HYDROLOGIC ANALYSIS OF SOLS WASH, INCORPORATED TOWN OF WICKENBURG, ARIZONA FOR FEDERAL EMERGENCY MANAGEMENT AGENCY

NOVEMBER, 1985
CBA FILE NO. 03800-03

CELLA BARR ASSOCIATES

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1.0 INTRODUCTION

Cella Barr Associates (CBA) has been contracted, by the Federal Emergency Management Agency (FEMA), to perform a detailed Flood Insurance Study of Sols Wash, for the incorporated Town of Wickenburg, Arizona. The results from this study will supersede an existing Flood Insurance Study, performed by the U.S. Army Corps of Engineers in 1977. The hydrology for Sols Wash has been analyzed by various authorities with conflicting results, as discussed later.

The purpose of this report is to re-evaluate the 100-year peak discharge proposed for use in the Flood Insurance Study for Sols Wash near Wickenburg, Arizona, and to solicit review comments, if any. Peak discharges for the 10, 50, 100 and 500-year events have been developed and are summarized in this report. These discharges are proposed for use in determining water surface elevations as well as the corresponding flood hazard factors to be employed in accordance with the Flood Insurance Study Guidelines and Specifications.

2.0 STUDY LOCATION

The Town of Wickenburg is located approximately 53 miles northwest of Phoenix, Arizona, on U.S. Highway 60 (Figure 1). The area of study for the hydraulic analysis is a 1.5 mile reach of Sols Wash, extending upstream from the confluence with the Hassayampa River to the corporate limits (Figure 2). The area covered by this hydrologic analysis however, encompasses a drainage area of approximately 146 square miles extending northwest into the Date Creek Mountains, within both Maricopa and Yavapai Counties.

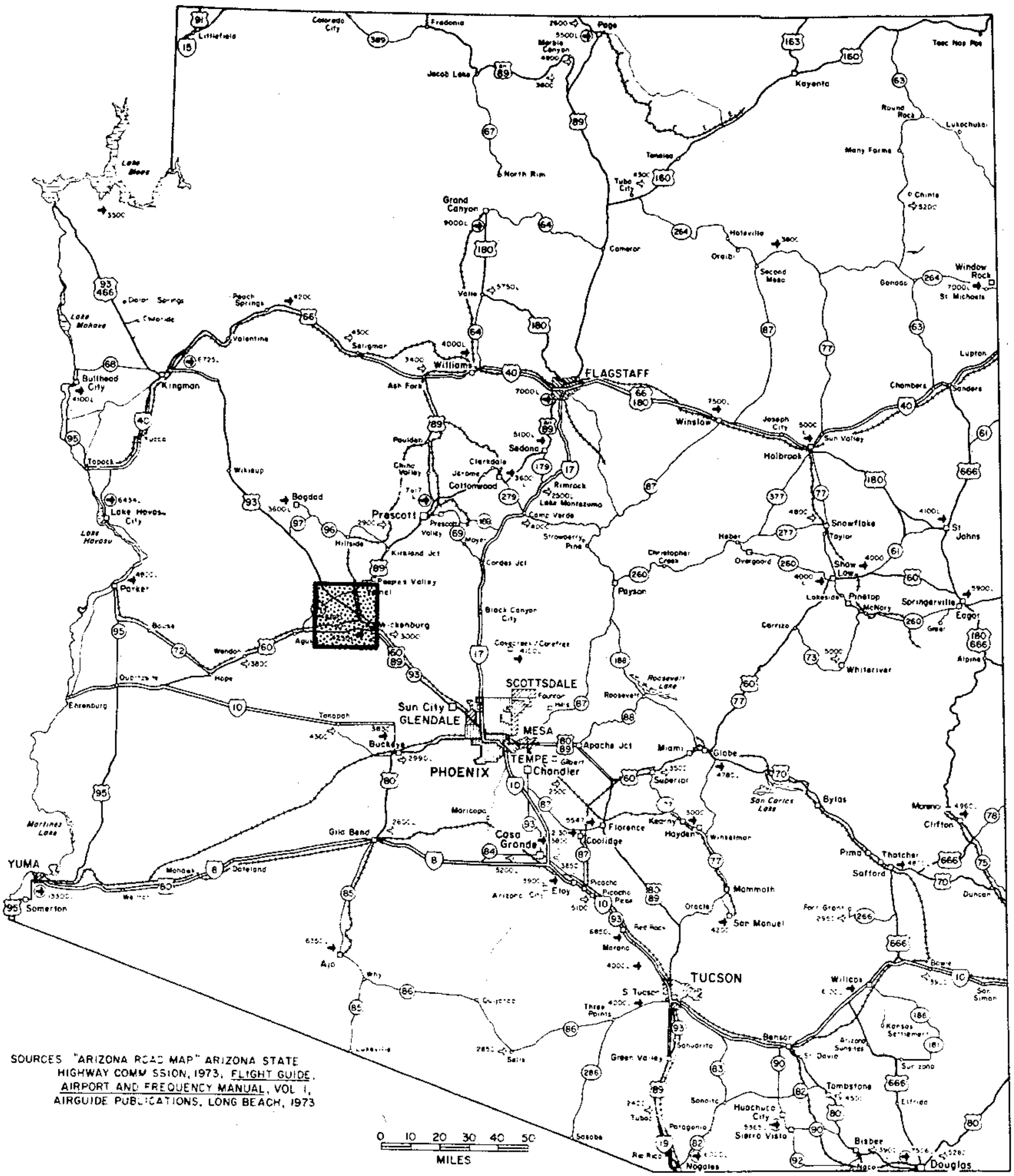
This area is characterized by broad, featureless, valleys between north trending mountains. The topography consists of a series of hills, mountains, alluvial fans and plains. Elevations range from a high of 4,920 feet in the Date Creek Mountains to a low of only 2,030 feet at the mouth of Sols Wash where it joins the Hassayampa River. The resulting slopes vary from less than 1 to over 14 percent.

The climate of this locale is primarily semi-desert with the annual precipitation averaging 11 inches and occurring predominantly in the summer or winter. The summer rains are associated with moist air that enters the state from the Gulf of Mexico producing moderate to intense afternoon and evening thundershowers (Sellers and Hill, 1973). Winter precipitation, however, originates from the Pacific Ocean and is much less severe.

There are marked differences in vegetation within relatively short distances because of a wide variation in soils, elevation, precipitation and temperature. Typical desert vegetation, found at the lower elevations near Wickenburg include: creosote bush, palo verde and several varieties of cacti. The intermediate elevations are characterized by: grass, chaparral, pinyon, pine and juniper; while, the higher elevations are marked predominantly by the presence of oak and chaparral woodland.

Figure 1: Location Map.

FIGURE 1: LOCATION MAP
WICKENBURG FLOOD INSURANCE STUDY



SOURCES: "ARIZONA ROAD MAP" ARIZONA STATE HIGHWAY COMMISSION, 1973, FLIGHT GUIDE, AIRPORT AND FREQUENCY MANUAL, VOL I, AIRGUIDE PUBLICATIONS, LONG BEACH, 1973

DENOTES AREA OF STUDY

Figure 2: Study Reaches.

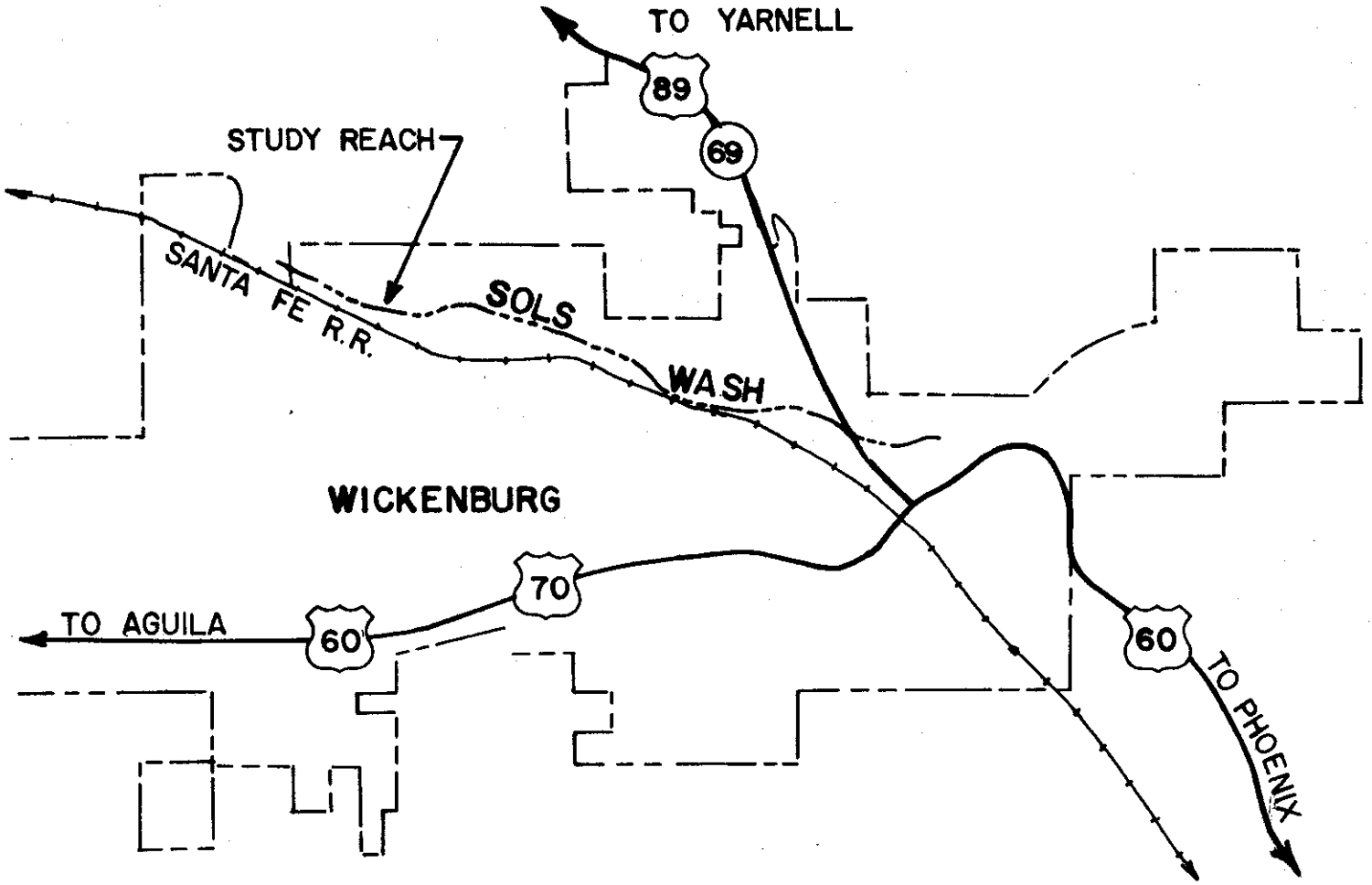


FIGURE 2:

VICINITY MAP

N.T.S.

3.0 SOILS

The geology of this region is composed primarily of igneous rocks which have exerted a strong influence on the soil development. Therefore, the types, ages, and physical properties of the soil changes throughout the basin in accordance with the sediments that have eroded off the adjacent mountains. Within the two counties there are approximately five (5) major soil classifications, which are:

1) Anthony - Mohave sandy loams (ArA); 1-3% slope; Group B;
2) Cave - Continental gravelly sandy loams (CID); 2-30% slope; Group C and D;
3) Latene - Mohave complex (Lc); 0-3% slope; Group B;
4) Vekol - Mohave complex (Vm); Group B; and finally
5) Cellar - Lehmans - Rock Outcrop Association; 5-60% slope; Group C and D (SCS, 1976 and 1973).

These soils can be divided into two general types; those found on the gentle sloping plains and alluvial fans, and those found in the mountains and low hills. The soils of the plains and alluvial fans are predominantly gravelly, sandy loams. In some locations, caliche is found just below the surface. In the mountains and hilly areas, the soils are generally very shallow underlain by rock outcrops of granite and volcanics. Bedrock is often found just below the surface, covered by a thin layer of cobbles and stones.

4.0 PREVIOUS STUDIES

The original Flood Insurance Study, performed in 1975 by the U.S. Army Corps of Engineers (C.O.E.), computed a discharge-frequency curve for Sols Wash using a derivation of the discharge-frequency curve developed for the Indian Bend Wash in the Phoenix-Scottsdale area.

In an earlier study, the SCS developed a TR-20 model for the Sols Wash watershed, the results of which are presented in Table 1. Curve numbers for this study were adjusted downward to reflect the effects of channel infiltration.

In 1981, PRC Toups Engineering, performed a hydrologic analysis of both Sols Wash and the Hassayampa River, for the Town of Wickenburg. Using stream gauge data available for the Hassayampa River, both upstream and downstream of the confluence with Sols Wash, discharge-frequency curves were developed using a Log-Pearson Type III distribution. The results from this analysis were used to calibrate a TR-20 model developed for the watersheds of the Hassayampa River and Sols Wash. A limited number of sub-watersheds were used in the model and, in particular, only two sub-basins were used to model the entire Sols Wash Watershed.

The results of each one of these hydrology studies are summarized in Table 1 along with the results from this study.

5.0 METHODOLOGY

The Soil Conservation Service's (SCS) computer model, TR-20, was used to estimate the 10-, 50-, 100- and 500-year peak discharges for various concentration points along Sols Wash. The TR-20 model utilizes the method of analysis described in detail in the SCS National Engineering Handbook Section 4, Hydrology, 1972. This method allows the prediction of surface water runoff, for an individual watershed, using rainfall duration and intensity data. The TR-20 model provides a convenient means of predicting the results of storm runoff from multiple watersheds. The storm runoff for individual watersheds is computed and an outflow hydrograph simulated. Individual hydrographs may then be routed and combined to obtain the cumulative downstream effect(s).

The drainage areas and tributaries contributing to flows in each study reach are shown in Figure 3 and are numbered in accordance with the TR-20 model. Individual control points and program sequencing are illustrated in Figure 4 and are shown schematically in Figure 5.

