HYDROLOGIC DATA FOR URBAN STUDIES IN THE HOUSTON, TEXAS, METROPOLITAN AREA, 1980

By Fred Liscum, J.S. Hutchison, J.P. Bruchmiller, and L.S. Walther

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JAMES G. WATT, Secretary

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Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey
300 East 8th Street
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METRIC CONVERSIONS

For those readers interested in using the metric system, the inch-pound units of measurements used in this report may be converted to metric units by using the following conversion factors:

From			To obtain	
Unit	Abbreviation	Multiply by	Unit	Abbreviation
inch	in	25.4	millimeter	mm
foot	ft	0.3048	meter	m
mile	mi	1.609	kilometer	km
square mile	mi^2	2.590	square kilometer	km^2
cubic foot per second	ft^3/s	0.02832	cubic meter per second	m^3/s
foot per mile	ft/mi	0.189	meter per kilometer	m/km
acre-foot	--	1233	cubic meter	m^3
		0.001233	cubic hectometer	hm^3

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INTRODUCTION

Hydrologic investigations of urban watersheds in Texas were begun by the U.S. Geological Survey in 1954. Studies are now in progress in Austin, and Houston. Studies have been completed in the Dallas-Fort Worth and San Antonio areas.

The U.S. Geological Survey, in cooperation with the city of Houston, began studies in the Houston metropolitan area in 1964. The program was expanded in 1968 to include collection of water-quality data. The objectives of the Houston urban-hydrology study are as follows:

1. To determine, on the basis of historical data and hydrologic analyses, the magnitude and frequency of flood peaks and flood volumes.
2. To determine the effect of urban development on flood peaks and volumes.
3. To ascertain the variation in water quality for different flow conditions and different seasons.

This report, the seventeenth in a series of reports to be published annually, is primarily applicable to objective 2. The report presents hydrologic data collected in the Houston urban area for the 1980 water year (October 1, 1979 to September 30, 1980).

A report by Johnson and Sayre (1973) utilized records collected from 1965 to 1969 to study the effects of urbanization on floods in the Houston area. The report also summarizes various basin parameters. A report by Waddell, Massey, and Jennings (1979) presents data on runoff from the Houston area and computed concentrations and loads of selected water-quality constituents discharged to Galveston Bay. The study utilized a variation of the "STORM" model developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. A report prepared by Liscum and Massey (1980) presents a technique for estimating the magnitude and frequency of floods in the Houston area from drainage areas, bank-full conveyance, and percentage of urban development.

A definition of terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined in " U.S. Geological Survey, Water-resources data for Texas, volume 2, 1980."

To facilitate the publication and distribution of this report some material has been included that does not conform to the formal publications standards of the U.S. Geological Survey.

LOCATION AND DESCRIPTION OF THE AREA

The Houston study area, which is located about 45 miles from the Gulf of Mexico, is on an almost level plain. The land surface in the area increases in altitude from 35 feet above the National Geodetic Vertical Datum of 1929 (NGVD) in the southeast to 135 feet in the northwest.

Records show that the entire Houston urban study area is being developed rapidly. Percent increases in development in various drainage-basin areas in the Houston metropolitan area from 1969 to 1976 are given in table 1.

Soils in the area are predominately clay, clay loams, and fine sandy loams of low permeability.

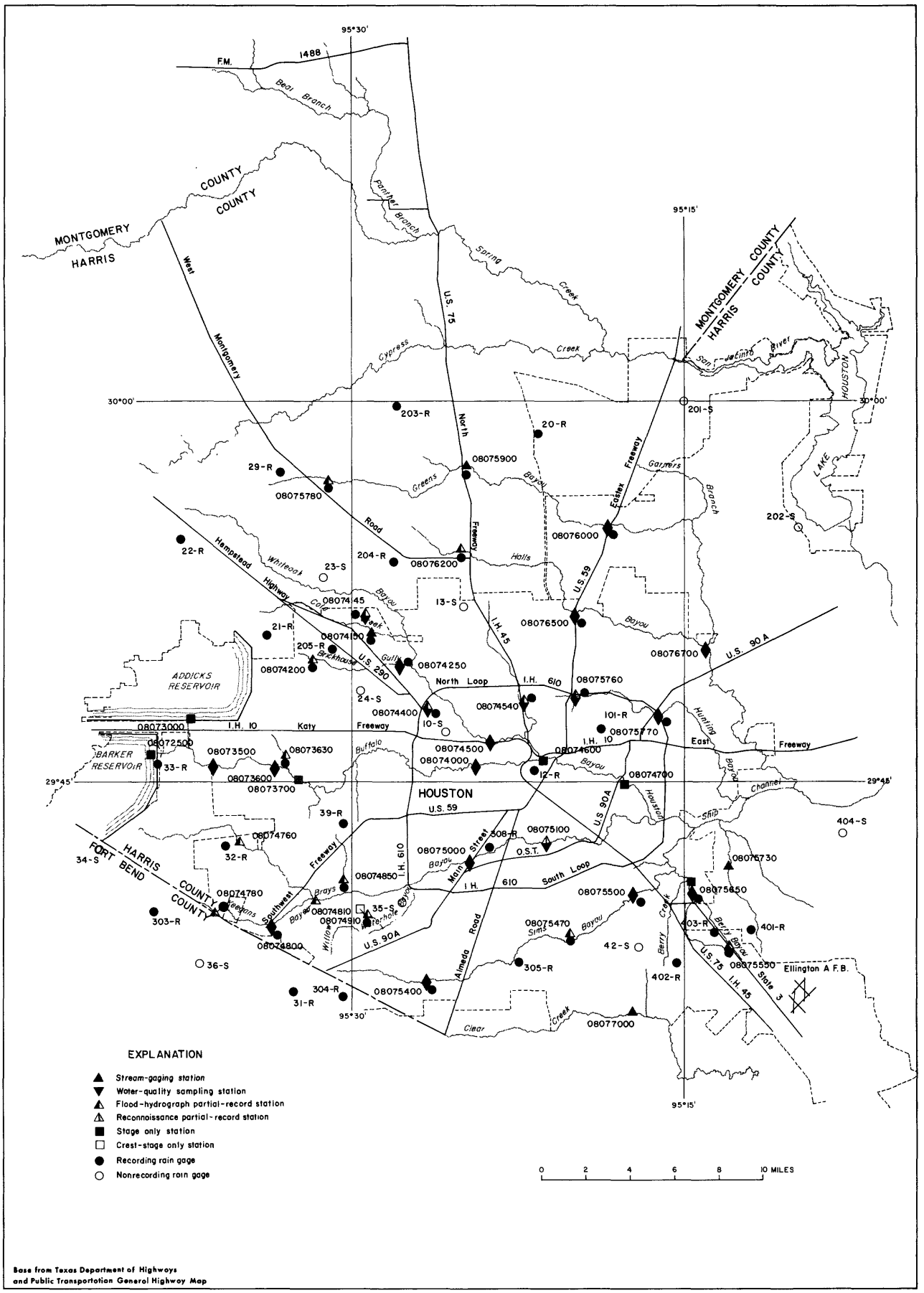
The major stream draining the area is Buffalo Bayou, a tributary of the San Jacinto River. Buffalo Bayou is regulated by the Barker and Addicks flood-detention reservoirs near the western limits of the area. From these reservoirs, Buffalo Bayou meanders east and is fed by five major tributaries: Whiteoak, Brays, Sims, Hunting, and Greens Bayous. The drainage area of Buffalo Bayou, excluding the area above the flood-detention reservoirs, is about 810 square miles.

The climate of the Houston area is characterized by short mild winters, long hot summers, high relative humidity, and prevailing southeasterly winds. The mean annual temperature (1941-70) is 68.9°F (20.5°C); the lowest temperature recorded was 5°F (-15°C) in 1930; and the maximum recorded was 108°F (42°C) in 1909.

The 30-year average (1941-70) annaual rainfall for Houston is 48.19 inches, which is distributed uniformly throughout the year. The maximum annual rainfall was 72.86 inches in 1900; and the minimum was 17.66 inches in 1917.

DATA-COLLECTION METHODS

The drainage basins and locations of hydrologic-instrument installations and water-quality sampling sites in the Houston urban study area are shown on figure 1. The locations of hydrologic instruments and data-collection sites in the individual basins are shown later on figures 4-20.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 1.- Locations of data-collection sites in the Houston urban study area

Table 1.--Percent increases in development in various drainage areas above stream gaging stations in the Houston metropolitan area from 1969 to 1976

Station no.	Station name	1969 a/	1976 b/	Percent increase
08074150	Cole Creek at Diehl Road	34.3	54.0	19.7
08074200	Brickhouse Gully at Clarblak Street	34.6	54.7	20.1
08074250	Brickhouse Gully at Costa Rica Street	61.0	77.5	16.5
08074500	Whiteoak Bayou at Houston	45.2	57.7	12.5
08074780	Keegans Bayou at Keegan Road	21.0	44.9	23.9
08074800	Keegans Bayou at Roark Road	26.3	55.7	29.4
08075000	Brays Bayou at Houston	44.6	64.4	19.8
08075400	Sims Bayou at Hiram Clarke Street	40.4	69.3	28.9
08075500	Sims Bayou at Houston	50.2	73.7	23.5
08075550	Berry Bayou at Gilpin Street	58.0	71.8	13.8
08075650	Berry Bayou at Forest Oaks Street	72.9	85.3	12.4
08075760	Hunting Bayou at Falls Street	95.9	98.9	3.0
08075770	Hunting Bayou at Interstate Highway 610	83.3	95.0	11.7
08075780	Greens Bayou at Cutten Road	24.4	47.2	22.8
08076000	Greens Bayou near Houston	26.3	43.9	17.6
08076200	Halls Bayou at Deertrail Street	30.4	52.8	22.4
08076500	Halls Bayou at Houston	60.3	74.1	13.8

a/ Johnson and Sayre, 1973.

b/ Liscum and Massey, 1980.

Precipitation Data

Precipitation data are based on 36 recording rain gages maintained by the U.S. Geological Survey in the Houston metropolitan area. The gages are distributed throughout the drainage basins to measure total precipitation and to define rainfall intensities.

Additional rainfall data are available from rain-gage networks operated by the National Weather Service and are given in the section "Compilation of Data". Locations of recording and nonrecording rain gages at sites other than stream-gaging stations are given later in table 18.

Precipitation at individual gages and weighted precipitation in each study basin is given in the section "Compilation of data." Daily and monthly rainfall amounts are also given in the section "Compilation of data."

Weighted-mean precipitation factors for drainage basins in the Houston area are given in table 2. Weighted-mean precipitation for a study area is determined by the Thiessen method as described by Linsley, Kohler, and Paulhus (1949). All of the rain gages, recording and non recording, are used to compute the monthly and annual rainfall amounts. Only the functioning recording gages are used to compute storm rainfall amounts. For example, the monthly and annual weighted-mean precipitation for the drainage basin upstream from the Cole Creek at the Deihl Road gaging station could be computed as follows: Multiply the recorded precipitation at the rain gage at station 08074150 by 0.25; to that value add the recorded precipitation at the rain gage at station 205R multiplied by 0.15; to that value add the recorded precipitation at the rain gage at station 23S multiplied by 0.15; and to that value add the recorded precipitation at the rain gage at station 21R multiplied by 0.45.

Rainfall for the current year was unevenly distributed over the area. Individual station totals ranged from 34.49 inches at the Fort Bend County rain gage in Stafford (station 31R) to 50.82 inches at the National Weather Service rain gage at the San Jacinto River dam (station 202S). Figure 2 shows the comparison of accumulated monthly rainfall for the 1980 water year over five widely separated drainage basins with the 30-year rainfall average (1941-70) of 48.19 inches for Houston. This figure illustrates the deficiency of rainfall in 1980 for the entire metropolitan area. Note that the rains of January and September were not sufficient to overcome the exceedingly dry periods of November and December, and May through August.

There were only eight storms occurring during the 1980 water year that produced rainfall totals of over 2.0 inches. Several of these were confined to only a few drainage basins. The three major storms, in terms of total rainfall and areal coverage, occurred on October 30, January 20-22, and March 27-29. The storm of October 30 produced rainfall amounts ranging from more than 4.0 inches in the Hunting, Berry, and Vince Bayou drainage basins to about 1.5 inches in the Keegans and upper Brays Bayou drainage basins. The storm of January 20-22 produced rainfall ranging from more than 6.0 inches in the Sims and Berry Bayou drainage basins to more than 3.0 inches throughout the metropolitan area. The storm of March 27 consistently produced rainfall

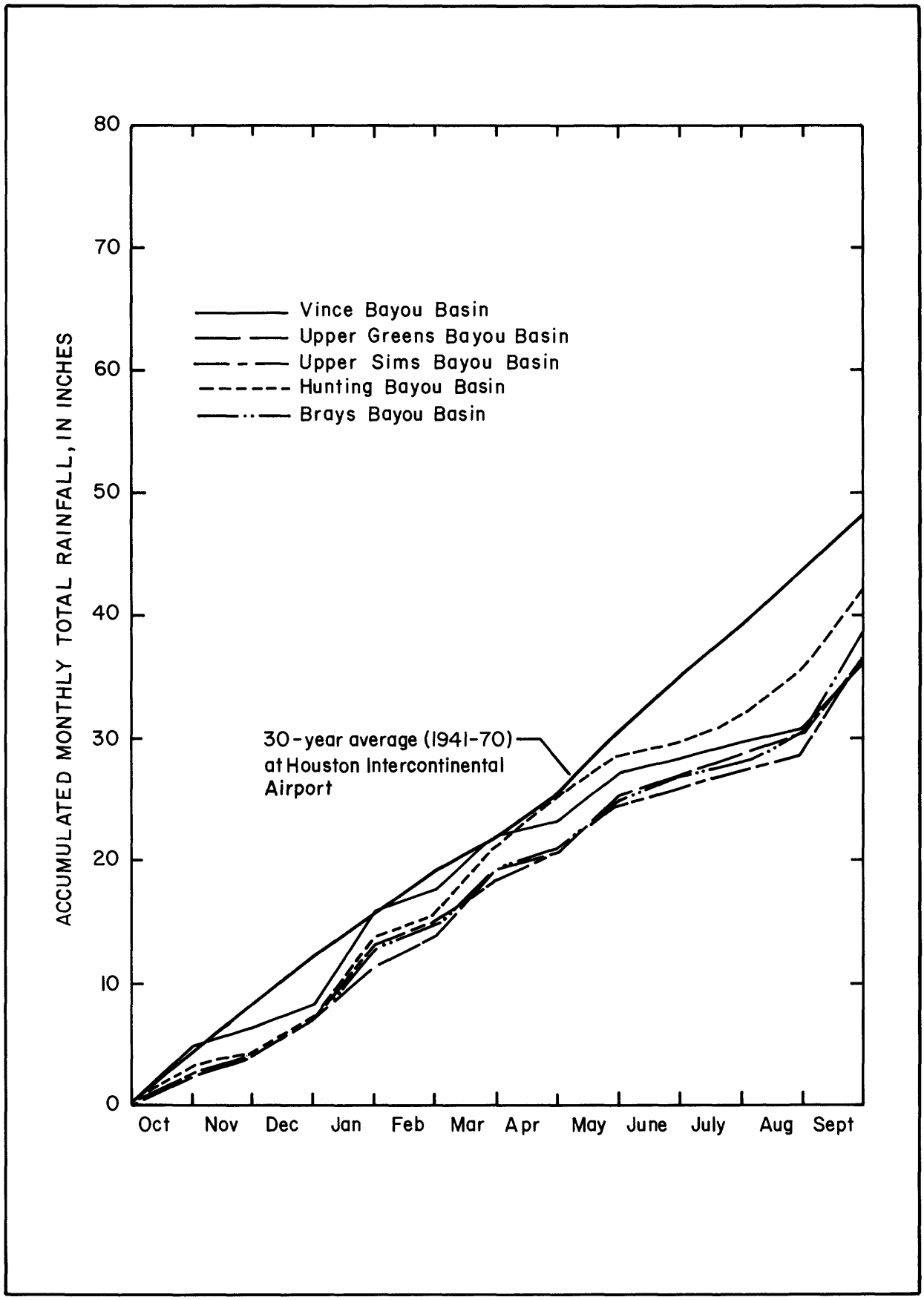


Figure 2.-Rainfall at five drainage basins in the Houston metropolitan area, 1980 water year

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08073630 Bettina Street Ditch at Houston	Not computed	--	Dec. 12, 1979	08073630	1.00
08074145 Bingle Road Storm Sewer at Houston	Not computed	--	June 9, 1980	08074145	1.00
			July 21, 1980	08074150	1.00
			Sept. 5-7, 1980	08074145	1.00
08074150 Cole Creek at Deihl Road, Houston	08074150	.25	Jan. 20-24, 1980	08074150	.30
	205R	.15		205R	.15
	23S	.15		21R	.55
	21R	.45	Mar. 27-31, 1980	08074150	.30
				205R	.15
				21R	.55
08074200 Brickhouse Gully at Clarblak Street, Houston	Not computed	--	Oct. 30, 1979	08074200	.30
				21R	.70
			Mar. 29-30, 1980	08074200	.30
				21R	.70
08074250 Brickhouse Gully at Costa Rica Street, Houston	08074250	.10	Oct. 30-31, 1979	08074250	.20
	08074200	.30		08074200	.50
	08074150	.10		08074150	.10
	205R	.25		21R	.20
	24S	.10	Mar. 27-30, 1980	08074250	.15
	21R	.15		08074200	.30
				08074150	.05
				205R	.30
				21R	.20
08074400 Lazybrook Street Storm Sewer at Houston	Not computed	--	Oct. 30, 1979	08074400	1.00
			Mar. 27-28, 1980	08074400	1.00
			Apr. 25, 1980	08074400	1.00

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/	Date of storm	Rain gage 1/	Weighted-mean precipitation factors 2/
08074500 Whiteoak Bayou at Houston	08074400	0.05	Oct. 22-23, 1979	08074400	0.10
	08074250	.05		08074250	.10
	08074200	.05		08074150	.15
	08074150	.10		204R	.15
	205R	.05		29R	.15
	204R	.10		22R	.15
	29R	.05		21R	.20
	24S	.05	Oct. 30-Nov. 1, 1979	08074400	.10
	23S	.20		08074250	.10
	22R	.15		08074150	.15
	21R	.05		204R	.15
	13S	.05		29R	.15
	10S	.05		22R	.15
				21R	.20
			Jan. 17-19, 1980	08074400	.10
				08074250	.10
				08074150	.15
				204R	.15
				29R	.15
				22R	.15
				21R	.20
			Jan. 20-27, 1980	08074400	.10
				08074250	.10
				08074200	.20
				08074150	.15
				204R	.20
				22R	.25
			Mar. 27-Apr. 2, 1980	08074400	.10
				08074250	.10
				08074200	.20
				08074150	.15
				204R	.20
				22R	.25
08074540 Little Whiteoak Bayou at Houston	Not computed	--	Oct. 30-31, 1979	08076200	0.30
				08074540	.50
				08074400	.20
			Dec. 12-13, 1979	08076200	.30
				08074540	.50
				08074400	.20
			Jan. 27-18, 1980	08076200	.30
				08074540	.50
				08074400	.20

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08074760 Brays Bayou at Alief	Not computed	--	Oct. 30-Nov. 1, 1979	33R	0.30
				32R	.70
			Dec. 12-14, 1979	33R	.30
				32R	.70
			Jan. 20-24, 1980	33R	.30
				32R	.70
08074780 Keegans Bayou at Keegan Road, Houston	Not computed	--	No storms published	--	--
08074800 Keegans Bayou at Roark Road, Houston	08074800	0.10	Dec. 12-14, 1979	08074800	.10
	08074780	.45		08074780	.45
	303R	.35		303R	.45
	34S	.10	Jan. 20-25, 1980	08074800	.40
				303R	.60
08074810 Brays Bayou at Gessner Drive, Houston	Not computed	--	Jan. 20-25, 1980	08074850	.05
				08074800	.30
				303R	.20
				33R	.05
				32R	.40
08074850 Bintliff Ditch at Bissonnet Street, Houston	Not computed	--	Jan. 20-22, 1980	0074850	1.00
08074910 Hummingbird Street Ditch at Houston	Not computed	--	No storms published	--	--

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075000 Brays Bayou at Houston	08074910	0.10	Dec. 12-14, 1979	08074850	0.30
	08074800	.10		08074800	.20
	08074780	.10		308R	.10
	308R	.05		303R	.15
	303R	.05		32R	.25
	39R	.10	Jan. 20-25, 1980	08074850	.30
	35S	.10		08074800	.20
	34S	.10		308R	.10
	33R	.05		303R	.15
	32R	.20		32R	.25
	31R	.05			
08075400 Sims Bayou at Hiram Clarke Street, Houston	08075400	.40	Oct. 30-31, 1979	08075400	.40
	304R	.60		304R	.60
			Jan. 20-24, 1980	08075400	1.00
08075470 Sims Bayou at Martin Luther King Blvd., Houston	Not computed	--	No storms published	--	--
08075500 Sims Bayou at Houston	08075500	.05	Oct. 30-Nov. 1, 1979	08075500	.15
	08075400	.25		08075400	.30
	08075470	.20		305R	.35
	305R	.25		304R	.20
	304R	.20	Jan. 20-25, 1980	08075500	.10
	42S	.05		08075470	.20
				08075400	.40
				305R	.20
				31R	.10

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075550 Berry Bayou at Gilpin Street, Houston	Not computed	--	Jan. 20-22, 1980	402R 401R	0.45 .55
08075650 Berry Bayou at Forest Oaks Street, Houston	Not computed	--	Oct. 30-31, 1979	08075650 403R 402R 401R	.20 .45 .15 .20
08075730 Vince Bayou at Pasadena	08075650 401R	.20 .80	No storms published	--	--
08075760 Hunting Bayou at Falls Street, Houston	Not computed	--	Jan. 20-23, 1980 Apr. 25-26, 1980	08075760 08075760	1.00 1.00
08075770 Hunting Bayou at Interstate Highway 610, Houston	08075770 08075760 101R	.15 .65 .20	Jan. 20-24, 1980 Apr. 25-27, 1980	08075770 08075760 08075770 08075760 101R	.20 .80 .15 .65 .20
08075780 Greens Bayou at Cutten Road near Houston	Not computed	--	Feb. 8-11, 1980	08075780 29R	.60 .40

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Storm totals		
	Rain gage 1/	Weighted-mean precipitation factors 2/	Date of storm	Rain gage 1/	Weighted-mean precipitation factors 2/
08075900 Greens Bayou at U.S. Highway 75, Houston	08075900	0.20	Jan. 20-24, 1980	08075900	0.15
	08075780	.33		204R	.20
	204R	.02		203R	.65
	203R	.30	Mar. 27-31, 1980	08075900	.20
	29R	.15		0075780	.50
				204R	.05
				203R	.25
08076000 Greens Bayou near Houston	08076200	.05	Jan. 20-26, 1980	08076000	.15
	08076000	.15		08075900	.40
	08075900	.30		203R	.30
	08075780	.15		22R	.05
	203R	.15		20R	.10
	29R	.10	Mar. 27-Apr. 2, 1980	08076000	.15
	20R	.10		08075900	.35
				08075780	.25
				203R	.15
				20R	.10
08076200 Halls Bayou at Deertrail Street near Houston	Not computed	--	Jan. 20-24, 1980	08076200	.55
				08075900	.05
				204R	.40
			Sept. 5-7, 1980	08076200	.55
				08075900	.05
				204R	.40
08076500 Halls Bayou at Houston	08076500	.35	Nov. 21-24, 1979	08076200	.60
	08076200	.35		08076000	.25
	08076000	.05		204R	.15
	204R	.15	Jan. 20-24, 1980	08076200	.60
	13S	.10		08076000	.25
				204R	.15

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08076700 Greens Bayou at Ley Road, Houston	Not computed	--	Jan. 20-26, 1980	08076200	0.15
				08076000	.45
				08075900	.10
				08075770	.05
				203R	.15
				20R	.10
			Mar. 27-Apr. 2, 1980	08076000	.55
				08075900	.25
				08075780	.10
				20R	.10

1/ See table 18 for locations of stations other than stream-gaging stations.
2/ See section on "Precipitation Data" for explanation of use of weighted-mean precipitation factors.

greater than 2.0 inches. This storm combined with a storm on March 29 to produce a total rainfall ranging from more than 4.0 inches in the Whiteoak Bayou drainage basin to more than 2.5 inches throughout the metropolitan area.

The storm of January 20-22 was analyzed for all stations except those where rainfall distribution was suspect, where the quality of recorded data was poor, or where the stage-discharge relationship was poorly defined. The storms of October 30 and March 27-29 were analyzed for a selected number of stations based on the quality of the recorded data. Other storms were selected for analysis based on discharge, quality of recorded data, distribution of rainfall, and availability of water-quality data.

Runoff Data

Runoff data are based on discharge measurements and stage records at 18 continuous-record stream-gaging stations, and 16 flood-hydrograph partial-record stations.

Annual records of either daily discharge or maximum gage height at continuous-record stream-gaging stations, and maximum discharge at flood-hydrograph partial-record stations are given in the section "Compilation of data." Tables of storm runoff data, including accumulated rainfall totals, are also given for selected storms in the section "Compilation of data."

Figure 3 shows the accumulated monthly runoff from six basins for the 1980 water year and the average runoff for the period 1953-70. The average annual rainfall for the 1953-70 period was 46 inches or approximately equal to the 30-year (1941-70) rainfall average of 48.19 inches at Houston. Figure 3 shows that runoff for the 1980 water year is appreciably greater than the average runoff for the period 1953-70 even through rainfall for the selected basins averaged at least 15 percent less during 1980 than the 46-inch average during 1953-70. This high ratio of runoff to rainfall is one of the effects of the continual urban development in the metropolitan area. The figure also illustrates the effects of the January, March, and September rains on total runoff.

The most significant storms of the 1980 water year were those of October 30, January 20-22, and March 27-29. Data published in the section "Compilation of data" show computed storm runoff in excess of 2.5 inches from the storm of January 20-22 in all major drainage basins in the metropolitan area with the exception of the Whiteoak Bayou drainage basin. This storm was the major producer of the annual peak discharge for the 1980 water year. The storm of March 27-29, which was primarily confined to the Whiteoak Bayou and Greens Bayou drainage basins, also produced annual peak discharges at several sites. Computed runoff for this storm ranged from 1.5 to 2.8 inches. The runoff for the storm of October 30 ranged from 0.5 to 2.5 inches.

The ratio of runoff to rainfall was determined for all storms selected for analysis. The range of this ratio was 0.2 to 0.6 for the storm of October 30. The storm of January 20-22 resulted in high ratio values with a range of 0.5 to 0.9. For this storm the ratio exceeded 0.75 for 11 sites, ranging from 0.76 to 0.92. The storm of March 27-29 also resulted in high runoff to rainfall ratio

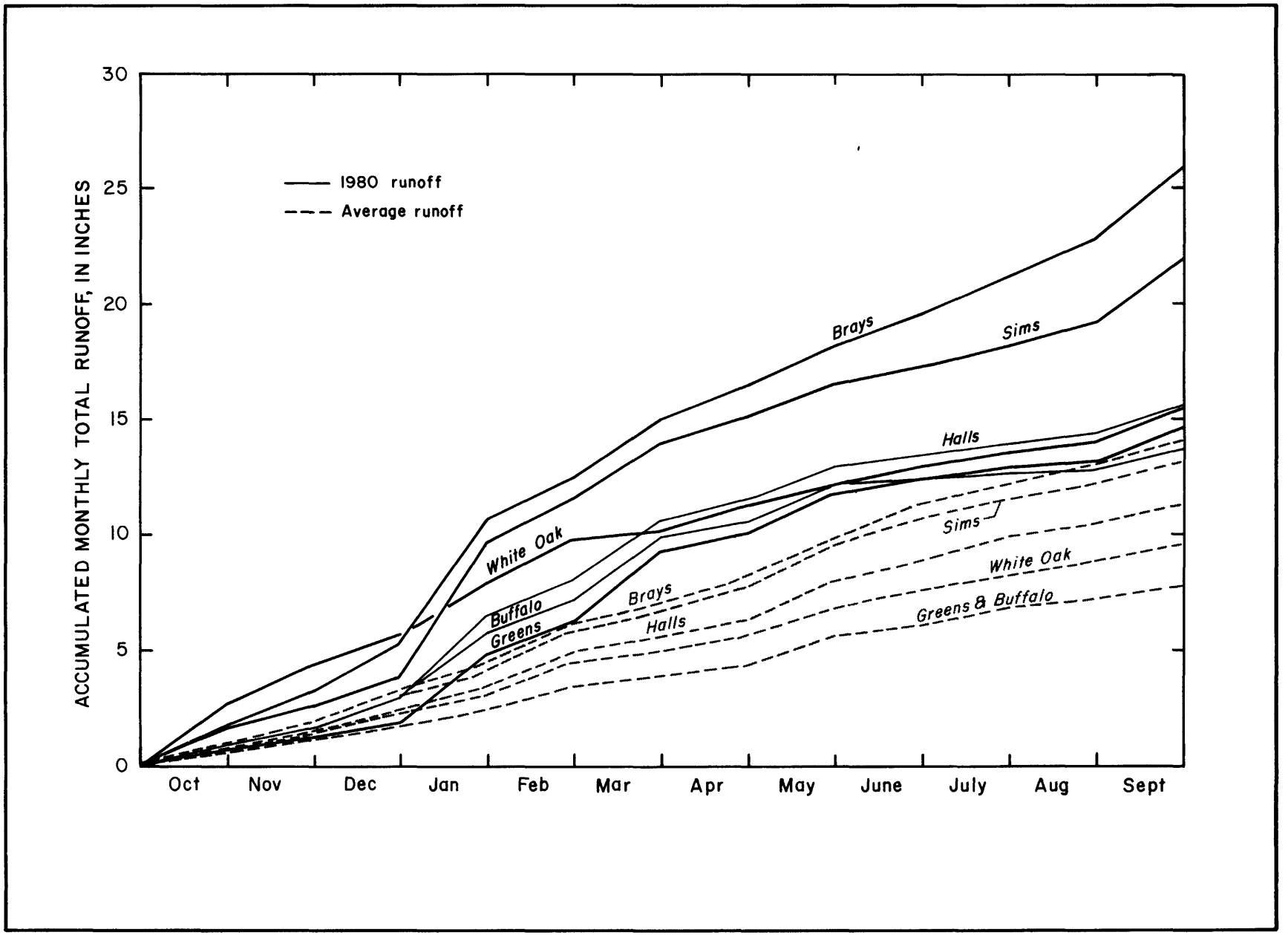


Figure 3.—Runoff from six drainage basins in the Houston metropolitan area, 1980 water year, and average runoff for the period 1953-70

values ranging from 0.5 to 0.75. A high ratio of runoff to rainfall may result from saturated soil moisture conditions, high intenstiy rainfall, and long duration rainfall in conjunction with highly developed drainage basins which include a large portion of impervious land cover and efficient storm drainage systems. However, caution is urged in the use of these computed values as the accuracies of the ratios may be adversely effected by inadequate rain gage coverage, indeterminate drainage area boundaries, basin exchange, and indefinite stage-discharge relationships.

Values for total storm runoff, storm peak discharge, ratio of runoff to rainfall, and other pertinent data for all storms analyzed in the 1980 water year are given in tables 3-17. A total of 12 storms have been analyzed for the 1980 water year resulting in a total of 51 separate storm-data listings. The storm dates and the number of stream-gaging stations for which data are published in the section "Compilation of data" are:

No.	Storm Date	Number of stations for which data is published
1	October 22	1
2	October 30	9
3	November 21-22	1
4	December 12-13	5
5	January 17	2
6	January 20-22	17
7	February 8-9	1
8	March 27-29	8
9	April 25	3
10	June 9	1
11	July 21	1
12	September 5-7	2

Water-Quality Data

Water-quality data were collected at 19 locations in the study area during the 1980 water year. The locations of the water-quality data collection sites are shown on figure 1. Water-quality data and streamflow data are presented in downstream order in the section "Compilation of data." Time and discharge values for water-quality data may vary slightly from those published in the Water Resources Data for Texas, 1980, report, due to the correction of some previously published values.

Water-quality data are collected from a wide range of discharge representing various flow and seasonal conditions, and include determinations for physical, chemical, and biological parameters. Physical determinations include measurements of temperature, pH, turbidity, suspended and volatile solids, and color. Chemical analyses include specific conductance, dissolved oxygen, standard inorganic chemical (major ions), selected nutrient determinations of total organic carbon, nitrogen, and phosphorus. Chemical analyses of trace substances include minor elements, and pesticides. Biological analyses include measurements of BOD (biochemical oxygen demand) and bacteriological analyses for total coliform, fecal coliform, and fecal streptococci.

Water samples were also collected during selected storms to determine the quality of storm runoff in the Houston metropolitan area. Storm dates and stations where at least three water-quality samples were collected during the storms are:

Station no.	Station name	Date of storm
08074145	Bingle Road Storm Sewer at Houston, Tex.	June 9, 1980 July 21, 1980
08074250	Brickhouse Gully at Costa Rica St., Houston, Tex.	October 30, 1979
08074400	Lazybrook Street Storm Sewer at Houston, Tex.	April 25, 1980
08074500	Whiteoak Bayou at Houston, Tex.	October 22, 1979 January 17, 1980
08074540	Little Whiteoak Bayou at Houston, Tex.	December 12-13, 1979 January 17, 1980
08074800	Keegans Bayou at Roark Road near Houston, Tex.	December 12-13, 1979
08075000	Brays Bayou at Houston, Tex.	December 12-13, 1979
08075760	Hunting Bayou at Falls Street, Houston, Tex.	April 25, 1980
08075770	Hunting Bayou at Interstate Highway 610, Houston, Tex.	April 25, 1980
08076000	Greens Bayou near Houston, Tex.	January 20-22, 1980
08076500	Halls Bayou at Houston, Tex.	January 20-22, 1980
08076700	Greens Bayou at Ley Road, Houston, Tex.	January 20-22, 1980

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COMPILATION OF DATA

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

LOCATION.--Lat 29°45'42", long 95°36'20", Harris County, Hydrologic Unit 12040104, near right bank at bridge on Dairy-Ashford Road over rectified channel, 1.8 mi (2.9 km) downstream from South Mayde Creek, and 2.6 mi (4.2 km) southeast of Addicks.

DRAINAGE AREA.--293 mi² (759 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1945 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.40 ft (0.427 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted to land-surface subsidence. Prior to Feb. 2, 1948, water-stage recorder at bridge on natural channel 1,200 ft (370 m) to right at same datum. Feb. 2 to May 21, 1948, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi (5.1 and 4.8 km) upstream, respectively, total capacity 315,900 acre-ft (390 hm³). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--35 years, 208 ft³/s (5.891 m³/s), 150,700 acre-ft/yr (186 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) Aug. 29, 1945, gage height, 81.23 ft (24.759 m), former site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 85.6 ft (26.09 m) in December 1935, adjusted to former site from floodmark 0.5 mi (0.8 km) downstream, on basis of slope of flood of Aug. 29, 1945, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,800 ft³/s (51.0 m³/s) Jan. 25 at 1200 hours, gage height, 63.23 ft (19.273 m); maximum gage height, 63.35 ft (19.309 m) Oct. 1 at 1130 hours; minimum daily discharge, 11 ft³/s (0.31 m³/s) Jan. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1630	140	52	124	1460	42	857	26	28	26	94	33
2	1610	350	43	64	1430	29	1210	52	27	26	73	37
3	1600	630	35	350	1370	24	1270	32	25	24	58	34
4	1580	594	27	508	1290	26	1470	22	25	25	52	31
5	1560	536	24	399	1130	27	1410	18	26	24	41	66
6	1540	324	22	172	399	24	1260	16	26	24	33	334
7	1520	49	20	63	39	22	504	29	23	25	88	224
8	1500	35	19	36	231	24	37	30	22	26	73	540
9	1460	34	17	22	681	22	25	33	216	25	35	1000
10	1430	35	16	18	804	21	22	25	420	25	29	1080
11	1360	31	16	16	794	22	20	21	311	28	27	888
12	1160	28	480	14	771	22	18	21	86	33	25	651
13	943	25	489	13	746	21	44	22	53	35	23	232
14	740	21	1120	11	737	18	25	49	44	34	21	81
15	501	17	1480	11	690	18	20	93	41	31	58	61
16	150	16	1430	11	598	19	18	357	37	47	46	52
17	60	16	1360	110	437	23	17	428	35	43	38	44
18	47	16	1190	315	216	24	16	347	34	36	30	41
19	57	19	782	285	81	21	16	386	32	40	25	42
20	50	286	412	297	59	44	15	710	32	44	24	42
21	47	633	67	1080	48	42	15	702	30	81	25	40
22	60	716	48	764	42	24	15	488	142	84	24	44
23	50	846	138	676	37	21	15	1090	46	78	25	40
24	33	1170	125	1370	32	24	15	691	36	74	28	47
25	30	1380	140	1770	28	21	60	609	30	79	29	104
26	32	1360	66	1680	25	21	30	444	27	89	25	100
27	33	1300	44	1650	25	610	20	42	26	104	41	110
28	39	1190	36	1600	25	616	18	35	27	123	27	100
29	38	683	353	1570	25	773	16	36	27	201	40	81
30	300	70	459	1540	---	300	16	55	25	208	51	304
31	450	---	359	1510	---	355	---	39	---	139	40	---
TOTAL	21610	12550	10869	18049	14250	3300	8494	6948	1959	1881	1248	6483
MEAN	697	418	351	582	491	106	283	224	65.3	60.7	40.3	216
MAX	1630	1380	1480	1770	1460	773	1470	1090	420	208	94	1080
MIN	30	16	16	11	25	18	15	16	22	24	21	31
AC-FT	42860	24890	21560	35800	28260	6550	16850	13780	3890	3730	2480	12860

CAL YR 1979 TOTAL 152939 MEAN 419 MAX 1740 MIN 16 AC-FT 303400
WTR YR 1980 TOTAL 107641 MEAN 294 MAX 1770 MIN 11 AC-FT 213500

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
OCT										
04...	0900	1800	112	6.8	25.0	70	12	3.1	37	6.2
11...	0935	1550	165	6.9	22.0	100	4.3	2.9	33	14
15...	1005	496	251	7.1	21.0	110	3.8	6.8	76	4.0
NOV										
28...	1055	1200	139	6.9	14.0	160	50	9.1	86	4.5
JAN										
29...	1255	1570	96	6.7	12.0	140	96	7.0	64	3.2
MAY										
19...	1130	489	200	6.7	23.0	--	--	7.0	80	6.5
21...	0950	1150	110	6.7	24.0	160	160	5.6	66	5.8
AUG										
04...	1140	52	600	7.6	28.0	30	39	6.5	82	4.5
SEP										
09...	1130	985	190	7.1	26.0	86	72	7.3	89	3.5

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
04...	10000	40	40	38	0	11	2.5	6.3	.4
11...	12000	K14	350	52	0	15	3.6	9.2	.6
15...	3100	40	60	--	--	--	--	--	--
NOV									
28...	6700	240	620	--	--	--	--	--	--
JAN									
29...	2000	190	240	--	--	--	--	--	--
MAY									
19...	31000	5200	8100	58	2	19	2.6	14	.8
21...	6700	1400	820	--	--	--	--	--	--
AUG									
04...	13000	820	98	150	0	48	7.6	65	2.3
SEP									
09...	15000	1000	1300	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
04...	4.0	48	0	4.6	7.6	.1	9.6	69	21
11...	5.1	73	0	6.3	14	.1	15	104	19
15...	--	--	--	--	--	--	--	--	12
NOV									
28...	--	--	--	--	--	--	--	--	15
JAN									
29...	--	--	--	--	--	--	--	--	30
MAY									
19...	3.7	68	0	11	15	.7	8.7	108	--
21...	--	--	--	--	--	--	--	--	95
AUG									
04...	6.1	200	0	17	80	.4	25	348	67
SEP									
09...	--	--	--	--	--	--	--	--	76

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
04...	17	.00	.02	.01	.03	1.2	1.2	.180	12
11...	3	.00	.02	.01	.12	1.5	1.6	.310	23
15...	13	.00	.04	.04	.22	1.9	2.1	.560	15
NOV									
28...	0	.10	.02	.12	.14	.00	.11	.280	12
JAN									
29...	20	.07	.01	.08	.06	1.0	1.1	.190	12
MAY									
19...	--	--	--	--	--	--	--	--	--
21...	13	.43	.04	.47	.24	1.2	1.4	.350	13
AUG									
04...	30	.87	.12	.99	.35	1.2	1.5	.870	9.1
SEP									
09...	8	.07	.03	.10	.08	1.1	1.2	.440	11

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 19...	1130	3	90	<1	0	4	80
AUG 04...	1140	5	200	<1	10	1	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 19...	0	6	.1	0	0	10
AUG 04...	0	<1	.0	0	0	<3

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY 19...	1130	.0	.00	.00	.0	.00	.00	.00	.20
AUG 04...	1140	.0	.00	.00	.0	.00	.00	.00	.19

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
MAY 19...	.00	.00	.00	.00	<.05	.00	.00	.01	.00
AUG 04...	.00	.00	.00	.00	.00	.00	.02	.01	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 19...	.00	.00	.00	.00	0	.00	.24	.01	.00
AUG 04...	.00	.00	.00	.00	0	.00	.21	.03	.02

SAN JACINTO RIVER BASIN

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX

LOCATION.--Lat 29°45'43", long 95°33'27", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on West Belt Drive in west Houston, 100 ft (30 m) downstream from Rummel Creek, 3.5 mi (5.6 km) downstream from station 08073500, and 3.7 mi (6.0 km) upstream from station 08073700.

DRAINAGE AREA.--307 mi^2 (795 km^2), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1971 to current year.

GAGE.--Water-stage recorders and crest-stage gage. Datum of gage is 0.67 ft (0.204 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 10.1 and 10.3 mi (16.3 and 16.6 km) upstream, respectively. Low flow is sustained by sewage effluent from Houston suburbs. The Corps of Engineers has a gage-height telemeter at station.

AVERAGE DISCHARGE.--9 years, 322 ft^3/s (9.119 m^3/s), 233,300 acre-ft/yr (288 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s (107 m^3/s) Mar. 20, 1972, gage height, 62.15 ft (18.943 m); minimum daily, 25 ft^3/s (0.71 m^3/s) Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft^3/s (51.3 m^3/s) June 22 at 1830 hours, gage height, 53.72 ft (16.374 m); minimum daily, 36 ft^3/s (1.02 m^3/s) Jan. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	178	85	166	1450	88	754	72	51	48	114	60
2	1580	500	69	99	1420	67	1160	95	51	47	97	66
3	1570	698	59	369	1360	56	1220	72	48	45	81	62
4	1560	669	54	465	1280	62	1440	58	48	46	75	58
5	1550	615	50	396	1140	61	1400	52	49	44	68	113
6	1540	374	46	209	504	54	1270	47	46	44	56	486
7	1530	89	45	110	82	53	542	79	44	46	137	255
8	1510	70	44	79	342	56	79	79	43	47	105	411
9	1480	66	42	52	678	54	64	76	307	45	63	958
10	1450	70	39	44	763	51	58	61	436	46	52	1090
11	1400	63	41	42	764	51	56	52	331	49	50	967
12	1240	62	735	40	740	53	57	53	107	55	46	746
13	1030	56	472	38	714	51	104	64	64	58	43	360
14	896	55	979	36	737	47	65	119	55	57	41	115
15	566	48	1440	36	702	49	56	124	51	49	137	90
16	323	51	1420	36	628	53	51	398	48	69	79	76
17	88	51	1350	201	438	73	47	489	44	66	63	69
18	81	51	1230	293	261	58	51	341	44	56	53	65
19	86	54	823	314	132	53	49	536	42	59	47	65
20	79	275	437	393	107	92	44	668	41	66	43	67
21	77	711	125	1370	94	76	47	810	60	202	45	67
22	81	850	90	1150	84	49	48	456	459	109	44	73
23	76	880	191	642	77	49	47	1020	169	97	43	65
24	68	1120	168	1250	70	52	51	716	68	91	45	70
25	62	1340	165	1740	64	44	168	630	57	93	48	134
26	64	1370	104	1710	58	52	87	421	53	103	45	166
27	63	1310	77	1660	59	935	65	69	50	112	62	144
28	73	1210	64	1610	61	697	55	62	50	165	47	127
29	70	848	353	1570	59	1160	50	63	49	262	87	108
30	290	126	406	1550	---	374	50	78	48	225	96	423
31	367	---	357	1500	---	302	---	64	---	156	77	---
TOTAL	22440	13860	11560	19170	14868	4972	9235	7924	3013	2657	2089	7556
MEAN	724	462	373	618	513	160	308	256	100	85.7	67.4	252
MAX	1590	1370	1440	1740	1450	1160	1440	1020	459	262	137	1090
MIN	62	48	39	36	58	44	44	47	41	44	41	58
AC-FT	44510	27490	22930	38020	29490	9860	18320	15720	5980	5270	4140	14990

CAL YR 1979 TOTAL 167000 MEAN 458 MAX 2410 MIN 39 AC-FT 331200
WTR YR 1980 TOTAL 119344 MEAN 326 MAX 1740 MIN 36 AC-FT 236700

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX --Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyes: December 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1979 to current year.
WATER TEMPERATURES: June 1979 to current year.

REMARKS.--Mean monthl and annual concentretions and loads for selected chemical constituents have been computed using the deily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum deily, 922 micromhos June 25, 1979; minimum daily, 90 micromhos Jen. 25, 1980.
WATER TEMPERATURES: Maximum daily, 30.5°C July 1, 1978; minimum daily, 9.0°C Feb. 11, 12, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 865 micromhos Mar. 15; minimum daily, 90 micromhos Jan. 25.
WATER TEMPERATURES: Maximum daily, 29.0°C July 13, 15, 16, 20; minimum daily, 9.0°C Feb. 11, 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT												
15...	1100	582	284	7.2	21.5	110	8.1	6.5	73	9.0	4400	84
17...	1230	93	620	7.5	26.0	30	32	8.7	106	8.0	--	270
NOV												
13...	1200	62	820	7.5	22.0	--	200	4.3	48	8.1	--	20000
28...	1235	1210	153	6.8	14.0	120	42	9.1	86	4.9	4100	140
DEC												
13...	1005	216	230	7.4	12.0	--	140	11.8	106	4.7	--	620
JAN												
08...	1145	94	500	8.0	15.0	--	57	10.2	100	8.0	--	88
29...	1330	1570	104	6.8	13.0	120	110	7.7	72	4.0	7000	250
FEB												
05...	1130	1150	157	7.1	11.5	--	71	9.8	88	1.9	--	94
MAR												
04...	1150	66	800	7.8	18.0	--	26	8.3	87	5.8	--	K1
APR												
01...	1255	734	148	7.3	18.0	--	180	8.8	93	4.4	--	K6
MAY												
06...	1045	53	780	7.7	24.5	10	14	6.0	71	7.1	--	K3
19...	1245	708	230	6.8	23.0	160	200	6.5	75	14	16000	4600
JUN												
10...	1110	450	275	7.3	25.0	30	350	6.7	80	15	--	80
JUL												
08...	1145	50	800	7.7	29.5	15	4.7	5.2	68	2.4	--	130
AUG												
04...	1240	81	700	7.6	29.0	25	22	5.9	77	5.2	190	K18
19...	1025	47	820	8.0	28.0	--	15	4.7	59	.7	--	K2
SEP												
04...	1035	58	730	7.8	27.5	30	34	5.5	69	3.7	--	K1
09...	1235	934	213	7.3	27.0	76	92	6.9	85	4.8	3200	290

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT												
15...	34	--	--	--	--	--	--	--	--	--	--	--
17...	200	120	0	35	6.7	77	3.1	5.8	200	0	22	66
NOV												
13...	14000	120	0	37	7.2	120	4.7	8.0	290	0	34	90
28...	42	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	2200	63	7	19	3.8	22	1.2	5.1	69	0	19	23
JAN												
08...	24	110	0	32	6.3	58	2.5	6.1	180	0	23	55
29...	150	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	40	43	0	13	2.6	13	.9	3.2	54	0	7.1	12
MAR												
04...	K1	160	0	50	9.3	96	3.3	6.4	280	0	29	88
APR												
01...	K12	36	0	11	2.1	13	.9	3.4	46	0	12	11
MAY												
06...	K4	140	0	43	7.9	120	4.4	6.9	280	0	36	89
19...	1600	60	0	19	3.0	17	1.0	3.8	76	0	15	17
JUN												
10...	210	62	0	20	3.0	28	1.5	6.1	77	0	21	31
JUL												
08...	150	130	0	41	7.7	120	4.5	7.5	290	0	37	92
AUG												
04...	K2	140	0	43	7.2	93	3.5	6.5	250	0	23	90
19...	K1	140	0	42	7.6	100	3.7	9.2	270	0	39	90
SEP												
04...	K1	140	0	42	7.7	92	3.4	7.9	260	0	25	85
09...	250	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
OCT												
15...	--	--	--	--	17	16	.00	.100	.05	--	.400	--
17...	.4	21	350	335	--	--	--	--	.18	.62	7.200	5.100
NOV												
13...	.4	26	406	466	--	--	--	--	.66	.15	16.000	9.700
28...	--	--	--	--	8	0	.10	.050	.15	--	.500	--
DEC												
13...	.2	11	168	141	--	--	--	--	.84	.68	.660	.640
JAN												
08...	.3	14	280	285	--	--	--	--	.50	.37	3.000	2.400
29...	--	--	--	--	36	2	.07	.010	.08	--	.240	--
FEB												
05...	.1	7.0	95	86	--	--	--	--	.20	.20	.460	.460
MAR												
04...	.4	19	412	439	--	--	--	--	.91	.46	7.200	6.600
APR												
01...	.2	.1	97	78	--	--	--	--	.52	.47	.950	.860
MAY												
06...	.4	22	457	464	29	0	--	--	.47	1.5	2.500	5.400
19...	.2	9.0	--	122	244	22	.60	.140	.74	--	.780	--
JUN												
10...	.4	7.8	166	156	408	48	--	--	.94	.94	.550	.550
JUL												
08...	.7	23	455	486	3	1	--	--	1.6	1.6	5.500	5.600
AUG												
04...	.4	26	--	413	25	28	.53	.440	.97	--	3.400	--
19...	.5	24	434	449	--	--	--	--	1.2	1.1	6.300	6.300
SEP												
04...	.5	24	351	410	36	2	--	--	1.1	1.2	4.600	4.500
09...	--	--	--	--	84	6	.09	.030	.12	--	.380	--

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT												
15...	1.5	--	1.9	--	.750	--	14	--	--	--	--	--
17...	.00	.00	4.0	.65	.070	.180	27	--	--	72	18	75
NOV												
13...	36	38	52	48	.040	.040	260	--	--	313	52	93
28...	1.1	--	1.6	--	.360	--	12	--	--	--	--	--
DEC												
13...	1.6	1.2	2.3	1.8	.750	.510	--	9.9	1.1	205	120	90
JAN												
08...	5.8	1.8	8.8	4.2	2.300	1.700	24	--	--	118	30	98
29...	1.2	--	1.4	--	.240	--	14	--	--	--	--	--
FEB												
05...	1.2	.45	1.7	.91	.350	.210	14	--	--	58	180	66
MAR												
04...	4.8	3.3	12	9.9	2.800	2.400	--	15	3.3	42	7.5	91
APR												
01...	2.8	1.2	3.7	2.1	.560	.410	12	--	--	184	365	88
MAY												
06...	5.7	--	8.2	--	2.600	1.600	26	--	--	23	3.3	96
19...	1.8	--	2.6	--	.790	--	19	--	--	--	--	--
JUN												
10...	2.4	2.0	2.9	2.5	1.400	.780	--	13	--	595	723	99
JUL												
08...	1.8	.20	7.3	5.8	3.800	2.500	13	--	--	7	.94	93
AUG												
04...	1.2	--	4.6	--	1.200	--	12	--	--	--	--	--
19...	3.6	2.3	9.9	8.6	2.500	2.200	16	--	--	16	2.0	88
SEP												
04...	9.4	1.8	14	6.3	2.600	2.700	--	13	.8	45	7.0	97
09...	1.2	--	1.6	--	.560	--	28	--	--	--	--	--

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS-PENDED TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
NOV											
13...	1200	--	--	--	--	--	--	--	--	--	--
DEC											
13...	1005	4	1	3	300	200	70	2	1	<1	24
FEB											
05...	1130	--	--	--	--	--	--	--	--	--	--
MAR											
04...	1150	4	1	3	300	100	200	6	5	<1	10
MAY											
06...	1045	--	--	--	--	--	--	--	--	--	--
19...	1245	--	--	4	--	--	80	--	--	<1	--
JUN											
10...	1110	5	0	5	200	100	100	0	--	<1	10
AUG											
04...	1240	--	--	4	--	--	200	--	--	<1	--
19...	1025	--	--	--	--	--	--	--	--	--	--
SEP											
04...	1035	7	2	5	200	0	200	3	--	<1	10

DATE	CHRO-MIUM, SUS-PENDED RECOV. (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, SUS-PENDED RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, SUS-PENDED RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
13...	24	0	2	0	<3	15	15	0	3800	3500	270
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	10	0	0	0	<3	7	7	0	650	630	20
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
19...	--	0	--	--	--	--	--	5	--	--	70
JUN											
10...	10	0	3	--	<3	12	7	5	9100	9000	70
AUG											
04...	--	0	--	--	--	--	--	2	--	--	10
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	10	0	1	--	<3	5	1	4	680	650	30

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY SUS-PENDED RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, SUS-PENDED RECOV-ERABLE (UG/L AS NI)
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
DEC											
13...	190	190	0	160	130	30	.2	.1	.1	5	1
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	29	23	6	110	20	90	.1	.1	.0	0	0
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	0	--	--	2	--	--	.1	--	--
JUN											
10...	20	20	0	240	240	4	.3	.3	.0	9	4
AUG											
04...	--	--	0	--	--	6	--	--	.1	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	47	28	19	70	40	30	.3	.1	.2	4	2

