48	0.00	2.42	1292.16
1	3	176	0.02	4	2	0.20	0.00	4.04	24.00	19.85	12.51	0.00	2.33	1297.20
1	3	178	0.03	4	2	0.20	0.00	4.04	24.00	44.89	12.50	0.00	2.38	1324.25
1	3	180	0.03	4	2	0.20	0.00	4.04	24.00	44.34	12.51	0.00	2.38	1307.89
1	3	182	0.02	4	2	0.20	0.00	4.04	24.00	26.47	12.52	0.00	2.33	1272.62
1	3	184	0.05	4	2	0.20	0.00	4.04	24.00	70.80	12.51	0.00	2.36	1294.29
1	3	186	0.33	4	2	0.20	0.00	4.04	24.00	323.40	12.54	0.00	2.08	988.08
1	3	188	0.03	4	2	0.20	0.00	4.04	24.00	28.45	12.33	0.00	1.41	1053.84
1	3	190	0.35	4	2	0.20	0.00	4.04	24.00	335.63	12.51	0.00	2.03	947.31
1	3	-4	0.35	4	2	0.20	0.00	4.04	24.00	16.76	27.59	1013.35	2.03	47.30

SUMMARY TABLE 3

	DISCHARGE,CFS									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
OXSEC/STRUC NO.-50										
ALTERNATE 1	0.02	3.40	17.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-45										
ALTERNATE 1	0.02	0.32	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-40										
ALTERNATE 1	0.02	1.15	7.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-30										
ALTERNATE 1	0.03	13.54	29.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-25										
ALTERNATE 1	0.03	7.72	23.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-20										
ALTERNATE 1	0.02	0.03	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.-15										
ALTERNATE 1	0.02	0.03	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. -4										
ALTERNATE 1	16.56	16.75	16.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. -3										
ALTERNATE 1	1.70	3.89	5.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. -2										
ALTERNATE 1	20.38	24.88	26.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 2										
ALTERNATE 1	21.17	36.23	43.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 4										
ALTERNATE 1	19.52	33.89	40.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 6										
ALTERNATE 1	23.09	39.39	46.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 8										
ALTERNATE 1	42.32	72.92	87.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 10										
ALTERNATE 1	41.54	71.81	85.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 12										
ALTERNATE 1	12.16	25.90	32.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 14										
ALTERNATE 1	53.41	97.35	118.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 16										
ALTERNATE 1	16.62	28.54	34.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 18										
ALTERNATE 1	16.02	27.69	33.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 20										
ALTERNATE 1	9.28	15.78	18.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 22										
ALTERNATE 1	25.22	43.38	51.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 24										
ALTERNATE 1	22.47	39.34	47.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 26										
ALTERNATE 1	13.69	23.36	27.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 28										
ALTERNATE 1	35.52	61.86	74.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 30										
ALTERNATE 1	35.08	61.22	73.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 32										
ALTERNATE 1	7.19	11.55	13.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 34										
ALTERNATE 1	41.88	72.83	87.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 36										
ALTERNATE 1	95.27	170.15	205.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 38										
ALTERNATE 1	11.16	22.73	28.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 40										

ALTERNATE 1	105.52	190.80	231.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 42										
ALTERNATE 1	12.78	21.63	24.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 44										
ALTERNATE 1	118.11	212.23	257.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 46										
ALTERNATE 1	15.10	30.36	37.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 48										
ALTERNATE 1	124.15	225.89	275.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 50										
ALTERNATE 1	117.94	228.06	281.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 51										
ALTERNATE 1	114.63	222.51	275.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 52										
ALTERNATE 1	17.91	30.48	36.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 54										
ALTERNATE 1	130.18	250.08	308.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 56										
ALTERNATE 1	1.34	1.95	2.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 58										
ALTERNATE 1	130.98	251.37	310.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 59										
ALTERNATE 1	130.52	250.62	309.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 60										
ALTERNATE 1	4.77	8.09	9.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 62										
ALTERNATE 1	134.58	257.80	317.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 63										
ALTERNATE 1	131.09	252.08	311.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 64										
ALTERNATE 1	11.18	17.98	21.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 66										
ALTERNATE 1	140.46	268.50	331.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 67										
ALTERNATE 1	139.49	267.01	329.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 68										
ALTERNATE 1	4.06	6.87	8.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 70										
ALTERNATE 1	142.79	272.84	336.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 71										
ALTERNATE 1	138.28	265.38	327.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 72										
ALTERNATE 1	5.17	8.27	9.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 74										
ALTERNATE 1	142.26	272.50	336.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 76										
ALTERNATE 1	260.48	487.61	597.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 78										
ALTERNATE 1	13.39	22.10	26.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 79										
ALTERNATE 1	0.02	0.03	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 80										
ALTERNATE 1	26.87	40.70	46.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 82										
ALTERNATE 1	0.04	0.06	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 83										
ALTERNATE 1	0.04	0.06	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 84										
ALTERNATE 1	21.60	34.12	40.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 86										
ALTERNATE 1	21.62	34.16	40.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 87										
ALTERNATE 1	0.03	6.29	18.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 88										
ALTERNATE 1	14.62	24.47	29.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 90										