The precipitation frequencies for the area were obtained from isopluvial maps prepared by the U.S. Weather Bureau (Miller, et.al., 1973) and the resulting analysis is presented in Appendix A. The SCS Type II rainfall distribution was used to model the rainfall which was adjusted using an areal reduction based upon the total drainage area. Such reduction is necessary to convert from the point areal rainfall amount. Using soils maps of the area, prepared by the SCS, and from site investigation, runoff curve numbers were selected, based upon recent information developed by the SCS, and are listed in Appendix B. Time of concentrations for steep and incised washes were computed using the Kirpich equation as shown below:

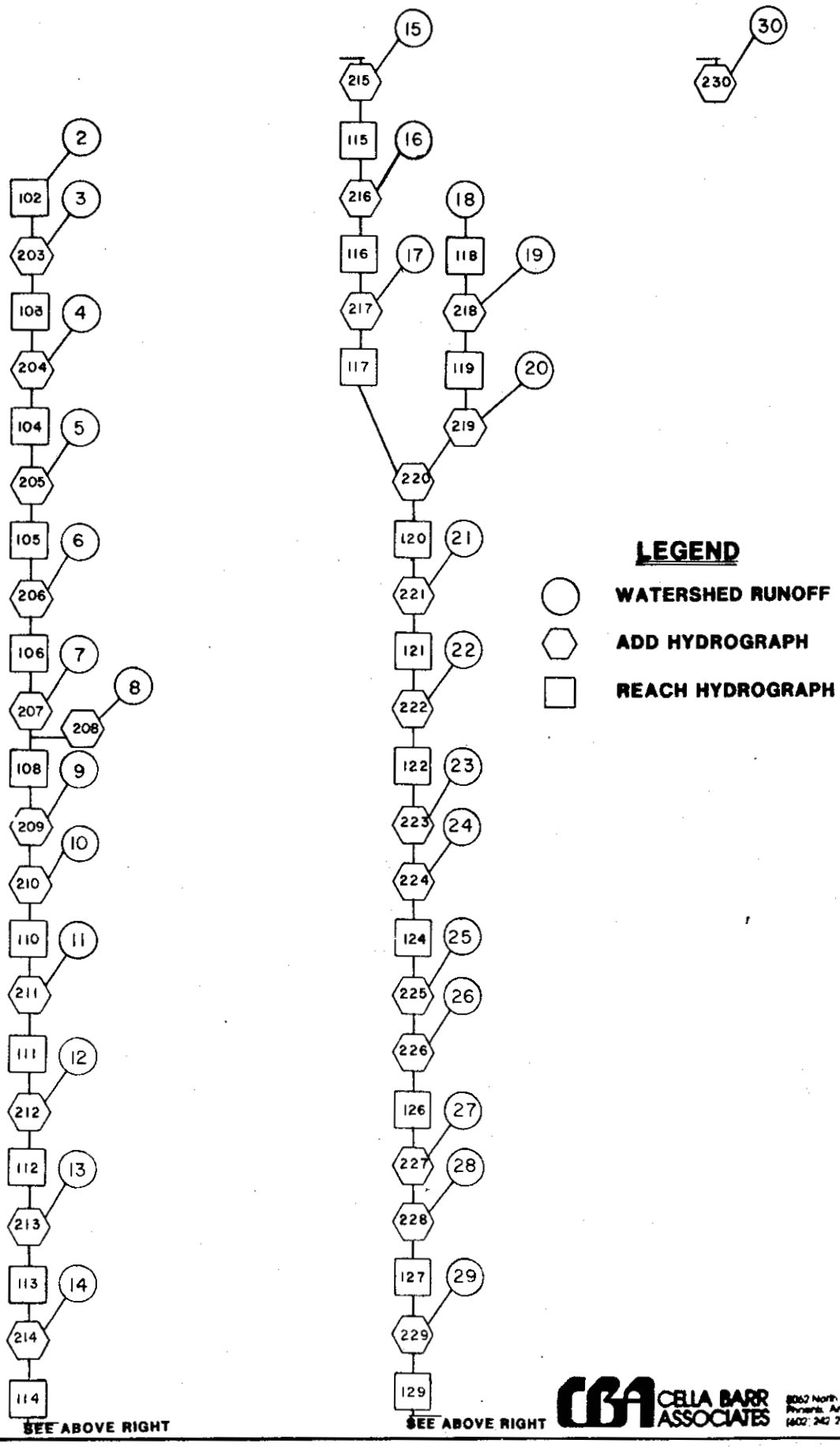
$$T_C = \frac{L^{1.15}}{7700\ H^{0.38}}$$

where: T_C = Time of Concentration (hours)
L = Length of Drainage Area (feet)
H = Change in Elevation (feet).

For gently sloping alluvial plains, much of which occur on the upper northwest portion of the drainage basin, travel velocities were estimated assuming broad sheet flow and utilizing Manning's equation.

FIGURE 5: TR-20 CODING SCHEMATIC

FIGURE 5: SOLS WASH TR-20 CODING SCHEMATIC



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6.0 RESULTS

Results from the TR-20 model for the entire Sols Wash drainage basin are presented in Appendix C for the 2-, 10-, 50-, 100- and 500-year storm events. The model was run using the input parameters summarized in Appendix B which were based upon field investigation and guidelines established by the SCS.

For comparative purposes, the results of all the preceeding studies, and results from this study are summarized in Table 1, for the discharge point of Sols Wash at its confluence with the Hassayampa River. As a further comparison, results from each of the studies are plotted in the form of discharge-frequency curves in Figure 6.

Since there is no gauging station on Sols Wash, and therefore no accurate record of historic floods, there is no means to provide calibration of the rainfall-runoff model and only a comparison with earlier studies is possible.

The discharge estimates obtained from the TR-20 analysis for this study, compare well with the results from both the SCS and PRC Toups. The discharge-frequency curve developed by the COE for the 1977 Flood Insurance Study has a steeper slope and results in a much larger 100-year peak discharge than the other studies. The SCS, PRC and CBA studies each employed the TR-20 model which might explain, in part, the closeness of the results although the TR-20 is quite sensitive to changes in time of concentration and each model employed different input parameters.

The calibration of the TR-20 model, by PRC, using streamflow data from the Hassayampa River, lends further credence to each of the study results. It is thus proposed that the results from the CBA study, as detailed hereon and summarized in Table 1, be employed in the hydraulic analysis.

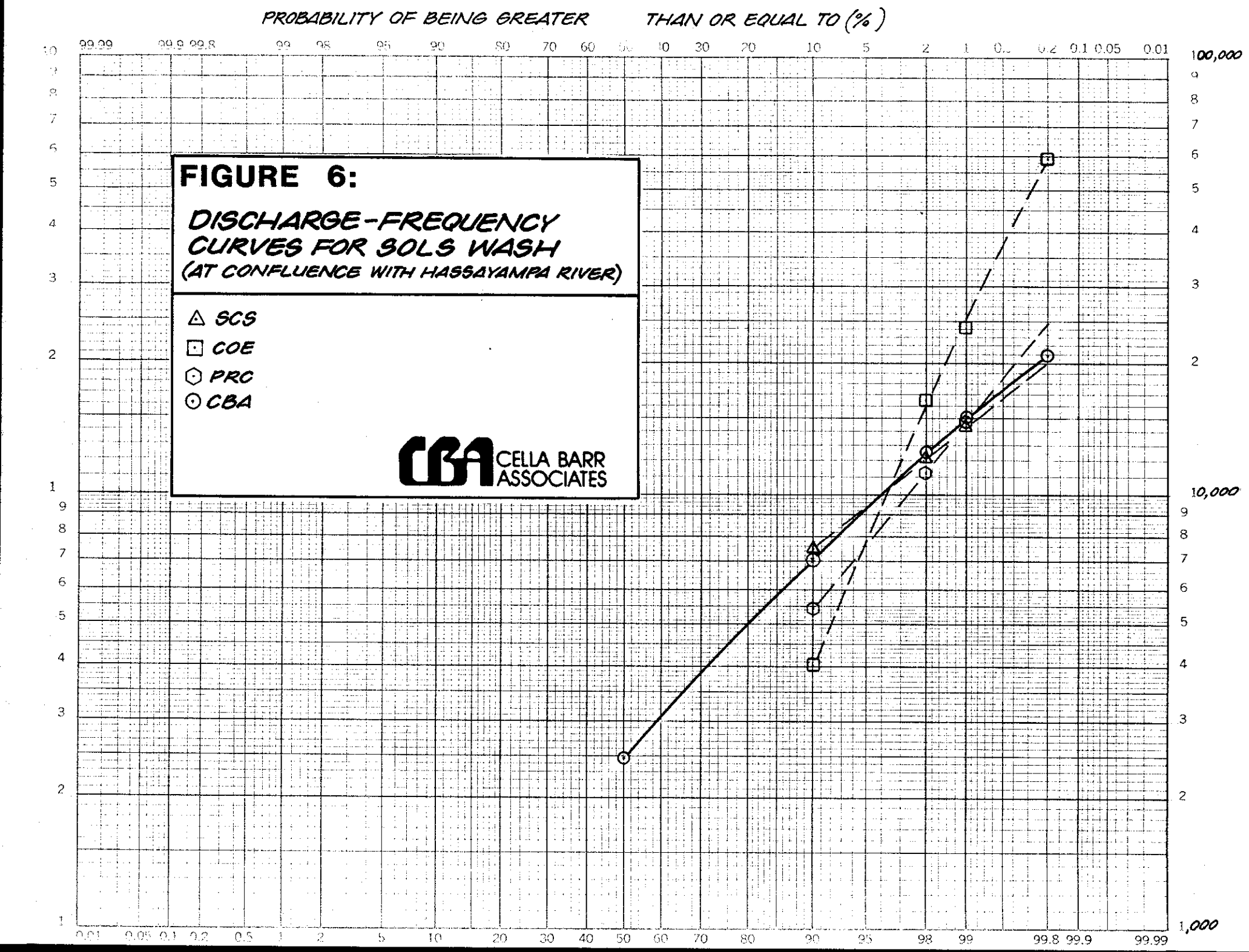
PROBABILITY OF BEING GREATER THAN OR EQUAL TO (%)
99.99 99.9 99.8 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01
100,000
10,000
1,000
0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
FIGURE 6:
DISCHARGE-FREQUENCY CURVES FOR SOLS WASH
(AT CONFLUENCE WITH HASSAYAMPA RIVER)
SCS
COE
PRC
CBA
CELLA BARR ASSOCIATES

TABLE 1

COMPARISON OF DISCHARGES

FLOODING SOURCE	METHOD	PEAK DISCHARGES (cfs) 10-year	50-year	100-year	500-year
Sols Wash at confluence w/ Hassayampa					
	PRC[1]	5,400	11,200	14,700	-
	COE[2]	4,000	16,500	24,000	59,000
	SCS[3]	7,500	12,100	14,400	-
	CBA[4]	7,000	12,500	15,000	20,800

1. See report by PRC Toups (1981).
2. See hydrology by U.S. Army Corps of Engineers for July, 1977 Flood Insurance Study.
3. 10- and 50-year values extrapolated using 100- and 25-year discharges (See report by PRC Toups).
4. See Appendix C.

FIGURE 6: DISCHARGE-FREQUENCY CURVES
SOLS WASH

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U.S. Department of Interior, Geological Survey, 15 Minute Series Topographic Maps: Vulture Mountains, Maricopa County, Arizona: Contour Interval 40 feet, Scale 1:62,500.

APPENDIX A:

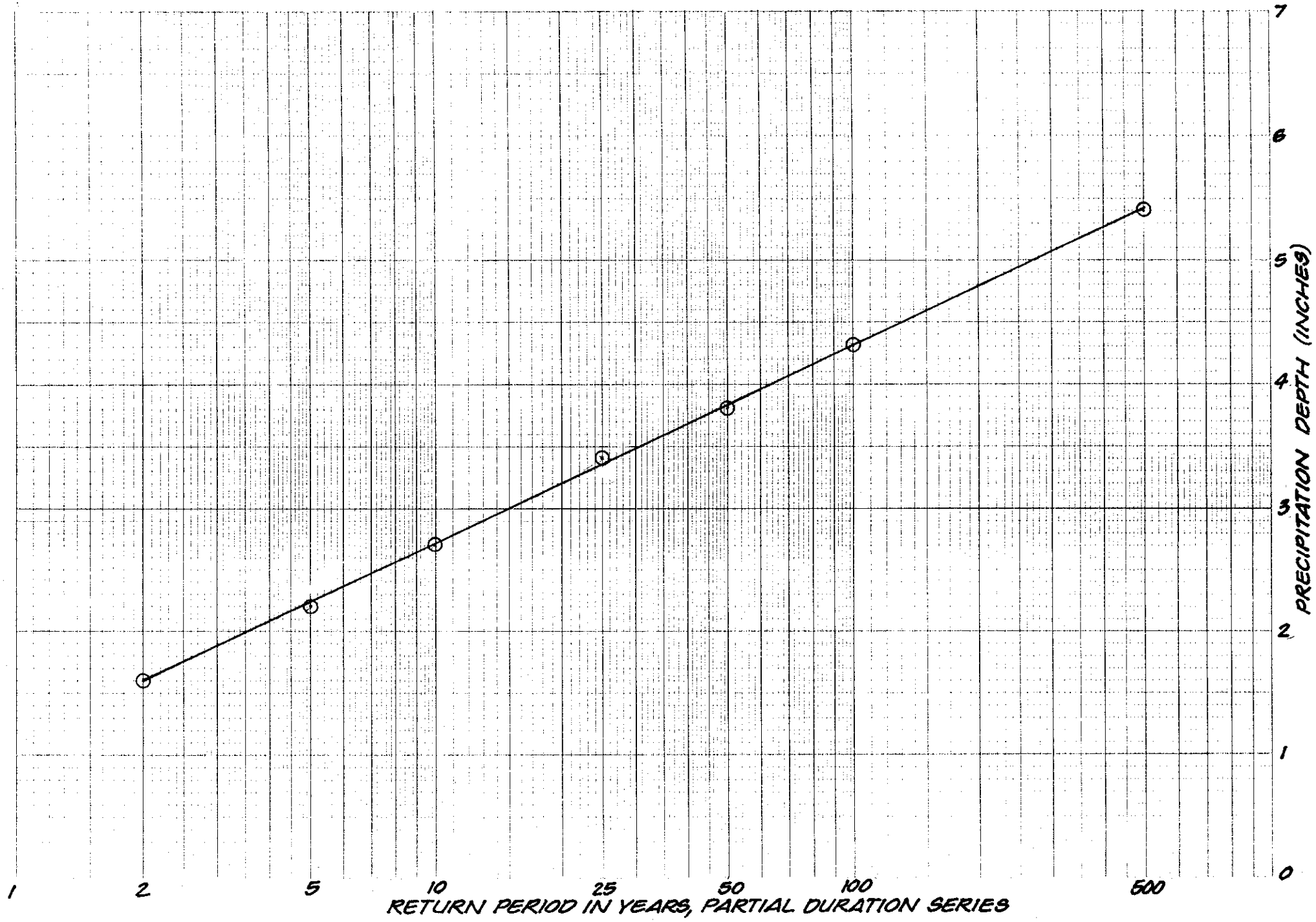
PRECIPITATION FREQUENCIES

Return Period (Years)	Precipitation Values (inches)			
	6 hour duration		24 hour duration	
	Map Value	Corrected Value	Map Value	Corrected Value
2	1.4	1.4	1.6	1.6
5	1.9	1.9	2.2	2.2
10	2.2	2.2	2.7	2.7
25	2.7	2.6	3.4	3.3
50	3.1	3.0	3.8	3.8
100	3.4	3.4	4.2	4.3

500-Year Precip. determined from extrapolation

Apply areal reduction of 0.92 based upon D.A. = 145 mi^2

PRECIPITATION DEPTH — RETURN PERIOD
(PARTIAL-DURATION SERIES)



APPENDIX B:

CURVE NUMBERS AND TIME OF CONCENTRATIONS

Sub-basin Characteristics.