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, SUS-PENDED RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
13...	--	--	--	--	3	--	--	--	--	--
DEC										
13...	4	0	0	0	1	0	1	160	140	20
FEB										
05...	--	--	--	--	0	--	--	--	--	--
MAR										
04...	0	0	0	0	0	0	0	30	10	20
MAY										
06...	--	--	--	--	0	--	--	--	--	--
19...	--	--	--	0	--	--	0	--	--	7
JUN										
10...	5	1	1	0	0	0	0	80	--	<3
AUG										
04...	--	--	--	0	--	--	0	--	--	5
19...	--	--	--	--	0	--	--	--	--	--
SEP										
04...	2	0	0	0	0	0	0	30	20	7

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY									
19...	1245	.0	.00	.00	<.1	.00	.00	.00	.53
AUG									
12...	1240	.0	.00	.00	.0	.00	.00	.00	.83

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
MAY									
19...	<.01	.00	.00	.00	.00	.00	<.01	.07	.00
AUG									
12...	.00	.00	.00	.00	.00	.00	.09	.07	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
19...	.00	.00	.00	.00	0	.00	.34	.03	.01
AUG									
12...	.00	.00	.00	.01	0	.00	.35	.03	.00

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAR 4,80	MAY 6,80	JUN 10,80	JUL 8,80	AUG 19,80	SEP 4,80
TIME	1150	1045	1110	1145	1025	1035
TOTAL CELLS/ML	1100	13000	6300	1400	5000	990
DIVERSITY: DIVISION	1.4	0.3	1.0	1.5	0.4	0.6
.CLASS	1.4	0.3	1.0	1.5	0.4	0.6
..ORDER	2.0	0.6	1.5	2.0	0.8	1.1
...FAMILY	2.8	0.6	1.6	2.1	0.8	1.9
....GENUS	3.2	0.7	1.6	2.1	0.8	2.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...MICRACTINIACEAE												
....MICRACTINIUM	6	1	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	67	6	*	0	--	-	350#	25	--	-	13	1
....CHLORELLA	6	1	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	26	1	--	-
....KIRCHNERIELLA	12	1	*	0	--	-	--	-	--	-	--	-
....TETRAEDRON	12	1	*	0	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	*	0	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	73	6	210	2	430	7	--	-	100	2	26	3
....TETRASTRUM	49	4	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	*	0	--	-	--	-	--	-	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	230#	20	90	1	360	6	39	3	*	0	13	1
....MELOSIRA	12	1	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	72	1	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	72	1	--	-	--	-	--	-
....COCCONEIS	6	1	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	6	1	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....SYNEDRA	31	3	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	18	2	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....NAVICULA	86	8	--	-	--	-	13	1	39	1	--	-
...NITZSCHIACEAE												
....NITZSCHIA	370#	32	90	1	500	8	64	5	64	1	64	6
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	6	1	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	260	2	570	9	210	15	330	7	--	-
....ANACYSTIS	--	-	220	2	--	-	--	-	64	1	100	10
..HORMOGONALES												
...NOSTOCACEAE												
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	330#	34
...OSCILLATORIACEAE												
....LYNGBYA	--	-	--	-	--	-	--	-	--	-	230#	23
....OSCILLATORIA	--	-	12000#	92	4300#	68	640#	47	4400#	87	210#	21
....SCHIZOTHRIX	73	6	--	-	--	-	--	-	--	-	--	-
....SPIRULINA	43	4	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	31	3	*	0	--	-	39	3	*	0	--	-
....TRACHELOMONAS	--	-	*	0	--	-	13	1	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	13	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1979	22440	178	100	6040	16	983	11	658	45
NOV.	1979	13860	179	100	3750	16	615	11	404	45
DEC.	1979	11560	179	100	3120	16	508	11	338	45
JAN.	1980	19170	148	83	4280	13	690	9.2	474	38
FEB.	1980	14868	180	101	4030	16	655	11	441	45
MAR.	1980	4972	336	187	2510	34	452	16	221	69
APR.	1980	9235	210	117	2920	20	503	11	284	47
MAY	1980	7924	264	147	3140	25	536	15	313	61
JUNE	1980	3013	477	265	2160	47	386	24	194	100
JULY	1980	2657	612	339	2440	63	450	28	202	120
AUG.	1980	2089	576	320	1800	58	330	27	154	120
SEPT	1980	7556	285	159	3240	27	547	16	330	67
TOTAL		119344	**	**	39400	**	6650	**	4010	**
WTD. AVG.		326	219	122	**	21	**	12	**	52

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	333	325	225	111	535	131	781	624	748	558	450
2	110	178	380	323	123	545	115	570	640	752	575	560
3	115	150	435	244	130	668	109	650	665	760	588	638
4	123	160	485	167	137	733	108	700	702	750	649	693
5	129	188	520	178	144	737	110	716	718	753	675	642
6	127	213	576	250	209	740	127	742	708	752	694	200
7	128	398	649	307	495	767	205	667	733	748	460	235
8	151	549	675	394	350	800	513	666	735	757	496	220
9	159	586	690	528	217	814	612	645	425	751	563	200
10	164	638	682	597	175	775	662	633	300	764	620	175
11	183	640	690	640	135	826	685	690	374	750	657	208
12	207	681	200	661	136	820	703	703	400	724	701	226
13	203	693	264	663	143	821	600	732	472	745	707	235
14	204	712	127	695	137	836	627	403	520	789	737	253
15	273	745	106	736	176	865	720	475	550	729	400	475
16	370	728	103	742	215	864	733	296	637	701	388	510
17	569	740	112	500	209	858	788	190	666	673	500	544
18	635	753	123	319	264	861	814	207	677	676	647	578
19	629	797	148	340	324	851	803	199	694	671	725	668
20	638	291	167	388	394	600	804	176	710	664	697	650
21	635	165	296	142	450	612	822	118	731	510	685	640
22	534	150	390	158	495	631	825	294	320	528	692	550
23	576	144	350	170	529	632	827	141	389	558	700	570
24	631	130	325	108	531	714	834	150	584	616	702	565
25	646	124	330	90	609	793	600	163	650	650	729	450
26	651	120	375	95	662	768	617	275	697	638	715	384
27	699	125	406	92	704	175	614	426	702	637	650	400
28	704	137	472	100	693	193	656	569	725	570	705	415
29	596	154	286	106	701	120	700	615	724	450	517	455
30	400	272	150	105	---	144	739	654	736	472	411	323
31	230	---	175	109	---	236	---	623	---	508	399	---
MEAN	372	390	355	328	331	656	573	480	607	671	611	437

08073600 BUFFALO BAYOU AT WEST BELT DRIVE, HOUSTON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.5	18.0	---	18.0	12.0	14.5	17.0	22.0	27.0	27.5	27.0	27.5
2	25.0	16.0	---	---	12.0	16.0	18.5	22.5	26.5	28.0	27.0	27.0
3	24.0	18.0	22.0	18.0	---	16.0	19.0	---	---	27.5	28.0	26.5
4	24.5	18.5	22.5	18.0	---	15.0	19.0	23.0	25.0	---	28.0	22.0
5	23.5	21.0	22.5	14.5	---	---	18.0	22.5	26.0	27.5	28.5	26.5
6	22.5	22.5	23.0	15.0	12.0	16.5	18.5	23.0	26.5	28.0	28.0	25.5
7	24.5	22.0	23.5	17.5	16.0	18.0	19.0	24.0	27.0	27.5	28.0	26.0
8	24.5	23.0	25.0	17.0	16.5	22.0	20.5	24.5	27.0	28.0	27.0	26.0
9	25.0	24.5	26.5	18.0	12.0	---	19.5	21.5	27.0	28.0	28.5	26.5
10	23.0	24.0	24.0	19.0	13.0	20.0	19.5	23.0	---	28.0	27.5	26.5
11	---	23.5	24.0	20.5	9.0	21.5	20.5	25.0	26.5	---	26.0	27.0
12	22.5	22.0	22.0	18.5	9.0	21.0	20.5	24.5	25.0	28.0	27.5	27.0
13	22.0	22.0	19.5	19.0	10.0	19.5	21.0	25.0	25.5	29.0	28.0	26.5
14	22.5	21.5	17.0	20.0	11.0	16.0	14.0	23.0	25.0	---	27.5	27.0
15	22.5	22.0	17.5	22.0	13.5	17.0	16.5	23.5	26.0	29.0	28.0	27.0
16	23.0	23.0	18.0	22.0	12.0	18.5	19.0	22.5	27.0	29.0	27.5	---
17	26.0	23.0	---	22.0	12.5	16.0	19.5	---	26.5	28.0	---	27.5
18	24.5	22.5	15.5	19.0	10.0	10.5	20.0	22.0	27.0	28.5	27.5	27.0
19	24.5	25.0	16.0	19.5	12.0	20.0	19.5	21.0	27.5	28.5	27.0	28.0
20	25.0	24.0	17.0	19.5	15.0	19.0	20.0	22.0	---	29.0	27.5	---
21	26.0	24.0	18.0	13.0	18.0	17.0	21.0	24.0	26.5	28.5	27.0	---
22	25.0	---	24.0	17.0	13.0	17.5	21.0	24.0	25.0	28.5	27.0	---
23	25.0	19.5	21.5	12.0	18.5	18.0	22.0	24.5	24.5	22.0	27.5	27.5
24	22.0	17.5	16.5	14.5	19.0	19.0	22.0	25.0	27.0	27.5	28.5	---
25	22.5	19.5	16.0	13.0	12.5	19.0	23.5	25.5	28.0	28.0	27.5	27.0
26	25.5	18.5	12.5	15.0	15.0	18.5	20.0	27.0	25.5	27.0	27.5	26.0
27	25.5	18.5	17.0	15.5	13.5	16.5	20.5	26.5	27.0	28.0	27.0	24.0
28	25.0	19.0	19.5	14.5	16.0	15.0	20.5	26.5	25.5	---	26.5	25.5
29	25.5	17.0	---	14.5	19.0	17.5	---	26.0	27.0	25.5	26.0	26.5
30	23.5	16.0	17.5	14.0	---	18.0	21.0	26.0	26.5	26.0	27.5	25.0
31	18.5	---	17.0	13.5	---	16.0	---	26.5	---	27.5	28.0	---
MEAN	24.0	21.0	20.0	17.0	13.5	17.5	19.5	24.0	26.5	27.5	27.5	26.5

BETTINA STREET DITCH DRAINAGE BASIN

The locations of data-collection sites in the Bettina Street Ditch drainage basin are shown in figure 4.

Weighted-mean rainfall for the 1980 water year was not determined.

The storm of December 12, 1979 was selected for analysis at station 08073630, Bettina Street Ditch at Houston.

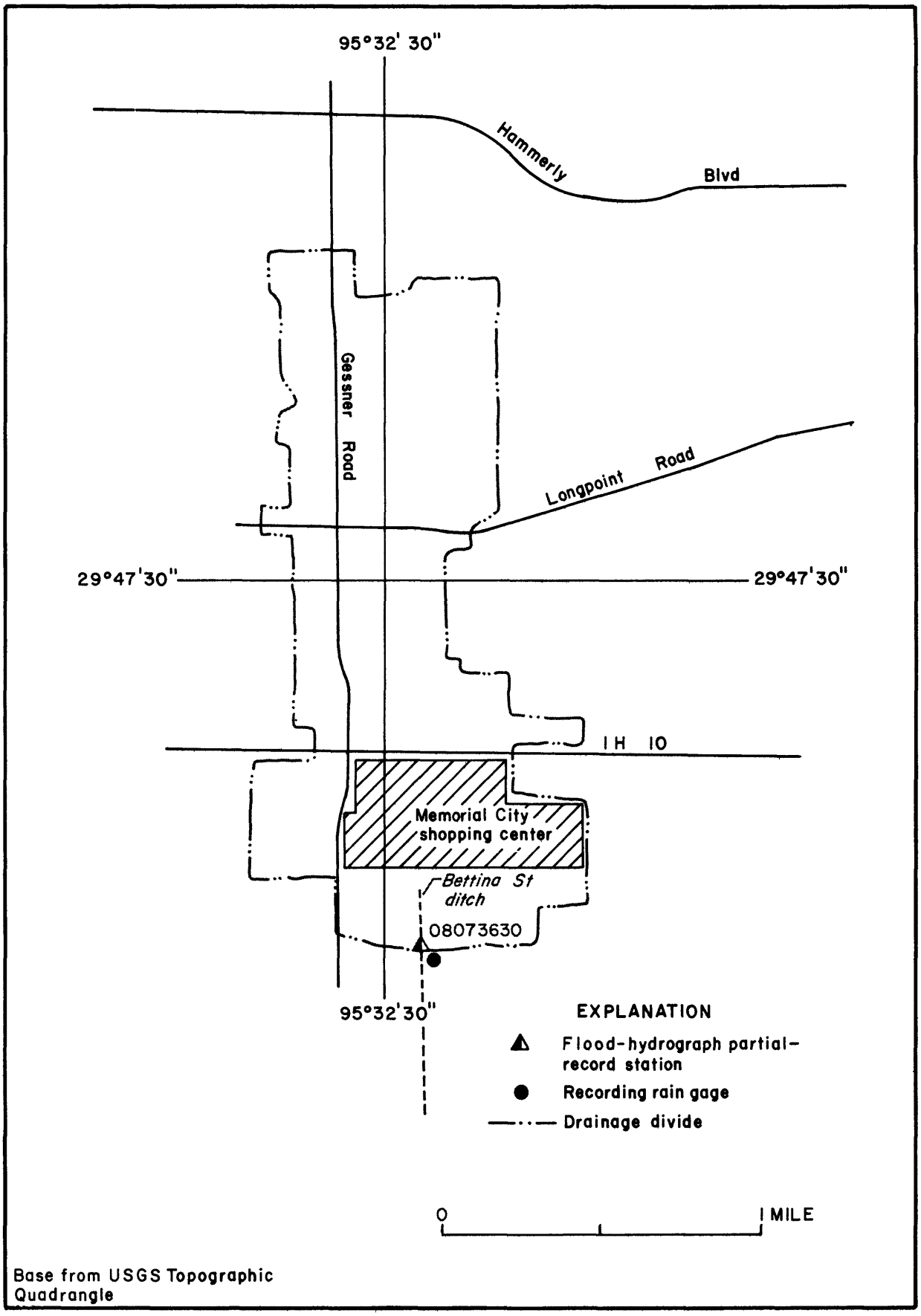

Figure 4.-Locations of data-collection sites in and near Bettina Street Ditch drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 3.--Storm rainfall-runoff data, 1980 Water Year, Bettina Street Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bettina Street Ditch at Houston, Tx. (Drainage area -- 1.37 mi^2)								
Dec. 12, 1979	6.4	2.30	0.45	0.60	0.85	1.29	0.56	328

08073630 BETTINA STREET DITCH AT HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°46'32", long 95°32'23", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at intersection of Bettina Street Ditch and Kimberly Street in west Houston.

DRAINAGE AREA.--1.37 mi^2.

PERIOD OF RECORD.--Nov. 3, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 510 ft^3/s, Sept. 19, 1979, (gage-height 81.25 ft.); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 200 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft.)
Oct. 30	1705	387	80.16
Dec. 12	1120	328	79.55
Mar. 29	1005	*470	80.91
Apr. 25	1010	236	78.37
July 29	1625	333	79.61

Minimum discharge not determined.

STA. NO. 08073630 STORM RAINFALL AND RUNOFF RECORD 1980 WATER YEAR

BETTINA STREET DITCH AT HOUSTON, TX. STORM OF DEC. 12, 1979

DATE & TIME	GAGE NUMBER 3630	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DEC. 12				
0000	0.0	0.0	0.2	0.0010
0835	0.0	0.0	0.2	0.0020
0840	0.10	0.10	0.2	0.0020
0900	0.20	0.20	0.2	0.0020
0905	0.40	0.40	15.0	0.0035
0910	0.50	0.50	42.0	0.0074
0915	0.60	0.60	93.0	0.0249
0930	0.70	0.70	130.0	0.0556
0940	0.80	0.80	146.0	0.0831
0950	1.00	1.00	166.0	0.1144
1000	1.00	1.00	188.0	0.1498
1010	1.10	1.10	213.0	0.1900
1020	1.10	1.10	218.0	0.2311
1030	1.20	1.20	215.0	0.2716
1040	1.20	1.20	210.0	0.3112
1050	1.30	1.30	209.0	0.3506
1100	1.40	1.40	211.0	0.3904
1110	1.80	1.80	244.0	0.4364
1120	1.80	1.80	328.0	0.4828
1125	1.80	1.80	328.0	0.5137
1130	1.80	1.80	316.0	0.6179
1200	1.90	1.90	227.0	0.7463
1230	1.90	1.90	178.0	0.8470
1300	1.90	1.90	140.0	0.9657
1400	1.90	1.90	67.0	1.0415
1500	1.90	1.90	41.0	1.0724
1520	2.00	2.00	35.0	1.0807
1525	2.20	2.20	36.0	1.0858
1535	2.30	2.30	65.0	1.1011
1550	2.30	2.30	93.0	1.1230
1600	2.30	2.30	91.0	1.1573
1630	2.30	2.30	66.0	1.1946
1700	2.30	2.30	42.0	1.2303
1800	2.30	2.30	19.0	1.2732
2100	2.30	2.30	3.0	1.2834
2400	2.30	2.30	1.0	1.2851

SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

LOCATION.--Lat 29°44'48", long 95°31'24", Harris County, Hydrologic Unit 12040104, on downstream side of bridge on Piney Point Road, village of Piney Point, 3.7 mi (6.0 km) downstream from Rummel Creek, 7.2 mi (11.6 km) downstream from gage near Addicks (station 08073500), and 12.5 mi (20.1 km) upstream from gage at Houston (station 08074000).

DRAINAGE AREA.--317 mi² (821 km²).

PERIOD OF RECORD.--October 1963 to September 1976, October 1976 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft (0.412 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Station is operated for the purpose of gate regulations at Barker and Addicks Reservoirs (stations 08072500 and 08073000), located 14.0 and 13.8 mi (22.5 and 22.2 km) upstream, respectively. Low flow is partly sustained by sewage effluent from Houston suburbs. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft³/s (7.505 m³/s), 192,000 acre-ft/yr (237 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft³/s (127 m³/s) June 13, 1973, gage height, 54.98 ft (16.758 m); maximum gage height, 55.15 ft (16.810 m) Sept. 19, 1979; minimum daily discharge, 6.0 ft³/s (0.17 m³/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 45.63 ft (13.908 m) June 22 at 2100 hours; minimum, 32.65 ft (9.952 m) Aug. 14, 15.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.72	36.85	34.50	36.30	43.73	34.66	41.54	34.77	---	33.15	34.64	33.82
2	44.72	---	34.13	36.74	43.45	34.02	42.25	34.34	33.40	33.14	34.18	33.70
3	44.70	---	33.85	39.78	43.16	33.51	43.57	34.04	33.30	33.10	33.97	33.63
4	44.67	---	33.64	38.17	42.82	33.80	44.07	33.60	33.30	33.15	33.74	33.38
5	44.65	---	33.57	38.17	42.38	33.63	43.99	33.50	33.30	33.17	33.48	38.53
6	44.58	---	---	36.89	41.48	---	43.60	33.28	33.30	33.17	33.33	39.56
7	44.48	---	33.45	34.95	34.55	33.58	42.88	34.88	---	33.08	36.76	37.33
8	44.38	---	33.42	34.33	40.93	33.65	34.40	34.57	---	33.12	34.79	40.13
9	44.28	---	33.40	33.59	40.60	33.60	33.70	33.98	39.80	33.03	33.64	41.70
10	44.20	---	---	33.42	39.94	33.55	33.60	33.70	38.80	33.03	33.34	41.98
11	44.05	---	---	---	39.93	33.47	33.50	33.30	37.75	33.08	33.23	41.61
12	43.60	---	44.18	---	39.78	33.54	---	33.28	35.50	33.26	33.15	40.61
13	42.60	---	42.08	---	39.66	33.49	---	35.30	34.07	33.32	33.07	39.34
14	41.50	---	42.35	---	40.78	33.43	33.70	33.94	33.62	33.32	32.99	34.68
15	40.15	---	43.56	---	40.53	33.66	33.50	36.50	33.51	33.15	37.63	34.12
16	38.18	---	43.55	---	39.49	33.67	33.40	37.64	33.53	33.60	35.47	33.80
17	34.78	---	43.35	---	38.39	34.80	33.40	39.60	33.34	33.53	33.57	33.57
18	---	---	42.98	---	37.44	33.63	33.40	37.27	33.34	33.34	33.36	33.74
19	---	---	41.92	---	35.10	33.75	---	41.37	33.25	---	33.17	33.47
20	---	38.30	39.40	---	34.53	34.82	---	41.62	33.24	---	33.08	33.50
21	---	41.50	36.92	---	34.26	34.38	33.40	42.13	36.90	38.74	33.14	33.55
22	---	40.63	34.50	---	34.00	33.61	33.35	40.90	45.63	---	33.13	33.57
23	---	41.40	38.04	---	33.90	33.82	33.31	42.00	44.15	33.90	33.38	33.40
24	---	42.77	36.82	---	33.71	33.74	33.48	41.05	33.80	33.90	33.28	33.63
25	---	43.57	35.43	---	33.62	33.49	39.15	39.40	33.45	33.90	33.27	36.01
26	---	43.57	34.92	---	33.47	33.89	34.45	38.65	33.30	---	---	36.18
27	---	---	34.29	---	33.59	44.30	34.11	35.00	33.23	---	34.38	35.71
28	---	---	33.97	---	33.59	43.60	33.62	33.85	33.25	36.83	33.80	35.06
29	---	42.30	36.55	44.20	33.60	45.29	33.47	33.80	33.25	38.62	36.92	35.17
30	42.99	37.80	37.70	44.13	---	41.85	33.33	33.90	33.18	37.65	35.73	39.86
31	42.99	---	37.69	43.98	---	39.99	---	---	---	35.17	34.17	---
MAX	---	---	---	---	43.73	---	---	---	---	---	---	41.98
MIN	---	---	---	---	33.47	---	---	---	---	---	---	33.38

08074000 BUFFALO BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, at bridge on Shepherd Drive in Houston and 0.8 mi (1.3 km) upstream from Waugh Drive.

DRAINAGE AREA.--358 mi² (927 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to September 1957, October 1957 to December 1961 (high-water records and discharge measurements), January 1962 to September 1975, October 1975 to current year (high-water records and discharge measurements).

REVISED RECORDS.--WSP 1732: Drainage area (former site).

GAGE.--Water-stage recorder and crest-stege gages. Datum of gage is 1.36 ft (0.414 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to June 19, 1936, nonrecording gage, and June 19, 1936, to Jan. 16, 1962, water-stage recorder at site 0.8 mi (1.3 km) downstreem at 4.08-foot (1.244 m) lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi (1.3 km) downstream. Water-stage recorder at Main Street (station 08074600) used as auxiliary gage after Sept. 30, 1973.

REMARKS.--Water-discharge records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) located 26.3 and 26.8 mi (42.3 and 42.6 km) upstream, respectively, flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relationship for all storms which produce peak discharges above 1,500 ft³/s (42.5 m³/s). Discharges below 1,000 ft³/s are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft³/s (7.703 m³/s), 197,100 acre-ft/yr (243 hm³/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft³/s (7.760 m³/s), 198,500 acre-ft/yr (245 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s (309 m³/s) Aug. 30, 1945, gage height, 28.82 ft (8.784 m), at site 0.8 mi (1.3 km) downstream at present datum; minimum daily, 1.3 ft³/s (0.037 m³/s) May 24, 1939, Nov. 5, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi (1.3 km) downstream at present datum. Maximum gage height since at least 1835, 49.0 ft (14.94 m) Dec. 9, 1935, discharge 40,000 ft³/s (1,130 m³/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (13.26 m), discharge 19,000 ft³/s (538 m³/s), at bridge on Capitol Avenue affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maxmum discharge, 3,630 ft³/s (103 m³/s) Jan. 22 at 1300 hours, gage height, 16.08 ft (4.901 m); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1820	200	---	---	1550	---	715		---			---
2	1800	---	---	---	1540	---	1100		---			---
3	1780	---	---	---	1480	---	1240		---			---
4	1740	---	---	---	1400	---	1510		---			---
5	1740	---	---	---	1300	---	1470		---			192
6	1730	---	---	---	974	---	1420		---			1500
7	1690	---	---	---	250	---	1080		---			811
8	1660	---	---	---	632	---	179		---			484
9	1640	---	---	---	1070	---	---		---			923
10	1580	---	---	---	800	---	---		---			1220
11	1570	---	---	---	---	---	---		---			1210
12	1460	---	800	---	---	---	---		---			968
13	1220	---	600	---	---	---	---		---			690
14	1040	---	1000	---	---	---	---		---			200
15	800	---	1500	---	---	---	---		---			---
16	400	---	1500	---	---	---	---		---			---
17	---	---	1400	---	---	---	---		---			---
18	---	---	1300	---	---	---	---		---			---
19	---	---	900	---	---	---	---		---			---
20	---	159	500	893	---	---	---		---			---
21	---	839	---	1740	---	---	---		---			---
22	---	964	---	2680	---	---	---		399			---
23	---	801	---	1260	---	---	---		1090			---
24	---	1000	---	1070	---	---	---		77			---
25	---	1300	---	1630	---	---	---		---			---
26	---	1430	---	1920	---	---	---		---			---
27	---	1390	---	1810	---	1710	---		---			---
28	---	1300	---	1760	---	1570	---		---			---
29	---	1120	---	1720	---	1570	---		---			---
30	539	426	---	1670	---	1100	---		---			---
31	1050	---	---	1580	---	463	---		---			---
TOTAL	---	---	---	---	---	---	---		---			---
MEAN	---	---	---	---	---	---	---		---			---
MAX	---	---	---	---	---	---	---		---			---
MIN	---	---	---	---	---	---	---		---			---
AC-FT	---	---	---	---	---	---	---		---			---

CAL YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1980 TOTAL - MEAN - MAX - MIN - AC-FT -

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 15...	1225	801	269	7.1	22.5	50	58	4.8	54	11	30000	6700
JAN 29...	1025	1710	120	6.6	13.0	160	110	8.0	75	4.7	28000	7000
JUL 16...	1125	60	780	7.3	29.0	25	2.1	3.0	38	34	1200000	460000
SEP 09...	1340	1040	218	7.5	27.0	80	160	6.5	80	14	84000	40000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 15...	800	7	12	.00	.100	.08	.360	1.4	1.8	.770	16
JAN 29...	750	96	4	.09	.010	.10	.240	1.2	1.4	.380	14
JUL 16...	980	3	2	.94	.660	1.6	2.300	1.2	3.5	3.200	15
SEP 09...	2200	212	10	.19	.100	.29	.380	1.7	2.1	.730	17

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
JUL 16...	1125	5	100	<1	10	5	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUL 16...	0	<1	.1	1	0	8

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUL 16...	1125	.0	.00	.04	.2	.00	.00	.00	.68

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JUL 16...	.02	.00	.00	.00	.00	.01	.04	.03	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

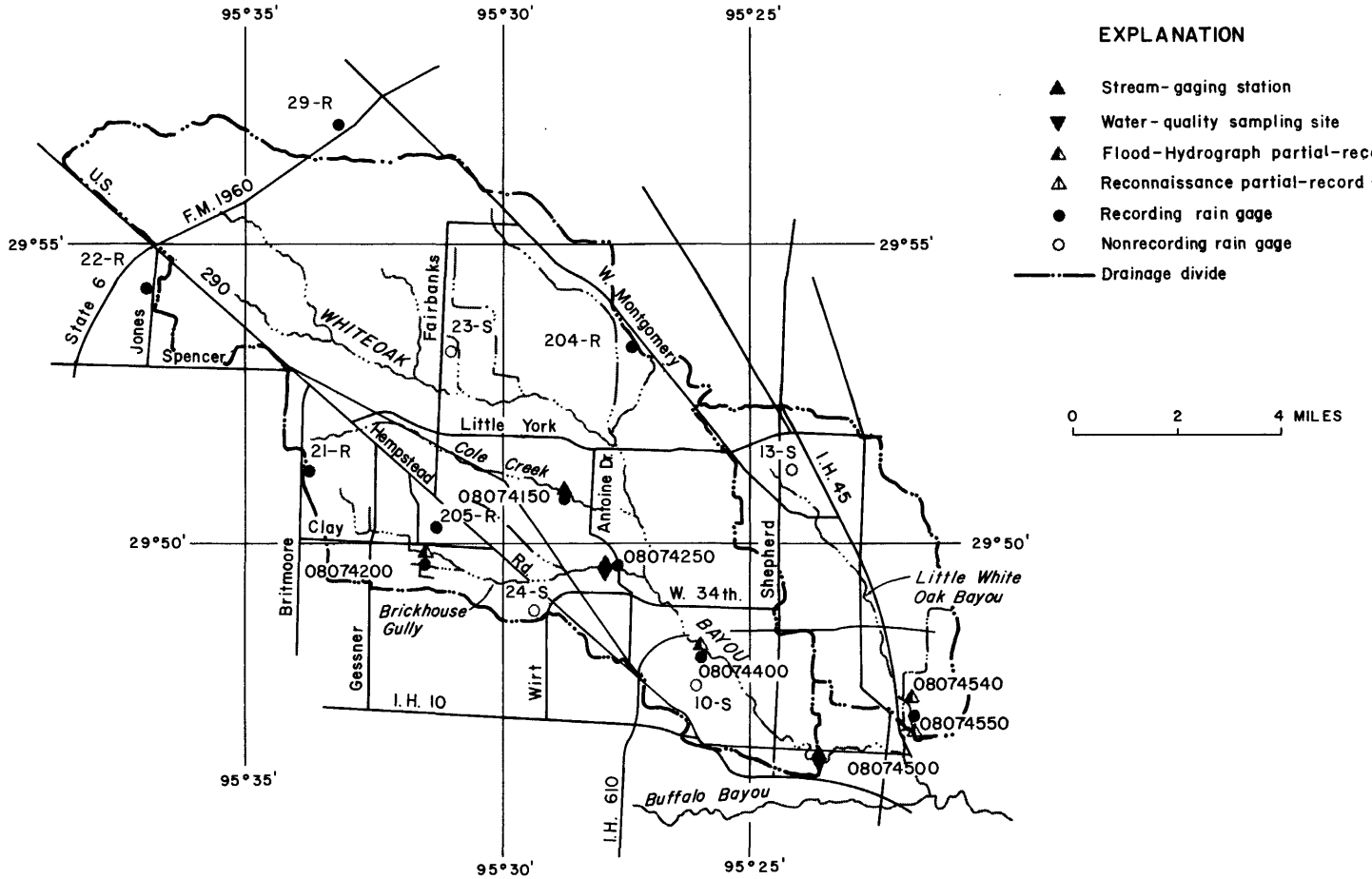
WHITEOAK BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Whiteoak Bayou drainage basin are shown in figure 5.

Cole Creek (including Bingle Road Storm Sewer), Brickhouse Gully, Lazybrook Street Storm Sewer, and Little Whiteoak Bayou are shown as separate drainage basins within the Whiteoak Bayou section.

Weighted-mean rainfall in the drainage basins, based on thirteen rain gages, for the 1980 water year was 39.06 inches or 9.13 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of Oct. 22-23, Oct. 30 to Nov. 1, Jan. 17-19, Jan. 20-27, and March 27 to April 2 were selected for analysis at the Whiteoak Bayou at Houston (08074500) gaging station.



Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 5.—Locations of data-collection sites in and near the Whiteoak Bayou drainage basin

COLE CREEK DRAINAGE BASIN

The locations of data-collection sites in and near the Cole Creek drainage basin are shown in figure 6.

Bingle Road Storm Sewer is shown as a separate drainage basin within the Cole Creek section.

Weighted-mean rainfall in the drainage basins, based on four rain gages, for the 1980 water year was 38.41 inches, or 9.78 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of Jan. 20-24 and Mar. 27-30 were selected for analysis at station 08074150, Cole Creek at Deihl Road.

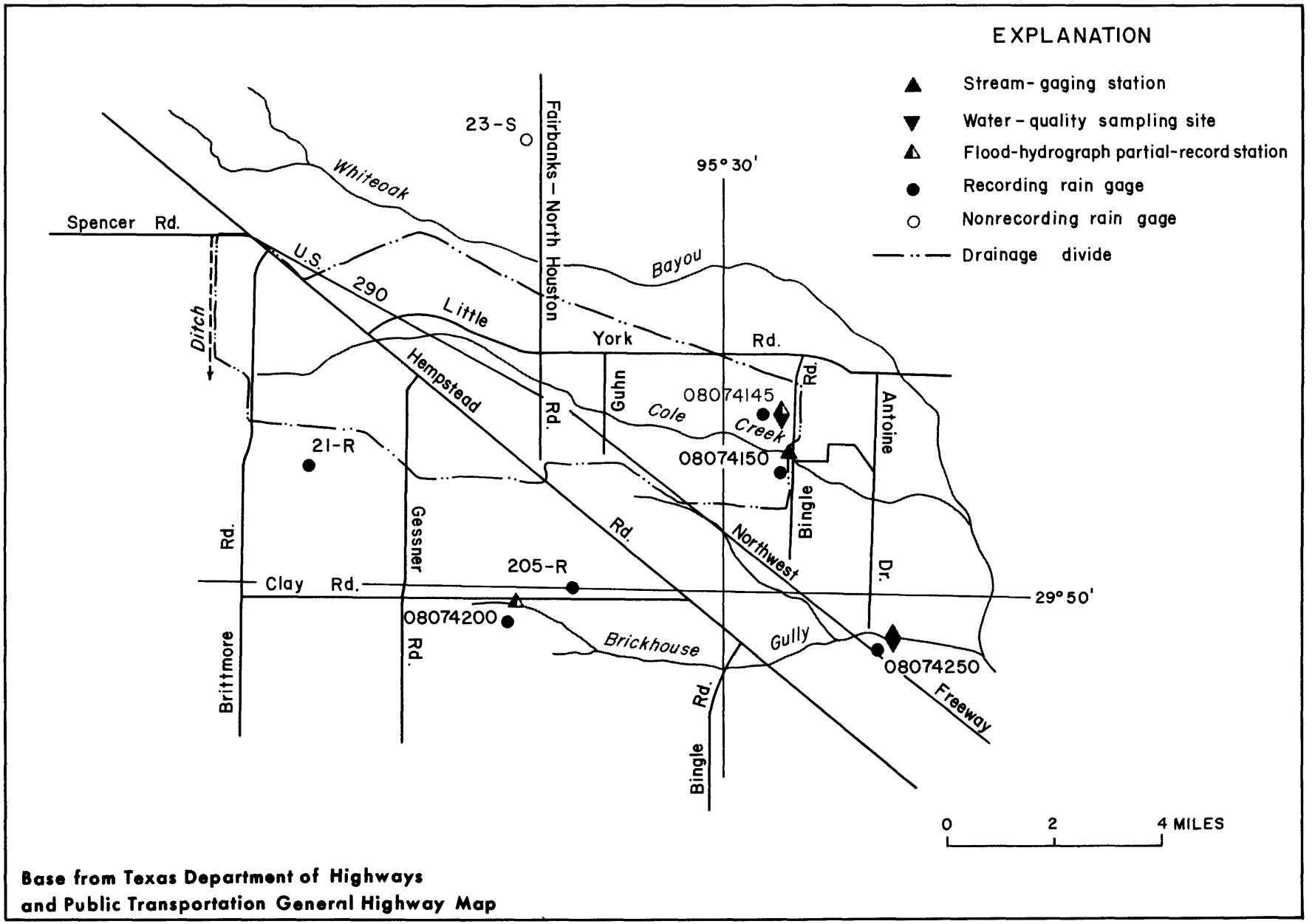


Figure 6.-Locations of data-collection sites in and near the Cole Creek drainage basin

BINGLE ROAD STORM SEWER DRAINAGE BASIN

The location of data-collection sites in and near the Bingle Road Storm Sewer drainage basin are shown in figure 7.

Flood-hydrograph partial-record station 08074145, Bingle Road Storm Sewer at Houston, Tex. was put into operation on May 16, 1980 by the U.S. Geological Survey.

Weighted-mean rainfall for the 1980 water year was not determined.

The storms of June 9, July 21, and Sept. 5-7 were selected for analysis at station 08074145, Bingle Road Storm Sewer at Houston, Tex.

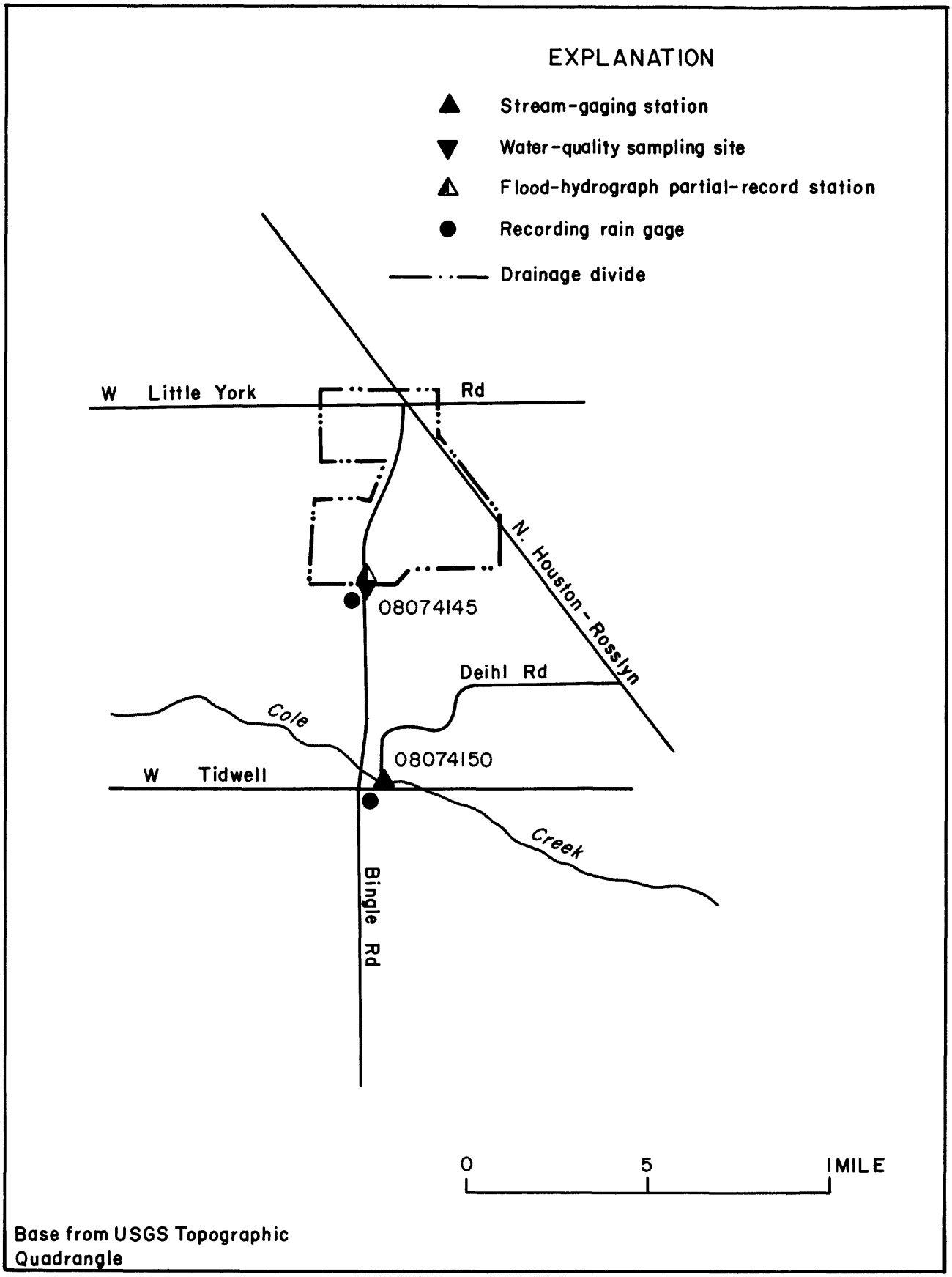


Figure 7.-Locations of data-collection sites in and near the Bingle Road storm sewer drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 4.--Storm rainfall-runoff data, 1980 Water Year, Bingle Road Storm Sewer

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bingle Road Storm Sewer at Houston, Tx. (Drainage area -- 0.21 mi^2)								
June 9, 1980	2.5	0.93	0.28	0.38	0.41	0.64	0.68	78
July 21, 1980	0.8	0.59	0.27	0.47	0.51	0.33	0.56	75
Sept. 5, 1980	1.5	0.59	0.19	0.25	0.42			52
Sept. 5-6, 1980	2.4	.59	.11	.19	.32			31
Sept. 6, 1980	0.5	.77	.33	.65	.68	2.75	0.65	110++,*
Sept. 6, 1980	1.2	.85	.30	.44	.60			71
Sept. 6-7, 1980	0.9	.34	.22	.23	.27			56
Sept. 7, 1980	4.3	1.08	.18	.20	.38			46

* - Annual peak discharge for 1980 WY
++ - Peak discharge for period of record

SAN JACINTO RIVER BASIN

08074145 BINGLE ROAD STORM SEWER AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°51'31", long 95°29'09", Harris County, Hydrologic Unit 12040104, over a 60-inch (152 mm) storm sewer in the center median at Bingle Road and 3,000 ft (914 m) north of station Cole Creek at Bingle Road, Houston (08074150).

DRAINAGE AREA.--0.21 mi^2 (0.54 km^2).

PERIOD OF RECORD.--May to current year.

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is arbitrary.

REMARKS.--Additional storm rainfall-runoff data for the period after May 16, 1980, can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980".

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110 ft^3/s (3.12 m^3/s), Sept. 6, 1980, elevation, 8.71 ft (2.655 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges for period May to September above base of 75 ft^3/s (2.12 m^3/s) and maximum (*)

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
June 9	0950	78	2.21	8.10	2.469
a July 21	1100	75	2.12	8.05	2.454
Sept. 6	0700	*110	3.12	8.71	2.655

a Water-quality smples were obtained during the runoff event.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JUN										
09...	0912	5.1	163	50	190	--	480000	12000	11000	462
09...	0921	29	--	--	--	>24	--	--	--	--
09...	0940	63	--	--	--	20	--	--	--	--
09...	0949	76	60	15	140	--	51000	7300	25000	488
09...	1007	30	--	--	--	12	--	--	--	--
09...	1017	16	75	30	140	--	25000	6700	15000	271
JUL										
21...	0938	6.1	--	--	--	4.7	6700	3000	60	--
21...	0953	17	--	--	--	5.0	2600	1200	360	--
21...	1103	67	--	--	--	9.9	56000	44000	580	--

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN									
09...	68	.81	.060	.87	.470	2.8	3.3	.710	54
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
09...	148	.23	.030	.26	.190	1.8	2.0	.150	20
09...	--	--	--	--	--	--	--	--	--
09...	31	.25	.030	.28	.150	1.4	1.5	.180	20
JUL									
21...	--	1.8	.010	1.8	.060	1.3	1.4	.280	--
21...	--	2.1	.140	2.2	.030	2.3	2.3	.170	--
21...	--	.77	.060	.83	.140	1.6	1.7	.190	--

STA. NO. 08074145	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEXAS — STORM OF JUNE 9, 1980

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JUNE 9				
0000	0.0	0.0	0.1	0.0033
0900	0.20	0.20	0.1	0.0067
0905	0.20	0.20	0.1	0.0067
0910	0.48	0.48	2.9	0.0085
0915	0.48	0.48	12.0	0.0159
0920	0.48	0.48	27.0	0.0325
0925	0.54	0.54	40.0	0.0571
0930	0.54	0.54	46.0	0.0854
0935	0.58	0.58	53.0	0.1180
0940	0.58	0.58	63.0	0.1567
0945	0.58	0.58	70.0	0.1998
0950	0.58	0.58	78.0	0.2477
0955	0.58	0.58	66.0	0.2883
1000	0.61	0.61	49.0	0.3486
1015	0.62	0.62	16.0	0.3781
1030	0.66	0.66	11.0	0.3984
1045	0.72	0.72	7.6	0.4124
1100	0.74	0.74	6.7	0.4248
1115	0.80	0.80	9.8	0.4428
1130	0.82	0.82	12.0	0.4650
1145	0.86	0.86	9.6	0.4827
1200	0.92	0.92	9.3	0.5084
1230	0.93	0.93	9.6	0.5438
1300	0.93	0.93	6.7	0.5686
1330	0.93	0.93	3.2	0.5804
1400	0.93	0.93	2.0	0.5914
1500	0.93	0.93	1.2	0.6091
1800	0.93	0.93	0.6	0.6291
2400	0.93	0.93	0.3	0.6357

STA. NO. 08074145	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TX. — STORM OF JULY 21, 1980

DATE & TIME	GAGE NUMBER 4150	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JULY 21				
0000	0.0	0.0	0.1	0.0035
0930	0.0	0.0	0.1	0.0070
0935	0.02	0.02	1.2	0.0078
0940	0.03	0.03	16.0	0.0176
0945	0.04	0.04	24.0	0.0324
0950	0.05	0.05	23.0	0.0465
0955	0.06	0.06	12.0	0.0539
1000	0.07	0.07	7.7	0.0634
1015	0.07	0.07	3.1	0.0691
1030	0.08	0.08	1.8	0.0724
1045	0.30	0.30	1.3	0.0740
1050	0.40	0.40	15.0	0.0832
1055	0.50	0.50	51.0	0.1146
1100	0.55	0.55	75.0	0.1607
1105	0.56	0.56	64.0	0.2001
1110	0.57	0.57	42.0	0.2259
1115	0.58	0.58	25.0	0.2413
1120	0.58	0.58	16.0	0.2511
1125	0.58	0.58	13.0	0.2591
1130	0.59	0.59	10.0	0.2714
1145	0.59	0.59	5.5	0.2815
1200	0.59	0.59	2.4	0.2882
1230	0.59	0.59	1.3	0.2930
1300	0.59	0.59	1.0	0.3022
1500	0.59	0.59	0.7	0.3151
1800	0.59	0.59	0.3	0.3251
2400	0.59	0.59	0.2	0.3295

STA. NO. 08074145	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEXAS — STORM OF SEP. 5-7,1980

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
SEP. 5				
0000	0.0	0.0	0.1	0.0067
1805	0.0	0.0	0.1	0.0135
1830	0.06	0.06	3.2	0.0243
1900	0.16	0.16	11.0	0.0615
1925	0.30	0.30	9.3	0.0873
1945	0.55	0.55	17.0	0.1343
2010	0.58	0.58	8.2	0.1570
2030	0.59	0.59	8.8	0.1732
2040	0.59	0.59	52.0	0.2691
2100	0.59	0.59	19.0	0.3276
2130	0.59	0.59	5.1	0.3464
2200	0.59	0.59	2.3	0.3570
2245	0.59	0.59	1.3	0.3626
2310	0.59	0.59	1.3	0.3662
2330	0.59	0.59	3.2	0.3760
2400	0.62	0.62	4.5	0.3885
SEP. 6				
0000	0.62	0.62	4.5	0.3885
0015	0.62	0.62	3.3	0.3946
0030	0.72	0.72	4.3	0.4065
0100	0.78	0.78	10.0	0.4341
0115	0.78	0.78	31.0	0.4913
0130	0.88	0.88	25.0	0.5682
0205	1.10	1.10	4.9	0.5832
0220	1.10	1.10	29.0	0.6813
0300	1.18	1.18	5.4	0.7046
0330	1.18	1.18	5.9	0.7263
0400	1.18	1.18	2.9	0.7370
0430	1.18	1.18	1.8	0.7437
0500	1.26	1.26	1.3	0.7485
0530	1.27	1.27	1.0	0.7512
0545	1.30	1.30	3.3	0.7573
0600	1.30	1.30	26.0	0.8053
0615	1.62	1.62	15.0	0.8330
0630	1.95	1.95	12.0	0.8514
0640	1.95	1.95	11.0	0.8649
0650	1.95	1.95	61.0	0.9400
0700	1.95	1.95	110.0	1.1091
0715	1.95	1.95	49.0	1.1995
0730	1.95	1.95	22.0	1.2603

STA. NO. 08074145	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEXAS — STORM OF SEP. 5-7,1980

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
SEP. 6				
0800	1.95	1.95	7.4	1.2876
0830	1.95	1.95	4.3	1.3035
0900	1.95	1.95	3.1	1.3264
1030	1.98	1.98	1.7	1.3389
1100	2.00	2.00	1.4	1.3441
1130	2.00	2.00	1.2	1.3485
1200	2.20	2.20	1.0	1.3513
1215	2.50	2.50	2.4	1.3557
1230	2.64	2.64	8.5	1.3740
1250	2.75	2.75	71.0	1.5050
1300	2.80	2.80	43.0	1.5975
1325	2.80	2.80	11.0	1.6246
1340	2.80	2.80	34.0	1.6977
1400	2.80	2.80	12.0	1.7346
1430	2.80	2.80	5.5	1.7549
1500	2.80	2.80	3.8	1.7760
1600	2.80	2.80	2.1	1.7915
1700	2.80	2.80	1.4	1.8018
1800	2.80	2.80	1.0	1.8147
2030	2.80	2.80	0.7	1.8224
2100	2.85	2.85	0.7	1.8250
2130	2.87	2.87	0.9	1.8283
2200	2.87	2.87	3.6	1.8383
2215	2.88	2.88	2.4	1.8427
2230	3.10	3.10	1.6	1.8457
2245	3.10	3.10	1.3	1.8477
2255	3.14	3.14	56.0	2.0026
2330	3.14	3.14	8.0	2.0346
2400	3.14	3.14	3.9	2.0562
SEP. 7				
0000	3.14	3.14	3.9	2.0562
0100	3.14	3.14	2.0	2.0710
0200	3.14	3.14	1.3	2.0805
0300	3.14	3.14	1.1	2.0907
0430	3.14	3.14	1.0	2.1018
0600	3.14	3.14	0.6	2.1084
0730	3.14	3.14	0.5	2.1126
0815	3.26	3.26	0.8	2.1153
0825	3.26	3.26	6.0	2.1226
0835	3.30	3.30	18.0	2.1614

STA. NO. 08074145 STORM RAINFALL AND RUNOFF RECORD 1980 WATER YEAR

BINGLE ROAD STORM SEWER AT HOUSTON, TEXAS STORM OF SEP. 5-7,1980

DATE & TIME	GAGE NUMBER 4145	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
SEP. 7				
0900	3.61	3.61	5.1	2.1739
0915	3.61	3.61	46.0	2.2588
0930	3.61	3.61	25.0	2.3280
1000	3.62	3.62	7.7	2.3564
1030	3.62	3.62	4.4	2.3726
1100	3.62	3.62	3.0	2.3837
1130	3.82	3.82	2.3	2.3900
1145	4.00	4.00	2.0	2.3937
1200	4.00	4.00	24.0	2.4306
1210	4.00	4.00	21.0	2.4564
1220	4.00	4.00	28.0	2.4909
1230	4.00	4.00	24.0	2.5278
1245	4.18	4.18	12.0	2.5536
1305	4.22	4.22	6.6	2.5678
1320	4.22	4.22	18.0	2.5955
1330	4.22	4.22	15.0	2.6185
1345	4.22	4.22	8.8	2.6348
1400	4.22	4.22	6.0	2.6514
1430	4.22	4.22	4.0	2.6661
1500	4.22	4.22	3.0	2.6827
1600	4.22	4.22	2.0	2.7049
1800	4.22	4.22	1.2	2.7270
2100	4.22	4.22	0.8	2.7447
2400	4.22	4.22	0.6	2.7513

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 5.--Storm rainfall-runoff data, 1980 Water Year, Cole Creek

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Cole Creek at Deihl Road, Houston, Tx. (Drainage area -- 7.50 mi^2)								
Jan. 20-24, 1980	38.9	3.80	0.57	0.82	1.05	3.37	0.89	545
Mar. 27-28, 1980	15.8	2.67	0.31	0.51	0.71	2.39	0.56	161
Mar. 29-31, 1980	1.8	1.63	0.72	1.02	1.23			642*

* - Annual peak discharge for 1980 WY

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

LOCATION.--Lat 29°51'04", long 95°29'16", Harris County, Hydrologic Unit 12040104, on downstream side of bridge at Deihl Road in northwest Houston and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA (revised).--7.50 mi² (19.42 km²). Prior to Oct. 1, 1976, 8.05 mi² (20.85 km²). Prior to Oct. 1, 1979, 7.33 mi² (18.98 km²). Drainage area changes are the result of drainage ditch relocations and extensions.

PERIOD OF RECORD.--April 1964 to current year. Gage at temporary location 1.0 mi (1.6 km) downstream at Antoine Drive May 18, 1965, to Sept. 1, 1966, due to bridge construction and channel rectification.