ALTERNATE 1	14.63	24.49	31.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 91										
ALTERNATE 1	0.03	12.26	28.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 92										
ALTERNATE 1	6.70	10.64	12.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 94										
ALTERNATE 1	6.72	15.87	33.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 96										
ALTERNATE 1	6.22	13.70	30.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 98										
ALTERNATE 1	10.39	16.68	19.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.100										
ALTERNATE 1	16.55	27.19	40.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.102										
ALTERNATE 1	12.78	20.53	24.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.104										
ALTERNATE 1	29.33	47.31	64.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.106										
ALTERNATE 1	5.97	12.01	14.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.108										
ALTERNATE 1	32.81	58.00	70.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.110										
ALTERNATE 1	24.08	36.47	42.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.112										
ALTERNATE 1	0.02	1.07	6.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.114										
ALTERNATE 1	11.26	18.59	21.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.116										
ALTERNATE 1	0.04	1.10	6.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.118										
ALTERNATE 1	0.04	1.03	6.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.120										
ALTERNATE 1	5.80	8.49	9.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.121										
ALTERNATE 1	5.82	8.52	9.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.122										
ALTERNATE 1	12.09	19.20	22.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.124										
ALTERNATE 1	17.09	27.49	32.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.126										
ALTERNATE 1	17.03	27.41	32.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.128										
ALTERNATE 1	12.41	21.12	25.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.130										
ALTERNATE 1	30.19	47.49	56.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.132										
ALTERNATE 1	29.27	48.39	57.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.134										
ALTERNATE 1	22.09	37.42	44.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.136										
ALTERNATE 1	51.30	85.74	101.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.138										
ALTERNATE 1	11.80	19.97	22.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.140										
ALTERNATE 1	63.08	105.68	125.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.142										
ALTERNATE 1	55.41	94.68	113.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.144										
ALTERNATE 1	16.47	27.16	32.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.145										
ALTERNATE 1	0.02	2.57	11.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.146										
ALTERNATE 1	24.64	41.51	49.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.148										
ALTERNATE 1	24.65	41.53	48.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.150										

ALTERNATE 1	79.05	134.91	160.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.152										
ALTERNATE 1	19.95	33.47	39.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.154										
ALTERNATE 1	11.12	17.66	20.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.156										
ALTERNATE 1	31.06	51.97	61.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.158										
ALTERNATE 1	28.69	48.78	58.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.160										
ALTERNATE 1	107.64	183.53	218.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.162										
ALTERNATE 1	17.27	29.39	35.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.164										
ALTERNATE 1	124.58	212.49	253.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.166										
ALTERNATE 1	6.17	9.75	11.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.168										
ALTERNATE 1	6.09	9.67	11.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.170										
ALTERNATE 1	6.81	10.81	12.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.172										
ALTERNATE 1	12.90	20.48	24.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.174										
ALTERNATE 1	12.65	20.25	24.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.176										
ALTERNATE 1	9.79	16.66	19.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.178										
ALTERNATE 1	22.43	37.78	44.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.180										
ALTERNATE 1	22.04	37.27	44.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.182										
ALTERNATE 1	12.97	22.18	26.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.184										
ALTERNATE 1	35.01	59.44	70.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.186										
ALTERNATE 1	159.29	271.53	323.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.188										
ALTERNATE 1	11.36	22.83	28.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.190										
ALTERNATE 1	163.36	280.96	335.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ENDJOB CARD ENCOUNTERED. END OF JOB.