Area No.	Area (mi^2)	Drainage Length (feet)	Max. Elev. (feet)	Min. Elev. (feet)	Curve No.	Tc (hours)
2	10.3	50,000	4,920	2,715	77	6.74
3	4.9	37,200	4,920	2,710	77	5.82
4	5.4	42,900	4,360	2,680	77	6.25
5	13.2	46,000	4,920	2,655	77	6.19
6	13.9	54,500	4,539	2,645	77	8.82
7	2.7	20,000	2,820	2,610	77	3.65
8	2.1	24,000	2,995	2,615	77	4.76
9	4.2	46,400	3,477	2,565	77	9.13
10	1.0	9,600	2,680	2,585	77	1.50
11	16.3	58,000	3,200	2,435	77	11.50
12	1.8	18,400	2,630	2,400	77	3.65
13	0.7	8,100	2,450	2,380	77	0.51
14	10.2	38,400	3,043	2,380	88	5.10
15	4.1	34,400	2,785	2,375	85	5.17
16	7.1	44,800	3,080	2,315	88	3.46
17	0.9	10,400	3,066	2,315	88	0.70
18	9.2	60,400	3,100	2,380	77	9.07
19	7.5	37,000	2,840	2,290	85	5.40
20	0.8	12,000	2,450	2,230	88	0.90
21	3.0	24,000	2,635	2,260	88	1.63
22	1.2	12,800	2,450	2,235	88	0.93
23	4.5	28,400	2,678	2,170	88	1.31
24	6.8	46,400	3,225	2,170	88	2.73
25	3.0	25,200	2,690	2,125	88	2.10
26	9.1	44,000	3,382	2,125	88	4.70
27	1.2	11,500	2,125	2,060	88	0.62
28	0.4	8,000	2,244	2,060	88	0.63
29	1.6	19,200	2,525	2,050	88	1.70
30	0.1	2,500	2,050	2,035	88	0.17

APPENDIX C:

TR-20 RESULTS

```
1         SOLS WASH, TOWN OF WICKENBURG FLOOD INSURANCE STUDY
0         TR-20 HYDROLOGY
1                    PROGRAM DATE - FEB. 14, 1974          S/360
1                                                                          PASS=  1
EXECUTIVE CONTROL CARD          OPERATION  LIST


LISTING OF DATA IN CORE



0    0 SOLS WASH, TOWN OF WICKENBURG FLOOD INSURANCE STUDY

                    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

        XSECTN NO.      DRAINAGE AREA
 2 XSECTN   102              1.0000

                        ELEVATION   DISCHARGE    END AREA
 8                        0.0000      0.0000      0.0000
 8                        1.0000    105.0000     85.0000
 8                        2.0000    666.0000    340.0000
 8                        3.0000   1964.0000    765.0000
 8                        4.0000   4229.0000   1360.0000
 8                        5.0000   7668.0000   2125.0000
 9 ENDTBL

        XSECTN NO.      DRAINAGE AREA
 2 XSECTN   103              1.0000

                        ELEVATION   DISCHARGE    END AREA
 8                        0.0000      0.0000      0.0000
 8                        1.0000    185.0000     84.0000
 8                        2.0000    598.0000    176.0000
 8                        3.0000   1200.0000    276.0000
 8                        4.0000   1980.0000    384.0000
 8                        5.0000   2940.0000    500.0000
 9 ENDTBL

        XSECTN NO.      DRAINAGE AREA
```

2 XSECTN 104 1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	208.0000	88.0000
8	2.0000	688.0000	192.0000
8	3.0000	1413.0000	312.0000
8	4.0000	2387.0000	448.0000
8	5.0000	3620.0000	600.0000
8	6.0000	6080.0000	1200.0000

9 ENDTBL

XSECTN NO. DRAINAGE AREA
2 XSECTN 105 1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	208.0000	88.0000
8	2.0000	688.0000	192.0000
8	3.0000	1413.0000	312.0000
8	4.0000	2387.0000	448.0000
8	5.0000	3620.0000	600.0000
8	6.0000	6080.0000	1200.0000

9 ENDTBL

XSECTN NO. DRAINAGE AREA
2 XSECTN 106 1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	388.0000	180.0000
8	2.0000	1223.0000	360.0000
8	3.0000	2386.0000	540.0000
8	4.0000	3827.0000	720.0000
8	5.0000	5512.0000	900.0000
8	6.0000	7175.0000	1600.0000

9 ENDTBL

XSECTN NO. DRAINAGE AREA
2 XSECTN 108 1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	1156.0000	500.0000
8	1.5000	2269.0000	750.0000
8	2.0000	3660.0000	1000.0000
8	2.5000	5301.0000	1250.0000
8	3.5000	7130.0000	2050.0000

9 ENDTBL

XSECTN NO. DRAINAGE AREA
2 XSECTN 110 1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	430.0000	180.0000
8	2.0000	1494.0000	420.0000
8	3.0000	3208.0000	720.0000
8	4.0000	5641.0000	1080.0000
8	5.0000	8866.0000	1500.0000
8	6.0000	14300.0000	2300.0000

9 ENDTBL

```
        XSECTN NO.      DRAINAGE AREA
2 XSECTN   111              1.0000

                       ELEVATION   DISCHARGE    END AREA
8                         0.0000      0.0000      0.0000
8                         1.0000    430.0000    180.0000
8                         2.0000   1494.0000    420.0000
8                         3.0000   3208.0000    720.0000
8                         4.0000   5641.0000   1080.0000
8                         5.0000   8866.0000   1500.0000
8                         6.0000  14300.0000   2300.0000
9 ENDTBL

        XSECTN NO.      DRAINAGE AREA
2 XSECTN   112              1.0000

                       ELEVATION   DISCHARGE    END AREA
8                         0.0000      0.0000      0.0000
8                         1.0000    430.0000    180.0000
8                         2.0000   1494.0000    420.0000
8                         3.0000   3208.0000    720.0000
8                         4.0000   5641.0000   1080.0000
8                         5.0000   8866.0000   1500.0000
8                         6.0000  14300.0000   2300.0000
9 ENDTBL

        XSECTN NO.      DRAINAGE AREA
2 XSECTN   115              1.0000

                       ELEVATION   DISCHARGE    END AREA
8                         0.0000      0.0000      0.0000
8                         1.0000    430.0000    180.0000
8                         2.0000   1494.0000    420.0000
8                         3.0000   3208.0000    720.0000
8                         4.0000   5641.0000   1080.0000
8                         5.0000   8866.0000   1500.0000
8                         6.0000  14300.0000   2300.0000
9 ENDTBL

        XSECTN NO.      DRAINAGE AREA
2 XSECTN   116              1.0000

                       ELEVATION   DISCHARGE    END AREA
8                         0.0000      0.0000      0.0000
8                         1.0000    430.0000    180.0000
8                         2.0000   1494.0000    420.0000
8                         3.0000   3208.0000    720.0000
8                         4.0000   5641.0000   1080.0000
8                         5.0000   8866.0000   1500.0000
8                         6.0000  14300.0000   2300.0000
9 ENDTBL

        XSECTN NO.      DRAINAGE AREA
2 XSECTN   117              1.0000

                       ELEVATION   DISCHARGE    END AREA
8                         0.0000      0.0000      0.0000
8                         1.0000    430.0000    180.0000
8                         2.0000   1494.0000    420.0000
8                         3.0000   3208.0000    720.0000
```

8	4.0000	5641.0000	1080.0000
8	5.0000	8866.0000	1500.0000
8	6.0000	14300.0000	2300.0000
9 ENDTBL			

XSECTN NO.	DRAINAGE AREA
2 XSECTN 118	1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	974.0000	300.0000
8	2.0000	3079.0000	600.0000
8	3.0000	6025.0000	900.0000
8	4.0000	9689.0000	1200.0000
8	5.0000	13994.0000	1500.0000
9 ENDTBL			

XSECTN NO.	DRAINAGE AREA
2 XSECTN 119	1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	974.0000	300.0000
8	2.0000	3079.0000	600.0000
8	3.0000	6025.0000	900.0000
8	4.0000	9689.0000	1200.0000
8	5.0000	13994.0000	1500.0000
9 ENDTBL			

XSECTN NO.	DRAINAGE AREA
2 XSECTN 120	1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	974.0000	300.0000
8	2.0000	3079.0000	600.0000
8	3.0000	6025.0000	900.0000
8	4.0000	9689.0000	1200.0000
8	5.0000	13994.0000	1500.0000
9 ENDTBL			

XSECTN NO.	DRAINAGE AREA
2 XSECTN 121	1.0000

	ELEVATION	DISCHARGE	END AREA
8	0.0000	0.0000	0.0000
8	1.0000	974.0000	300.0000
8	2.0000	3079.0000	600.0000
8	3.0000	6025.0000	900.0000
8	4.0000	9689.0000	1200.0000
8	5.0000	13994.0000	1500.0000
9 ENDTBL			

XSECTN NO.	DRAINAGE AREA
2 XSECTN 122	1.0000

	ELEVATION	DISCHARGE	END AREA
8	2210.0000	0.0000	0.0000
8	2211.0000	370.0000	130.0000
8	2212.0000	1620.0000	335.0000
8	2213.0000	3550.0000	570.0000

8	2214.0000	6280.0000	840.0000
8	2215.0000	9685.0000	1135.0000
8	2216.0000	15115.0000	1670.0000
8	2217.0000	22280.0000	1770.0000

9 ENDTBL

XSECTN NO.	DRAINAGE AREA
2 XSECTN 124	1.0000

	ELEVATION	DISCHARGE	END AREA
8	2134.0000	0.0000	0.0000
8	2135.0000	345.0000	160.0000
8	2136.0000	2340.0000	645.0000
8	2137.0000	6830.0000	1325.0000
8	2138.0000	13570.0000	2125.0000
8	2139.0000	22670.0000	3040.0000
8	2140.0000	34230.0000	4070.0000

9 ENDTBL

XSECTN NO.	DRAINAGE AREA
2 XSECTN 125	1.0000

	ELEVATION	DISCHARGE	END AREA
8	2075.0000	0.0000	0.0000
8	2076.0000	185.0000	55.0000
8	2077.0000	610.0000	120.0000
8	2078.0000	1390.0000	245.0000
8	2079.0000	2625.0000	400.0000
8	2080.0000	4370.0000	575.0000
8	2081.0000	7105.0000	910.0000
8	2082.0000	11610.0000	1605.0000
8	2083.0000	20250.0000	2505.0000
8	2084.0000	29100.0000	3445.0000

9 ENDTBL

XSECTN NO.	DRAINAGE AREA
2 XSECTN 126	1.0000

	ELEVATION	DISCHARGE	END AREA
8	2075.0000	0.0000	0.0000
8	2076.0000	185.0000	55.0000
8	2077.0000	610.0000	120.0000
8	2078.0000	1390.0000	245.0000
8	2079.0000	2625.0000	400.0000
8	2080.0000	4370.0000	575.0000
8	2081.0000	7105.0000	910.0000
8	2082.0000	11610.0000	1605.0000
8	2083.0000	20250.0000	2505.0000
8	2084.0000	29100.0000	3445.0000