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. No diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 7.63 ft³/s (0.216 m³/s), 5,530 acre-ft/yr (6.82 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft³/s (57.2 m³/s) Mar. 20, 1972, elevation, 78.60 ft (23.957 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Jan. 21	0500	545	15.4	75.11	22.894
Mar. 29	1200	*642	18.2	76.13	23.204

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) July 16, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	10	.35	2.2	1.6	5.5	6.7	2.6	.45	.24	.18	.44
2	.51	3.0	.35	1.9	3.9	.83	4.2	3.0	.43	.36	.17	.94
3	.40	1.5	.31	12	3.9	.72	2.8	1.0	.44	.40	.13	.98
4	.35	.80	.38	5.7	2.7	.95	1.7	.69	.46	.29	.12	1.4
5	.35	.50	.38	3.4	1.8	.73	1.4	.69	.42	.22	1.0	7.5
6	.78	.40	.57	2.6	1.5	.55	2.2	.78	.41	.27	.23	78
7	.62	.35	.65	2.2	1.4	.57	1.9	2.2	.39	.32	1.2	28
8	.41	.30	.65	2.1	51	.60	1.1	1.1	.37	.47	1.3	6.4
9	.28	.60	.61	2.1	47	.74	.92	.88	14	.46	.39	2.2
10	.28	.45	.69	1.9	13	.71	.77	.69	2.3	.84	.20	.69
11	.28	.40	.78	1.5	5.9	.65	.83	.65	.40	.26	.16	3.0
12	.45	.35	125	.93	3.8	.94	.88	.53	.21	.16	.26	.46
13	.40	.32	23	.83	2.8	.72	6.0	9.0	.17	.14	.23	.28
14	.36	.30	5.7	.74	3.1	.59	1.6	12	.21	.12	.17	.21
15	.39	.30	2.9	.65	3.6	.77	1.1	11	.19	.09	2.9	.31
16	.42	.30	1.9	.61	7.5	1.0	1.0	24	.19	.08	5.2	.20
17	.35	.30	1.9	67	4.2	1.6	1.1	14	.22	.11	.77	.17
18	.30	.30	1.9	16	2.7	.71	.98	2.9	.23	.11	.36	.20
19	.25	.35	1.5	3.4	2.3	.82	.98	49	.20	.08	.49	.46
20	.20	.38	1.4	80	1.9	8.2	.83	9.2	.16	1.0	.30	.51
21	.17	12	1.4	340	1.6	1.7	.78	2.8	.17	13	.18	.52
22	8.0	3.6	1.6	210	1.4	.78	.78	1.4	10	5.1	.15	.51
23	4.0	2.2	9.0	38	1.3	.99	.93	.99	5.3	.74	.34	.37
24	2.0	.78	9.5	11	1.0	.82	.88	.76	.66	.36	.14	.58
25	1.0	.53	3.4	6.9	.85	.55	36	.65	.33	.20	.10	.44
26	.70	.38	2.1	5.0	.82	2.1	3.5	.60	.26	.19	.25	.85
27	.50	.38	1.6	3.4	.81	90	1.2	.56	.25	1.4	.22	.86
28	.40	.28	1.5	2.7	.84	110	.88	.77	.21	5.2	.19	.44
29	.35	.28	16	2.6	.86	220	.83	.70	.22	1.7	1.1	.23
30	50	.31	5.7	2.5	---	50	1.2	.55	.24	.45	4.3	12
31	30	---	3.1	2.2	---	12	---	.47	---	.22	.80	---
TOTAL	105.16	41.94	225.82	832.06	175.08	516.84	85.97	156.16	39.49	34.58	23.53	149.15
MEAN	3.39	1.40	7.28	26.8	6.04	16.7	2.87	5.04	1.32	1.12	.76	4.97
MAX	50	12	125	340	51	220	36	49	14	13	5.2	78
MIN	.17	.28	.31	.61	.81	.55	.77	.47	.16	.08	.10	.17
AC-FT	209	83	448	1650	347	1030	171	310	78	69	47	296
(††)	2.81	1.26	3.81	5.52	1.95	5.97	1.95	3.92	1.72	2.49	2.00	5.01

CAL YR 1979 TOTAL 3455.45 MEAN 9.47 MAX 388 MIN .17 AC-FT 6850 †† 53.07
WTR YR 1980 TOTAL 2385.78 MEAN 6.52 MAX 340 MIN .08 AC-FT 4730 †† 38.41

†† Weighted-mean rainfall, in inches, based on four rain gages.

NOTE.--No gage-height record Oc. 18 to Nov. 19 and Mar. 27-30.

STA. NO. 08074150 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

COLE CREEK AT DEIHL RD., HOUSTON, TX. — STORM OF JAN.20-24,1980

DATE & TIME	GAGE NUMBER 4150	205R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20						
0000	0.0	0.0	0.0	0.0	2.2	0.0034
1500	0.05	0.0	0.03	0.03	2.2	0.0069
1530	0.05	0.07	0.03	0.04	2.2	0.0071
1545	0.06	0.10	0.04	0.05	2.2	0.0072
1600	0.10	0.13	0.07	0.09	3.9	0.0074
1615	0.10	0.17	0.09	0.10	23.0	0.0086
1630	0.35	0.23	0.16	0.23	43.0	0.0108
1645	0.55	0.31	0.19	0.32	62.0	0.0140
1700	0.61	0.40	0.26	0.39	82.0	0.0183
1715	0.68	0.52	0.35	0.47	101.0	0.0235
1730	0.81	0.60	0.45	0.58	120.0	0.0297
1745	0.91	0.67	0.62	0.71	140.0	0.0369
1800	0.98	0.82	0.70	0.80	160.0	0.0452
1815	1.08	0.86	0.75	0.87	173.0	0.0541
1830	1.12	0.89	0.80	0.91	186.0	0.0637
1845	1.16	0.92	0.93	1.00	199.0	0.0740
1900	1.20	0.94	0.98	1.04	212.0	0.0904
1930	1.23	0.97	1.04	1.09	236.0	0.1148
2000	1.30	1.06	1.05	1.13	256.0	0.1412
2030	1.37	1.14	1.10	1.19	276.0	0.1698
2100	1.42	1.20	1.18	1.25	297.0	0.2004
2130	1.46	1.25	1.27	1.32	311.0	0.2326
2200	1.48	1.28	1.32	1.36	325.0	0.2661
2230	1.51	1.31	1.36	1.40	341.0	0.3014
2300	1.54	1.32	1.39	1.42	347.0	0.3372
2330	1.54	1.33	1.40	1.43	353.0	0.3737
2400	1.54	1.38	1.40	1.44	353.0	0.4010
JAN. 21						
0000	1.54	1.38	1.40	1.44	353.0	0.4010
0015	1.56	1.42	1.41	1.46	354.0	0.4193
0030	1.58	1.56	1.43	1.49	356.0	0.4377
0045	1.68	1.73	1.48	1.58	366.0	0.4566
0100	1.71	1.84	1.73	1.74	376.0	0.4760
0115	1.81	1.85	2.30	2.09	387.0	0.4960
0130	1.82	1.85	2.48	2.19	398.0	0.5269
0200	1.84	1.88	2.54	2.23	429.0	0.5712
0230	1.84	1.88	2.57	2.25	460.0	0.6187
0300	1.84	1.88	2.57	2.25	491.0	0.6567
0315	1.84	1.89	2.57	2.25	502.0	0.6827
0330	1.89	1.92	2.57	2.27	513.0	0.7092

STA. NO. 08074150 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

COLE CREEK AT DEIHL RD., HOUSTON, TX. — STORM OF JAN.20-24,1980

DATE & TIME	GAGE NUMBER 4150	205R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21						
0345	1.90	1.94	2.59	2.29	524.0	0.7362
0400	1.91	1.94	2.65	2.32	534.0	0.7638
0415	1.92	1.97	2.68	2.35	537.0	0.7916
0430	1.94	1.97	2.68	2.35	540.0	0.8334
0500	1.95	1.97	2.70	2.37	545.0	0.8897
0530	1.96	1.97	2.71	2.37	538.0	0.9453
0600	1.97	1.97	2.73	2.39	532.0	1.0140
0645	1.97	1.97	2.73	2.39	501.0	1.0657
0700	1.98	1.97	2.74	2.40	491.0	1.1038
0730	1.98	1.97	2.75	2.40	471.0	1.2011
0900	1.98	1.97	2.75	2.40	409.0	1.3067
1000	1.98	1.97	2.75	2.40	373.0	1.3549
1015	1.98	2.00	2.75	2.41	364.0	1.4113
1130	1.98	2.00	2.75	2.41	318.0	1.4606
1145	1.99	2.00	2.77	2.42	309.0	1.4765
1200	1.99	2.00	2.77	2.42	300.0	1.5695
1445	1.99	2.00	2.77	2.42	213.0	1.6355
1500	1.99	2.01	2.78	2.43	205.0	1.6514
1530	2.01	2.03	2.79	2.44	193.0	1.6663
1545	2.13	2.12	2.80	2.50	188.0	1.6761
1600	2.17	2.12	2.81	2.51	182.0	1.6855
1615	2.18	2.12	2.89	2.56	182.0	1.6949
1630	2.18	2.12	2.90	2.57	182.0	1.7090
1700	2.18	2.13	2.93	2.58	208.0	1.7304
1730	2.20	2.16	2.95	2.61	221.0	1.7533
1800	2.22	2.18	3.00	2.64	224.0	1.7764
1830	2.30	2.28	3.01	2.69	224.0	1.7996
1900	2.32	2.35	3.08	2.74	224.0	1.8227
1930	2.34	2.37	3.11	2.77	224.0	1.8458
2000	2.34	2.38	3.13	2.78	230.0	1.8815
2100	2.36	2.42	3.19	2.83	243.0	1.9191
2130	2.39	2.43	3.19	2.84	248.0	1.9448
2200	2.39	2.43	3.20	2.84	248.0	2.0088
2400	2.39	2.44	3.20	2.84	231.0	2.1281
JAN. 22						
0000	2.39	2.44	3.20	2.84	231.0	2.1281
0300	2.39	2.47	3.20	2.85	182.0	2.1939
0330	2.42	2.51	3.23	2.88	174.0	2.2119
0400	2.42	2.51	3.25	2.89	166.0	2.2376
0500	2.42	2.52	3.25	2.89	177.0	2.2650

STA. NO. 08074150	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
COLE CREEK AT DEIHL RD., HOUSTON, TX.	STORM OF JAN.20-24.1980							ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
DATE & TIME	GAGE NUMBER							IN.	CFS	IN.
	4150	205R	21R							
JAN. 22										
0530	2.48	2.57	3.32					2.96	179.0	2.2789
0545	2.51	2.58	3.34					2.98	180.0	2.2882
0600	2.64	2.66	3.46					3.09	182.0	2.2976
0615	2.77	2.76	3.59					3.22	191.0	2.3075
0630	2.78	2.78	3.62					3.24	201.0	2.3179
0645	2.78	2.80	3.64					3.26	211.0	2.3288
0700	2.83	2.82	3.67					3.29	221.0	2.3402
0715	2.91	2.88	3.75					3.37	233.0	2.3522
0730	2.93	2.92	3.80					3.41	245.0	2.3712
0800	2.95	2.94	3.85					3.44	255.0	2.3909
0815	2.95	2.94	3.86					3.45	258.0	2.4043
0830	2.96	2.97	3.89					3.47	261.0	2.4178
0845	3.00	3.01	3.93					3.51	265.0	2.4314
0900	3.01	3.04	3.96					3.54	268.0	2.4453
0915	3.02	3.05	3.97					3.55	275.0	2.4595
0930	3.04	3.09	4.00					3.58	282.0	2.4741
0945	3.06	3.10	4.02					3.59	292.0	2.4891
1000	3.11	3.12	4.07					3.64	302.0	2.5125
1030	3.15	3.16	4.10					3.67	323.0	2.5376
1045	3.22	3.21	4.15					3.73	328.0	2.5545
1100	3.26	3.23	4.17					3.76	333.0	2.5803
1130	3.28	3.25	4.18					3.77	336.0	2.6063
1145	3.33	3.26	4.20					3.80	337.0	2.6237
1200	3.33	3.26	4.20					3.80	338.0	2.6499
1230	3.33	3.26	4.20					3.80	334.0	2.7189
1400	3.33	3.26	4.20					3.80	291.0	2.8843
1800	3.33	3.26	4.20					3.80	178.0	3.0130
2100	3.33	3.26	4.20					3.80	122.0	3.0886
2400	3.33	3.26	4.20					3.80	87.0	3.1695
JAN. 23										
0000	3.33	3.26	4.20					3.80	87.0	3.1695
0600	3.33	3.26	4.20					3.80	50.0	3.2315
1200	3.33	3.26	4.20					3.80	33.0	3.2928
2400	3.33	3.26	4.20					3.80	16.0	3.3524
JAN. 24										
0000	3.33	3.26	4.20					3.80	16.0	3.3524
2400	3.33	3.26	4.20					3.80	7.6	3.3712

STA. NO. 08074150	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

COLE CREEK AT DEIHL RD., HOUSTON, TX. — STORM OF MAR. 27-31,1980

DATE & TIME	GAGE NUMBER 4150	205R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27						
0000	0.0	0.0	0.0	0.0	1.9	0.0004
0200	0.0	0.0	0.0	0.0	1.9	0.0008
0215	0.0	0.10	0.08	0.06	1.9	0.0009
0230	0.0	0.15	0.14	0.10	1.9	0.0010
0245	0.0	0.31	0.27	0.19	1.9	0.0011
0300	0.0	0.46	0.35	0.26	1.9	0.0012
0315	0.30	0.55	0.40	0.39	21.0	0.0023
0330	0.40	0.61	0.45	0.46	40.0	0.0044
0345	0.51	0.65	0.49	0.52	50.0	0.0070
0400	0.61	0.74	0.54	0.59	61.0	0.0101
0415	0.67	0.79	0.64	0.67	61.0	0.0133
0430	0.70	0.81	0.74	0.74	61.0	0.0164
0445	0.72	0.93	0.83	0.81	59.0	0.0195
0500	0.79	1.00	0.87	0.87	57.0	0.0224
0515	0.84	1.05	0.92	0.92	64.0	0.0257
0530	0.87	1.06	0.93	0.93	72.0	0.0294
0545	0.96	1.08	0.94	0.97	80.0	0.0336
0600	1.06	1.10	0.96	1.01	87.0	0.0381
0615	1.07	1.12	0.97	1.02	90.0	0.0427
0630	1.08	1.13	0.98	1.03	92.0	0.0498
0700	1.09	1.13	0.98	1.04	90.0	0.0638
0800	1.12	1.13	0.98	1.04	84.0	0.0811
0900	1.12	1.15	0.98	1.05	82.0	0.0981
1000	1.12	1.17	0.99	1.06	78.0	0.1102
1030	1.12	1.18	1.02	1.07	74.0	0.1178
1100	1.12	1.25	1.05	1.10	70.0	0.1268
1145	1.14	1.25	1.05	1.11	65.0	0.1336
1200	1.18	1.28	1.10	1.15	63.0	0.1368
1215	1.19	1.29	1.20	1.21	63.0	0.1401
1230	1.20	1.31	1.23	1.23	63.0	0.1433
1245	1.21	1.40	1.37	1.33	62.0	0.1465
1300	1.24	1.46	1.42	1.37	62.0	0.1497
1315	1.26	1.48	1.44	1.39	68.0	0.1532
1330	1.33	1.51	1.48	1.44	73.0	0.1570
1345	1.55	1.58	1.58	1.57	80.0	0.1611
1400	1.59	1.65	1.62	1.62	87.0	0.1656
1415	1.61	1.72	1.82	1.74	94.0	0.1705
1430	1.63	1.77	2.13	1.93	101.0	0.1757
1445	1.69	1.80	2.28	2.03	108.0	0.1813

STA. NO. 08074150	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
CULE CREEK AT DEIHL RD., HOUSTON, TX.	STORM OF MAR. 27-31,1980							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	4150	205R	21R						
MAR. 27									
1500	1.74	1.86	2.33				2.08	116.0	0.1873
1515	1.77	2.00	2.38				2.14	114.0	0.1932
1530	1.77	2.06	2.42				2.17	113.0	0.1990
1545	1.82	2.12	2.46				2.22	118.0	0.2051
1600	1.87	2.14	2.51				2.26	124.0	0.2115
1615	1.90	2.15	2.52				2.28	129.0	0.2182
1630	2.00	2.15	2.52				2.31	135.0	0.2286
1700	2.06	2.15	2.52				2.33	146.0	0.2437
1730	2.07	2.16	2.52				2.33	157.0	0.2599
1800	2.07	2.18	2.52				2.33	154.0	0.2758
1830	2.07	2.26	2.56				2.37	150.0	0.2913
1900	2.07	2.27	2.58				2.38	148.0	0.3066
1930	2.10	2.27	2.58				2.39	146.0	0.3292
2030	2.10	2.27	2.58				2.39	149.0	0.3600
2130	2.10	2.27	2.58				2.39	153.0	0.3916
2230	2.10	2.27	2.58				2.39	154.0	0.4155
2300	2.10	2.28	2.65				2.43	153.0	0.4274
2315	2.10	2.30	2.68				2.45	153.0	0.4353
2330	2.10	2.44	3.01				2.65	152.0	0.4470
2400	2.10	2.44	3.01				2.65	151.0	0.4626
MAR. 28									
0000	2.10	2.44	3.01				2.65	151.0	0.4626
0030	2.12	2.44	3.01				2.66	149.0	0.4934
0200	2.12	2.44	3.01				2.66	156.0	0.5418
0330	2.12	2.44	3.01				2.66	160.0	0.5914
0500	2.12	2.44	3.01				2.66	161.0	0.6329
0600	2.12	2.46	3.01				2.66	158.0	0.6737
0730	2.12	2.46	3.02				2.67	152.0	0.7209
0900	2.12	2.46	3.02				2.67	137.0	0.7845
1200	2.12	2.46	3.02				2.67	109.0	0.8521
1500	2.12	2.46	3.02				2.67	86.0	0.9054
1800	2.12	2.46	3.02				2.67	67.0	0.9469
2100	2.12	2.46	3.02				2.67	52.0	0.9792
2400	2.12	2.46	3.02				2.67	42.0	1.0052
MAR. 29									
0000	2.12	2.46	3.02				2.67	42.0	1.0052
0300	2.12	2.46	3.02				2.67	34.0	1.0263
0600	2.12	2.46	3.02				2.67	28.0	1.0407
0800	2.12	2.46	3.02				2.67	26.0	1.0468
0815	2.12	2.50	3.02				2.67	25.0	1.0481
0830	2.12	2.65	3.02				2.69	24.0	1.0493

STA. NO. 08074150 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

COLE CREEK AT DEIHL RD., HOUSTON, TX. — STORM OF MAR. 27-31,1980

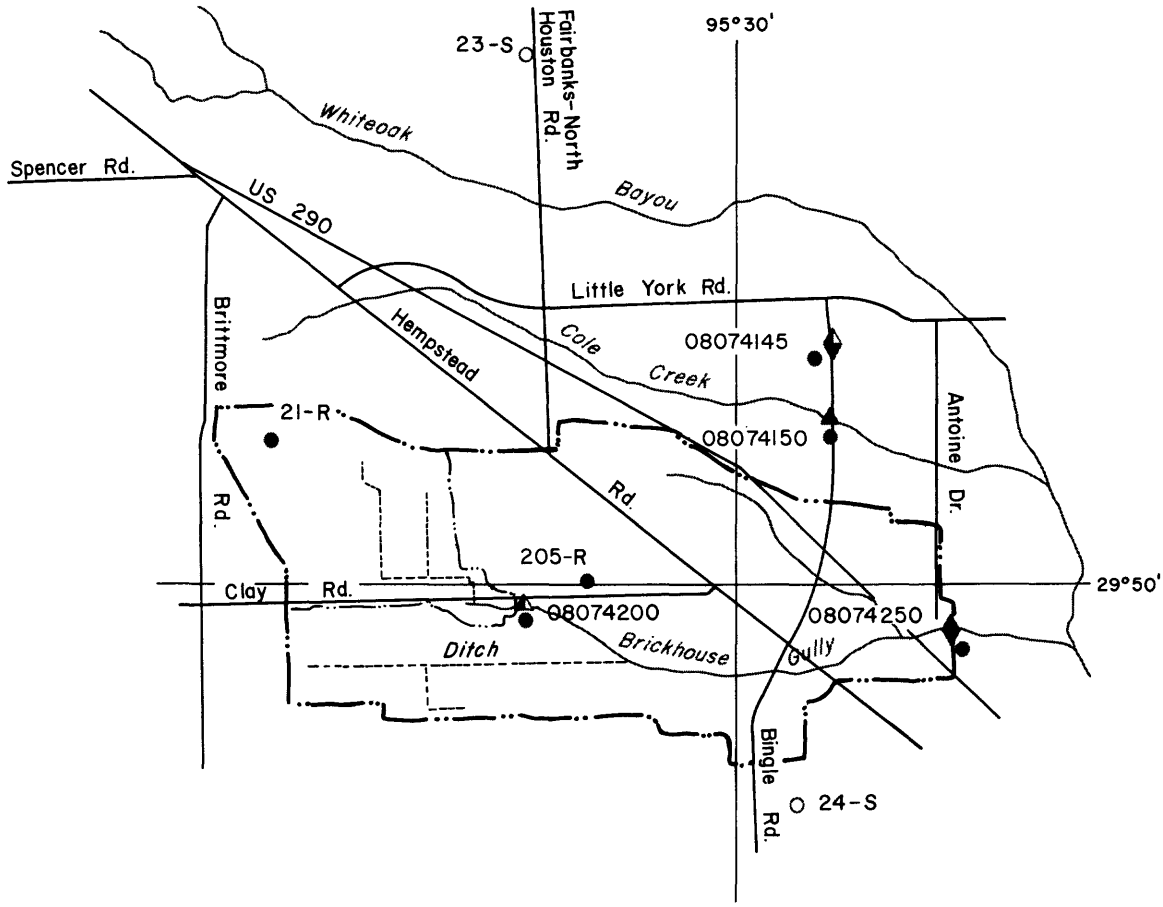
DATE & TIME	GAGE NUMBER 4150	205R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 29						
0845	2.12	2.79	3.22	2.83	23.0	1.0505
0900	2.12	2.86	3.37	2.92	23.0	1.0517
0915	2.26	3.18	3.82	3.26	76.0	1.0556
0930	2.46	3.55	4.20	3.58	129.0	1.0623
0945	2.51	3.67	4.45	3.75	182.0	1.0717
1000	2.53	3.70	4.52	3.80	235.0	1.0838
1015	3.25	3.74	4.63	4.08	288.0	1.0987
1030	3.55	3.76	4.63	4.18	341.0	1.1163
1045	3.65	3.80	4.65	4.22	394.0	1.1367
1100	3.68	3.81	4.68	4.25	447.0	1.1713
1130	3.68	3.82	4.70	4.26	554.0	1.2285
1200	3.68	3.84	4.73	4.28	642.0	1.2783
1215	3.68	3.86	4.75	4.30	640.0	1.3113
1230	3.68	3.86	4.75	4.30	637.0	1.4923
1500	3.68	3.86	4.75	4.30	444.0	1.7446
1800	3.68	3.86	4.75	4.30	287.0	1.9224
2100	3.68	3.86	4.75	4.30	181.0	2.0346
2400	3.68	3.86	4.75	4.30	117.0	2.1072
MAR. 30						
0000	3.68	3.86	4.75	4.30	117.0	2.1072
0300	3.68	3.86	4.75	4.30	88.0	2.1617
0600	3.68	3.86	4.75	4.30	68.0	2.2038
0900	3.68	3.86	4.75	4.30	54.0	2.2373
1200	3.68	3.86	4.75	4.30	44.0	2.2646
1500	3.68	3.86	4.75	4.30	36.0	2.2869
1800	3.68	3.86	4.75	4.30	29.0	2.3049
2100	3.68	3.86	4.75	4.30	23.0	2.3191
2400	3.68	3.86	4.75	4.30	20.0	2.3377
MAR. 31						
0000	3.68	3.86	4.75	4.30	20.0	2.3377
0600	3.68	3.86	4.75	4.30	15.0	2.3563
1200	3.68	3.86	4.75	4.30	13.0	2.3724
1800	3.68	3.86	4.75	4.30	10.0	2.3848
2400	3.68	3.86	4.75	4.30	8.0	2.3898

BRICKHOUSE GULLY DRAINAGE BASIN

The location of data-collection sites in and near the Brickhouse Gully drainage basin are shown in figure 8.

Weighted-mean rainfall in the drainage basin based on six rain gages for the 1980 water year was 36.84 inches or 11.35 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of Oct. 30 and Mar. 29-30 were selected for analysis at station 08074200, Brickhouse Gully at Clarblak Street, and station 08074250, Brickhouse Gully at Costa Rica Street. The storm of Mar. 27-28 was also selected for analysis at the latter station.



Base from Texas Department of Highways and Public Transportation General Highway Map

Figure 8.- Locations of data-collection sites in and near the Brickhouse Gully drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 6.--Storm rainfall-runoff data, 1980 Water Year, Brickhouse Gully

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Clarblak St., Houston, Tx. (Drainage area -- 2.56 mi^2)								
Oct. 30, 1979	1.6	2.50	0.58	1.13	2.00	0.52	0.21	246
Mar. 29-30, 1980	1.3	1.63	0.50	0.83	1.23	1.19	0.73	282*
Brickhouse Gully at Costa Rica St., Houston, Tx. (Drainage area -- 11.4 mi^2)								
Oct. 30-31, 1979	1.8	1.90	0.58	1.13	2.00	0.49	0.26	1,060
Mar. 27, 1980	3.2	1.15	0.25	0.39	0.55	2.39	0.61	762
Mar. 27-28, 1980	10.8	1.36	.33	.46	.71			907
Mar. 29-30, 1980	1.8	1.39	.72	1.02	1.17			2,190*

* - Annual peak discharge for 1980 WY

08074200 Brickhouse Gully at Clarblak Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°49'53", long 95°31'42", Harris County, Hydrologic Unit 12040104 at bridge on Clarblak Street, in northwest Houston, and 4.0 miles upstream from station at Costa Rica Street.

DRAINAGE AREA.--2.56 mi^2. Drainage area, effective for period, April 1964 to current year. The boundary of the basin is poorly defined due to flat ground slopes.

PERIOD OF RECORD--April 1964 to July 6, 1976, Jan. 26, 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 7, 1978, a flood-hydrograph rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 296 ft^3/s, Sept. 19, 1979 (elevation 87.94 ft) after concrete lining of channel. Maximum discharge, 399 ft^3/s March 20, 1972 (elevation 94.28 ft) prior to concrete lining (July 1976).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 30	1745	246	87.17
Dec. 12	1215	223	86.82
Dec. 23	1300	205	86.53
Jan. 17	1445	260	87.39
Jan. 21	0130	268	87.52
Feb. 8	1645	222	86.79
Mar. 29	0945	*282	87.73
July 21	1330	258	87.36

Minimum discharge not determined.

STA. NO. 08074200	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
BRICKHOUSE GULLY AT CLARBLAK ST., HOUSTON, TX.	STORM OF OCT.30,1979							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	4200	21R								
OCT. 30										
0000	0.0	0.0						0.0	1.0	0.0046
1515	0.0	0.0						0.0	1.0	0.0093
1530	0.0	0.02						0.01	1.0	0.0095
1545	0.10	0.04						0.06	2.0	0.0098
1600	0.10	0.05						0.06	5.0	0.0105
1615	0.10	0.45						0.34	15.0	0.0128
1630	0.10	0.92						0.67	79.0	0.0247
1645	0.20	1.50						1.11	133.0	0.0449
1700	0.70	2.05						1.64	181.0	0.0723
1715	1.20	2.28						1.96	216.0	0.1049
1730	1.60	2.38						2.15	236.0	0.1407
1745	1.80	2.51						2.30	246.0	0.1779
1800	1.80	2.62						2.37	235.0	0.2134
1815	1.90	2.72						2.47	221.0	0.2469
1830	1.90	2.72						2.47	205.0	0.2779
1845	2.00	2.72						2.50	188.0	0.3064
1900	2.00	2.72						2.50	166.0	0.3315
1915	2.00	2.72						2.50	143.0	0.3531
1930	2.00	2.72						2.50	123.0	0.3717
1945	2.00	2.72						2.50	108.0	0.3881
2000	2.00	2.72						2.50	98.0	0.4029
2015	2.00	2.72						2.50	88.0	0.4162
2030	2.00	2.72						2.50	80.0	0.4283
2045	2.00	2.72						2.50	72.0	0.4392
2100	2.00	2.72						2.50	65.0	0.4540
2130	2.00	2.72						2.50	58.0	0.4715
2200	2.00	2.72						2.50	50.0	0.4942
2300	2.00	2.72						2.50	35.0	0.5154
2400	2.00	2.72						2.50	25.0	0.5230

STA. NO. 08074200 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK ST., HOUSTON, TX. — STORM OF MAR.29-30,1980

DATE & TIME	GAGE NUMBER 4200	GAGE NUMBER 21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 29					
0000	0.0	0.0	0.0	1.0	0.0024
0800	0.0	0.0	0.0	1.0	0.0049
0815	0.10	0.0	0.03	3.0	0.0054
0830	0.20	0.0	0.06	15.0	0.0076
0845	0.50	0.20	0.29	78.0	0.0194
0900	0.60	0.35	0.43	119.0	0.0375
0915	0.80	0.80	0.80	156.0	0.0611
0930	1.30	1.18	1.22	255.0	0.0996
0945	1.30	1.43	1.39	282.0	0.1423
1000	1.40	1.50	1.47	273.0	0.1836
1015	1.40	1.61	1.55	259.0	0.2228
1030	1.40	1.61	1.55	241.0	0.2593
1045	1.40	1.63	1.56	222.0	0.2929
1100	1.40	1.66	1.58	198.0	0.3229
1115	1.40	1.66	1.58	181.0	0.3502
1130	1.40	1.68	1.60	170.0	0.3760
1145	1.40	1.68	1.60	159.0	0.4000
1200	1.40	1.71	1.62	151.0	0.4572
1300	1.40	1.73	1.63	111.0	0.5243
1400	1.40	1.73	1.63	96.0	0.6115
1600	1.40	1.73	1.63	78.0	0.7532
2000	1.40	1.73	1.63	56.0	0.8887
2400	1.40	1.73	1.63	42.0	1.0159
MAR. 30					
0000	1.40	1.73	1.63	42.0	1.0159
0600	1.40	1.73	1.63	26.0	1.1103
1200	1.40	1.73	1.63	15.0	1.1648
1800	1.40	1.73	1.63	6.0	1.1866
2400	1.40	1.73	1.63	2.0	1.1902

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

LOCATION.--29°49'40", long 95°28'09", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Costa Rica Street in northwest Houston and 1.0 mi (1.6 km) upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi² (29.5 km²). Prior to Oct. 1, 1973, 11.6 mi² (30.0 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Low-water concrete control since Dec. 9, 1970. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records good. Low flow is partially sustained by sewage effluent. No know diversion above station. Recording rain gage at station.

AVERAGE DISCHARGE.--16 years, 13.8 ft³/s (0.391 m³/s), 10,000 acre-ft/yr (12.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft³/s (164 m³/s) Mar. 20, 1972, elevation, 69.20 ft (21.092 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
aOct. 30	1800	1,060	30.0	59.88	18.251
Mar. 29	1100	*2,190	62.0	62.98	19.196
aSept. 6	0730	1,200	34.0	60.30	18.379

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 0.43 ft³/s (0.012 m³/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	4.2	12	3.7	3.4	28	12	14	2.5	1.8	2.0	5.1
2	1.7	4.1	8.3	3.9	7.4	2.3	10	9.3	2.7	2.0	1.7	8.3
3	1.6	2.7	7.2	38	4.8	2.9	7.3	3.1	3.3	1.6	1.6	7.0
4	1.2	3.1	4.2	4.8	3.3	4.0	4.8	3.3	4.1	1.6	1.8	4.3
5	1.5	4.4	4.2	3.5	4.1	2.3	4.4	3.7	3.0	1.8	4.8	42
6	2.0	4.0	5.9	2.5	4.5	2.3	7.2	5.0	3.7	1.8	2.2	196
7	1.9	4.4	6.3	2.3	4.3	5.8	5.2	14	3.7	2.0	9.9	69
8	1.5	4.0	4.2	2.6	140	5.8	3.7	9.3	3.7	2.0	5.4	18
9	1.4	4.9	5.5	2.3	37	2.2	3.3	4.2	56	15	2.7	8.1
10	1.3	3.4	5.2	3.2	10	1.6	3.2	3.3	7.7	4.9	2.8	3.7
11	1.5	3.2	5.5	3.5	6.2	1.9	3.4	3.0	3.0	1.8	3.9	4.1
12	1.4	2.3	237	2.1	4.7	3.1	4.2	3.1	3.7	1.6	7.2	3.0
13	1.3	3.2	18	2.3	5.3	3.2	27	28	2.7	1.6	3.0	3.0
14	.92	2.1	8.3	2.0	14	6.8	3.1	26	2.5	1.0	2.7	2.9
15	1.1	3.4	6.8	5.9	9.9	8.9	4.0	21	2.7	1.3	23	3.0
16	6.8	3.9	5.9	3.4	24	10	4.2	54	2.2	1.3	12	2.3
17	2.1	4.4	5.2	138	6.9	19	4.2	30	3.3	1.3	3.5	2.7
18	1.2	4.2	3.7	16	4.3	5.3	5.6	6.3	4.1	1.5	3.1	3.5
19	1.0	5.2	3.4	6.5	4.9	6.0	7.0	94	3.3	1.3	2.7	3.5
20	1.2	4.2	3.2	140	5.8	21	6.9	9.8	4.5	2.2	2.4	2.5
21	.43	57	3.2	211	6.8	5.1	9.1	4.9	3.3	43	3.8	2.0
22	23	12	2.9	265	9.7	3.6	13	4.9	96	8.0	3.4	2.1
23	2.8	6.8	29	38	10	6.4	13	4.7	12	2.7	3.8	1.8
24	2.1	3.4	6.8	18	11	6.0	13	3.7	2.7	2.0	4.5	6.9
25	1.6	1.8	3.4	12	9.2	4.7	125	3.0	1.8	1.2	3.9	1.7
26	1.8	3.2	3.2	8.6	4.0	14	7.0	3.3	2.2	1.3	4.4	7.8
27	1.4	3.9	3.7	7.2	3.9	332	3.3	3.3	2.0	15	5.9	6.4
28	1.1	4.8	3.7	6.0	5.4	74	2.2	3.7	1.2	32	6.5	3.2
29	1.8	5.9	52	6.3	4.6	288	2.9	4.1	1.2	8.1	11	3.4
30	134	6.3	4.2	5.4	---	40	2.4	3.3	1.8	4.3	12	55
31	16	---	3.4	4.5	---	19	---	3.0	---	1.9	5.9	---
TOTAL	220.75	180.4	475.5	968.5	369.4	935.2	321.6	386.3	246.6	168.9	163.5	482.3
MEAN	7.12	6.01	15.3	31.2	12.7	30.2	10.7	12.5	8.22	5.45	5.27	16.1
MAX	134	57	237	265	140	332	125	94	96	43	23	196
MIN	.43	1.8	2.9	2.0	3.3	1.6	2.2	3.0	1.2	1.0	1.6	1.7
AC-FT	438	358	943	1920	733	1850	638	766	489	335	324	957
(††)	2.54	1.29	3.46	5.27	2.07	5.58	1.65	3.53	2.20	2.25	1.72	5.28

CAL YR 1979	TOTAL 8233.35	MEAN 22.6	MAX 1200	MIN .43	AC-FT 16330	†† 56.14
WTR YR 1980	TOTAL 4918.95	MEAN 13.4	MAX 332	MIN .43	AC-FT 9760	†† 36.84

†† Weighted-mean rainfall, in inches, based on six rain gages.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT										
30...	1640	151	177	7.4	18.5	25	50	8.8	93	22
30...	1725	860	113	7.3	18.0	25	80	8.9	93	21
31...	0940	11	227	7.6	17.0	30	73	9.9	101	13
MAY										
21...	1150	5.4	420	8.7	27.0	70	51	14.0	175	5.1
AUG										
05...	1220	2.7	500	8.5	29.0	35	1.5	12.5	160	7.8
SEP										
06...	1055	114	130	8.7	25.0	50	250	6.6	79	4.4
08...	1215	9.8	370	8.9	30.0	35	34	11.8	155	3.2

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
30...	290000	12000	26000	45	8	15	1.9	20	1.3
30...	190000	39000	7200	--	--	--	--	--	--
31...	500000	45000	16000	--	--	--	--	--	--
MAY									
21...	26000	8300	750	130	0	40	6.7	37	1.4
AUG									
05...	130000	59000	820	--	--	--	--	--	--
SEP									
06...	420000	120000	84000	--	--	--	--	--	--
08...	140000	28000	190	--	--	--	--	--	--

08074250 BRICKHOUSE GULLY AT COSTA RICA ST.,HOUSTON,TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT									
30...	2.6	37	0	9.3	25	.1	3.3	100	310
30...	--	--	--	--	--	--	--	--	300
31...	--	--	--	--	--	--	--	--	137
MAY									
21...	2.3	160	8	12	31	.2	14	240	65
AUG									
05...	--	--	--	--	--	--	--	--	5
SEP									
06...	--	--	--	--	--	--	--	--	348
08...	--	--	--	--	--	--	--	--	30

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
30...	21	.39	.000	.39	.290	1.5	1.80	.560	39
30...	14	.40	.000	.40	.400	1.4	1.80	.480	55
31...	12	.31	.040	.35	.180	1.3	1.50	7.70	28
MAY									
21...	14	.05	.010	.06	.070	1.0	1.10	.290	15
AUG									
05...	9	.00	.000	.00	.470	.63	1.10	.210	26
SEP									
06...	36	.29	.010	.30	.150	1.2	1.30	.320	14
08...	8	.01	.010	.02	.000	.76	.76	.260	9.4

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
OCT							
30...	1640	2	60	<1	0	0	40
MAY							
21...	1150	35	200	<1	0	5	70

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 30...	6	3	.0	0	0	10
MAY 21...	0	<1	.1	0	0	<3

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
OCT 30...	1640	.00	.00	1.3	.00	.02	.02	1.0	.03
MAY 21...	1150	--	--	--	--	--	--	.34	--

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
OCT 30...	.00	.00	.00	.00	.00	.01	.21	.02	.00
MAY 21...	--	--	.00	--	--	--	.17	--	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT 30...	.00	.00	.00	.00	0	.00	.02	.04	.00
MAY 21...	.00	--	.00	--	--	.00	.01	.01	.00

STA. NO. 08074250 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BRICKHOUSE GULLEY AT COSTA RICA ST., HOUSTON, TX. — STORM OF OCT.30-31, 1979

DATE & TIME	GAGE NUMBER 4200	4150	4250	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30							
0000	0.0	0.0	0.0	0.0	0.0	1.8	0.0002
0200	0.0	0.0	0.0	0.0	0.0	2.3	0.0011
0530	0.0	0.0	0.0	0.0	0.0	2.3	0.0025
1100	0.0	0.0	0.0	0.0	0.0	1.3	0.0034
1545	0.10	0.0	0.0	0.04	0.06	1.3	0.0039
1600	0.10	0.0	0.0	0.05	0.06	1.3	0.0039
1615	0.10	0.0	0.0	0.45	0.14	1.3	0.0039
1630	0.10	0.0	0.45	0.92	0.32	5.9	0.0041
1645	0.20	0.0	0.85	1.50	0.57	418.0	0.0184
1700	0.70	0.0	0.92	2.05	0.94	670.0	0.0411
1715	1.20	0.0	0.92	2.28	1.24	795.0	0.0681
1730	1.60	0.35	1.00	2.38	1.51	936.0	0.0999
1745	1.70	0.85	1.05	2.51	1.65	928.0	0.1315
1800	1.70	1.15	1.15	2.62	1.72	1060.0	0.1675
1815	1.80	1.28	1.23	2.72	1.82	1010.0	0.2018
1830	1.80	1.30	1.23	2.72	1.82	982.0	0.2352
1845	1.90	1.40	1.23	2.72	1.88	880.0	0.2651
1900	1.90	1.45	1.23	2.72	1.88	772.0	0.2913
1915	1.90	1.52	1.23	2.72	1.89	649.0	0.3134
1930	1.90	1.57	1.23	2.72	1.90	549.0	0.3320
1945	1.90	1.57	1.23	2.72	1.90	436.0	0.3469
2000	1.90	1.57	1.23	2.72	1.90	347.0	0.3881
2130	1.90	1.57	1.23	2.72	1.90	151.0	0.4138
2230	1.90	1.57	1.23	2.72	1.90	98.0	0.4304
2400	1.90	1.57	1.23	2.72	1.90	62.0	0.4452
OCT. 31							
0000	1.90	1.57	1.23	2.72	1.90	62.0	0.4452
0200	1.90	1.57	1.23	2.72	1.90	41.0	0.4591
0500	1.90	1.57	1.23	2.72	1.90	24.0	0.4714
0930	1.90	1.57	1.23	2.72	1.90	11.0	0.4777
1330	1.90	1.57	1.23	2.72	1.90	7.2	0.4848
2400	1.90	1.57	1.23	2.72	1.90	5.9	0.4890

STA. NO. 08074250	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BRICKHOUSE GULLEY AT COSTA RICA ST., HOUSTON, TX. — STORM OF MAR.27-30, 1980

DATE & TIME	GAGE NUMBER 4200	4250	4150	21R	205R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27										
0000	0.0	0.0	0.0	0.0	0.0			0.0	8.6	0.0009
0130	0.0	0.0	0.0	0.0	0.0			0.0	8.6	0.0019
0145	0.0	0.0	0.0	0.0	0.0			0.0	8.6	0.0022
0200	0.0	0.0	0.0	0.0	0.0			0.0	8.6	0.0025
0215	0.0	0.0	0.0	0.08	0.10			0.05	8.6	0.0028
0230	0.0	0.0	0.0	0.14	0.15			0.07	8.6	0.0031
0245	0.10	0.05	0.0	0.27	0.31			0.18	8.6	0.0034
0300	0.20	0.30	0.0	0.35	0.46			0.31	10.0	0.0037
0315	0.40	0.44	0.30	0.40	0.55			0.45	105.0	0.0073
0330	0.50	0.55	0.40	0.45	0.61			0.53	416.0	0.0214
0345	0.60	0.60	0.51	0.49	0.65			0.59	577.0	0.0410
0400	0.60	0.65	0.61	0.54	0.74			0.64	598.0	0.0613
0415	0.70	0.70	0.67	0.64	0.79			0.71	557.0	0.0803
0430	0.70	0.80	0.70	0.74	0.81			0.76	544.0	0.0987
0445	0.70	0.90	0.72	0.83	0.93			0.83	639.0	0.1205
0500	0.80	0.95	0.79	0.87	1.00			0.90	762.0	0.1464
0515	1.00	1.00	0.84	0.92	1.05			0.99	755.0	0.1720
0530	1.00	1.02	0.87	0.93	1.06			1.00	738.0	0.1971
0545	1.00	1.05	0.96	0.94	1.08			1.02	734.0	0.2220
0600	1.00	1.05	1.06	0.96	1.10			1.03	714.0	0.2463
0615	1.00	1.05	1.07	0.97	1.12			1.04	703.0	0.2702
0630	1.00	1.05	1.08	0.98	1.13			1.05	639.0	0.2919
0645	1.00	1.10	1.08	0.98	1.13			1.05	596.0	0.3122
0700	1.00	1.15	1.09	0.98	1.13			1.06	544.0	0.3306
0715	1.00	1.15	1.09	0.98	1.13			1.06	499.0	0.3476
0730	1.00	1.15	1.11	0.98	1.13			1.06	425.0	0.3620
0745	1.00	1.15	1.11	0.98	1.13			1.06	376.0	0.3748
0800	1.00	1.15	1.12	0.98	1.13			1.06	331.0	0.3917
0830	1.00	1.15	1.12	0.98	1.14			1.07	245.0	0.4083
0900	1.00	1.15	1.12	0.98	1.15			1.07	196.0	0.4283
1000	1.00	1.15	1.12	0.99	1.17			1.08	133.0	0.4419
1030	1.00	1.15	1.12	1.02	1.18			1.09	115.0	0.4477
1045	1.10	1.15	1.12	1.02	1.18			1.12	105.0	0.4513
1100	1.10	1.15	1.12	1.05	1.25			1.14	97.0	0.4546
1115	1.10	1.20	1.12	1.05	1.25			1.15	91.0	0.4577
1130	1.10	1.20	1.12	1.05	1.25			1.15	87.0	0.4607
1145	1.10	1.20	1.14	1.05	1.25			1.15	87.0	0.4636
1200	1.10	1.20	1.18	1.10	1.28			1.17	91.0	0.4667
1215	1.20	1.20	1.19	1.20	1.29			1.23	94.0	0.4699

STA. NO. 08074250 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BRICKHOUSE GULLEY AT COSTA RICA ST., HOUSTON, TX. — STORM OF MAR.27-30, 1980

DATE & TIME	GAGE NUMBER 4200	4250	4150	21R	205R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27										
1230	1.20	1.20	1.20	1.23	1.31			1.24	94.0	0.4731
1245	1.20	1.25	1.21	1.37	1.40			1.30	95.0	0.4763
1300	1.40	1.25	1.24	1.42	1.46			1.39	101.0	0.4798
1315	1.40	1.35	1.26	1.44	1.48			1.42	124.0	0.4840
1330	1.40	1.40	1.33	1.48	1.51			1.45	212.0	0.4912
1345	1.60	1.50	1.55	1.58	1.58			1.57	337.0	0.5026
1400	1.60	1.55	1.59	1.62	1.65			1.61	447.0	0.5178
1415	1.70	1.60	1.61	1.82	1.72			1.71	471.0	0.5338
1430	1.80	1.62	1.63	2.13	1.77			1.82	557.0	0.5527
1445	1.80	1.65	1.69	2.28	1.80			1.87	598.0	0.5731
1500	1.90	1.65	1.74	2.33	1.86			1.93	606.0	0.5937
1515	2.00	1.73	1.77	2.38	2.00			2.02	650.0	0.6158
1530	2.00	1.75	1.77	2.42	2.06			2.05	703.0	0.6396
1545	2.00	1.80	1.82	2.46	2.12			2.09	738.0	0.6647
1600	2.20	2.00	1.87	2.51	2.14			2.20	809.0	0.6922
1615	2.20	2.00	1.90	2.52	2.15			2.20	907.0	0.7230
1630	2.20	2.00	2.00	2.52	2.15			2.21	889.0	0.7683
1700	2.20	2.00	2.06	2.52	2.15			2.21	787.0	0.8218
1730	2.20	2.03	2.07	2.52	2.16			2.22	608.0	0.8632
1800	2.20	2.05	2.07	2.52	2.18			2.23	493.0	0.8883
1815	2.20	2.05	2.07	2.53	2.22			2.24	416.0	0.9024
1830	2.20	2.10	2.07	2.56	2.26			2.27	368.0	0.9149
1845	2.20	2.10	2.07	2.58	2.26			2.27	345.0	0.9267
1900	2.20	2.13	2.07	2.58	2.27			2.28	352.0	0.9446
1930	2.20	2.13	2.10	2.58	2.27			2.28	330.0	0.9782
2030	2.20	2.13	2.10	2.58	2.27			2.28	258.0	1.0133
2130	2.20	2.13	2.10	2.58	2.27			2.28	200.0	1.0405
2230	2.20	2.13	2.10	2.58	2.27			2.28	158.0	1.0566
2300	2.20	2.13	2.10	2.65	2.28			2.30	146.0	1.0640
2315	2.20	2.13	2.10	2.68	2.30			2.31	136.0	1.0687
2330	2.30	2.13	2.10	3.01	2.44			2.45	131.0	1.0731
2345	2.40	2.20	2.10	3.01	2.44			2.49	131.0	1.0776
2400	2.40	2.25	2.10	3.01	2.44			2.50	136.0	1.0845
MAR. 28										
0000	2.40	2.25	2.10	3.01	2.44			2.50	136.0	1.0845
0030	2.40	2.25	2.12	3.01	2.44			2.50	136.0	1.0914
0045	2.40	2.25	2.12	3.01	2.44			2.50	136.0	1.0961
0100	2.40	2.25	2.12	3.01	2.44			2.50	144.0	1.1009
0115	2.40	2.25	2.12	3.01	2.44			2.50	212.0	1.1082
0130	2.40	2.25	2.12	3.01	2.44			2.50	207.0	1.1187

STA. NO. 08074250	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
BRICKHOUSE GULLEY AT COSTA RICA ST., HOUSTON, TX.	STORM OF MAR.27-30, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	4200	4250	4150	21R	205R					
MAR. 28										
0200	2.40	2.25	2.12	3.01	2.44			2.50	195.0	1.1386
0300	2.40	2.25	2.12	3.01	2.44			2.50	161.0	1.1605
0400	2.40	2.25	2.12	3.01	2.44			2.50	131.0	1.1783
0500	2.40	2.25	2.12	3.01	2.44			2.50	108.0	1.1930
0600	2.40	2.25	2.12	3.01	2.46			2.50	94.0	1.2089
0730	2.40	2.25	2.12	3.02	2.46			2.51	83.0	1.2202
0800	2.40	2.25	2.12	3.02	2.46			2.51	75.0	1.2278
0900	2.40	2.25	2.12	3.02	2.46			2.51	68.0	1.2371
1000	2.40	2.25	2.12	3.02	2.46			2.51	62.0	1.2497
1200	2.40	2.25	2.12	3.02	2.46			2.51	55.0	1.2722
1600	2.40	2.25	2.12	3.02	2.46			2.51	44.0	1.3080
2400	2.40	2.25	2.12	3.02	2.46			2.51	31.0	1.3418
MAR. 29										
0000	2.40	2.25	2.12	3.02	2.46			2.51	31.0	1.3418
0800	2.40	2.25	2.12	3.02	2.46			2.51	24.0	1.3564
0900	3.00	2.40	2.12	3.37	2.86			2.90	24.0	1.3589
0930	3.70	2.50	2.46	4.20	3.55			3.51	44.0	1.3611
0945	3.70	2.83	2.51	4.45	3.67			3.65	69.0	1.3635
1000	3.80	3.11	2.53	4.52	3.70			3.75	222.0	1.3710
1015	3.80	3.11	3.25	4.63	3.74			3.82	969.0	1.4039
1030	3.80	3.11	3.55	4.63	3.76			3.84	1790.0	1.4648
1045	3.80	3.11	3.65	4.65	3.80			3.86	2170.0	1.5385
1100	3.80	3.11	3.68	4.68	3.81			3.87	2190.0	1.6129
1115	3.80	3.11	3.68	4.68	3.81			3.87	1990.0	1.6806
1130	3.80	3.11	3.68	4.70	3.82			3.88	1620.0	1.7356
1145	3.80	3.11	3.68	4.70	3.82			3.88	1430.0	1.7842
1200	3.80	3.11	3.68	4.73	3.84			3.89	1290.0	1.8280
1215	3.80	3.11	3.68	4.75	3.86			3.90	1080.0	1.9014
1300	3.80	3.11	3.68	4.75	3.86			3.90	731.0	1.9884
1400	3.80	3.11	3.68	4.75	3.86			3.90	490.0	2.0550
1500	3.80	3.11	3.68	4.75	3.86			3.90	348.0	2.1023
1600	3.80	3.11	3.68	4.75	3.86			3.90	241.0	2.1514
1800	3.80	3.11	3.68	4.75	3.86			3.90	161.0	2.1952
2000	3.80	3.11	3.68	4.75	3.86			3.90	115.0	2.2265
2200	3.80	3.11	3.68	4.75	3.86			3.90	82.0	2.2487
2400	3.80	3.11	3.68	4.75	3.86			3.90	70.0	2.3154
MAR. 30										
0000	3.80	3.11	3.68	4.75	3.86			3.90	70.0	2.3154
1200	3.80	3.11	3.68	4.75	3.86			3.90	36.0	2.3741
2400	3.80	3.11	3.68	4.75	3.86			3.90	24.0	2.3936

LAZYBROOK STREET STORM SEWER DRAINAGE BASIN

The locations of data-collection sites in the Lazybrook Street Storm Sewer drainage basin are shown in figure 9.

Weighted-mean rainfall for the 1980 water year was not determined.

The storms of Oct. 30, Mar. 27-28, and April 25 were selected for analysis at station 08074400, Lazybrook Street Storm Sewer at Houston.

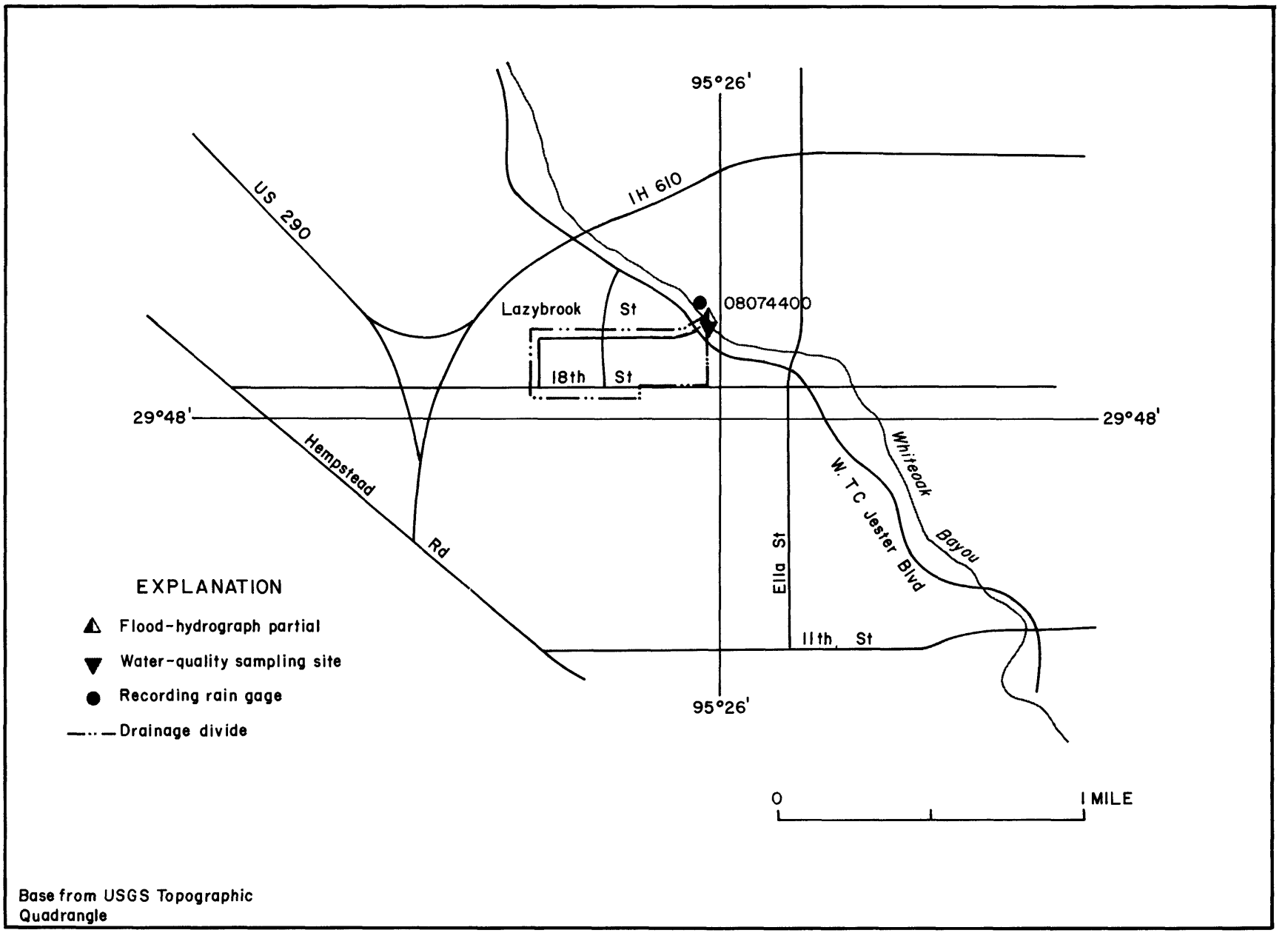


Figure 9.-Locations of data-collection sites in and near the Lazybrook Street Storm Sewer drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 7.--Storm rainfall-runoff data, 1980 Water Year, Lazybrook Street Storm Sewer

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Lazybrook Street Storm Sewer at Houston, Tx. (Drainage area -- 0.13 mi^2)								
Oct. 30, 1979	1.2	1.92	1.11	1.39	1.60	0.77	0.40	119*, ++
Mar. 27, 1980	2.9	1.52	0.26	0.44	0.74	1.98	0.60	29
Mar. 27-28, 1980	5.2	1.80	.48	.72	.83			99
Apr. 25, 1980	0.6	0.77	0.48	0.60	0.73	0.36	0.47	50

* - Annual peak discharge for 1980 WY.
++ - Peak discharge for period of record

SAN JACINTO RIVER BASIN

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'15", long 95°26'04", Harris County, Hydrologic Unit 12040104, over a 54-inch (1,372 mm) storm sewer 30 ft (9 m) north of the intersection of Lazybrook Street and West T. C. Jester Boulevard, Houston.