APPENDIX IV

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Project Camelback Ranch
Project No. 1122-170
Sheet No. 1 of 3
Calculated by DWD Date 4/90
Checked by _____ Date _____

Estimated Infiltration Rates

- Computed percolation rates by Construction Inspection & Testing Company

Location	rate
a) SW corner of Temp. basin:	4 min/in
b) No. Quarter Corner of Temp basin:	1.13 min/in

Tests were conducted using a 24" diameter testhole with a bottom area of: $A = \pi (1')^2 = 3.14$ sf

- Hence approximate "perk" rates from the Temporary basin are:

$$P_a = 4 \frac{min}{in} \cdot \frac{12\,in}{ft} \cdot \frac{ft}{30.48\,cm} = 1.57 \text{ min/cm}$$

$$P_b = 1.13 \frac{min}{in} \cdot 12 \frac{in}{ft} \cdot \frac{ft}{30.48\,cm} = 0.44 \text{ min/cm}$$

$$\therefore \bar{P} = 1.01 \frac{min}{cm}, \quad (K \text{ in } cm/hr)$$

- Regression Equations from Appendix E (Fritton Et. AL, May 83)

Ratvasky, 1982 $\quad \text{Log}\,K = -.309\,\text{Log}(\bar{P}) + .093 = 0.0917 \Rightarrow K = .0405 \frac{ft}{hr}$

Zimmeberger, 1974 $\quad \text{Log}\,K = -1.69\,\text{Log}(\bar{P}) + 1.02 = 1.013 \Rightarrow K = .338 \frac{ft}{hr}$

* Fritton, Long, Aron, & Peterson, "On site sewage disposal: Site Suitability, System Selection and Soil Absorption Area Sizing," Pennsylvania State University, Office of Water Research & Tech. (PB 83-219725) May 83

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Project Camelback Ranch
Project No. 1122-170
Sheet No. 2 of 3
Calculated by DWD Date 4/90
Checked by _____ Date _____

- Est. Temporary Basin Drain Times

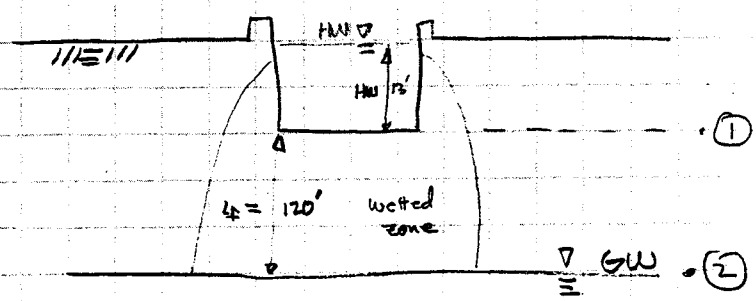
- Given:

Bottom Area of Basin ≅ 500' × 500' = 250,000 sf

$K = 0.41 \frac{ft}{hr}$ per Ratrasky (1982) regression Eq.

(Corresponds to a Loam soil)

and



$$Q = K A_{bot} \left(\frac{H_{ws} + L_f - h_{cr}}{L_f}\right)$$ per (Bouwer, 1978)

where $\overline{HW} = 13/2 = 6.5'$
h_{cr} = 50cm = 1.64' (assumed)
L_f = 120' Per ADWR map (1983)

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Project: Camelback Ranch
Project No. 1122-170
Sheet No. 3 of 3
Calculated by: DWD Date: 4/90
Checked by: _____ Date: _____

Estimated Drain Times

Event	PPt (in)	Vol. Ac-ft	$\overline{HW}$ (ft)	h_{cr}	Q* cf/hr	Vol/Q hrs	days
100yr-2hr	2.82	48	5	1.64'	10,540	198	8.3
2yr-1hr	.88	15	3	1.64'	10,370	63	2.6
1yr-2hr	.65	11	3	1.64'	10,370	46.6	1.94

* $Q = K(A_{bot})\left(\frac{\overline{H_w} + L_p - h_{cr}}{L_p}\right)$

$K = 0.041 \frac{ft}{hr}$

$L_p = 120'$

$h_{cr} = 1.64'$

$A_{bot} = 500^2$ sf

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PERCOLATION TEST AND GEOLOGICAL REPORT

FOR RETENTION BASIN

PROJECT

CAMELBACK RANCH
113TH AVENUE AND CAMELBACK ROAD
PHOENIX, ARIZONA

PREPARED FOR

BURNS INTERNATIONAL
C/O COE AND VAN LOO
4550 N. 12TH STREET
PHOENIX, ARIZONA 85014

Construction Inspection & Testing Co.