9 ENDTBL

XSECTN NO.	DRAINAGE AREA
2 XSECTN 127	1.0000

	ELEVATION	DISCHARGE	END AREA
8	2075.0000	0.0000	0.0000
8	2076.0000	185.0000	55.0000
8	2077.0000	610.0000	120.0000
8	2078.0000	1390.0000	245.0000
8	2079.0000	2625.0000	400.0000
8	2080.0000	4370.0000	575.0000
8	2081.0000	7105.0000	910.0000

```
8                    2082.0000  11610.0000   1605.0000
8                    2083.0000  20250.0000   2505.0000
8                    2084.0000  29100.0000   3445.0000
9 ENDTBL


        XSECTN NO.      DRAINAGE AREA
2 XSECTN   129              1.0000

                     ELEVATION   DISCHARGE    END AREA
8                    2075.0000      0.0000      0.0000
8                    2076.0000    185.0000     55.0000
8                    2077.0000    610.0000    120.0000
8                    2078.0000   1390.0000    245.0000
8                    2079.0000   2625.0000    400.0000
8                    2080.0000   4370.0000    575.0000
8                    2081.0000   7105.0000    910.0000
8                    2082.0000  11610.0000   1605.0000
8                    2083.0000  20250.0000   2505.0000
8                    2084.0000  29100.0000   3445.0000
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 2                0.0208

8              0.0000     0.0050     0.0110     0.0160     0.0220
8              0.0280     0.0350     0.0410     0.0480     0.0560
8              0.0630     0.0710     0.0800     0.0890     0.0980
8              0.1090     0.1200     0.1330     0.1470     0.1630
8              0.1810     0.2040     0.2350     0.2830     0.6630
8              0.7350     0.7720     0.7990     0.8200     0.8380
8              0.8540     0.8680     0.8800     0.8910     0.9020
8              0.9120     0.9210     0.9290     0.9370     0.9450
8              0.9520     0.9590     0.9650     0.9720     0.9780
8              0.9840     0.9890     0.9950     1.0000     1.0000
9 ENDTBL
1                  STANDARD CONTROL INSTRUCTIONS


6 RUNOFF 1   2       4      10.3000     77.0000     6.74001 0 0 1 0 1
6 REACH  3 102   4   1    3000.0000      0.0000     0.00001 0 0 1 0 1
6 RUNOFF 1   3       2       4.9000     77.0000     5.82001 0 0 1 0 1
6 ADDHYD 4 203   2 1 5                                   1 0 0 1 0 1
6 RUNOFF 1   4       1       5.4000     77.0000     6.25001 0 0 1 0 1
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6 REACH  3 103   5   2    3400.0000      0.0000      0.00001 0 0 1 0 1
6 ADDHYD 4 204   2 1 6                                     1 0 0 1 0 1
6 REACH  3 104   6   1    4000.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1   5       2      13.2000     77.0000      6.19001 0 0 1 0 1
6 ADDHYD 4 205   1 2 3                                     1 0 0 1 0 1
6 REACH  3 105   3   1    2000.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1   6       2      13.9000     77.0000      8.82001 0 0 1 0 1
6 ADDHYD 4 206   1 2 3                                     1 0 0 1 0 1
6 REACH  3 106   3   1    7800.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1   7       2       2.7000     77.0000      3.65001 0 0 1 0 1
6 ADDHYD 4 207   1 2 3                                     1 0 0 1 0 1
6 RUNOFF 1   8       2       2.1000     77.0000      4.76001 0 0 1 0 1
6 ADDHYD 4 208   3 2 4                                     1 0 0 1 0 1
6 REACH  3 108   4   1    4800.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1   9       2       4.2000     77.0000      9.13001 0 0 1 0 1
6 ADDHYD 4 209   1 2 4                                     1 0 0 1 0 1
6 RUNOFF 1  10       2       1.0000     77.0000      1.50001 0 0 1 0 1
6 ADDHYD 4 210   2 4 3                                     1 0 0 1 0 1
6 REACH  3 110   3   1   23000.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  11       2      16.3000     77.0000     11.50001 0 0 1 0 1
6 ADDHYD 4 211   1 2 3                                     1 0 0 1 0 1
6 REACH  3 111   3   1    5600.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  12       2       1.8000     77.0000      3.65001 0 0 1 0 1
6 ADDHYD 4 212   1 2 3                                     1 0 0 1 0 1
6 REACH  3 112   3   1    4400.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  13       2       0.7000     77.0000      0.51001 0 0 1 0 1
6 ADDHYD 4 213   1 2 3                                     1 0 0 1 0 1
6 RUNOFF 1  14       2      10.2000     88.0000      5.10001 0 0 1 0 1
6 ADDHYD 4 214   3 2 4                                     1 0 0 1 0 1
6 RUNOFF 1  15       2       4.1000     85.0000      5.17001 0 0 1 0 1
6 ADDHYD 4 215   4 2 3                                     1 0 0 1 0 1
6 REACH  3 115   3   1    9200.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  16       2       7.1000     88.0000      3.46001 0 0 1 0 1
6 ADDHYD 4 216   1 2 3                                     1 0 0 1 0 1
6 REACH  3 116   3   1    1500.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  17       2       0.9000     88.0000      0.70001 0 0 1 0 1
6 ADDHYD 4 217   1 2 3                                     1 0 0 1 0 1
6 REACH  3 117   3   1    6200.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  18       2       9.2000     77.0000      9.07001 0 0 1 0 1
6 REACH  3 118   2   3    8400.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  19       4       7.5000     85.0000      5.40001 0 0 1 0 1
6 ADDHYD 4 218   3 4 5                                     1 0 0 1 0 1
6 REACH  3 119   5   2    2800.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  20       3       0.8000     88.0000      0.90001 0 0 1 0 1
6 ADDHYD 4 219   2 3 4                                     1 0 0 1 0 1
6 ADDHYD 4 220   4 1 2                                     1 0 0 1 0 1
6 REACH  3 120   2   3    1700.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  21       4       3.0000     88.0000      1.63001 0 0 1 0 1
6 ADDHYD 4 221   3 4 5                                     1 0 0 1 0 1
6 REACH  3 121   5   1    3200.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  22       2       1.2000     88.0000      0.93001 0 0 1 0 1
6 ADDHYD 4 222   1 2 3                                     1 0 0 1 0 1
6 REACH  3 122   3   1    6600.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  23       2       4.5000     88.0000      1.31001 0 0 1 0 1
6 ADDHYD 4 223   1 2 3                                     1 0 0 1 0 1
6 RUNOFF 1  24       1       6.8000     88.0000      2.73001 0 0 1 0 1
6 ADDHYD 4 224   1 3 4                                     1 0 0 1 0 1
6 REACH  3 124   4   1    5000.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  25       2       3.0000     88.0000      2.10001 0 0 1 0 1
6 ADDHYD 4 225   1 2 3                                     1 0 0 1 0 1
6 RUNOFF 1  26       4       9.1000     88.0000      4.70001 0 0 1 0 1
6 ADDHYD 4 226   3 4 5                                     1 0 0 1 0 1
6 REACH  3 126   5   1    7600.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  27       2       1.2000     88.0000      0.62001 0 0 1 0 1
6 ADDHYD 4 227   1 2 3                                     1 0 0 1 0 1
6 RUNOFF 1  28       2       0.4000     88.0000      0.28001 0 0 1 0 1
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6 ADDHYD 4 228   3 2 1                                  1 0 0 1 0 1
6 REACH  3 127   1   2     800.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  29       3       1.6000     88.0000      1.70001 0 0 1 0 1
6 ADDHYD 4 229   3 2 1                                  1 0 0 1 0 1
6 REACH  3 129   1   2    1700.0000      0.0000      0.00001 0 0 1 0 1
6 RUNOFF 1  30       3       0.1000     88.0000      0.17001 0 0 1 0 1
6 ADDHYD 4 230   3 2 1                                  1 0 0 1 0 1
  ENDATA


END OF LISTING
1                                                                                    PASS=  1
 EXECUTIVE CONTROL CARD          OPERATION  INCREM,    MAIN TIME INCREMENT=  0.10
 EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT 230/  0
        STARTING TIME=  0.00    RAIN DEPTH=  1.48    RAIN DURATION= 24.00    RAIN TABLE NO.= 2    SOIL CONDITION= 2
        ALTERNATE NO.= 1        STORM NO.= 1

  ENDCMP
1                                                                                    PASS=  2
 EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT 230/  0
        STARTING TIME=  0.00    RAIN DEPTH=  2.49    RAIN DURATION= 24.00    RAIN TABLE NO.= 2    SOIL CONDITION= 2
        ALTERNATE NO.= 1        STORM NO.= 2

  ENDCMP
1                                                                                    PASS=  3
 EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT 230/  0
        STARTING TIME=  0.00    RAIN DEPTH=  3.51    RAIN DURATION= 24.00    RAIN TABLE NO.= 2    SOIL CONDITION= 2
        ALTERNATE NO.= 1        STORM NO.= 3

  ENDCMP
1                                                                                    PASS=  4
 EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT 230/  0
        STARTING TIME=  0.00    RAIN DEPTH=  3.97    RAIN DURATION= 24.00    RAIN TABLE NO.= 2    SOIL CONDITION= 2
        ALTERNATE NO.= 1        STORM NO.= 4

  ENDCMP
1                                                                                    PASS=  5
 EXECUTIVE CONTROL CARD          OPERATION  COMPUT,    FROM XSECTN/STRUCT   2/  0     TO XSECTN/STRUCT 230/  0
        STARTING TIME=  0.00    RAIN DEPTH=  4.97    RAIN DURATION= 24.00    RAIN TABLE NO.= 2    SOIL CONDITION= 2