DRAINAGE AREA.--0.13 mi² (0.34 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Flood-hydrograph and rainfall recorder. Datum of gage is -0.10 ft (0.030 m) National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980".

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 119 ft³/s (3.37 m³/s) Apr. 19, Aug. 19, and Oct. 30, 1979, gage height, 58.09 ft (17.706 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 55 ft³/s (1.56 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1650	*119	3.37	58.09	17.706	Mar. 27	1540	99	2.80	57.75	17.602
Jan. 22	0945	55	1.56	56.85	17.328	aApr. 25	1100	50	1.42	56.74	17.294
aMar. 26	0235	.90	.025	54.43	16.590						

a Water-quality samples were obtained during this runoff event.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: March to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR												
26...	0155	.29	350	7.7	--	40	10	--	5.4	1300000	48000	2000
26...	0300	.71	213	7.6	--	50	16	--	22	1400000	44000	49000
APR												
25...	0930	.75	226	--	--	--	35	--	--	--	--	--
25...	0938	1.8	308	--	--	--	32	--	--	--	--	--
25...	0945	1.8	240	6.2	22.5	30	60	7.3	34	770000	1600	650
25...	0946	1.8	281	--	--	--	40	--	--	--	--	--
25...	0954	1.2	542	--	--	--	47	--	--	--	--	--
25...	1002	1.2	226	--	--	--	40	--	--	--	--	--
25...	1034	1.3	139	--	--	--	22	--	--	--	--	--
25...	1040	6.0	114	--	--	--	55	--	--	--	--	--
25...	1047	28	--	--	--	30	17	--	--	--	--	--
25...	1108	45	59	5.9	19.5	50	19	8.8	23	400000	2800	4500
25...	1111	28	73	--	--	--	25	--	--	--	--	--
25...	1118	15	--	--	--	30	13	--	--	--	--	--
25...	1133	5.6	79	--	--	--	12	--	--	--	--	--
25...	1147	2.9	86	--	--	--	16	--	--	--	--	--
25...	1225	.80	109	--	--	--	20	--	--	--	--	--
25...	1240	.67	108	6.2	22.5	60	13	5.3	13	310000	100000	79000

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAR												
26...	76	0	26	2.8	40	2.0	6.4	130	0	19	27	.3
26...	42	2	15	1.2	23	1.5	4.9	49	0	20	22	.2
APR												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	47	6	16	1.6	21	1.3	6.1	49	0	27	23	.1
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	12	1	4.4	.3	2.4	.3	5.1	14	0	7.7	3.2	.1
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	27	2	8.9	1.1	6.6	.6	5.5	30	0	13	6.2	.1

08074400 LAZYBROOK STREET STORM SEWER AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR												
26...	13	199	5	5	.39	.060	--	1.000	--	--	1.100	13
26...	4.9	115	35	19	1.1	.130	--	.940	--	--	.890	18
APR												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	3.3	122	218	34	1.3	.090	1.4	2.700	7.3	10	2.100	47
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	492	132	.53	.030	.56	.990	3.1	4.1	.710	27
25...	1.2	31	42	9	.35	.010	.36	.730	2.3	3.0	.890	13
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	40	24	.63	.020	.65	1.200	1.2	2.4	.910	11
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	3.3	59	22	19	1.1	.050	1.1	.980	2.0	3.0	1.500	18

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
APR							
25...	0945	1	30	<1	0	4	80

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR						
25...	25	30	.2	1	0	50

STA. NO. 08074400	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TX. — STORM OF OCT. 30, 1979

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30				
0000	0.0	0.0	0.1	0.0094
1545	0.0	0.0	0.2	0.0285
1600	0.02	0.02	0.7	0.0305
1615	0.02	0.02	0.7	0.0326
1630	0.09	0.09	0.4	0.0338
1645	0.70	0.70	61.0	0.1550
1650	1.40	1.40	119.0	0.3323
1700	1.48	1.48	90.0	0.5558
1715	1.62	1.62	26.0	0.6333
1730	1.64	1.64	9.8	0.6625
1745	1.74	1.74	6.5	0.6819
1800	1.78	1.78	4.6	0.6956
1815	1.84	1.84	4.8	0.7099
1830	1.88	1.88	5.4	0.7260
1845	1.92	1.92	3.3	0.7358
1900	1.92	1.92	1.9	0.7443
1930	1.92	1.92	1.0	0.7503
2000	1.92	1.92	0.6	0.7556
2100	1.92	1.92	0.3	0.7628
2400	1.92	1.92	0.2	0.7664

STA. NO. 08074400 STORM RAINFALL AND RUNOFF RECORD 1980 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TX. STORM OF MARCH 27-28,1980

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27				
0000	0.0	0.0	0.1	0.0012
0200	0.0	0.0	0.1	0.0025
0215	0.01	0.01	0.1	0.0028
0230	0.04	0.04	0.2	0.0034
0245	0.20	0.20	7.0	0.0243
0300	0.24	0.24	8.0	0.0481
0315	0.42	0.42	11.0	0.0809
0330	0.68	0.68	29.0	0.1673
0345	0.86	0.86	28.0	0.2508
0400	0.98	0.98	25.0	0.3253
0415	1.10	1.10	23.0	0.3938
0430	1.13	1.13	15.0	0.4385
0445	1.19	1.19	12.0	0.4743
0500	1.29	1.29	14.0	0.5160
0515	1.34	1.34	15.0	0.5607
0530	1.36	1.36	9.5	0.5890
0545	1.38	1.38	6.5	0.6084
0600	1.39	1.39	5.1	0.6236
0615	1.40	1.40	3.8	0.6349
0630	1.44	1.44	3.0	0.6438
0645	1.47	1.47	6.0	0.6617
0700	1.50	1.50	6.6	0.6814
0715	1.51	1.51	4.9	0.6960
0730	1.51	1.51	3.2	0.7103
0800	1.52	1.52	1.8	0.7210
0830	1.52	1.52	1.2	0.7317
0930	1.52	1.52	0.7	0.7401
1030	1.52	1.52	0.5	0.7438
1045	1.56	1.56	0.5	0.7453
1100	1.62	1.62	2.2	0.7518
1115	1.65	1.65	5.5	0.7764
1145	1.65	1.65	2.2	0.7895
1215	1.67	1.67	1.4	0.7958
1230	1.67	1.67	1.5	0.8003
1245	1.67	1.67	1.4	0.8044
1300	1.69	1.69	1.5	0.8089
1315	1.84	1.84	8.8	0.8351
1330	2.00	2.00	23.0	0.9037
1345	2.06	2.06	19.0	0.9603

STA. NO. 08074400	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TX. — STORM OF MARCH 27-28,1980

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27				
1400	2.10	2.10	12.0	0.9961
1415	2.13	2.13	9.5	1.0244
1430	2.18	2.18	10.0	1.0542
1445	2.22	2.22	8.9	1.0807
1500	2.31	2.31	15.0	1.1254
1515	2.33	2.33	13.0	1.1641
1530	2.62	2.62	31.0	1.2411
1540	3.00	3.00	99.0	1.3886
1545	3.05	3.05	80.0	1.5475
1600	3.08	3.08	26.0	1.6250
1615	3.08	3.08	14.0	1.6667
1630	3.08	3.08	7.6	1.6894
1645	3.08	3.08	5.1	1.7046
1700	3.08	3.08	3.8	1.7216
1730	3.09	3.09	2.9	1.7389
1800	3.10	3.10	1.8	1.7496
1830	3.19	3.19	4.4	1.7693
1845	3.20	3.20	6.0	1.7871
1900	3.20	3.20	3.8	1.7985
1915	3.21	3.21	2.9	1.8071
1930	3.22	3.22	2.7	1.8192
2000	3.22	3.22	1.7	1.8293
2030	3.22	3.22	0.7	1.8335
2100	3.22	3.22	1.0	1.8513
2330	3.22	3.22	0.4	1.8579
2345	3.31	3.31	2.0	1.8639
2400	3.32	3.32	5.2	1.8794
MAR. 28				
0000	3.32	3.32	5.2	1.8794
0015	3.32	3.32	3.2	1.8889
0030	3.32	3.32	2.2	1.8987
0100	3.32	3.32	1.2	1.9095
0200	3.32	3.32	0.7	1.9178
0300	3.32	3.32	0.5	1.9297
0600	3.32	3.32	0.3	1.9458
1200	3.32	3.32	0.2	1.9673
2400	3.32	3.32	0.2	1.9816

STA. NO. 08074400	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

LAZYBROOK STREET STORM SEWER AT HOUSTON, TX. STORM OF APRIL 25, 1980

DATE & TIME	GAGE NUMBER 4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
APR. 25				
0000	0.0	0.0	0.0	0.0
0915	0.0	0.0	0.0	0.0
0930	0.01	0.01	0.8	0.0024
0945	0.02	0.02	1.8	0.0077
1000	0.02	0.02	1.2	0.0113
1015	0.02	0.02	1.1	0.0146
1030	0.02	0.02	0.8	0.0170
1045	0.12	0.12	26.0	0.0945
1100	0.60	0.60	50.0	0.2435
1115	0.72	0.72	20.0	0.3031
1130	0.75	0.75	6.8	0.3233
1145	0.77	0.77	3.0	0.3323
1200	0.77	0.77	1.7	0.3399
1230	0.77	0.77	0.7	0.3440
1300	0.77	0.77	0.4	0.3476
1400	0.77	0.77	0.2	0.3500
1500	0.77	0.77	0.1	0.3560
2400	0.77	0.77	0.1	0.3613

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 8.--Storm rainfall-runoff data, 1980 Water Year, Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Whiteoak Bayou at Houston, Tx. (Drainage area -- 86.3 mi^2)								
Oct. 22-23, 1979	3.0	0.48	0.17	0.34	0.54	0.08	0.16	559
Oct.30-Nov.1, 1979	2.4	1.99	0.80	1.42	2.00	0.56	0.28	3,780
Jan. 17-19, 1980	1.2	0.77	1.00	1.33	1.43	0.27	0.36	1,920
Jan. 20-27, 1980	39.2	3.60	0.56	0.96	1.30	2.19	0.61	4,080
Mar. 27-28, 1980	14.6	2.29	0.30	0.44	0.74	2.23	0.66	3,640
Mar.29-Apr.2, 1980	1.8	1.11	0.58	0.83	1.32			4,810*

* - Annual peak discharge for 1980 WY.

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft (171 m) downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi (3.9 km) upstream from Little Whiteoak Bayou, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--86.3 mi² (223.5 km²). Prior to Oct. 1, 1976, 84.7 mi² (219.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year (October 1965 to September 1966, monthly discharge only).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 7.35 ft (2.240 m) below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to June 17, 1936, nonrecording gage, and June 17, 1936, to Apr. 28, 1965, water-stage recorder at site 480 ft (146 m) upstream at same datum.

REMARKS.--Water-discharge records fair. Low flow is partly sustained by industrial waste. No diversion above station

AVERAGE DISCHARGE.--44 years, 79.2 ft³/s (2.243 m³/s), 57,380 acre-ft/yr (70.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s (490 m³/s) Mar. 20, 1972, gage height, 43.50 ft (13.259 m); maximum gage height, 43.60 ft (13.289 m) Nov. 13, 1961; no flow for many days during 1965 water year (result of construction dams).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1919, 51.5 ft (15.70 m) Dec. 9, 1935, prior to channel rectification, present site and datum, discharge 14,750 ft³/s (418 m³/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 ± 0.5 ft (14.33 ± 0.15 m), prior to channel rectification, present site and datum, discharge 9,360 ft³/s (265 m³/s), computed on basis of current-meter measurement at stage 1.0 ft (0.30 m) below crest, furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
aOct. 22	0845	559	15.8	19.10	5.822	Mar. 29	1300	*4,810	136	27.91	8.507
aJan. 17	1600	1,920	54.4	22.68	6.913	aMay 19	0700	1,350	38.2	21.36	6.511
Jan. 22	1230	4,080	116	26.73	8.147	aSept. 6	1400	2,210	62.6	23.29	7.099

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 20 ft³/s (0.57 m³/s) Oct. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	98	35	32	41	144	115	80	31	33	23	26
2	29	40	36	30	56	38	76	102	28	29	21	33
3	29	28	32	300	44	34	60	40	29	27	21	26
4	30	25	26	35	36	42	47	34	28	26	24	25
5	24	28	25	32	35	35	44	34	28	26	86	219
6	30	25	26	30	37	32	57	34	30	25	35	1220
7	46	26	31	40	32	34	50	90	29	26	45	722
8	37	30	26	35	594	36	38	64	31	36	33	185
9	32	45	28	32	772	32	34	51	419	47	26	88
10	27	27	27	30	236	29	32	34	212	37	24	42
11	26	27	28	30	138	32	31	31	48	39	22	35
12	26	26	929	30	113	36	34	31	37	27	47	32
13	20	26	403	30	65	30	151	61	32	27	26	33
14	21	23	99	30	110	30	40	330	29	28	23	31
15	27	24	56	30	93	37	33	93	28	28	109	29
16	52	26	38	30	175	44	31	467	28	26	112	25
17	27	30	41	474	102	127	30	292	31	26	28	25
18	29	34	32	138	56	35	30	107	30	25	23	25
19	29	38	30	41	47	37	30	706	29	25	24	29
20	24	40	27	403	44	137	30	240	35	37	23	26
21	21	421	27	1650	43	57	29	92	27	150	24	24
22	145	188	34	1910	44	34	31	60	238	96	22	23
23	30	119	209	544	44	41	30	44	114	29	24	21
24	27	48	103	216	46	37	30	39	29	24	29	51
25	28	30	40	149	44	29	436	35	24	23	21	25
26	29	31	35	102	38	65	94	36	24	23	23	47
27	26	32	30	78	39	1610	43	36	23	92	27	39
28	22	29	30	60	40	1140	37	40	25	179	25	27
29	21	26	400	61	41	1490	35	180	26	73	51	24
30	734	27	50	52	---	497	34	63	28	30	87	376
31	433	---	35	43	---	182	---	37	---	23	37	---
TOTAL	2112	1617	2968	6697	3205	6183	1792	3583	1750	1342	1145	3533
MEAN	68.1	53.9	95.7	216	111	199	59.7	116	58.3	43.3	36.9	118
MAX	734	421	929	1910	772	1610	436	706	419	179	112	1220
MIN	20	23	25	30	32	29	29	31	23	23	21	21
AC-FT	4190	3210	5890	13280	6360	12260	3550	7110	3470	2660	2270	7010
(††)	2.60	1.54	3.68	5.08	2.23	5.52	1.83	4.69	2.18	1.99	1.76	5.96

CAL YR 1979 TOTAL 58426 MEAN 160 MAX 4880 MIN 13 AC-FT 115900 †† 54.06
WTR YR 1980 TOTAL 35927 MEAN 98.2 MAX 1910 MIN 20 AC-FT 71260 †† 39.06

†† Weighted-mean rainfall in inches, based on thirteen rain gages.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT										
22...	0845	559	317	7.4	23.0	60	43	6.1	70	32
22...	1035	337	340	7.4	23.5	60	50	6.1	71	34
23...	0905	26	729	7.4	18.5	60	24	7.5	78	24
NOV										
28...	0930	25	892	7.6	15.0	25	3.3	9.8	95	29
JAN										
17...	1500	964	256	6.9	18.5	60	190	8.7	92	22
17...	1845	1060	227	7.3	17.0	80	420	7.5	77	26
18...	1300	101	469	6.9	17.0	70	63	8.8	89	16
MAY										
21...	1320	83	580	7.5	27.5	60	75	6.4	81	17
SEP										
06...	1210	1220	186	7.7	25.0	60	340	7.6	90	18
08...	1130	130	370	7.7	28.5	50	98	6.7	85	12

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
22...	840000	280000	64000	86	0	28	3.8	31	1.5
22...	1000000	300000	45000	--	--	--	--	--	--
23...	800000	120000	820	--	--	--	--	--	--
NOV									
28...	840000	120000	2600	--	--	--	--	--	--
JAN									
17...	500000	180000	68000	72	0	24	2.9	23	1.2
17...	400000	220000	32000	--	--	--	--	--	--
18...	200000	12000	3000	--	--	--	--	--	--
MAY									
21...	38000	29000	2500	160	0	48	8.8	57	2.0
SEP									
06...	1100000	540000	100000	--	--	--	--	--	--
08...	54000	10000	900	--	--	--	--	--	--

08074500 WHITEOAK BAYOU AT HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT									
22...	3.5	90	0	19	33	.2	6.5	179	210
22...	--	--	--	--	--	--	--	--	117
23...	--	--	--	--	--	--	--	--	38
NOV									
28...	--	--	--	--	--	--	--	--	27
JAN									
17...	3.0	77	0	16	20	.1	6.7	142	1070
17...	--	--	--	--	--	--	--	--	1170
18...	--	--	--	--	--	--	--	--	68
MAY									
21...	4.3	190	0	19	60	.2	18	329	72
SEP									
06...	--	--	--	--	--	--	--	--	492
08...	--	--	--	--	--	--	--	--	88

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
22...	41	.40	.160	.56	.570	1.9	2.50	.930	41
22...	27	.72	.250	.97	.750	1.4	2.10	1.40	34
23...	14	.95	.450	1.4	3.80	.50	4.30	3.20	30
NOV									
28...	5	.54	.240	.78	6.80	.00	1.20	.090	27
JAN									
17...	152	.95	.150	1.1	.730	3.2	3.90	1.10	67
17...	156	.28	.030	.31	.430	3.2	3.60	.990	37
18...	6	.26	.060	.32	.470	2.1	2.60	.690	19
MAY									
21...	17	.42	.260	.68	1.40	1.9	3.30	2.00	19
SEP									
06...	58	.43	.030	.46	.340	2.4	2.70	.950	19
08...	4	.40	.120	.52	.910	3.0	3.90	1.90	13

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 22...	0845	4	100	<1	0	0	80
JAN 17...	1500	7	60	<1	10	5	50
MAY 21...	1320	13	200	<1	0	6	50

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 22...	2	30	.0	0	0	30
JAN 17...	27	20	.2	0	0	20
MAY 21...	0	70	.2	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
OCT 22...	0845	.10	--	.00	1.2	.00	.01	.06	.83	.04
JAN 17...	1500	.30	--	.00	.50	.05	.03	.00	.38	.02
MAY 21...	1320	.00	.00	.00	.00	.00	.00	.00	.38	.00
JUL 14...	1330	.00	.00	.00	.10	.00	.00	.00	.32	.01

08074500 WHITEOAK BAYOU AT HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
OCT 22...	.00	.00	.00	.03	.02	.02	.47	.00	.00
JAN 17...	.00	.00	.00	.02	.00	.01	.00	.00	.00
MAY 21...	.00	.00	.00	.00	.00	<.02	.13	.00	.00
JUL 14...	.00	.00	.00	.00	.00	.02	.04	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT 22...	.00	.00	.00	.00	0	.00	.31	.05	.01
JAN 17...	.00	.00	.00	.00	0	.00	.06	.01	.00
MAY 21...	.00	.00	.00	.00	0	.00	.02	.02	.00
JUL 14...	.00	.00	.00	.00	0	.00	.02	.00	.00

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX. — STORM OF OCT. 22-23,1979

DATE & TIME	GAGE NUMBER 4400	4250	4150	204R	29R	22R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 22										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.0	0.0007
0330	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	0.0016
0400	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.01	24.0	0.0019
0500	0.07	0.0	0.0	0.05	0.0	0.40	0.0	0.07	27.0	0.0023
0530	0.10	0.0	0.0	0.18	0.02	0.49	0.0	0.11	80.0	0.0030
0600	0.22	0.05	0.0	0.18	0.05	0.58	0.0	0.15	61.0	0.0035
0630	0.24	0.37	0.02	0.42	0.31	0.58	0.10	0.28	118.0	0.0046
0700	0.32	0.44	0.36	0.56	0.31	0.58	0.40	0.43	150.0	0.0059
0730	0.33	0.46	0.56	0.56	0.31	0.58	0.42	0.46	173.0	0.0075
0800	0.36	0.48	0.56	0.56	0.31	0.58	0.42	0.47	242.0	0.0097
0830	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	553.0	0.0134
0845	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	559.0	0.0159
0900	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	556.0	0.0221
1000	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	410.0	0.0313
1130	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	214.0	0.0352
1200	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	235.0	0.0447
1600	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	158.0	0.0546
1900	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	86.0	0.0585
2100	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	65.0	0.0614
2400	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	50.0	0.0654
OCT. 23										
0000	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	50.0	0.0654
0600	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	40.0	0.0697
1200	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	25.0	0.0724
1800	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	20.0	0.0746
2400	0.36	0.52	0.58	0.56	0.31	0.58	0.42	0.48	20.0	0.0757

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX. — STORM OF OCT. 30 - NOV.1, 1979

DATE & TIME	GAGE NUMBER 4400	4250	4150	204R	29R	22R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0010
0500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.0	0.0079
1300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0104
1500	0.0	0.0	0.0	0.0	0.0	0.50	0.0	0.07	27.0	0.0110
1530	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.15	27.0	0.0112
1545	0.01	0.0	0.0	0.02	0.0	1.50	0.02	0.23	27.0	0.0113
1600	0.02	0.0	0.0	0.05	0.01	1.75	0.05	0.28	27.0	0.0114
1615	0.03	0.0	0.0	0.08	0.02	1.80	0.40	0.37	45.0	0.0116
1630	0.10	0.36	0.0	0.55	0.08	1.85	0.92	0.60	60.0	0.0119
1645	0.72	0.84	0.0	0.90	0.60	1.95	1.50	0.97	120.0	0.0124
1700	1.52	0.91	0.0	1.22	1.00	2.00	2.05	1.29	335.0	0.0139
1715	1.63	0.92	0.0	1.35	1.30	2.00	2.27	1.41	880.0	0.0179
1730	1.68	0.98	0.20	1.38	1.85	2.00	2.37	1.55	1580.0	0.0250
1745	1.73	1.16	0.70	1.45	2.10	2.00	2.51	1.73	2300.0	0.0353
1800	1.78	1.18	1.15	1.52	2.22	2.00	2.60	1.85	3100.0	0.0492
1815	1.85	1.23	1.25	1.56	2.38	2.00	2.72	1.93	3450.0	0.0647
1830	1.88	1.23	1.32	1.56	2.38	2.00	2.72	1.94	3780.0	0.0902
1900	1.92	1.23	1.42	1.56	2.38	2.00	2.72	1.96	3690.0	0.1233
1930	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	3600.0	0.1879
2100	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	2530.0	0.2447
2200	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	1800.0	0.2770
2300	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	1480.0	0.3036
2400	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	1300.0	0.3386
OCT. 31										
0000	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	1300.0	0.3386
0200	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	1030.0	0.3756
0400	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	743.0	0.4090
0700	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	565.0	0.4394
1000	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	429.0	0.4587
1200	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	357.0	0.4779
1600	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	218.0	0.4877
1700	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	237.0	0.4941
1900	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	212.0	0.5017
2100	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	193.0	0.5103
2400	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	170.0	0.5241
NOV. 1										
0000	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	170.0	0.5241
0600	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	128.0	0.5379
1200	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	85.0	0.5470
1800	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	68.0	0.5543
2400	1.92	1.23	1.57	1.56	2.38	2.00	2.72	1.99	56.0	0.5574

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX. — STORM OF JAN. 17-19, 1980

DATE & TIME	GAGE NUMBER 4400	4250	4150	204R	29R	22R	21R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 17										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0	0.0008
0300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0	0.0022
0500	0.05	0.55	0.02	0.0	0.0	0.0	0.0	0.06	388.0	0.0231
0900	0.11	0.55	0.02	0.0	0.0	0.0	0.0	0.07	165.0	0.0335
1200	0.11	0.55	0.02	0.0	0.0	0.0	0.0	0.07	105.0	0.0373
1300	0.11	0.55	0.02	0.0	0.0	0.0	0.0	0.07	100.0	0.0386
1330	0.11	0.55	0.02	0.02	0.0	0.0	0.0	0.07	97.0	0.0393
1345	0.30	0.55	0.02	0.30	0.07	0.0	0.0	0.14	94.0	0.0397
1400	0.43	0.55	0.35	0.72	0.07	0.0	0.0	0.27	91.0	0.0401
1415	0.44	1.00	1.35	0.74	0.07	0.0	0.26	0.52	210.0	0.0410
1430	0.50	1.21	1.45	0.74	0.07	0.0	0.71	0.65	450.0	0.0431
1445	0.50	1.21	1.45	0.74	0.07	0.0	1.16	0.74	680.0	0.0461
1500	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	964.0	0.0526
1530	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	1620.0	0.0671
1600	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	1920.0	0.0844
1630	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	1750.0	0.1001
1700	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	1580.0	0.1214
1800	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	1260.0	0.1553
2000	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	734.0	0.1817
2200	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	463.0	0.1983
2400	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	304.0	0.2119
JAN. 18										
0000	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	304.0	0.2119
0300	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	185.0	0.2219
0600	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	150.0	0.2340
1200	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	108.0	0.2457
1800	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	70.0	0.2532
2400	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	55.0	0.2601
JAN. 19										
0000	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	55.0	0.2601
0800	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	40.0	0.2659
1600	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	36.0	0.2710
2400	0.50	1.21	1.45	0.74	0.07	0.10	1.21	0.77	38.0	0.2738

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX. — STORM OF JAN. 20-27, 1980

DATE & TIME	GAGE NUMBER 4400	4250	4200	4150	204R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	0.0020
0600	0.06	0.0	0.0	0.0	0.0	0.0	0.01	48.0	0.0072
1200	0.06	0.0	0.0	0.0	0.0	0.0	0.01	39.0	0.0104
1500	0.06	0.05	0.0	0.02	0.02	0.08	0.04	45.0	0.0118
1530	0.06	0.05	0.0	0.02	0.20	0.10	0.08	48.0	0.0121
1545	0.15	0.13	0.12	0.08	0.22	0.30	0.18	50.0	0.0123
1600	0.15	0.13	0.12	0.08	0.62	0.36	0.28	51.0	0.0126
1615	0.16	0.20	0.18	0.09	1.18	0.41	0.42	51.0	0.0128
1630	0.18	0.28	0.24	0.35	1.50	0.46	0.56	51.0	0.0131
1700	0.26	0.38	0.36	0.62	1.80	0.56	0.73	51.0	0.0135
1715	0.30	0.50	0.48	0.70	1.92	0.60	0.81	52.0	0.0137
1730	0.36	0.66	0.48	0.80	2.00	0.66	0.88	54.0	0.0140
1745	0.42	0.73	0.60	0.92	2.06	0.70	0.96	55.0	0.0142
1800	0.56	0.82	0.72	0.95	2.10	0.75	1.03	56.0	0.0144
1815	0.62	0.92	0.84	1.06	2.14	0.78	1.10	72.0	0.0148
1830	0.79	0.98	0.84	1.08	2.18	0.80	1.14	91.0	0.0154
1900	0.82	1.05	0.84	1.18	2.22	0.86	1.19	136.0	0.0166
1930	0.90	1.07	0.96	1.18	2.26	0.90	1.24	186.0	0.0183
2000	0.92	1.13	0.96	1.24	2.32	0.94	1.28	772.0	0.0252
2030	0.93	1.20	1.08	1.32	2.38	1.00	1.35	2000.0	0.0432
2100	1.02	1.25	1.20	1.38	2.42	1.06	1.42	2460.0	0.0652
2130	1.04	1.32	1.20	1.44	2.49	1.10	1.46	2520.0	0.0879
2200	1.08	1.32	1.20	1.46	2.52	1.13	1.49	2340.0	0.1089
2230	1.12	1.38	1.32	1.50	2.53	1.15	1.53	2250.0	0.1291
2300	1.18	1.42	1.32	1.52	2.55	1.18	1.56	2140.0	0.1483
2330	1.23	1.43	1.32	1.53	2.58	1.23	1.58	2110.0	0.1672
2400	1.23	1.44	1.32	1.54	2.62	1.28	1.61	2080.0	0.1859
JAN. 21									
0000	1.23	1.44	1.32	1.54	2.62	1.28	1.61	2080.0	0.1859
0030	1.23	1.46	1.44	1.58	2.76	1.34	1.68	2060.0	0.2044
0100	1.28	1.58	1.68	1.70	3.10	1.40	1.85	1990.0	0.2223
0130	1.45	1.67	1.80	1.81	3.31	1.44	1.97	1760.0	0.2381
0200	1.46	1.68	1.80	1.82	3.35	1.47	1.98	1720.0	0.2535
0230	1.49	1.68	1.80	1.82	3.35	1.60	2.02	1820.0	0.2699
0300	1.50	1.68	1.80	1.82	3.36	1.72	2.05	1920.0	0.2871
0330	1.50	1.72	1.80	1.88	3.41	1.80	2.10	2120.0	0.3061
0400	1.58	1.80	1.92	1.91	3.42	1.87	2.16	2340.0	0.3271
0430	1.62	1.84	1.92	1.93	3.44	1.87	2.17	2550.0	0.3500
0500	1.63	1.85	1.92	1.95	3.44	1.87	2.18	2720.0	0.3744
0530	1.63	1.85	1.92	1.96	3.44	1.87	2.18	2860.0	0.4001

STA. NO. 08074500	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX. — STORM OF JAN. 20-27, 1980

DATE & TIME	GAGE NUMBER 4400	4250	4200	4150	204R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21									
0600	1.68	1.85	1.96	1.96	3.44	1.88	2.20	2980.0	0.4403
0700	1.68	1.85	1.96	1.96	3.44	1.89	2.20	2780.0	0.4902
0800	1.68	1.85	1.96	1.96	3.50	1.94	2.22	2360.0	0.5537
1000	1.68	1.85	1.96	1.96	3.50	1.94	2.22	1690.0	0.6144
1200	1.68	1.85	1.96	1.96	3.50	1.94	2.22	1380.0	0.6764
1500	1.68	1.88	1.96	1.98	3.50	2.06	2.26	1130.0	0.7093
1515	1.68	1.88	1.92	1.99	3.53	2.16	2.28	1100.0	0.7143
1530	1.68	1.89	2.04	2.00	3.54	2.26	2.34	1080.0	0.7216
1600	1.68	1.92	2.04	2.11	3.63	2.47	2.43	1030.0	0.7308
1630	1.70	1.93	2.04	2.12	3.63	2.52	2.44	1000.0	0.7398
1700	1.71	1.95	2.04	2.14	3.66	2.57	2.47	980.0	0.7486
1730	1.74	1.99	2.16	2.16	3.73	2.58	2.52	960.0	0.7572
1800	1.84	2.07	2.16	2.16	3.74	2.59	2.54	935.0	0.7656
1830	1.90	2.08	2.28	2.23	3.76	2.59	2.59	950.0	0.7741
1900	1.90	2.09	2.28	2.26	3.83	2.61	2.61	971.0	0.7828
1930	1.91	2.11	2.40	2.31	3.84	2.61	2.65	1000.0	0.7918
2000	1.97	2.13	2.40	2.32	3.84	2.61	2.66	1120.0	0.8069
2100	1.98	2.18	2.40	2.35	3.87	2.61	2.67	1220.0	0.8288
2200	1.98	2.20	2.40	2.39	3.87	2.61	2.68	1320.0	0.8525
2300	1.98	2.24	2.40	2.39	3.90	2.61	2.69	1320.0	0.8762
2400	1.98	2.24	2.40	2.39	3.90	2.61	2.69	1290.0	0.9225
JAN. 22									
0000	1.98	2.24	2.40	2.39	3.90	2.61	2.69	1290.0	0.9225
0300	1.98	2.24	2.40	2.39	3.90	2.65	2.70	1040.0	0.9599
0400	2.00	2.25	2.40	2.40	3.97	2.69	2.73	979.0	0.9775
0500	2.01	2.28	2.52	2.41	3.98	2.72	2.77	938.0	0.9880
0515	2.02	2.28	2.52	2.42	3.99	2.78	2.79	932.0	0.9922
0530	2.03	2.29	2.52	2.42	4.06	2.84	2.82	926.0	0.9963
0545	2.14	2.42	2.52	2.45	4.08	2.90	2.87	920.0	1.0005
0600	2.33	2.60	2.64	2.61	4.11	2.97	2.98	913.0	1.0046
0615	2.50	2.85	2.64	2.70	4.17	3.02	3.06	910.0	1.0086
0630	2.57	2.86	2.76	2.75	4.23	3.06	3.12	945.0	1.0129
0645	2.57	2.86	2.76	2.77	4.27	3.10	3.14	1000.0	1.0174
0700	2.61	2.88	2.76	2.80	4.28	3.14	3.16	1040.0	1.0220
0715	2.76	3.00	2.88	2.88	4.36	3.14	3.24	1320.0	1.0280
0730	2.82	3.03	2.88	2.89	4.37	3.14	3.25	1620.0	1.0352
0745	2.84	3.04	2.88	2.89	4.37	3.14	3.26	2070.0	1.0445
0800	2.86	3.05	2.88	2.89	4.37	3.14	3.26	2290.0	1.0548
0815	2.87	3.06	2.88	2.89	4.37	3.14	3.26	2580.0	1.0664
0830	2.88	3.08	2.88	2.90	4.37	3.14	3.27	2880.0	1.0793

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX. — STORM OF JAN. 20-27, 1980

DATE & TIME	GAGE NUMBER 4400	4250	4200	4150	204R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 22									
0845	2.89	3.09	2.88	2.91	4.46	3.14	3.29	3370.0	1.0944
0900	2.92	3.11	3.00	2.95	4.46	3.14	3.32	3410.0	1.1098
0915	2.95	3.14	3.00	3.03	4.47	3.14	3.34	3440.0	1.1252
0930	2.98	3.25	3.00	3.05	4.48	3.14	3.36	3340.0	1.1402
0945	3.32	3.42	3.00	3.06	4.56	3.14	3.43	3200.0	1.1545
1000	3.47	3.55	3.00	3.08	4.56	3.14	3.46	3100.0	1.1685
1015	3.57	3.56	3.00	3.11	4.60	3.14	3.48	2900.0	1.1815
1030	3.60	3.62	3.00	3.12	4.62	3.14	3.50	2780.0	1.1940
1045	3.62	3.65	3.12	3.20	4.70	3.14	3.56	2730.0	1.2062
1100	3.63	3.68	3.12	3.25	4.73	3.14	3.57	2780.0	1.2249
1130	3.64	3.71	3.12	3.33	4.75	3.14	3.59	3650.0	1.2577
1200	3.64	3.71	3.12	3.33	4.77	3.14	3.60	4080.0	1.2943
1230	3.68	3.71	3.12	3.33	4.77	3.14	3.60	4080.0	1.3310
1300	3.68	3.71	3.12	3.33	4.77	3.14	3.60	3830.0	1.3825
1400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	3200.0	1.4687
1600	3.68	3.71	3.12	3.33	4.77	3.14	3.60	2160.0	1.5463
1800	3.68	3.71	3.12	3.33	4.77	3.14	3.60	1630.0	1.6195
2100	3.68	3.71	3.12	3.33	4.77	3.14	3.60	1280.0	1.6884
2400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	994.0	1.7509
JAN. 23									
0000	3.68	3.71	3.12	3.33	4.77	3.14	3.60	994.0	1.7509
0400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	776.0	1.8066
0800	3.68	3.71	3.12	3.33	4.77	3.14	3.60	630.0	1.8519
1200	3.68	3.71	3.12	3.33	4.77	3.14	3.60	494.0	1.8962
1800	3.68	3.71	3.12	3.33	4.77	3.14	3.60	386.0	1.9378
2400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	309.0	1.9877
JAN. 24									
0000	3.68	3.71	3.12	3.33	4.77	3.14	3.60	309.0	1.9877
1200	3.68	3.71	3.12	3.33	4.77	3.14	3.60	213.0	2.0336
2400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	177.0	2.0718
JAN. 25									
0000	3.68	3.71	3.12	3.33	4.77	3.14	3.60	177.0	2.0718
1200	3.68	3.71	3.12	3.33	4.77	3.14	3.60	146.0	2.1032
2400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	126.0	2.1304
JAN. 26									
0000	3.68	3.71	3.12	3.33	4.77	3.14	3.60	126.0	2.1304
1200	3.68	3.71	3.12	3.33	4.77	3.14	3.60	90.0	2.1498
2400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	96.0	2.1705
JAN. 27									
0000	3.68	3.71	3.12	3.33	4.77	3.14	3.60	96.0	2.1705
1200	3.68	3.71	3.12	3.33	4.77	3.14	3.60	78.0	2.1873
2400	3.68	3.71	3.12	3.33	4.77	3.14	3.60	69.0	2.1947

STA. NO. 08074500	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

WHITEOAK BAYOU AT HOUSTON, TX — STORM OF MAR.27 - APR.2,1980

DATE & TIME	GAGE NUMBER 4400	4250	4200	4150	204R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0011
0200	0.0	0.0	0.0	0.0	0.0	0.05	0.01	62.0	0.0025
0230	0.03	0.0	0.0	0.0	0.14	0.15	0.07	62.0	0.0030
0300	0.22	0.22	0.24	0.0	0.31	0.25	0.22	62.0	0.0034
0315	0.42	0.43	0.36	0.30	0.39	0.27	0.35	67.0	0.0037
0330	0.66	0.50	0.48	0.36	0.44	0.29	0.43	105.0	0.0042
0345	0.83	0.60	0.60	0.50	0.45	0.31	0.51	143.0	0.0049
0400	0.96	0.62	0.60	0.58	0.47	0.32	0.54	179.0	0.0057
0415	1.08	0.68	0.72	0.63	0.49	0.34	0.60	221.0	0.0067
0430	1.12	0.76	0.72	0.68	0.55	0.36	0.63	260.0	0.0078
0445	1.17	0.86	0.72	0.70	0.57	0.38	0.66	678.0	0.0109
0500	1.28	0.95	0.84	0.75	0.62	0.39	0.72	1030.0	0.0178
0530	1.36	1.02	0.96	0.84	0.72	0.39	0.80	1790.0	0.0339
0600	1.38	1.06	0.96	1.02	0.72	0.39	0.83	2020.0	0.0520
0630	1.42	1.06	0.96	1.03	0.75	0.39	0.84	2120.0	0.0710
0700	1.48	1.12	0.96	1.03	0.75	0.39	0.85	1990.0	0.0889
0730	1.49	1.14	0.96	1.04	0.75	0.39	0.86	1760.0	0.1047
0800	1.50	1.15	0.96	1.06	0.75	0.39	0.86	1650.0	0.1269
0900	1.50	1.15	0.96	1.06	0.75	0.39	0.86	1380.0	0.1517
1000	1.50	1.15	0.96	1.06	0.75	0.39	0.86	1090.0	0.1713
1100	1.62	1.16	1.08	1.06	0.77	0.40	0.91	874.0	0.1870
1200	1.66	1.19	1.08	1.10	0.90	0.43	0.95	779.0	0.2010
1300	1.67	1.26	1.44	1.14	1.30	0.74	1.20	772.0	0.2114
1330	1.99	1.42	1.44	1.22	1.39	0.86	1.30	740.0	0.2180
1400	2.08	1.52	1.56	1.49	1.46	0.99	1.43	737.0	0.2246
1430	2.16	1.60	1.80	1.54	1.63	1.12	1.57	839.0	0.2321
1500	2.32	1.64	1.92	1.63	1.70	1.25	1.68	1280.0	0.2436
1530	2.58	1.72	2.04	1.70	1.81	1.34	1.79	1680.0	0.2587
1600	3.06	1.97	2.16	1.78	1.86	1.44	1.93	2060.0	0.2865
1700	3.07	2.02	2.16	1.91	1.89	1.48	1.98	3240.0	0.3301
1730	3.10	2.07	2.16	1.91	1.89	1.48	1.98	3640.0	0.3955
1900	3.18	2.12	2.16	1.92	1.99	1.56	2.04	3300.0	0.4695
2000	3.20	2.12	2.16	1.95	1.99	1.56	2.04	3260.0	0.5573
2200	3.22	2.12	2.16	2.00	1.99	1.56	2.05	2740.0	0.6557
2400	3.33	2.25	2.40	2.10	2.28	1.93	2.29	1990.0	0.7987
MAR. 28									
0000	3.33	2.25	2.40	2.10	2.28	1.93	2.29	1990.0	0.7987
0600	3.33	2.25	2.40	2.10	2.28	1.93	2.29	1530.0	0.9635
1200	3.33	2.25	2.40	2.10	2.28	1.93	2.29	1050.0	1.0766
1800	3.33	2.25	2.40	2.10	2.28	1.93	2.29	730.0	1.1553

STA. NO. 08074500	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
WHITEOAK BAYOU AT HOUSTON, TX	STORM OF MAR.27 - APR.2,1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4400	4250	4200	4150	204R	22R			
MAR. 28									
2400	3.33	2.25	2.40	2.10	2.28	1.93	2.29	542.0	1.2234
MAR. 29									
0000	3.33	2.25	2.40	2.10	2.28	1.93	2.29	542.0	1.2234
0800	3.33	2.25	2.40	2.10	2.28	1.93	2.29	371.0	1.2509
0815	3.35	2.28	2.52	2.10	2.31	1.93	2.33	370.0	1.2525
0830	3.37	2.28	2.64	2.10	2.46	1.94	2.38	368.0	1.2542
0845	3.38	2.32	2.88	2.10	2.89	1.94	2.52	366.0	1.2558
0900	3.50	2.35	3.00	2.10	3.17	1.95	2.62	364.0	1.2574
0915	3.81	2.36	3.24	2.30	3.36	1.98	2.78	360.0	1.2591
0930	3.98	2.52	3.72	2.42	3.78	2.00	3.01	356.0	1.2607
0945	4.07	2.75	3.72	2.52	4.05	2.02	3.12	351.0	1.2622
1000	4.08	3.06	3.84	2.62	4.12	2.05	3.21	349.0	1.2638
1015	4.09	3.08	3.84	3.20	4.18	2.05	3.31	388.0	1.2655
1030	4.09	3.09	3.84	3.45	4.18	2.05	3.35	527.0	1.2679
1045	4.09	3.09	3.84	3.62	4.18	2.05	3.38	840.0	1.2717
1100	4.09	3.10	3.84	3.65	4.18	2.05	3.38	1140.0	1.2793
1130	4.17	3.11	3.84	3.68	4.18	2.05	3.40	2450.0	1.3013
1200	4.17	3.11	3.84	3.68	4.18	2.05	3.40	3430.0	1.3321
1230	4.17	3.11	3.84	3.68	4.18	2.05	3.40	4800.0	1.3752
1300	4.17	3.11	3.84	3.68	4.18	2.05	3.40	4810.0	1.4400
1400	4.17	3.11	3.84	3.68	4.18	2.05	3.40	4290.0	1.5170
1500	4.17	3.11	3.84	3.68	4.18	2.05	3.40	3590.0	1.5815
1600	4.17	3.11	3.84	3.68	4.18	2.05	3.40	2920.0	1.6601
1800	4.17	3.11	3.84	3.68	4.18	2.05	3.40	1890.0	1.7450
2100	4.17	3.11	3.84	3.68	4.18	2.05	3.40	1270.0	1.8134
2400	4.17	3.11	3.84	3.68	4.18	2.05	3.40	934.0	1.9392
MAR. 30									
0000	4.17	3.11	3.84	3.68	4.18	2.05	3.40	934.0	1.9392
1200	4.17	3.11	3.84	3.68	4.18	2.05	3.40	441.0	2.0342
2400	4.17	3.11	3.84	3.68	4.18	2.05	3.40	244.0	2.0868
MAR. 31									
0000	4.17	3.11	3.84	3.68	4.18	2.05	3.40	244.0	2.0868
1200	4.17	3.11	3.84	3.68	4.18	2.05	3.40	184.0	2.1264
2400	4.17	3.11	3.84	3.68	4.18	2.05	3.40	143.0	2.1572
APR. 1									
0000	4.17	3.11	3.84	3.68	4.18	2.05	3.40	143.0	2.1572
1200	4.17	3.11	3.84	3.68	4.18	2.05	3.40	115.0	2.1820
2400	4.17	3.11	3.84	3.68	4.18	2.05	3.40	95.0	2.2127
APR. 2									
0000	4.17	3.11	3.84	3.68	4.18	2.05	3.40	95.0	2.2127
2400	4.17	3.11	3.84	3.68	4.18	2.05	3.40	69.0	2.2276

LITTLE WHITEOAK BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Little Whiteoak Bayou drainage basin are shown in figure 10.

Weighted-mean rainfall for the 1980 water year was not determined.

The storm of Oct. 30-31, Dec. 12-13, and Jan. 17-18 were selected for analysis at station 08074540, Little Whiteoak Bayou at Houston.

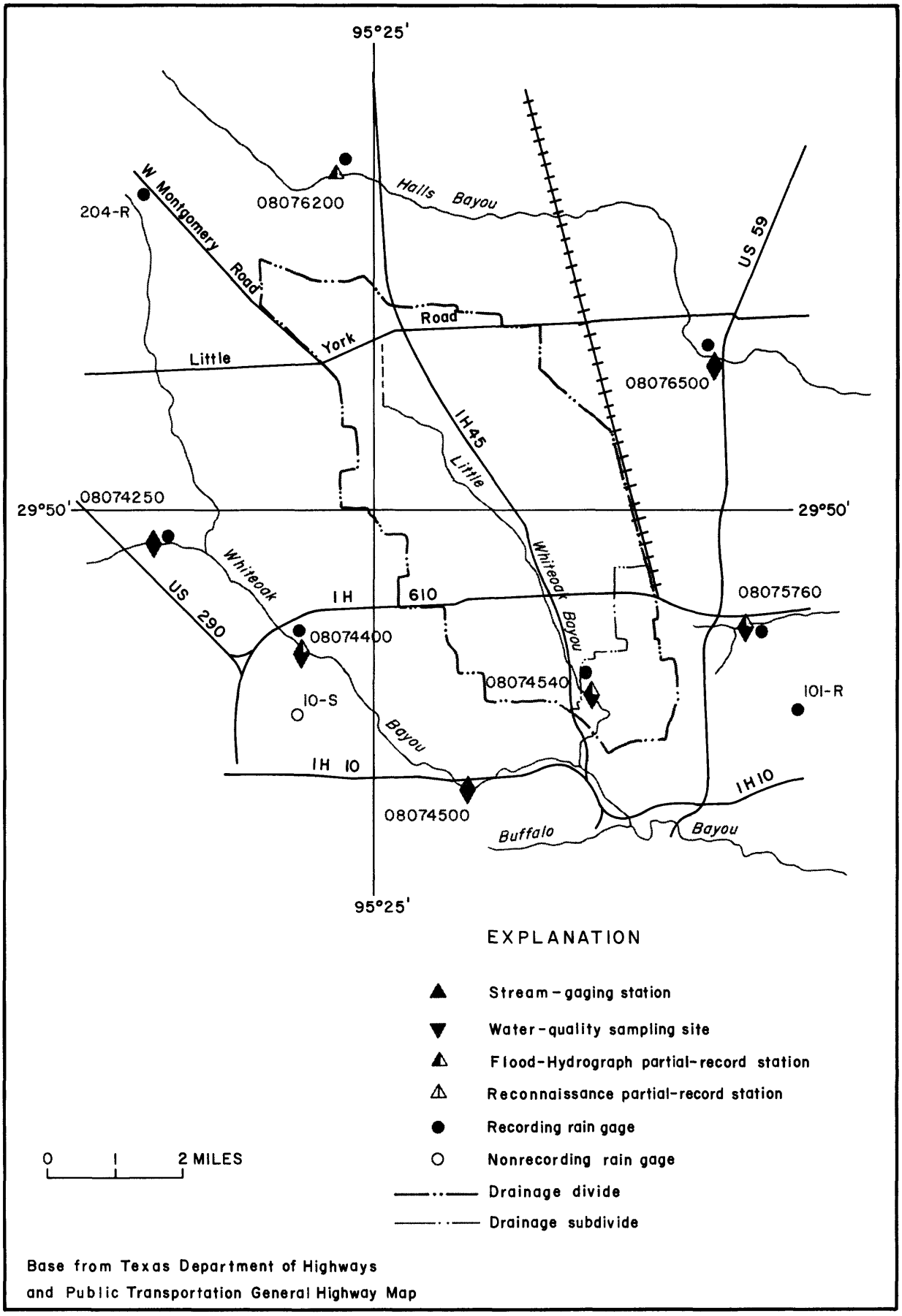


Figure 10.-Locations of data-collection sites in and near the Little Whiteoak Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 9 .--Storm rainfall-runoff data, 1980 Water Year, Little White Oak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Little Whiteoak Bayou at Houston, Tx. (Drainage area -- 18.0 mi^2)								
Oct. 30-31, 1979	1.8	2.75	1.85	1.85	2.70	1.09	0.40	2,870*
Dec. 12-13, 1979	7.5	1.96	0.48	0.72	1.08	0.68	0.35	918
Jan. 17-18, 1980	1.4	0.63	0.38	0.75	0.75	0.15	0.23	218

* - Annual peak discharge for 1980 WY.

SAN JACINTO RIVER BASIN

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°47'33", long 95°22'06", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Trimble Street, Houston.

DRAINAGE AREA.--18.0 mi² (46.6 km²).

PERIOD OF RECORD.--June 1979 to current year. June to September 1979 published as Little Whiteoak Bayou at Houston (08074550).