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950 WEST GRANT ROAD #950
TUCSON, ARIZONA 85705
Phone: 882-0626

Construction Inspection & Testing Co.

2002 WEST NORTH LANE
PHOENIX, ARIZONA 85021-1927
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950 WEST GRANT ROAD #950
TUCSON, ARIZONA 85705
Phone: 882-0626

APRIL 6, 1990

BURNS INTERNATIONAL
C/O COE & VAN LOO
4550 N. 12TH STREET
PHOENIX, ARIZONA 85014

RE: PERCOLATION TEST REPORT
FOR RETENTION BASIN

PROJECT: CAMELBACK RANCH
113TH AVENUE AND CAMELBACK ROAD
PHOENIX, ARIZONA

JOB NO. 90-4383

ATTENTION: GRANT HINDERER

IN ACCORDANCE WITH YOUR REQUEST, WE HAVE COMPLETED THE PERCOLATION TEST FOR THE SUBJECT PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF PHOENIX.

THE ACCOMPANYING REPORT PRESENTS THE RESULTS OF THIS INVESTIGATION.

RESPECTFULLY SUBMITTED,
CONSTRUCTION INSPECTION & TESTING CO.

SALEM M. PROUTY, P.E.

COPIES TO: ADDRESSEE (2)

CAMELBACK RANCH
113TH AVENUE AND CAMELBACK ROAD
PHOENIX, ARIZONA

PERCOLATION TEST REPORT
FOR RETENTION BASIN

IN ACCORDANCE WITH THE CITY OF PHOENIX REQUIREMENTS THE FOLLOWING ITEMS ARE SUBMITTED:

1. GENERAL DESCRIPTION OF AREA:
   THE SITE CONSISTS OF 12.2 ACRES OF UNDEVELOPED AGRICULTURAL LAND. THE TOPOGRAPHY HAS A SLIGHT SLOPE TOWARD THE SOUTHWEST.
2. VICINITY MAP:
   ATTACHED (PLATE A)
3. METHOD OF MAKING SOIL PROFILE & PERCOLATION TEST:
   THE PITS WERE EXCAVATED UTILIZING A 24" DIAMETER POWER AUGER. THE PITS WERE PRE-SOAKED, REFILLED AND WATER LEVELS RECORDED AT FIVE MINUTE INTERVALS UNTIL UNIFORMITY IN RATE OF FALL. THE "STABILIZED RATE" IS DETERMINED FROM THE ABOVE FALL/TIME RESULTS.
4. MAP SHOWING LOCATION OF TEST PITS:
   ATTACHED (PLATE B)
5. BORING LOGS:
   ATTACHED (PLATE C)
6. PERCOLATION TEST RESULTS:
   STABILIZED PERCOLATION RATES OF 0.021 AND 0.05 CUBIC FEET PER MINUTE PER SQUARE FOOT THROUGH THE RETENTION PITS NUMBERED P-1 AND P-2 RESPECTIVELY, WERE DETERMINED.