        ALTERNATE NO.= 1        STORM NO.= 5


  ENDCMP
1SUMMARY 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	10.30	2	2	0.10	0.00	1.48	24.00	129.80	17.35	0.00	0.19	12.60
1	1	102	10.30	2	2	0.10	0.00	1.48	24.00	128.41	18.06	1.04	0.19	12.47
1	1	3	4.90	2	2	0.10	0.00	1.48	24.00	64.88	16.89	0.00	0.20	13.24
1	1	203	15.20	2	2	0.10	0.00	1.48	24.00	188.01	17.78	0.00	0.19	12.37
1	1	4	5.40	2	2	0.10	0.00	1.48	24.00	71.56	17.14	0.00	0.20	13.25
1	1	103	15.20	2	2	0.10	0.00	1.48	24.00	187.72	18.17	1.01	0.19	12.35
1	1	204	20.60	2	2	0.10	0.00	1.48	24.00	255.81	17.91	0.00	0.19	12.42
1	1	104	20.60	2	2	0.10	0.00	1.48	24.00	255.63	18.36	1.10	0.19	12.41
1	1	5	13.20	2	2	0.10	0.00	1.48	24.00	176.90	17.00	0.00	0.20	13.40
1	1	205	33.80	2	2	0.10	0.00	1.48	24.00	423.84	17.89	0.00	0.19	12.54
1	1	105	33.80	2	2	0.10	0.00	1.48	24.00	423.69	18.07	1.45	0.19	12.54
1	1	6	13.90	2	2	0.10	0.00	1.48	24.00	142.33	19.58	0.00	0.18	10.24
1	1	206	47.70	2	2	0.10	0.00	1.48	24.00	563.53	18.16	0.00	0.19	11.81
1	1	106	47.70	2	2	0.10	0.00	1.48	24.00	560.65	19.09	1.21	0.19	11.75
1	1	7	2.70	2	2	0.10	0.00	1.48	24.00	48.84	14.98	0.00	0.20	18.09
1	1	207	50.40	2	2	0.10	0.00	1.48	24.00	583.68	19.03	0.00	0.19	11.58
1	1	8	2.10	2	2	0.10	0.00	1.48	24.00	32.18	15.54	0.00	0.20	15.32
1	1	208	52.50	2	2	0.10	0.00	1.48	24.00	604.41	18.99	0.00	0.19	11.51
1	1	108	52.50	2	2	0.10	0.00	1.48	24.00	603.11	19.55	0.52	0.18	11.49
1	1	9	4.20	2	2	0.10	0.00	1.48	24.00	42.47	18.83	0.00	0.18	10.11
1	1	209	56.70	2	2	0.10	0.00	1.48	24.00	645.23	19.54	0.00	0.18	11.38
1	1	10	1.00	2	2	0.10	0.00	1.48	24.00	31.77	13.09	0.00	0.20	31.77

1	1	210	57.70	2	2	0.10	0.00	1.48	24.00	651.14	19.53	0.00	0.18	11.29
1	1	110	57.70	2	2	0.10	0.00	1.48	24.00	646.79	22.02	1.20	0.17	11.21
1	1	11	16.30	2	2	0.10	0.00	1.48	24.00	147.70	21.69	0.00	0.16	9.06
1	1	211	74.00	2	2	0.10	0.00	1.48	24.00	793.23	21.93	0.00	0.17	10.72
1	1	111	74.00	2	2	0.10	0.00	1.48	24.00	792.20	22.51	1.34	0.16	10.71
1	1	12	1.80	2	2	0.10	0.00	1.48	24.00	32.56	14.98	0.00	0.20	18.09
1	1	212	75.80	2	2	0.10	0.00	1.48	24.00	802.20	22.49	0.00	0.16	10.58
1	1	112	75.80	2	2	0.10	0.00	1.48	24.00	801.39	22.94	1.35	0.16	10.57
1	1	13	0.70	2	2	0.10	0.00	1.48	24.00	42.36	12.24	0.00	0.20	60.51
1	1	213	76.50	2	2	0.10	0.00	1.48	24.00	804.21	22.93	0.00	0.16	10.51
1	1	14	10.20	2	2	0.10	0.00	1.48	24.00	514.80	15.68	0.00	0.56	50.47
1	1	214	86.70	2	2	0.10	0.00	1.48	24.00	934.64	22.59	0.00	0.21	10.78
1	1	15	4.10	2	2	0.10	0.00	1.48	24.00	153.59	15.89	0.00	0.43	37.46
1	1	215	90.80	2	2	0.10	0.00	1.48	24.00	980.97	22.50	0.00	0.22	10.80
1	1	115	90.80	2	2	0.10	0.00	1.48	24.00	979.42	23.35	1.52	0.21	10.79
1	1	16	7.10	2	2	0.10	0.00	1.48	24.00	480.52	14.23	0.00	0.57	67.68
1	1	216	97.90	2	2	0.10	0.00	1.48	24.00	1046.08	23.23	0.00	0.24	10.69
1	1	116	97.90	2	2	0.10	0.00	1.48	24.00	1045.87	23.36	1.58	0.24	10.68
1	1	17	0.90	2	2	0.10	0.00	1.48	24.00	187.51	12.27	0.00	0.57	208.35
1	1	217	98.80	2	2	0.10	0.00	1.48	24.00	1052.62	23.39	0.00	0.24	10.65
1	1	117	98.80	2	2	0.10	0.00	1.48	24.00	1051.86	23.92	1.58	0.23	10.65
1	1	18	9.20	2	2	0.10	0.00	1.48	24.00	93.00	18.74	0.00	0.18	10.11
1	1	118	9.20	2	2	0.10	0.00	1.48	24.00	92.70	19.67	0.10	0.18	10.08
1	1	19	7.50	2	2	0.10	0.00	1.48	24.00	265.98	15.73	0.00	0.43	35.46
1	1	218	16.70	2	2	0.10	0.00	1.48	24.00	313.57	15.85	0.00	0.29	18.78
1	1	119	16.70	2	2	0.10	0.00	1.48	24.00	313.20	16.26	0.32	0.29	18.75
1	1	20	0.80	2	2	0.10	0.00	1.48	24.00	142.11	12.42	0.00	0.57	177.63
1	1	219	17.50	2	2	0.10	0.00	1.48	24.00	326.66	16.13	0.00	0.30	18.67
1	1	220	116.30	2	2	0.10	0.00	1.48	24.00	1372.49	16.33	0.00	0.24	11.80
1	1	120	116.30	2	2	0.10	0.00	1.48	24.00	1371.82	16.47	1.19	0.24	11.80
1	1	21	3.00	2	2	0.10	0.00	1.48	24.00	357.39	12.90	0.00	0.57	119.13
1	1	221	119.30	2	2	0.10	0.00	1.48	24.00	1430.67	16.37	0.00	0.25	11.99
1	1	121	119.30	2	2	0.10	0.00	1.48	24.00	1429.46	16.62	1.22	0.25	11.98
1	1	22	1.20	2	2	0.10	0.00	1.48	24.00	209.87	12.42	0.00	0.57	174.89
1	1	222	120.50	2	2	0.10	0.00	1.48	24.00	1447.91	16.60	0.00	0.25	12.02
1	1	122	120.50	2	2	0.10	0.00	1.48	24.00	1446.51	17.02	2211.86	0.25	12.00
1	1	23	4.50	2	2	0.10	0.00	1.48	24.00	622.38	12.75	0.00	0.57	138.31
1	1	223	125.00	2	2	0.10	0.00	1.48	24.00	1516.30	16.96	0.00	0.26	12.13
1	1	24	6.80	2	2	0.10	0.00	1.48	24.00	552.28	13.63	0.00	0.57	81.22
1	1	224	131.80	2	2	0.10	0.00	1.48	24.00	1745.67	13.50	0.00	0.28	13.24
1	1	124	131.80	2	2	0.10	0.00	1.48	24.00	1733.70	13.89	2135.70	0.27	13.15
1	1	25	3.00	2	2	0.10	0.00	1.48	24.00	297.38	13.30	0.00	0.57	99.13
1	1	225	134.80	2	2	0.10	0.00	1.48	24.00	1984.17	13.78	0.00	0.29	14.72
1	1	26	9.10	2	2	0.10	0.00	1.48	24.00	486.25	15.28	0.00	0.56	53.43
1	1	226	143.90	2	2	0.10	0.00	1.48	24.00	2366.71	13.89	0.00	0.30	16.45
1	1	126	143.90	2	2	0.10	0.00	1.48	24.00	2359.10	14.25	2078.78	0.29	16.39
1	1	27	1.20	2	2	0.10	0.00	1.48	24.00	270.11	12.22	0.00	0.57	225.09
1	1	227	145.10	2	2	0.10	0.00	1.48	24.00	2390.94	14.24	0.00	0.30	16.48
1	1	28	0.40	2	2	0.10	0.00	1.48	24.00	126.83	12.02	0.00	0.57	317.07
1	1	228	145.50	2	2	0.10	0.00	1.48	24.00	2400.37	14.24	0.00	0.30	16.50
1	1	127	145.50	2	2	0.10	0.00	1.48	24.00	2398.63	14.27	2078.82	0.30	16.49
1	1	29	1.60	2	2	0.10	0.00	1.48	24.00	182.48	12.94	0.00	0.57	114.05
1	1	229	147.10	2	2	0.10	0.00	1.48	24.00	2486.32	14.22	0.00	0.30	16.90
1	1	129	147.10	2	2	0.10	0.00	1.48	24.00	2483.62	14.30	2078.89	0.30	16.88
1	1	30	0.10	2	2	0.10	0.00	1.48	24.00	36.36	11.97	0.00	0.56	363.57
1	1	230	147.20	2	2	0.10	0.00	1.48	24.00	2485.88	14.30	0.00	0.30	16.89
1	2	2	10.30	2	2	0.10	0.00	2.49	24.00	531.25	17.27	0.00	0.71	51.58
1	2	102	10.30	2	2	0.10	0.00	2.49	24.00	529.30	17.58	1.76	0.71	51.39
1	2	3	4.90	2	2	0.10	0.00	2.49	24.00	273.43	15.98	0.00	0.72	55.80
1	2	203	15.20	2	2	0.10	0.00	2.49	24.00	780.59	16.87	0.00	0.71	51.35
1	2	4	5.40	2	2	0.10	0.00	2.49	24.00	289.40	16.14	0.00	0.72	53.59
1	2	103	15.20	2	2	0.10	0.00	2.49	24.00	779.70	17.13	2.30	0.71	51.30
1	2	204	20.60	2	2	0.10	0.00	2.49	24.00	1064.22	17.07	0.00	0.71	51.66
1	2	104	20.60	2	2	0.10	0.00	2.49	24.00	1062.93	17.33	2.52	0.71	51.60
1	2	5	13.20	2	2	0.10	0.00	2.49	24.00	715.11	16.86	0.00	0.72	54.18
1	2	205	33.80	2	2	0.10	0.00	2.49	24.00	1767.24	17.01	0.00	0.71	52.29

1	2	105	33.80	2	2	0.10	0.00	2.49	24.00	1765.61	17.12	3.36	0.71	52.24
1	2	6	13.90	2	2	0.10	0.00	2.49	24.00	570.09	18.15	0.00	0.68	41.01
1	2	206	47.70	2	2	0.10	0.00	2.49	24.00	2306.10	17.21	0.00	0.70	48.35
1	2	106	47.70	2	2	0.10	0.00	2.49	24.00	2302.52	17.79	2.93	0.70	48.27
1	2	7	2.70	2	2	0.10	0.00	2.49	24.00	215.73	14.41	0.00	0.73	79.90
1	2	207	50.40	2	2	0.10	0.00	2.49	24.00	2396.51	17.70	0.00	0.70	47.55
1	2	8	2.10	2	2	0.10	0.00	2.49	24.00	139.31	15.48	0.00	0.73	66.34
1	2	208	52.50	2	2	0.10	0.00	2.49	24.00	2487.84	17.63	0.00	0.70	47.39
1	2	108	52.50	2	2	0.10	0.00	2.49	24.00	2483.81	18.09	1.58	0.69	47.31
1	2	9	4.20	2	2	0.10	0.00	2.49	24.00	170.51	18.77	0.00	0.68	40.60
1	2	209	56.70	2	2	0.10	0.00	2.49	24.00	2650.91	18.11	0.00	0.69	46.75
1	2	10	1.00	2	2	0.10	0.00	2.49	24.00	153.11	12.89	0.00	0.73	153.11
1	2	210	57.70	2	2	0.10	0.00	2.49	24.00	2670.57	18.10	0.00	0.69	46.28
1	2	110	57.70	2	2	0.10	0.00	2.49	24.00	2661.37	19.72	2.68	0.67	46.12
1	2	11	16.30	2	2	0.10	0.00	2.49	24.00	554.80	19.78	0.00	0.62	34.04
1	2	211	74.00	2	2	0.10	0.00	2.49	24.00	3216.48	19.74	0.00	0.66	43.47
1	2	111	74.00	2	2	0.10	0.00	2.49	24.00	3212.63	20.14	3.00	0.65	43.41
1	2	12	1.80	2	2	0.10	0.00	2.49	24.00	143.82	14.41	0.00	0.73	79.90
1	2	212	75.80	2	2	0.10	0.00	2.49	24.00	3250.43	20.12	0.00	0.65	42.88
1	2	112	75.80	2	2	0.10	0.00	2.49	24.00	3246.21	20.41	3.02	0.65	42.85
1	2	13	0.70	2	2	0.10	0.00	2.49	24.00	214.26	12.17	0.00	0.73	306.08
1	2	213	76.50	2	2	0.10	0.00	2.49	24.00	3257.80	20.41	0.00	0.65	42.59
1	2	14	10.20	2	2	0.10	0.00	2.49	24.00	1304.03	14.94	0.00	1.36	127.85
1	2	214	86.70	2	2	0.10	0.00	2.49	24.00	3695.96	20.16	0.00	0.73	42.63
1	2	15	4.10	2	2	0.10	0.00	2.49	24.00	437.77	15.14	0.00	1.16	106.77
1	2	215	90.80	2	2	0.10	0.00	2.49	24.00	3866.64	19.93	0.00	0.75	42.58
1	2	115	90.80	2	2	0.10	0.00	2.49	24.00	3863.46	20.52	3.27	0.74	42.55
1	2	16	7.10	2	2	0.10	0.00	2.49	24.00	1219.85	14.20	0.00	1.37	171.81
1	2	216	97.90	2	2	0.10	0.00	2.49	24.00	4064.41	20.38	0.00	0.79	41.52
1	2	116	97.90	2	2	0.10	0.00	2.49	24.00	4063.71	20.47	3.35	0.78	41.51
1	2	17	0.90	2	2	0.10	0.00	2.49	24.00	477.05	12.24	0.00	1.37	530.06
1	2	217	98.80	2	2	0.10	0.00	2.49	24.00	4081.02	20.47	0.00	0.79	41.31
1	2	117	98.80	2	2	0.10	0.00	2.49	24.00	4078.95	20.85	3.36	0.78	41.28
1	2	18	9.20	2	2	0.10	0.00	2.49	24.00	373.96	18.65	0.00	0.68	40.65
1	2	118	9.20	2	2	0.10	0.00	2.49	24.00	372.30	19.30	0.38	0.67	40.47
1	2	19	7.50	2	2	0.10	0.00	2.49	24.00	758.42	15.68	0.00	1.16	101.12
1	2	218	16.70	2	2	0.10	0.00	2.49	24.00	980.74	15.85	0.00	0.89	58.73
1	2	119	16.70	2	2	0.10	0.00	2.49	24.00	979.79	16.24	1.00	0.88	58.67
1	2	20	0.80	2	2	0.10	0.00	2.49	24.00	360.80	12.38	0.00	1.37	451.00
1	2	219	17.50	2	2	0.10	0.00	2.49	24.00	1007.48	16.15	0.00	0.91	57.57
1	2	220	116.30	2	2	0.10	0.00	2.49	24.00	4736.08	20.52	0.00	0.80	40.72
1	2	120	116.30	2	2	0.10	0.00	2.49	24.00	4735.70	20.60	2.56	0.80	40.72
1	2	21	3.00	2	2	0.10	0.00	2.49	24.00	913.59	12.86	0.00	1.37	304.53
1	2	221	119.30	2	2	0.10	0.00	2.49	24.00	4797.70	20.56	0.00	0.81	40.22
1	2	121	119.30	2	2	0.10	0.00	2.49	24.00	4797.16	20.71	2.58	0.81	40.21
1	2	22	1.20	2	2	0.10	0.00	2.49	24.00	536.04	12.38	0.00	1.37	446.70
1	2	222	120.50	2	2	0.10	0.00	2.49	24.00	4820.11	20.70	0.00	0.82	40.00
1	2	122	120.50	2	2	0.10	0.00	2.49	24.00	4819.23	20.98	2213.46	0.81	39.99
1	2	23	4.50	2	2	0.10	0.00	2.49	24.00	1593.75	12.63	0.00	1.37	354.17
