

Hydrologic Data for Urban Studies in the Austin, Texas Metropolitan Area, 1973

By R. N. Mitchell

U.S. GEOLOGICAL SURVEY

Open-file report



*Prepared in cooperation with the Texas
Water Development Board*

May 1975

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HYDROLOGIC DATA FOR URBAN STUDIES IN THE

AUSTIN, TEXAS METROPOLITAN AREA

1973

By

R. N. Mitchell
U.S. Geological Survey

INTRODUCTION

The U.S. Geological Survey, in cooperation with the Texas Water Development Board, began hydrologic studies in the Austin urban area in 1954. The objectives of this project are as follows:

1. To determine the effects of progressive urbanization on infiltration, rates of peak discharge, and rainfall-runoff relations in the Waller Creek watershed.
2. To provide rainfall and runoff data from the rural Wilbarger Creek watershed to be used for comparative purposes in determining the effects of existing and progressive urbanization in the Waller Creek watershed.
3. To provide applied research facilities for studies at the University of Texas at Austin.

The purpose of this report is to present rainfall and runoff data for the Waller Creek and Wilbarger Creek study areas for the 1973 water year (October 1, 1972 to September 30, 1973).

To facilitate the publication and distribution of this report at the earliest feasible time, certain material has been included that does not conform to the formal publication standards of the U.S. Geological Survey.

For those readers interested in using the metric system, metric equivalents of English units of measurements are given in parentheses. The English units used in this report may be converted to metric units by using the following conversion factors:

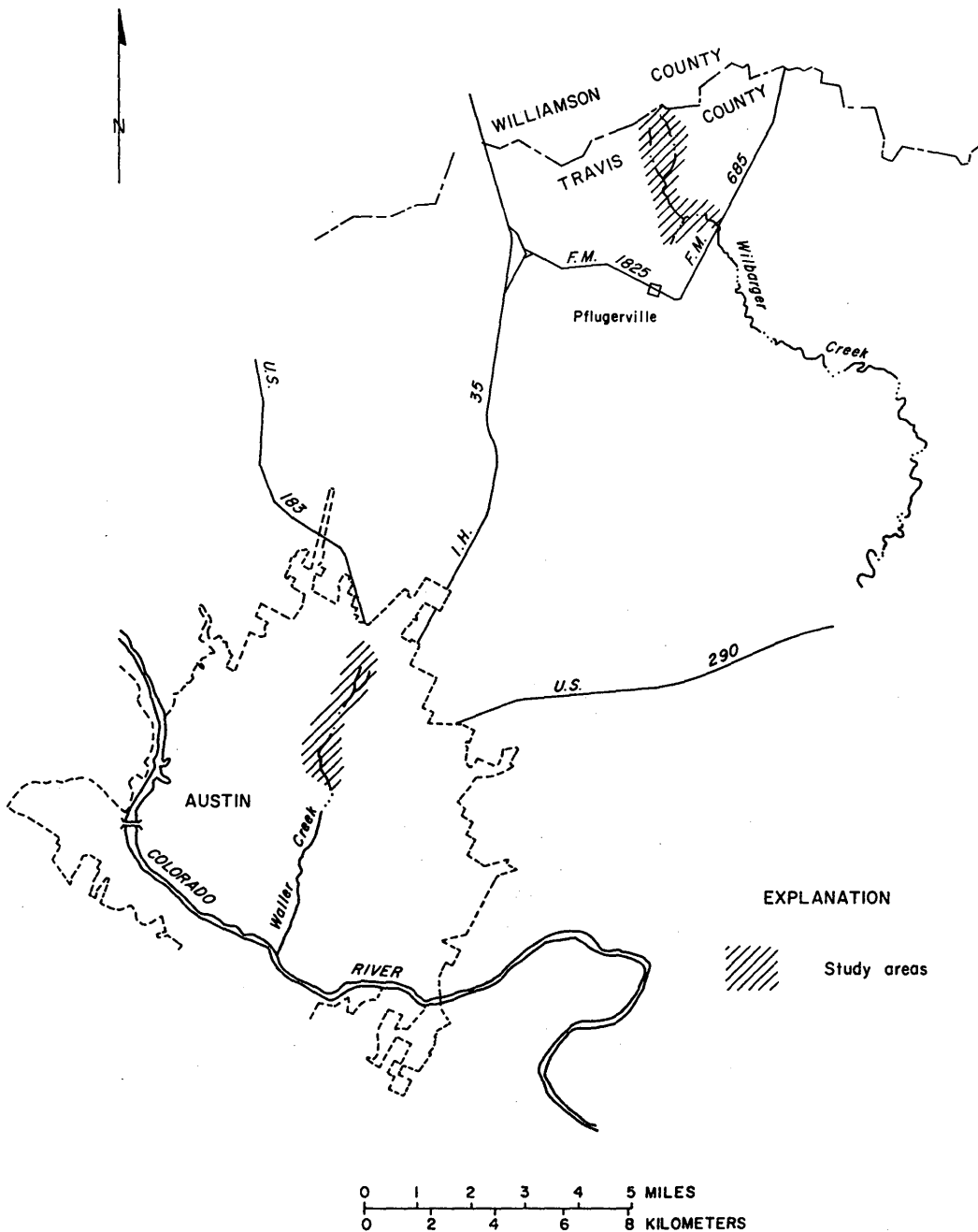
From		Multiply by	To obtain	
Unit	Abbrevi- ation		Unit	Abbrevi- ation
inches	--	25.4	millimetres	mm
feet	--	.3048	metres	m
miles	--	1.609	kilometres	km
square miles	mi ²	2.590	square kilometres	km ²
cubic feet per second	ft ³ /s	.02832	cubic metres per second	m ³ /s
feet per mile	ft/mi	.189	metres per kilometre	m/km
acre-feet	acre-ft	1233	cubic metres	m ³
		.001233	cubic hectometres	hm ³

WATERSHED FEATURES

Waller Creek Study Area

The Waller Creek drainage area (fig. 1) lies entirely within the city of Austin, with the headwaters originating in the northern part of the city. The creek flows south for 6.6 miles (10.6 km) to the Colorado River. Storm sewers and street gutters divert runoff both into and out of the natural drainage area.

Throughout the year, low flow is partially sustained by return flow of city water from industrial and residential users. Low flow during the summer months is partly sustained by drainage from municipal and private swimming pools.



Base from General Highway Map of Texas

FIGURE 1.-Location of Waller Creek and Wilbarger Creek study areas

In 1954, 20.6 percent of the drainage area above 23d Street was impervious cover, i.e., streets, sidewalks, roofs, etc.; this cover had increased to 28.6 percent by 1962 and to 35.2 percent by 1966. Impervious cover in the drainage area above 38th Street increased from 13 percent in 1954 to 21 percent in 1962 and to 33.3 percent in 1966. Soil in the watershed is predominantly clay, which is underlain by Cretaceous chalk that crops out along most of the channel.

The slope index for Waller Creek is 48.6 ft/mi (9.2 m/km) at 38th Street and 47.3 ft/mi (9.0 m/km) at 23d Street. These indices were computed by determining the difference in elevation between the two points that were 85 and 10 percent of the main channel distance upstream from the gaging station, and then dividing by the distance between the two points.

Records of the Environmental Data Service show that the mean-annual rainfall (based on the period 1941-70), approximately 1.5 miles (2.4 km) east of the watershed, is 32.49 inches (825 mm). Rainfall is generally well distributed throughout the year; however, individual storms may cause serious flooding in any season. The major storms usually occur during the months of April-May and September-October.

Wilbarger Creek Study Area

The headwaters in Wilbarger Creek originate in Travis County near the Williamson County line (fig. 1). The creek flows southeasterly about 40 miles (64 km) to the Colorado River. The Wilbarger Creek study area is about 15 miles (24 km) north of the city of Austin.

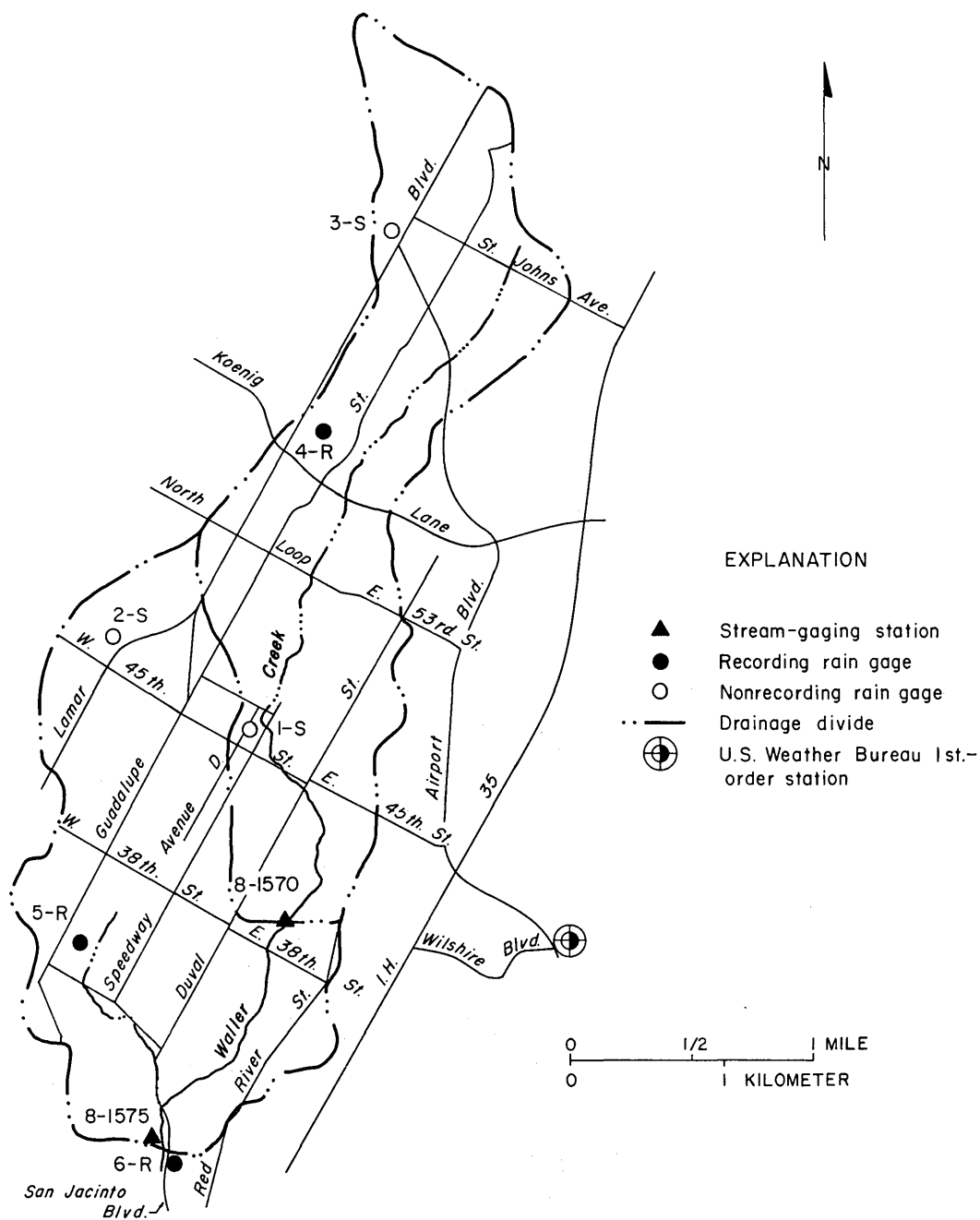
The soil in the watershed is predominantly clay, which is underlain by Cretaceous chalk that crops out at many places along the channel. The principal land use is farming and ranching.

The slope index, calculated by the 85-10 percent method, is 39.2 ft/mi (7.4 m/km). Runoff characteristics are slightly affected by farming practices, stock tanks, and vegetation.

HYDROLOGIC INSTRUMENTS

Waller Creek Study Area

Instruments to collect rainfall and runoff data in the Waller Creek study area consist of a network of three recording and three nonrecording rain gages and two stream-gaging stations. Figure 2 shows the locations of instruments in the study area.



Base from General Highway Map of Texas

FIGURE 2.-- Locations of hydrologic-instrument installations in the Waller Creek study area

The rain gages are distributed in the study area to measure the total rainfall and to define rainfall intensities on the watershed. In this study a digital computer was used to process precipitation and runoff data. The weighing factors used to determine weighted-mean precipitation above each stream-gaging station are given below. Because only recording rain gages can be used in the computational process for storm rainfall and runoff, the weighing factors for these computations are significantly different from those used to compute weighted-mean precipitation at both 38th and 23d Streets.

At 23d Street

Weighing Factors for all rain gages

1-S	2-S	3-S	4-R	5-R	6-R
0.264	0.101	0.190	0.161	0.187	0.097

Weighing Factors for recording rain gages only

4-R	5-R	6-R
0.508	0.396	0.096

At 38th Street

Weighing Factors for all rain gages

1-S	2-S	3-S	4-R	5-R
0.360	0.006	0.338	0.287	0.009

Weighing Factors for recording rain gages only

4-R	5-R
0.811	0.189

One stream-gaging station is maintained at 38th Street and the other at 23d Street. Low-water concrete controls were constructed at each stream-gaging station to stabilize the stage-discharge relationship. Records at the 38th Street station began April 5, 1955, and at the 23d Street station on December 23, 1954. Pertinent station information and records of daily, monthly, and yearly runoff for the 1973 water year for both stations are included in the section "Compilation of Data".

Wilbarger Creek Study Area

Instruments to collect rainfall and runoff data in the Wilbarger Creek study area consist of a network of three recording rain gages and one stream-gaging station. Figure 3 shows the locations of instruments in the study area.

The rain gages are distributed in the study area to measure the total rainfall and to define rainfall intensities on the watershed. The weighing factors used to determine the weighted-mean precipitation are given below.

1-R	2-R	3-R
0.431	0.301	0.268

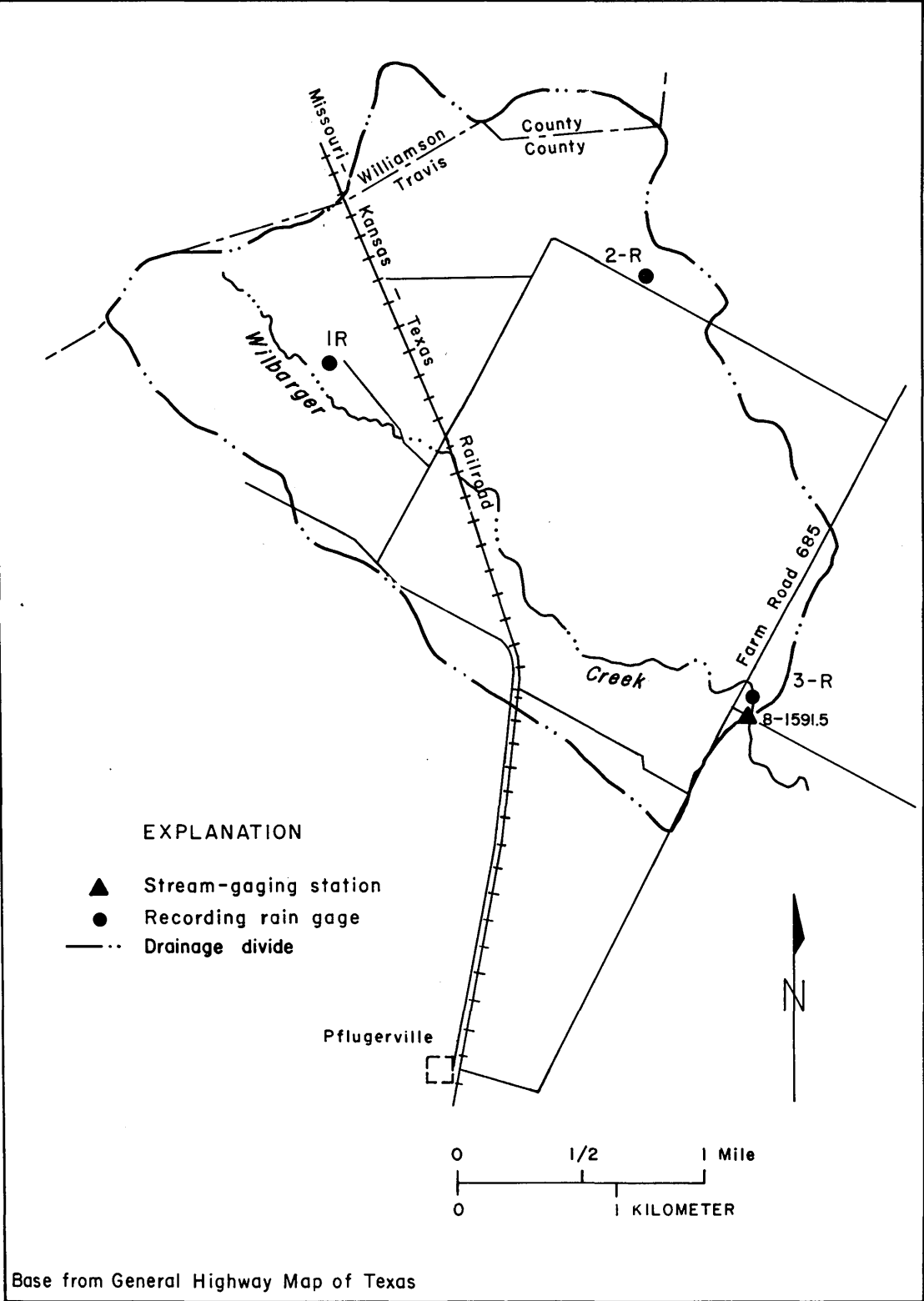


FIGURE 3.-- Locations of hydrologic-instrument installations in the Wilbarger Creek study area

A continuous-recording stream-gaging station with a concrete low-water control is maintained on Wilbarger Creek. Records at this station began August 9, 1963. Pertinent station information and records of daily, monthly, and yearly runoff for the 1973 water year are included in the section "Compilation of Data".

SUMMARY OF DATA FOR WALLER CREEK, 1973 WATER YEAR

The weighted-mean rainfall in the study area upstream from 38th Street was 40.10 inches (1,019 mm), or 23 percent above the mean annual rainfall for Austin of 32.49 inches (825 mm). Mean daily discharge was 1.75 ft³/s (0.050 m³/s); annual runoff was 10.27 inches (261 mm), or 26 percent of rainfall.