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment. Prior to June 1979 occasional discharge measurements to arbitrary datum and water-quality samples were obtained at site 6,200 ft (1,890 m) downstream at North Main Street bridge (station 08074550, Little Whiteoak Bayou at Houston).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980". The record for June to September 1979 was published in the 1979 edition of this publication as station Little Whiteoak Bayou at Houston (08074550).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s (135 m³/s) Sept. 19, 1979, elevation, 37.76 ft (11.509 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges for period June to September above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1815	*2,870	81.3	33.76	10.290	Mar. 27	1715	1,940	54.9	31.12	9.485
Nov. 21	unknown	1,470	41.6	29.42	8.967	Mar. 29	1200	1,340	37.9	29.15	8.885
aDec. 12	1230	918	26.0	27.51	8.385	aMay 7	unknown	b50	1.42	b22.10	6.736
aJan. 17	1915	218	6.17	23.76	7.242	Sept. 5	2115	807	22.9	27.53	8.391
Jan. 22	1115	2,370	67.1	32.41	9.879						

a Water-quality samples were obtained during this runoff event.
b About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: June 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
DEC										
11...	1120	9.0	762	7.0	18.0	10	4.4	5.7	59	9.6
12...	1140	843	211	7.4	17.5	30	350	8.7	89	25
12...	1600	391	190	7.3	15.0	50	270	8.4	82	17
13...	1330	28	349	6.9	13.5	--	46	8.1	76	17
JAN										
17...	1435	102	470	6.9	19.0	40	140	5.4	57	55
17...	1610	189	433	6.8	19.5	30	96	6.3	68	18
17...	1815	156	301	7.0	18.5	50	310	6.4	67	13
18...	1105	13	353	6.9	17.5	50	84	5.1	52	14
MAY										
07...	1050	40	420	6.7	22.5	30	33	4.5	52	15
JUL										
14...	1330	7.9	660	7.9	30.5	40	8.0	6.5	86	35
SEP										
06...	1300	144	196	7.5	26.0	50	74	5.6	68	13
08...	1050	11	320	7.4	26.5	45	16	2.1	26	5.0

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
11...	1300000	300000	36000	--	--	--	--	--	--
12...	660000	100000	40000	63	0	21	2.5	18	1.0
12...	45000	40000	44000	--	--	--	--	--	--
13...	280000	130000	14000	--	--	--	--	--	--
JAN									
17...	900000	290000	46000	120	0	35	6.6	54	2.2
17...	860000	200000	54000	--	--	--	--	--	--
17...	720000	--	44000	--	--	--	--	--	--
18...	860000	300000	100000	--	--	--	--	--	--
MAY									
07...	780000	140000	46000	--	--	--	--	--	--
JUL									
14...	340000	100000	1800	130	0	39	8.0	99	3.8
SEP									
06...	2900000	710000	160000	--	--	--	--	--	--
08...	840000	300000	1300	--	--	--	--	--	--

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
DEC									
11...	--	--	--	--	--	--	--	--	17
12...	2.7	79	0	11	17	.2	5.2	117	780
12...	--	--	--	--	--	--	--	--	392
13...	--	--	--	--	--	--	--	--	60
JAN									
17...	3.2	200	0	25	41	.3	11	275	1080
17...	--	--	--	--	--	--	--	--	294
17...	--	--	--	--	--	--	--	--	344
18...	--	--	--	--	--	--	--	--	68
MAY									
07...	--	--	--	--	--	--	--	--	80
JUL									
14...	5.3	280	0	24	71	.7	16	401	10
SEP									
06...	--	--	--	--	--	--	--	--	108
08...	--	--	--	--	--	--	--	--	12

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC									
11...	17	.06	.030	.09	1.400	2.0	3.4	.900	12
12...	72	.39	.050	.44	.350	2.9	3.3	1.100	34
12...	40	.37	.030	.40	.300	1.3	1.6	1.200	21
13...	15	.43	.060	.49	.810	--	--	1.100	--
JAN									
17...	188	.24	.030	.27	.730	8.4	9.1	1.500	110
17...	72	.25	.030	.28	.330	2.4	2.7	.540	26
17...	88	.10	.020	.12	.130	2.0	2.1	.320	30
18...	12	.33	.050	.38	.500	1.6	2.1	.350	11
MAY									
07...	9	.33	.040	.37	.890	1.9	2.8	.680	55
JUL									
14...	1	.00	.000	.00	2.800	2.0	4.8	2.900	17
SEP									
06...	0	.30	.030	.33	.530	1.4	1.9	.510	14
08...	0	.06	.030	.09	.610	1.2	1.8	.630	13

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UC/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
DEC							
12...	1140	3	60	<1	0	0	50
JAN							
17...	1435	2	100	1	0	0	200
JUL							
14...	1330	6	200	<1	0	1	<10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
DEC						
12...	5	5	.0	0	0	5
JAN						
17...	4	260	.0	1	0	7
JUL						
14...	0	1	.1	1	0	8

08074540 LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
DEC 12...	1140	.00	.00	.00	.6	.00	.01	.00	.55	.01
JAN 17...	1435	.90	--	.00	.8	.03	.03	.00	.18	.03

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.04	.00	--	.00	.34	.00
JAN 17...	.00	.00	.00	.02	--	.0	.00	.13	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 12...	.00	.00	.02	.00	0	.00	.08	.04	.06
JAN 17...	.00	.00	.00	.00	0	.00	.06	.02	.00

STA. NO. 08074540 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TEX. — STORM OF OCT. 30-31,1979

DATE & TIME	GAGE NUMBER 6200	4540	4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30						
0000	0.0	0.0	0.0	0.0	5.0	0.0034
1545	0.0	0.0	0.0	0.0	5.0	0.0068
1600	0.12	0.0	0.02	0.04	5.0	0.0069
1615	0.12	0.0	0.02	0.04	10.0	0.0072
1630	0.24	0.0	0.09	0.09	10.0	0.0074
1645	0.84	0.0	0.70	0.39	100.0	0.0095
1700	1.56	0.20	1.48	0.86	841.0	0.0276
1715	1.68	0.20	1.62	0.93	1580.0	0.0616
1730	1.68	2.05	1.64	1.86	2250.0	0.1101
1745	1.68	2.05	1.74	1.88	2500.0	0.1639
1800	1.92	2.90	1.78	2.38	2770.0	0.2235
1815	1.92	2.90	1.84	2.39	2870.0	0.2852
1830	2.04	3.35	1.88	2.66	2850.0	0.3466
1845	2.04	3.35	1.92	2.67	2740.0	0.4056
1900	2.04	3.45	1.92	2.72	2620.0	0.4901
1930	2.04	3.50	1.92	2.75	2260.0	0.5874
2000	2.04	3.50	1.92	2.75	1900.0	0.7101
2100	2.04	3.50	1.92	2.75	1280.0	0.8203
2200	2.04	3.50	1.92	2.75	787.0	0.9219
2400	2.04	3.50	1.92	2.75	350.0	0.9972
OCT. 31						
0000	2.04	3.50	1.92	2.75	350.0	0.9972
0300	2.04	3.50	1.92	2.75	142.0	1.0339
0600	2.04	3.50	1.92	2.75	68.0	1.0602
1200	2.04	3.50	1.92	2.75	30.0	1.0835
2400	2.04	3.50	1.92	2.75	10.0	1.0887

STA. NO. 08074540 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TEX. — STORM OF DEC. 12-13, 1979

DATE & TIME	GAGE NUMBER 6200	4540	4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DEC. 12						
0000	0.0	0.0	0.0	0.0	5.0	0.0009
0400	0.0	0.0	0.0	0.0	5.0	0.0019
0500	0.0	0.05	0.10	0.05	5.0	0.0029
0830	0.12	0.05	0.10	0.08	5.0	0.0038
0900	0.12	0.15	0.21	0.15	5.0	0.0039
0915	0.36	0.18	0.50	0.30	20.0	0.0044
0930	0.84	0.20	0.64	0.48	40.0	0.0052
0945	1.08	0.28	0.78	0.62	60.0	0.0065
1000	1.20	0.35	0.88	0.71	80.0	0.0082
1015	1.32	0.48	0.98	0.83	100.0	0.0104
1030	1.44	0.60	1.00	0.93	170.0	0.0159
1100	1.44	1.00	1.08	1.15	582.0	0.0409
1130	1.68	1.05	1.23	1.27	793.0	0.0751
1200	1.80	1.20	1.33	1.41	892.0	0.1135
1230	1.92	1.30	1.40	1.51	918.0	0.1530
1300	1.92	1.40	1.44	1.56	864.0	0.1902
1330	1.92	1.45	1.48	1.60	780.0	0.2237
1400	1.92	1.45	1.49	1.60	683.0	0.2531
1430	2.04	1.45	1.49	1.63	475.0	0.2838
1530	2.04	1.45	1.49	1.63	430.0	0.3116
1600	2.16	1.50	1.80	1.76	391.0	0.3284
1630	2.16	1.60	1.80	1.81	363.0	0.3440
1700	2.16	1.60	1.82	1.81	796.0	0.3783
1730	2.16	1.60	1.82	1.81	857.0	0.4152
1800	2.16	1.60	1.82	1.81	769.0	0.4483
1830	2.16	1.60	1.82	1.81	644.0	0.4760
1900	2.16	1.60	1.82	1.81	523.0	0.5098
2000	2.16	1.60	1.82	1.81	336.0	0.5387
2100	2.16	1.60	1.82	1.81	233.0	0.5788
2400	2.16	1.60	1.82	1.81	120.0	0.6253
DEC. 13						
0000	2.16	1.60	1.82	1.81	120.0	0.6253
0600	2.16	1.65	1.88	1.85	48.0	0.6501
1200	2.28	1.70	1.88	1.91	28.0	0.6718
2400	2.28	1.80	1.88	1.96	17.0	0.6806

STA. NO. 08074540 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

LITTLE WHITEOAK BAYOU AT TRIMBLE STREET AT HOUSTON, TEX. — STORM OF JAN. 17-18,1980

DATE & TIME	GAGE NUMBER 6200	4540	4400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 17						
0000	0.0	0.0	0.0	0.0	8.0	0.0010
0300	0.0	0.05	0.04	0.03	8.0	0.0031
0600	0.0	0.05	0.07	0.04	8.0	0.0045
0700	0.0	0.10	0.07	0.06	8.0	0.0052
0800	0.0	0.10	0.12	0.07	8.0	0.0072
1300	0.0	0.10	0.12	0.07	10.0	0.0096
1330	0.0	0.85	0.12	0.45	20.0	0.0105
1400	0.0	0.85	0.44	0.51	40.0	0.0122
1430	0.36	0.85	0.50	0.63	62.0	0.0149
1500	0.36	0.85	0.50	0.63	170.0	0.0222
1530	0.36	0.85	0.50	0.63	160.0	0.0291
1600	0.36	0.85	0.50	0.63	176.0	0.0366
1630	0.36	0.85	0.50	0.63	200.0	0.0452
1700	0.36	0.85	0.50	0.63	218.0	0.0546
1730	0.36	0.85	0.50	0.63	197.0	0.0631
1800	0.36	0.85	0.50	0.63	166.0	0.0702
1830	0.36	0.85	0.50	0.63	143.0	0.0764
1900	0.36	0.85	0.50	0.63	119.0	0.0841
2000	0.36	0.85	0.50	0.63	89.0	0.1032
2400	0.36	0.85	0.50	0.63	37.0	0.1192
JAN. 18						
0000	0.36	0.85	0.50	0.63	37.0	0.1192
0600	0.36	0.85	0.50	0.63	23.0	0.1310
1200	0.36	0.85	0.50	0.63	12.0	0.1403
2400	0.36	0.85	0.50	0.63	10.0	0.1455

BRAYS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Brays Bayou drainage basin are shown in figure 11.

Keegans Bayou, Bintliff Ditch, and Hummingbird Street Ditch are shown on separate drainage basins within the Brays Bayou section.

Weighted-mean rainfall in the drainage basin for the 1980 water year based on eleven rain gages was 36.21 inches or 11.98 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of Oct. 30-Nov. 1, Dec. 12-14, and Jan. 20-24 were selected for analysis for the 1980 water year at station 08074760, Brays Bayou at Alief, Tex. The storm of Jan. 20-25 was selected for analysis at station 08074810, Brays Bayou at Gessner Drive, Houston, Tex., and the storms of Dec. 12-14 and Jan. 20-25 were selected for analysis at station 08075000, Brays Bayou at Houston.

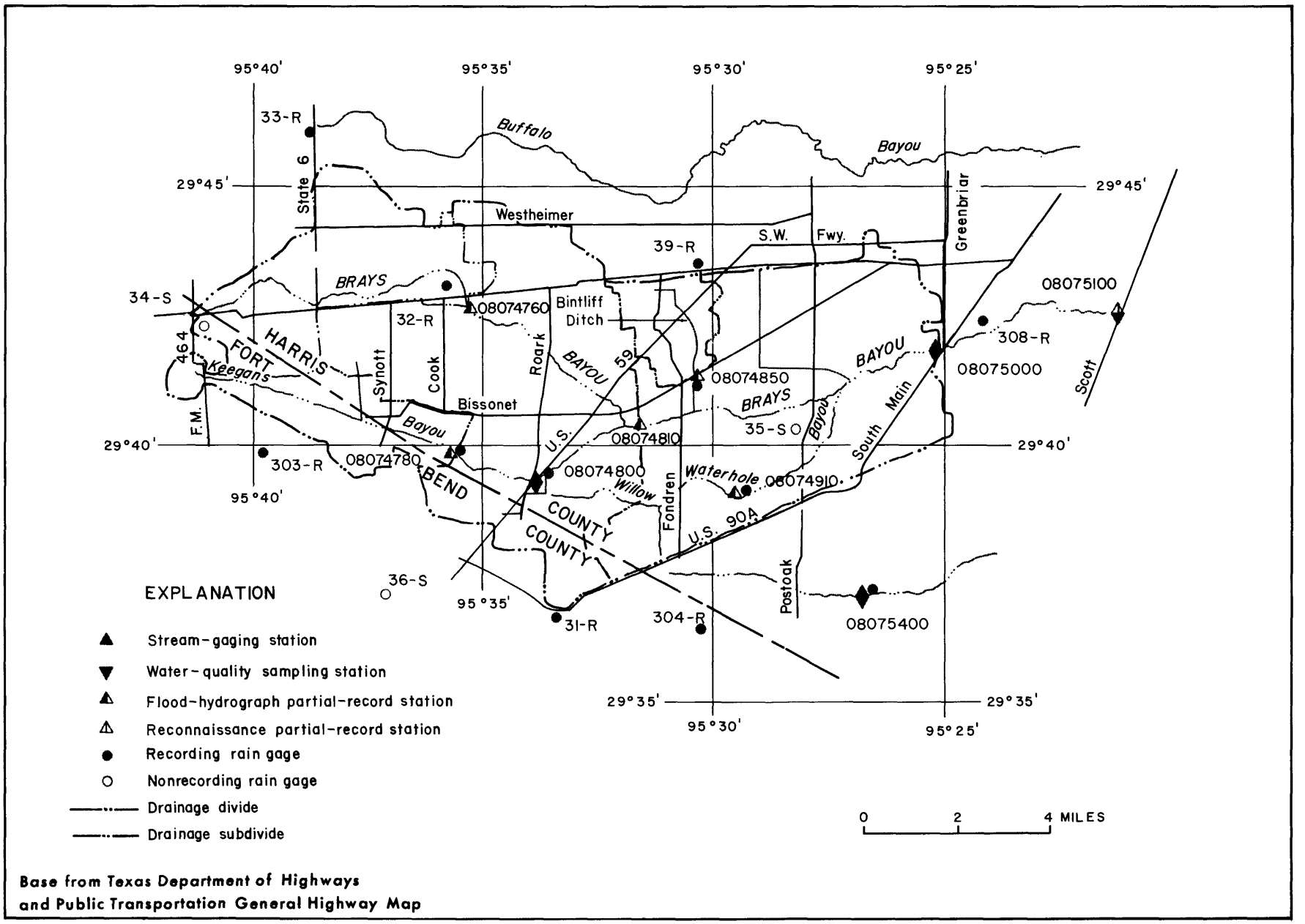

Figure II.- Locations of data-collection sites in and near the Brays Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 10.--Storm rainfall-runoff data, 1980 Water Year, Brays Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Alief, Tx. (Drainage area -- 14.1 mi^2)								
Oct. 30-Nov.1,1979	2.3	1.83	0.45	0.89	1.78	0.68	0.37	435
Dec. 12-14, 1979	4.9	2.18	0.18	0.37	0.73	1.02	0.47	658
Jan. 20-24, 1980	40.0	3.55	0.12	0.23	0.46	3.27	0.92	920*
Brays Bayou at Gessner Dr., Houston, Tx. (Drainage area -- 53.2 mi^2)								
Jan. 20-25, 1980	39.4	3.87	0.38	0.75	1.10	2.93	0.76	4,370*

* - Annual peak discharge for 1980 WY.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 10.--Storm rainfall-runoff data, 1980 Water Year, Brays Bayou--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Houston, Tx. (Drainage area -- 94.9 mi^2)								
Dec. 12-14, 1979	7.0	1.80	0.41	0.58	0.78	0.68	0.38	3,100
Jan. 20, 1980	10.4	1.62	0.29	0.57	0.69	3.59	0.87	4,400
Jan. 21-25, 1980	16.7	2.50	.38	.75	1.10			11,300*

* - Annual peak discharge for 1980 WY.

08074760 BRAYS BAYOU AT ALIEF, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°42'39", long 95°35'13", Harris County, Hydrologic unit 12040104, near center of channel on downstream side of bridge on High Star Street in Alief, Tex.

DRAINAGE AREA (revised).--14.1 mi^2 effective Jan. 1, 1978. 12.9 mi^2 effective Feb. 3, 1977 to Dec. 31, 1977.

PERIOD OF RECORD.--Feb. 3, 1977 to present.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gage is 55.88 ft National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3,270 ft^3/s, Sept. 19, 1979. (Gage-height 17.15 ft). Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 300 ft^3/s or maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 30	2300	435	9.62
Dec. 12	1700	658	10.38
Jan. 21	0200	719	10.42
Jan. 21	2230	483	9.73
Jan. 22	1200	*920	10.95
Mar. 27	2000	551	10.04
Mar. 29	1500	417	9.55
Sep. 6	0730	772	11.21

Minimum discharge not determined.

STA. NO. 08074760	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
BRAYS BAYOU AT ALIEF, TX.	STORM OF OCT. 30-NOV.1, 1979						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER								
	33R	32R							
OCT. 30									
0000	0.0	0.0					0.0	5.0	0.0038
1400	0.0	0.0					0.0	5.0	0.0080
1500	0.19	0.0					0.06	5.0	0.0085
1600	1.97	0.06					0.63	5.0	0.0091
1700	2.69	1.04					1.53	5.0	0.0096
1800	2.74	1.40					1.80	5.0	0.0102
1900	2.74	1.44					1.83	84.0	0.0194
2000	2.74	1.44					1.83	174.0	0.0385
2100	2.74	1.44					1.83	321.0	0.0738
2200	2.74	1.44					1.83	412.0	0.1078
2230	2.74	1.44					1.83	430.0	0.1314
2300	2.74	1.44					1.83	435.0	0.1553
2330	2.74	1.44					1.83	430.0	0.1789
2400	2.74	1.44					1.83	417.0	0.2133
OCT. 31									
0000	2.74	1.44					1.83	417.0	0.2133
0100	2.74	1.44					1.83	387.0	0.2558
0200	2.74	1.44					1.83	344.0	0.2936
0300	2.74	1.44					1.83	310.0	0.3277
0400	2.74	1.44					1.83	272.0	0.3725
0600	2.74	1.44					1.83	217.0	0.4322
0900	2.74	1.44					1.83	143.0	0.4793
1200	2.74	1.44					1.83	101.0	0.5292
1800	2.74	1.44					1.83	78.0	0.5807
2400	2.74	1.44					1.83	52.0	0.6321
NOV. 1									
0000	2.74	1.44					1.83	52.0	0.6321
1200	2.74	1.44					1.83	30.0	0.6717
2400	2.74	1.44					1.83	20.0	0.6849

STA. NO. 08074760	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BRAYS BAYOU AT ALIEF, TX. — STORM OF DEC. 12-14, 1979

DATE & TIME	GAGE NUMBER 33R	GAGE NUMBER 32R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DEC. 12					
0000	0.0	0.0	0.0	5.0	0.0008
0300	0.06	0.0	0.02	5.0	0.0027
0700	0.06	0.0	0.02	5.0	0.0041
0800	0.76	0.40	0.51	5.0	0.0047
0900	1.49	0.90	1.08	5.0	0.0052
1000	1.81	1.34	1.48	5.0	0.0058
1100	1.91	1.64	1.72	41.0	0.0103
1200	2.21	1.74	1.88	120.0	0.0235
1300	2.28	1.77	1.92	295.0	0.0559
1400	2.40	1.92	2.06	472.0	0.1078
1500	2.63	1.99	2.18	572.0	0.1706
1600	2.63	1.99	2.18	616.0	0.2214
1630	2.63	1.99	2.18	645.0	0.2568
1700	2.63	1.99	2.18	658.0	0.2930
1730	2.63	1.99	2.18	654.0	0.3289
1800	2.63	1.99	2.18	638.0	0.3815
1900	2.63	1.99	2.18	588.0	0.4461
2000	2.63	1.99	2.18	522.0	0.5322
2200	2.63	1.99	2.18	404.0	0.6210
2400	2.63	1.99	2.18	317.0	0.7081
DEC. 13					
0000	2.63	1.99	2.18	317.0	0.7081
0300	2.63	1.99	2.18	212.0	0.7780
0600	2.63	1.99	2.18	153.0	0.8284
0900	2.63	1.99	2.18	111.0	0.8650
1200	2.63	1.99	2.18	84.0	0.9066
1800	2.63	1.99	2.18	67.0	0.9507
2400	2.63	1.99	2.18	41.0	0.9913
DEC. 14					
0000	2.63	1.99	2.18	41.0	0.9913
1200	2.63	1.99	2.18	20.0	1.0177
2400	2.63	1.99	2.18	10.0	1.0243

STA. NO. 08074760	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
BRAYS BAYOU AT ALIEF, TX.	STORM OF JAN. 20-24, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER								
	33R	32R							
JAN. 20									
0000	0.0	0.0					0.0	4.0	0.0031
1400	0.0	0.0					0.0	4.0	0.0064
1500	0.04	0.0					0.01	4.0	0.0068
1600	0.23	0.06					0.11	4.0	0.0073
1700	0.51	0.36					0.40	4.0	0.0077
1800	0.88	0.82					0.84	10.0	0.0088
1900	0.99	0.88					0.91	65.0	0.0159
2000	1.11	1.08					1.09	150.0	0.0324
2100	1.28	1.16					1.20	289.0	0.0642
2200	1.38	1.33					1.34	425.0	0.1109
2300	1.45	1.41					1.42	551.0	0.1714
2400	1.64	1.43					1.49	628.0	0.2232
JAN. 21									
0000	1.64	1.43					1.49	628.0	0.2232
0030	1.86	1.48					1.59	648.0	0.2588
0100	2.09	1.54					1.70	681.0	0.2962
0130	2.10	1.55					1.72	708.0	0.3351
0200	2.12	1.56					1.73	719.0	0.3746
0230	2.13	1.57					1.74	719.0	0.4142
0300	2.14	1.58					1.75	708.0	0.4725
0400	2.25	1.67					1.84	668.0	0.5459
0500	2.26	1.67					1.85	632.0	0.6154
0600	2.27	1.67					1.85	597.0	0.6810
0700	2.27	1.67					1.85	557.0	0.7422
0800	2.29	1.67					1.86	505.0	0.7977
0900	2.30	1.67					1.86	464.0	0.8487
1000	2.30	1.67					1.86	443.0	0.8974
1100	2.30	1.67					1.86	373.0	0.9384
1200	2.31	1.67					1.86	344.0	0.9762
1300	2.31	1.67					1.86	306.0	1.0098
1400	2.31	1.67					1.86	279.0	1.0405
1500	2.32	1.68					1.87	257.0	1.0687
1600	2.34	1.75					1.93	239.0	1.0950
1700	2.37	1.87					2.02	228.0	1.1200
1800	2.53	2.15					2.26	241.0	1.1465
1900	2.71	2.22					2.37	302.0	1.1797
2000	2.76	2.24					2.40	380.0	1.2215
2100	2.76	2.25					2.40	440.0	1.2698
2200	2.77	2.26					2.41	477.0	1.3091
2230	2.77	2.26					2.41	483.0	1.3357

STA. NO. 08074760	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
BRAYS BAYOU AT ALIEF, TX.	STORM OF JAN. 20-24, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER								
	33R	32R							
JAN. 21									
2300	2.77	2.26					2.41	483.0	1.3755
2400	2.77	2.26					2.41	469.0	1.4270
JAN. 22									
0000	2.77	2.26					2.41	469.0	1.4270
0100	2.78	2.26					2.42	443.0	1.4757
0200	2.78	2.26					2.42	407.0	1.5205
0300	2.78	2.31					2.45	356.0	1.5596
0400	2.78	2.32					2.46	340.0	1.5969
0500	2.84	2.34					2.49	315.0	1.6316
0600	3.09	2.70					2.82	293.0	1.6638
0700	3.32	2.92					3.04	346.0	1.7018
0800	3.39	2.96					3.09	472.0	1.7537
0900	3.49	3.02					3.16	537.0	1.8127
1000	3.64	3.44					3.50	635.0	1.8825
1100	3.72	3.47					3.54	838.0	1.9746
1200	3.74	3.47					3.55	920.0	2.0757
1300	3.74	3.47					3.55	904.0	2.1750
1400	3.74	3.47					3.55	842.0	2.2675
1500	3.74	3.47					3.55	775.0	2.3527
1600	3.74	3.47					3.55	681.0	2.4276
1700	3.74	3.47					3.55	609.0	2.4945
1800	3.74	3.47					3.55	534.0	2.6119
2100	3.74	3.47					3.55	370.0	2.7339
2400	3.74	3.47					3.55	270.0	2.8674
JAN. 23									
0000	3.74	3.47					3.55	270.0	2.8674
0600	3.74	3.47					3.55	162.0	2.9742
1200	3.74	3.47					3.55	120.0	3.0929
2400	3.74	3.47					3.55	73.0	3.1651
JAN. 24									
0000	3.74	3.47					3.55	73.0	3.1651
0600	3.74	3.47					3.55	56.0	3.2020
1200	3.74	3.47					3.55	44.0	3.2455
2400	3.74	3.47					3.55	30.0	3.2653

KEEGANS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Keegans Bayou drainage basin are shown in figure 12.

Weighted-mean rainfall in the drainage basin, based on four rain gages for the 1980 water year was 35.73 inches or 12.46 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for station 08074780, Keegans Bayou at Keegan Road near Houston. The storms of Dec. 12-14 and Jan. 20-25 were selected for analysis at station 08074800, Keegans Bayou at Roark Road near Houston.

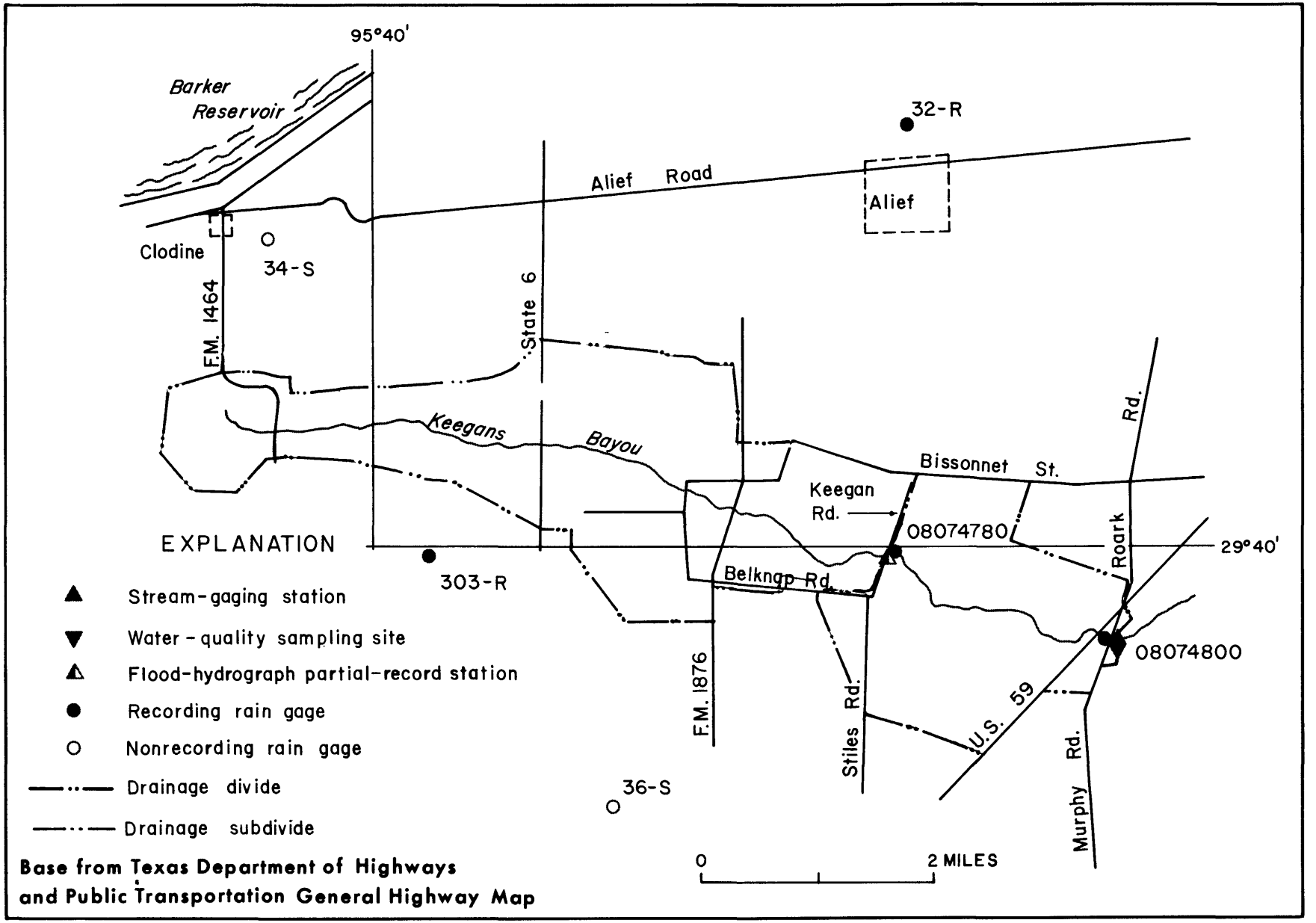

Figure 12.-Locations of data-collection sites in and near the Keegans Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 11.--Storm rainfall-runoff data, 1980 Water Year, Keegans Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Keegans Bayou at Roark Road near Houston, Tx. (Drainage area -- 11.5 mi^2)								
Dec. 12-14, 1979	7.0	2.33	0.41	0.58	0.78	0.53	0.23	335
Jan. 20-21, 1980	7.5	1.74	0.29	0.57	0.69	2.83	0.69	393
Jan. 21-25, 1980	16.6	2.33	.38	.75	1.10			846*

* - Annual peak discharge for 1980 WY.

08074780 KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'55", long 95°35'42", Harris County, Hydrologic Unit 12040104 on downstream side of bridge on Keegan Road, 2.35 miles upstream from station, Keegans Bayou at Roark Road, and about 16 miles southwest of Houston.

DRAINAGE AREA.--7.47 mi^2. Prior to Jan. 1, 1978, 7.87 mi^2.
Prior to Oct. 1, 1973, 6.93 mi^2.

PERIOD OF RECORD.--August 1964 to September 1971, August 5, 1974 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 25, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 748 ft^3/s, Sept. 19, 1979. (Gage height 78.97 ft).
Maximum elevation 83.55 ft April 14, 1966, (prior to channel improvement).
Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 250 ft^3/s, and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 22	0730	*330	74.10

Minimum discharge not determined.

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX

LOCATION.--Lat 29°39'23", long 95°33'43", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on Roark Road in southwest Houston.

DRAINAGE AREA.--11.5 mi² (29.8 km²). Oct. 1, 1976, to Dec. 31, 1977, 12.0 mi² (31.1 km²); August 1964 to Sept. 30, 1976, 11.6 mi² (30.0 km²). Drainage area changes were the result of ditch relocations or extensions.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

REVISED RECORDS.--WRD TX-74-1: Drainage area. WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Recording rain gage at station.

AVERAGE DISCHARGE.--16 years, 12.0 ft³/s (0.340 m³/s), 8,690 acre-ft/yr (10.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,640 ft³/s (46.4 m³/s) Sept. 19, 1979 (corrected), elevation, 74.54 ft (22.720 m); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
aDec. 12	1330	335	9.49	67.01	20.425
Jan. 22	0800	*846	24.0	70.46	21.476
aMay 8	1530	21	.59	62.53	19.059

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 3.3 ft³/s (0.093 m³/s) May 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	5.9	4.4	4.8	6.6	7.3	7.0	23	4.0	5.2	5.2	5.4
2	6.3	4.0	4.4	4.5	16	5.2	6.1	7.5	4.1	5.5	4.9	5.9
3	6.3	4.4	4.3	46	7.2	5.2	5.9	4.6	3.8	5.1	5.0	6.0
4	5.9	4.9	4.2	11	6.5	6.3	4.7	4.6	3.8	4.9	5.1	7.7
5	6.2	5.1	4.2	6.8	7.2	5.3	4.9	4.3	3.7	4.9	5.3	33
6	6.0	4.4	4.1	5.8	6.3	4.8	5.2	4.1	3.9	4.9	5.6	238
7	6.0	4.7	4.1	5.0	5.6	4.7	5.2	6.0	4.0	4.8	5.4	71
8	6.2	4.7	4.1	4.6	49	4.6	4.8	6.8	3.8	4.9	5.2	44
9	6.3	5.0	4.3	4.5	24	4.6	4.4	5.6	130	5.1	5.3	27
10	5.8	4.7	4.4	4.5	11	4.8	4.7	4.1	15	4.9	5.3	13
11	5.6	4.7	4.3	4.5	8.9	4.6	4.6	3.9	6.4	5.0	5.2	9.0
12	5.1	4.7	123	4.6	8.0	4.8	4.8	3.9	5.5	5.0	5.4	7.2
13	5.6	4.7	30	4.6	6.8	4.3	8.4	5.7	5.5	6.6	6.0	6.4
14	5.7	4.9	10	4.6	15	4.6	5.6	14	5.3	5.3	5.3	5.3
15	5.9	4.9	6.9	4.4	13	6.8	4.8	4.6	5.4	5.1	23	5.9
16	5.7	4.5	5.3	4.8	13	6.6	4.1	6.5	5.7	4.9	7.4	5.6
17	5.7	4.5	5.0	41	9.5	14	4.3	6.4	6.3	4.7	5.8	5.5
18	5.2	4.7	5.5	14	7.9	5.6	4.2	4.3	6.3	4.7	5.6	5.5
19	5.2	5.0	4.8	8.4	6.6	5.8	4.1	93	6.2	4.9	5.5	6.0
20	5.6	5.1	4.3	89	5.9	5.0	4.1	9.9	6.3	5.2	5.4	5.6
21	5.7	55	4.0	183	5.8	4.2	4.6	5.2	5.9	6.5	5.3	7.7
22	7.3	11	3.9	403	5.7	4.1	4.6	4.2	5.7	5.6	5.5	6.3
23	4.8	7.2	5.5	132	5.3	4.8	4.2	4.8	5.7	5.1	5.8	5.7
24	4.9	4.7	6.3	48	5.2	4.6	3.5	4.7	5.5	5.0	9.0	5.8
25	4.0	4.5	5.1	16	4.9	4.2	62	4.1	5.4	5.1	6.9	5.6
26	5.5	4.5	4.3	14	4.6	6.4	8.4	4.1	5.5	5.2	6.3	20
27	4.4	4.3	4.8	12	4.7	126	5.0	4.1	5.2	5.8	5.7	36
28	4.5	4.1	4.8	8.8	4.7	34	4.9	4.0	5.3	16	5.5	14
29	4.6	4.2	48	8.0	4.7	110	5.5	4.0	5.2	7.1	5.9	11
30	37	4.3	8.0	7.3	---	28	6.0	3.3	5.1	6.1	5.5	84
31	14	---	5.9	7.8	---	12	---	3.7	---	5.6	5.3	---
TOTAL	213.8	199.3	342.2	1117.3	279.6	453.2	210.6	269.0	289.5	174.7	193.6	709.1
MEAN	6.90	6.64	11.0	36.0	9.64	14.6	7.02	8.68	9.65	5.64	6.25	23.6
MAX	37	55	123	403	49	126	62	93	130	16	23	238
MIN	4.0	4.0	3.9	4.4	4.6	4.1	3.5	3.3	3.7	4.7	4.9	5.3
AC-FT	424	395	679	2220	555	899	418	534	574	347	384	1410
(††)	2.08	1.45	3.62	5.80	1.64	3.53	1.39	3.10	1.86	1.10	1.89	8.27

CAL YR 1979 TOTAL 10953.4 MEAN 30.0 MAX 1100 MIN 2.3 AC-FT 21730 †† 61.35
WTR YR 1980 TOTAL 4451.9 MEAN 12.2 MAX 403 MIN 3.3 AC-FT 8830 †† 35.73

†† Weighted-mean rainfall, in inches based on four rain gages.

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
11...	0935	4.2	787	7.1	18.0	5	4.8	7.9	81	3.9
12...	0940	18	616	7.2	19.5	10	110	5.9	63	26
12...	1420	318	169	6.8	14.5	50	220	9.3	89	11
13...	1015	28	257	6.8	10.5	35	--	9.3	82	8.4
MAY										
08...	1530	20	440	7.2	23.0	10	68	5.5	64	14
08...	1610	17	500	7.2	22.5	10	34	6.6	76	10
27...	1100	4.1	760	7.2	27.0	10	27	5.0	62	16
AUG										
12...	0905	5.1	750	7.4	27.0	5	11	3.9	48	16

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
11...	66	6	1	--	--	--	--	--	--
12...	38000	16000	2900	170	5	52	9.6	57	1.9
12...	20000	14000	7900	--	--	--	--	--	--
13...	340	150	170	--	--	--	--	--	--
MAY									
08...	34000	6700	650	--	--	--	--	--	--
08...	30000	4300	580	150	0	45	8.5	44	1.6
27...	6700	700	500	190	0	57	12	80	2.5
AUG									
12...	54000	12000	110	180	0	52	11	78	2.2

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
DEC									
11...	--	--	--	--	--	--	--	--	6
12...	7.1	160	0	34	62	.3	22	343	372
12...	--	--	--	--	--	--	--	--	506
13...	--	--	--	--	--	--	--	--	171
MAY									
08...	--	--	--	--	--	--	--	--	159
08...	5.6	160	0	23	48	.2	18	286	150
27...	8.3	210	0	34	91	.5	24	435	58
AUG									
12...	8.9	197	0	30	91	.2	26	415	25

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC									
11...	5	6.7	.160	6.9	2.20	1.3	3.50	7.00	10
12...	61	3.0	.150	3.1	.630	3.5	4.10	9.50	29
12...	50	1.1	.040	1.1	.260	1.7	2.00	.800	18
13...	19	1.7	.060	1.8	.270	1.5	1.80	1.40	16
MAY									
08...	7	.46	.070	.53	.380	1.5	1.90	2.30	43
08...	11	.24	.040	.28	.410	1.8	2.20	2.30	23
27...	8	.92	.180	1.1	1.70	1.4	3.10	6.90	8.6
AUG									
12...	14	4.1	.270	4.4	2.40	1.3	3.70	6.70	11

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
DEC 12...	0940	6	100	<1	0	0	<10
MAY 27...	1100	6	100	<1	0	3	<10
AUG 12...	0905	6	90	<1	0	2	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC 12...	0	20	.1	1	0	30
MAY 27...	2	<1	.1	1	0	9
AUG 12...	0	<1	.1	2	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
DEC 12...	0940	.00	.00	.00	.30	.00	.00	.00	.15	.01
MAY 27...	1100	<.10	.00	.00	.00	.00	.00	.00	.53	.00
AUG 12...	0905	.00	.00	.00	.00	.00	.00	.00	.59	.00

SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.00	.00	.02	.22	.00	.00
MAY 27...	.00	.00	.00	.00	.00	<.02	.00	.00	.00
AUG 12...	.00	.00	.00	.00	.00	.01	.00	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.00	0	.00	--	--	--
MAY 27...	.00	.00	.00	.00	0	.00	--	.01	--
AUG 12...	.00	.00	.00	.00	0	.00	.14	.00	.00

STA. NO. 08074800 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

KEEGANS BAYOU AT ROARK RD. NEAR HOUSTON, TX. — STORM OF DEC. 12-14, 1979

DATE & TIME	GAGE NUMBER 4800	4780	303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DEC. 12						
0000	0.0	0.0	0.0	0.0	4.0	0.0022
0815	0.0	0.0	0.10	0.05	4.0	0.0045
0830	0.0	0.0	0.12	0.05	4.0	0.0047
0900	0.0	0.0	0.30	0.13	5.0	0.0050
0915	0.05	0.12	0.45	0.26	8.0	0.0052
0930	0.10	0.24	0.55	0.37	10.0	0.0056
0945	0.18	0.24	0.85	0.51	26.0	0.0065
1000	0.30	0.36	1.02	0.65	43.0	0.0079
1015	0.31	0.36	1.06	0.67	62.0	0.0100
1030	0.35	0.48	1.12	0.75	61.0	0.0120
1045	0.51	0.60	1.29	0.90	60.0	0.0141
1100	0.62	0.72	1.70	1.15	102.0	0.0175
1115	0.85	0.72	1.84	1.24	150.0	0.0226
1130	0.92	0.96	1.86	1.36	201.0	0.0327
1200	1.10	1.08	2.12	1.55	246.0	0.0451
1215	1.12	1.20	2.28	1.68	282.0	0.0546
1230	1.12	1.32	2.38	1.78	294.0	0.0645
1245	1.22	1.32	2.40	1.80	312.0	0.0751
1300	1.22	1.32	2.42	1.80	320.0	0.0912
1330	1.26	1.32	2.45	1.82	335.0	0.1138
1400	1.30	1.44	2.48	1.89	330.0	0.1471
1500	1.31	1.44	2.50	1.90	299.0	0.1874
1600	1.37	1.56	2.84	2.12	289.0	0.2264
1700	1.37	1.68	2.84	2.17	308.0	0.2679
1800	1.37	1.68	2.84	2.17	276.0	0.3237
2000	1.37	1.68	2.84	2.17	165.0	0.3681
2200	1.37	1.68	2.84	2.17	87.0	0.3916
2400	1.37	1.68	2.84	2.17	54.0	0.4098
DEC. 13						
0000	1.37	1.68	2.84	2.17	54.0	0.4098
0300	1.37	1.68	2.84	2.17	35.0	0.4239
0600	1.37	1.68	2.84	2.17	28.0	0.4409
1200	1.48	1.80	2.87	2.25	27.0	0.4627
1800	1.53	1.92	2.91	2.33	28.0	0.4854
2400	1.53	1.92	2.91	2.33	16.0	0.5048
DEC. 14						
0000	1.53	1.92	2.91	2.33	16.0	0.5048
1200	1.53	1.92	2.91	2.33	10.0	0.5209
2400	1.53	1.92	2.91	2.33	8.0	0.5274

STA. NO. 08074800	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR
KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX.	STORM OF JAN. 20-25, 1980	

DATE & TIME	GAGE NUMBER 4800	GAGE NUMBER 303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20					
0000	0.0	0.0	0.0	6.0	0.0063
1530	0.0	0.0	0.0	6.0	0.0127
1600	0.0	0.0	0.0	6.0	0.0131
1630	0.0	0.18	0.11	6.0	0.0135
1700	0.14	0.32	0.25	12.0	0.0144
1730	0.22	0.65	0.48	30.0	0.0164
1800	0.34	0.95	0.71	78.0	0.0216
1830	0.91	1.02	0.98	243.0	0.0380
1900	0.98	1.04	1.02	265.0	0.0559
1930	1.01	1.18	1.11	302.0	0.0762
2000	1.04	1.21	1.14	344.0	0.0994
2030	1.12	1.24	1.19	359.0	0.1236
2100	1.22	1.31	1.27	386.0	0.1496
2130	1.22	1.37	1.31	393.0	0.1760
2200	1.22	1.48	1.38	383.0	0.2148
2300	1.30	1.58	1.47	378.0	0.2657
2400	1.33	1.60	1.49	356.0	0.3017
JAN. 21					
0000	1.33	1.60	1.49	356.0	0.3017
0030	1.33	1.62	1.50	336.0	0.3243
0100	1.42	1.63	1.55	327.0	0.3904
0330	1.42	1.63	1.55	243.0	0.4395
0400	1.66	1.74	1.71	292.0	0.4592
0430	1.72	1.75	1.74	282.0	0.4782
0500	1.72	1.75	1.74	279.0	0.5252
0700	1.72	1.75	1.74	209.0	0.5815
0900	1.72	1.75	1.74	148.0	0.6314
1200	1.72	1.75	1.74	95.0	0.6698
1500	1.72	1.75	1.74	67.0	0.6856
1530	1.74	1.75	1.75	64.0	0.6899
1600	1.77	1.83	1.81	61.0	0.6940
1630	1.78	1.83	1.81	58.0	0.6979
1700	1.78	1.97	1.89	55.0	0.7016
1730	1.85	2.35	2.15	70.0	0.7063
1800	1.85	2.45	2.21	102.0	0.7132
1830	2.02	2.50	2.31	125.0	0.7216
1900	2.05	2.52	2.33	161.0	0.7324
1930	2.12	2.57	2.39	198.0	0.7458
2000	2.14	2.57	2.40	226.0	0.7610
2030	2.14	2.57	2.40	249.0	0.7778

STA. NO. 08074800 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX. — STORM OF JAN. 20-25, 1980

DATE & TIME	GAGE NUMBER 4800	GAGE NUMBER 303R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21					
2100	2.14	2.57	2.40	255.0	0.7950
2130	2.14	2.57	2.40	253.0	0.8120
2200	2.14	2.57	2.40	248.0	0.8287
2230	2.14	2.57	2.40	234.0	0.8445
2300	2.14	2.57	2.40	222.0	0.8594
2330	2.14	2.57	2.40	209.0	0.8735
2400	2.19	2.57	2.42	202.0	0.9484
JAN. 22					
0000	2.19	2.57	2.42	202.0	0.9484
0500	2.22	2.65	2.48	122.0	0.9936
0530	2.32	2.74	2.57	120.0	1.0017
0600	3.07	3.05	3.06	434.0	1.0309
0630	3.42	3.10	3.23	670.0	1.0761
0700	3.48	3.25	3.34	723.0	1.1248
0730	3.84	3.35	3.55	825.0	1.1803
0800	3.87	3.35	3.56	846.0	1.2373
0830	3.88	3.38	3.58	807.0	1.2917
0900	3.88	3.40	3.59	756.0	1.3426
0930	3.97	3.65	3.78	698.0	1.3897
1000	4.24	3.80	3.98	745.0	1.4399
1030	4.25	3.85	4.01	720.0	1.4884
1100	4.30	3.88	4.05	708.0	1.5599
1200	4.35	3.89	4.07	637.0	1.7101
1430	4.35	3.89	4.07	449.0	1.8463
1630	4.35	3.89	4.07	365.0	1.9323
1800	4.35	3.89	4.07	325.0	2.0090
2000	4.35	3.89	4.07	286.0	2.1246
2400	4.35	3.89	4.07	232.0	2.2809
JAN. 23					
0000	4.35	3.89	4.07	232.0	2.2809
0600	4.35	3.89	4.07	164.0	2.4135
1200	4.35	3.89	4.07	122.0	2.5121
1800	4.35	3.89	4.07	92.0	2.5865
2400	4.35	3.89	4.07	74.0	2.6762
JAN. 24					
0000	4.35	3.89	4.07	74.0	2.6762
1200	4.35	3.89	4.07	44.0	2.7474
2400	4.35	3.89	4.07	32.0	2.7862
JAN. 25					
0000	4.35	3.89	4.07	32.0	2.7862
0600	4.35	3.89	4.07	16.0	2.8121
2400	4.35	3.89	4.07	12.0	2.8266

08074810 BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'21", long 95°31'41", Harris County, Hydrologic unit 12040104 on right bank on downstream side of bridge at Gessner Drive in southwest Houston.

DRAINAGE AREA (revised).--53.2 mi^2. Prior to Jan. 1, 1978, 51.7 mi^2.

PERIOD OF RECORD.--Feb. 1, 1977 to current year.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gages is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 11,300 ft^3/s, Sept. 19, 1979 (elevation 59.21 ft); minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,200 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 22	0845	*4370	53.22

Minimum dischrge not determined.

STA. NO. 08074810	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
BRAYS BAYOU AT GESSNER DR., HOUSTON, TX.	STORM OF JAN. 20-25, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4850	4800	303R	33R	32R				
JAN. 20									
0000	0.0	0.0	0.0	0.0	0.0		0.0	57.0	0.0125
1500	0.10	0.0	0.0	0.04	0.0		0.01	45.0	0.0226
1530	0.20	0.0	0.0	0.04	0.0		0.01	46.0	0.0233
1600	0.20	0.0	0.0	0.23	0.06		0.05	46.0	0.0240
1630	0.20	0.0	0.18	0.37	0.21		0.15	47.0	0.0246
1700	0.40	0.14	0.32	0.51	0.36		0.30	65.0	0.0256
1730	0.50	0.22	0.65	0.70	0.59		0.49	117.0	0.0273
1800	0.50	0.34	0.95	0.88	0.82		0.69	176.0	0.0298
1830	1.00	0.91	1.02	0.94	0.85		0.91	627.0	0.0390
1900	1.10	0.98	1.04	0.99	0.88		0.96	1050.0	0.0543
1930	1.10	1.01	1.18	1.05	0.98		1.04	1320.0	0.0735
2000	1.10	1.04	1.21	1.11	1.08		1.10	1390.0	0.0937
2030	1.20	1.12	1.24	1.20	1.12		1.15	1420.0	0.1144
2100	1.20	1.22	1.31	1.28	1.16		1.22	1420.0	0.1351
2130	1.20	1.22	1.37	1.33	1.24		1.26	1460.0	0.1564
2200	1.20	1.22	1.48	1.38	1.33		1.32	1470.0	0.1885
2300	1.30	1.30	1.58	1.45	1.41		1.41	1500.0	0.2322
2400	1.30	1.33	1.60	1.64	1.43		1.44	1500.0	0.2759
JAN. 21									
0000	1.30	1.33	1.60	1.64	1.43		1.44	1500.0	0.2759
0100	1.30	1.42	1.63	2.09	1.54		1.54	1500.0	0.3523
0330	1.40	1.42	1.63	2.14	1.58		1.56	1490.0	0.4174
0400	1.40	1.66	1.74	2.25	1.67		1.70	1460.0	0.4387
0430	1.60	1.72	1.75	2.25	1.67		1.73	1490.0	0.4604
0500	1.60	1.72	1.75	2.26	1.67		1.73	1510.0	0.5154
0700	1.60	1.72	1.75	2.27	1.67		1.73	1290.0	0.5905
0900	1.60	1.72	1.75	2.30	1.67		1.73	1050.0	0.6670
1200	1.60	1.72	1.75	2.31	1.67		1.73	808.0	0.7376
1500	1.60	1.72	1.75	2.32	1.68		1.73	616.0	0.7735
1600	1.60	1.77	1.83	2.34	1.75		1.79	593.0	0.7864
1630	1.60	1.78	1.83	2.34	1.81		1.82	556.0	0.7945
1700	1.60	1.78	1.97	2.37	1.87		1.87	556.0	0.8026
1730	1.70	1.85	2.35	2.45	2.01		2.04	537.0	0.8104
1800	1.80	1.85	2.45	2.53	2.15		2.12	590.0	0.8190
1830	1.80	2.02	2.50	2.62	2.18		2.20	695.0	0.8291
1900	1.90	2.05	2.52	2.71	2.22		2.24	837.0	0.8413
1930	2.00	2.12	2.57	2.74	2.23		2.28	1010.0	0.8560
2000	2.00	2.14	2.57	2.76	2.24		2.29	1140.0	0.8809
2100	2.00	2.14	2.57	2.76	2.25		2.29	1300.0	0.9188
2200	2.00	2.14	2.57	2.77	2.26		2.30	1310.0	0.9570

STA. NO. 08074810 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BRAYS BAYOU AT GESSNER DR., HOUSTON, TX. — STORM OF JAN. 20-25, 1980

DATE & TIME	GAGE NUMBER 4850	4800	303R	33R	32R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21										
2300	2.00	2.14	2.57	2.77	2.26			2.30	1250.0	0.9843
2330	2.00	2.16	2.57	2.77	2.26			2.30	1210.0	1.0019
2400	2.20	2.19	2.57	2.77	2.26			2.32	1180.0	1.0964
JAN. 22										
0000	2.20	2.19	2.57	2.77	2.26			2.32	1180.0	1.0964
0500	2.20	2.22	2.65	2.84	2.34			2.38	822.0	1.1623
0530	2.20	2.32	2.74	2.96	2.52			2.51	799.0	1.1739
0600	2.50	3.07	3.05	3.09	2.70			2.89	1080.0	1.1896
0630	3.20	3.42	3.10	3.20	2.81			3.09	2100.0	1.2202
0700	3.40	3.48	3.25	3.32	2.92			3.20	2970.0	1.2635
0730	3.70	3.84	3.35	3.36	2.94			3.35	3610.0	1.3160
0800	3.70	3.87	3.35	3.39	2.96			3.37	3940.0	1.3734
0830	3.70	3.88	3.40	3.44	2.99			3.40	4320.0	1.4206
0845	3.70	3.88	3.40	3.46	3.00			3.40	4370.0	1.4524
0900	3.80	3.88	3.40	3.49	3.02			3.42	4090.0	1.4971
0930	3.80	3.97	3.65	3.56	3.23			3.58	3720.0	1.5513
1000	4.10	4.24	3.80	3.64	3.44			3.79	3590.0	1.6036
1030	4.20	4.25	3.85	3.68	3.46			3.82	3760.0	1.6583
1100	4.20	4.30	3.88	3.72	3.47			3.85	3860.0	1.7426
1200	4.30	4.35	3.89	3.74	3.47			3.87	3670.0	1.9030
1400	4.30	4.35	3.89	3.74	3.47			3.87	2590.0	2.0916
1700	4.30	4.35	3.89	3.74	3.47			3.87	1790.0	2.2480
2000	4.30	4.35	3.89	3.74	3.47			3.87	1260.0	2.3765
2400	4.30	4.35	3.89	3.74	3.47			3.87	880.0	2.5046
JAN. 23										
0000	4.30	4.35	3.89	3.74	3.47			3.87	880.0	2.5046
0600	4.30	4.35	3.89	3.74	3.47			3.87	567.0	2.6037
1200	4.30	4.35	3.89	3.74	3.47			3.87	412.0	2.6757
1800	4.30	4.35	3.89	3.74	3.47			3.87	313.0	2.7304
2400	4.30	4.35	3.89	3.74	3.47			3.87	243.0	2.7800
JAN. 24										
0000	4.30	4.35	3.89	3.74	3.47			3.87	243.0	2.7800
0800	4.30	4.35	3.89	3.74	3.47			3.87	170.0	2.8196
1600	4.30	4.35	3.89	3.74	3.47			3.87	141.0	2.8524
2400	4.30	4.35	3.89	3.74	3.47			3.87	123.0	2.8883
JAN. 25										
0000	4.30	4.35	3.89	3.74	3.47			3.87	123.0	2.8883
1200	4.30	4.35	3.89	3.74	3.47			3.87	86.0	2.9183
2400	4.30	4.35	3.89	3.74	3.47			3.87	70.0	2.9305

BINTLIFF DITCH DRAINAGE BASIN

The location of data-collection sites in and near the Bintliff Ditch drainage basin are shown in figure 13. The gage was removed Jan. 31, 1980 to allow for construction of a new bridge.

Weighted-mean rainfall for the 1980 water year was not determined.

The storm of Jan. 20-22 was selected for analysis at station 08074850, Bintliff Ditch at Bissonnet Street, Houston, Tex.