1	2	223	125.00	2	2	0.10	0.00	2.49	24.00	4905.51	20.92	0.00	0.83	39.24
1	2	24	6.80	2	2	0.10	0.00	2.49	24.00	1410.38	13.60	0.00	1.37	207.41
1	2	224	131.80	2	2	0.10	0.00	2.49	24.00	5100.11	13.13	0.00	0.86	38.70
1	2	124	131.80	2	2	0.10	0.00	2.49	24.00	5058.16	21.11	2136.61	0.85	38.38
1	2	25	3.00	2	2	0.10	0.00	2.49	24.00	754.28	13.27	0.00	1.37	251.43
1	2	225	134.80	2	2	0.10	0.00	2.49	24.00	5784.05	13.42	0.00	0.87	42.91
1	2	26	9.10	2	2	0.10	0.00	2.49	24.00	1224.29	14.62	0.00	1.36	134.54
1	2	226	143.90	2	2	0.10	0.00	2.49	24.00	6650.91	13.60	0.00	0.90	46.22
1	2	126	143.90	2	2	0.10	0.00	2.49	24.00	6644.65	13.88	2080.83	0.89	46.18
1	2	27	1.20	2	2	0.10	0.00	2.49	24.00	683.66	12.19	0.00	1.37	569.71
1	2	227	145.10	2	2	0.10	0.00	2.49	24.00	6725.38	13.86	0.00	0.90	46.35
1	2	28	0.40	2	2	0.10	0.00	2.49	24.00	311.02	12.00	0.00	1.37	777.56
1	2	228	145.50	2	2	0.10	0.00	2.49	24.00	6747.86	13.86	0.00	0.90	46.38
1	2	127	145.50	2	2	0.10	0.00	2.49	24.00	6745.27	13.88	2080.87	0.90	46.36
1	2	29	1.60	2	2	0.10	0.00	2.49	24.00	467.93	12.85	0.00	1.37	292.46
1	2	229	147.10	2	2	0.10	0.00	2.49	24.00	7018.54	13.81	0.00	0.90	47.71
1	2	129	147.10	2	2	0.10	0.00	2.49	24.00	7013.38	13.86	2080.97	0.90	47.68

1	2	30	0.10	2	2	0.10	0.00	2.49	24.00	86.74	11.96	0.00	1.37	867.37
1	2	230	147.20	2	2	0.10	0.00	2.49	24.00	7018.85	13.86	0.00	0.90	47.68
1	3	2	10.30	2	2	0.10	0.00	3.51	24.00	1081.15	16.24	0.00	1.40	104.97
1	3	102	10.30	2	2	0.10	0.00	3.51	24.00	1076.08	16.93	2.32	1.39	104.47
1	3	3	4.90	2	2	0.10	0.00	3.51	24.00	563.20	15.95	0.00	1.42	114.94
1	3	203	15.20	2	2	0.10	0.00	3.51	24.00	1603.09	16.61	0.00	1.40	105.47
1	3	4	5.40	2	2	0.10	0.00	3.51	24.00	595.83	16.11	0.00	1.41	110.34
1	3	103	15.20	2	2	0.10	0.00	3.51	24.00	1601.45	16.83	3.51	1.40	105.36
1	3	204	20.60	2	2	0.10	0.00	3.51	24.00	2179.31	16.75	0.00	1.40	105.79
1	3	104	20.60	2	2	0.10	0.00	3.51	24.00	2177.56	16.98	3.78	1.40	105.71
1	3	5	13.20	2	2	0.10	0.00	3.51	24.00	1472.77	15.96	0.00	1.41	111.57
1	3	205	33.80	2	2	0.10	0.00	3.51	24.00	3616.11	16.86	0.00	1.40	106.99
1	3	105	33.80	2	2	0.10	0.00	3.51	24.00	3614.70	16.94	5.00	1.40	106.94
1	3	6	13.90	2	2	0.10	0.00	3.51	24.00	1158.51	18.12	0.00	1.34	83.35
1	3	206	47.70	2	2	0.10	0.00	3.51	24.00	4727.29	17.00	0.00	1.38	99.10
1	3	106	47.70	2	2	0.10	0.00	3.51	24.00	4723.03	17.38	4.53	1.38	99.02
1	3	7	2.70	2	2	0.10	0.00	3.51	24.00	450.14	14.39	0.00	1.43	166.72
1	3	207	50.40	2	2	0.10	0.00	3.51	24.00	4917.16	17.29	0.00	1.38	97.56
1	3	8	2.10	2	2	0.10	0.00	3.51	24.00	286.74	15.46	0.00	1.43	136.54
1	3	208	52.50	2	2	0.10	0.00	3.51	24.00	5112.64	17.17	0.00	1.38	97.38
1	3	108	52.50	2	2	0.10	0.00	3.51	24.00	5108.93	17.53	2.44	1.38	97.31
1	3	9	4.20	2	2	0.10	0.00	3.51	24.00	344.22	18.75	0.00	1.33	81.96
1	3	209	56.70	2	2	0.10	0.00	3.51	24.00	5447.13	17.54	0.00	1.37	96.07
1	3	10	1.00	2	2	0.10	0.00	3.51	24.00	322.49	12.84	0.00	1.44	322.49
1	3	210	57.70	2	2	0.10	0.00	3.51	24.00	5483.79	17.53	0.00	1.37	95.04
1	3	110	57.70	2	2	0.10	0.00	3.51	24.00	5470.61	18.84	3.93	1.34	94.81
1	3	11	16.30	2	2	0.10	0.00	3.51	24.00	1118.53	19.74	0.00	1.24	68.62
1	3	211	74.00	2	2	0.10	0.00	3.51	24.00	6534.10	18.96	0.00	1.32	88.30
1	3	111	74.00	2	2	0.10	0.00	3.51	24.00	6530.83	19.26	4.28	1.31	88.25
1	3	12	1.80	2	2	0.10	0.00	3.51	24.00	300.09	14.39	0.00	1.43	166.72
1	3	212	75.80	2	2	0.10	0.00	3.51	24.00	6610.16	19.23	0.00	1.31	87.21
1	3	112	75.80	2	2	0.10	0.00	3.51	24.00	6607.49	19.46	4.30	1.31	87.17
1	3	13	0.70	2	2	0.10	0.00	3.51	24.00	448.94	12.14	0.00	1.43	641.34
1	3	213	76.50	2	2	0.10	0.00	3.51	24.00	6625.85	19.46	0.00	1.31	86.61
1	3	14	10.20	2	2	0.10	0.00	3.51	24.00	2197.69	14.93	0.00	2.26	215.46
1	3	214	86.70	2	2	0.10	0.00	3.51	24.00	7503.96	19.05	0.00	1.42	86.55
1	3	15	4.10	2	2	0.10	0.00	3.51	24.00	776.07	15.12	0.00	2.01	189.29
1	3	215	90.80	2	2	0.10	0.00	3.51	24.00	7860.72	18.92	0.00	1.45	86.57
1	3	115	90.80	2	2	0.10	0.00	3.51	24.00	7855.41	19.39	4.69	1.43	86.51
1	3	16	7.10	2	2	0.10	0.00	3.51	24.00	2038.81	14.18	0.00	2.27	287.16
1	3	216	97.90	2	2	0.10	0.00	3.51	24.00	8245.75	19.24	0.00	1.49	84.23
1	3	116	97.90	2	2	0.10	0.00	3.51	24.00	8244.55	19.31	4.81	1.49	84.21
1	3	17	0.90	2	2	0.10	0.00	3.51	24.00	795.11	12.23	0.00	2.27	883.45
1	3	217	98.80	2	2	0.10	0.00	3.51	24.00	8274.10	19.31	0.00	1.50	83.75
1	3	117	98.80	2	2	0.10	0.00	3.51	24.00	8270.87	19.62	4.82	1.49	83.71
1	3	18	9.20	2	2	0.10	0.00	3.51	24.00	756.52	18.60	0.00	1.34	82.23
1	3	118	9.20	2	2	0.10	0.00	3.51	24.00	754.16	19.21	0.77	1.32	81.97
1	3	19	7.50	2	2	0.10	0.00	3.51	24.00	1334.78	15.66	0.00	2.00	177.97
1	3	218	16.70	2	2	0.10	0.00	3.51	24.00	1810.30	16.00	0.00	1.62	108.40
1	3	119	16.70	2	2	0.10	0.00	3.51	24.00	1809.52	16.21	1.40	1.62	108.35
1	3	20	0.80	2	2	0.10	0.00	3.51	24.00	601.97	12.36	0.00	2.27	752.46
1	3	219	17.50	2	2	0.10	0.00	3.51	24.00	1852.10	16.13	0.00	1.65	105.83
1	3	220	116.30	2	2	0.10	0.00	3.51	24.00	9661.24	19.32	0.00	1.51	83.07
1	3	120	116.30	2	2	0.10	0.00	3.51	24.00	9660.53	19.38	3.99	1.51	83.07
1	3	21	3.00	2	2	0.10	0.00	3.51	24.00	1526.81	12.85	0.00	2.27	508.94
1	3	221	119.30	2	2	0.10	0.00	3.51	24.00	9766.75	19.35	0.00	1.53	81.87
1	3	121	119.30	2	2	0.10	0.00	3.51	24.00	9766.08	19.47	4.02	1.53	81.86
1	3	22	1.20	2	2	0.10	0.00	3.51	24.00	895.95	12.36	0.00	2.27	746.63
1	3	222	120.50	2	2	0.10	0.00	3.51	24.00	9805.69	19.47	0.00	1.53	81.38
1	3	122	120.50	2	2	0.10	0.00	3.51	24.00	9804.36	19.70	2215.02	1.53	81.36
1	3	23	4.50	2	2	0.10	0.00	3.51	24.00	2666.76	12.62	0.00	2.27	592.61
1	3	223	125.00	2	2	0.10	0.00	3.51	24.00	9954.38	19.67	0.00	1.55	79.64
1	3	24	6.80	2	2	0.10	0.00	3.51	24.00	2360.03	13.59	0.00	2.27	347.06
1	3	224	131.80	2	2	0.10	0.00	3.51	24.00	10241.73	19.55	0.00	1.59	77.71
1	3	124	131.80	2	2	0.10	0.00	3.51	24.00	10239.87	19.80	2137.51	1.58	77.69
1	3	25	3.00	2	2	0.10	0.00	3.51	24.00	1257.62	13.26	0.00	2.27	419.21

1	3	225	134.80	2	2	0.10	0.00	3.51	24.00	10432.66	13.32	0.00	1.60	77.39
1	3	26	9.10	2	2	0.10	0.00	3.51	24.00	2074.24	14.54	0.00	2.26	227.94
1	3	226	143.90	2	2	0.10	0.00	3.51	24.00	11820.23	13.41	0.00	1.64	82.14
1	3	126	143.90	2	2	0.10	0.00	3.51	24.00	11788.14	13.73	2082.02	1.63	81.92
1	3	27	1.20	2	2	0.10	0.00	3.51	24.00	1138.23	12.18	0.00	2.27	948.53
1	3	227	145.10	2	2	0.10	0.00	3.51	24.00	11926.64	13.71	0.00	1.64	82.20
1	3	28	0.40	2	2	0.10	0.00	3.51	24.00	511.12	11.99	0.00	2.28	1277.79
1	3	228	145.50	2	2	0.10	0.00	3.51	24.00	11964.07	13.70	0.00	1.64	82.23
1	3	127	145.50	2	2	0.10	0.00	3.51	24.00	11960.09	13.73	2082.04	1.64	82.20
1	3	29	1.60	2	2	0.10	0.00	3.51	24.00	787.28	12.84	0.00	2.27	492.05
1	3	229	147.10	2	2	0.10	0.00	3.51	24.00	12451.65	13.67	0.00	1.65	84.65
1	3	129	147.10	2	2	0.10	0.00	3.51	24.00	12444.03	13.74	2082.10	1.64	84.60
1	3	30	0.10	2	2	0.10	0.00	3.51	24.00	140.69	11.96	0.00	2.27	1406.89
1	3	230	147.20	2	2	0.10	0.00	3.51	24.00	12452.53	13.74	0.00	1.64	84.60
1	4	2	10.30	2	2	0.10	0.00	3.97	24.00	1362.78	16.24	0.00	1.74	132.31
1	4	102	10.30	2	2	0.10	0.00	3.97	24.00	1354.45	16.79	2.53	1.74	131.50
1	4	3	4.90	2	2	0.10	0.00	3.97	24.00	708.93	15.93	0.00	1.76	144.68
1	4	203	15.20	2	2	0.10	0.00	3.97	24.00	2019.02	16.54	0.00	1.74	132.83
1	4	4	5.40	2	2	0.10	0.00	3.97	24.00	749.98	16.10	0.00	1.75	138.89
1	4	103	15.20	2	2	0.10	0.00	3.97	24.00	2016.81	16.75	4.04	1.74	132.68
1	4	204	20.60	2	2	0.10	0.00	3.97	24.00	2743.06	16.67	0.00	1.74	133.16
1	4	104	20.60	2	2	0.10	0.00	3.97	24.00	2740.98	16.68	4.29	1.74	133.06
1	4	5	13.20	2	2	0.10	0.00	3.97	24.00	1857.70	15.95	0.00	1.75	140.73
1	4	205	33.80	2	2	0.10	0.00	3.97	24.00	4545.27	16.73	0.00	1.75	134.48
1	4	105	33.80	2	2	0.10	0.00	3.97	24.00	4544.57	16.82	5.38	1.74	134.45
1	4	6	13.90	2	2	0.10	0.00	3.97	24.00	1453.99	18.11	0.00	1.68	104.60
1	4	206	47.70	2	2	0.10	0.00	3.97	24.00	5945.22	16.92	0.00	1.72	124.64
1	4	106	47.70	2	2	0.10	0.00	3.97	24.00	5942.13	17.29	5.26	1.72	124.57
1	4	7	2.70	2	2	0.10	0.00	3.97	24.00	567.58	14.38	0.00	1.78	210.22
1	4	207	50.40	2	2	0.10	0.00	3.97	24.00	6187.82	17.17	0.00	1.72	122.77
1	4	8	2.10	2	2	0.10	0.00	3.97	24.00	360.40	15.45	0.00	1.78	171.62
1	4	208	52.50	2	2	0.10	0.00	3.97	24.00	6439.36	17.04	0.00	1.72	122.65
1	4	108	52.50	2	2	0.10	0.00	3.97	24.00	6433.04	17.40	3.12	1.71	122.53
1	4	9	4.20	2	2	0.10	0.00	3.97	24.00	431.27	18.72	0.00	1.66	102.68
1	4	209	56.70	2	2	0.10	0.00	3.97	24.00	6858.70	17.41	0.00	1.71	120.96
1	4	10	1.00	2	2	0.10	0.00	3.97	24.00	407.02	12.83	0.00	1.79	407.02
1	4	210	57.70	2	2	0.10	0.00	3.97	24.00	6903.29	17.40	0.00	1.71	119.64
1	4	110	57.70	2	2	0.10	0.00	3.97	24.00	6888.02	18.64	4.39	1.68	119.38
1	4	11	16.30	2	2	0.10	0.00	3.97	24.00	1401.26	19.73	0.00	1.55	85.97
1	4	211	74.00	2	2	0.10	0.00	3.97	24.00	8209.59	18.75	0.00	1.65	110.94
1	4	111	74.00	2	2	0.10	0.00	3.97	24.00	8205.94	19.03	4.80	1.64	110.89
1	4	12	1.80	2	2	0.10	0.00	3.97	24.00	378.39	14.38	0.00	1.78	210.22
1	4	212	75.80	2	2	0.10	0.00	3.97	24.00	8306.79	19.00	0.00	1.64	109.59
1	4	112	75.80	2	2	0.10	0.00	3.97	24.00	8303.63	19.22	4.83	1.63	109.55
1	4	13	0.70	2	2	0.10	0.00	3.97	24.00	565.16	12.14	0.00	1.78	807.37
1	4	213	76.50	2	2	0.10	0.00	3.97	24.00	8325.46	19.22	0.00	1.64	108.83
1	4	14	10.20	2	2	0.10	0.00	3.97	24.00	2612.81	14.93	0.00	2.68	256.16
1	4	214	86.70	2	2	0.10	0.00	3.97	24.00	9418.70	18.84	0.00	1.76	108.64
1	4	15	4.10	2	2	0.10	0.00	3.97	24.00	936.09	15.12	0.00	2.41	228.31
1	4	215	90.80	2	2	0.10	0.00	3.97	24.00	9862.04	18.71	0.00	1.79	108.61
1	4	115	90.80	2	2	0.10	0.00	3.97	24.00	9856.61	19.15	5.18	1.77	108.55
1	4	16	7.10	2	2	0.10	0.00	3.97	24.00	2417.41	14.17	0.00	2.69	340.48
1	4	216	97.90	2	2	0.10	0.00	3.97	24.00	10336.64	18.94	0.00	1.84	105.58