The weighted-mean rainfall in the study area upstream from 23d Street was 40.13 inches (1,019 mm), or 24 percent above the mean annual rainfall for Austin. Mean daily discharge was 3.77 ft³/s (0.107 m³/s); annual runoff was 12.38 inches (314 mm), or 31 percent of rainfall.

A storm event is defined as a period of rainfall separated by at least 6 hours from other rainfall. Storms are selected for detailed rainfall-runoff computations on the basis of rainfall totals and distribution, the peak discharge produced from the rainfall, and the assurance of good rainfall and runoff records for the storm periods selected.

Three storm priods, October 21-22, 1972, July 8-9, 1973, and September 26-27, 1973, were selected for analysis. A summary of rainfall-runoff data for each storm is shown in table 1. Computations with hydrographs and mass curves for each storm are included in the section "Compilation of Data".

SUMMARY OF DATA FOR WILBARGER CREEK, 1973 WATER YEAR

Weighted-mean rainfall in the study area was 36.32 inches (923 mm), or 12 percent above the mean annual rainfall for Austin of 32.49 inches (825 mm). Mean daily discharge was 2.19 ft³/s (0.062 m³/s); annual runoff was 6.44 inches (164 mm), or 18 percent of rainfall.

Two storm periods, October 21-22, 1972, and September 26-27, 1973, were selected for analysis. A summary of rainfall-runoff data for each storm is shown in table 1. Computations with hydrograph and mass curves for each storm are included in the section "Compilation of Data".

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 1.--Storm rainfall-runoff data, 1973 water year

Date of Storm	Rainfall (inches)					Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft ³ /s)
	Duration (hours)	Total	Maximum increment					
			15-minute	30-minute	60-minute			

Waller Creek at 38th St., Austin, Texas
(Drainage area, 2.31 mi²)

Oct. 21-22, 1972	23	3.76	0.54	0.71	1.14	0.90	0.24	454
July 8-9, 1973	19	2.16	.50	.56	.72	.63	.29	227
Sept. 26-27, 1973	22	6.35	1.03	1.97	2.61	1.64	.26	830

Waller Creek at 23rd St., Austin, Texas
(Drainage area 4.13 mi²)

Oct. 21-22, 1972	23	3.59	.48	.68	1.12	.98	.27	1,110
July 8-9, 1973	18	2.04	.36	.48	.64	.63	.31	442
Sept. 26-27, 1973	22	6.29	.98	1.78	2.35	1.84	.29	1,460

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 1.--Storm rainfall-runoff data, 1973 water year--Continued

[illegible]

COLORADO RIVER BASIN

08157000 Waller Creek at 38th Street, Austin, Tex.

LOCATION.--Lat 30°17'49", long 97°43'36", Travis County, on right bank 200 ft (61 m) upstream from bridge at East 38th Street in Austin, 1.1 miles (1.8 km) upstream from West Branch of Waller Creek, and 3.3 miles (5.3 km) upstream from Colorado River.

DRAINAGE AREA.--2.31 mi² (5.98 km²).

PERIOD OF RECORD.--April 1955 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 555.44 ft (169.30 m) above mean sea level.

AVERAGE DISCHARGE.--18 years, 1.66 ft³/s (47.0 dm³/s), 9.76 in/yr (247.9 mm/yr), 1,200 acre-ft/yr (1.48 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 830 ft³/s (23.5 m³/s) Sept. 26, gage height, 6.20 ft (1.89 m); minimum daily, 0.10 ft³/s (2.8 dm³/s) Oct. 7.

Period of record: Maximum discharge, 1,970 ft³/s (55.8 m³/s) Oct. 29, 1960, gage height, 7.77 ft (2.37 m); no flow for many days in 1955-57, 1964.

REMARKS.--Records good. Flow slightly regulated at times by a small reservoir at Holy Cross High School (formerly St. Mary's Academy) on East 41st Street and a small swimming pool at the school which is drained into the creek every week or two during the summer. Water from other swimming pools also drain into the creek. Station is part of hydrologic research project to study rainfall-runoff relation for small urban areas. Two recording and three nonrecording rain gages are distributed in the area so that rainfall on the watershed can be determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	3.9	.21	2.6	.55	2.1	.34	1.7	.24	.56	.46	.41
2	.11	.22	.19	13	.46	.58	.42	.48	.42	.24	.49	.41
3	.11	1.9	.19	8.3	.40	.51	1.7	.31	.50	.51	.52	.39
4	.16	.19	.20	.56	.31	.45	.31	.29	5.3	.55	.48	.15
5	.12	.19	.21	.70	.28	.46	.28	2.4	2.0	.57	.48	.11
6	.12	.37	.22	.70	.27	5.9	8.4	.96	.62	26	.21	3.7
7	.10	.15	.18	4.4	.36	.51	.64	10	.66	.64	.45	1.3
8	.11	.15	.21	.54	4.2	.47	.39	.42	.53	34	.50	.21
9	.12	.14	.19	.48	5.2	.99	.38	.30	1.8	5.1	.49	.14
10	.12	.13	.75	1.1	1.1	2.3	.31	.28	.56	.71	.53	.14
11	.14	.16	1.9	1.8	.87	.44	.30	.28	13	.71	1.7	.14
12	.20	.14	1.7	1.4	.70	.41	.31	1.9	15	.68	.49	.18
13	.18	13	.25	.96	.56	.40	.30	.28	.61	.65	.17	.12
14	.15	.21	2.9	.66	.47	.38	.74	.26	.81	.62	.52	.15
15	.11	.21	.28	.48	.44	2.2	13	.27	.62	1.1	.46	.12
16	.14	.20	.22	.39	.40	11	.65	.27	.62	1.5	.49	.13
17	.11	.19	.23	.35	7.0	.57	15	.25	.51	.54	.51	.13
18	.13	.26	.22	.34	1.2	.50	.87	.25	.24	.62	.24	.12
19	.25	.19	.22	.35	.67	.46	.63	.27	.55	.65	.39	.13
20	.12	.18	.22	5.4	.57	.40	.49	.24	9.7	.65	.18	.13
21	6.1	.70	.20	.84	8.0	.41	.69	.25	.94	.55	.43	.11
22	50	.17	.20	.37	7.8	.39	1.2	.25	.60	.81	.49	.11
23	.21	.18	.21	.40	1.4	3.5	.57	.24	.58	.26	.51	.16
24	.17	8.0	.20	1.0	.94	10	.51	.23	1.0	.49	.47	.13
25	.16	.36	.20	16	.76	.51	1.5	.63	13	.79	.44	.13
26	6.5	.21	.20	1.2	.69	.47	3.3	.23	.78	.55	.46	51
27	.22	.20	.20	.88	.61	.47	.40	.20	.64	.53	.17	51
28	.20	.17	.21	.62	.58	.46	.39	.19	.61	.50	.40	.88
29	.19	.19	.22	.62	-----	.40	.36	.25	.57	.45	.17	.32
30	.16	.21	.20	.56	-----	.59	.35	.22	.57	.21	.43	.27
31	.21	-----	.19	2.4	-----	.37	-----	.21	-----	.28	.18	-----
TOTAL	66.84	32.47	12.92	69.40	46.79	48.60	54.73	24.31	73.58	82.02	13.91	112.42
MEAN	2.16	1.08	.42	2.24	1.67	1.57	1.82	.78	2.45	2.65	.45	3.75
MAX	50	13	2.9	16	8.0	11	15	10	15	34	1.7	51
MIN	.10	.13	.18	.34	.27	.37	.28	.19	.24	.21	.17	.11
CFSM	.94	.47	.18	.97	.72	.68	.79	.34	1.06	1.15	.19	1.62
IN.	1.08	.52	.21	1.12	.75	.78	.88	.39	1.18	1.32	.22	1.81
AC-FT	133	64	26	138	93	96	109	48	146	163	28	223
(††)	4.40	2.94	.90	4.30	2.68	2.84	3.39	1.53	5.49	4.34	.27	7.02

CAL YR 1972 TOTAL 523.95 MEAN 1.43 MAX 82 MIN .08 CFSM .62 IN 8.44 AC-FT 1,040 †† 32.16
WTR YR 1973 TOTAL 637.99 MEAN 1.75 MAX 51 MIN .10 CFSM .76 IN 10.27 AC-FT 1,270 †† 40.10

PEAK DISCHARGE (BASE, 300 FT³/S)

†† Weighted-mean rainfall, in inches.

DATE TIME G.H.T. DISCHARGE

10-22 0530 5.34 454
7-6 0600 5.91 690
9-26 2100 6.20 830

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY
 WATER RESOURCES DIVISION

08157000

yearly weighted-mean rainfall
 Monthly and in inches , of Waller Creek River ^{at near} 38th St., Austin, Tex.
 [Drainage area, 2.31 square miles]

16-26489-6 U. S. GOVERNMENT PRINTING OFFICE

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ANNUAL	Cal. Yr.
1956	-	-	-	-	-	0.49	0.60	3.00	1.40	0.44	1.37	0.21	-	
1957	1.31	2.04	2.08	0.49	2.73	3.49	9.37	7.07	5.06	.57	.03	6.85	41.09	50.37
1958	10.21	3.24	1.26	3.06	6.81	2.65	5.02	3.34	4.62	2.15	.84	7.20	50.40	43.99
1959	6.18	.92	1.20	.44	2.80	.26	4.86	2.20	3.30	4.39	5.07	4.00	35.62	38.60
1960	7.41	1.68	2.19	1.22	2.43	1.30	1.12	1.03	4.25	2.52	3.52	1.46	30.13	37.50
1961	12.11	2.13	4.41	1.48	5.03	.72	.15	1.21	11.95	8.37	.76	3.89	52.21	38.67
1962	1.01	2.36	1.74	.69	.99	1.19	4.87	1.43	8.71	.03	3.38	4.19	30.59	33.82
1963	3.96	1.26	3.12	.53	2.64	.24	2.77	1.42	3.59	.10	.47	1.30	21.40	16.92
1964	.91	1.68	1.27	2.85	1.51	2.25	1.47	1.91	5.71	1.19	1.62	7.91	30.28	34.36
1965	4.10	2.79	1.05	4.29	5.80	1.34	1.72	9.22	1.85	.32	.69	6.43	39.60	43.64
1966	3.50	3.33	5.15	1.42	2.73	.59	4.29	3.49	.94	.35	7.04	3.70	36.53	26.25
1967	.96	.08	.66	.15	1.43	.91	4.27	3.77	0	.99	5.03	6.71	24.96	36.13
1968	4.80	4.55	3.52	8.37	1.63	2.77	2.49	6.68	2.90	2.90	.77	2.98	44.36	38.35
1969	.58	5.59	.69	.40	4.16	2.90	4.92	2.91	2.13	.30	4.52	1.15	30.25	32.37
1970	3.26	.88	4.84	1.98	6.03	2.93	1.26	7.58	.21	.31	1.56	4.98	35.82	31.87
1971	4.92	0	.11	.04	.98	.59	1.08	1.47	2.16	1.56	7.09	2.66	22.66	29.12
1972	2.81	4.44	4.24	1.64	.35	.11	2.29	6.86	4.96	2.64	3.35	1.72	35.41	32.16
1973	4.40	2.94	.90	4.30	2.68	2.84	3.39	1.53	5.49	4.34	.27	7.02	40.10	

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

08157000

Monthly and ^{yearly mean} discharge, in ft³/s, of Waller Creek at 38th Street, Austin, Tex.
 [Drainage area, 2.31 square miles]

16-20450-5 U. S. GOVERNMENT PRINTING OFFICE

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ANNUAL	
1955	-	-	-	-	-	-	0.15	0.78	0.37	0.30	0.28	0.04	-	
1956	0	0.04	0.24	0.21	0.29	0.05	.03	.62	.24	.20	.27	.04	0.19	
1957	.05	.39	.38	.11	.84	.90	5.87	4.21	5.26	.77	.68	1.94	1.77	
1958	9.52	1.70	1.14	1.82	7.91	1.92	2.82	2.87	2.77	1.80	1.05	2.62	3.13	
1959	2.63	1.53	1.43	1.04	1.65	1.00	2.72	.93	1.42	2.07	1.65	1.75	1.65	
1960	3.59	1.14	1.12	.87	1.17	.92	.72	.54	1.82	1.26	1.52	.67	1.28	
1961	10.0	1.41	2.86	1.59	3.99	.82	.47	.60	8.28	6.07	.97	2.17	3.27	
1962	.78	1.19	1.02	.80	.82	.89	1.96	.82	5.81	.70	2.30	2.02	1.59	
1963	1.40	.59	1.32	.67	1.91	.59	1.68	.65	1.52	.85	.84	.56	1.04	
1964	.22	.34	.44	1.00	.82	1.04	.59	.64	3.18	.55	.62	4.23	1.13	
1965	2.07	1.30	.68	2.66	4.85	1.00	1.23	6.10	1.39	.84	.90	3.03	2.15	
1966	1.97	1.87	3.10	.89	1.73	.76	2.06	1.62	.89	.59	3.21	1.32	1.67	
1967	.46	.22	.29	.21	.57	.35	1.72	1.32	.45	.55	2.34	3.07	.96	
1968	2.67	3.44	2.10	10.1	1.47	2.11	1.56	4.44	1.83	1.80	.66	1.04	2.78	
1969	.35	2.19	.57	.37	2.59	1.60	2.60	1.66	1.33	.55	2.29	.55	1.38	
1970	1.01	.31	2.16	1.00	4.50	2.19	.73	4.53	.63	.54	.77	1.58	1.65	
1971	2.45	.26	.22	.23	.49	.38	.51	.52	1.01	.74	3.68	.94	.96	
1972	.93	2.21	2.47	.78	.33	.22	.97	4.29	3.83	1.09	1.35	.63	1.60	
1973	2.16	1.08	.42	2.24	1.67	1.57	1.82	.78	2.45	2.65	.45	3.75	1.75	

COLORADO RIVER BASIN

08157500 Waller Creek at 23d Street, Austin, Tex.

LOCATION.--Lat 30°17'08", long 97°44'01", Travis County, on San Jacinto Boulevard, 50 ft (15 m) upstream from bridge on East 23d Street in Austin, and 2.1 miles (3.4 km) upstream from Colorado River.

DRAINAGE AREA.--4.13 mi² (10.7 km²).

PERIOD OF RECORD.--December 1954 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 509.95 ft (155.43 m) above mean sea level.

AVERAGE DISCHARGE.--18 years, 3.59 ft³/s (102 dm³/s), 11.80 in/yr (299.7 mm/yr), 2,600 acre-ft/yr (3.21 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,460 ft³/s (41.3 m³/s) Sept. 26, gage height, 5.94 ft (1.81 m); minimum daily, 0.56 ft³/s (16 dm³/s) Sept. 18.

Period of record: Maximum discharge, 3,710 ft³/s (105 m³/s) Oct. 29, 1960, gage height, 7.96 ft (2.43 m); minimum daily, 0.2 ft³/s (5.7 dm³/s) at times in 1955-57.

Maximum flood since 1885 occurred Apr. 22, 1915, stage unknown.

REMARKS.--Records good. Some regulation by small dam upstream. Diversion of city water into channel during the summer months from municipal and private swimming pools. Some diversions into and out of drainage area by storm sewers. Station is part of a hydrologic research project to study rainfall-runoff relation for small urban areas. Three recording and three nonrecording rain gages located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	9.1	.68	5.8	1.8	3.8	1.1	6.2	.92	1.0	1.2	.81
2	.74	1.0	.66	26	1.3	1.4	1.6	1.4	.72	.95	1.2	.80
3	.68	4.6	.67	14	1.1	1.3	2.6	1.1	1.8	.93	1.3	.83
4	.86	.75	.64	1.4	1.0	1.2	1.0	1.1	9.3	1.1	1.2	.70
5	.75	.74	.79	1.8	1.0	1.3	1.7	4.2	7.0	1.1	1.1	.62
6	.80	1.6	.68	1.9	1.1	12	16	4.9	1.2	52	1.2	7.6
7	.59	.82	.75	9.6	1.5	1.7	1.5	13	1.1	1.5	1.4	5.0
8	.59	.89	.86	1.4	8.6	1.4	1.1	1.3	1.0	62	1.0	.82
9	.68	.94	.72	1.3	9.6	2.9	1.2	1.2	10	8.0	1.0	.61
10	.75	.69	2.2	2.9	3.0	4.9	1.3	1.2	1.0	1.5	1.1	.65
11	.86	.67	4.5	3.8	2.3	1.2	.99	1.2	25	1.5	1.8	.60
12	.74	3.0	4.1	2.7	1.8	1.3	1.0	5.4	27	1.3	.92	.72
13	.77	20	.91	2.2	1.5	1.3	1.0	.91	1.5	1.2	.82	.68
14	.74	.69	6.0	1.5	1.3	1.6	2.2	.88	1.3	1.1	.94	.74
15	.69	.73	.98	1.4	1.2	8.0	25	.90	1.4	2.1	1.1	.60
16	.70	.68	.87	1.4	1.2	18	1.5	.91	1.1	4.1	1.1	.60
17	.71	.73	.84	1.3	13	1.5	34	.84	1.0	1.1	1.1	.67
18	.90	1.0	.87	1.2	2.5	1.3	2.3	.86	1.2	1.3	.78	.56
19	.73	.65	1.0	1.1	1.6	1.5	1.8	.85	1.3	1.4	.70	.61
20	.75	.73	.87	9.9	1.5	1.3	1.5	.79	29	1.3	.77	.57
21	17	2.5	.96	1.9	15	1.2	1.9	.83	2.4	1.1	.83	.65
22	92	.73	.81	1.1	14	1.2	2.6	.83	1.3	1.2	1.0	.58
23	1.1	.75	.80	1.2	3.0	7.1	1.7	.80	1.1	.95	.97	.87
24	.86	15	.76	2.2	2.1	19	1.5	.97	2.3	.94	1.1	.76
25	.91	.93	.74	29	1.9	1.3	4.5	1.8	23	1.2	.96	.66
26	13	.65	.76	2.4	2.0	1.4	4.2	.83	1.5	1.1	.94	113
27	1.1	.82	.79	1.8	2.0	1.3	1.2	.72	1.3	1.0	.87	92
28	.79	.73	.80	1.3	1.7	1.3	1.2	.76	1.3	.96	1.0	3.3
29	.83	.79	.84	1.5	-----	1.3	1.1	1.4	1.1	.89	.90	1.1
30	.96	.74	.74	1.8	-----	1.7	1.2	.94	1.0	1.2	.91	.94
31	.98	-----	.71	4.9	-----	1.1	-----	.99	-----	1.0	.83	-----
TOTAL	144.22	73.65	38.30	141.7	99.6	106.8	121.49	60.01	160.14	158.02	32.04	238.65
MEAN	4.65	2.46	1.24	4.57	3.56	3.45	4.05	1.94	5.34	5.10	1.03	7.96
MAX	92	20	6.0	29	15	19	34	13	29	62	1.8	113
MIN	.59	.65	.64	1.1	1.0	1.1	.99	.72	.72	.89	.70	.56
CFSM	1.13	.60	.30	1.11	.86	.84	.98	.47	1.29	1.23	.25	1.93
IN.	1.30	.66	.34	1.28	.96	.96	1.09	.54	1.44	1.42	.29	2.15
AC-FT	286	146	76	281	198	212	241	119	318	313	64	473
(††)	4.29	2.88	.91	4.36	2.48	2.84	3.51	1.49	5.86	4.26	.16	7.09

CAL YR 1972 TOTAL 1,154.21 MEAN 3.15 MAX 132 MIN .59 CFSM .76 IN 10.40 AC-FT 2,290 †† 31.79
WTR YR 1973 TOTAL 1,374.62 MEAN 3.77 MAX 113 MIN .56 CFSM .91 IN 12.38 AC-FT 2,730 †† 40.13

PEAK DISCHARGE (BASE, 800 FT³/S)

†† Weighted-mean rainfall, in inches.