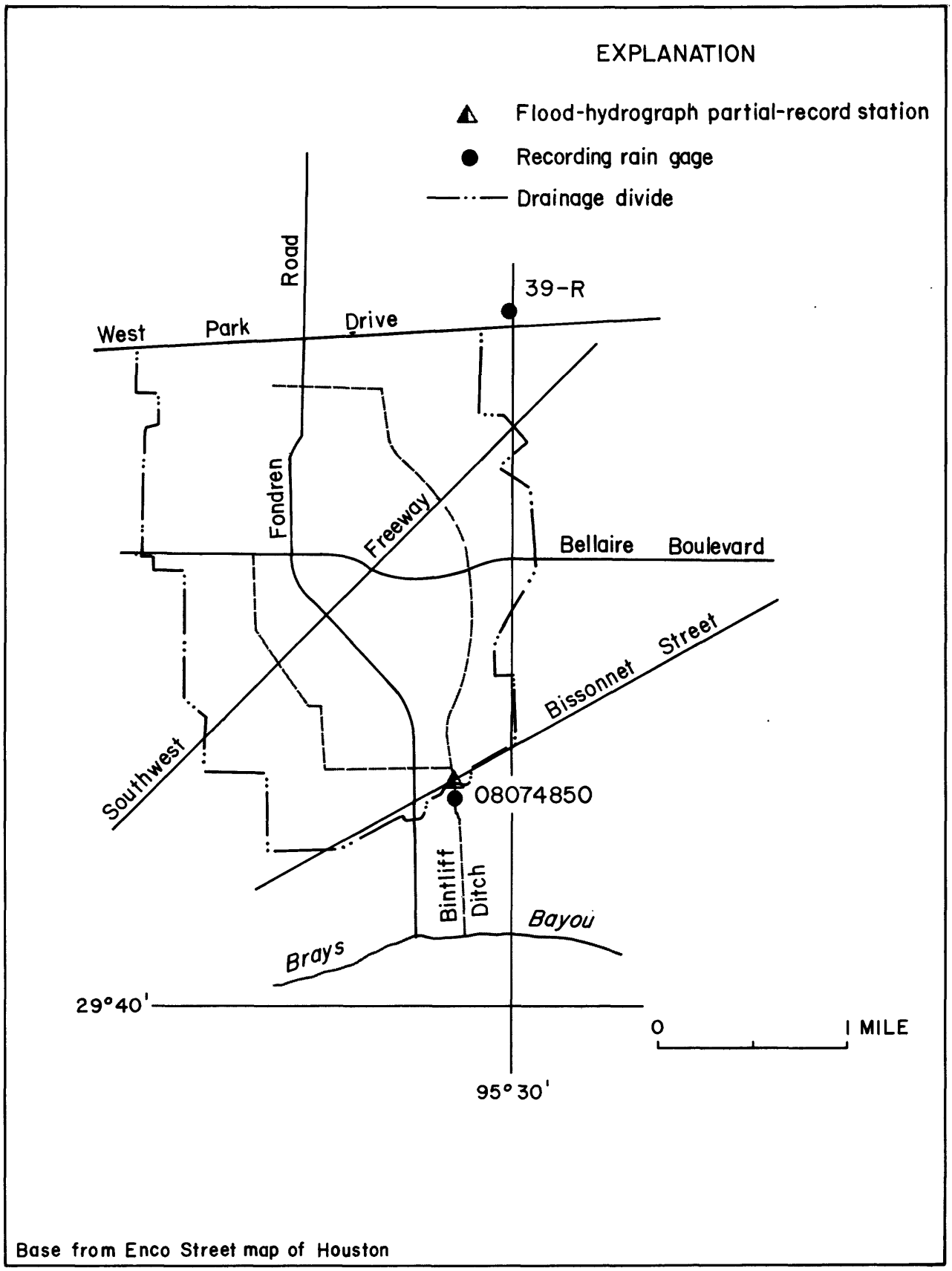

Figure 13 . –Locations of data-collection sites in and near the Bintliff Ditch drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 12.--Storm rainfall-runoff data, 1980 Water Year, Bintliff Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bintliff Ditch at Bissonnet St., Houston, Tx. (Drainage area -- 4.38 mi^2)								
Jan. 20-21, 1980	12.7	1.60	0.30	0.40	0.50	3.67	0.85	801
Jan. 21, 1980	2.3	0.40	.05	.10	.20			234
Jan. 21-22, 1980	4.8	2.30	.60	.80	1.00			1,030*

* - Annual peak discharge for 1980 WY.

08074850 Bintliff Ditch at Bissonnet Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°41'16", long 95°30'20", Harris County, Hydrologic Unit 12040104, downstream side of bridge on Bissonnet Street, in southwest Houston, Tex.

DRAINAGE AREA.--4.38 mi^2. Prior to October 1, 1973, 4.29 mi^2.

PERIOD OF RECORD.--August 1968 to January 30, 1980. Gaged was removed January 30, 1980 to allow new bridge to be constructed.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to Mar. 29, 1978 flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 1,280 ft^3/s, (revised), June 15, 1976 (elevation 63.19 ft). Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 900 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 22	0635	*1,030	61.50

Minimum discharge not determined.

STA. NO. 08074850	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BINTLIFF DITCH AT BISSONNET ST, HOUSTON, TX. — STORM OF JAN. 20-22, 1980

DATE & TIME	GAGE NUMBER 4850	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20				
0000	0.0	0.0	1.0	0.0005
0300	0.10	0.10	2.0	0.0058
1500	0.10	0.10	2.0	0.0103
1530	0.20	0.20	10.0	0.0138
1700	0.40	0.40	41.0	0.0265
1715	0.50	0.50	124.0	0.0375
1730	0.50	0.50	231.0	0.0579
1745	0.60	0.60	318.0	0.0860
1800	0.60	0.60	384.0	0.1200
1815	0.70	0.70	606.0	0.1736
1830	1.00	1.00	784.0	0.2314
1840	1.00	1.00	801.0	0.2668
1845	1.10	1.10	792.0	0.3135
1900	1.10	1.10	742.0	0.4119
1930	1.10	1.10	603.0	0.5186
2000	1.10	1.10	492.0	0.6056
2030	1.20	1.20	423.0	0.6804
2100	1.20	1.20	357.0	0.7752
2200	1.20	1.20	242.0	0.8608
2300	1.30	1.30	207.0	0.9340
2400	1.30	1.30	155.0	0.9889
JAN. 21				
0000	1.30	1.30	155.0	0.9889
0100	1.30	1.30	130.0	1.0349
0200	1.40	1.40	159.0	1.0911
0300	1.40	1.40	110.0	1.1203
0330	1.40	1.40	85.0	1.1353
0400	1.40	1.40	163.0	1.1642
0430	1.60	1.60	240.0	1.2066
0500	1.60	1.60	214.0	1.2634
0600	1.60	1.60	118.0	1.3051
0700	1.60	1.60	67.0	1.3288
0800	1.60	1.60	42.0	1.3437
0900	1.60	1.60	30.0	1.3649
1200	1.60	1.60	15.0	1.3862
1700	1.60	1.60	8.0	1.3939
1730	1.70	1.70	30.0	1.3993
1800	1.80	1.80	69.0	1.4115
1830	1.80	1.80	160.0	1.4398
1900	1.90	1.90	217.0	1.4781

STA. NO. 08074850 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BINTLIFF DITCH AT BISSONNET ST, HOUSTON, TX. — STORM OF JAN. 20-22, 1980

DATE & TIME	GAGE NUMBER 4850	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21				
1930	2.00	2.00	234.0	1.5195
2000	2.00	2.00	225.0	1.5792
2100	2.00	2.00	152.0	1.6330
2200	2.00	2.00	89.0	1.6724
2330	2.00	2.00	49.0	1.6897
2400	2.20	2.20	45.0	1.7016
JAN. 22				
0000	2.20	2.20	45.0	1.7016
0100	2.20	2.20	30.0	1.7176
0300	2.20	2.20	30.0	1.7414
0530	2.20	2.20	30.0	1.7560
0545	2.30	2.30	129.0	1.7674
0600	2.50	2.50	577.0	1.8185
0615	3.10	3.10	929.0	1.9143
0635	3.20	3.20	1030.0	2.0054
0645	3.30	3.30	1020.0	2.0806
0700	3.30	3.30	978.0	2.1671
0715	3.30	3.30	977.0	2.2535
0730	3.70	3.70	1010.0	2.3429
0745	3.70	3.70	995.0	2.4309
0800	3.70	3.70	939.0	2.5554
0830	3.70	3.70	792.0	2.6955
0900	3.80	3.80	632.0	2.8073
0930	3.80	3.80	518.0	2.8990
1000	4.10	4.10	614.0	3.0076
1030	4.20	4.20	645.0	3.2358
1200	4.30	4.30	435.0	3.4666
1330	4.30	4.30	165.0	3.5542
1500	4.30	4.30	79.0	3.6171
1800	4.30	4.30	25.0	3.6569
2400	4.30	4.30	10.0	3.6675

HUMMINGBIRD STREET DITCH DRAINAGE BASIN

The location of data-collection sites in the Hummingbird Street Ditch drainage basin are shown in figure 14.

Weighted-mean rainfall for the 1980 water year was not determined.

No storms were analyzed for the 1980 water year.

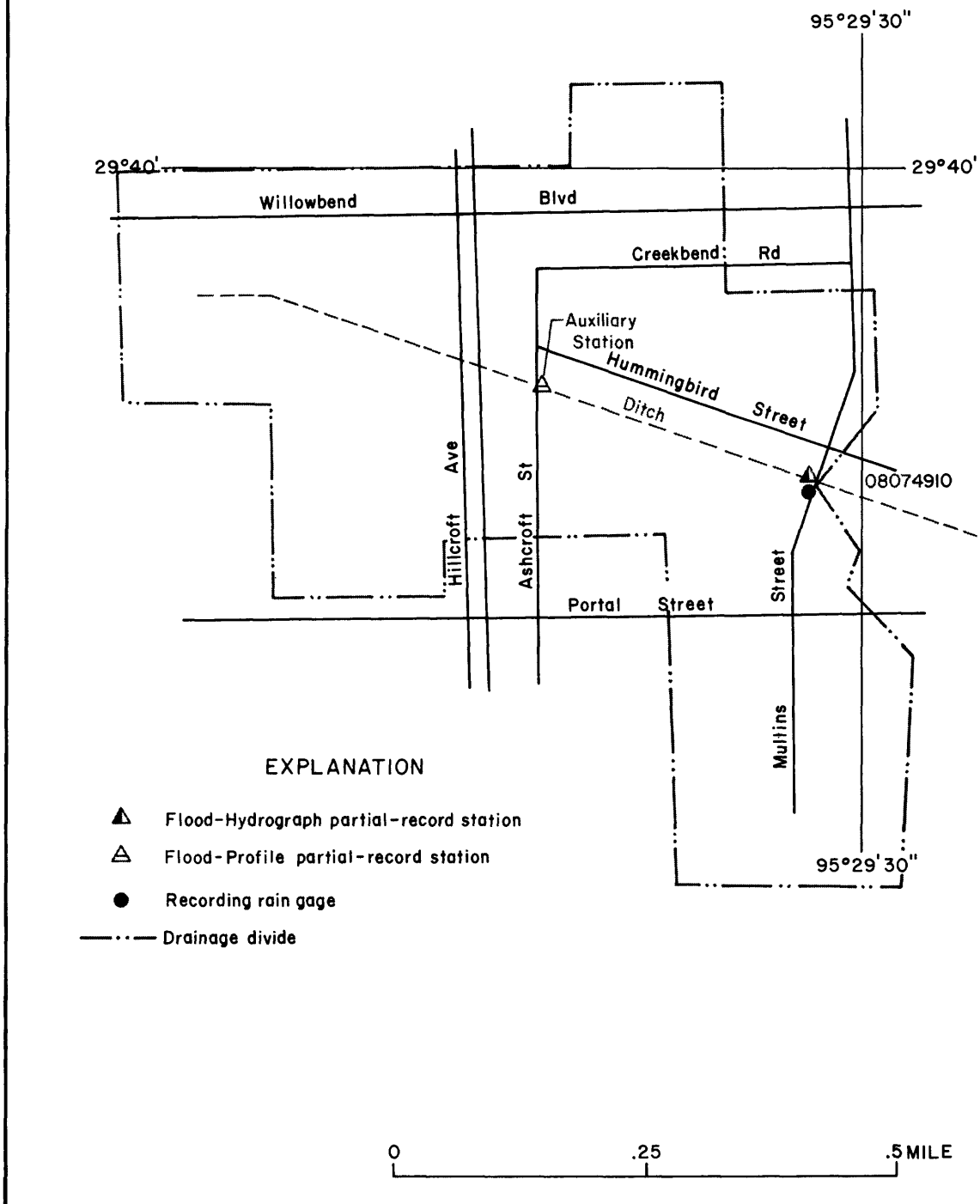

Figure 14.-Locations of data-collection sites in and near the Hummingbird Street Ditch drainage basin

08074910 HUMMINGBIRD STREET DITCH AT HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'44", long 95°29'11", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at intersection of Hummingbird Street Ditch and Mullins Street in southwest Houston.

DRAINAGE AREA.--0.32 mi^2.

PERIOD OF RECORD.--Nov. 3, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1924, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor. Heavy vegetal growth makes a stage-discharge relationship difficult to define.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 149 ft^3/s Apr. 19, 1979; maximum gage-height, 59.31 ft, June 2, 1979; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 75 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 22	unknown	*98	57.35

No flow for many days.

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°41'49", long 95°24'43", Harris County, Hydrologic Unit 12040104, near right bank at downstream side of pile bend of Main Street Bridge in southwest Houston, 1.6 mi (2.6 km) upstream from Harris Gully, and 11.6 mi (18.7 km) upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi² (245.8 km²). Prior to October 1976, 88.4 mi² (229.0 km²). Changes due to drainage ditch relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft (2.182 m) National Geodetic Vertical Datum of 1929, 197. adjustment; unadjusted for land-surface subsidence. Prior to June 20, 1936, nonrecording gage, and June 20, 1936, to Nov. 25, 1959, water-stage recorder at site 0.8 mi (1.3 km) downstream at same datum.

REMARKS.--Water-discharge records good. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--44 years, 116 ft³/s (3.285 m³/s), 84,040 acre-ft/yr (104 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s (821 m³/s) June 15, 1976, gage height, 52.13 ft (15.889 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Oct. 11, 12, 1937, Mar. 14, Apr. 1, 1958.
Maximum discharge, that of June 15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1911, 56.0 ft (17.07 m) in June 1919 before channel rectification, former site, from information by engineer for city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1815	6,390	181	36.04	10.985
aDec. 12	1315	3,100	87.8	32.13	9.793
Jan. 22	1045	*11,300	320	40.66	12.393

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 78 ft³/s (2.21 m³/s) June 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	127	99	120	100	195	125	244	84	87	111	119
2	118	103	100	100	140	97	107	192	85	91	109	198
3	117	100	99	600	120	94	105	101	84	92	105	122
4	115	97	98	200	105	115	96	88	82	92	109	110
5	110	97	93	150	120	96	91	81	82	96	248	424
6	110	97	89	130	110	88	99	82	83	99	114	1810
7	108	91	88	120	100	89	107	129	83	104	209	517
8	105	92	93	110	405	90	93	155	83	103	141	579
9	101	103	92	105	528	88	84	117	750	102	115	240
10	100	92	88	98	193	91	83	85	232	102	102	137
11	98	90	88	94	127	94	85	80	102	100	109	112
12	93	90	1070	92	109	92	94	81	90	102	106	106
13	90	91	475	90	103	79	264	117	84	102	102	102
14	88	90	180	95	243	81	116	258	78	106	99	99
15	88	93	135	90	309	98	97	103	80	104	290	107
16	89	93	108	85	245	114	92	189	85	107	220	104
17	89	91	95	742	160	227	83	206	80	103	115	100
18	89	91	90	292	130	98	84	122	81	102	107	97
19	89	92	86	143	120	90	81	842	82	103	102	110
20	101	93	84	882	110	97	82	184	81	110	106	105
21	108	725	82	2150	105	88	82	109	121	342	98	105
22	147	257	80	4880	100	85	85	91	143	156	98	99
23	96	188	120	803	100	105	83	87	142	122	97	95
24	91	103	250	300	100	97	82	90	90	110	130	91
25	89	97	120	250	133	83	723	82	84	110	122	98
26	93	97	90	195	106	145	151	92	84	110	110	346
27	92	97	87	160	95	1610	93	85	83	263	117	582
28	92	94	85	140	95	658	90	86	83	452	142	244
29	102	92	650	125	107	1030	85	92	84	173	145	140
30	998	90	200	115	---	383	89	86	89	125	168	900
31	456	---	140	105	---	174	---	85	---	116	135	---
TOTAL	4381	3753	5254	13561	4518	6571	3631	4441	3494	4086	4081	7998
MEAN	141	125	169	437	156	212	121	143	116	132	132	267
MAX	998	725	1070	4880	528	1610	723	842	750	452	290	1810
MIN	88	90	80	85	95	79	81	80	78	87	97	91
AC-FT	8690	7440	10420	26900	8960	13030	7200	8810	6930	8100	8090	15860
(††)	2.11	1.47	3.13	5.84	1.73	3.78	1.57	3.31	1.99	1.64	2.01	7.63

CAL YR 1979 TOTAL 116683 MEAN 320 MAX 9620 MIN 65 AC-FT 231400 †† 59.41
WTR YR 1980 TOTAL 65769 MEAN 180 MAX 4880 MIN 78 AC-FT 130500 †† 36.21

†† Weighted-mean rainfall, in inches, based on eleven rain gages.

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
11...	1030	82	781	7.5	21.5	5	12	10.5	117	4.2
12...	1050	239	590	6.9	20.5	25	340	7.3	79	42
12...	1505	2590	205	6.7	15.5	35	170	8.7	85	42
13...	1125	374	349	7.2	11.5	100	130	9.4	85	13
MAY										
27...	1230	86	840	7.7	29.0	15	3.4	13.2	169	10
AUG										
12...	1010	86	740	8.2	29.0	5	9.8	10.3	132	7.7

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
DEC									
11...	50	K2	K4	--	--	--	--	--	--
12...	140000	14000	5800	110	0	33	6.9	87	3.6
12...	120000	45000	8000	--	--	--	--	--	--
13...	170000	52000	34000	--	--	--	--	--	--
MAY									
27...	1700	K18	K6	150	0	44	9.9	110	3.9
AUG									
12...	5800	60	K1	140	0	41	7.9	99	3.7

08075000 BRAYS BAYOU AT HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
DEC									
11...	--	--	--	--	--	--	--	--	18
12...	6.6	190	0	32	55	.5	19	354	354
12...	--	--	--	--	--	--	--	--	411
13...	--	--	--	--	--	--	--	--	188
MAY									
27...	6.8	230	0	42	100	.3	23	474	21
AUG									
12...	6.5	230	0	41	69	.7	23	426	8

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OEC									
11...	8	.75	.240	.99	4.70	4.9	9.60	.800	14
12...	62	.91	.190	1.1	3.00	6.8	9.80	7.80	40
12...	53	.50	.050	.55	.860	2.5	3.40	.300	25
13...	26	.89	.080	.97	.750	1.6	2.30	1.20	15
MAY									
27...	7	1.1	.270	1.4	1.60	1.6	3.20	.120	11
AUG									
12...	4	2.3	.480	2.8	2.10	1.4	3.50	3.50	25

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
DEC							
12...	1050	15	100	<1	10	0	30
MAY							
27...	1230	6	100	1	0	5	<10
AUG							
12...	1010	11	100	<1	0	5	<10

08075000 BRAYS BAYOU AT HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC 12...	6	80	.0	1	0	30
MAY 27...	0	5	.1	1	0	10
AUG 12...	0	2	.0	1	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
DEC 12...	1050	.00	.00	.00	.50	.00	.00	.00	.49	.02
MAY 27...	1230	<.10	.00	<.01	.00	.00	<.01	.00	1.1	<.01
AUG 12...	1010	.00	.00	.00	.10	.00	.00	.00	.63	.01

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.00	.00	.04	.43	.00	.00
MAY 27...	<.13	.00	.00	<.01	<.01	<.05	.10	--	.00
AUG 12...	.00	.00	.00	.00	.00	.04	.05	.00	.00

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC 12...	.00	.00	.00	.15	0	.00	.00	.01	.02
MAY 27...	.00	.00	.00	.00	0	.00	.08	.00	.00
AUG 12...	.00	.00	.01	.00	0	.00	.08	.00	.00

STA. NO. 08075000 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BRAYS BAYOU AT HOUSTON, TX. — STORM OF DEC. 12-14, 1979

DATE & TIME	GAGE NUMBER 4850	4800	308R	303R	32R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DEC. 12										
0000	0.0	0.0	0.0	0.0	0.0			0.0	94.0	0.0054
0700	0.0	0.0	0.03	0.0	0.0			0.00	83.0	0.0108
0800	0.0	0.0	0.03	0.0	0.40			0.10	82.0	0.0118
0830	0.0	0.0	0.03	0.12	0.65			0.18	82.0	0.0123
0845	0.0	0.0	0.03	0.30	0.78			0.24	82.0	0.0126
0900	0.0	0.0	0.05	0.45	0.90			0.30	82.0	0.0130
0915	0.10	0.05	0.05	0.55	1.01			0.38	82.0	0.0133
0930	0.10	0.10	0.06	0.85	1.12			0.46	82.0	0.0136
0945	0.10	0.18	0.06	1.02	1.23			0.53	82.0	0.0140
1000	0.20	0.30	0.07	1.06	1.34			0.62	83.0	0.0143
1015	0.30	0.31	0.16	1.12	1.42			0.69	89.0	0.0147
1030	0.30	0.35	0.26	1.29	1.49			0.75	106.0	0.0151
1045	0.30	0.51	0.36	1.70	1.56			0.87	188.0	0.0159
1100	0.50	0.62	0.46	1.84	1.64			1.01	313.0	0.0172
1115	0.60	0.85	0.54	1.86	1.66			1.10	412.0	0.0188
1130	0.70	0.92	0.62	1.92	1.69			1.17	462.0	0.0217
1200	0.80	1.10	0.78	2.12	1.74			1.29	688.0	0.0259
1215	1.00	1.12	0.86	2.28	1.75			1.34	1220.0	0.0309
1230	1.00	1.12	0.94	2.38	1.76			1.41	1980.0	0.0389
1245	1.00	1.22	1.02	2.40	1.76			1.45	2730.0	0.0501
1300	1.00	1.22	1.11	2.42	1.77			1.46	3010.0	0.0624
1315	1.00	1.24	1.12	2.44	1.80			1.48	3100.0	0.0750
1330	1.00	1.26	1.13	2.45	1.84			1.49	3070.0	0.0938
1400	1.00	1.30	1.15	2.46	1.92			1.53	2940.0	0.1178
1430	1.00	1.30	1.16	2.49	1.96			1.54	2800.0	0.1407
1500	1.00	1.31	1.16	2.50	1.99			1.55	2620.0	0.1728
1600	1.20	1.37	1.17	2.84	1.99			1.67	2220.0	0.2090
1700	1.20	1.37	1.17	2.84	1.99			1.67	2000.0	0.2417
1800	1.20	1.37	1.17	2.84	1.99			1.67	2170.0	0.2948
2000	1.20	1.37	1.17	2.84	1.99			1.67	1880.0	0.3562
2200	1.20	1.37	1.17	2.84	1.99			1.67	1410.0	0.4023
2400	1.20	1.37	1.17	2.84	1.99			1.67	1060.0	0.4455
DEC. 13										
0000	1.20	1.37	1.17	2.84	1.99			1.67	1060.0	0.4455
0300	1.20	1.37	1.17	2.84	1.99			1.67	702.0	0.4799
0600	1.20	1.37	1.22	2.84	1.99			1.68	508.0	0.5048
0900	1.30	1.37	1.32	2.84	1.99			1.72	436.0	0.5226
1100	1.30	1.45	1.33	2.86	1.99			1.74	378.0	0.5319
1200	1.30	1.48	1.33	2.87	1.99			1.75	374.0	0.5380
1300	1.30	1.48	1.38	2.87	1.99			1.75	364.0	0.5439

STA. NO. 08075000	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
BRAYS BAYOU AT HOUSTON, TX.	STORM OF DEC.12-14, 1979							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4850	4800	308R	303R	32R					
DEC. 13										
1400	1.30	1.48	1.42	2.87	1.99			1.76	394.0	0.5504
1500	1.40	1.48	1.42	2.87	1.99			1.79	412.0	0.5571
1600	1.40	1.48	1.42	2.87	1.99			1.79	426.0	0.5640
1700	1.40	1.48	1.42	2.87	1.99			1.79	436.0	0.5712
1800	1.40	1.53	1.42	2.91	1.99			1.80	415.0	0.5847
2100	1.40	1.53	1.42	2.91	1.99			1.80	330.0	0.6009
2400	1.40	1.53	1.42	2.91	1.99			1.80	270.0	0.6207
DEC. 14										
0000	1.40	1.53	1.42	2.91	1.99			1.80	270.0	0.6207
0600	1.40	1.53	1.42	2.91	1.99			1.80	190.0	0.6393
1200	1.40	1.53	1.42	2.91	1.99			1.80	170.0	0.6560
1800	1.40	1.53	1.42	2.91	1.99			1.80	167.0	0.6723
2400	1.40	1.53	1.42	2.91	1.99			1.80	142.0	0.6793

STA. NO. 08075000	STORM RAINFALL AND RUNOFF RECORD								1980 WATER YEAR
BRAYS BAYOU AT HOUSTON, TX.	STORM OF JAN.20-25, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	4850	4800	308R	303R	32R					
JAN. 20										
0000	0.0	0.0	0.0	0.0	0.0			0.0	111.0	0.0136
1500	0.10	0.0	0.07	0.0	0.0			0.04	116.0	0.0287
1600	0.20	0.0	0.08	0.01	0.06			0.08	118.0	0.0307
1700	0.40	0.14	0.20	0.32	0.36			0.31	131.0	0.0323
1730	0.50	0.22	0.30	0.65	0.59			0.47	167.0	0.0336
1800	0.60	0.34	0.39	0.95	0.82			0.63	336.0	0.0364
1830	1.00	0.91	0.58	1.02	0.85			0.91	960.0	0.0442
1900	1.10	0.98	0.77	1.04	0.88			0.98	3090.0	0.0694
1930	1.10	1.01	0.80	1.18	0.98			1.03	4260.0	0.1042
2000	1.10	1.04	0.84	1.21	1.08			1.07	4400.0	0.1402
2030	1.20	1.12	0.85	1.24	1.12			1.13	4110.0	0.1737
2100	1.20	1.22	0.86	1.31	1.16			1.18	3800.0	0.2047
2130	1.20	1.22	0.86	1.37	1.24			1.21	3520.0	0.2335
2200	1.20	1.22	0.87	1.48	1.33			1.25	3240.0	0.2731
2300	1.30	1.30	0.90	1.58	1.41			1.33	2900.0	0.3205
2400	1.30	1.33	0.92	1.60	1.43			1.35	2790.0	0.3661
JAN. 21										
0000	1.30	1.33	0.92	1.60	1.43			1.35	2790.0	0.3661
0100	1.30	1.42	0.98	1.63	1.54			1.40	2720.0	0.4438
0330	1.40	1.42	1.03	1.63	1.67			1.47	2760.0	0.5114
0400	1.40	1.66	1.11	1.74	1.67			1.54	2620.0	0.5328
0430	1.60	1.72	1.12	1.75	1.67			1.62	2480.0	0.5530
0500	1.60	1.72	1.14	1.75	1.67			1.62	2490.0	0.6038
0700	1.60	1.72	1.14	1.75	1.67			1.62	2360.0	0.6809
0900	1.60	1.72	1.14	1.75	1.67			1.62	1830.0	0.7556
1200	1.60	1.72	1.14	1.75	1.67			1.62	1350.0	0.8217
1500	1.60	1.72	1.14	1.75	1.68			1.62	1040.0	0.8557
1600	1.60	1.77	1.14	1.83	1.75			1.66	954.0	0.8674
1630	1.60	1.78	1.14	1.83	1.81			1.68	919.0	0.8749
1700	1.60	1.78	1.14	1.97	1.87			1.71	890.0	0.8822
1730	1.70	1.85	1.14	2.35	2.01			1.85	874.0	0.8893
1800	1.80	1.85	1.53	2.45	2.15			1.97	1320.0	0.9001
1830	1.80	2.02	1.62	2.50	2.18			2.03	2510.0	0.9206
1900	1.90	2.05	1.71	2.52	2.22			2.08	3110.0	0.9460
1930	2.00	2.12	1.74	2.57	2.23			2.14	3220.0	0.9722
2000	2.00	2.14	1.77	2.57	2.24			2.15	3450.0	1.0145
2100	2.00	2.14	1.77	2.57	2.25			2.15	3410.0	1.0702
2200	2.00	2.14	1.78	2.57	2.26			2.16	3000.0	1.1192
2300	2.00	2.14	1.78	2.57	2.26			2.16	2610.0	1.1618
2400	2.20	2.19	1.83	2.57	2.26			2.23	2330.0	1.2379
JAN. 22										

STA. NO. 08075000	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
BRAYS BAYOU AT HOUSTON, TX.	STORM OF JAN.20-25, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 4850	4800	308R	303R	32R					
JAN. 22										
0000	2.20	2.19	1.83	2.57	2.26			2.23	2330.0	1.2379
0300	2.20	2.19	2.07	2.65	2.30			2.28	1960.0	1.3179
0500	2.20	2.22	2.21	2.65	2.34			2.31	1960.0	1.3579
0530	2.20	2.32	2.68	2.74	2.52			2.43	2080.0	1.3749
0600	2.50	3.07	3.16	3.05	2.70			2.81	3030.0	1.3996
0630	3.20	3.42	3.46	3.10	2.81			3.16	6290.0	1.4510
0700	3.40	3.48	3.77	3.25	2.92			3.31	8690.0	1.5219
0730	3.70	3.84	3.94	3.35	2.94			3.51	9900.0	1.6027
0800	3.70	3.87	4.11	3.35	2.96			3.54	10900.0	1.6917
0830	3.70	3.88	4.22	3.40	2.99			3.57	11200.0	1.7832
0900	3.80	3.88	4.32	3.40	3.02			3.61	10800.0	1.8713
0930	3.80	3.97	4.60	3.65	3.23			3.75	10200.0	1.9546
1000	4.10	4.24	4.88	3.80	3.44			4.00	10500.0	2.0403
1030	4.20	4.25	4.98	3.85	3.46			4.05	11100.0	2.1083
1045	4.20	4.28	5.02	3.86	3.46			4.06	11300.0	2.1544
1100	4.20	4.30	5.07	3.88	3.47			4.08	11000.0	2.2218
1130	4.20	4.30	5.07	3.88	3.47			4.08	10400.0	2.3067
1200	4.30	4.35	5.10	3.89	3.47			4.12	9720.0	2.4257
1300	4.30	4.35	5.10	3.89	3.47			4.12	7960.0	2.5557
1400	4.30	4.35	5.10	3.89	3.47			4.12	6340.0	2.6592
1500	4.30	4.35	5.10	3.89	3.47			4.12	5110.0	2.7844
1700	4.30	4.35	5.10	3.89	3.47			4.12	3470.0	2.9260
2000	4.30	4.35	5.10	3.89	3.47			4.12	2300.0	3.0575
2400	4.30	4.35	5.10	3.89	3.47			4.12	1600.0	3.1620
JAN. 23										
0000	4.30	4.35	5.10	3.89	3.47			4.12	1600.0	3.1620
0400	4.30	4.35	5.10	3.89	3.47			4.12	1180.0	3.2391
0800	4.30	4.35	5.10	3.89	3.47			4.12	890.0	3.2972
1200	4.30	4.35	5.10	3.89	3.47			4.12	722.0	3.3443
1600	4.30	4.35	5.10	3.89	3.47			4.12	588.0	3.3827
2000	4.30	4.35	5.10	3.89	3.47			4.12	497.0	3.4152
2400	4.30	4.35	5.10	3.89	3.47			4.12	429.0	3.4502
JAN. 24										
0000	4.30	4.35	5.10	3.89	3.47			4.12	429.0	3.4502
0600	4.30	4.35	5.10	3.89	3.47			4.12	330.0	3.4826
1200	4.30	4.35	5.10	3.89	3.47			4.12	252.0	3.5073
1800	4.30	4.35	5.10	3.89	3.47			4.12	212.0	3.5280
2400	4.30	4.35	5.10	3.89	3.47			4.12	176.0	3.5539
JAN. 25										
0000	4.30	4.35	5.10	3.89	3.47			4.12	176.0	3.5539
1200	4.30	4.35	5.10	3.89	3.47			4.12	122.0	3.5778
2400	4.30	4.35	5.10	3.89	3.47			4.12	91.0	3.5867

SAN JACINTO RIVER BASIN

08075100 BRAYS BAYOU AT SCOTT STREET, HOUSTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 29°42'35", long 95°21'23", Harris County, Hydrologic Unit 12040104, at bridge on Scott Street in Houston.

DRAINAGE AREA.--106 mi² (275 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: May 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
SEP 06...	1530	2400	200	7.6	27.5	47	190	6.7	84	17	4500000	520000

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP 06...	96000	434	36	.75	.050	.80	.450	2.1	2.5	.800	18

SIMS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Sims Bayou drainage basin are shown in figure 15.

Berry Bayou is shown as a separate drainage basin within the Sims Bayou section.

Weighted-mean rainfall for the upper portion of the drainage basin above the Hiram Clarke Street station, based on two rain gages for the 1980 water year was 36.61 inches, or 11.58 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

Weighted-mean rainfall in the drainage basin above the Telephone Road station, based on six rain gages, for the 1980 water year was 37.66 inches or 10.53 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1980 water year at station 08075470, Sims Bayou at Martin Luther King Blvd.

The storms of Oct. 30-31 and Jan. 20-27 were selected for analysis at station 08075400, Sims Bayou at Hiram Clarke Street, and station 08075500, Sims Bayou at Houston.

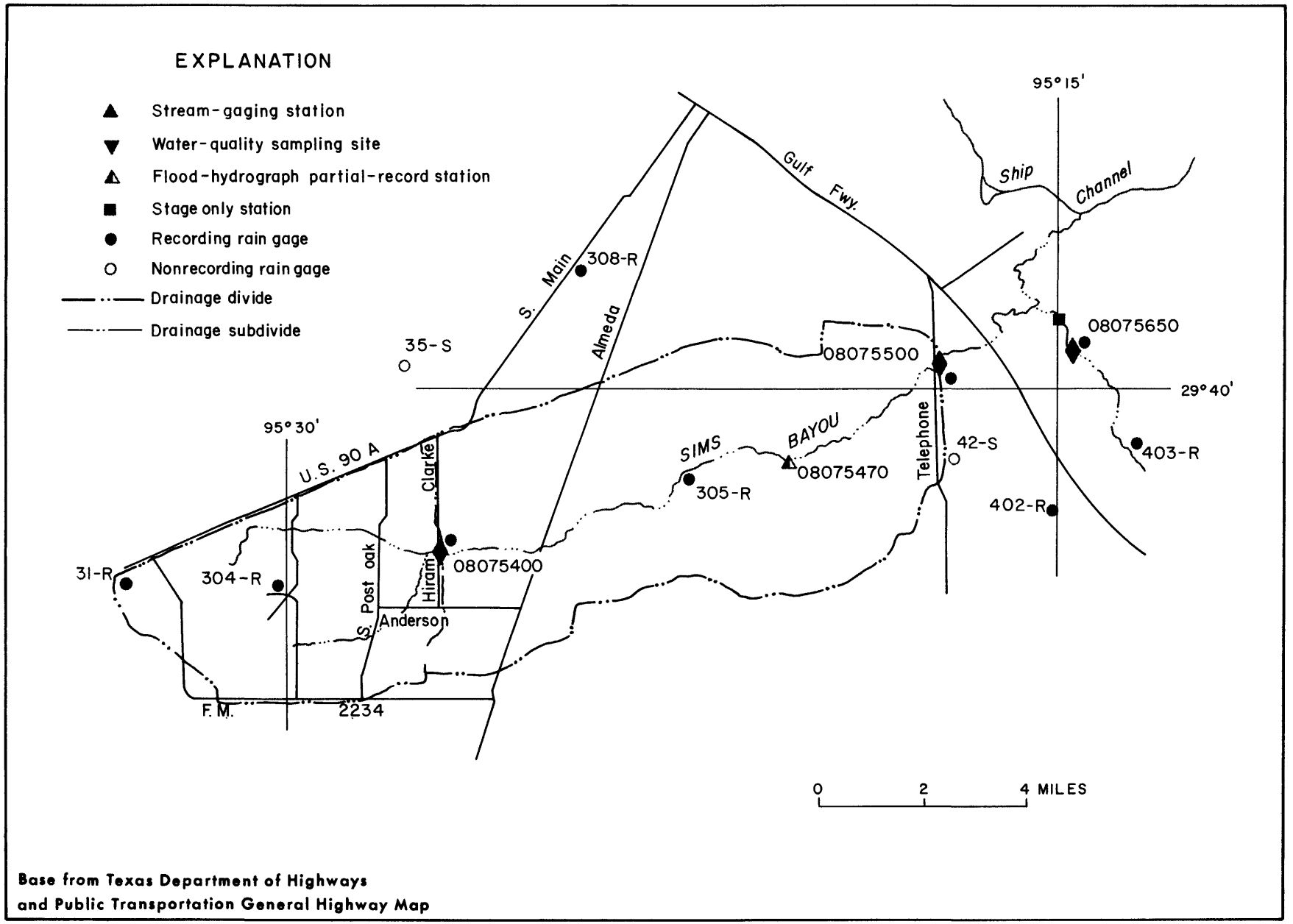

Figure 15.- Locations of data-collection sites in and near the Sims Bayou drainage basin

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Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 13.--Storm rainfall-runoff data, 1980 Water Year, Sims Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Sims Bayou at Hiram Clarke St., Houston, Tx. (Drainage area -- 20.2 mi^2)								
Oct. 30-31, 1979	2.2	2.64	0.80	1.60	2.10	0.84	0.32	1,650
Jan. 20-24, 1980	38.8	5.10	0.30	0.60	1.00	4.36	0.86	2,640*
Sims Bayou at Houston, Tx. (Drainage area - 63.0 mi^2)								
Oct.30-Nov.1, 1979	2.0	3.00	1.20	1.90	2.50	1.02	0.34	2,790
Jan. 20-25, 1980	40.8	6.01	0.48	0.63	0.97	4.89	0.81	7,210*

* - Annual peak discharge for 1980 WY.

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX

LOCATION.--Lat 29°37'07", long 95°26'45", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Hiram Clarke Street in southwest Houston, 12.7 mi (20.4 km) upstream from gage Sims Bayou at Houston, and 19.7 mi (31.7 km) upstream from mouth.

DRAINAGE AREA.--20.2 mi² (52.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year (discharge measurements and supplemental peak discharges only Dec. 6, 1978, to Aug. 31, 1979).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Channel bed was lowered 5 to 6 ft (1.5 to 1.8 m) during rectification of 1978. No known diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Records furnished by Houston Lighting and Power Co. show that during the current year, about 630 acre-ft (777,000 m³) of ground water was used for cooling purposes then released to the bayou about 300 ft (90 m) upstream from gage. Recording rain gage located at station.

AVERAGE DISCHARGE.--15 years (water years 1965-78, 1980), 27.1 ft³/s (0.767 m³/s), 19,630 acre-ft/yr (24.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 4,500 ft³/s (127 m³/s) June 15, 1976, elevation, 57.12 ft (17.410 m); minimum daily, 1.5 ft³/s (0.042 m³/s) July 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 650 ft³/s (18.4 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 30	1945	1,650	46.7	45.84	13.972	Apr. 25	1300	678	19.2	42.47	12.945
aJan. 3	0730	153	4.33	38.83	11.835	aJuly 21	1445	197	5.58	39.55	12.055
Jan. 22	1045	*2,640	74.8	48.97	14.926	Sept. 27	1945	792	22.4	43.01	13.109
Feb. 8	1900	890	25.2	42.95	13.091						

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge 7.7 ft³/s (0.22 m³/s) July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	23	11	16	32	22	30	175	9.9	10	15	15
2	11	16	13	15	33	17	26	139	9.8	11	13	19
3	12	17	11	57	29	19	32	31	12	10	13	15
4	11	15	11	23	26	16	26	23	15	10	13	18
5	9.2	17	10	16	26	14	18	18	14	7.7	39	49
6	9.2	16	10	15	17	17	20	15	12	8.1	20	366
7	9.6	13	11	13	16	16	20	22	14	8.4	15	253
8	9.2	14	11	13	226	18	18	25	14	11	14	316
9	9.6	16	10	13	196	16	16	18	58	11	14	83
10	9.6	16	11	14	56	15	19	14	23	11	12	27
11	8.8	17	10	13	28	15	21	14	11	11	13	13
12	8.8	15	97	13	22	16	19	14	9.9	12	15	12
13	8.4	14	59	12	20	15	44	17	9.2	10	15	16
14	8.8	16	30	11	24	14	23	36	9.0	10	13	17
15	8.8	16	18	12	33	15	17	17	9.7	11	29	16
16	9.2	13	16	14	32	16	19	28	9.6	12	25	17
17	9.2	12	14	50	25	26	26	23	10	12	16	13
18	10	13	14	33	19	18	28	16	10	11	15	11
19	9.6	13	14	18	20	14	20	197	11	11	15	10
20	8.8	13	12	164	17	14	16	51	9.3	12	15	11
21	9.6	34	12	485	17	13	16	17	11	63	15	12
22	14	38	12	1430	16	13	14	15	9.4	20	14	10
23	10	24	53	222	16	17	14	13	12	20	14	11
24	9.6	12	45	56	17	16	17	10	11	12	11	9.6
25	9.2	13	16	34	17	12	258	11	11	11	12	8.7
26	9.6	11	13	28	16	19	53	10	10	12	12	66
27	12	12	13	24	16	301	19	10	11	12	12	250
28	9.6	14	14	21	14	182	18	11	17	103	13	185
29	10	10	109	24	15	214	18	11	16	55	13	36
30	326	11	29	30	---	94	17	10	13	14	14	271
31	128	---	18	33	---	39	---	10	---	14	14	---
TOTAL	740.4	484	727	2922	1041	1253	902	1021	401.8	546.2	483	2156.3
MEAN	23.9	16.1	23.5	94.3	35.9	40.4	30.1	32.9	13.4	17.6	15.6	71.9
MAX	326	38	109	1430	226	301	258	197	58	103	39	366
MIN	8.4	10	10	11	14	12	14	10	9.0	7.7	11	8.7
AC-FT	1470	960	1440	5800	2060	2490	1790	2030	797	1080	958	4280
(††)	2.83	1.22	2.99	6.08	2.04	3.29	2.32	3.81	1.19	1.64	1.25	7.95

CAL YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT - †† -
WTR YR 1980 TOTAL 12677.7 MEAN 34.6 MAX 1430 MIN 7.7 AC-FT 25150 †† 36.61

†† Weighted-mean rainfall, in inches, based on two rain gages.

NOTE.--No elevation record Dec. 6 to Sept. 18.

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
JAN										
03...	1115	84	428	7.2	14.0	80	270	9.0	87	2.6
JUL										
15...	1130	11	920	7.4	30.0	15	6.1	7.2	95	>20
21...	1350	172	230	7.4	26.0	55	190	6.9	84	>24
21...	1450	196	300	7.6	26.0	60	250	6.4	78	12
AUG										
12...	1105	15	750	7.9	28.5	5	10	5.7	72	11

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
03...	220	K2	170	--	--	--	--	--	--
JUL									
15...	700	110	22	150	0	45	9.2	140	5.0
21...	13000	7700	8900	52	0	16	3.0	25	1.5
21...	110000	31000	9800	--	--	--	--	--	--
AUG									
12...	5400	1000	82	140	0	41	8.2	100	3.7

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	CAR-BONATE FET-FLD (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
03...	--	--	--	--	--	--	--	--	580
JUL									
15...	6.4	246	0	77	93	.7	29	549	3
21...	3.0	70	0	16	21	.3	5.8	132	564
21...	--	--	--	--	--	--	--	--	564
AUG									
12...	5.8	238	0	43	65	.6	25	432	14

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
03...	80	.81	.160	.97	.930	1.8	2.70	2.40	20
JUL									
15...	2	2.4	.250	2.6	2.00	.80	2.80	3.60	8.2
21...	318	.34	.030	.37	.760	2.1	2.90	1.60	38
21...	68	.40	.040	.44	1.00	1.3	2.30	1.70	27
AUG									
12...	13	3.0	.310	3.3	2.60	1.2	3.80	3.70	15

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUL							
15...	1130	9	100	<1	0	4	120
21...	1350	5	80	<1	10	2	30
AUG							
12...	1105	9	100	<1	0	4	10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUL						
15...	0	<1	.5	0	0	70
21...	0	2	.1	0	0	7
AUG						
12...	0	2	.2	1	0	8

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JUL										
15...	1130	.00	.00	.01	.00	.00	.00	.00	.23	.00
21...	1350	.00	.00	.02	.30	.02	.00	.01	.27	.03
AUG										
12...	1105	.00	.00	.00	.00	.00	.00	.00	.31	.00

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE ST., HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	.00	.01	.00	.00	.00
21...	.00	.00	.00	.00	.01	.01	.42	.00	.00
AUG									
12...	.00	.00	.00	.00	.00	.01	.00	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	0	.00	.00	.00	.00
21...	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG									
12...	.00	.00	.00	.00	0	.00	.48	.00	.00

STA. NO. 08075400 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

SIMS BAYOU AT HIRAM CLARKE ST., HOUSTON, TX — STORM OF OCT. 30-31, 1979

DATE & TIME	GAGE NUMBER 5400	GAGE NUMBER 304R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30					
0000	0.0	0.0	0.0	10.0	0.0061
1600	0.0	0.0	0.0	12.0	0.0136
1615	0.20	0.0	0.08	15.0	0.0139
1630	0.30	0.20	0.24	19.0	0.0143
1645	0.60	0.50	0.54	28.0	0.0148
1700	1.40	0.90	1.10	107.0	0.0169
1715	2.20	1.30	1.66	290.0	0.0224
1730	2.30	1.40	1.76	490.0	0.0318
1745	2.70	1.50	1.98	668.0	0.0446
1800	2.80	1.60	2.08	830.0	0.0605
1815	2.90	1.80	2.24	991.0	0.0796
1830	3.00	1.90	2.34	1150.0	0.1016
1845	3.30	2.10	2.58	1310.0	0.1267
1900	3.30	2.20	2.64	1500.0	0.1699
1930	3.30	2.20	2.64	1600.0	0.2159
1945	3.30	2.20	2.64	1650.0	0.2476
2000	3.30	2.20	2.64	1620.0	0.3252
2100	3.30	2.20	2.64	1380.0	0.4311
2200	3.30	2.20	2.64	1070.0	0.5132
2300	3.30	2.20	2.64	808.0	0.5751
2400	3.30	2.20	2.64	612.0	0.6456
OCT. 31					
0000	3.30	2.20	2.64	612.0	0.6456
0200	3.30	2.20	2.64	365.0	0.7016
0400	3.30	2.20	2.64	237.0	0.7379
0600	3.30	2.20	2.64	159.0	0.7684
0900	3.30	2.20	2.64	98.0	0.7910
1200	3.30	2.20	2.64	73.0	0.8162
1800	3.30	2.20	2.64	41.0	0.8351
2400	3.30	2.20	2.64	31.0	0.8422

STA. NO. 08075400	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
SIMS BAYOU AT HIRAM CLARKE ST., HOUSTON, TX	STORM OF JAN. 20-24, 1980							ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
DATE & TIME	GAGE NUMBER									
	5400							IN.	CFS	IN.
JAN. 20										
0000	0.0							0.0	18.0	0.0059
0830	0.10							0.10	14.0	0.0115
1030	0.20							0.20	48.0	0.0161
1100	0.20							0.20	48.0	0.0189
1200	0.20							0.20	64.0	0.0238
1300	0.20							0.20	81.0	0.0300
1400	0.20							0.20	72.0	0.0383
1600	0.20							0.20	47.0	0.0437
1700	0.20							0.20	47.0	0.0473
1800	0.50							0.50	77.0	0.0517
1830	0.80							0.80	188.0	0.0589
1900	1.00							1.00	411.0	0.0747
1930	1.00							1.00	549.0	0.0958
2000	1.00							1.00	632.0	0.1200
2030	1.00							1.00	670.0	0.1457
2100	1.00							1.00	678.0	0.1717
2130	1.00							1.00	660.0	0.1970
2200	1.00							1.00	642.0	0.2216
2230	1.00							1.00	620.0	0.2454
2300	1.10							1.10	604.0	0.2802
2400	1.10							1.10	575.0	0.3353
JAN. 21										
0000	1.10							1.10	575.0	0.3353
0130	1.10							1.10	532.0	0.3965
0300	1.10							1.10	500.0	0.4828
0600	1.10							1.10	390.0	0.5726
0900	1.20							1.20	302.0	0.6421
1200	1.20							1.20	234.0	0.6959
1500	1.20							1.20	188.0	0.7320
1700	1.20							1.20	172.0	0.7485
1730	1.60							1.60	191.0	0.7558
1800	1.80							1.80	378.0	0.7776
1900	2.00							2.00	805.0	0.8393
2000	2.10							2.10	1040.0	0.9091
2045	2.10							2.10	1120.0	0.9521
2100	2.10							2.10	1120.0	1.0058
2200	2.10							2.10	1060.0	1.0871
2300	2.10							2.10	977.0	1.1620
2400	2.10							2.10	877.0	1.2629
JAN. 22										
0000	2.10							2.10	877.0	1.2629

STA. NO. 08075400 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

SIMS BAYOU AT HIRAM CLARKE ST., HOUSTON, TX — STORM OF JAN. 20-24, 1980

DATE & TIME	GAGE NUMBER 5400	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 22				
0200	2.10	2.10	697.0	1.3298
0230	2.40	2.40	697.0	1.3565
0300	2.50	2.50	766.0	1.4006
0400	2.60	2.60	836.0	1.4647
0500	2.80	2.80	974.0	1.5208
0530	3.10	3.10	1120.0	1.5637
0600	3.50	3.50	1330.0	1.6147
0630	4.10	4.10	1710.0	1.6803
0700	4.10	4.10	1980.0	1.7563
0730	4.30	4.30	2150.0	1.8387
0800	4.60	4.60	2320.0	1.9277
0830	4.70	4.70	2520.0	2.0244
0900	4.80	4.80	2580.0	2.1233
0930	4.90	4.90	2590.0	2.2227
1000	5.00	5.00	2580.0	2.3216
1030	5.10	5.10	2610.0	2.3967
1045	5.10	5.10	2640.0	2.4473
1100	5.10	5.10	2630.0	2.5734
1200	5.10	5.10	2500.0	2.7652
1300	5.10	5.10	2270.0	3.0264
1500	5.10	5.10	1760.0	3.3640
1800	5.10	5.10	1110.0	3.6194
2100	5.10	5.10	728.0	3.7869
2400	5.10	5.10	520.0	3.9066
JAN. 23				
0000	5.10	5.10	520.0	3.9066
0300	5.10	5.10	382.0	3.9945
0600	5.10	5.10	287.0	4.0606
0900	5.10	5.10	222.0	4.1117
1200	5.10	5.10	180.0	4.1738
1800	5.10	5.10	129.0	4.2332
2400	5.10	5.10	97.0	4.2778
JAN. 24				
0000	5.10	5.10	97.0	4.2778
0600	5.10	5.10	68.0	4.3091
1200	5.10	5.10	53.0	4.3335
1800	5.10	5.10	44.0	4.3538
2400	5.10	5.10	40.0	4.3630

08075470 SIMS BAYOU AT MARTIN LUTHER KING BLVD., HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'42", long 95°20'13", Harris County, Hydrologic Unit 12040104, at downstream side of upstream bridge on Martin Luther King Boulevard (formerly South Park Boulevard), 1.6 miles upstream from Atchison, Topeka, and Santa Fe Railway Co. bridge in south Houston.

DRAINAGE.--48.4 mi^2.

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Gage-height records good. Peak discharges were not computed at this time because an adequate stage-discharge relationship has not been determined.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (est.) 1,500 ft^3/s Jan. 19, 1978 (elevation unknown); minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peak stage of 38.28 ft (discharge unknown) on June 15, 1976. This same storm produced the largest peak for the period of record (1952-79) at the gaging station Sims Bayou at Houston (08075500).

EXTREMES FOR CURRENT YEAR.--Only peak gage height published this year The five highest peaks and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 30	2300	unknown	25.26
Jan. 22	1115	do.	*34.10
Feb. 8	2215	do.	23.48
Mar. 27	2030	do.	21.24
Mar. 29	1600	do.	20.73

Minimum discharge not determined.

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX

Location.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on State Highway 35 in southeast Houston and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--63.0 mi^2 (163.2 km^2). Prior to Oct. 1, 1976, 64.0 mi^2 (165.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1922: 1960. WDR TX-76-2: 1975(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.09 ft (0.942 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes. Harris County Flood Control District rainfall and gage height telemetry at station.