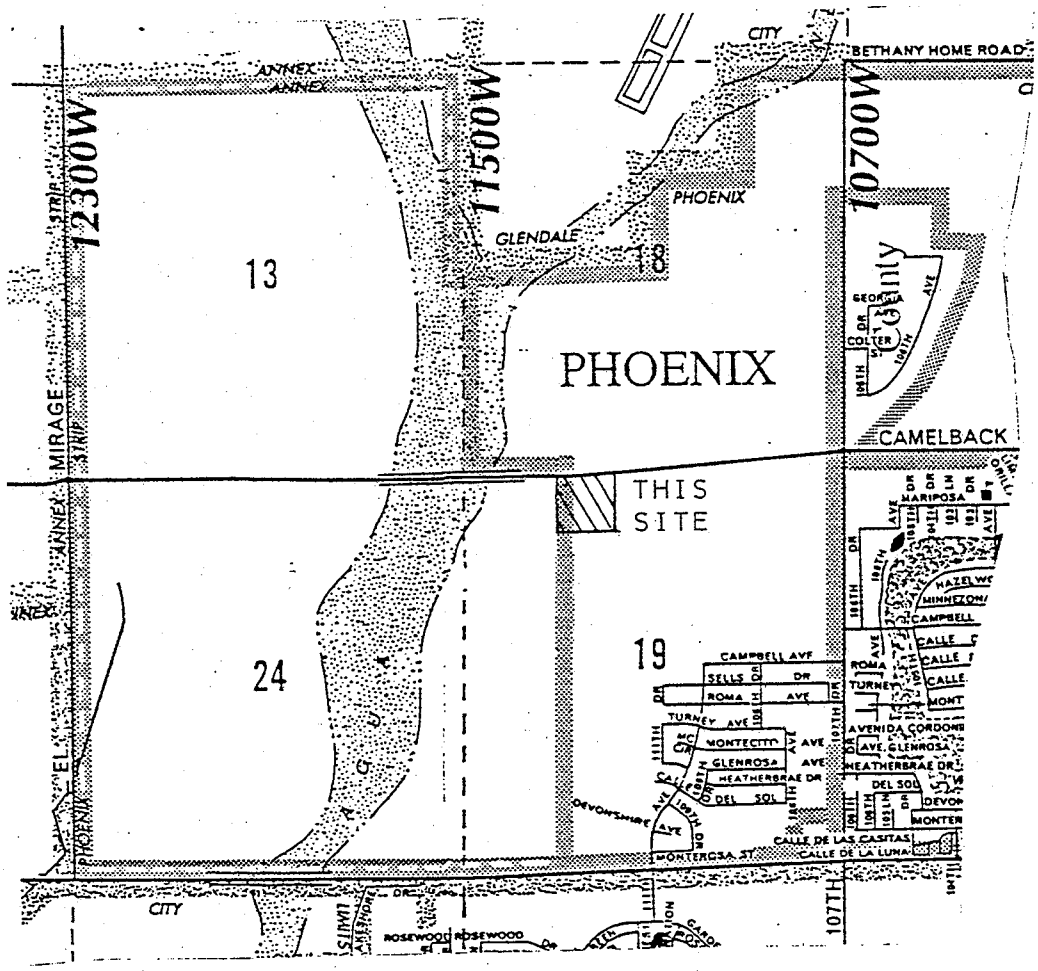
CAMELBACK RANCH
113TH AVENUE AND CAMELBACK ROAD
PHOENIX, ARIZONA

7. DESCRIPTION OF TOPOGRAPHY:

SEE ITEM 1

8. PRESENT AND FUTURE USES AROUND DEVELOPMENT:

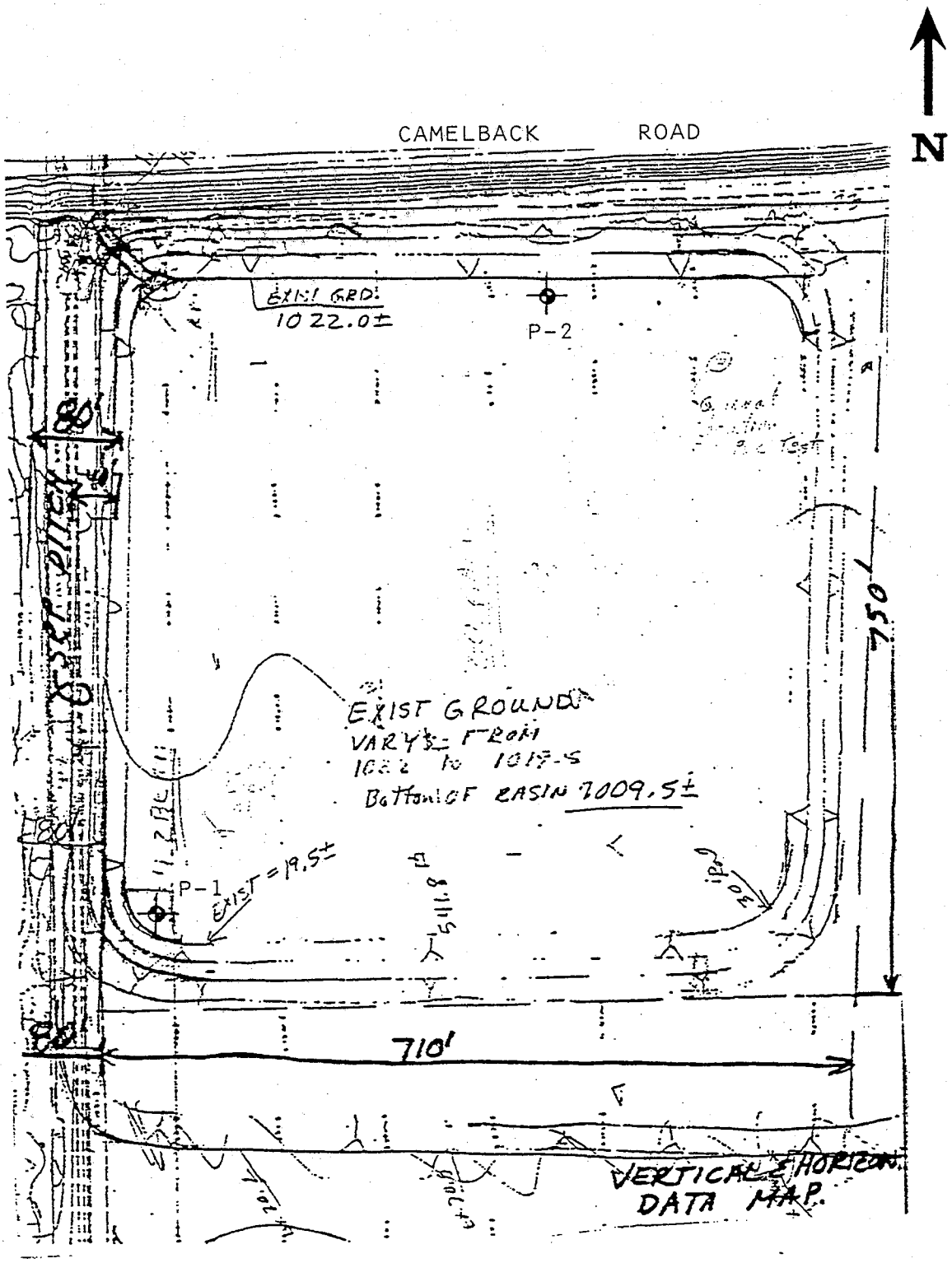
THE IMMEDIATE AREA SURROUNDING THE SITE IS AGRICULTURAL LAND. THE AGUA FRIA RIVER ABUTS THE SITE TO THE WEST. FUTURE DEVELOPMENT WILL PROBABLY BE RESIDENTIAL OR COMMERCIAL.



VICINITY MAP

CAMELBACK RANCH

PLATE "A"



SITE PLAN
TEST HOLE LOCATIONS CAMELBACK RANCH

PLATE "B"

Construction Inspection & Testing Co.