DATE TIME G.H.T. DISCHARGE

10-22 0500 5.34 1,110
7-6 0545 5.38 1,130
9-26 2030 5.94 1,460

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY
 WATER RESOURCES DIVISION

08157500

 yearly weighted-mean rainfall
 Monthly and Δ in inches, of Waller Creek at 23rd St., Austin, Tex.
 [Drainage area, 4.13 square miles]

16-70459-5 U. S. GOVERNMENT PRINTING OFFICE

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ANNUAL	Cal. Yr.
1956	.09	1.49	1.01	1.65	1.74	0.42	0.58	3.08	1.04	0.43	1.38	0.21	-	
1957	1.31	2.06	2.08	0.50	2.51	3.73	9.53	6.84	5.04	.63	.02	6.70	40.95	49.99
1958	10.11	3.14	1.24	3.05	6.62	2.60	4.82	3.16	4.02	2.02	.68	7.32	48.78	42.38
1959	6.01	.88	1.20	.44	2.69	.22	4.80	2.04	3.41	4.79	4.70	4.04	35.22	38.23
1960	7.22	1.67	2.21	1.17	2.35	1.29	1.12	.98	4.34	2.39	3.60	1.49	29.83	37.93
1961	12.53	2.17	4.50	1.44	4.92	.67	.18	1.09	11.98	8.27	.88	3.82	52.47	38.19
1962	.94	2.30	1.68	.65	.92	1.20	4.82	1.39	8.32	.02	3.75	4.35	30.34	33.49
1963	3.83	1.12	3.12	.49	2.64	.22	2.92	1.16	3.56	.07	.49	1.27	20.89	16.74
1964	.86	1.70	1.36	3.00	1.56	2.14	1.46	1.75	5.52	.98	1.74	8.00	30.06	34.12
1965	4.16	2.78	1.04	4.36	5.79	1.46	1.85	9.92	1.57	.32	.65	6.38	40.28	44.34
1966	3.58	3.41	5.05	1.33	2.86	.62	4.06	3.52	.89	.32	7.33	3.86	36.83	26.62
1967	1.02	.10	.71	.17	1.43	.87	4.40	3.87	0	.80	5.09	6.32	24.78	35.62
1968	4.62	4.54	3.51	8.63	1.56	2.53	2.38	7.28	2.69	2.87	.82	2.82	44.25	38.44
1969	.60	5.62	.64	.34	4.08	2.78	4.97	3.03	2.18	.27	4.85	1.32	30.68	32.71
1970	3.27	.83	4.79	1.92	5.85	2.81	1.24	6.91	.23	.43	1.88	4.79	34.95	31.01
1971	4.86	0	.09	.04	.90	.69	1.06	1.50	2.39	1.84	6.39	2.88	22.64	28.92
1972	2.78	4.21	4.24	1.64	.33	.09	2.36	7.11	4.37	2.38	3.64	1.79	34.94	31.79
1973	4.29	2.88	.91	4.36	2.48	2.84	3.51	1.49	5.86	4.26	.16	7.09	40.13	

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

08157500

Monthly and λ yearly mean discharge, in ft³/s, of Waller Creek @ 23rd St, Austin, Tex.
 [Drainage area, 4.13 square miles]

16-70489-5 U. S. GOVERNMENT PRINTING OFFICE

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ANNUAL	
1955	-	-	-	1.29	3.92	1.21	0.86	3.70	1.80	1.04	0.81	0.56	-	
1956	0.55	0.72	0.84	.75	1.21	.56	.59	2.53	.76	.79	1.08	.60	0.92	
1957	.97	1.44	1.31	.52	2.35	3.55	12.7	9.02	11.1	1.82	1.42	4.39	4.19	
1958	18.1	3.63	2.50	4.09	14.7	4.42	6.98	6.45	5.50	4.32	2.37	6.11	6.55	
1959	5.62	2.51	2.03	1.58	3.03	1.67	6.44	2.27	3.15	5.13	3.47	4.28	3.43	
1960	8.92	2.77	2.63	2.27	3.21	2.52	2.12	1.65	4.12	2.70	3.15	1.81	3.16	
1961	21.7	3.20	5.45	3.71	8.81	2.17	1.47	1.95	18.7	14.8	2.15	4.20	7.36	
1962	1.63	2.85	2.32	1.66	1.88	2.02	4.31	1.91	10.8	1.33	5.21	4.67	3.37	
1963	4.07	1.33	2.84	1.24	3.90	1.42	4.34	1.90	3.82	1.70	1.74	1.76	2.49	
1964	1.10	1.22	1.14	2.30	1.86	2.36	1.60	1.68	6.66	1.51	1.79	9.54	2.71	
1965	5.24	2.98	1.59	5.02	8.84	2.33	2.53	14.7	2.91	1.80	1.85	6.41	4.66	
1966	3.44	3.49	5.20	1.65	3.14	1.64	3.48	3.10	1.66	1.42	6.91	2.72	3.16	
1967	1.14	.63	.83	.65	1.37	1.01	4.00	3.03	1.06	1.25	4.91	5.41	2.11	
1968	5.01	5.79	3.85	14.7	2.91	3.61	2.90	8.56	3.29	3.79	1.61	2.13	4.87	
1969	1.01	4.06	1.17	.95	4.56	2.73	4.34	3.85	2.65	1.30	4.37	1.61	2.70	
1970	2.46	1.26	3.67	2.12	7.77	4.07	1.68	7.73	1.58	1.42	1.96	3.44	3.24	
1971	4.89	.94	.86	1.05	1.64	1.48	1.60	1.70	2.99	2.43	6.83	2.61	2.43	
1972	2.33	4.62	4.84	1.87	1.20	1.01	2.53	8.57	6.46	2.28	3.52	1.97	3.44	
1973	4.65	2.46	1.24	4.57	3.56	3.45	4.05	1.94	5.34	5.10	1.03	7.96	3.77	

COLORADO RIVER BASIN

08159150 Wilbarger Creek near Pflugerville, Tex.

LOCATION.--Lat 30°27'16", long 97°36'02", Travis County, on left bank downstream from county road (Pfluger Lane), 800 ft (244 m) downstream from Farm Road 685, 1.6 miles (2.6 km) northeast of Pflugerville, and 1.9 miles (3.1 km) downstream from Missouri-Kansas-Texas Railroad.

DRAINAGE AREA.--4.61 mi² (11.9 km²).

PERIOD OF RECORD.--August 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 670.61 ft (204.40 m) above mean sea level.

AVERAGE DISCHARGE.--10 years, 1.88 ft³/s (53.2 dm³/s), 5.54 in/yr (140.7 mm/yr), 1,360 acre-ft/yr (1.67 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 698 ft³/s (19.8 m³/s) Oct. 22, gage height, 4.65 ft (1.42 m); no flow for many days. Period of record: Maximum discharge, 1,760 ft³/s (49.8 m³/s) June 16, 1964, gage height, 6.92 ft (2.11 m); no flow at times each year.

Maximum stage since at least 1894, occurred in September 1921, stage unknown, from information by local residents.

REMARKS.--Records good. Station is part of a hydrologic research project to study rainfall-runoff relations for small urban-rural areas. Three recording rain gages located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.47	.62	.62	2.7	4.5	1.6	1.5	.25	.04	.02	0
2	0	.63	.62	4.0	2.2	3.8	1.5	1.4	.25	.03	.01	0
3	0	.49	.62	10	2.0	3.3	1.5	1.1	.25	.05	0	0
4	0	.49	.62	3.7	2.0	3.2	1.2	.98	.21	.04	0	0
5	0	.49	.62	3.6	1.8	2.7	.98	1.0	.39	.03	0	0
6	0	.49	.62	3.3	1.8	12	3.9	1.9	.32	.03	0	0
7	0	.43	.62	5.7	1.8	4.1	3.4	57	.23	.03	0	0
8	0	.38	.62	3.7	3.1	3.0	2.2	3.6	.17	1.1	0	0
9	0	.38	.62	2.7	4.1	3.2	1.8	2.6	.22	.20	0	0
10	0	.38	.62	2.6	6.5	8.0	1.4	2.1	.20	.07	0	0
11	0	.38	.62	2.9	7.3	3.2	1.2	1.8	.31	.06	0	0
12	0	.40	1.1	2.9	6.0	2.6	1.2	2.0	.39	.05	0	0
13	0	3.0	1.2	4.5	4.5	2.4	1.2	1.7	.24	.04	0	0
14	0	.64	1.6	4.0	3.1	2.3	1.2	1.5	.19	.04	0	0
15	0	.55	1.7	3.3	2.7	2.4	6.0	1.3	.17	.03	0	0
16	0	.53	1.2	2.9	2.6	16	2.7	1.1	.14	.04	0	0
17	0	.49	1.1	2.9	7.6	3.7	16	.95	.13	.04	0	0
18	0	.49	1.1	2.6	7.3	3.0	4.3	.79	.10	.03	0	0
19	0	.47	1.1	2.2	4.7	2.6	3.0	.62	.10	.03	0	0
20	0	.43	1.1	2.5	3.6	2.3	2.4	.61	.11	.03	0	0
21	0	.43	1.1	3.6	12	2.0	2.0	.54	.14	.03	0	0
22	86	.43	.89	1.9	22	2.0	2.4	.49	.10	.03	0	0
23	.27	.43	.84	1.7	11	3.1	2.6	.49	.09	.02	0	0
24	.10	1.0	.79	1.6	7.7	25	8.2	.49	.08	.02	0	0
25	.08	1.3	.79	23	6.0	3.9	4.4	.49	.22	.02	0	0
26	.23	.89	.79	8.0	4.9	2.9	4.6	.46	.14	.02	0	2.6
27	.21	.87	.70	5.3	4.1	2.7	2.2	.36	.08	.02	0	57
28	.18	.71	.70	3.5	3.7	2.6	1.9	.29	.07	.02	0	.59
29	.18	.62	.70	2.9	-----	2.6	1.7	.28	.06	.02	0	.24
30	.18	.62	.70	2.9	-----	2.4	1.7	.25	.06	.01	0	.18
31	.18	-----	.70	2.9	-----	2.1	-----	.25	-----	.02	0	-----
TOTAL	87.61	19.31	26.72	127.92	148.8	139.6	90.38	89.94	5.41	2.24	.03	60.61
MEAN	2.83	.64	.86	4.13	5.31	4.50	3.01	2.90	.18	.072	.001	2.02
MAX	86	3.0	1.7	23	22	25	16	57	.39	1.1	.02	57
MIN	0	.38	.62	.62	1.8	2.0	.98	.25	.06	.01	0	0
CFSM	.61	.14	.19	.90	1.15	.98	.65	.63	.04	.02	.0002	.44
IN.	.71	.16	.22	1.03	1.20	1.13	.73	.73	.04	.02	0	.49
AC-FT	174	38	53	254	295	277	179	178	11	4.4	.06	120
(††)	5.69	2.04	.67	3.67	2.12	3.38	3.35	2.04	2.98	2.39	.49	7.50

CAL YR 1972 TOTAL 325.70 MEAN .89 MAX 86 MIN 0 CFSM .19 IN 2.63 AC-FT 646 †† 27.41
WTR YR 1973 TOTAL 798.57 MEAN 2.19 MAX 86 MIN 0 CFSM .48 IN 6.44 AC-FT 1,580 †† 36.32

PEAK DISCHARGE (BASE, 400 FT³/S)

†† Weighted-mean rainfall, in inches.

DATE	TIME	G.H.T.	DISCHARGE
10-22	0645	4.65	698
5-7	0215	3.81	431
9-27	0915	3.84	438

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY
 WATER RESOURCES DIVISION
Sheet 1 of 1 Sheets

yearly weighted-mean rainfall
 Monthly and [^] in _____ inches, of _____ Wilbarger Creek _____ near _____ Pflugerville, Tex.
 [Drainage area, 4.61 square miles]

16-23489-5 U. S. GOVERNMENT PRINTING OFFICE

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ANNUAL	Cal. Yr.
1964	1.33	1.85	1.44	2.86	1.43	2.24	2.87	4.70	7.43	0.23	1.59	7.52	35.49	38.01
1965	2.99	2.97	1.18	5.07	6.39	.87	1.65	5.87	2.00	.23	3.23	4.97	37.42	40.75
1966	2.60	3.36	4.51	1.40	2.86	.71	5.64	2.67	1.63	.15	4.95	4.00	34.48	25.43
1967	.55	.10	.77	.28	1.94	.85	4.01	4.60	0	.64	2.46	4.87	21.07	32.15
1968	5.13	4.10	3.27	8.17	1.63	2.32	2.62	6.55	4.00	2.36	2.37	3.20	45.72	39.32
1969	.29	4.69	1.12	.32	3.97	2.80	4.63	1.33	2.76	.18	4.85	.98	27.92	29.98
1970	3.33	.66	4.17	1.59	5.20	3.50	.95	7.58	.36	.49	.63	5.21	33.67	30.89
1971	5.30	0	.08	0	1.09	.93	1.01	1.12	.95	1.23	4.95	1.65	18.31	24.27
1972	2.68	4.84	3.82	1.34	.45	.44	.87	5.86	2.62	2.02	3.85	1.56	30.35	27.41
1973	5.69	2.04	.67	3.67	2.12	3.38	3.35	2.04	2.98	2.39	.49	7.50	36.32	

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY
 WATER RESOURCES DIVISION
Sheet 1 of 1 Sheets

081591500

yearly mean
 Monthly and discharge, in ft³/s, of Wilbarger Creek near Pflugerville, Tex.
 [Drainage area, 4.61 square miles]

16-26489-5 U. S. GOVERNMENT PRINTING OFFICE

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	ANNUAL	
1963	-	-	-	-	-	-	-	-	-	-	0	0	-	
1964	0	0	0	0	0	0.03	1.67	4.23	10.4	0.07	0	2.02	1.53	
1965	.43	1.62	.71	6.45	15.4	2.01	.75	3.32	.57	.05	.08	.72	2.59	
1966	.13	1.50	7.36	1.88	3.73	2.01	5.90	3.57	.18	.03	.18	.79	2.26	
1967	.26	.10	.12	.091	.15	.043	.30	1.87	.042	0	.0003	.026	.25	
1968	.97	6.03	5.69	16.7	3.80	4.63	3.15	8.59	2.27	1.18	.078	.085	4.45	
1969	.020	.16	.46	.22	3.74	5.43	7.07	.89	.15	.011	.019	.012	1.49	
1970	.006	.003	.51	1.26	9.53	11.4	1.07	8.94	1.37	.058	.002	.013	2.82	
1971	2.29	.26	.15	.095	.068	.059	.029	0	0	0	.002	0	.25	
1972	0	1.78	3.40	1.26	.82	.22	.059	3.29	.54	.065	.018	0	.96	
1973	2.83	.64	.86	4.13	5.31	4.50	3.01	2.90	.18	.072	.001	2.02	2.19	

AUSTIN URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY

PERIOD : 1973 WATER YEAR

GAGE NUMBER

WALLER CREEK BASIN

WILBARGER CREEK BASIN

DATE

1-S

2-S

3-S

4-R

5-R

6-R

1-R

2-R

3-R

OCT

5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
8	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
20	0.02	0.00	0.06	0.00	0.02	0.03	0.00	0.00	0.00	0.00
21	1.03	1.32	1.33	1.53	1.44	0.93	1.24	1.43	0.31	
22	2.10	2.68	2.69	2.29	2.09	1.90	4.05	3.39	4.55	
24	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	
25	0.00	0.00	0.08	0.00	0.00	0.03	0.00	0.00	0.00	
26	0.65	0.65	0.60	0.66	0.65	0.64	0.60	0.51	0.48	
28	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.05	0.00	0.00	0.00	0.00	0.05	0.07	0.05	
30	0.02	0.00	0.10	0.09	0.02	0.00	0.00	0.06	0.00	
31	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	

MTOT 3.82 4.71 4.86 4.57 4.22 3.64 5.99 5.51 5.41

NOV

1	0.60	0.36	0.36	0.44	0.47	0.50	0.43	0.49	0.63	
2	0.01	0.00	0.12	0.03	0.02	0.00	0.00	0.00	0.00	
3	0.27	0.12	0.32	0.17	0.26	0.20	0.13	0.09	0.13	
6	0.00	0.34	0.09	0.06	0.08	0.10	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	
10	0.00	0.00	0.00	0.04	0.02	0.03	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	
12	1.15	1.04	1.05	1.04	0.88	0.87	0.40	0.51	0.32	
13	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.07	0.11	
14	0.00	0.00	0.00	0.00	0.02	0.04	0.05	0.05	0.05	
15	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	
18	0.03	0.11	0.07	0.04	0.05	0.01	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.16	0.07	0.08	0.10	0.12	0.14	
23	0.25	0.24	0.07	0.08	0.09	0.10	0.12	0.13	0.11	
24	0.75	0.72	0.64	0.70	0.67	0.67	0.56	0.47	0.51	
25	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	
26	0.00	0.00	0.23	0.00	0.05	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	