AVERAGE DISCHARGE.--28 years, 79.4 ft^3/s (2.249 m^3/s), 57,530 acre-ft/yr (70.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft^3/s (317 m^3/s) June 9, 1975, and June 16, 1976; maximum gage height, 33.17 ft (10.110 m) June 9, 1975; minimum daily, 0.9 ft^3/s (0.025 m^3/s) Aug. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft^3/s (62.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 30	2115	2,790	79.0	21.92	6.681
Jan. 22	1245	*7,210	204	29.53	9.001
aJuly 21	1315	271	7.67	11.86	3.615

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 34 ft^3/s (0.96 m^3/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	100	39	54	61	66	79	172	41	34	47	53
2	42	54	42	55	63	45	64	322	39	34	55	53
3	41	48	42	210	62	49	60	82	39	34	52	57
4	41	45	39	95	58	52	52	60	39	37	52	60
5	42	46	38	63	61	47	48	58	41	35	72	200
6	43	42	38	56	58	42	48	43	39	36	104	1100
7	42	40	39	53	51	45	54	55	38	37	65	600
8	43	39	38	52	425	45	51	60	39	37	57	700
9	44	43	39	55	859	43	44	60	144	37	53	200
10	40	41	39	55	188	43	48	41	78	38	49	100
11	38	42	39	54	105	44	49	38	48	39	48	50
12	39	44	167	49	82	46	47	38	38	38	48	45
13	38	42	176	47	70	43	148	41	37	39	48	48
14	43	41	94	47	71	41	55	70	35	40	45	50
15	42	43	60	44	120	40	45	45	35	40	56	52
16	44	41	52	49	97	44	38	102	35	39	71	50
17	43	41	50	114	82	68	40	79	35	38	52	45
18	44	42	51	122	70	53	40	46	34	37	47	44
19	43	40	51	65	63	46	38	413	34	37	44	63
20	43	39	46	613	60	78	37	139	34	46	46	49
21	42	83	44	1610	56	46	38	66	34	96	44	51
22	81	129	44	4790	52	42	41	69	41	99	42	45
23	41	91	52	942	49	55	41	54	40	102	39	45
24	37	50	122	198	47	46	42	46	39	45	38	42
25	35	45	54	114	46	40	256	42	40	39	40	41
26	34	43	45	88	45	54	192	42	38	56	42	89
27	34	40	44	75	45	905	60	41	36	45	46	134
28	36	44	44	68	45	706	50	41	37	149	45	270
29	35	39	240	61	44	690	46	41	38	122	60	80
30	667	40	93	64	---	359	44	41	36	57	50	272
31	953	---	61	62	---	118	---	42	---	47	55	---
TOTAL	2832	1517	2022	10024	3135	4041	1895	2489	1281	1609	1612	4688
MEAN	91.4	50.6	65.2	323	108	130	63.2	80.3	42.7	51.9	52.0	156
MAX	953	129	240	4790	859	905	256	413	144	149	104	1100
MIN	34	39	38	44	44	40	37	38	34	34	38	41
AC-FT	5620	3010	4010	19880	6220	8020	3760	4940	2540	3190	3200	9300
(††)	3.04	1.29	2.41	7.15	2.05	3.83	1.75	4.03	1.24	2.18	1.42	7.27

CAL YR 1979 TOTAL 69214 MEAN 190 MAX 6400 MIN 32 AC-FT 137300 †† 61.66
WTR YR 1980 TOTAL 37145 MEAN 101 MAX 4790 MIN 34 AC-FT 73680 †† 37.66

†† Weighted-mean rainfall, in inches, based on six rain gages.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN										
03...	1310	323	894	7.1	14.5	40	180	9.0	88	60
JUL										
15...	1300	40	1040	7.5	31.0	25	2.4	7.6	100	30
21...	1615	142	381	7.5	27.0	60	70	4.9	60	14
AUG										
12...	1210	49	840	7.8	29.5	10	17	3.4	44	6.3

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
03...	460000	60000	14000	--	--	--	--	--	--
JUL									
15...	140000	39000	2300	130	0	37	8.0	180	7.0
21...	140000	110000	41000	70	0	22	3.6	50	2.6
AUG									
12...	340000	70000	520	120	0	37	7.1	130	5.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
03...	--	--	--	--	--	--	--	--	440
JUL									
15...	6.0	240	0	160	100	.6	16	626	1
21...	3.8	110	0	24	46	.3	6.4	210	130
AUG									
12...	4.7	220	0	120	83	.5	12	503	24

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
03...	74	1.3	.310	1.6	1.300	3.0	4.3	1.600	26
JUL									
15...	0	1.1	.220	1.3	2.000	1.1	3.1	3.000	11
21...	18	.76	.070	.83	.930	1.6	2.5	1.300	18
AUG									
12...	18	1.3	.510	1.8	1.700	1.8	3.5	2.000	18

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUL							
15...	1300	12	100	<1	10	3	<10
21...	1615	11	50	<1	10	4	30
AUG							
12...	1210	11	90	<1	0	2	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUL						
15...	0	<1	.2	0	0	7
21...	0	2	.1	0	0	40
AUG						
12...	0	2	.1	0	0	8

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JUL									
15...	1300	.0	.00	.00	.0	.00	.00	.00	.24
21...	1615	.0	.00	.00	.1	.00	.00	.02	1.0
AUG									
12...	1210	.0	.00	.00	.0	.00	.00	.00	.07

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	.00	.00	.01	.01	.00
21...	.01	.00	.00	.00	.00	.00	.01	.25	.00
AUG									
12...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL									
15...	.00	.00	.00	.00	0	.00	.00	.00	.00
21...	.00	.00	.00	.00	0	.00	.23	.01	.0
AUG									
12...	.00	.00	.00	.00	0	.00	.07	.00	.00

STA. NO. 08075500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

SIMS BAYOU AT HOUSTON, TX. — STORM OF OCT. 30-NOV. 1, 1979

DATE & TIME	GAGE NUMBER 5400	5500	304R	305R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30							
0000	0.0	0.0	0.0	0.0	0.0	34.0	0.0067
1600	0.0	0.0	0.0	0.0	0.0	39.0	0.0145
1615	0.21	0.0	0.0	0.20	0.13	39.0	0.0147
1630	0.31	0.10	0.20	0.20	0.22	39.0	0.0150
1645	0.62	0.10	0.50	0.20	0.37	40.0	0.0152
1700	1.44	0.30	0.90	0.60	0.87	45.0	0.0155
1715	2.16	1.00	1.30	1.50	1.58	187.0	0.0166
1730	2.26	2.20	1.40	2.10	2.02	397.0	0.0191
1745	2.67	2.60	1.50	2.40	2.33	622.0	0.0229
1800	2.77	2.80	1.60	2.60	2.48	969.0	0.0289
1815	2.87	2.90	1.80	2.70	2.60	1200.0	0.0362
1830	2.97	3.10	1.90	2.80	2.72	1460.0	0.0452
1845	3.28	3.20	2.10	3.00	2.93	1760.0	0.0560
1900	3.28	3.20	2.20	3.00	2.95	2090.0	0.0689
1915	3.28	3.20	2.20	3.10	2.99	2430.0	0.0838
1930	3.28	3.20	2.20	3.10	2.99	2570.0	0.0996
1945	3.28	3.30	2.20	3.10	3.00	2640.0	0.1159
2000	3.28	3.30	2.20	3.10	3.00	2700.0	0.1408
2030	3.28	3.30	2.20	3.10	3.00	2750.0	0.1746
2100	3.28	3.30	2.20	3.10	3.00	2780.0	0.2002
2115	3.28	3.30	2.20	3.10	3.00	2790.0	0.2174
2130	3.28	3.30	2.20	3.10	3.00	2790.0	0.2431
2200	3.28	3.30	2.20	3.10	3.00	2780.0	0.2944
2300	3.28	3.30	2.20	3.10	3.00	2730.0	0.3616
2400	3.28	3.30	2.20	3.10	3.00	2620.0	0.4904
OCT. 31							
0000	3.28	3.30	2.20	3.10	3.00	2620.0	0.4904
0300	3.28	3.30	2.20	3.10	3.00	2010.0	0.6388
0600	3.28	3.30	2.20	3.10	3.00	1400.0	0.7249
0800	3.28	3.30	2.20	3.10	3.00	1120.0	0.7799
1000	3.28	3.30	2.20	3.10	3.00	902.0	0.8243
1200	3.28	3.30	2.20	3.10	3.00	734.0	0.8785
1600	3.28	3.30	2.20	3.10	3.00	463.0	0.9240
2000	3.28	3.30	2.20	3.10	3.00	281.0	0.9517
2400	3.28	3.30	2.20	3.10	3.00	181.0	0.9873
NOV. 1							
0000	3.28	3.30	2.20	3.10	3.00	181.0	0.9873
1200	3.28	3.30	2.20	3.10	3.00	91.0	1.0142
2400	3.28	3.30	2.20	3.10	3.00	66.0	1.0239

STA. NO. 08075500	STORM RAINFALL AND RUNOFF RECORD						1980 WATER YEAR		
SIMS BAYOU AT HOUSTON, TX.	STORM OF JAN. 20-25, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 5400	5500	31R	305R	5470				
JAN. 20									
0000	0.0	0.0	0.0	0.0	0.0		0.0	60.0	0.0020
0245	0.0	0.0	0.0	0.0	0.0		0.0	60.0	0.0042
0300	0.0	0.0	0.02	0.0	0.0		0.00	60.0	0.0074
0700	0.0	0.0	0.02	0.0	0.0		0.00	60.0	0.0109
0745	0.0	0.0	0.02	0.0	0.10		0.02	59.0	0.0120
0830	0.10	0.0	0.02	0.0	0.10		0.06	59.0	0.0129
0900	0.10	0.10	0.02	0.0	0.10		0.07	59.0	0.0134
0915	0.10	0.10	0.02	0.30	0.40		0.19	59.0	0.0138
0930	0.10	0.10	0.02	0.60	0.50		0.27	60.0	0.0142
0945	0.10	0.20	0.02	0.70	0.60		0.32	71.0	0.0146
1000	0.10	0.20	0.02	0.70	0.60		0.32	78.0	0.0153
1030	0.20	0.20	0.02	0.70	0.60		0.36	110.0	0.0163
1045	0.20	0.20	0.02	0.70	0.70		0.38	126.0	0.0183
1145	0.20	0.20	0.02	0.70	0.70		0.38	260.0	0.0223
1200	0.20	0.50	0.02	0.70	0.70		0.41	301.0	0.0250
1230	0.20	0.60	0.02	0.70	0.70		0.42	370.0	0.0284
1245	0.20	0.60	0.02	0.80	0.70		0.44	417.0	0.0361
1400	0.20	0.60	0.02	0.80	0.70		0.44	556.0	0.0515
1500	0.20	0.60	0.03	0.80	0.70		0.44	511.0	0.0594
1515	0.20	0.70	0.03	0.80	0.70		0.45	502.0	0.0625
1530	0.20	0.80	0.03	0.80	0.70		0.46	494.0	0.0655
1545	0.20	0.80	0.03	0.90	0.80		0.50	488.0	0.0685
1600	0.20	0.90	0.03	1.00	1.00		0.57	500.0	0.0716
1615	0.20	1.00	0.15	1.00	1.00		0.59	534.0	0.0749
1630	0.20	1.00	0.18	1.00	1.10		0.62	565.0	0.0783
1645	0.20	1.10	0.22	1.10	1.10		0.65	606.0	0.0821
1700	0.20	1.10	0.25	1.10	1.10		0.66	652.0	0.0861
1715	0.30	1.30	0.27	1.10	1.20		0.74	709.0	0.0904
1730	0.30	1.40	0.29	1.10	1.20		0.75	766.0	0.0951
1745	0.30	1.40	0.38	1.20	1.30		0.80	832.0	0.1003
1800	0.51	1.50	0.86	1.30	1.30		0.96	902.0	0.1058
1815	0.72	1.60	1.01	1.60	1.40		1.15	958.0	0.1117
1830	0.82	1.70	1.05	1.70	1.60		1.26	1010.0	0.1179
1845	0.92	1.80	1.07	1.90	1.60		1.35	1090.0	0.1246
1900	1.02	1.80	1.08	2.00	1.80		1.46	1160.0	0.1317
1915	1.02	1.90	1.09	2.00	1.90		1.49	1260.0	0.1395
1930	1.02	1.90	1.10	2.10	1.90		1.51	1370.0	0.1521
2000	1.02	1.90	1.12	2.10	2.00		1.53	1590.0	0.1668
2015	1.02	2.00	1.13	2.10	2.00		1.54	1680.0	0.1771

STA. NO. 08075500	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

SIMS BAYOU AT HOUSTON, TX. — STORM OF JAN. 20-25, 1980

DATE & TIME	GAGE NUMBER 5400	5500	31R	305R	5470			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20										
2030	1.02	2.00	1.15	2.10	2.00			1.54	1760.0	0.1934
2100	1.02	2.00	1.17	2.10	2.10			1.56	1860.0	0.2162
2130	1.02	2.10	1.18	2.20	2.10			1.60	1950.0	0.2402
2200	1.02	2.20	1.19	2.20	2.10			1.61	2040.0	0.2590
2215	1.02	2.30	1.25	2.20	2.20			1.64	2060.0	0.2717
2230	1.02	2.30	1.27	2.20	2.30			1.66	2090.0	0.2846
2245	1.12	2.30	1.30	2.20	2.30			1.71	2160.0	0.2978
2300	1.12	2.30	1.32	2.20	2.30			1.71	2230.0	0.3184
2330	1.12	2.30	1.32	2.20	2.30			1.71	2280.0	0.3464
2400	1.12	2.30	1.32	2.20	2.30			1.71	2310.0	0.3891
JAN. 21										
0000	1.12	2.30	1.32	2.20	2.30			1.71	2310.0	0.3891
0100	1.12	2.40	1.42	2.20	2.30			1.73	2300.0	0.4456
0200	1.12	2.40	1.42	2.20	2.30			1.73	2230.0	0.5005
0300	1.12	2.40	1.42	2.20	2.30			1.73	2120.0	0.5526
0400	1.12	2.40	1.42	2.20	2.30			1.73	2010.0	0.5835
0415	1.12	2.40	1.42	2.30	2.30			1.75	1980.0	0.5957
0430	1.12	2.40	1.42	2.30	2.40			1.77	1940.0	0.6375
0600	1.12	2.40	1.42	2.30	2.40			1.77	1760.0	0.7349
0900	1.22	2.40	1.42	2.30	2.40			1.81	1400.0	0.8382
1200	1.22	2.40	1.42	2.30	2.40			1.81	1090.0	0.9186
1500	1.22	2.40	1.42	2.30	2.40			1.81	835.0	0.9622
1615	1.22	2.40	1.42	2.30	2.40			1.81	746.0	0.9783
1645	1.22	2.60	1.42	2.30	2.40			1.83	716.0	0.9849
1700	1.22	2.90	1.66	2.30	2.40			1.88	701.0	0.9892
1715	1.32	3.10	1.91	2.40	2.50			2.01	691.0	0.9935
1730	1.63	3.30	2.18	2.70	2.60			2.26	682.0	0.9976
1745	1.73	3.40	2.39	3.00	2.90			2.45	678.0	1.0018
1800	1.83	3.50	2.55	3.20	3.20			2.62	722.0	1.0063
1815	1.83	3.60	2.55	3.30	3.40			2.69	835.0	1.0114
1830	1.93	3.60	2.56	3.40	3.40			2.75	960.0	1.0173
1845	2.03	3.60	2.57	3.70	3.70			2.91	1080.0	1.0239
1900	2.03	3.70	2.57	3.80	3.90			2.98	1210.0	1.0314
1915	2.03	3.70	2.60	3.80	3.90			2.98	1340.0	1.0396
1930	2.13	3.70	2.61	3.90	3.90			3.04	1490.0	1.0488
1945	2.13	3.70	2.62	3.90	4.00			3.06	1620.0	1.0587
2000	2.13	3.70	2.62	3.90	4.00			3.06	1750.0	1.0856
2100	2.13	3.70	2.62	3.90	4.00			3.06	2200.0	1.1262
2130	2.13	3.70	2.62	3.90	4.10			3.08	2400.0	1.1557
2200	2.13	3.70	2.62	3.90	4.10			3.08	2640.0	1.1963

STA. NO. 08075500	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

SIMS BAYOU AT HOUSTON, TX. — STORM OF JAN. 20-25, 1980

DATE & TIME	GAGE NUMBER 5400	5500	31R	305R	5470	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21								
2245	2.13	3.70	2.62	3.90	4.10	3.08	2770.0	1.2304
2300	2.13	3.70	2.64	3.90	4.10	3.09	2800.0	1.2476
2315	2.13	3.70	2.67	3.90	4.10	3.09	2820.0	1.2649
2330	2.13	3.70	2.67	4.00	4.10	3.11	2830.0	1.2910
2400	2.13	3.70	2.67	4.00	4.10	3.11	2870.0	1.3263
JAN. 22								
0000	2.13	3.70	2.67	4.00	4.10	3.11	2870.0	1.3263
0030	2.13	3.70	2.67	4.00	4.10	3.11	2870.0	1.3705
0115	2.13	3.70	2.67	4.00	4.10	3.11	2840.0	1.4054
0130	2.13	3.80	2.67	4.00	4.10	3.12	2820.0	1.4227
0145	2.13	4.10	2.67	4.00	4.10	3.15	2790.0	1.4399
0200	2.13	4.20	2.67	4.00	4.10	3.16	2760.0	1.4569
0215	2.34	4.30	2.68	4.10	4.10	3.27	2750.0	1.4738
0230	2.44	4.30	2.69	4.40	4.30	3.41	2740.0	1.4906
0245	2.44	4.30	2.71	4.50	4.40	3.46	2730.0	1.5074
0300	2.54	4.30	2.72	4.50	4.50	3.52	2820.0	1.5247
0315	2.54	4.30	2.72	4.50	4.50	3.52	2860.0	1.5423
0330	2.54	4.70	2.72	4.50	4.50	3.56	2920.0	1.5603
0345	2.54	4.80	2.72	4.50	4.50	3.57	2940.0	1.5784
0400	2.64	4.80	2.77	4.70	4.50	3.65	2960.0	1.5966
0415	2.74	4.80	2.79	5.10	4.70	3.81	2980.0	1.6149
0430	2.84	4.90	2.80	5.10	5.00	3.93	3020.0	1.6427
0500	2.84	5.00	2.82	5.20	5.00	3.96	3350.0	1.6736
0515	3.15	5.10	2.86	5.30	5.10	4.14	3420.0	1.6947
0530	3.15	5.50	2.99	5.30	5.10	4.19	3480.0	1.7161
0545	3.25	5.70	3.33	5.30	5.20	4.30	3540.0	1.7378
0600	3.56	5.70	3.58	5.50	5.30	4.51	3600.0	1.7600
0615	3.87	5.70	3.63	5.80	5.60	4.76	3720.0	1.7828
0630	4.08	5.80	3.68	6.00	5.90	4.96	3840.0	1.8065
0645	4.08	5.90	3.70	6.00	5.90	4.97	4100.0	1.8317
0700	4.08	6.00	3.83	6.00	6.00	5.01	4350.0	1.8584
0715	4.18	6.10	3.93	6.00	6.00	5.07	4520.0	1.8862
0730	4.28	6.20	3.94	6.20	6.10	5.19	4700.0	1.9151
0745	4.38	6.20	3.94	6.30	6.10	5.25	4860.0	1.9450
0800	4.59	6.20	3.99	6.50	6.30	5.41	5010.0	1.9758
0815	4.69	6.30	4.04	6.60	6.40	5.51	5200.0	2.0078
0830	4.69	6.30	4.05	6.60	6.50	5.53	5380.0	2.0574
0900	4.69	6.40	4.06	6.60	6.50	5.54	5760.0	2.1105
0915	4.79	6.50	4.11	6.70	6.50	5.62	5880.0	2.1467
0930	4.79	6.60	4.17	6.70	6.60	5.65	6010.0	2.1836

STA. NO. 08075500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

SIMS BAYOU AT HOUSTON, TX. — STORM OF JAN. 20-25, 1980

DATE & TIME	GAGE NUMBER 5400	5500	31R	305R	5470			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 22										
0945	4.89	6.60	4.37	6.80	6.60			5.73	6140.0	2.2214
1000	4.99	6.60	4.58	6.90	6.80			5.85	6260.0	2.2599
1015	4.99	6.70	4.69	7.00	6.80			5.89	6400.0	2.2992
1030	5.09	6.70	4.75	7.00	6.90			5.96	6550.0	2.3395
1045	5.09	6.70	4.80	7.10	7.00			6.01	6690.0	2.3807
1100	5.09	6.70	4.82	7.10	7.00			6.01	6830.0	2.4437
1130	5.09	6.70	4.82	7.10	7.00			6.01	7020.0	2.5300
1200	5.09	6.70	4.82	7.10	7.00			6.01	7150.0	2.6179
1230	5.09	6.70	4.82	7.10	7.00			6.01	7190.0	2.6842
1245	5.09	6.70	4.82	7.10	7.00			6.01	7210.0	2.7286
1300	5.09	6.70	4.82	7.10	7.00			6.01	7200.0	2.7950
1330	5.09	6.70	4.82	7.10	7.00			6.01	7140.0	2.8828
1400	5.09	6.70	4.82	7.10	7.00			6.01	7060.0	2.9696
1430	5.09	6.70	4.82	7.10	7.00			6.01	6930.0	3.0548
1500	5.09	6.70	4.82	7.10	7.00			6.01	6790.0	3.1801
1600	5.09	6.70	4.82	7.10	7.00			6.01	6410.0	3.3378
1700	5.09	6.70	4.82	7.10	7.00			6.01	5920.0	3.4834
1800	5.09	6.70	4.82	7.10	7.00			6.01	5420.0	3.6833
2000	5.09	6.70	4.82	7.10	7.00			6.01	4380.0	3.8988
2200	5.09	6.70	4.82	7.10	7.00			6.01	3440.0	4.0680
2400	5.09	6.70	4.82	7.10	7.00			6.01	2680.0	4.2328
JAN. 23										
0000	5.09	6.70	4.82	7.10	7.00			6.01	2680.0	4.2328
0300	5.09	6.70	4.82	7.10	7.00			6.01	1850.0	4.3693
0600	5.09	6.70	4.82	7.10	7.00			6.01	1310.0	4.4660
0900	5.09	6.70	4.82	7.10	7.00			6.01	965.0	4.5372
1200	5.09	6.70	4.82	7.10	7.00			6.01	732.0	4.6002
1600	5.09	6.70	4.82	7.10	7.00			6.01	522.0	4.6516
2000	5.09	6.70	4.82	7.10	7.00			6.01	382.0	4.6892
2400	5.09	6.70	4.82	7.10	7.00			6.01	307.0	4.7269
JAN. 24										
0000	5.09	6.70	4.82	7.10	7.00			6.01	307.0	4.7269
0600	5.09	6.70	4.82	7.10	7.00			6.01	230.0	4.7609
1200	5.09	6.70	4.82	7.10	7.00			6.01	188.0	4.7886
1800	5.09	6.70	4.82	7.10	7.00			6.01	162.0	4.8125
2400	5.09	6.70	4.82	7.10	7.00			6.01	141.0	4.8333
JAN. 25										
0000	5.09	6.70	4.82	7.10	7.00			6.01	141.0	4.8333
0600	5.09	6.70	4.82	7.10	7.00			6.01	124.0	4.8516
1200	5.09	6.70	4.82	7.10	7.00			6.01	111.0	4.8680
1800	5.09	6.70	4.82	7.10	7.00			6.01	102.0	4.8831
2400	5.09	6.70	4.82	7.10	7.00			6.01	98.0	4.8903

BERRY BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Berry Bayou drainage basin are shown in figure 16.

Weighted-mean rainfall over the drainage basin for the 1980 water year was not determined.

The storm of Jan. 20-22 was selected for analysis at gaging station 08075550, Berry Bayou at Gilpin Street. The storm of Oct. 30-31 was selected for analysis at station 08075650, Berry Bayou at Forest Oaks Street.

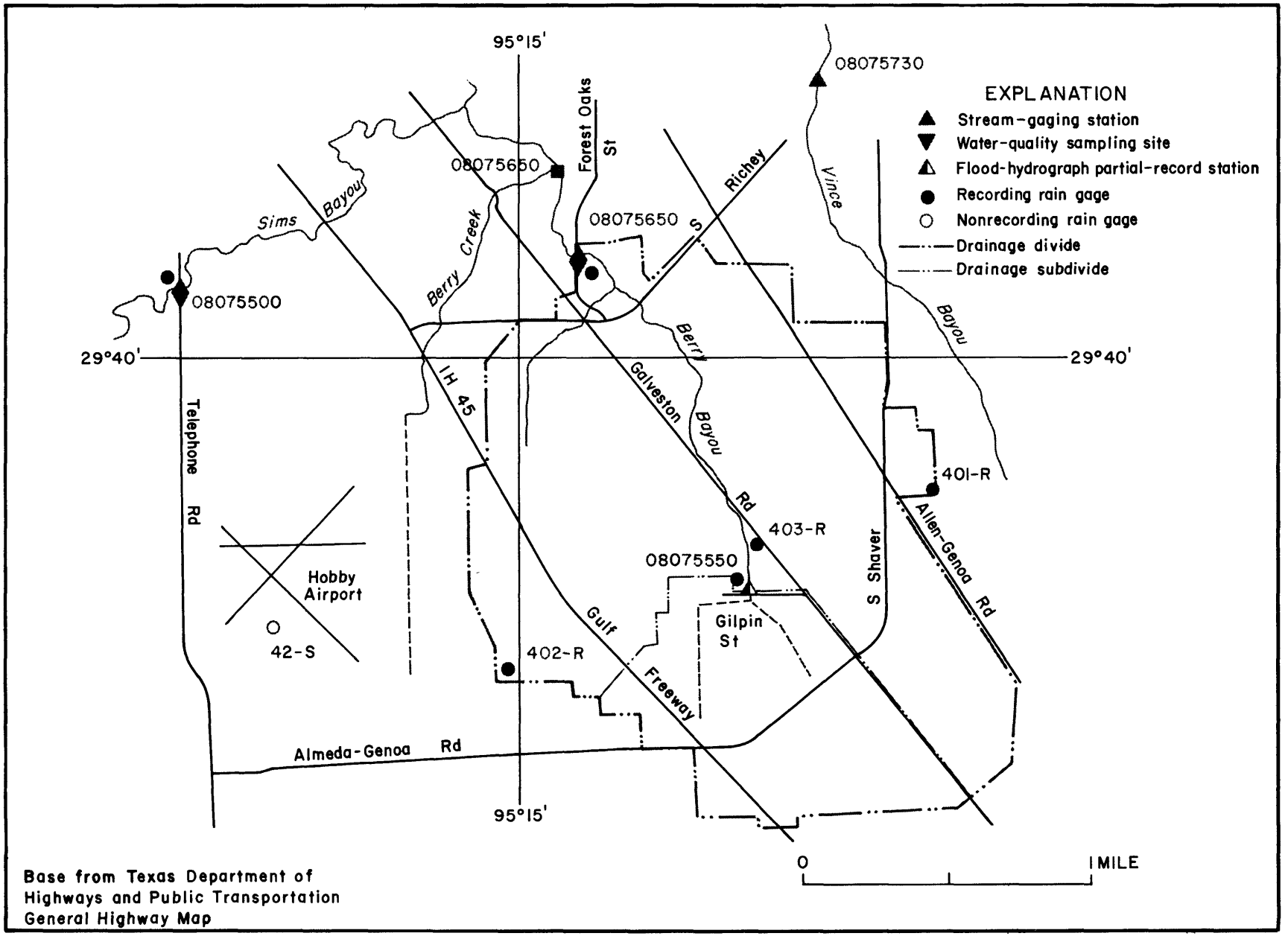

Figure 16 .-Locations of data-collection sites in and near the Berry Bayou drainage basin

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 14.--Storm rainfall-runoff data, 1980 Water Year, Berry Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Berry Bayou at Gilpin St., Houston, Tx. (Drainage area -- 2.56 mi^2)								
Jan. 20-21, 1980	8.2	2.56	0.27	0.43	0.57	5.27	0.86	309
Jan. 21-22, 1980	15.3	3.58	.55	.74	.85			352
Berry Bayou at Forest Oaks St., Houston, Tx. (Drainage area -- 10.7 mi^2)								
Oct. 30-31, 1979	1.6	4.22	1.40	2.47	3.25	2.53	0.60	2,180*

* - Annual peak discharge for 1980 WY.

08075550 BERRY BAYOU AT GILPIN STREET, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'32", long 95°13'22", Harris County, Hydrologic Unit 12040104, at bridge on Gilpin Street in southeast Houston.

DRAINAGE AREA.--2.56 mi^2. Oct. 1, 1973 to Oct. 1, 1978, 2.87 mi^2. Prior to Oct. 1, 1973, 3.26 mi^2.

PERIOD OF RECORD.--April 1964 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 26, 1978 a flood hydrograph and rainfall recorder (type SR) and a crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment, unadjusted for land surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 738 ft^3/s May 10, 1968: Maximum elevation, 37.07 ft, July 26, 1979. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Oct. 30	unknown	*394	35.39
Jan. 20	2015	309	33.58
Jan. 21	2000	308	33.57
Jan. 22	0715	352	34.10

Minimum discharge not determined.

STA. NO. 08075550	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BERRY BAYOU AT GILPIN STREET, HOUSTON, TX. — STORM OF JAN. 20-22, 1980

DATE & TIME	GAGE NUMBER 401R	GAGE NUMBER 402R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20					
0000	0.0	0.0	0.0	2.0	0.0048
0800	0.0	0.0	0.0	2.0	0.0098
0815	0.06	0.0	0.03	2.0	0.0101
0830	0.08	0.06	0.07	3.0	0.0131
1130	0.10	0.06	0.08	2.5	0.0155
1145	0.10	0.27	0.18	3.0	0.0160
1200	0.15	0.38	0.25	5.0	0.0168
1215	0.28	0.38	0.32	8.0	0.0180
1230	0.33	0.38	0.35	10.0	0.0195
1245	0.45	0.38	0.42	15.0	0.0218
1300	0.68	0.38	0.54	20.0	0.0293
1400	0.69	0.40	0.56	25.0	0.0388
1415	0.71	0.50	0.62	30.0	0.0433
1430	0.77	0.57	0.68	40.0	0.0494
1445	0.83	0.59	0.72	50.0	0.0569
1500	0.87	0.60	0.75	65.0	0.0668
1515	0.91	0.63	0.78	80.0	0.0789
1530	0.95	0.90	0.93	92.0	0.0928
1545	0.98	1.06	1.02	105.0	0.1087
1600	1.00	1.07	1.03	112.0	0.1256
1615	1.04	1.08	1.06	119.0	0.1436
1630	1.14	1.33	1.23	155.0	0.1671
1645	1.28	1.40	1.33	191.0	0.1960
1700	1.38	1.44	1.41	207.0	0.2273
1715	1.58	1.48	1.53	218.0	0.2603
1730	1.66	1.51	1.59	227.0	0.2947
1745	1.67	1.73	1.70	230.0	0.3295
1800	1.73	1.86	1.79	231.0	0.3644
1815	1.78	1.93	1.85	231.0	0.3994
1830	1.81	2.08	1.93	231.0	0.4343
1845	1.90	2.13	2.00	244.0	0.4713
1900	1.95	2.17	2.05	253.0	0.5096
1915	2.08	2.19	2.13	266.0	0.5498
1930	2.21	2.19	2.20	286.0	0.5931
1945	2.31	2.23	2.27	300.0	0.6385
2000	2.45	2.26	2.36	308.0	0.6851
2015	2.47	2.27	2.38	309.0	0.7319
2030	2.49	2.29	2.40	303.0	0.7777
2045	2.52	2.30	2.42	294.0	0.8222

STA. NO. 08075550 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BERRY BAYOU AT GILPIN STREET, HOUSTON, TX. — STORM OF JAN. 20-22, 1980

DATE & TIME	GAGE NUMBER 401R	GAGE NUMBER 402R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20					
2100	2.58	2.30	2.45	288.0	0.8658
2115	2.60	2.30	2.46	280.0	0.9293
2145	2.61	2.30	2.47	260.0	0.9884
2200	2.61	2.33	2.48	250.0	1.0451
2230	2.61	2.33	2.48	230.0	1.0973
2245	2.68	2.33	2.52	222.0	1.1645
2330	2.69	2.33	2.53	201.0	1.2405
2400	2.69	2.33	2.53	185.0	1.3525
JAN. 21					
0000	2.69	2.33	2.53	185.0	1.3525
0130	2.69	2.33	2.53	141.0	1.4379
0200	2.71	2.36	2.55	129.0	1.4964
0300	2.71	2.36	2.55	109.0	1.5624
0400	2.71	2.36	2.55	93.0	1.6187
0500	2.72	2.36	2.56	85.0	1.6959
0700	2.73	2.36	2.56	70.0	1.8018
1000	2.73	2.36	2.56	40.0	1.8744
1300	2.73	2.36	2.56	20.0	1.9168
1700	2.73	2.36	2.56	10.0	1.9297
1715	2.76	2.38	2.59	10.0	1.9312
1730	2.79	2.44	2.63	12.0	1.9330
1745	2.83	2.66	2.75	15.0	1.9353
1800	2.91	2.86	2.89	20.0	1.9383
1815	3.06	2.98	3.02	70.0	1.9489
1830	3.24	3.18	3.21	121.0	1.9672
1845	3.29	3.42	3.35	176.0	1.9938
1900	3.48	3.59	3.53	234.0	2.0292
1915	3.69	3.63	3.66	276.0	2.0710
1930	3.80	3.67	3.74	297.0	2.1160
1945	3.84	3.69	3.77	308.0	2.1626
2000	3.87	3.69	3.79	308.0	2.2092
2015	3.87	3.69	3.79	304.0	2.2552
2030	3.88	3.69	3.79	294.0	2.3219
2100	3.89	3.69	3.80	270.0	2.4445
2200	3.89	3.69	3.80	222.0	2.5789
2300	3.89	3.69	3.80	185.0	2.6908
2400	3.89	3.69	3.80	153.0	2.8298
JAN. 22					
0000	3.89	3.69	3.80	153.0	2.8298
0200	3.90	3.69	3.81	106.0	2.9019
0215	3.90	3.73	3.82	101.0	2.9172

STA. NO. 08075550	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

BERRY BAYOU AT GILPIN STREET, HOUSTON, TX. — STORM OF JAN. 20-22, 1980

DATE & TIME	GAGE NUMBER 401R	GAGE NUMBER 402R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 22					
0230	3.93	4.06	3.99	108.0	2.9336
0245	4.28	4.17	4.23	151.0	2.9564
0300	4.51	4.17	4.36	197.0	2.9862
0315	4.51	4.17	4.36	216.0	3.0189
0330	4.51	4.17	4.36	223.0	3.0527
0345	4.51	4.26	4.40	222.0	3.0863
0400	4.51	4.34	4.43	217.0	3.1191
0415	4.52	4.39	4.46	212.0	3.1512
0430	4.60	4.39	4.51	210.0	3.1988
0500	4.62	4.40	4.52	201.0	3.2597
0530	4.65	4.45	4.56	189.0	3.3026
0545	4.67	4.51	4.60	184.0	3.3304
0600	4.70	4.70	4.70	184.0	3.3583
0615	4.85	5.25	5.03	213.0	3.3905
0630	5.26	5.30	5.28	289.0	3.4342
0645	5.41	5.31	5.36	334.0	3.4848
0700	5.42	5.31	5.37	349.0	3.5376
0715	5.42	5.31	5.37	352.0	3.5908
0730	5.42	5.34	5.38	346.0	3.6432
0745	5.43	5.46	5.44	336.0	3.6941
0800	5.47	5.55	5.51	336.0	3.7449
0815	5.57	5.60	5.58	328.0	3.7945
0830	5.60	5.65	5.62	324.0	3.8436
0845	5.66	5.66	5.66	317.0	3.8915
0900	5.70	5.69	5.70	310.0	3.9384
0915	5.71	5.77	5.74	297.0	3.9834
0930	5.75	5.83	5.79	292.0	4.0276
0945	5.80	5.84	5.82	290.0	4.0715
1000	5.85	5.93	5.89	287.0	4.1149
1015	5.93	5.95	5.94	290.0	4.1588
1030	5.98	6.01	5.99	288.0	4.2241
1100	6.08	6.05	6.07	283.0	4.3526
1200	6.13	6.11	6.12	253.0	4.5058
1300	6.16	6.12	6.14	220.0	4.7055
1500	6.16	6.12	6.14	160.0	4.9476
1800	6.16	6.12	6.14	97.0	5.1238
2100	6.16	6.12	6.14	60.0	5.2327
2400	6.16	6.12	6.14	40.0	5.2691

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, at gaging station at Forest Oaks Street Bridge in southeast Houston, 0.8 mi (1.3 km) upstream from auxiliary gage at mouth of Berry Creek, and 1.7 mi (2.7 km) upstream from Sims Bayou.

DRAINAGE AREA.--10.7 mi² (27.7 km²). Prior to Oct. 1, 1973, 11.1 mi² (28.7 km²). Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi² (26.2 km²). Drainage ditch relocationa resulted in drainage area changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year. April 1964 to September 1966 operated as a daily discharge station.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2.72 ft (0.829 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment. Auxiliary water-stage recorder 0.8 mi (1.3 km) downstream at same datum. June 25, 1964, to Jan. 11, 1965, auxiliary nonrecording gage 0.8 mi (1.3 km) downstream at same datum.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,650 ft³/s (132 m³/s), revised, July 26, 1979; maximum gage height, 23.85 ft (7.269 m) Sept. 20, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 30	1945	*2,180	61.7	b16.74	5.102
aJan. 22	1000	1,280	36.2	b17.92	5.462
aJuly 28	1615	128	3.62	b 5.67	1.728

a Water-quality samples were obtained during this runoff event.
b Not at same time as peak discharge.

REVISIONS.--The maximum discharge for the water year 1979 has been revised to 4,650 ft³/s (132 m³/s), July 26, 1979, superseding figure published in the report for 1979. Peak discharge of Mar. 19 (2000 hours) has been revised to 1,430 ft³/s (40.5 m³/s), gage height, 17.63 ft (5.374 m) at 2130 hours. Peak discharge of Sept. 20 (0130 hours) has been revised to 4,350 ft³/s (123 m³/s). The instantaneous flow value for the water-quality sample collected on July 26 (1255 hours) has been revised to 2,380 ft³/s (6.74 m³/s).

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses. October 1968 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
JAN 22...	1010	1270	119	7.0	16.0	120	110	7.9	79	6.9
JUL 28...	1350	8.4	1360	7.3	26.0	25	150	3.6	44	65

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN 22...	190000	140000	45000	44	0	14	2.2	5.3	.3
JUL 28...	920000	240000	56000	120	0	37	7.5	220	8.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN 22...	2.2	54	0	4.6	4.7	.1	5.1	65	186
JUL 28...	5.4	150	0	29	340	.6	6.6	721	406

DATE	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 22...	44	.09	.010	.10	.080	1.0	1.1	.180	11
JUL 28...	138	.59	.160	.75	2.800	13	16	4.100	48

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JAN 22...	1010	2	30	<1	0	1	80
JUL 28...	1350	11	300	<1	10	2	60

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JAN 22...	2	1	.1	0	0	7
JUL 28...	1	160	.0	0	0	10

DATE	TIME	PCB TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JAN 22...	1010	.20	--	.00	.1	.01	.01	.00	.04
JUL 28...	1350	.00	.00	.00	1.1	.00	.01	.01	.48

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
JAN 22...	.01	.00	.00	.00	.00	.01	.01	.01	.00
JUL 28...	.04	.00	.00	.00	.01	.02	.04	.07	.00

DATE	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 22...	.00	.00	.00	.00	0	.00	.07	.01	.00
JUL 28...	.00	.00	.00	.01	0	.00	.20	.00	.00

STA. NO. 08075650 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX. — STORM OF OCT. 30-31, 1979

DATE & TIME	GAGE NUMBER 5650	401R	402R	403R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
OCT. 30							
0000	0.0	0.0	0.0	0.0	0.0	5.0	0.0061
1645	0.0	0.0	0.0	0.0	0.0	5.0	0.0122
1700	0.10	0.03	0.0	0.0	0.03	6.0	0.0124
1715	0.62	0.07	0.0	0.0	0.14	100.0	0.0161
1730	1.45	0.88	0.06	0.20	0.56	300.0	0.0269
1745	2.70	2.28	0.26	1.40	1.66	550.0	0.0468
1800	3.22	2.98	1.50	2.40	2.54	845.0	0.0774
1815	3.53	3.28	2.73	2.90	3.08	1110.0	0.1176
1830	3.84	3.50	3.21	3.10	3.34	1360.0	0.1669
1845	3.94	3.90	3.51	3.40	3.62	1810.0	0.2324
1900	4.15	4.26	4.04	3.70	3.95	2040.0	0.3062
1915	4.25	4.34	4.27	3.90	4.11	2120.0	0.3830
1930	4.25	4.41	4.44	4.00	4.20	2160.0	0.4612
1945	4.25	4.42	4.56	4.00	4.22	2180.0	0.5401
2000	4.25	4.42	4.58	4.00	4.22	2120.0	0.6169
2015	4.25	4.42	4.59	4.00	4.22	1980.0	0.6886
2030	4.25	4.43	4.59	4.00	4.22	1860.0	0.7559
2045	4.25	4.43	4.59	4.00	4.22	1760.0	0.8196
2100	4.25	4.43	4.59	4.00	4.22	1680.0	0.9109
2130	4.25	4.43	4.59	4.00	4.22	1560.0	1.0238
2200	4.25	4.43	4.59	4.00	4.22	1450.0	1.1813
2300	4.25	4.43	4.59	4.00	4.22	1200.0	1.3551
2400	4.25	4.43	4.59	4.00	4.22	1070.0	1.6650
OCT. 31							
0000	4.25	4.43	4.59	4.00	4.22	1070.0	1.6650
0300	4.25	4.43	4.59	4.00	4.22	738.0	1.9857
0600	4.25	4.43	4.59	4.00	4.22	500.0	2.3115
1200	4.25	4.43	4.59	4.00	4.22	180.0	2.4679
1800	4.25	4.43	4.59	4.00	4.22	60.0	2.5201
2400	4.25	4.43	4.59	4.00	4.22	20.0	2.5287

VINCE BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the drainage basin are shown in figure 17.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1980 water year was 36.02 inches or 12.17 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1980 water year.

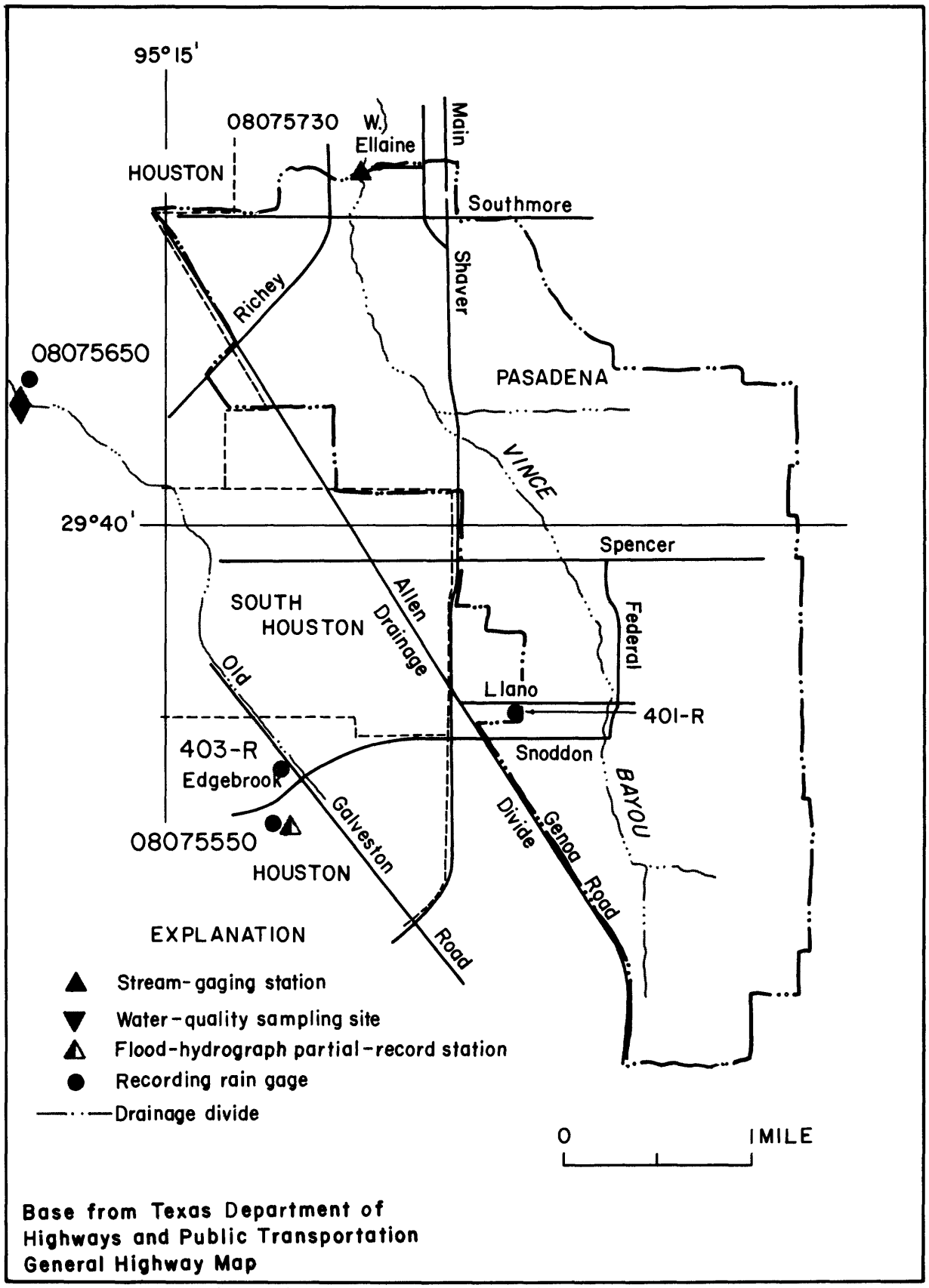

Figure 17.- Locations of data-collection sites in and near the Vince Bayou drainage basin

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--7.32 mi² (18.96 km²). Prior to Jan. 1, 1978, 8.21 mi² (21.26 km²). Jan. 1 to Sept. 30, 1978, 7.61 mi² (19.71 km²). Drainage area revisions due to drainage ditch changes.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft (0.774 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers).

REMARKS.--Records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--9 years, 17.5 ft³/s (0.496 m³/s), 12,680 acre-ft/yr (15.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft³/s (112 m³/s) July 26, 1979, gage height, 16.93 ft (5.160 m); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft³/s (39.6 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 20	2000	1,460	41.3	13.03	3.972
Jan. 22	0715	*1,940	54.9	13.92	4.243

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) May 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	2.7	.32	.32	1.5	16	1.1	77	.19	1.3	1.0	.30
2	.23	2.1	.25	.30	3.1	1.0	1.2	5.2	.15	1.2	.65	.40
3	.30	.96	.39	54	4.8	.73	1.7	.56	.32	1.3	.41	.40
4	.56	.56	.41	5.6	4.5	1.9	.82	.38	.17	1.6	.83	.30
5	.22	.42	.49	1.8	15	1.2	.40	.22	.13	1.9	.99	50
6	.19	1.3	.66	1.0	7.4	.81	1.7	.19	.17	1.0	.71	25
7	.11	1.3	.42	.78	2.0	.92	1.4	7.5	1.4	.68	1.9	5.0
8	.15	1.7	.49	.67	139	1.1	.64	5.2	.33	.82	.51	1.5
9	.38	2.7	.26	.45	39	.96	.62	.56	70	.81	.26	1.0
10	.78	.41	.26	.82	6.1	1.1	.50	.08	2.9	.66	.64	.80
11	.90	.18	.26	1.7	3.0	.98	1.3	.08	.34	.98	.59	.70
12	.78	.25	19	.85	3.0	1.0	1.2	.15	.20	.74	.31	.60
13	2.7	.22	38	.56	3.0	.87	28	.30	.22	.77	.97	.55
14	3.3	.20	4.6	.59	6.1	.92	.54	1.2	.17	.82	.81	.50
15	2.7	.19	1.0	1.7	14	.86	1.7	1.9	.28	1.1	1.2	.50
16	1.2	.33	.56	17	8.5	2.7	2.6	52	.50	.85	2.9	1.0
17	.78	.28	.46	131	6.6	17	2.1	15	.50	.78	.80	1.2
18	.66	.30	.27	25	5.3	.94	2.8	.66	.46	.87	1.0	.38
19	.56	.45	.61	12	3.3	.78	1.1	122	.17	.75	.97	12
20	.46	.35	.27	455	2.4	23	.71	2.7	.11	2.2	.83	1.2
21	.56	23	.43	344	1.2	.99	.55	1.2	.52	2.9	.85	.66
22	32	15	.46	642	1.1	.36	.38	.46	.64	3.0	.70	.78
23	1.4	7.1	1.5	38	1.2	2.0	.26	.26	.24	1.6	.21	.78
24	1.0	.38	3.0	16	1.3	1.1	.56	.38	.21	.70	.59	.56
25	.73	.28	1.2	15	1.2	.33	19	1.0	.20	.54	.26	.46
26	.56	.26	.81	9.0	.94	7.1	.66	.78	.26	.76	.57	8.1
27	1.1	.24	.89	5.8	.75	238	.38	.46	.38	1.4	8.3	8.1
28	.66	.46	2.2	2.3	1.1	46	.26	.78	.56	27	1.0	1.7
29	.84	.65	43	2.4	3.0	170	.30	.38	.66	4.3	8.4	.56
30	168	.48	1.2	1.5	---	12	.19	.26	.90	1.8	1.0	44
31	41	---	.54	1.7	---	1.9	---	.22	---	1.4	.30	---
TOTAL	265.20	64.75	124.21	1788.84	289.39	554.55	74.67	299.06	83.28	66.53	40.46	169.03
MEAN	8.55	2.16	4.01	57.7	9.98	17.9	2.49	9.65	2.78	2.15	1.31	5.63
MAX	168	23	43	642	139	238	28	122	70	27	8.4	50
MIN	.11	.18	.25	.30	.75	.33	.19	.08	.11	.54	.21	.30
AC-FT	526	128	246	3550	574	1100	148	593	165	132	80	335
(††)	4.99	1.14	1.98	7.81	1.83	4.29	1.15	3.92	1.15	1.35	1.17	5.24

CAL YR 1979 TOTAL 11563.01 MEAN 31.7 MAX 1520 MIN .11 AC-FT 22940 †† 72.14
WTR YR 1980 TOTAL 3819.97 MEAN 10.4 MAX 642 MIN .08 AC-FT 7580 †† 36.02

†† Weighted-mean rainfall, in inches, based on two rain gages.

HUNTING BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Hunting Bayou drainage basin are shown in figure 18.

Weighted-mean rainfall in the drainage basin based on three rain gages for the 1980 water year was 41.76 inches, or 6.43 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of Jan. 20-23 and April 25-26 were selected for analysis at station 08075760, Hunting Bayou at Falls Street. The storms of Jan. 20-24 and April 25-27 were selected for analysis at station 08075770, Hunting Bayou at Interstate Highway 610.

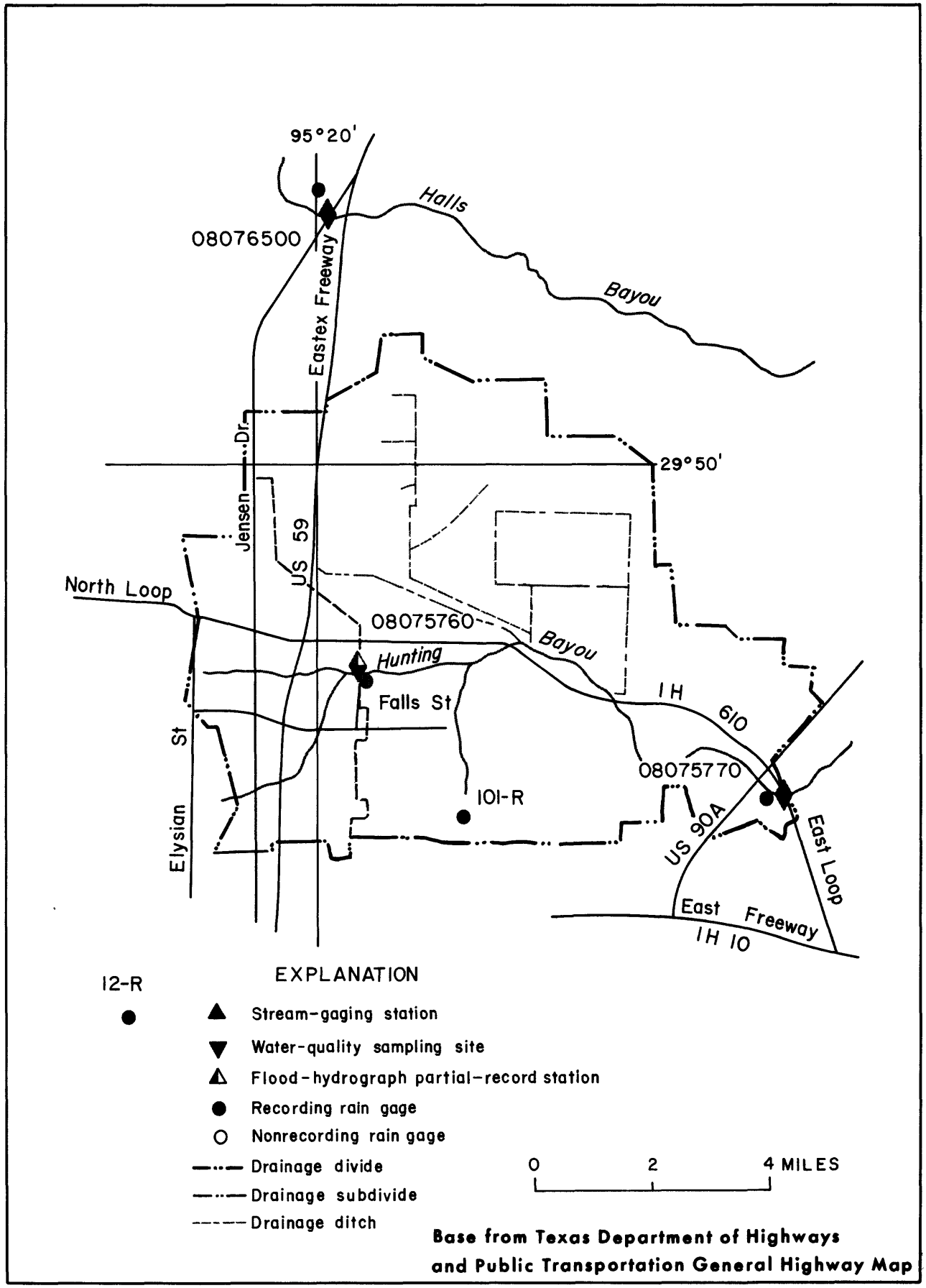

Figure 18.-Locations of data-collection sites in and near the Hunting Bayou drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table15.--Storm rainfall-runoff data, 1980 Water Year, Hunting Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Hunting Bayou at Falls St., Houston, Tx. (Drainage area -- 2.57 mi^2)								
Jan. 20-21, 1980	9.7	2.20	0.25	0.50	0.65	3.87	0.78	175
Jan. 21-23, 1980	8.7	2.75	.35	.60	1.10			384 *
Apr. 25-26, 1980	4.1	3.10	0.70	1.30	1.90	1.41	0.45	280
Hunting Bayou at Interstate Highway 610, Houston, Tx. (Drainage area -- 15.8 mi^2)								
Jan. 20-24, 1980	41.2	5.39	0.35	0.60	1.10	4.20	0.78	1,710*
Apr. 25-27, 1980	4.2	3.05	0.70	1.30	1.90	1.42	0.47	1,110

* - Annual peak discharge for 1980 WY.