LOG OF BORINGS

For: BURNS INTERNATIONAL

Project: CAMELBACK RANCH

Location of Project: 113TH AVENUE & CAMELBACK ROAD

Date: 4/4/90 Job No. 90-4383

Type of Boring: 24" POWER AUGER

Field Party: DE

Boring No. P-1

Location AS SHOWN ON SITE PLAN

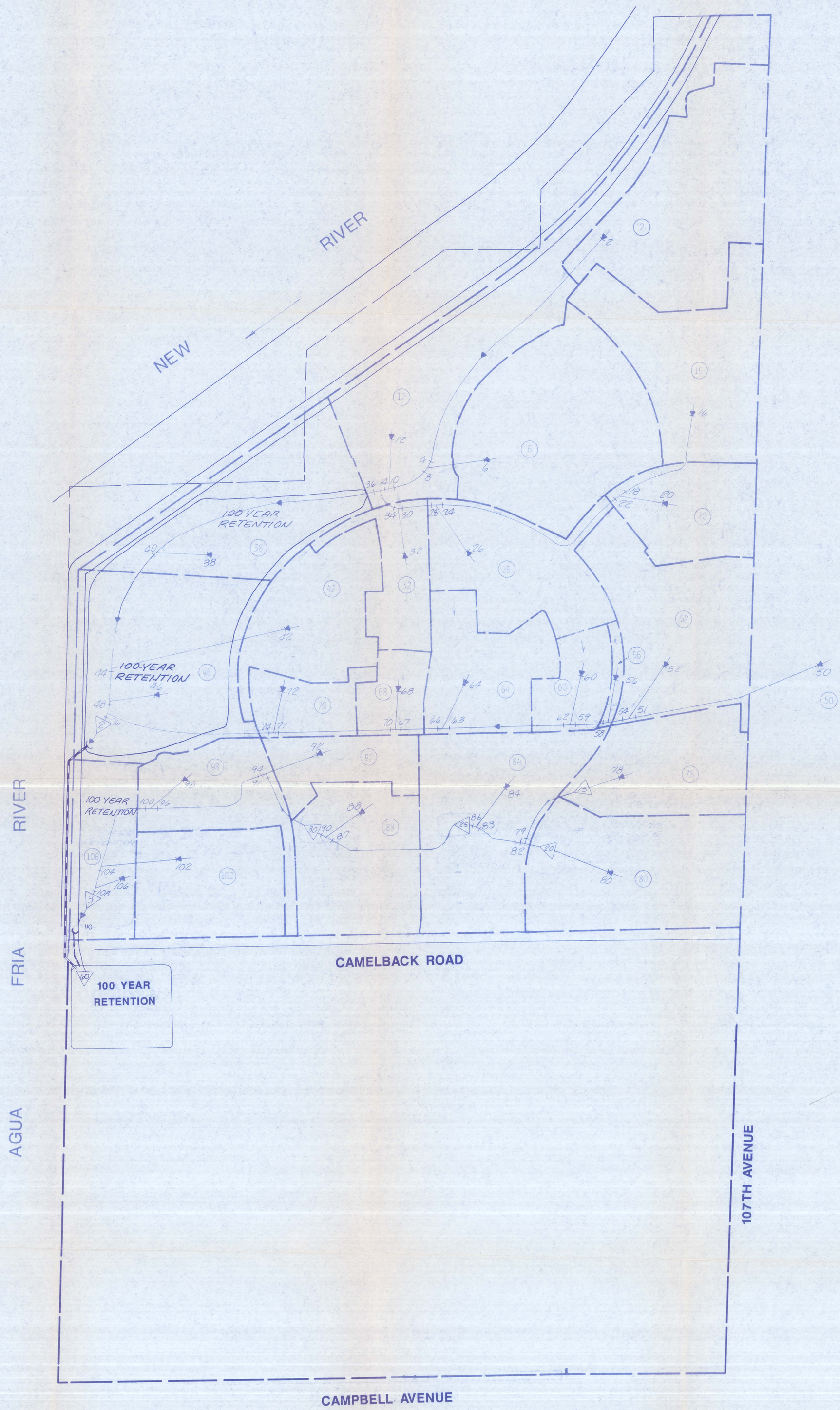
Depth	Description
	SILTY SAND, SOME CLAY, LOW PI, DAMP
2	
	LESS CLAY BELOW 2.5'
4	
	WITH SOME GRAVEL BELOW 4'
6	
8	
10	END OF BORING @ 10' - BOTTOM SAME MATERIAL
12	
14	
16	
18	
20	

Boring No. P-2

Location

Depth	Description
	SILTY SAND, SOME CLAY, LOW PI, DAMP
2	
	LESS CLAY BELOW 3'
4	
	WITH SOME GRAVEL BELOW 5'
6	
8	
	GRAVELLY SAND, NP, DAMP, BROWN
10	
12	END OF BORING @ 12' - BOTTOM SAME MATERIAL
14	
16	
18	
20	

APPENDIX V



LEGEND

- DRAINAGE AREA BOUNDARY
- (10) DRAINAGE AREA 10
- 10 COMPUTE RUNOFF FROM D.A. 10
- 20 ROUTE HYDROGRAPH FROM I.D. 10 TO I.D. 20
- 30 COMPUTE RUNOFF FROM D.A. 30
- 40 COMBINE TWO HYDROGRAPHS AT I.D. 40
- 50 DIVIDE HYDROGRAPH INTO TWO HYDROGRAPHS AT I.D. 50
- 2 ROUTE HYDROGRAPH THROUGH RETENTION BASIN 2

N

SCALE: 1" = 300'