MTOT 3.06 2.93 2.95 2.78 2.70 2.69 1.96 2.07 2.13

MTOT=MONTHLY TOTALS

AUSTIN URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY

PERIOD : 1973 WATER YEAR

DATE	G A G E N U M B E R									
	WALLER CREEK BASIN						WILBARGER CREEK BASIN			
	1-S	2-S	3-S	4-R	5-R	6-R	1-R	2-R	3-R	
DEC										
4	0.00	0.00	0.00	0.00	0.02	0.04	0.01	0.02	0.03	
7	0.00	0.00	0.00	0.00	0.05	0.03	0.00	0.00	0.00	
8	0.00	0.00	0.09	0.08	0.02	0.03	0.00	0.00	0.00	
9	0.08	0.00	0.00	0.04	0.00	0.00	0.07	0.05	0.03	
10	0.04	0.12	0.00	0.00	0.04	0.04	0.00	0.00	0.00	
11	0.24	0.16	0.14	0.11	0.14	0.18	0.00	0.00	0.00	
12	0.44	0.30	0.26	0.29	0.40	0.32	0.40	0.25	0.18	
14	0.07	0.26	0.30	0.25	0.24	0.21	0.34	0.35	0.10	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	
18	0.00	0.00	0.05	0.00	0.00	0.01	0.00	0.00	0.00	
19	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	
22	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.07	0.03	0.02	0.02	0.00	0.00	
29	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	
MTOT	0.95	0.86	0.91	0.84	0.94	0.88	0.84	0.67	0.40	
CTOT	31.87	33.36	34.01	30.33	30.93	29.41	28.57	28.11	24.74	

MTOT=MONTHLY TOTALS

CTOT=CALENDAR YEAR TOTALS

AUSTIN URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY

PERIOD : 1973 WATER YEAR

G A G E N U M B E R

WALLER CREEK BASIN

WILBARGER CREEK BASIN

DATE

1-S

2-S

3-S

4-R

5-R

6-R

1-R

2-R

3-R

JAN

1 0.41 0.00 0.20 0.25 0.37 0.29 0.27 0.22 0.20

2 1.18 1.60 1.39 1.27 1.27 1.10 1.16 0.75 0.82

3 0.19 0.26 0.23 0.20 0.20 0.18 0.22 0.38 0.27

5 0.03 0.06 0.08 0.05 0.04 0.11 0.07 0.07 0.06

6 0.10 0.08 0.07 0.08 0.09 0.07 0.08 0.04 0.02

7 0.38 0.28 0.28 0.27 0.34 0.33 0.11 0.08 0.14

8 0.00 0.00 0.02 0.00 0.00 0.00 0.00 0.00 0.00

9 0.10 0.00 0.03 0.00 0.00 0.03 0.06 0.00 0.00

10 0.14 0.25 0.12 0.00 0.00 0.00 0.21 0.41 0.73

11 0.25 0.15 0.14 0.05 0.03 0.03 0.00 0.00 0.00

12 0.00 0.00 0.00 0.25 0.27 0.23 0.00 0.00 0.00

20 0.50 0.44 0.33 0.36 0.53 0.35 0.30 0.29 0.16

23 0.00 0.00 0.00 0.00 0.00 0.03 0.00 0.00 0.00

24 0.43 0.54 0.27 0.20 0.60 0.12 0.07 0.12 0.06

25 0.72 0.81 0.86 0.83 0.60 0.94 1.06 1.06 1.30

29 0.00 0.00 0.00 0.00 0.00 0.00 0.04 0.05 0.08

31 0.17 0.25 0.18 0.20 0.15 0.14 0.00 0.00 0.08

MTOT 4.60 4.72 4.20 4.01 4.49 3.95 3.65 3.47 3.92

FEB

2 0.00 0.00 0.00 0.00 0.00 0.02 0.00 0.00 0.00

5 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.03

7 0.00 0.00 0.00 0.07 0.05 0.04 0.07 0.05 0.08

8 0.00 0.00 0.22 0.10 0.18 0.21 0.16 0.11 0.08

9 1.18 0.62 0.60 0.30 0.22 0.26 0.11 0.16 0.45

10 0.00 0.00 0.00 0.15 0.00 0.04 0.40 0.24 0.04

14 0.00 0.00 0.00 0.00 0.00 0.03 0.04 0.00 0.00

16 0.00 0.00 0.00 0.00 0.00 0.00 0.02 0.00 0.00

17 0.60 0.14 0.33 0.66 0.67 0.63 0.50 0.52 0.39

18 0.00 0.58 0.47 0.00 0.00 0.04 0.01 0.02 0.00

21 0.72 0.36 0.44 0.57 0.52 0.73 0.53 0.45 0.51

22 0.42 0.48 0.68 0.46 0.39 0.18 0.46 0.47 0.36

26 0.00 0.00 0.02 0.00 0.00 0.00 0.00 0.00 0.00

MTOT 2.92 2.18 2.76 2.31 2.03 2.18 2.30 2.02 1.94

MTOT=MONTHLY TOTALS

AUSTIN URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY

PERIOD : 1973 WATER YEAR

GAGE NUMBER

WALLER CREEK BASIN

WILBARGER CREEK BASIN

DATE

1-S

2-S

3-S

4-R

5-R

6-R

1-R

2-R

3-R

MAR

1	0.00	0.02	0.02	0.00	0.12	0.00	0.11	0.12	0.06
2	0.00	0.18	0.22	0.20	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
5	0.00	0.00	0.03	0.00	0.00	0.06	0.03	0.03	0.02
6	0.64	0.38	0.47	0.34	0.44	0.38	0.33	0.74	0.75
8	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.06	0.02
9	0.10	0.00	0.00	0.10	0.05	0.12	0.14	0.07	0.09
10	0.24	0.26	0.30	0.13	0.25	0.16	0.31	0.25	0.32
12	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
15	0.49	0.42	0.27	0.33	0.65	0.48	0.23	0.46	0.49
16	0.50	0.43	0.53	0.50	0.27	0.42	0.56	0.52	0.53
18	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00
23	0.36	0.05	0.25	0.32	0.33	0.36	0.26	0.42	0.40
24	0.64	1.05	0.73	0.58	0.70	0.59	0.78	0.95	0.87
25	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.05	0.22
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
30	0.00	0.00	0.06	0.06	0.05	0.07	0.00	0.00	0.11
31	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

MTOT

2.97	2.79	2.93	2.56	2.86	2.76	2.85	3.67	3.90
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APR

2	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.05	0.03
3	0.20	0.18	0.16	0.18	0.10	0.00	0.00	0.00	0.00
6	0.76	0.76	0.81	0.74	0.69	0.77	0.79	0.73	0.84
7	0.03	0.05	0.03	0.00	0.00	0.02	0.03	0.04	0.07
11	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.02
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
14	0.33	0.24	0.26	0.19	0.25	0.11	0.03	0.03	0.04
15	0.88	0.65	0.68	0.67	0.97	1.00	0.41	0.58	0.93
17	0.96	1.07	0.76	0.90	1.29	1.32	0.68	0.94	1.26
18	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
21	0.24	0.02	0.00	0.12	0.09	0.06	0.00	0.00	0.01
22	0.01	0.05	0.09	0.00	0.06	0.04	0.00	0.00	0.00
23	0.00	0.10	0.19	0.00	0.00	0.03	0.04	0.05	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.83	0.00
25	0.35	0.43	0.34	0.27	0.24	0.16	0.24	0.19	0.52
29	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.02
30	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01

MTOT

3.76	3.55	3.26	3.07	3.69	3.64	3.03	3.44	3.77
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MTOT=MONTHLY TOTALS

AUSTIN URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY

PERIOD : 1973 WATER YEAR

DATE	G A G E N U M B E R								
	WALLER CREEK BASIN						WILBARGER CREEK BASIN		
	1-S	2-S	3-S	4-R	5-R	6-R	1-R	2-R	3-R
MAY									
1	0.20	0.17	0.16	0.21	0.20	0.43	0.00	0.00	0.00
5	0.07	0.30	0.44	0.31	0.23	0.13	0.36	0.24	0.11
6	0.56	0.63	0.76	0.59	0.44	0.31	1.29	1.26	0.75
7	0.20	0.22	0.19	0.12	0.14	0.37	0.09	0.25	0.75
10	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.03
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12	0.02	0.22	0.20	0.13	0.30	0.28	0.20	0.29	0.26
19	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
23	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.09
25	0.10	0.04	0.25	0.00	0.00	0.00	0.00	0.03	0.04
28	0.00	0.00	0.00	0.10	0.07	0.03	0.00	0.00	0.00
MTOT	1.15	1.58	2.00	1.46	1.38	1.63	1.97	2.12	2.06
JUN									
1	0.25	0.00	0.00	0.00	0.00	0.01	0.05	0.05	0.21
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
3	0.03	0.04	0.02	0.02	0.02	0.01	0.00	0.00	0.00
4	0.56	0.58	0.50	0.51	0.53	0.49	0.28	0.23	0.22
5	0.30	0.27	0.26	0.26	0.50	0.56	0.42	0.51	0.85
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
8	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
9	0.40	0.40	0.32	0.10	0.70	0.82	0.05	0.00	0.02
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
11	1.07	1.85	1.82	1.02	0.91	0.91	0.40	0.53	0.38
12	1.00	0.14	0.13	1.01	1.06	0.90	0.32	0.39	0.50
20	0.90	1.42	0.90	0.95	1.65	1.59	0.20	0.09	0.20
21	0.06	0.10	0.11	0.11	0.08	0.07	0.10	0.05	0.09
24	0.17	0.15	0.09	0.08	0.18	0.20	0.25	0.19	0.13
25	1.14	1.03	1.18	1.09	0.95	0.92	0.82	0.72	0.69
28	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
MTOT	5.88	5.98	5.33	5.15	6.58	6.52	2.89	2.76	3.39

MTOT=MONTHLY TOTALS

AUSTIN URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY

PERIOD : 1973 WATER YEAR

G A G E N U M B E R

WALLER CREEK BASIN

WILBARGER CREEK BASIN

DATE	1-S	2-S	3-S	4-R	5-R	6-R	1-R	2-R	3-R
JUL									
2	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
6	1.51	1.74	1.84	1.80	2.13	1.08	0.04	0.05	0.64
7	0.02	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00
8	2.19	2.28	2.33	2.22	1.87	1.75	1.80	1.85	2.43
9	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.07
15	0.12	0.00	0.08	0.09	0.05	0.17	0.04	0.00	0.00
16	0.00	0.41	0.24	0.20	0.30	0.29	0.00	0.00	0.00
27	0.00	0.04	0.08	0.05	0.00	0.01	0.10	0.20	0.00
30	0.06	0.06	0.12	0.06	0.08	0.06	0.06	0.06	0.00
MTOT	3.90	4.53	4.72	4.42	4.44	3.46	2.06	2.18	3.14
AUG									
9	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.28	0.83
11	0.03	0.00	0.44	0.00	0.03	0.01	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.08	0.06	0.00	0.00	0.00	0.00	0.00
30	0.02	0.03	0.01	0.00	0.00	0.00	0.08	0.15	0.00
31	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	0.03	0.03	0.71	0.06	0.03	0.03	0.33	0.43	0.83
SEPT									
4	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00
5	0.00	0.02	0.02	0.00	0.00	0.02	0.02	0.00	0.02
6	0.85	0.72	0.65	0.65	0.57	0.49	0.67	0.63	0.88
7	0.00	0.22	0.11	0.21	0.42	0.40	0.31	0.16	0.38
13	0.00	0.04	0.05	0.00	0.04	0.05	0.04	0.00	0.00
14	0.03	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.00
18	0.09	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01
23	0.28	0.00	0.00	0.00	0.07	0.04	0.00	0.00	0.00
26	2.90	3.33	3.52	4.40	3.99	3.43	3.73	3.88	4.44
27	2.65	3.07	2.86	1.93	2.42	2.13	2.56	2.24	2.57
MTOT	6.69	7.40	7.21	7.19	7.51	6.62	7.39	6.95	8.30
WTOT	39.73	41.26	41.84	38.42	40.87	38.03	35.26	35.29	39.19

MTOT=MONTHLY TOTALS

WTOT=WATER YEAR TOTAL

STORM RAINFALL AND RUNOFF RECORD									
STA. NO. 08157000								1973 WATER YEAR	
WALLER CREEK AT 38TH ST., AUSTIN, TEX.		STORM OF OCT. 21-22, 1972						ACCUM. WEIGHTED DISCHARGE	ACCUM. RUNOFF
DATE & TIME	G A G E N U M B E R						PRECIP. IN.	IN FT ³ /S	IN.
	4-R	5-R							
OCT. 21									
0000	0.0	0.0					0.0	0.2	0.0007
1015	0.0	0.0					0.0	0.2	0.0014
1030	0.03	0.03					0.03	0.2	0.0015
1100	0.03	0.03					0.03	0.2	0.0016
1130	0.03	0.03					0.03	0.3	0.0016
1145	0.03	0.03					0.03	0.3	0.0017
1200	0.05	0.05					0.05	0.6	0.0019
1300	0.05	0.05					0.05	0.5	0.0023
1400	0.05	0.05					0.05	0.3	0.0024
1430	0.05	0.05					0.05	0.3	0.0025
1445	0.05	0.05					0.05	0.3	0.0025
1500	0.10	0.09					0.10	0.2	0.0026
1600	0.10	0.09					0.10	0.2	0.0028
1700	0.10	0.09					0.10	0.2	0.0029
1800	0.10	0.09					0.10	0.2	0.0030
1815	0.10	0.09					0.10	0.2	0.0030
1830	0.10	0.09					0.10	0.2	0.0031
1845	0.24	0.22					0.24	0.2	0.0031
1900	0.30	0.27					0.29	0.2	0.0032
1915	0.38	0.35					0.37	0.5	0.0032
1930	0.41	0.37					0.40	4.3	0.0040
1945	0.54	0.49					0.53	6.0	0.0050
2000	0.60	0.55					0.59	7.9	0.0063
2015	0.81	0.74					0.80	15.0	0.0088
2030	0.81	0.74					0.80	45.0	0.0164
2045	0.81	0.74					0.80	51.0	0.0249
2100	0.81	0.74					0.80	59.0	0.0348
2115	0.87	0.79					0.85	70.0	0.0465
2130	0.87	0.79					0.85	59.0	0.0564
2145	0.87	0.79					0.85	52.0	0.0652
2200	0.87	0.79					0.85	42.0	0.0722
2215	0.87	0.79					0.85	26.0	0.0766
2230	0.87	0.79					0.85	19.0	0.0797
2245	0.87	0.79					0.85	13.0	0.0819
2300	0.87	0.79					0.85	9.6	0.0835
2315	0.87	0.79					0.85	7.6	0.0848
2330	0.94	0.86					0.92	6.4	0.0859
2345	1.48	1.36					1.46	21.0	0.0894
2400	1.53	1.39					1.50	104.0	0.0981
OCT. 22									

STA. NO. 08157000

STORM RAINFALL AND RUNOFF RECORD

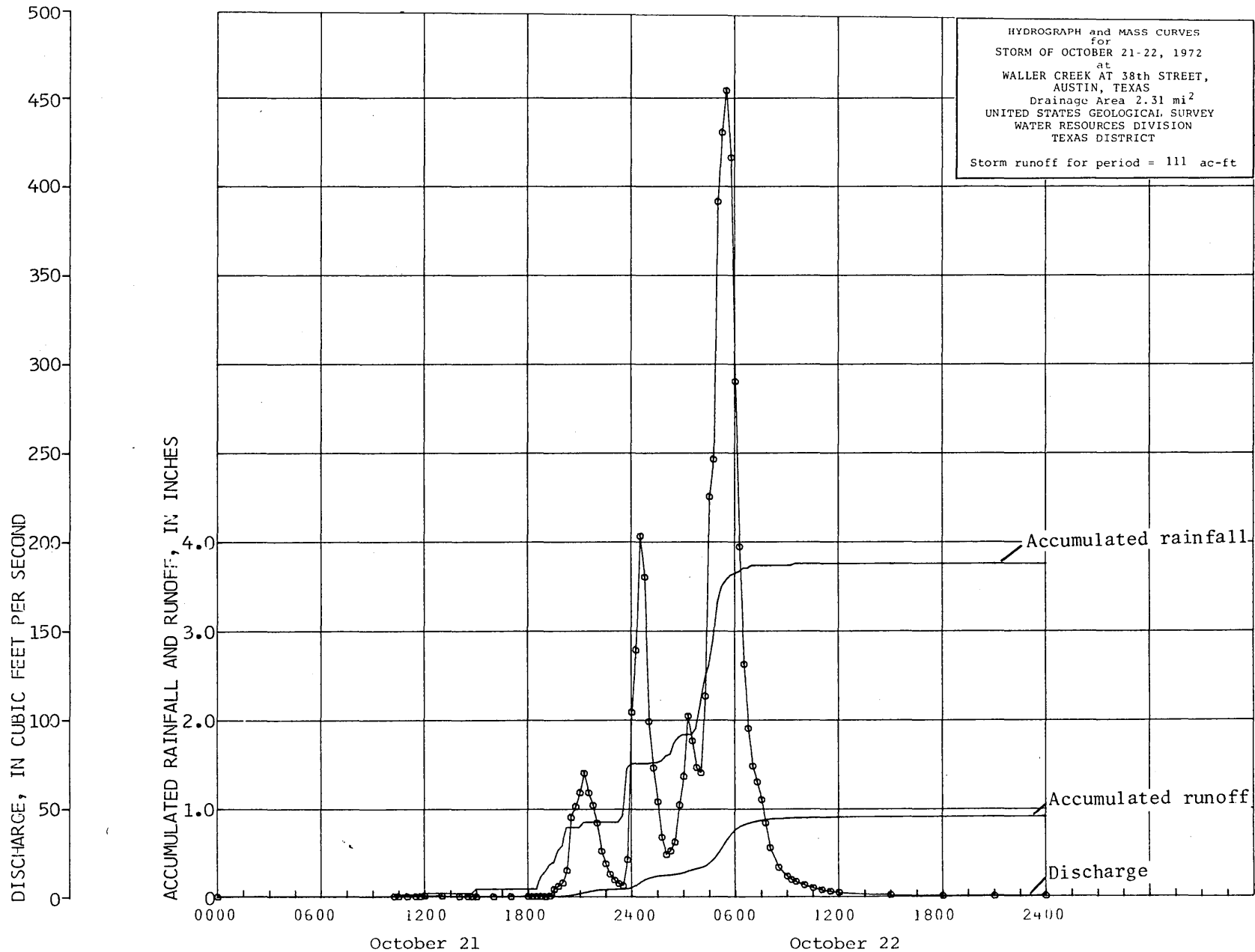
1973 WATER YEAR

WALLER CREEK AT 34TH ST., AUSTIN, TEX.