1	4	116	97.90	2	2	0.10	0.00	3.97	24.00	10335.68	19.02	5.27	1.84	105.57
1	4	17	0.90	2	2	0.10	0.00	3.97	24.00	941.57	12.22	0.00	2.70	1046.19
1	4	217	98.80	2	2	0.10	0.00	3.97	24.00	10369.97	19.02	0.00	1.84	104.96
1	4	117	98.80	2	2	0.10	0.00	3.97	24.00	10367.45	19.32	5.28	1.83	104.93
1	4	18	9.20	2	2	0.10	0.00	3.97	24.00	948.22	18.59	0.00	1.67	103.07
1	4	118	9.20	2	2	0.10	0.00	3.97	24.00	945.83	19.18	0.97	1.64	102.81
1	4	19	7.50	2	2	0.10	0.00	3.97	24.00	1606.83	14.95	0.00	2.41	214.24
1	4	218	16.70	2	2	0.10	0.00	3.97	24.00	2214.13	16.02	0.00	1.98	132.58
1	4	119	16.70	2	2	0.10	0.00	3.97	24.00	2213.34	16.20	1.59	1.98	132.54
1	4	20	0.80	2	2	0.10	0.00	3.97	24.00	713.16	12.35	0.00	2.70	891.45
1	4	219	17.50	2	2	0.10	0.00	3.97	24.00	2262.57	16.12	0.00	2.01	129.29
1	4	220	116.30	2	2	0.10	0.00	3.97	24.00	12118.23	19.03	0.00	1.86	104.20
1	4	120	116.30	2	2	0.10	0.00	3.97	24.00	12117.11	19.09	4.56	1.86	104.19

1	4	21	3.00	2	2	0.10	0.00	3.97	24.00	1610.00	12.84	0.00	2.70	603.33
1	4	221	119.30	2	2	0.10	0.00	3.97	24.00	12244.33	19.06	0.00	1.88	102.63
1	4	121	119.30	2	2	0.10	0.00	3.97	24.00	12243.31	19.17	4.59	1.88	102.63
1	4	22	1.20	2	2	0.10	0.00	3.97	24.00	1061.94	12.36	0.00	2.70	884.95
1	4	222	120.50	2	2	0.10	0.00	3.97	24.00	12289.49	19.16	0.00	1.88	101.99
1	4	122	120.50	2	2	0.10	0.00	3.97	24.00	12287.63	19.38	2215.48	1.88	101.97
1	4	23	4.50	2	2	0.10	0.00	3.97	24.00	3161.68	12.61	0.00	2.69	702.60
1	4	223	125.00	2	2	0.10	0.00	3.97	24.00	12464.37	19.36	0.00	1.91	99.71
1	4	24	6.80	2	2	0.10	0.00	3.97	24.00	2798.78	13.58	0.00	2.70	411.59
1	4	224	131.80	2	2	0.10	0.00	3.97	24.00	12816.76	19.24	0.00	1.95	97.24
1	4	124	131.80	2	2	0.10	0.00	3.97	24.00	12815.33	19.46	2137.89	1.94	97.23
1	4	25	3.00	2	2	0.10	0.00	3.97	24.00	1489.72	13.25	0.00	2.70	496.57
1	4	225	134.80	2	2	0.10	0.00	3.97	24.00	12944.70	19.41	0.00	1.96	96.03
1	4	26	9.10	2	2	0.10	0.00	3.97	24.00	2467.70	14.54	0.00	2.68	271.18
1	4	226	143.90	2	2	0.10	0.00	3.97	24.00	14283.94	13.36	0.00	2.00	99.26
1	4	126	143.90	2	2	0.10	0.00	3.97	24.00	14238.26	13.67	2082.30	1.99	98.95
1	4	27	1.20	2	2	0.10	0.00	3.97	24.00	1347.52	12.17	0.00	2.70	1122.94
1	4	227	145.10	2	2	0.10	0.00	3.97	24.00	14413.30	13.65	0.00	2.00	99.33
1	4	28	0.40	2	2	0.10	0.00	3.97	24.00	602.80	11.99	0.00	2.70	1507.01
1	4	228	145.50	2	2	0.10	0.00	3.97	24.00	14459.18	13.65	0.00	2.00	99.38
1	4	127	145.50	2	2	0.10	0.00	3.97	24.00	14443.66	13.68	2062.33	2.00	99.27
1	4	29	1.60	2	2	0.10	0.00	3.97	24.00	933.88	12.84	0.00	2.70	583.68
1	4	229	147.10	2	2	0.10	0.00	3.97	24.00	15057.10	13.62	0.00	2.01	102.36
1	4	129	147.10	2	2	0.10	0.00	3.97	24.00	15034.90	13.69	2082.40	2.01	102.21
1	4	30	0.10	2	2	0.10	0.00	3.97	24.00	165.27	11.96	0.00	2.69	1652.75
1	4	230	147.20	2	2	0.10	0.00	3.97	24.00	15044.96	13.69	0.00	2.01	102.21
1	5	2	10.30	2	2	0.10	0.00	4.97	24.00	2014.72	16.23	0.00	2.53	195.60
1	5	102	10.30	2	2	0.10	0.00	4.97	24.00	2000.45	16.66	3.02	2.53	194.22
1	5	3	4.90	2	2	0.10	0.00	4.97	24.00	1045.63	15.90	0.00	2.56	213.39
1	5	203	15.20	2	2	0.10	0.00	4.97	24.00	2981.20	16.48	0.00	2.54	196.13
1	5	4	5.40	2	2	0.10	0.00	4.97	24.00	1106.14	16.09	0.00	2.55	204.84
1	5	103	15.20	2	2	0.10	0.00	4.97	24.00	2978.36	16.65	5.04	2.53	195.94
1	5	204	20.60	2	2	0.10	0.00	4.97	24.00	4048.46	16.56	0.00	2.54	196.53
1	5	104	20.60	2	2	0.10	0.00	4.97	24.00	4045.63	16.74	5.17	2.53	196.39
1	5	5	13.20	2	2	0.10	0.00	4.97	24.00	2743.96	15.94	0.00	2.55	207.88
1	5	205	33.80	2	2	0.10	0.00	4.97	24.00	6704.98	16.43	0.00	2.54	198.37
1	5	105	33.80	2	2	0.10	0.00	4.97	24.00	6703.63	16.55	6.25	2.54	198.33
1	5	6	13.90	2	2	0.10	0.00	4.97	24.00	2137.05	18.09	0.00	2.44	153.74
1	5	206	47.70	2	2	0.10	0.00	4.97	24.00	8774.94	16.73	0.00	2.51	183.96
1	5	106	47.70	2	2	0.10	0.00	4.97	24.00	8764.64	17.21	6.96	2.50	183.75
1	5	7	2.70	2	2	0.10	0.00	4.97	24.00	838.09	14.37	0.00	2.59	310.40
1	5	207	50.40	2	2	0.10	0.00	4.97	24.00	9120.12	17.11	0.00	2.50	180.95
1	5	8	2.10	2	2	0.10	0.00	4.97	24.00	535.11	14.74	0.00	2.58	254.81
1	5	208	52.50	2	2	0.10	0.00	4.97	24.00	9486.46	17.01	0.00	2.51	180.69
1	5	108	52.50	2	2	0.10	0.00	4.97	24.00	9475.11	17.38	4.78	2.49	180.48
1	5	9	4.20	2	2	0.10	0.00	4.97	24.00	632.09	18.66	0.00	2.42	150.50
1	5	209	56.70	2	2	0.10	0.00	4.97	24.00	10105.50	17.38	0.00	2.49	178.23
1	5	10	1.00	2	2	0.10	0.00	4.97	24.00	601.37	12.81	0.00	2.59	601.37
1	5	210	57.70	2	2	0.10	0.00	4.97	24.00	10166.23	17.38	0.00	2.49	176.19
1	5	110	57.70	2	2	0.10	0.00	4.97	24.00	10146.35	18.51	5.24	2.45	175.85
1	5	11	16.30	2	2	0.10	0.00	4.97	24.00	2055.29	19.72	0.00	2.26	126.09
1	5	211	74.00	2	2	0.10	0.00	4.97	24.00	12086.05	18.60	0.00	2.41	163.33
1	5	111	74.00	2	2	0.10	0.00	4.97	24.00	12081.69	18.86	5.59	2.39	163.27
1	5	12	1.80	2	2	0.10	0.00	4.97	24.00	558.73	14.37	0.00	2.59	310.40
1	5	212	75.80	2	2	0.10	0.00	4.97	24.00	12226.68	18.83	0.00	2.40	161.30
1	5	112	75.80	2	2	0.10	0.00	4.97	24.00	12222.66	19.03	5.62	2.39	161.25
1	5	13	0.70	2	2	0.10	0.00	4.97	24.00	831.57	12.13	0.00	2.59	1187.96
1	5	213	76.50	2	2	0.10	0.00	4.97	24.00	12252.15	19.03	0.00	2.39	160.16
1	5	14	10.20	2	2	0.10	0.00	4.97	24.00	3527.16	14.92	0.00	3.61	345.80
1	5	214	86.70	2	2	0.10	0.00	4.97	24.00	13759.72	18.69	0.00	2.53	158.70
1	5	15	4.10	2	2	0.10	0.00	4.97	24.00	1292.35	15.11	0.00	3.31	315.21
1	5	215	90.80	2	2	0.10	0.00	4.97	24.00	14378.20	18.53	0.00	2.57	158.35
1	5	115	90.80	2	2	0.10	0.00	4.97	24.00	14371.61	18.95	6.01	2.55	158.28
1	5	16	7.10	2	2	0.10	0.00	4.97	24.00	3248.66	14.17	0.00	3.63	457.56
1	5	216	97.90	2	2	0.10	0.00	4.97	24.00	15032.28	18.74	0.00	2.63	153.55
1	5	116	97.90	2	2	0.10	0.00	4.97	24.00	15030.60	18.81	6.13	2.62	153.53

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1	5	17	0.90	2	2	0.10	0.00	4.97	24.00	1262.13	12.22	0.00	3.63	1402.37
1	5	217	98.80	2	2	0.10	0.00	4.97	24.00	15075.20	18.80	0.00	2.63	152.58
1	5	117	98.80	2	2	0.10	0.00	4.97	24.00	15070.72	19.09	6.14	2.62	152.54
1	5	18	9.20	2	2	0.10	0.00	4.97	24.00	1390.48	18.56	0.00	2.43	151.14
1	5	118	9.20	2	2	0.10	0.00	4.97	24.00	1388.79	19.06	1.20	2.40	150.96
1	5	19	7.50	2	2	0.10	0.00	4.97	24.00	2227.25	14.90	0.00	3.31	296.97
1	5	218	16.70	2	2	0.10	0.00	4.97	24.00	3151.80	15.99	0.00	2.81	188.73
1	5	119	16.70	2	2	0.10	0.00	4.97	24.00	3150.64	16.15	2.02	2.80	188.66
1	5	20	0.80	2	2	0.10	0.00	4.97	24.00	958.23	12.34	0.00	3.63	1197.78
1	5	219	17.50	2	2	0.10	0.00	4.97	24.00	3214.66	16.09	0.00	2.84	183.70
1	5	220	116.30	2	2	0.10	0.00	4.97	24.00	17582.60	18.86	0.00	2.65	151.18
1	5	120	116.30	2	2	0.10	0.00	4.97	24.00	17580.96	18.91	5.83	2.65	151.17
1	5	21	3.00	2	2	0.10	0.00	4.97	24.00	2430.77	12.83	0.00	3.63	810.26
1	5	221	119.30	2	2	0.10	0.00	4.97	24.00	17749.26	18.88	0.00	2.68	148.78
1	5	121	119.30	2	2	0.10	0.00	4.97	24.00	17747.67	18.97	5.87	2.67	148.77
1	5	22	1.20	2	2	0.10	0.00	4.97	24.00	1425.57	12.35	0.00	3.63	1187.98
1	5	222	120.50	2	2	0.10	0.00	4.97	24.00	17807.85	18.97	0.00	2.68	147.78
1	5	122	120.50	2	2	0.10	0.00	4.97	24.00	17805.30	19.16	2216.38	2.67	147.76
1	5	23	4.50	2	2	0.10	0.00	4.97	24.00	4246.12	12.61	0.00	3.63	943.58
1	5	223	125.00	2	2	0.10	0.00	4.97	24.00	18037.20	19.13	0.00	2.71	144.30
1	5	24	6.80	2	2	0.10	0.00	4.97	24.00	3761.53	13.58	0.00	3.63	553.17
1	5	224	131.80	2	2	0.10	0.00	4.97	24.00	18517.59	18.96	0.00	2.75	140.50
1	5	124	131.80	2	2	0.10	0.00	4.97	24.00	18515.83	19.16	2138.54	2.74	140.48
1	5	25	3.00	2	2	0.10	0.00	4.97	24.00	2003.40	13.05	0.00	3.63	667.80
1	5	225	134.80	2	2	0.10	0.00	4.97	24.00	18690.50	19.10	0.00	2.76	138.65
1	5	26	9.10	2	2	0.10	0.00	4.97	24.00	3334.51	14.54	0.00	3.62	366.43
1	5	226	143.90	2	2	0.10	0.00	4.97	24.00	19929.08	18.43	0.00	2.82	138.49
1	5	126	143.90	2	2	0.10	0.00	4.97	24.00	19926.23	18.72	2082.96	2.81	138.47
1	5	27	1.20	2	2	0.10	0.00	4.97	24.00	1805.54	12.17	0.00	3.63	1504.62
1	5	227	145.10	2	2	0.10	0.00	4.97	24.00	19985.61	18.71	0.00	2.81	137.74
1	5	28	0.40	2	2	0.10	0.00	4.97	24.00	802.90	11.99	0.00	3.64	2007.24
1	5	228	145.50	2	2	0.10	0.00	4.97	24.00	20004.97	18.71	0.00	2.82	137.49
1	5	127	145.50	2	2	0.10	0.00	4.97	24.00	20004.62	18.73	2082.97	2.81	137.49
1	5	29	1.60	2	2	0.10	0.00	4.97	24.00	1255.33	12.83	0.00	3.63	784.58
1	5	229	147.10	2	2	0.10	0.00	4.97	24.00	20843.17	13.55	0.00	2.82	141.69
1	5	129	147.10	2	2	0.10	0.00	4.97	24.00	20821.75	13.61	2083.06	2.82	141.55
1	5	30	0.10	2	2	0.10	0.00	4.97	24.00	218.76	11.96	0.00	3.62	2187.59
1	5	230	147.20	2	2	0.10	0.00	4.97	24.00	20835.84	13.61	0.00	2.82	141.55

1SUMMARY TABLE 3

DISCHARGE,CFS

	Q1 (2-yr)	Q2 (10-yr)	Q3 (50-yr)	Q4 (100-yr)	Q5 (500-yr)	Q6	Q7	Q8	Q9	Q10
OXSEC/STRUC NO. 2										
ALTERNATE 1	129.80	531.25	1081.15	1362.78	2014.72	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 3										
ALTERNATE 1	64.88	273.43	563.20	708.93	1045.63	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 4										
ALTERNATE 1	71.56	289.40	595.83	749.98	1106.14	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 5										
ALTERNATE 1	176.90	715.11	1472.77	1857.70	2743.96	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 6										
ALTERNATE 1	142.33	570.09	1158.51	1453.99	2137.05	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 7										
ALTERNATE 1	48.84	215.73	450.14	567.58	838.09	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 8										
ALTERNATE 1	32.18	139.31	286.74	360.40	535.11	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 9										
ALTERNATE 1	42.47	170.51	344.22	431.27	632.09	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 10										
ALTERNATE 1	31.77	153.11	322.49	407.02	601.37	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 11										