CAMELBACK RANCH

POST PHASE I DEVELOPMENT

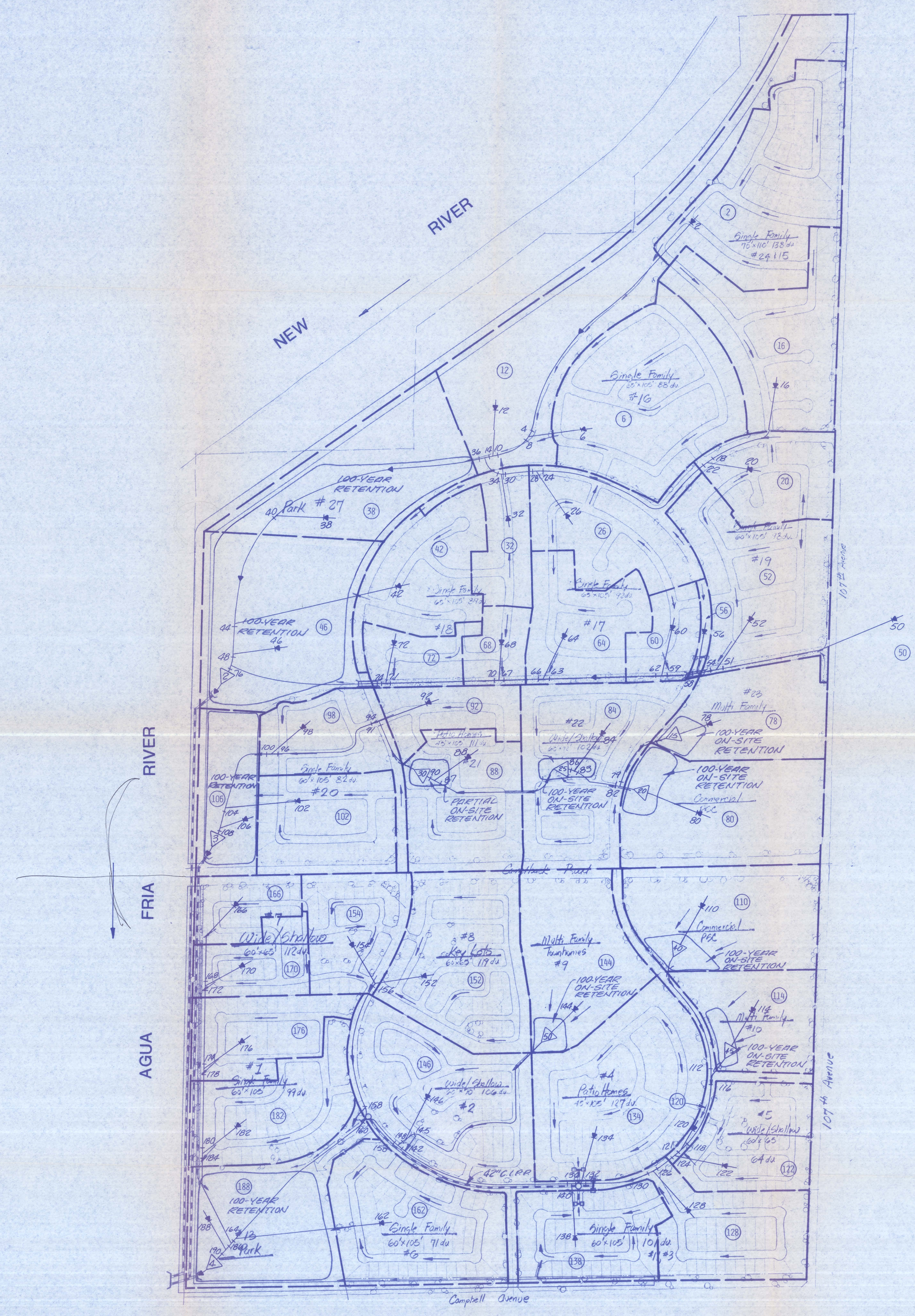
TR-20 SCHEMATIC

EXHIBIT A

4-4-90

1122-17-01

COE & VAN LOO CONSULTING ENGINEERING INC. PHOENIX ARIZONA



LEGEND

———	DRAINAGE AREA BOUNDARY
(10)	DRAINAGE AREA 10
10	COMPUTE RUNOFF FROM D.A. 10
20	ROUTE HYDROGRAPH FROM I.D. 10 TO I.D. 20
30	COMPUTE RUNOFF FROM D.A. 30
40	COMBINE TWO HYDROGRAPHS AT I.D. 40
50	DIVIDE HYDROGRAPH INTO TWO HYDROGRAPHS AT I.D. 50
2	ROUTE HYDROGRAPH THROUGH RETENTION BASIN 2

N

SCALE: 1" = 300'

CAMELBACK RANCH

POST PHASE II DEVELOPMENT

TR-20 SCHEMATIC

EXHIBIT B 4-4-90

1122-17-02

COE & VAN LOO CONSULTING ENGINEERING INC. PHOENIX ARIZONA