STORM OF OCT. 21-22, 1972

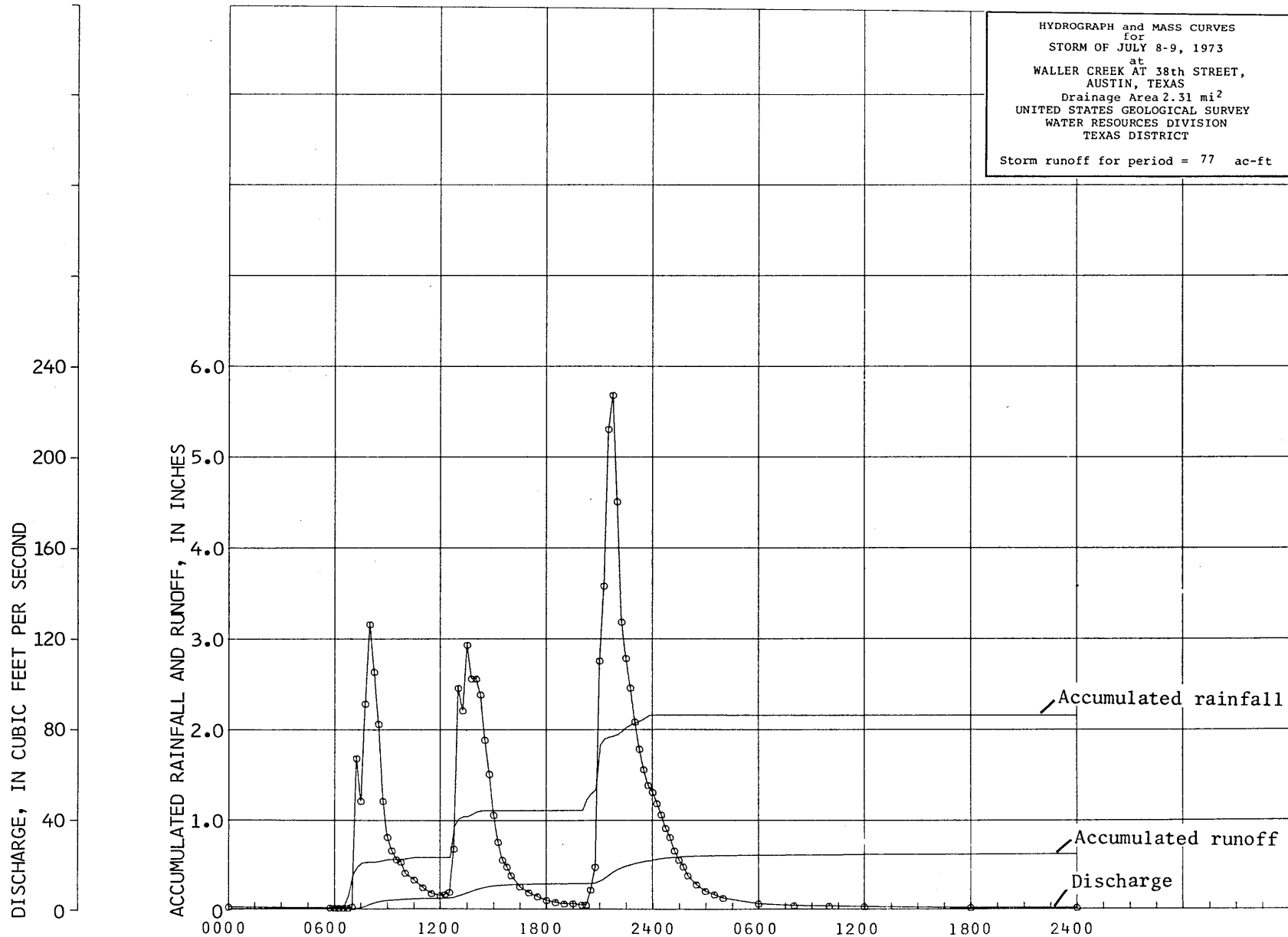
DATE & TIME	G A G E N U M B E R						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
	4-R	5-R							
OCT. 22									
0000	1.53	1.39					1.50	104.0	0.1068
0015	1.54	1.40					1.51	139.0	0.1302
0030	1.54	1.40					1.51	203.0	0.1642
0045	1.54	1.40					1.51	180.0	0.1944
0100	1.54	1.40					1.51	99.0	0.2110
0115	1.55	1.41					1.52	73.0	0.2232
0130	1.55	1.41					1.52	54.0	0.2323
0145	1.57	1.43					1.54	34.0	0.2380
0200	1.62	1.48					1.59	24.0	0.2420
0215	1.65	1.50					1.62	26.0	0.2464
0230	1.78	1.62					1.75	31.0	0.2516
0245	1.84	1.68					1.81	52.0	0.2603
0300	1.87	1.70					1.84	68.0	0.2717
0315	1.87	1.70					1.84	102.0	0.2888
0330	1.87	1.70					1.84	88.0	0.3036
0345	1.94	1.77					1.91	73.0	0.3158
0400	2.22	2.02					2.18	70.0	0.3275
0415	2.49	2.27					2.45	113.0	0.3465
0430	2.66	2.42					2.61	225.0	0.3842
0445	2.94	2.68					2.89	246.0	0.4255
0500	3.38	3.08					3.32	391.0	0.4911
0515	3.56	3.24					3.50	430.0	0.5632
0530	3.63	3.31					3.57	454.0	0.6393
0545	3.69	3.36					3.63	416.0	0.7091
0600	3.71	3.38					3.65	290.0	0.7577
0615	3.73	3.40					3.67	197.0	0.7907
0630	3.77	3.43					3.71	131.0	0.8127
0645	3.77	3.43					3.71	95.0	0.8286
0700	3.80	3.46					3.74	74.0	0.8411
0715	3.80	3.46					3.74	65.0	0.8520
0730	3.80	3.46					3.74	55.0	0.8612
0745	3.80	3.46					3.74	42.0	0.8682
0800	3.80	3.46					3.74	28.0	0.8753
0830	3.80	3.46					3.74	17.0	0.8810
0900	3.80	3.46					3.74	12.0	0.8840
0915	3.80	3.46					3.74	10.0	0.8857
0930	3.82	3.48					3.76	9.0	0.8879
1000	3.82	3.48					3.76	7.1	0.8903
1030	3.82	3.48					3.76	5.4	0.8921

STA. NO. 08157000				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 39TH ST., AUSTIN, TEX.				STORM OF OCT. 21-22, 1972				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME				G A G F N U M B E R				WEIGHTED	IN	RUNOFF
								PRECIP.		
								IN.	FT ³ /S	IN.
OCT. 22										
1100	3.82	3.48						3.76	4.2	0.8935
1130	3.82	3.48						3.76	3.3	0.8946
1200	3.82	3.48						3.76	2.7	0.8978
1500	3.82	3.48						3.76	1.1	0.9000
1800	3.82	3.48						3.76	0.6	0.9011
2100	3.82	3.48						3.76	0.4	0.9019
2400	3.82	3.48						3.76	0.3	0.9021



STORM RAINFALL AND RUNOFF RECORD									
STA. NO. 08157000				1973 WATER YEAR					
WALLER CREEK AT 38TH ST., AUSTIN, TEX.				STORM OF JULY 8-9, 1973				ACCUM.	DISCHARGE
DATE & TIME				G A G E N U M B E R				WEIGHTED PRECIP.	IN
								IN.	FT ³ /S
								IN.	IN.
JULY 8									
0000	0.0	0.0						0.0	0.8
0545	0.01	0.0						0.01	0.4
0600	0.02	0.0						0.02	0.3
0615	0.03	0.0						0.02	0.3
0630	0.03	0.0						0.02	0.3
0645	0.18	0.0						0.15	0.3
0700	0.45	0.06						0.38	1.0
0715	0.55	0.10						0.46	67.0
0730	0.58	0.20						0.51	48.0
0745	0.58	0.24						0.52	91.0
0800	0.58	0.26						0.52	126.0
0815	0.58	0.26						0.52	105.0
0830	0.59	0.26						0.53	82.0
0845	0.60	0.27						0.54	48.0
0900	0.61	0.28						0.55	32.0
0915	0.61	0.29						0.55	26.0
0930	0.61	0.29						0.55	22.0
0945	0.61	0.29						0.55	21.0
1000	0.62	0.29						0.56	16.0
1030	0.64	0.29						0.57	13.0
1100	0.64	0.29						0.57	9.6
1130	0.64	0.29						0.57	6.9
1200	0.64	0.29						0.57	6.0
1215	0.64	0.29						0.57	6.6
1230	0.64	0.29						0.57	7.6
1245	1.06	0.34						0.92	27.0
1300	1.07	0.72						1.00	98.0
1315	1.10	0.73						1.03	88.0
1330	1.10	0.73						1.03	117.0
1345	1.13	0.73						1.05	102.0
1400	1.15	0.79						1.08	102.0
1415	1.15	0.85						1.09	95.0
1430	1.15	0.86						1.10	75.0
1445	1.15	0.86						1.10	60.0
1500	1.15	0.86						1.10	42.0
1515	1.15	0.86						1.10	30.0
1530	1.15	0.86						1.10	22.0
1545	1.15	0.86						1.10	19.0
1600	1.15	0.86						1.10	15.0

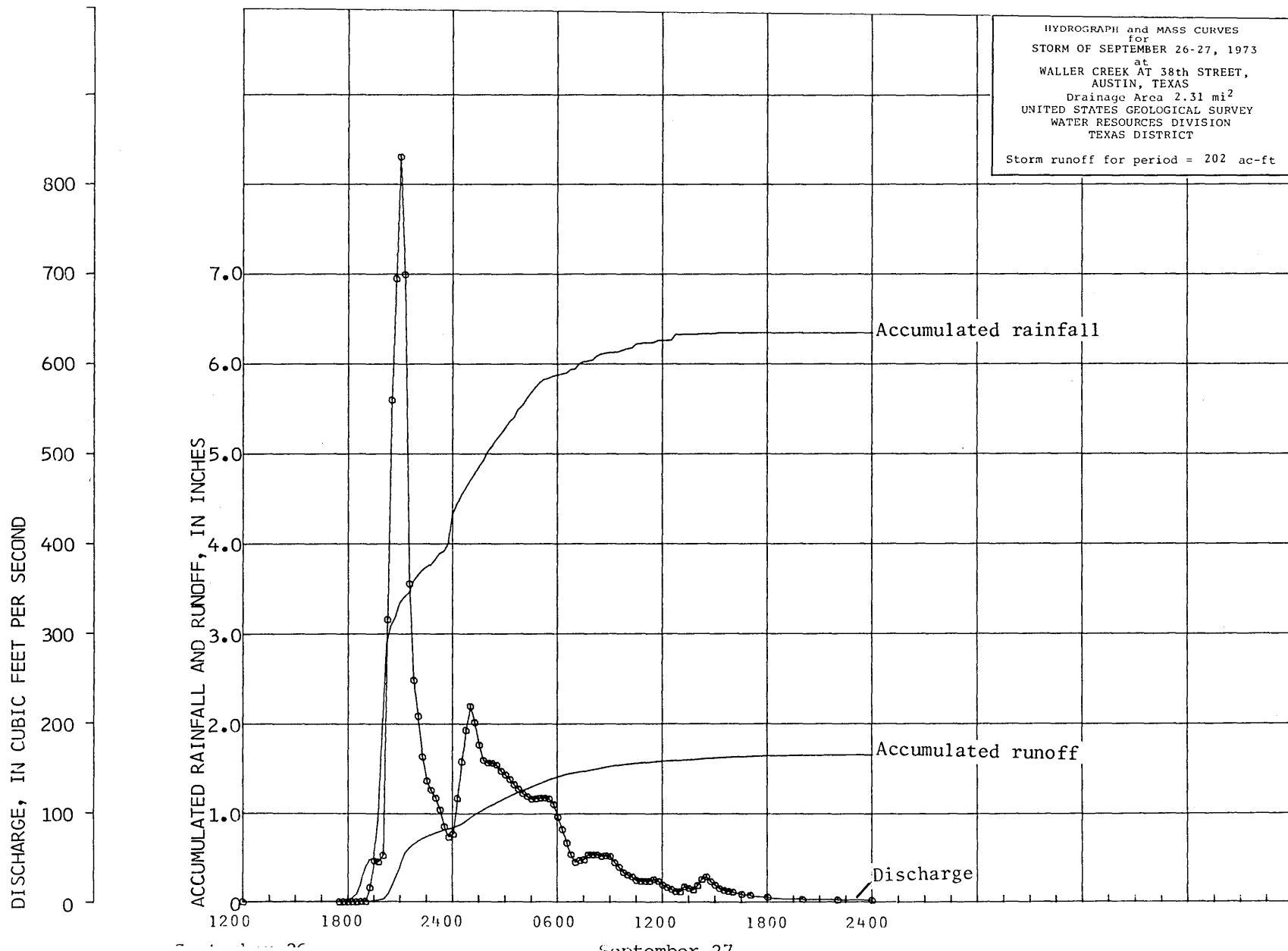
STA. NO. 08157000		STORM RAINFALL AND RUNOFF RECORD						1973 WATER YEAR		
WALLER CREEK AT 38TH ST., AUSTIN, TEX.		STORM OF JULY 8-9, 1973						ACCUM. WEIGHTED	DISCHARGE	ACCUM.
DATE & TIME		G A G E N U M B E R						PRECIP. IN.	IN FT ³ /S	RUNOFF IN.
JULY 8		4-R	5-R							
1630		1.15	0.86					1.10	10.0	0.2868
1700		1.15	0.86					1.10	7.3	0.2892
1730		1.15	0.86					1.10	5.6	0.2911
1800		1.15	0.86					1.10	3.9	0.2924
1830		1.15	0.86					1.10	3.0	0.2934
1900		1.15	0.86					1.10	2.4	0.2942
1930		1.15	0.86					1.10	2.5	0.2950
2000		1.15	0.86					1.10	1.9	0.2955
2015		1.30	0.86					1.22	1.9	0.2958
2030		1.31	1.16					1.28	8.7	0.2973
2045		1.36	1.17					1.32	19.0	0.3005
2100		1.95	1.24					1.82	110.0	0.3189
2115		1.96	1.55					1.88	143.0	0.3429
2130		1.98	1.57					1.90	212.0	0.3785
2145		1.99	1.59					1.91	227.0	0.4165
2200		2.01	1.60					1.93	180.0	0.4467
2215		2.05	1.63					1.97	127.0	0.4680
2230		2.09	1.68					2.01	111.0	0.4866
2245		2.11	1.74					2.04	98.0	0.5031
2300		2.13	1.77					2.06	83.0	0.5170
2315		2.15	1.78					2.08	71.0	0.5289
2330		2.18	1.80					2.11	62.0	0.5393
2345		2.21	1.84					2.14	55.0	0.5485
2400		2.22	1.87					2.15	52.0	0.5529
JULY 9										
0000		2.22	1.87					2.15	52.0	0.5572
0015		2.22	1.88					2.16	47.0	0.5651
0030		2.22	1.88					2.16	42.0	0.5722
0045		2.22	1.88					2.16	36.0	0.5782
0100		2.22	1.88					2.16	32.0	0.5836
0115		2.22	1.88					2.16	26.0	0.5879
0130		2.22	1.88					2.16	22.0	0.5916
0145		2.22	1.88					2.16	19.0	0.5948
0200		2.22	1.88					2.16	15.0	0.5986
0230		2.22	1.88					2.16	11.0	0.6023
0300		2.22	1.88					2.16	8.1	0.6050
0330		2.22	1.88					2.16	6.6	0.6072
0400		2.22	1.88					2.16	5.0	0.6114
0600		2.22	1.88					2.16	2.5	0.6147
0800		2.22	1.88					2.16	1.7	0.6170



STA. NO. 08157000		STORM RAINFALL AND RUNOFF RECORD						1973 WATER YEAR		
WALLER CREEK AT 38TH ST., AUSTIN, TEX.		STORM OF SEPT. 26-27, 1973						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	4-R	5-R	G A G E N U M B E R							
SEPT 26										
0000	0.0	0.0					0.0	0.1	0.0007	
1730	0.0	0.0					0.0	0.1	0.0013	
1745	0.02	0.0					0.02	0.1	0.0013	
1800	0.03	0.0					0.02	0.1	0.0013	
1815	0.06	0.02					0.05	0.1	0.0014	
1830	0.09	0.11					0.09	0.1	0.0014	
1845	0.20	0.26					0.21	0.1	0.0014	
1900	0.37	0.46					0.39	0.3	0.0014	
1915	0.46	0.58					0.48	16.0	0.0041	
1930	0.47	0.58					0.49	46.0	0.0118	
1945	0.96	0.76					0.92	45.0	0.0194	
2000	2.10	1.29					1.95	52.0	0.0281	
2015	3.02	2.35					2.89	315.0	0.0809	
2030	3.21	2.61					3.10	559.0	0.1747	
2045	3.29	2.78					3.19	694.0	0.2911	
2100	3.43	2.99					3.35	830.0	0.4303	
2115	3.48	3.09					3.41	699.0	0.5475	
2130	3.53	3.14					3.46	355.0	0.6070	
2145	3.65	3.27					3.58	248.0	0.6486	
2200	3.71	3.36					3.64	208.0	0.6835	
2215	3.76	3.46					3.70	163.0	0.7108	
2230	3.79	3.52					3.74	136.0	0.7336	
2245	3.82	3.54					3.77	126.0	0.7548	
2300	3.88	3.60					3.83	117.0	0.7744	
2315	3.94	3.68					3.89	104.0	0.7918	
2330	3.96	3.73					3.92	85.0	0.8061	
2345	4.05	3.78					4.00	73.0	0.8183	
2400	4.40	3.99					4.32	76.0	0.8247	
SEPT 27										
0000	4.40	3.99					4.32	76.0	0.8311	
0015	4.50	4.16					4.44	116.0	0.8505	
0030	4.60	4.28					4.54	157.0	0.8769	
0045	4.67	4.39					4.62	192.0	0.9091	
0100	4.75	4.45					4.69	219.0	0.9458	
0115	4.82	4.55					4.77	201.0	0.9795	
0130	4.90	4.65					4.85	176.0	1.0090	
0145	4.96	4.74					4.92	159.0	1.0357	
0200	5.06	4.83					5.02	156.0	1.0618	
0215	5.12	4.92					5.08	156.0	1.0880	
0230	5.19	5.01					5.16	154.0	1.1138	