ALTERNATE 1	147.70	554.80	1118.53	1401.26	2055.29	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 12										
ALTERNATE 1	32.56	143.82	300.09	378.39	558.73	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 13										

ALTERNATE 1	42.36	214.26	448.94	565.16	831.57	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 14										
ALTERNATE 1	514.80	1304.03	2197.69	2612.81	3527.16	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 15										
ALTERNATE 1	153.59	437.77	776.07	936.09	1292.35	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 16										
ALTERNATE 1	480.52	1219.85	2038.81	2417.41	3248.66	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 17										
ALTERNATE 1	187.51	477.05	795.11	941.57	1262.13	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 18										
ALTERNATE 1	93.00	373.96	756.52	948.22	1390.48	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 19										
ALTERNATE 1	265.98	758.42	1334.78	1606.83	2227.25	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 20										
ALTERNATE 1	142.11	360.80	601.97	713.16	958.23	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 21										
ALTERNATE 1	357.39	913.59	1526.81	1810.00	2430.77	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 22										
ALTERNATE 1	209.87	536.04	895.95	1061.94	1425.57	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 23										
ALTERNATE 1	622.38	1593.75	2666.76	3161.68	4246.12	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 24										
ALTERNATE 1	552.28	1410.38	2360.03	2798.78	3761.53	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 25										
ALTERNATE 1	297.38	754.28	1257.62	1489.72	2003.40	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 26										
ALTERNATE 1	486.25	1224.29	2074.24	2467.70	3334.51	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 27										
ALTERNATE 1	270.11	683.66	1138.23	1347.52	1805.54	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 28										
ALTERNATE 1	126.83	311.02	511.12	602.80	802.90	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 29										
ALTERNATE 1	182.48	467.93	787.28	933.88	1255.33	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO. 30										
ALTERNATE 1	36.36	86.74	140.69	165.27	218.76	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.102										
ALTERNATE 1	128.41	529.30	1076.08	1354.45	2000.45	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.103										
ALTERNATE 1	187.72	779.70	1601.45	2016.81	2978.36	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.104										
ALTERNATE 1	255.63	1062.93	2177.56	2740.98	4045.63	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.105										
ALTERNATE 1	423.69	1765.61	3614.70	4544.57	6703.63	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.106										
ALTERNATE 1	560.65	2302.52	4723.03	5942.13	8764.64	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.108										
ALTERNATE 1	603.11	2483.81	5108.93	6433.04	9475.11	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.110										
ALTERNATE 1	646.79	2661.37	5470.61	6888.02	10146.35	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.111										
ALTERNATE 1	792.20	3212.63	6530.83	8205.94	12081.69	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.112										
ALTERNATE 1	801.39	3248.21	6607.49	8303.63	12222.66	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.115										
ALTERNATE 1	979.42	3863.46	7855.41	9856.61	14371.61	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.116										
ALTERNATE 1	1045.87	4063.71	8244.55	10335.68	15030.60	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.117										
ALTERNATE 1	1051.86	4078.95	8270.87	10367.45	15070.72	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.118										
ALTERNATE 1	92.70	372.30	754.16	945.83	1388.79	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.119										
ALTERNATE 1	313.20	979.79	1809.52	2213.34	3150.64	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.120										
ALTERNATE 1	1371.82	4735.70	9660.53	12117.11	17580.96	0.00	0.00	0.00	0.00	0.00
OXSEC/STRUC NO.121										

63

ALTERNATE 1	1429.46	4797.16	9766.08	12243.31	17747.67	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.122											
ALTERNATE 1	1446.51	4819.23	9804.36	12287.63	17805.30	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.124											
ALTERNATE 1	1733.70	5058.16	10239.87	12815.33	18515.83	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.126											
ALTERNATE 1	2359.10	6644.65	11788.14	14238.26	19926.23	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.127											
ALTERNATE 1	2398.63	6745.27	11960.09	14443.66	20004.62	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.129											
ALTERNATE 1	2483.62	7013.38	12444.03	15034.90	20821.75	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.203											
ALTERNATE 1	188.01	780.59	1603.09	2019.02	2981.20	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.204											
ALTERNATE 1	255.81	1064.22	2179.31	2743.06	4048.46	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.205											
ALTERNATE 1	423.84	1767.24	3616.11	4545.27	6704.98	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.206											
ALTERNATE 1	563.53	2306.10	4727.29	5945.22	8774.94	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.207											
ALTERNATE 1	583.68	2396.51	4917.16	6187.82	9120.12	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.208											
ALTERNATE 1	604.41	2487.84	5112.64	6439.36	9486.46	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.209											
ALTERNATE 1	645.23	2650.91	5447.13	6858.70	10105.50	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.210											
ALTERNATE 1	651.14	2670.57	5483.79	6903.29	10166.23	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.211											
ALTERNATE 1	793.23	3216.48	6534.10	8209.59	12086.05	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.212											
ALTERNATE 1	802.20	3250.43	6610.16	8306.79	12226.68	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.213											
ALTERNATE 1	804.21	3257.80	6625.85	8325.46	12252.15	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.214											
ALTERNATE 1	934.64	3695.96	7503.96	9418.70	13759.72	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.215											
ALTERNATE 1	980.97	3866.64	7860.72	9862.04	14378.20	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.216											
ALTERNATE 1	1046.08	4064.41	8245.75	10336.64	15032.28	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.217											
ALTERNATE 1	1052.62	4081.02	8274.10	10369.97	15075.20	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.218											
ALTERNATE 1	313.57	980.74	1810.30	2214.13	3151.80	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.219											
ALTERNATE 1	326.66	1007.48	1852.10	2262.57	3214.66	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.220											
ALTERNATE 1	1372.49	4736.08	9661.24	12118.23	17582.60	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.221											
ALTERNATE 1	1430.67	4797.70	9766.75	12244.33	17749.26	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.222											
ALTERNATE 1	1447.91	4820.11	9805.69	12289.49	17807.83	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.223											
ALTERNATE 1	1516.30	4905.51	9954.38	12464.37	18037.20	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.224											
ALTERNATE 1	1745.67	5100.11	10241.73	12816.76	18517.59	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.225											
ALTERNATE 1	1984.17	5784.05	10432.66	12944.70	18690.50	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.226											
ALTERNATE 1	2366.71	6650.91	11820.23	14283.94	19929.08	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.227											
ALTERNATE 1	2390.94	6725.38	11926.64	14413.30	19985.61	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.228											
ALTERNATE 1	2400.37	6747.86	11964.07	14459.18	20004.97	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.229											
ALTERNATE 1	2486.32	7018.54	12451.65	15057.10	20843.17	0.00	0.00	0.00	0.00	0.00	
OXSEC/STRUC NO.230											

100

ALTERNATE	1	2485.88	7018.85	12452.53	15044.96	20835.84	0.00	0.00	0.00	0.00	0.00	64

ENDJOB CARD ENCOUNTERED. END OF JOB.
1END OF 1 JOBS IN THIS RUN
@
!h

NO CONNECTION

!

DRAINAGE AREA MAP
SOLS WASH
FLOOD INSURANCE STUDY

FIGURE:3

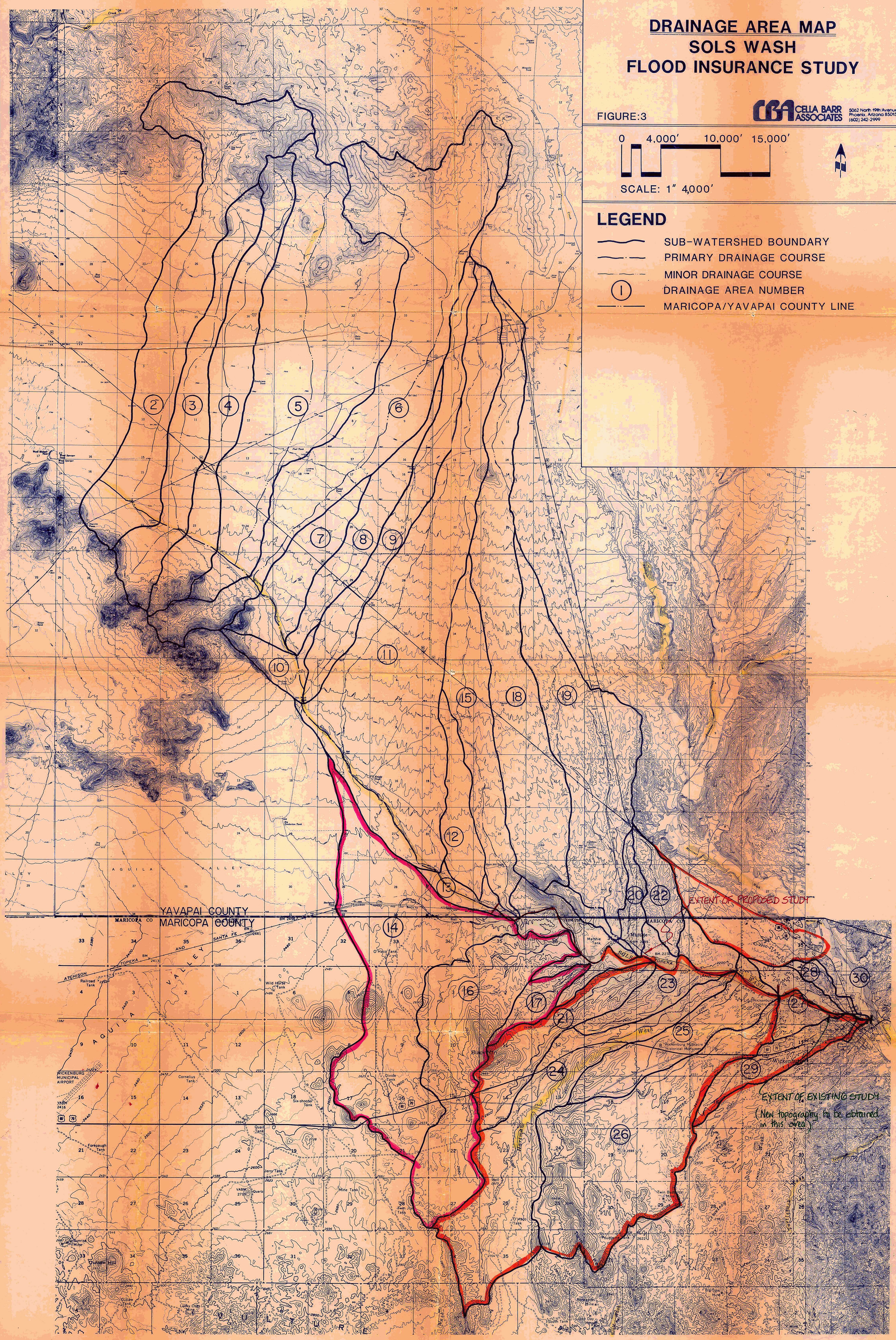
CELLA BARR ASSOCIATES
5062 North 19th Avenue
Phoenix, Arizona 85015
(602) 242-2999

0 4,000′ 10,000′ 15,000′

SCALE: 1″ 4,000′

LEGEND

- SUB-WATERSHED BOUNDARY
- PRIMARY DRAINAGE COURSE
- MINOR DRAINAGE COURSE
- (1) DRAINAGE AREA NUMBER
- MARICOPA/YAVAPAI COUNTY LINE



TR-20 CONTROL POINTS
SOLS WASH
FLOOD INSURANCE STUDY

FIGURE: 4

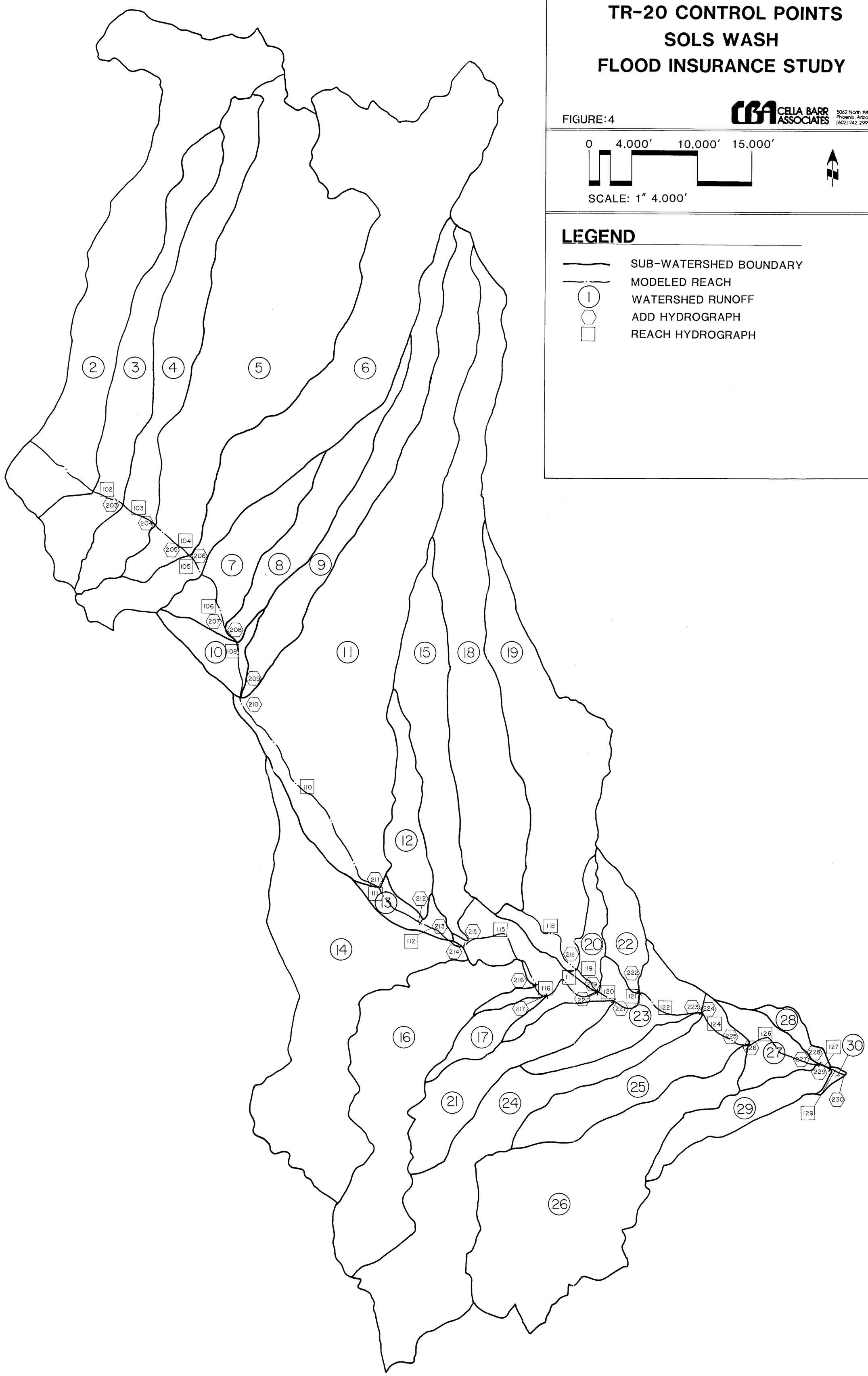
CELLA BARR ASSOCIATES
5062 North 19th Avenue
Phoenix, Arizona 85015
(602) 242-2999

0 4,000′ 10,000′ 15,000′

SCALE: 1″ 4,000′

LEGEND

- SUB-WATERSHED BOUNDARY
- MODELED REACH
- WATERSHED RUNOFF
- ADD HYDROGRAPH
- REACH HYDROGRAPH



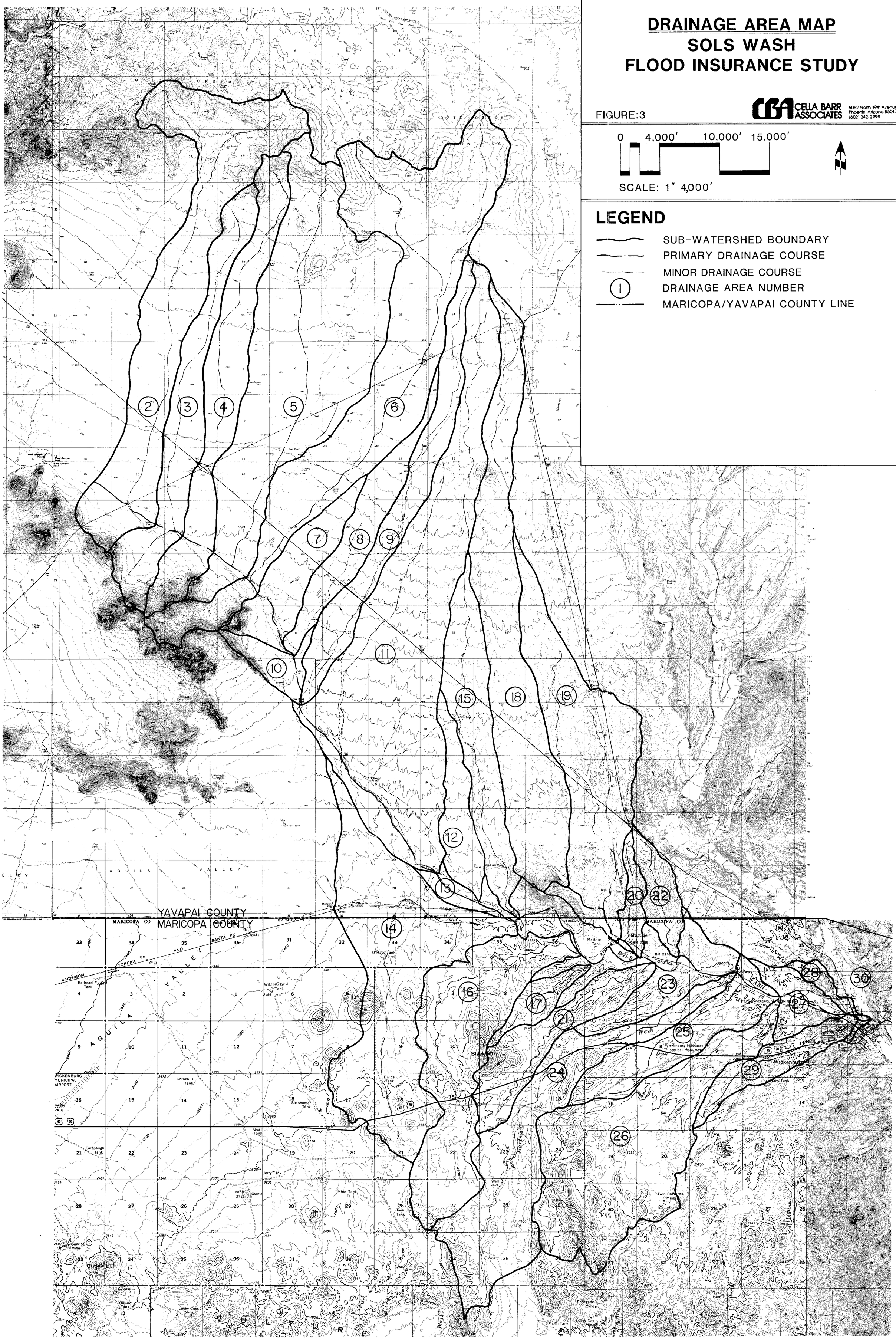
DRAINAGE AREA MAP
SOLS WASH
FLOOD INSURANCE STUDY

FIGURE:3

CELLA BARR ASSOCIATES
5062 North 19th Avenue
Phoenix, Arizona 85015
(602) 242-2999

0 4,000′ 10,000′ 15,000′

SCALE: 1″ 4,000′

LEGEND

- SUB-WATERSHED BOUNDARY
- PRIMARY DRAINAGE COURSE
- MINOR DRAINAGE COURSE
- (1) DRAINAGE AREA NUMBER
- MARICOPA/YAVAPAI COUNTY LINE