STORM RAINFALL AND RUNOFF RECORD										1973 WATER YEAR
STA. NO. 08157000										
WALLER CREEK AT 38TH ST., AUSTIN, TEX.										
STORM OF SEPT. 26-27, 1973										
DATE & TIME	G A G E N U M B E R						WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.	
SEPT 27	4-R	5-R								
0245	5.25	5.09					5.22	147.0	1.1385	
0300	5.31	5.16					5.28	143.0	1.1625	
0315	5.38	5.23					5.35	138.0	1.1856	
0330	5.42	5.29					5.40	132.0	1.2077	
0345	5.52	5.37					5.49	127.0	1.2290	
0400	5.56	5.44					5.54	122.0	1.2495	
0415	5.64	5.53					5.62	119.0	1.2695	
0430	5.70	5.60					5.68	116.0	1.2889	
0445	5.76	5.65					5.74	116.0	1.3084	
0500	5.81	5.72					5.79	117.0	1.3280	
0515	5.84	5.77					5.83	117.0	1.3476	
0530	5.85	5.80					5.84	116.0	1.3671	
0545	5.87	5.84					5.86	110.0	1.3855	
0600	5.88	5.86					5.88	96.0	1.4016	
0615	5.89	5.88					5.89	82.0	1.4153	
0630	5.90	5.90					5.90	67.0	1.4266	
0645	5.94	5.92					5.94	54.0	1.4356	
0700	5.94	5.96					5.94	45.0	1.4432	
0715	6.00	6.00					6.00	47.0	1.4511	
0730	6.02	6.05					6.03	48.0	1.4591	
0745	6.03	6.05					6.03	54.0	1.4682	
0800	6.04	6.05					6.04	54.0	1.4772	
0815	6.09	6.07					6.09	54.0	1.4863	
0830	6.11	6.10					6.11	52.0	1.4950	
0845	6.12	6.11					6.12	53.0	1.5039	
0900	6.13	6.11					6.13	52.0	1.5126	
0915	6.13	6.12					6.13	45.0	1.5202	
0930	6.14	6.12					6.14	40.0	1.5269	
0945	6.16	6.12					6.15	34.0	1.5326	
1000	6.17	6.16					6.17	31.0	1.5378	
1015	6.18	6.16					6.18	29.0	1.5426	
1030	6.22	6.22					6.22	25.0	1.5468	
1045	6.22	6.25					6.23	24.0	1.5508	
1100	6.22	6.29					6.23	24.0	1.5549	
1115	6.22	6.30					6.24	24.0	1.5589	
1130	6.22	6.31					6.24	26.0	1.5633	
1145	6.25	6.31					6.26	24.0	1.5673	
1200	6.25	6.31					6.26	20.0	1.5706	
1215	6.25	6.32					6.26	17.0	1.5735	

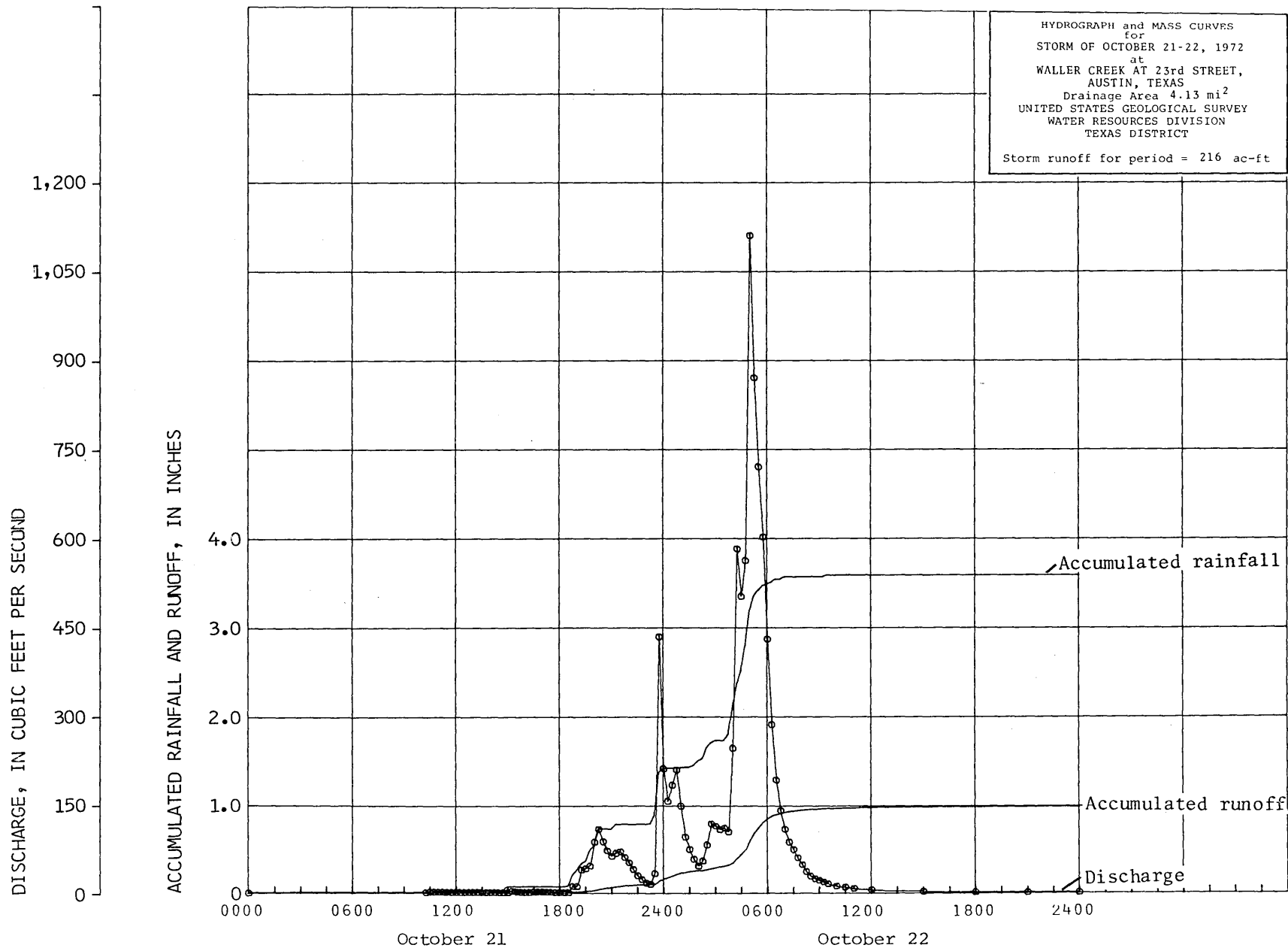
STA. NO. 08157000				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 39TH ST., AUSTIN, TEX.				STORM OF SEPT. 26-27, 1973				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME				G A G E N U M B E R				WEIGHTED PRECIP.	IN	RUNOFF
				4-R	5-R			IN.	FT ³ /S	IN.
SEPT 27										
1230	6.25	6.32						6.26	15.0	1.5760
1245	6.33	6.32						6.33	12.0	1.5780
1300	6.33	6.33						6.33	12.0	1.5800
1315	6.33	6.34						6.33	18.0	1.5830
1330	6.33	6.34						6.33	16.0	1.5857
1345	6.33	6.34						6.33	14.0	1.5881
1400	6.33	6.34						6.33	19.0	1.5913
1415	6.33	6.36						6.34	26.0	1.5956
1430	6.33	6.36						6.34	29.0	1.6005
1445	6.33	6.37						6.34	24.0	1.6045
1500	6.33	6.38						6.34	20.0	1.6079
1515	6.33	6.41						6.35	16.0	1.6105
1530	6.33	6.41						6.35	14.0	1.6129
1545	6.33	6.41						6.35	13.0	1.6151
1600	6.33	6.41						6.35	12.0	1.6181
1630	6.33	6.41						6.35	9.6	1.6213
1700	6.33	6.41						6.35	8.4	1.6255
1800	6.33	6.41						6.35	6.0	1.6316
2000	6.33	6.41						6.35	3.5	1.6363
2200	6.33	6.41						6.35	2.9	1.6402
2400	6.33	6.41						6.35	2.3	1.6417



STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF OCT. 21-22, 1972				ACCUM. WEIGHTED PRECIP.	DISCHARGE FT ³ /S	ACCUM. RUNOFF
DATE & TIME	G A G E N U M B E R							IN.	CFS	IN.
	4-R	5-R	6-R							
OCT. 21										
0000	0.0	0.0	0.0					0.0	0.8	0.0016
1015	0.0	0.0	0.0					0.0	1.1	0.0038
1030	0.03	0.03	0.0					0.03	2.3	0.0040
1045	0.03	0.03	0.0					0.03	2.2	0.0042
1100	0.03	0.03	0.0					0.03	2.0	0.0044
1115	0.03	0.03	0.0					0.03	2.1	0.0046
1130	0.03	0.03	0.0					0.03	1.9	0.0048
1145	0.03	0.03	0.0					0.03	1.7	0.0049
1200	0.05	0.05	0.0					0.05	1.6	0.0051
1215	0.05	0.05	0.0					0.05	1.6	0.0052
1230	0.05	0.05	0.0					0.05	1.7	0.0054
1245	0.05	0.05	0.0					0.05	1.7	0.0055
1300	0.05	0.05	0.0					0.05	1.7	0.0057
1315	0.05	0.05	0.0					0.05	1.6	0.0059
1330	0.05	0.05	0.0					0.05	1.5	0.0060
1345	0.05	0.05	0.0					0.05	1.5	0.0061
1400	0.05	0.05	0.0					0.05	1.4	0.0063
1415	0.05	0.05	0.0					0.05	1.3	0.0064
1430	0.05	0.05	0.0					0.05	1.3	0.0065
1445	0.05	0.05	0.0					0.05	1.4	0.0066
1500	0.10	0.09	0.0					0.09	1.4	0.0068
1515	0.10	0.09	0.0					0.09	3.4	0.0071
1530	0.10	0.09	0.0					0.09	2.9	0.0074
1545	0.10	0.09	0.0					0.09	2.1	0.0076
1600	0.10	0.09	0.0					0.09	1.7	0.0077
1615	0.10	0.09	0.0					0.09	1.5	0.0079
1630	0.10	0.09	0.0					0.09	2.3	0.0081
1645	0.10	0.09	0.0					0.09	2.7	0.0083
1700	0.10	0.09	0.0					0.09	2.4	0.0086
1715	0.10	0.09	0.0					0.09	2.0	0.0087
1730	0.10	0.09	0.0					0.09	1.9	0.0089
1745	0.10	0.09	0.0					0.09	1.7	0.0091
1800	0.10	0.09	0.0					0.09	1.5	0.0092
1815	0.10	0.09	0.0					0.09	1.4	0.0094
1830	0.10	0.09	0.05					0.09	1.2	0.0095
1845	0.24	0.22	0.09					0.22	12.0	0.0106
1900	0.30	0.27	0.12					0.27	12.0	0.0117
1915	0.38	0.35	0.15					0.35	40.0	0.0155
1930	0.41	0.37	0.21					0.37	42.0	0.0194

STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF OCT. 21-22, 1972				ACCUM. WEIGHTED PRECIP.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	4-R	5-R	6-R	G A G E N U M B E R				IN.		
OCT. 21										
1945	0.54	0.49	0.26					0.49	47.0	0.0238
2000	0.60	0.55	0.40					0.56	88.0	0.0321
2015	0.81	0.74	0.41					0.74	110.0	0.0424
2030	0.81	0.74	0.41					0.74	89.0	0.0507
2045	0.81	0.74	0.41					0.74	73.0	0.0576
2100	0.81	0.74	0.43					0.75	64.0	0.0636
2115	0.87	0.79	0.43					0.80	69.0	0.0701
2130	0.87	0.79	0.43					0.80	72.0	0.0768
2145	0.87	0.79	0.43					0.80	62.0	0.0826
2200	0.87	0.79	0.43					0.80	53.0	0.0876
2215	0.87	0.79	0.43					0.80	42.0	0.0915
2230	0.87	0.79	0.43					0.80	31.0	0.0944
2245	0.87	0.79	0.43					0.80	24.0	0.0967
2300	0.87	0.79	0.43					0.80	18.0	0.0984
2315	0.87	0.79	0.49					0.80	16.0	0.0999
2330	0.94	0.86	0.81					0.90	34.0	0.1031
2345	1.48	1.36	0.93					1.38	434.0	0.1438
2400	1.53	1.39	0.93					1.42	212.0	0.1537
OCT. 22										
0000	1.53	1.39	0.93					1.42	212.0	0.1637
0015	1.54	1.40	0.94					1.43	157.0	0.1784
0030	1.54	1.40	0.94					1.43	184.0	0.1957
0045	1.54	1.40	0.95					1.43	210.0	0.2154
0100	1.54	1.40	0.96					1.43	149.0	0.2293
0115	1.55	1.41	0.96					1.44	97.0	0.2384
0130	1.55	1.41	0.96					1.44	76.0	0.2456
0145	1.57	1.43	0.97					1.46	59.0	0.2511
0200	1.62	1.48	0.99					1.50	47.0	0.2555
0215	1.65	1.50	1.05					1.53	56.0	0.2608
0230	1.78	1.62	1.13					1.65	83.0	0.2685
0245	1.84	1.68	1.15					1.71	119.0	0.2797
0300	1.87	1.70	1.17					1.74	115.0	0.2905
0315	1.87	1.70	1.18					1.74	109.0	0.3007
0330	1.87	1.70	1.19					1.74	112.0	0.3112
0345	1.94	1.77	1.25					1.81	105.0	0.3211
0400	2.22	2.02	1.53					2.07	246.0	0.3441
0415	2.49	2.27	1.96					2.35	582.0	0.3987
0430	2.66	2.42	2.11					2.51	502.0	0.4458
0445	2.94	2.68	2.46					2.79	562.0	0.4985
0500	3.38	3.08	2.65					3.19	1110.0	0.6027

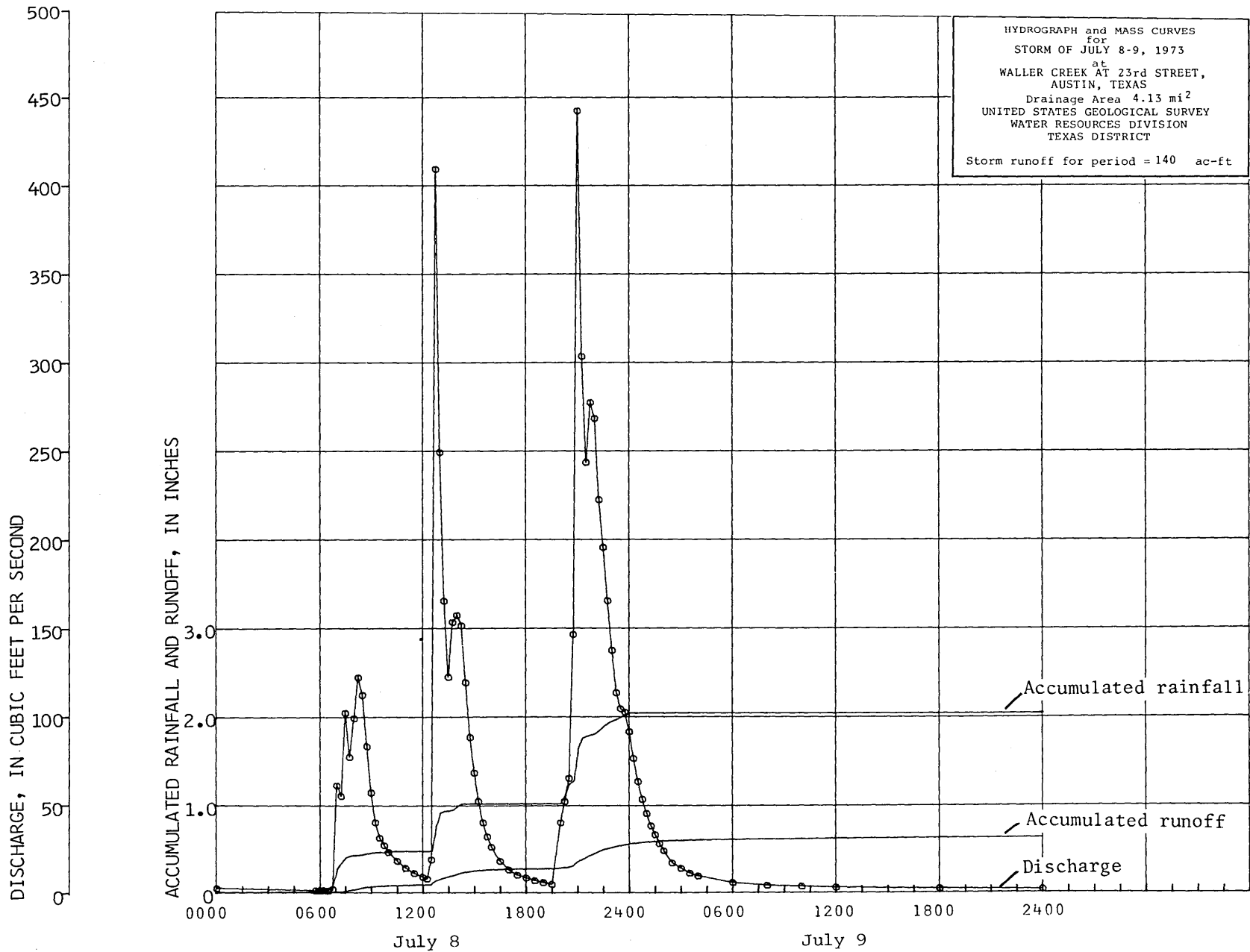
STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF OCT. 21-22, 1972				ACCUM. WEIGHTED PRECIP.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	4-R	5-R	6-R	G A G E N U M B E R				IN.		
OCT. 22										
0515	3.56	3.24	2.71					3.35	870.0	0.6843
0530	3.63	3.31	2.77					3.42	720.0	0.7518
0545	3.69	3.36	2.78					3.47	602.0	0.8083
0600	3.71	3.38	2.79					3.49	430.0	0.8486
0615	3.73	3.40	2.81					3.51	286.0	0.8754
0630	3.77	3.43	2.81					3.54	193.0	0.8935
0645	3.77	3.43	2.81					3.54	142.0	0.9069
0700	3.80	3.46	2.81					3.57	110.0	0.9172
0715	3.80	3.46	2.81					3.57	88.0	0.9254
0730	3.80	3.46	2.81					3.57	76.0	0.9326
0745	3.80	3.46	2.81					3.57	62.0	0.9384
0800	3.80	3.46	2.82					3.57	50.0	0.9431
0815	3.80	3.46	2.82					3.57	38.0	0.9466
0830	3.80	3.46	2.82					3.57	30.0	0.9494
0845	3.80	3.46	2.82					3.57	26.0	0.9519
0900	3.80	3.46	2.82					3.57	23.0	0.9540
0915	3.80	3.46	2.82					3.57	20.0	0.9559
0930	3.82	3.48	2.83					3.59	17.0	0.9583
1000	3.82	3.48	2.83					3.59	13.0	0.9607
1030	3.82	3.48	2.83					3.59	11.0	0.9628
1100	3.82	3.48	2.83					3.59	9.2	0.9654
1200	3.82	3.48	2.83					3.59	6.7	0.9704
1500	3.82	3.48	2.83					3.59	3.4	0.9743
1800	3.82	3.48	2.83					3.59	2.1	0.9766
2100	3.82	3.48	2.83					3.59	1.5	0.9783
2400	3.82	3.48	2.83					3.59	1.3	0.9790



STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF JULY 8-9, 1973				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	4-R	5-R	6-R	G A G E N U M B E R						
JULY 8										
0000	0.0	0.0	0.0					0.0	2.5	0.0027
0545	0.01	0.0	0.0					0.01	1.1	0.0039
0600	0.02	0.0	0.0					0.01	1.1	0.0040
0615	0.03	0.0	0.0					0.02	1.1	0.0041
0630	0.03	0.0	0.0					0.02	1.1	0.0042
0645	0.18	0.0	0.0					0.09	2.0	0.0044
0700	0.45	0.06	0.10					0.26	61.0	0.0102
0715	0.55	0.10	0.19					0.34	55.0	0.0153
0730	0.58	0.20	0.22					0.39	102.0	0.0249
0745	0.58	0.24	0.23					0.41	77.0	0.0321
0800	0.58	0.26	0.24					0.42	99.0	0.0414
0815	0.58	0.26	0.26					0.42	122.0	0.0528
0830	0.59	0.26	0.28					0.43	112.0	0.0633
0845	0.60	0.27	0.29					0.44	83.0	0.0711
0900	0.61	0.28	0.31					0.45	57.0	0.0765
0915	0.61	0.29	0.31					0.45	40.0	0.0802
0930	0.61	0.29	0.31					0.45	31.0	0.0831
0945	0.61	0.29	0.31					0.45	27.0	0.0857
1000	0.62	0.29	0.31					0.46	23.0	0.0889
1030	0.64	0.29	0.31					0.47	18.0	0.0923
1100	0.64	0.29	0.31					0.47	14.0	0.0949
1130	0.64	0.29	0.31					0.47	11.0	0.0970
1200	0.64	0.29	0.31					0.47	8.9	0.0982
1215	0.64	0.29	0.31					0.47	7.9	0.0990
1230	0.64	0.29	0.33					0.47	19.0	0.1007
1245	1.06	0.34	0.80					0.75	409.0	0.1391
1300	1.07	0.72	0.80					0.91	249.0	0.1625
1315	1.10	0.73	0.81					0.93	165.0	0.1779
1330	1.10	0.73	0.82					0.93	122.0	0.1894
1345	1.13	0.73	0.83					0.94	153.0	0.2037
1400	1.15	0.79	0.88					0.98	157.0	0.2185
1415	1.15	0.85	0.88					1.01	151.0	0.2326
1430	1.15	0.86	0.88					1.01	119.0	0.2438
1445	1.15	0.86	0.88					1.01	88.0	0.2520
1500	1.15	0.86	0.88					1.01	68.0	0.2584
1515	1.15	0.86	0.88					1.01	52.0	0.2633
1530	1.15	0.86	0.88					1.01	40.0	0.2670
1545	1.15	0.86	0.88					1.01	32.0	0.2701
1600	1.15	0.86	0.88					1.01	26.0	0.2737

STA. NO. 08157500					STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.					STORM OF JULY 8-9, 1973				ACCUM. WEIGHTED PRECIP.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	4-R	5-R	6-R	G A G E N U M B E R					IN.		
JULY 8											
1630	1.15	0.86	0.88						1.01	18.0	0.2771
1700	1.15	0.86	0.88						1.01	13.0	0.2795
1730	1.15	0.86	0.88						1.01	10.0	0.2814
1800	1.15	0.86	0.88						1.01	8.5	0.2830
1830	1.15	0.86	0.88						1.01	6.9	0.2843
1900	1.15	0.86	0.88						1.01	5.8	0.2854
1930	1.15	0.86	0.88						1.01	4.8	0.2863
2000	1.15	0.86	0.88						1.01	40.0	0.2919
2015	1.30	0.86	1.10						1.11	52.0	0.2968
2030	1.31	1.16	1.12						1.23	65.0	0.3029
2045	1.36	1.17	1.13						1.26	146.0	0.3166
2100	1.95	1.24	1.42						1.62	442.0	0.3580
2115	1.96	1.55	1.44						1.75	303.0	0.3865
2130	1.98	1.57	1.45						1.77	243.0	0.4093
2145	1.99	1.59	1.46						1.78	277.0	0.4352
2200	2.01	1.60	1.50						1.80	268.0	0.4604
2215	2.05	1.63	1.55						1.84	222.0	0.4812
2230	2.09	1.68	1.59						1.88	195.0	0.4995
2245	2.11	1.74	1.62						1.92	165.0	0.5150
2300	2.13	1.77	1.64						1.94	137.0	0.5278
2315	2.15	1.78	1.65						1.96	113.0	0.5384
2330	2.18	1.80	1.69						1.98	104.0	0.5482
2345	2.21	1.84	1.73						2.02	102.0	0.5577
2400	2.22	1.87	1.75						2.04	91.0	0.5620
JULY 9											
0000	2.22	1.87	1.75						2.04	91.0	0.5663
0015	2.22	1.88	1.75						2.04	76.0	0.5734
0030	2.22	1.88	1.75						2.04	63.0	0.5793
0045	2.22	1.88	1.75						2.04	53.0	0.5843
0100	2.22	1.88	1.75						2.04	45.0	0.5885
0115	2.22	1.88	1.75						2.04	38.0	0.5921
0130	2.22	1.88	1.75						2.04	33.0	0.5952
0145	2.22	1.88	1.75						2.04	28.0	0.5978
0200	2.22	1.88	1.75						2.04	24.0	0.6012
0230	2.22	1.88	1.75						2.04	17.0	0.6044
0300	2.22	1.88	1.75						2.04	14.0	0.6070
0330	2.22	1.88	1.75						2.04	11.0	0.6090
0400	2.22	1.88	1.75						2.04	9.5	0.6135
0600	2.22	1.88	1.75						2.04	5.6	0.6177
0800	2.22	1.88	1.75						2.04	4.1	0.6208

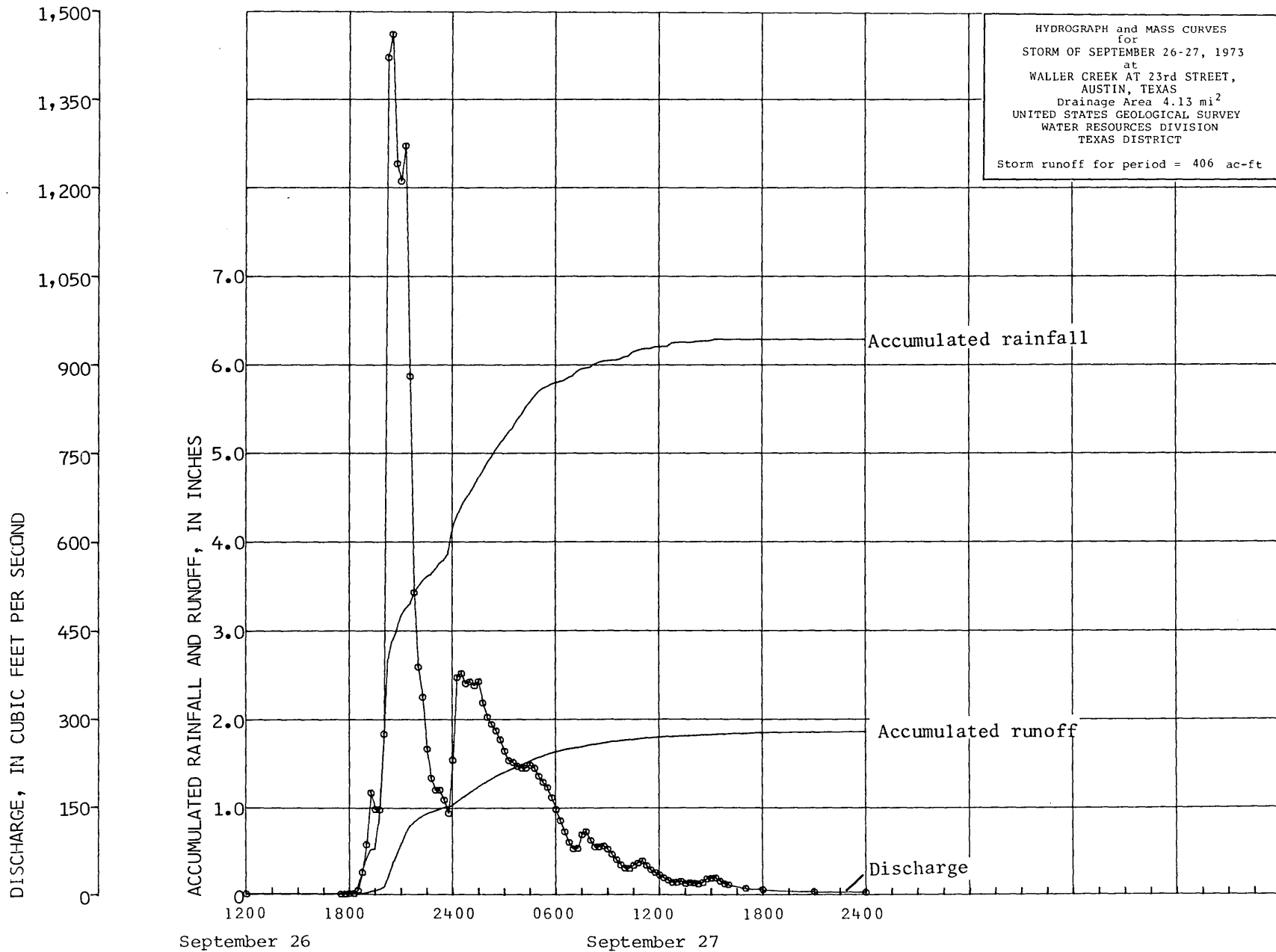
STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF JULY 8-9, 1973				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME				G A G E N U M B E R				WEIGHTED	IN	RUNOFF
				4-R	5-R	6-R		PRECIP.		
								IN.	FT ³ /S	IN.
JULY 9										
1000	2.22	1.88	1.75					2.04	3.4	0.6233
1200	2.22	1.88	1.75					2.04	2.9	0.6277
1800	2.22	1.88	1.75					2.04	2.2	0.6326
2400	2.22	1.88	1.75					2.04	1.7	0.6345



STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF SEPT. 26-27, 1973				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	G A G E			N U M B E R						
	4-R	5-R	6-R							
SEPT 26										
0000	0.0	0.0	0.0					0.0	0.5	0.0016
1730	0.0	0.0	0.0					0.0	0.6	0.0036
1745	0.02	0.0	0.0					0.01	0.7	0.0037
1800	0.03	0.0	0.0					0.02	1.4	0.0038
1815	0.06	0.02	0.01					0.04	1.4	0.0039
1830	0.09	0.11	0.05					0.09	7.6	0.0046
1845	0.20	0.26	0.26					0.23	38.0	0.0082
1900	0.37	0.46	0.44					0.41	86.0	0.0163
1915	0.46	0.58	0.61					0.52	175.0	0.0327
1930	0.47	0.58	0.69					0.53	147.0	0.0465
1945	0.96	0.76	0.81					0.87	146.0	0.0602
2000	2.10	1.29	0.93					1.67	274.0	0.0859
2015	3.02	2.35	1.94					2.65	1420.0	0.2191
2030	3.21	2.61	2.20					2.88	1460.0	0.3560
2045	3.29	2.78	2.30					2.99	1240.0	0.4723
2100	3.43	2.99	2.45					3.16	1210.0	0.5858
2115	3.48	3.09	2.60					3.24	1270.0	0.7050
2130	3.53	3.14	2.67					3.29	880.0	0.7875
2145	3.65	3.27	2.76					3.41	514.0	0.8357
2200	3.71	3.36	2.86					3.49	388.0	0.8721
2215	3.76	3.46	2.92					3.56	337.0	0.9037
2230	3.79	3.52	3.00					3.61	249.0	0.9271
2245	3.82	3.54	3.02					3.63	200.0	0.9458
2300	3.88	3.60	3.06					3.69	180.0	0.9627
2315	3.94	3.68	3.12					3.76	180.0	0.9796
2330	3.96	3.73	3.15					3.79	163.0	0.9949
2345	4.05	3.78	3.20					3.86	140.0	1.0080
2400	4.40	3.99	3.43					4.14	230.0	1.0188
SEPT 27										
0000	4.40	3.99	3.43					4.14	230.0	1.0296
0015	4.50	4.16	3.59					4.28	370.0	1.0643
0030	4.60	4.28	3.71					4.39	377.0	1.0997
0045	4.67	4.39	3.79					4.47	360.0	1.1334
0100	4.75	4.45	3.84					4.54	363.0	1.1675
0115	4.82	4.55	3.91					4.63	356.0	1.2009
0130	4.90	4.65	4.02					4.72	363.0	1.2349
0145	4.96	4.74	4.10					4.79	327.0	1.2656
0200	5.06	4.83	4.17					4.88	303.0	1.2940
0215	5.12	4.92	4.25					4.96	291.0	1.3213
0230	5.19	5.01	4.32					5.04	280.0	1.3476

STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF SEPT. 26-27, 1973				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME				G A G E N U M B E R				WEIGHTED PRECIP.	IN	RUNOFF
				4-R	5-R	6-R		IN.	FT ³ /S	IN.
SEPT 27										
0245	5.25	5.09	4.37					5.10	265.0	1.3724
0300	5.31	5.16	4.45					5.17	246.0	1.3955
0315	5.38	5.23	4.49					5.24	230.0	1.4171
0330	5.42	5.29	4.54					5.28	227.0	1.4384
0345	5.52	5.37	4.63					5.38	220.0	1.4590
0400	5.56	5.44	4.70					5.43	217.0	1.4794
0415	5.64	5.53	4.77					5.51	217.0	1.4997
0430	5.70	5.60	4.84					5.58	222.0	1.5205
0445	5.76	5.65	4.92					5.64	217.0	1.5409
0500	5.81	5.72	4.96					5.69	203.0	1.5599
0515	5.84	5.77	5.02					5.73	193.0	1.5780
0530	5.85	5.80	5.06					5.75	184.0	1.5953
0545	5.87	5.84	5.08					5.78	167.0	1.6110
0600	5.88	5.86	5.11					5.80	147.0	1.6248
0615	5.89	5.88	5.13					5.81	128.0	1.6368
0630	5.90	5.90	5.15					5.83	109.0	1.6470
0645	5.94	5.92	5.16					5.86	91.0	1.6555
0700	5.94	5.96	5.17					5.87	79.0	1.6629
0715	6.00	6.00	5.21					5.92	80.0	1.6704
0730	6.02	6.05	5.24					5.96	104.0	1.6802
0745	6.03	6.05	5.26					5.96	109.0	1.6904
0800	6.04	6.05	5.30					5.97	94.0	1.6992
0815	6.09	6.07	5.31					6.01	83.0	1.7070
0830	6.11	6.10	5.34					6.03	83.0	1.7148
0845	6.12	6.11	5.36					6.04	85.0	1.7228
0900	6.13	6.11	5.36					6.05	79.0	1.7302
0915	6.13	6.12	5.36					6.05	70.0	1.7367
0930	6.14	6.12	5.36					6.06	61.0	1.7425
0945	6.16	6.12	5.36					6.07	52.0	1.7473
1000	6.17	6.16	5.38					6.09	46.0	1.7517
1015	6.18	6.16	5.40					6.10	45.0	1.7559
1030	6.22	6.22	5.46					6.15	51.0	1.7607
1045	6.22	6.25	5.49					6.16	55.0	1.7658
1100	6.22	6.29	5.51					6.18	59.0	1.7714
1115	6.22	6.30	5.51					6.18	51.0	1.7761
1130	6.22	6.31	5.52					6.19	44.0	1.7803
1145	6.25	6.31	5.52					6.20	39.0	1.7839
1200	6.25	6.31	5.52					6.20	35.0	1.7872
1215	6.25	6.32	5.52					6.21	30.0	1.7900

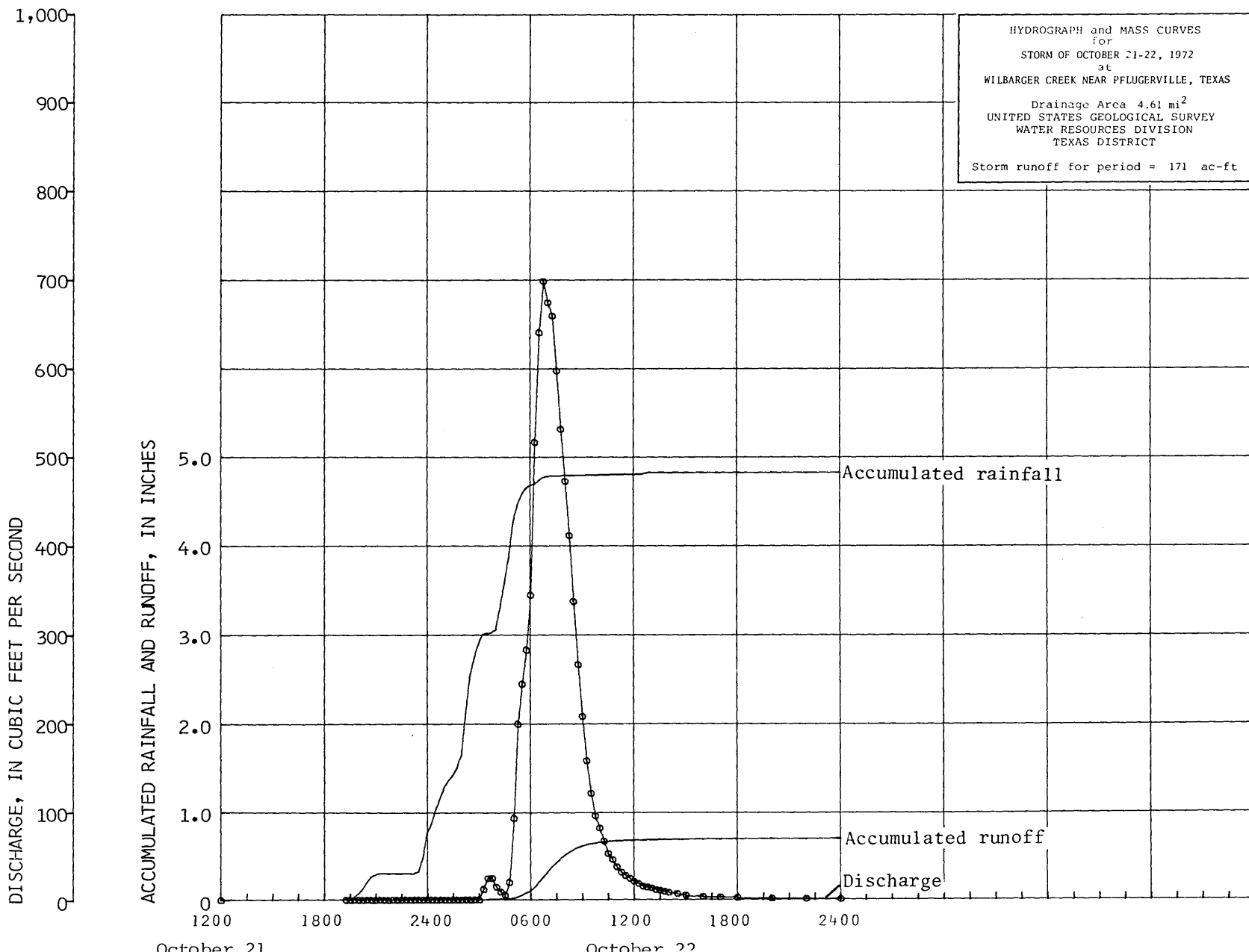
STA. NO. 08157500				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WALLER CREEK AT 23RD ST., AUSTIN, TEX.				STORM OF SEPT. 26-27, 1973				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME				G A G E N U M B E R				WEIGHTED PRECIP.	IN	RUNOFF
				4-R	5-R	6-R		IN.	FT ³ /S	IN.
SEPT 27										
1230	6.25	6.32	5.52					6.21	26.0	1.7925
1245	6.33	6.32	5.53					6.25	22.0	1.7945
1300	6.33	6.33	5.53					6.25	22.0	1.7966
1315	6.33	6.34	5.53					6.26	24.0	1.7988
1330	6.33	6.34	5.53					6.26	20.0	1.8007
1345	6.33	6.34	5.53					6.26	22.0	1.8028
1400	6.33	6.34	5.54					6.26	21.0	1.8047
1415	6.33	6.36	5.54					6.27	19.0	1.8065
1430	6.33	6.36	5.54					6.27	21.0	1.8085
1445	6.33	6.37	5.54					6.27	28.0	1.8111
1500	6.33	6.38	5.55					6.27	29.0	1.8138
1515	6.33	6.41	5.55					6.29	30.0	1.8167
1530	6.33	6.41	5.56					6.29	24.0	1.8189
1545	6.33	6.41	5.56					6.29	20.0	1.8208
1600	6.33	6.41	5.56					6.29	18.0	1.8250
1700	6.33	6.41	5.56					6.29	12.0	1.8295
1800	6.33	6.41	5.56					6.29	9.5	1.8366
2100	6.33	6.41	5.56					6.29	5.2	1.8425
2400	6.33	6.41	5.56					6.29	4.2	1.8448



STA. NO. 08159150				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WILBARGER CREEK NEAR PFLUGERVILLE, TEX.				STORM OF OCT. 21-22, 1972				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	1-R	2-R	3-R	G A G E N U M B E R						
OCT. 21										
0000	0.0	0.0	0.0					0.0	0.0	0.0
1915	0.0	0.01	0.0					0.00	0.0	0.0
1930	0.01	0.03	0.0					0.01	0.0	0.0
1945	0.03	0.09	0.0					0.04	0.0	0.0
2000	0.11	0.12	0.0					0.08	0.0	0.0
2015	0.14	0.18	0.08					0.14	0.0	0.0
2030	0.23	0.27	0.12					0.21	0.0	0.0
2045	0.33	0.30	0.16					0.28	0.0	0.0
2100	0.35	0.32	0.20					0.30	0.0	0.0
2115	0.37	0.32	0.21					0.31	0.0	0.0
2130	0.37	0.32	0.21					0.31	0.0	0.0
2145	0.37	0.32	0.21					0.31	0.0	0.0
2200	0.37	0.32	0.21					0.31	0.0	0.0
2215	0.37	0.32	0.21					0.31	0.0	0.0
2230	0.37	0.32	0.21					0.31	0.0	0.0
2245	0.37	0.32	0.21					0.31	0.0	0.0
2300	0.37	0.32	0.21					0.31	0.0	0.0
2315	0.37	0.32	0.21					0.31	0.0	0.0
2330	0.38	0.37	0.21					0.33	0.0	0.0
2345	0.47	0.77	0.21					0.49	0.0	0.0
2400	0.96	1.03	0.21					0.78	0.0	0.0
OCT. 22										
0000	0.96	1.03	0.21					0.78	0.0	0.0
0015	1.08	1.05	0.35					0.88	0.0	0.0
0030	1.10	1.05	0.94					1.04	0.0	0.0
0045	1.13	1.22	1.15					1.16	0.0	0.0
0100	1.31	1.38	1.15					1.29	0.0	0.0
0115	1.47	1.42	1.15					1.37	0.0	0.0
0130	1.50	1.44	1.27					1.42	0.0	0.0
0145	1.55	1.53	1.41					1.51	0.0	0.0
0200	1.62	1.79	1.53					1.65	0.0	0.0
0215	2.17	2.53	1.53					2.11	0.0	0.0
0230	2.82	2.83	1.73					2.53	0.0	0.0
0245	3.07	2.89	2.05					2.74	0.0	0.0
0300	3.12	2.91	2.54					2.90	0.0	0.0
0315	3.14	2.92	2.91					3.01	12.0	0.0010
0330	3.15	2.92	2.93					3.02	25.0	0.0031
0345	3.15	2.92	2.94					3.02	25.0	0.0052
0400	3.15	3.03	2.94					3.06	15.0	0.0065
0415	3.45	3.44	2.94					3.31	9.1	0.0072

STA. NO. 08159150				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WILBARGER CREEK NEAR PFLUGERVILLE, TEX.				STORM OF OCT. 21-22, 1972				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	1-R	2-R	3-R	G A G E N U M B E R						
OCT. 22										
0430	3.81	3.82	2.94					3.58	5.7	0.0077
0445	4.09	3.96	3.38					3.86	20.0	0.0094
0500	4.50	4.36	3.77					4.26	93.0	0.0172
0515	4.77	4.43	3.97					4.45	199.0	0.0339
0530	4.82	4.47	4.30					4.58	244.0	0.0544
0545	4.85	4.49	4.49					4.65	282.0	0.0781
0600	4.87	4.51	4.57					4.68	344.0	0.1070
0615	4.89	4.52	4.58					4.70	516.0	0.1504
0630	4.91	4.56	4.64					4.73	640.0	0.2042
0645	4.99	4.57	4.64					4.77	698.0	0.2628
0700	5.00	4.58	4.66					4.78	674.0	0.3195
0715	5.00	4.58	4.68					4.79	659.0	0.3749
0730	5.00	4.58	4.68					4.79	597.0	0.4250
0745	5.00	4.58	4.68					4.79	531.0	0.4696
0800	5.00	4.58	4.70					4.79	472.0	0.5093
0815	5.00	4.58	4.70					4.79	411.0	0.5439
0830	5.00	4.58	4.70					4.79	337.0	0.5722
0845	5.00	4.58	4.70					4.79	266.0	0.5945
0900	5.00	4.58	4.70					4.79	208.0	0.6120
0915	5.01	4.58	4.70					4.80	158.0	0.6253
0930	5.01	4.58	4.70					4.80	121.0	0.6354
0945	5.01	4.58	4.70					4.80	96.0	0.6435
1000	5.01	4.58	4.70					4.80	82.0	0.6504
1015	5.01	4.59	4.70					4.80	67.0	0.6560
1030	5.01	4.59	4.70					4.80	53.0	0.6605
1045	5.01	4.59	4.70					4.80	46.0	0.6644
1100	5.01	4.60	4.70					4.80	38.0	0.6675
1115	5.01	4.60	4.70					4.80	32.0	0.6702
1130	5.01	4.60	4.70					4.80	28.0	0.6726
1145	5.01	4.60	4.70					4.80	25.0	0.6747
1200	5.01	4.61	4.70					4.81	21.0	0.6765
1215	5.01	4.61	4.70					4.81	19.0	0.6781
1230	5.01	4.61	4.70					4.81	16.0	0.6794
1245	5.01	4.61	4.76					4.82	15.0	0.6807
1300	5.01	4.62	4.76					4.83	14.0	0.6818
1315	5.01	4.62	4.76					4.83	12.0	0.6828
1330	5.01	4.62	4.76					4.83	11.0	0.6838
1345	5.01	4.62	4.76					4.83	9.9	0.6846
1400	5.01	4.62	4.76					4.83	9.1	0.6857

STA. NO. 08159150				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WILBARGER CREEK NEAR PFLUGERVILLE, TEX.				STORM OF OCT. 21-22, 1972				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME				G A G E N U M B E R				WEIGHTED	IN	RUNOFF
				1-R	2-R	3-R		PRECIP.	FT ³ /S	IN.
								IN.		
OCT. 22										
1430	5.01	4.62	4.76					4.83	7.5	0.6870
1500	5.01	4.62	4.76					4.83	5.7	0.6884
1600	5.01	4.62	4.76					4.83	3.7	0.6897
1700	5.01	4.62	4.76					4.83	3.1	0.6907
1800	5.01	4.62	4.76					4.83	2.4	0.6919
2000	5.01	4.62	4.76					4.83	1.5	0.6929
2200	5.01	4.62	4.76					4.83	1.0	0.6936
2400	5.01	4.62	4.76					4.83	0.6	0.6938



STA. NO. 08159150				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WILBARGER CREEK NEAR PFLUGERVILLE, TEX.				STORM OF SEPT. 26-27, 1973				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
DATE & TIME	1-R	2-R	3-R	G A G E N U M B E R						
SEPT 26										
0000	0.0	0.0	0.0					0.0	0.0	0.0
1330	0.0	0.0	0.0					0.0	0.0	0.0
1345	0.0	0.02	0.02					0.01	0.0	0.0
1400	0.01	0.04	0.05					0.03	0.0	0.0
1415	0.01	0.05	0.06					0.04	0.0	0.0
1430	0.01	0.05	0.06					0.04	0.0	0.0
1445	0.01	0.14	0.16					0.09	0.0	0.0
1500	0.02	0.14	0.16					0.09	0.0	0.0
1830	0.03	0.14	0.16					0.10	0.0	0.0
1845	0.03	0.26	0.30					0.17	0.0	0.0
1900	0.21	0.31	0.36					0.28	0.0	0.0
1915	0.25	0.63	0.72					0.49	0.0	0.0
1930	0.44	0.96	1.10					0.77	0.0	0.0
1945	0.80	1.38	1.58					1.18	0.0	0.0
2000	1.24	1.82	2.08					1.64	0.0	0.0
2015	1.68	2.40	2.75					2.18	1.4	0.0001
2030	2.41	2.57	2.94					2.60	16.0	0.0015
2045	2.74	2.75	3.15					2.85	19.0	0.0031
2100	2.89	2.87	3.29					2.99	18.0	0.0046
2115	3.01	3.00	3.44					3.12	15.0	0.0058
2130	3.09	3.23	3.70					3.30	15.0	0.0071
2145	3.19	3.36	3.85					3.42	17.0	0.0085
2200	3.30	3.43	3.93					3.51	18.0	0.0100
2215	3.42	3.54	4.05					3.62	16.0	0.0114
2230	3.48	3.59	4.11					3.68	14.0	0.0126
2245	3.54	3.65	4.18					3.74	12.0	0.0136
2300	3.58	3.67	4.20					3.77	12.0	0.0146
2315	3.61	3.72	4.26					3.82	14.0	0.0157
2330	3.64	3.77	4.32					3.86	21.0	0.0175
2345	3.70	3.81	4.36					3.91	27.0	0.0198
2400	3.73	3.88	4.44					3.97	33.0	0.0212
SEPT 27										
0000	3.73	3.88	4.44					3.97	33.0	0.0226
0015	3.80	4.06	4.65					4.11	33.0	0.0253
0030	3.86	4.29	4.91					4.27	36.0	0.0284
0045	4.15	4.37	5.00					4.44	34.0	0.0312
0100	4.32	4.42	5.06					4.55	36.0	0.0342
0115	4.39	4.47	5.12					4.61	36.0	0.0373
0130	4.44	4.51	5.16					4.65	33.0	0.0400
0145	4.50	4.57	5.23					4.72	31.0	0.0426

STORM RAINFALL AND RUNOFF RECORD										1973 WATER YEAR		
STA. NO. 08159150												
WILBARGER CREEK NEAR PFLUGERVILLE, TEX.										STORM OF SEPT. 26-27, 1973		
DATE & TIME										ACCUM. WEIGHTED PRECIP.	DISCHARGE IN FT ³ /S	ACCUM. RUNOFF IN.
G A G E N U M B E R										IN.		
1-R	2-R	3-R										
SEPT 27												
0200	4.56	4.63	5.30							4.78	31.0	0.0452
0215	4.60	4.66	5.34							4.82	35.0	0.0482
0230	4.65	4.70	5.38							4.86	43.0	0.0518
0245	4.69	4.73	5.42							4.90	56.0	0.0565
0300	4.73	4.77	5.46							4.94	69.0	0.0623
0315	4.77	4.80	5.50							4.97	79.0	0.0689
0330	4.82	4.83	5.53							5.01	78.0	0.0755
0345	4.85	4.87	5.58							5.05	75.0	0.0818
0400	4.88	4.93	5.64							5.10	69.0	0.0876
0415	4.91	4.97	5.69							5.14	60.0	0.0926
0430	4.96	5.00	5.72							5.18	53.0	0.0971
0445	5.01	5.03	5.76							5.22	46.0	0.1010
0500	5.04	5.06	5.79							5.25	41.0	0.1044
0515	5.08	5.10	5.84							5.29	34.0	0.1073
0530	5.11	5.12	5.86							5.31	32.0	0.1099
0545	5.12	5.14	5.89							5.33	28.0	0.1123
0600	5.14	5.16	5.91							5.35	29.0	0.1147
0615	5.16	5.17	5.92							5.37	25.0	0.1168
0630	5.22	5.18	5.93							5.40	23.0	0.1188
0645	5.23	5.19	5.94							5.41	22.0	0.1206
0700	5.24	5.28	6.05							5.47	22.0	0.1225
0715	5.25	5.47	6.26							5.59	35.0	0.1254
0730	5.31	5.78	6.62							5.80	49.0	0.1295
0745	6.02	5.86	6.71							6.16	79.0	0.1362
0800	6.12	5.87	6.72							6.21	100.0	0.1446
0815	6.12	5.88	6.73							6.21	105.0	0.1534
0830	6.12	5.89	6.74							6.22	138.0	0.1650
0845	6.12	5.91	6.77							6.23	240.0	0.1852
0900	6.13	5.93	6.79							6.25	378.0	0.2169
0915	6.13	5.93	6.79							6.25	438.0	0.2537
0930	6.13	5.93	6.79							6.25	423.0	0.2893
0945	6.13	5.93	6.79							6.25	378.0	0.3210
1000	6.13	5.93	6.79							6.25	321.0	0.3480
1015	6.13	5.93	6.79							6.25	269.0	0.3706
1030	6.13	5.93	6.79							6.25	218.0	0.3889
1045	6.13	5.94	6.80							6.25	171.0	0.4033
1100	6.13	5.94	6.80							6.25	142.0	0.4152
1115	6.14	5.94	6.80							6.26	109.0	0.4244
1130	6.14	5.94	6.80							6.26	87.0	0.4317

STA. NO. 08159150				STORM RAINFALL AND RUNOFF RECORD				1973 WATER YEAR		
WILBARGER CREEK NEAR PFLUGERVILLE, TEX.				STORM OF SEPT. 26-27, 1973				ACCUM.	DISCHARGE	ACCUM.
DATE & TIME	G A G E N U M B E R							WEIGHTED	IN	RUNOFF
	1-R	2-R	3-R					PRECIP.	FT ³ /S	IN.
								IN.		IN.
SEPT 27										
1145	6.15	5.94	6.80					6.26	70.0	0.4376
1200	6.15	5.95	6.81					6.27	55.0	0.4422
1215	6.16	5.96	6.82					6.28	44.0	0.4459
1230	6.18	5.99	6.86					6.31	35.0	0.4489
1245	6.19	6.00	6.87					6.32	30.0	0.4514
1300	6.20	6.00	6.87					6.32	26.0	0.4536
1315	6.21	6.00	6.87					6.32	24.0	0.4556
1330	6.21	6.01	6.88					6.33	21.0	0.4573
1345	6.22	6.02	6.89					6.34	19.0	0.4589
1400	6.23	6.04	6.92					6.36	18.0	0.4605
1415	6.23	6.06	6.94					6.37	16.0	0.4618
1430	6.24	6.09	6.97					6.39	15.0	0.4631
1445	6.25	6.10	6.98					6.40	15.0	0.4643
1500	6.26	6.12	7.01					6.42	14.0	0.4655
1515	6.26	6.12	7.01					6.42	13.0	0.4666
1530	6.27	6.12	7.01					6.42	12.0	0.4676
1545	6.27	6.12	7.01					6.42	11.0	0.4685
1600	6.29	6.12	7.01					6.43	10.0	0.4706
1700	6.29	6.12	7.01					6.43	7.9	0.4733
1800	6.29	6.12	7.01					6.43	6.0	0.4753
1900	6.29	6.12	7.01					6.43	4.8	0.4769
2000	6.29	6.12	7.01					6.43	3.7	0.4788
2200	6.29	6.12	7.01					6.43	2.4	0.4804
2400	6.29	6.12	7.01					6.43	1.5	0.4809