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'22", long 95°19'50", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Falls Street in northeast Houston.

DRAINAGE AREA.--2.57 mi² (6.66 km²). Oct. 1, 1973, to Sept. 30, 1978, 2.75 mi² (7.12 km²). Prior to Oct. 1, 1973, 3.50 mi² (9.07 km²). Drainage area changes due to changes in storm sewers.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year.

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1980."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft³/s (22.0 m³/s) June 13, 1973, elevation, 46.70 ft (14.234 m); maximum elevation, 47.35 ft (14.432 m) Sept. 1, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 30	unknown	292	8.27	44.18	13.466	aApr. 25	b1215	280	7.93	42.49	12.951
Jan. 22	0800	*384	10.9	43.12	13.143	aMay 28	unknown	b1	.028	unknown	-
aJan. 28	unknown	b3	.085	unknown	-	aAug. 6	unknown	b1	.028	unknown	-
aMar. 27	1630	208	5.89	41.42	12.625						

a Water-quality samples were obtained during this runoff event.
b About.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
JAN										
28...	1055	2.4	1110	6.9	15.0	15	11	3.7	36	8.4
MAR										
27...	1020	73	210	6.9	15.0	80	54	--	--	12
APR										
25...	0955	204	157	7.7	21.5	40	93	7.3	82	14
25...	1240	264	160	6.6	21.0	40	99	6.8	76	14
25...	1630	116	220	7.1	23.0	50	46	4.7	55	14
26...	0820	3.6	600	6.8	20.0	40	18	.6	7	9.9
MAY										
28...	1035	.70	1270	7.4	26.5	35	4.7	6.2	76	12
AUG										
06...	1045	.65	--	--	28.0	130	75	1.2	15	13

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
28...	520000	150000	11000	--	--	--	--	--	--
MAR									
27...	540000	190000	180000	--	--	--	--	--	--
APR									
25...	230000	100000	74000	--	--	--	--	--	--
25...	200000	100000	64000	50	11	17	1.9	7.4	.5
25...	580000	190000	42000	--	--	--	--	--	--
26...	3800000	2600000	28000	180	0	54	10	53	1.7
MAY									
28...	61000	13000	420	280	0	77	21	140	3.7
AUG									
06...	860000	210000	3000	--	--	--	--	--	--

08075760 HUNTING BAYOU FALLS ST HOUSTON TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
JAN									
28...	--	--	--	--	--	--	--	--	24
MAR									
27...	--	--	--	--	--	--	--	--	94
APR									
25...	--	--	--	--	--	--	--	--	179
25...	3.3	39	0	17	11	.1	4.1	85	248
25...	--	--	--	--	--	--	--	--	53
26...	5.3	180	0	61	49	.2	12	353	37
MAY									
28...	7.9	390	0	68	140	1.1	19	706	13
AUG									
06...	--	--	--	--	--	--	--	--	48

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
28...	8	.34	.050	.39	2.20	2.4	4.60	1.30	5.6
MAR									
27...	30	1.0	.070	1.1	1.20	1.7	2.90	.890	17
APR									
25...	25	.35	.010	.36	1.00	3.7	4.70	1.80	27
25...	48	.67	.050	.72	1.10	2.1	3.20	2.20	29
25...	8	.50	.040	.54	.750	2.4	3.10	1.40	21
26...	9	.16	.030	.19	1.20	3.7	4.90	1.80	24
MAY									
28...	6	.36	.310	.67	12.0	1.0	13.0	8.10	12
AUG									
06...	48	4.7	.070	4.8	1.10	3.9	5.00	10.0	4.1

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 28...	1035	4	40	<1	0	2	<10
AUG 06...	1045	44	3	<1	20	14	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 28...	0	3	.1	1	0	30
AUG 06...	0	30	.0	1	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
MAY 28...	1035	<.10	.00	.00	.00	.00	.00	.00	.04	.00
AUG 06...	1045	.00	.00	.00	.00	.00	.00	.00	.02	.00

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY 28...	<.02	.00	.00	.00	.00	.00	.01	.00	.00
AUG 06...	.00	.00	.00	.00	.00	.00	1.5	.00	.00

SAN JACINTO RIVER BASIN

08075760 HUNTING BAYOU FALLS ST HOUSTON TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
28...	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG									
06...	.00	.00	.00	.00	0	.00	.20	.03	.00

STA. NO. 08075760	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
HUNTING BAYOU AT FALLS STREET, HOUSTON, TX.	STORM OF JAN. 20-23, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	5760									
JAN. 20										
0000	0.0							0.0	2.5	0.0053
0700	0.05							0.05	2.5	0.0147
1230	0.10							0.10	3.0	0.0228
1600	0.10							0.10	3.0	0.0262
1615	0.20							0.20	10.0	0.0277
1630	0.40							0.40	20.0	0.0323
1700	0.50							0.50	30.0	0.0390
1715	0.65							0.65	42.0	0.0454
1730	0.75							0.75	53.0	0.0534
1745	0.85							0.85	64.0	0.0630
1800	0.90							0.90	75.0	0.0743
1815	1.00							1.00	88.0	0.0876
1830	1.25							1.25	99.0	0.1025
1845	1.50							1.50	128.0	0.1218
1900	1.55							1.55	158.0	0.1456
1915	1.60							1.60	172.0	0.1715
1930	1.65							1.65	175.0	0.1979
1945	1.65							1.65	174.0	0.2241
2000	1.65							1.65	169.0	0.2496
2015	1.70							1.70	162.0	0.2985
2100	1.70							1.70	143.0	0.3847
2215	1.75							1.75	110.0	0.4510
2300	1.80							1.80	97.0	0.5022
2400	1.80							1.80	84.0	0.5528
JAN. 21										
0000	1.80							1.80	84.0	0.5528
0100	1.90							1.90	72.0	0.5854
0130	1.95							1.95	79.0	0.6092
0200	2.00							2.00	84.0	0.6662
0345	2.00							2.00	70.0	0.7084
0400	2.10							2.10	67.0	0.7185
0415	2.15							2.15	70.0	0.7290
0430	2.20							2.20	79.0	0.7469
0500	2.20							2.20	87.0	0.7731
0530	2.20							2.20	86.0	0.8120
0630	2.20							2.20	76.0	0.8693
0800	2.20							2.20	59.0	0.9671
1200	2.20							2.20	34.0	1.0389
1500	2.25							2.25	24.0	1.0751
1700	2.25							2.25	22.0	1.0900

STA. NO. 08075760	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
HUNTING BAYOU AT FALLS STREET, HOUSTON, TX.	STORM OF JAN. 20-23, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 5760								
JAN. 21									
1715	2.30						2.30	22.0	1.0933
1730	2.40						2.40	24.0	1.0969
1745	2.45						2.45	28.0	1.1032
1815	2.50						2.50	40.0	1.1153
1845	2.50						2.50	52.0	1.1310
1915	2.55						2.55	51.0	1.1502
2000	2.55						2.55	51.0	1.1886
2145	2.60						2.60	43.0	1.2405
2400	2.60						2.60	34.0	1.2841
JAN. 22									
0000	2.60						2.60	34.0	1.2841
0200	2.60						2.60	28.0	1.3073
0245	2.65						2.65	26.0	1.3171
0315	2.70						2.70	27.0	1.3293
0415	2.70						2.70	32.0	1.3413
0430	2.75						2.75	33.0	1.3463
0445	2.80						2.80	36.0	1.3544
0515	2.85						2.85	42.0	1.3639
0530	2.90						2.90	45.0	1.3707
0545	3.15						3.15	56.0	1.3792
0600	3.40						3.40	84.0	1.3918
0615	3.75						3.75	144.0	1.4135
0630	4.00						4.00	229.0	1.4481
0645	4.05						4.05	284.0	1.4909
0700	4.10						4.10	310.0	1.5376
0715	4.25						4.25	330.0	1.5873
0730	4.40						4.40	359.0	1.6414
0745	4.40						4.40	376.0	1.6981
0800	4.40						4.40	384.0	1.7560
0815	4.45						4.45	382.0	1.8136
0830	4.45						4.45	374.0	1.8982
0900	4.45						4.45	356.0	1.9786
0915	4.50						4.50	354.0	2.0320
0930	4.55						4.55	348.0	2.0845
0945	4.65						4.65	346.0	2.1627
1015	4.85						4.85	361.0	2.2443
1030	4.90						4.90	372.0	2.3004
1045	4.90						4.90	375.0	2.3569
1100	4.95						4.95	371.0	2.4408
1130	4.95						4.95	357.0	2.5484

STA. NO. 08075760	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

HUNTING BAYOU AT FALLS STREET, HOUSTON, TX.	STORM OF JAN. 20-23, 1980						ACCUM.	DISCHARGE	ACCUM.
DATE & TIME	GAGE NUMBER						WEIGHTED PRECIP.	IN	RUNOFF
	5760						IN.	CFS	IN.
JAN. 22									
1200	4.95						4.95	337.0	2.7008
1300	4.95						4.95	291.0	2.9640
1500	4.95						4.95	205.0	3.2730
1800	4.95						4.95	114.0	3.4792
2100	4.95						4.95	66.0	3.5986
2400	4.95						4.95	42.0	3.6746
JAN. 23									
0000	4.95						4.95	42.0	3.6746
0300	4.95						4.95	29.0	3.7270
0600	4.95						4.95	22.0	3.7867
1200	4.95						4.95	12.0	3.8302
1800	4.95						4.95	8.0	3.8591
2400	4.95						4.95	5.0	3.8681

STA. NO. 08075760 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HUNTING BAYOU AT FALLS ST., HOUSTON, TX. — STORM OF APR. 25-26, 1980

DATE & TIME	GAGE NUMBER 5760	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
APR. 25				
0000	0.0	0.0	1.0	0.0020
0645	0.0	0.0	1.0	0.0041
0700	0.05	0.05	1.0	0.0043
0715	0.15	0.15	1.5	0.0045
0730	0.75	0.75	6.0	0.0054
0745	1.45	1.45	58.0	0.0142
0800	1.95	1.95	134.0	0.0344
0815	2.05	2.05	206.0	0.0654
0830	2.15	2.15	225.0	0.0993
0845	2.15	2.15	229.0	0.1339
0900	2.15	2.15	223.0	0.1675
0915	2.15	2.15	213.0	0.1996
0930	2.20	2.20	202.0	0.2300
0945	2.40	2.40	200.0	0.2602
1000	2.45	2.45	207.0	0.2914
1015	2.45	2.45	209.0	0.3229
1030	2.45	2.45	202.0	0.3533
1045	2.45	2.45	192.0	0.3823
1100	2.55	2.55	183.0	0.4099
1115	2.75	2.75	190.0	0.4385
1130	3.10	3.10	232.0	0.4735
1145	3.10	3.10	270.0	0.5142
1200	3.10	3.10	278.0	0.5561
1215	3.10	3.10	280.0	0.5983
1230	3.10	3.10	276.0	0.6399
1245	3.10	3.10	260.0	0.6791
1300	3.10	3.10	249.0	0.7354
1330	3.10	3.10	223.0	0.8026
1400	3.10	3.10	203.0	0.9556
1600	3.10	3.10	132.0	1.1148
1800	3.10	3.10	85.0	1.2429
2100	3.10	3.10	44.0	1.3225
2400	3.10	3.10	22.0	1.3623
APR. 26				
0000	3.10	3.10	22.0	1.3623
0300	3.10	3.10	9.0	1.3786
0600	3.10	3.10	5.0	1.3921
1200	3.10	3.10	2.0	1.4030
2400	3.10	3.10	1.3	1.4077

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi (14.2 km) upstream from mouth.

DRAINAGE AREA.--15.8 mi² (40.9 km²). Prior to Oct. 1, 1973, 16.8 mi² (43.5 km²). Oct. 1, 1973, to Sept. 30, 1978, 14.7 mi² (38.1 km²). Changes due to storm sewer relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

REVISED RECORDS.--WRD TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to Oct. 1, 1972, water-stage recorder at site 1,800 ft (549 m) upstream at same datum.

REMARKS.-Water-discharge records fair except for period of no gage-height, which are poor. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--16 years, 23.0 ft³/s (0.651 m³/s), 16,660 acre-ft/yr (20.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft³/s (95.7 m³/s) June 13, 1973, elevation, 38.11 ft (11.616 m); maximum gage height, 39.28 ft (11.973 m) June 15, 1976; minimum daily, 0.88 ft³/s (0.025 m³/s) Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Oct. 31	2200	1,140	32.3	33.89	10.330	aMar. 27	1900	927	26.3	31.45	9.586
Jan. 22	1130	*1,710	48.4	35.30	10.759	aApr. 25	1400	1,110	31.4	32.44	9.888

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 2.8 ft³/s (0.079 m³/s) July 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	26	7.2	12	5.9	40	17	14	3.9	4.2	4.4	6.2
2	5.8	13	6.1	10	8.0	25	14	11	3.8	4.1	4.4	9.7
3	5.4	9.9	6.1	55	7.0	15	13	6.5	3.9	4.2	4.1	4.9
4	5.0	8.8	6.3	19	6.5	10	11	5.9	3.7	2.9	3.7	4.2
5	4.6	7.6	6.6	14	6.4	9.0	10	6.0	3.9	2.8	13	45
6	4.4	7.0	6.2	12	6.7	8.0	12	5.8	6.3	2.8	5.0	255
7	4.1	6.4	6.0	12	6.0	7.0	12	21	4.7	2.8	8.0	90
8	4.1	6.4	6.2	10	106	6.5	10	13	5.0	6.1	5.2	25
9	3.9	9.1	6.2	10	154	6.2	8.1	9.4	29	9.3	4.6	10
10	3.8	8.9	6.1	9.4	30	6.0	7.4	6.3	9.2	4.1	8.5	8.0
11	4.6	7.8	6.1	9.2	16	6.0	7.9	5.8	5.2	3.7	8.5	7.0
12	4.3	7.0	109	7.2	12	6.0	7.8	5.6	5.0	4.2	23	6.0
13	4.1	6.6	80	6.8	9.8	6.0	50	6.4	5.1	3.7	36	5.6
14	4.0	6.6	21	6.2	15	6.0	12	15	5.2	3.9	5.7	5.3
15	4.1	6.6	14	6.0	29	6.0	8.5	10	6.1	4.0	22	5.1
16	4.2	6.3	11	6.2	36	6.0	7.8	10	4.6	3.9	14	5.0
17	4.8	6.4	9.7	42	18	25	7.2	50	7.0	3.6	4.9	4.9
18	4.1	6.3	8.9	22	14	15	8.5	25	4.0	3.4	4.5	4.8
19	4.2	6.2	8.8	10	12	10	7.4	148	3.3	3.4	4.4	5.0
20	4.2	6.2	8.7	198	10	9.0	6.0	23	3.1	5.6	3.8	5.8
21	3.3	42	8.8	423	9.0	8.0	5.2	14	3.4	40	3.1	6.9
22	21	39	8.7	959	8.0	7.0	5.4	9.8	3.7	20	3.6	5.4
23	6.8	29	23	200	7.2	10	6.2	7.6	4.0	12	3.8	5.5
24	5.8	15	18	50	6.6	12	5.7	6.8	3.9	9.0	3.3	6.2
25	5.0	13	9.4	25	6.4	10	469	6.5	3.3	7.0	3.5	7.2
26	5.2	13	9.0	15	6.2	15	107	5.5	3.2	6.0	3.6	14
27	5.0	8.7	9.2	12	6.0	540	19	4.8	3.0	5.0	4.8	10
28	5.0	11	8.5	9.3	6.0	289	15	4.8	3.5	10	4.8	6.4
29	5.0	11	67	8.4	6.0	310	14	4.6	4.2	9.0	8.0	9.0
30	252	9.2	19	7.4	---	107	12	4.4	4.0	6.0	24	62
31	354	---	18	6.5	---	30	---	4.5	---	4.2	13	---
TOTAL	757.6	360.0	538.8	2192.6	569.7	1565.7	896.1	471.0	158.2	210.9	263.2	645.1
MEAN	24.4	12.0	17.4	70.7	19.6	50.5	29.9	15.2	5.27	6.80	8.49	21.5
MAX	354	42	109	959	154	540	469	148	29	40	36	255
MIN	3.3	6.2	6.0	6.0	5.9	6.0	5.2	4.4	3.0	2.8	3.1	4.2
AC-FT	1500	714	1070	4350	1130	3110	1780	934	314	418	522	1280
(††)	3.10	1.27	2.62	6.67	1.99	5.59	3.95	3.28	.96	2.20	3.77	6.36

CAL YR 1979 TOTAL 16607.1 MEAN 45.5 MAX 1770 MIN 2.7 AC-FT 32940 †† 67.06
WTR YR 1980 TOTAL 8628.9 MEAN 23.6 MAX 959 MIN 2.8 AC-FT 17120 †† 41.76

†† Weighted-mean rainfall, in inches, based on three rain gages.

NOTE.--No gage-height record Feb. 20 to Mar. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
JAN										
28...	1150	9.3	947	6.9	14.0	20	7.5	3.5	34	9.6
MAR										
27...	1200	696	190	6.7	15.5	80	84	--	--	12
APR										
25...	1105	652	216	6.6	21.5	30	300	6.2	70	24
25...	1430	1100	165	7.1	21.5	30	110	5.9	66	11
26...	0730	113	420	6.8	20.5	50	30	2.6	29	15
27...	0800	21	700	6.6	18.0	30	19	3.2	33	5.5
MAY										
28...	1245	4.4	1540	8.0	28.5	30	23	12.4	158	16
AUG										
06...	1210	4.4	600	7.4	28.5	30	5.0	4.0	51	6.0

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
28...	13000	2000	150	--	--	--	--	--	--
MAR									
27...	600000	34000	51000	--	--	--	--	--	--
APR									
25...	170000	29000	48000	--	--	--	--	--	--
25...	180000	40000	64000	64	18	22	2.1	6.9	.4
26...	1800000	240000	13000	--	--	--	--	--	--
27...	66000	25000	4800	190	0	56	11	62	2.0
MAY									
28...	12000	1700	44	240	0	63	20	210	5.9
AUG									
06...	60000	16000	170	120	0	36	7.0	69	2.8

08075770 HUNTING BAYOU AT I-H 610 HOUSTON, TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
JAN									
28...	--	--	--	--	--	--	--	--	11
MAR									
27...	--	--	--	--	--	--	--	--	264
APR									
25...	--	--	--	--	--	--	--	--	474
25...	3.3	46	0	22	8.6	.2	3.5	96	167
26...	--	--	--	--	--	--	--	--	53
27...	4.5	210	0	50	44	.3	14	370	34
MAY									
28...	47	340	0	52	250	.8	13	863	128
AUG									
06...	6.7	180	0	44	46	.5	11	329	3

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
28...	3	.14	.030	.17	1.90	2.5	4.40	1.70	11
MAR									
27...	40	.60	.030	.63	.730	2.0	2.70	.820	14
APR									
25...	29	1.1	.030	1.1	1.30	3.1	4.40	1.60	40
25...	26	.96	.040	1.0	1.10	1.9	3.00	.790	24
26...	54	1.5	.070	1.6	1.60	2.1	3.70	.910	20
27...	6	2.7	.050	2.7	7.70	5.3	13.0	.940	21
MAY									
28...	30	.08	.610	.69	4.90	6.1	11.0	2.90	43
AUG									
06...	1	.17	.090	.26	5.20	3.4	8.60	2.80	16

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 28...	1245	5	200	<1	0	0	20
AUG 06...	1210	12	70	<1	0	2	50

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 28...	0	200	.1	0	0	7
AUG 06...	0	130	.0	0	0	30

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
MAY 28...	1245	<.10	.00	<.04	.00	.00	<.01	.00	.22	.00
AUG 06...	1210	.00	.00	.00	.00	.01	.00	.00	.38	.00

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY 28...	.00	.00	.00	<.03	.00	<.01	.01	.00	.00
AUG 06...	.00	.00	.00	.00	.00	.03	1.3	.00	.00

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT I-H 610 HOUSTON, TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY									
28...	.00	.00	.01	.00	0	.00	.27	.00	.01
AUG									
06...	.00	.00	.00	.00	0	.00	.31	.02	.00

STA. NO. 08075770	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

HUNTING BAYOU AT IH 610, HOUSTON, TX. — STORM OF JAN. 20-24, 1980

DATE & TIME	GAGE NUMBER 5760	GAGE NUMBER 5770	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20					
0000	0.0	0.0	0.0	6.8	0.0023
0700	0.05	0.0	0.04	6.8	0.0063
1200	0.05	0.0	0.04	6.8	0.0082
1230	0.10	0.06	0.09	8.2	0.0086
1300	0.10	0.36	0.15	19.0	0.0095
1330	0.10	0.66	0.21	41.0	0.0135
1500	0.10	0.67	0.21	113.0	0.0274
1600	0.10	0.68	0.22	122.0	0.0364
1630	0.40	1.08	0.54	131.0	0.0428
1700	0.50	1.16	0.63	143.0	0.0498
1730	0.75	1.54	0.91	203.0	0.0597
1800	0.90	2.00	1.12	280.0	0.0700
1815	1.00	2.08	1.22	325.0	0.0820
1845	1.50	2.18	1.64	440.0	0.1090
1930	1.65	2.32	1.78	625.0	0.1473
2000	1.65	2.38	1.80	696.0	0.1985
2100	1.70	2.42	1.84	765.0	0.2735
2200	1.75	2.44	1.89	769.0	0.3489
2300	1.80	2.48	1.94	742.0	0.4217
2400	1.80	2.51	1.94	705.0	0.5254
JAN. 21					
0000	1.80	2.51	1.94	705.0	0.5254
0200	2.00	2.59	2.14	637.0	0.6035
0230	2.00	2.73	2.15	622.0	0.6569
0345	2.00	2.73	2.15	583.0	0.6998
0400	2.10	2.73	2.23	577.0	0.7210
0430	2.20	2.87	2.33	562.0	0.7485
0500	2.20	2.93	2.35	547.0	0.7888
0600	2.20	2.93	2.35	534.0	0.8673
0800	2.20	2.95	2.35	545.0	0.9742
1000	2.20	3.02	2.36	515.0	1.0752
1200	2.20	3.06	2.37	441.0	1.1834
1500	2.25	3.06	2.41	309.0	1.2591
1700	2.25	3.06	2.41	246.0	1.2953
1800	2.48	3.11	2.61	227.0	1.3287
2000	2.55	3.33	2.71	234.0	1.3976
2400	2.60	3.41	2.76	259.0	1.4769
JAN. 22					
0000	2.60	3.41	2.76	259.0	1.4769
0215	2.60	3.41	2.76	246.0	1.5071
0230	2.60	3.65	2.81	246.0	1.5131

STA. NO. 08075770	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
HUNTING BAYOU AT IH 610, HOUSTON, TX.	STORM OF JAN. 20-24, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 5760	5770							
JAN. 22									
0245	2.65	3.85					2.89	285.0	1.5236
0315	2.70	3.89					2.94	348.0	1.5492
0415	2.70	3.94					2.95	510.0	1.5805
0430	2.75	4.13					3.03	560.0	1.6011
0500	2.80	4.14					3.07	655.0	1.6252
0515	2.85	4.25					3.13	696.0	1.6422
0530	2.90	4.56					3.23	740.0	1.6604
0545	3.15	4.85					3.49	796.0	1.6799
0600	3.40	5.02					3.72	854.0	1.7008
0615	3.75	5.28					4.06	897.0	1.7228
0630	4.00	5.50					4.30	940.0	1.7574
0700	4.10	5.71					4.42	1040.0	1.8084
0730	4.40	5.95					4.71	1150.0	1.8648
0800	4.40	6.09					4.74	1250.0	1.9261
0830	4.45	6.33					4.83	1330.0	1.9913
0900	4.45	6.37					4.83	1420.0	2.0609
0930	4.55	6.49					4.94	1520.0	2.1168
0945	4.65	6.52					5.02	1550.0	2.1548
1000	4.75	6.78					5.16	1600.0	2.1941
1015	4.85	6.82					5.24	1640.0	2.2343
1030	4.90	7.00					5.32	1670.0	2.2957
1100	4.95	7.03					5.37	1700.0	2.3791
1130	4.95	7.05					5.37	1710.0	2.4629
1200	4.95	7.07					5.37	1700.0	2.5463
1230	4.95	7.08					5.38	1680.0	2.6287
1300	4.95	7.13					5.39	1640.0	3.0710
1800	4.95	7.13					5.39	985.0	3.4574
2100	4.95	7.13					5.39	659.0	3.6513
2400	4.95	7.13					5.39	456.0	3.7855
JAN. 23									
0000	4.95	7.13					5.39	456.0	3.7855
0300	4.95	7.13					5.39	328.0	3.9785
1200	4.95	7.13					5.39	110.0	4.0917
2400	4.95	7.13					5.39	50.0	4.1506
JAN. 24									
0000	4.95	7.13					5.39	50.0	4.1506
1200	4.95	7.13					5.39	30.0	4.1859
2400	4.95	7.13					5.39	20.0	4.1977

STA. NO. 08075770 | STORM RAINFALL AND RUNOFF RECORD | 1980 WATER YEAR

HUNTING BAYOU AT IH 610, HOUSTON, TX. | STORM OF APR. 25-27, 1980

DATE & TIME	GAGE NUMBER 5760	5770	101R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
APR. 25						
0000	0.0	0.0	0.0	0.0	4.6	0.0015
0645	0.0	0.0	0.0	0.0	5.6	0.0034
0700	0.05	0.0	0.19	0.07	5.6	0.0036
0715	0.15	0.0	0.26	0.15	5.6	0.0037
0730	0.75	0.0	0.38	0.56	6.3	0.0039
0745	1.45	0.04	0.63	1.07	8.5	0.0041
0800	1.95	0.20	0.76	1.45	12.0	0.0044
0815	2.05	0.58	1.05	1.63	34.0	0.0052
0830	2.15	0.84	1.50	1.82	70.0	0.0069
0845	2.15	0.88	1.58	1.85	99.0	0.0106
0915	2.15	0.88	1.59	1.85	150.0	0.0161
0930	2.20	0.94	1.60	1.89	179.0	0.0205
0945	2.40	1.45	2.05	2.19	232.0	0.0262
1000	2.45	1.77	2.43	2.34	335.0	0.0385
1030	2.45	1.79	2.43	2.35	474.0	0.0617
1100	2.45	1.81	2.43	2.35	634.0	0.0850
1115	2.60	1.95	2.49	2.48	704.0	0.1023
1130	2.95	2.46	2.85	2.86	776.0	0.1213
1145	3.10	2.57	3.23	3.05	850.0	0.1422
1200	3.10	2.57	3.25	3.05	908.0	0.1756
1230	3.10	2.57	3.25	3.05	1010.0	0.2251
1300	3.10	2.57	3.25	3.05	1060.0	0.2771
1330	3.10	2.57	3.25	3.05	1090.0	0.3305
1400	3.10	2.57	3.25	3.05	1110.0	0.3850
1430	3.10	2.57	3.25	3.05	1100.0	0.4389
1500	3.10	2.57	3.25	3.05	1090.0	0.4923
1530	3.10	2.57	3.25	3.05	1060.0	0.5443
1600	3.10	2.57	3.25	3.05	1020.0	0.6694
1800	3.10	2.57	3.25	3.05	836.0	0.9153
2200	3.10	2.57	3.25	3.05	514.0	1.0666
2400	3.10	2.57	3.25	3.05	406.0	1.2259
APR. 26						
0000	3.10	2.57	3.25	3.05	406.0	1.2259
0600	3.10	2.57	3.25	3.05	156.0	1.3176
1200	3.10	2.57	3.25	3.05	50.0	1.3618
2400	3.10	2.57	3.25	3.05	26.0	1.3924
APR. 27						
0000	3.10	2.57	3.25	3.05	26.0	1.3924
1200	3.10	2.57	3.25	3.05	20.0	1.4159
2400	3.10	2.57	3.25	3.05	13.0	1.4236

GREENS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Greens Bayou drainage basin above U.S. Highway 59 are shown in figure 19. Data-collection sites in the lower portion of the drainage basin are shown in figure 1.

Halls Bayou, which is a part of the Greens Bayou drainage basin, is shown as a separate drainage basin within the Greens Bayou section.

Weighted-mean rainfall for the drainage basin, above the U.S. Highway 75 station, based on five rain gages, for the 1980 water year was 35.91 inches or 12.28 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

Weighted-mean rainfall for the drainage basin above the U.S. Highway 59 station, based on seven rain gages, for the 1980 water year was 36.08 inches or 12.11 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storm of Feb. 8-11 was selected for analysis at station 08075780, Greens Bayou at Cutten Road near Houston. The storms of Jan. 20-24 and Mar. 27-31 were selected for analysis at station 08075900, Greens Bayou at U.S. Highway 75 near Houston. The storms of Jan. 20-26 and Mar. 27-April 2 were selected for analysis at station 08076000, Greens Bayou near Houston (U.S. Highway 59) and at station 08076700, Greens Bayou at Ley Road, Houston.

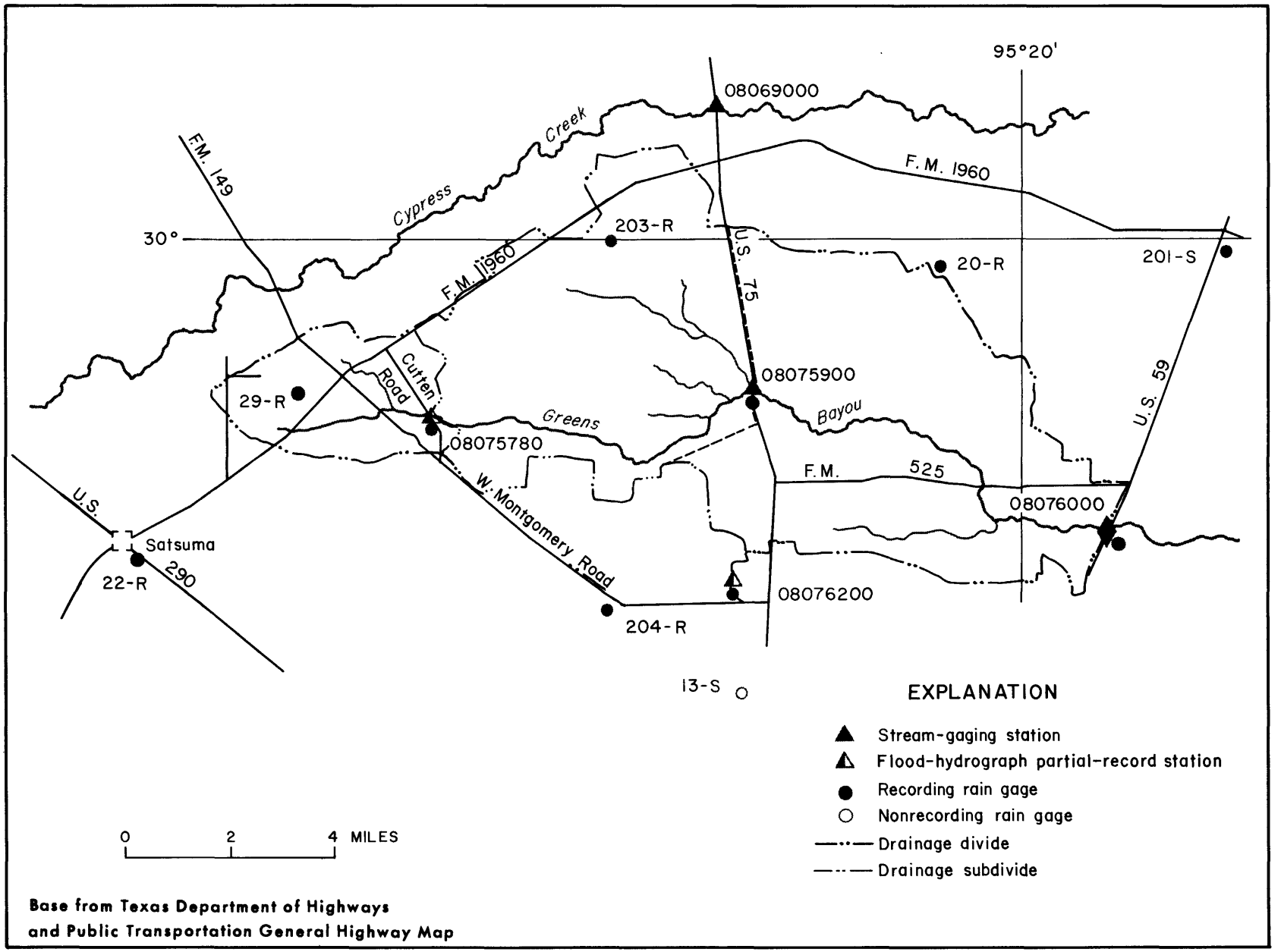

Figure 19. – Locations of data-collection sites in and near the Greens Bayou drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 16--Storm rainfall-runoff data, 1980 Water Year, Greens Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou at Cutten Road, Houston, Tx. (Drainage area -- 8.06 mi^2)								
Feb. 8-11, 1980	10.2	2.47	0.63	0.65	0.78	1.20	0.49	311
Greens Bayou at U.S. Highway 75 near Houston, Tx. (Drainage area -- 36.1 mi^2)								
Jan. 20-24, 1980	37.5	4.13	0.50	0.94	1.37	2.09	0.51	1,030
Mar. 27-28, 1980	13.9	2.96	0.48	0.84	1.32	2.19	0.56	1,660*
Mar. 29-31, 1980	1.6	0.92	.65	1.13	1.81			1,280

* - Annual peak discharge for 1980 WY

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 16.--Storm rainfall-runoff data, 1980 Water Year, Greens Bayou.--Continued

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou near Houston, Tx. (Drainage area -- 69.6 mi^2)								
Jan. 20-26, 1980	39.5	4.63	0.55	0.90	1.70	2.60	0.56	2,570*
Mar. 27-28, 1980	18.8	2.67	0.49	0.84	1.32	2.57	0.67	2,330
Mar. 29-Apr. 2,1980	1.4	1.17	.82	1.20	1.78			2,480
Greens Bayou at Ley Road, Houston, Tx. (Drainage area -- 182.0 mi^2)								
Jan. 20-26, 1980	41.7	4.56	0.45	0.90	1.70	3.56	0.78	9,540*
Mar. 27-29, 1980	20.0	2.48	0.49	0.84	1.32	2.71	0.74	5,920
Mar.29 -Apr.2,1980	1.5	1.17	.82	1.20	1.78			4,950

* - Annual peak discharge for 1980 WY.

08075780 GREENS BAYOU AT CUTTEN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--29°56'56", long 95°31'10", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Cutten Road, 16.2 miles upstream from station 08076000, Greens Bayou near Houston, and 16.5 miles northwest of the main post office in downtown Houston.

DRAINAGE AREA.--8.06 mi^2. Prior to Oct. 1, 1973, 8.73 mi^2.

PERIOD OF RECORD.--Aug. 1964 to Nov. 1977, April 20, 1978 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to Nov. 1977 a flood-hydrograph recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 576 ft^3/s, Sept. 19, 1979 (elevation 113.16 ft) after channel rectification. Maximum discharge, 520 ft^3/s, June 13, 1973 (elevation 118.27), prior to channel rectification; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 150 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Oct. 30	unknown	192	109.15
Dec. 12	1100	184	109.10
Jan. 21	0645	177	109.00
Jan. 21	2115	183	109.04
Feb. 8	2115	311	110.10
Mar. 27	1730	*409	110.64
Sept. 6	1445	186	110.11

Minimum discharge not determined.

STA. NO. 08075780	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

GREENS BAYOU AT CUTTEN RD., HOUSTON, TX. — STORM OF FEB. 8-11, 1980

DATE & TIME	GAGE NUMBER 29R	GAGE NUMBER 5780	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
FEB. 8					
0000	0.0	0.0	0.0	3.4	0.0030
0915	0.0	0.0	0.0	2.5	0.0053
0930	0.20	0.0	0.08	2.5	0.0054
0945	0.48	0.0	0.19	2.5	0.0055
1000	0.60	0.0	0.24	2.5	0.0057
1015	0.60	0.50	0.54	3.9	0.0059
1030	0.60	0.50	0.54	4.9	0.0061
1045	0.60	0.50	0.54	8.1	0.0069
1130	0.60	0.50	0.54	8.7	0.0079
1200	0.60	0.50	0.54	9.0	0.0086
1215	0.60	0.50	0.54	9.6	0.0090
1230	0.60	0.50	0.54	13.0	0.0096
1245	0.60	0.50	0.54	17.0	0.0105
1300	0.63	0.50	0.55	19.0	0.0114
1315	0.70	0.60	0.64	21.0	0.0124
1330	0.85	0.60	0.70	24.0	0.0135
1345	0.85	0.70	0.76	29.0	0.0149
1400	0.85	0.70	0.76	32.0	0.0165
1415	1.48	0.70	1.01	35.0	0.0182
1430	1.50	0.70	1.02	37.0	0.0199
1445	1.61	1.20	1.36	50.0	0.0223
1500	1.63	1.30	1.43	72.0	0.0258
1515	1.78	1.40	1.55	84.0	0.0298
1530	1.80	1.40	1.56	96.0	0.0344
1545	1.89	1.60	1.72	112.0	0.0398
1600	2.10	1.50	1.80	123.0	0.0457
1615	2.12	1.70	1.87	148.0	0.0529
1630	2.13	1.80	1.93	178.0	0.0657
1700	2.15	1.80	1.94	215.0	0.0864
1730	2.15	1.80	1.94	245.0	0.1099
1800	2.15	1.80	1.94	263.0	0.1289
1815	2.15	1.80	1.94	271.0	0.1419
1830	2.18	1.80	1.95	280.0	0.1554
1845	2.22	1.80	1.97	280.0	0.1688
1900	2.25	1.80	1.98	280.0	0.1823
1915	2.25	1.90	2.04	282.0	0.1958
1930	2.31	1.90	2.06	282.0	0.2094
1945	2.36	1.90	2.08	278.0	0.2227
2000	2.39	2.00	2.16	288.0	0.2366

STA. NO. 08075780	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

GREENS BAYOU AT CUTTEN RD., HOUSTON, TX. — STORM OF FEB. 8-11, 1980

DATE & TIME	GAGE NUMBER 29R	GAGE NUMBER 5780	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
FEB. 8					
2015	2.40	2.30	2.34	298.0	0.2509
2030	2.40	2.30	2.34	304.0	0.2728
2100	2.42	2.30	2.35	308.0	0.2950
2115	2.45	2.30	2.36	311.0	0.3100
2130	2.45	2.30	2.36	306.0	0.3247
2145	2.45	2.30	2.36	302.0	0.3392
2200	2.45	2.30	2.36	300.0	0.3536
2215	2.45	2.30	2.36	302.0	0.3681
2230	2.45	2.30	2.36	300.0	0.3826
2245	2.45	2.30	2.36	298.0	0.3969
2300	2.50	2.30	2.38	294.0	0.4110
2315	2.50	2.30	2.38	288.0	0.4387
2400	2.50	2.30	2.38	275.0	0.5114
FEB. 9					
0000	2.50	2.30	2.38	275.0	0.5114
0200	2.50	2.30	2.38	231.0	0.6002
0400	2.50	2.30	2.38	194.0	0.6562
0500	2.58	2.30	2.41	175.0	0.7403
0900	2.58	2.30	2.41	120.0	0.7979
1000	2.58	2.30	2.41	113.0	0.8197
1100	2.58	2.40	2.47	105.0	0.8701
1500	2.58	2.40	2.47	83.0	0.9260
1800	2.58	2.40	2.47	67.0	0.9646
2100	2.58	2.40	2.47	54.0	0.9958
2400	2.58	2.40	2.47	45.0	1.0217
FEB. 10					
0000	2.58	2.40	2.47	45.0	1.0217
0300	2.58	2.40	2.47	37.0	1.0431
0600	2.58	2.40	2.47	32.0	1.0615
0900	2.58	2.40	2.47	29.0	1.0783
1200	2.58	2.40	2.47	24.0	1.0990
1800	2.58	2.40	2.47	21.0	1.1232
2400	2.58	2.40	2.47	19.0	1.1452
FEB. 11					
0000	2.58	2.40	2.47	19.0	1.1452
0600	2.58	2.40	2.47	16.0	1.1636
1200	2.58	2.40	2.47	15.0	1.1896
2400	2.58	2.40	2.47	11.0	1.2023

08075900 GREENS BAYOU AT U.S. HIGHWAY 75 NEAR HOUSTON, TX

LOCATION.--Lat 29°57'24", long 95°25'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 bridge, 9.0 mi (14.5 km) upstream from station 08076000, and 21 mi (34 km) upstream from Halls Bayou.

DRAINAGE AREA.--36.1 mi^2 (93.5 km^2). Prior to October 1973, 34.8 mi^2 (90.1 km^2).

PERIOD OF RECORD.--August 1965 to current year.

REVISED RECORDS.--WDR TX-76-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. Records furnished by Houston Lighting and Power Co. show that about 2,640 acre-ft (3.26 hm^3) of ground water used for cooling purposes was released to bayou about 8 mi (13 km) upstream from gage during the current year. No know diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 30.8 ft^3/s (0.872 m^3/s), 22,310 acre-ft/yr (27.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,950 ft^3/s (83.5 m^3/s) Sept. 20, 1979, elevation, 90.46 ft (27.572 m); maximum elevation, 91.09 ft (27.764 m) Feb. 21, 1969; minimum daily discharge, 0.16 ft^3/s (0.004 m^3/s) Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft^3/s (22.7 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 21	0430	1,030	29.2	83.90	25.573
Feb. 9	0030	962	27.2	83.60	25.481
Mar. 27	2000	*1,660	47.0	86.13	26.252

Minimum daily discharge, 6.1 ft^3/s (0.17 m^3/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	21	8.6	13	14	33	40	10	11	8.2	9.5	22
2	11	13	8.8	12	15	14	32	10	11	8.6	10	18
3	11	12	9.4	24	15	15	28	10	9.9	8.5	8.0	13
4	11	11	9.2	15	14	17	21	9.6	11	8.6	7.0	13
5	9.4	12	10	13	15	16	17	9.5	11	8.4	23	24
6	8.5	10	9.1	11	13	13	15	9.1	13	8.1	11	378
7	8.5	9.0	8.8	11	12	12	17	13	11	7.7	7.9	185
8	9.5	8.2	7.9	11	264	11	15	11	11	8.3	8.6	64
9	11	9.6	8.9	10	524	11	12	13	87	8.6	7.2	29
10	9.6	11	9.2	11	107	12	12	9.6	35	9.4	6.2	16
11	9.4	8.5	8.5	10	53	12	12	10	16	9.1	6.3	11
12	9.5	8.5	283	9.8	35	14	13	9.7	12	10	7.1	9.6
13	9.1	8.4	98	11	26	12	34	11	11	8.7	7.2	8.3
14	8.5	8.3	23	13	27	13	16	58	11	9.6	7.4	9.6
15	9.5	8.1	16	11	37	13	15	101	9.2	9.4	14	8.6
16	8.6	10	13	11	66	14	14	145	8.9	9.3	34	10
17	9.2	9.9	12	17	35	15	13	210	11	9.0	9.2	10
18	12	8.2	11	14	25	11	14	48	12	9.3	7.2	10
19	12	8.1	10	12	23	12	14	270	11	8.6	6.7	8.1
20	11	8.2	10	236	23	81	12	91	8.9	8.7	6.3	7.9
21	11	39	11	794	18	25	12	36	9.3	10	6.1	8.7
22	20	32	12	736	20	12	10	21	61	7.9	8.6	7.7
23	13	24	58	216	21	14	9.0	17	43	8.4	12	7.5
24	10	9.6	33	77	14	14	8.8	13	12	9.0	14	8.0
25	9.7	9.3	14	45	17	12	124	12	9.7	8.9	12	8.0
26	13	10	12	33	14	21	26	13	9.8	8.1	16	8.0
27	10	9.2	12	22	13	558	10	13	8.5	9.0	20	7.5
28	10	8.4	11	17	14	767	8.8	13	8.4	76	17	7.5
29	9.3	7.9	81	16	13	567	9.5	25	7.8	44	21	10
30	118	8.3	22	17	---	174	9.2	14	8.6	11	25	200
31	188	---	15	14	---	66	---	12	---	9.4	25	---
TOTAL	613.3	360.7	855.4	2462.8	1487	2581	593.3	1247.5	500.0	377.8	380.5	1128.0
MEAN	19.8	12.0	27.6	79.4	51.3	83.3	19.8	40.2	16.7	12.2	12.3	37.6
MAX	188	39	283	794	524	767	124	270	87	76	34	378
MIN	8.5	7.9	7.9	9.8	12	11	8.8	9.1	7.8	7.7	6.1	7.5
AC-FT	1220	715	1700	4880	2950	5120	1180	2470	992	749	755	2240
(††)	2.46	1.33	3.20	4.42	2.38	5.41	1.28	4.82	1.73	1.21	2.21	5.46

CAL YR 1979 TOTAL 20475.5 MEAN 56.1 MAX 1870 MIN 6.4 AC-FT 40610 †† 54.50
WTR YR 1980 TOTAL 12587.3 MEAN 34.4 MAX 794 MIN 6.1 AC-FT 24970 †† 35.91

†† Weighted-mean rainfall, in inches, based on five rain gages.

STA. NO. 08075900	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

GREENS BAYOU AT U.S. HWY75 NEAR HOUSTON, TX. — STORM OF JAN. 20-24, 1980

DATE & TIME	GAGE NUMBER 203R	204R	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN.20						
0000	0.0	0.0	0.0	0.0	10.0	0.0031
1430	0.03	0.0	0.0	0.02	10.0	0.0063
1445	0.05	0.0	0.35	0.08	14.0	0.0064
1500	0.06	0.04	0.40	0.11	38.0	0.0068
1515	0.10	0.07	0.40	0.14	35.0	0.0072
1530	0.10	0.10	0.43	0.15	32.0	0.0076
1545	0.10	0.22	0.46	0.18	32.0	0.0079
1600	0.13	0.26	0.60	0.23	37.0	0.0083
1615	0.15	0.70	0.97	0.38	76.0	0.0091
1630	0.16	1.20	1.24	0.53	140.0	0.0106
1645	0.19	1.54	1.64	0.68	182.0	0.0126
1700	0.22	1.63	1.85	0.75	237.0	0.0151
1715	0.25	1.84	2.25	0.87	317.0	0.0185
1730	0.28	1.96	2.27	0.91	367.0	0.0224
1745	0.31	2.03	2.40	0.97	394.0	0.0267
1800	0.34	2.09	2.45	1.01	520.0	0.0323
1815	0.39	2.14	2.55	1.06	601.0	0.0387
1830	0.45	2.19	2.58	1.12	698.0	0.0462
1845	0.49	2.22	2.60	1.15	745.0	0.0542
1900	0.51	2.25	2.65	1.18	829.0	0.0631
1915	0.54	2.26	2.70	1.21	864.0	0.0724
1930	0.55	2.28	2.72	1.22	894.0	0.0820
1945	0.56	2.31	2.74	1.24	910.0	0.0917
2000	0.60	2.34	2.75	1.27	914.0	0.1015
2015	0.62	2.37	2.77	1.29	914.0	0.1113
2030	0.63	2.41	2.80	1.31	914.0	0.1211
2045	0.65	2.44	2.83	1.33	910.0	0.1309
2100	0.68	2.46	2.87	1.36	904.0	0.1455
2130	0.74	2.51	2.93	1.42	884.0	0.1644
2200	0.77	2.55	2.96	1.45	864.0	0.1830
2230	0.80	2.58	2.98	1.48	826.0	0.2007
2300	0.83	2.59	3.00	1.51	799.0	0.2136
2315	0.83	2.59	3.00	1.51	794.0	0.2221
2330	0.84	2.59	3.00	1.51	776.0	0.2304
2345	0.84	2.60	3.01	1.52	761.0	0.2386
2400	0.85	2.62	3.01	1.53	735.0	0.2465
JAN.21						
0000	0.85	2.62	3.01	1.53	735.0	0.2465
0015	0.88	2.66	3.01	1.56	718.0	0.2542
0030	0.91	2.76	3.04	1.60	709.0	0.2618

STA. NO. 08075900 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU AT U.S. HWY75 NEAR HOUSTON, TX. — STORM OF JAN. 20-24, 1980

DATE & TIME	GAGE NUMBER 203R	204R	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN.21						
0045	0.92	3.11	3.09	1.68	698.0	0.2693
0100	0.96	3.25	3.16	1.75	696.0	0.2767
0115	0.99	3.31	3.60	1.85	772.0	0.2850
0130	1.01	3.32	3.78	1.89	834.0	0.2940
0145	1.01	3.32	3.85	1.90	864.0	0.3032
0200	1.04	3.37	3.90	1.93	884.0	0.3127
0215	1.14	3.37	3.90	2.00	904.0	0.3224
0230	1.15	3.37	3.91	2.01	934.0	0.3325
0245	1.16	3.37	3.91	2.01	956.0	0.3427
0300	1.20	3.37	3.91	2.04	975.0	0.3532
0315	1.21	3.37	3.91	2.05	988.0	0.3638
0330	1.27	3.42	3.91	2.10	999.0	0.3745
0345	1.39	3.43	4.05	2.20	1010.0	0.3853
0400	1.44	3.43	4.05	2.23	1020.0	0.3963
0415	1.48	3.43	4.05	2.26	1030.0	0.4073
0430	1.52	3.45	4.05	2.29	1030.0	0.4184
0445	1.52	3.45	4.05	2.29	1030.0	0.4294
0500	1.53	3.45	4.05	2.29	1020.0	0.4404
0515	1.54	3.45	4.05	2.30	1020.0	0.4623
0600	1.54	3.45	4.05	2.30	992.0	0.4836
0615	1.54	3.46	4.05	2.30	981.0	0.4994
0645	1.54	3.46	4.05	2.30	964.0	0.5149
0700	1.54	3.50	4.05	2.31	956.0	0.5610
0900	1.54	3.50	4.05	2.31	878.0	0.6553
1200	1.54	3.50	4.05	2.31	708.0	0.7160
1300	1.56	3.50	4.05	2.32	645.0	0.7541
1445	1.56	3.50	4.05	2.32	542.0	0.7774
1500	1.57	3.50	4.05	2.33	528.0	0.7830
1515	1.61	3.52	4.05	2.36	516.0	0.7914
1545	1.67	3.55	4.15	2.42	498.0	0.7994
1600	1.71	3.65	4.25	2.48	486.0	0.8046
1615	1.76	3.65	4.37	2.53	498.0	0.8099
1630	2.06	3.65	4.47	2.74	523.0	0.8155
1645	2.45	3.66	4.50	3.00	542.0	0.8214
1700	2.74	3.69	4.55	3.20	547.0	0.8272
1715	2.80	3.70	4.57	3.25	567.0	0.8333
1730	2.93	3.74	4.63	3.35	587.0	0.8428
1800	2.95	3.76	4.70	3.37	621.0	0.8561
1830	2.95	3.78	4.70	3.38	645.0	0.8665

STA. NO. 08075900	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

GREENS BAYOU AT U.S. HWY75 NEAR HOUSTON, TX. — STORM OF JAN. 20-24, 1980

DATE & TIME	GAGE NUMBER 203R	204R	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN.21						
1845	2.98	3.82	4.73	3.41	660.0	0.8736
1900	2.98	3.84	4.75	3.42	692.0	0.8847
1930	2.98	3.84	4.75	3.42	733.0	0.8965
1945	2.98	3.84	4.75	3.42	750.0	0.9045
2000	2.98	3.84	4.75	3.42	780.0	0.9129
2015	2.99	3.84	4.78	3.43	794.0	0.9214
2030	3.00	3.84	4.78	3.43	829.0	0.9303
2045	3.03	3.87	4.79	3.46	841.0	0.9394
2100	3.03	3.87	4.80	3.46	864.0	0.9533
2130	3.03	3.88	4.80	3.47	894.0	0.9677
2145	3.03	3.88	4.81	3.47	898.0	0.9773
2200	3.03	3.88	4.81	3.47	908.0	0.9870
2215	3.03	3.88	4.81	3.47	910.0	0.9968
2230	3.03	3.88	4.81	3.47	915.0	1.0115
2300	3.03	3.89	4.81	3.47	916.0	1.0263
2315	3.03	3.89	4.81	3.47	916.0	1.0361
2330	3.03	3.89	4.81	3.47	914.0	1.0508
2400	3.03	3.90	4.81	3.47	896.0	1.1133
JAN.22						
0000	3.03	3.90	4.81	3.47	896.0	1.1133
0245	3.03	3.90	4.81	3.47	765.0	1.1626
0300	3.03	3.91	4.81	3.47	750.0	1.1706
0315	3.03	3.95	4.81	3.48	739.0	1.1786
0330	3.03	3.95	4.84	3.49	728.0	1.1864
0345	3.07	3.97	4.85	3.52	702.0	1.1939
0400	3.08	3.98	4.85	3.53	698.0	1.2051
0430	3.09	3.98	4.85	3.53	678.0	1.2197
0500	3.09	3.98	4.85	3.53	652.0	1.2302
0515	3.11	3.98	4.85	3.54	641.0	1.2371
0530	3.12	4.05	4.85	3.57	626.0	1.2438
0545	3.23	4.10	4.95	3.66	619.0	1.2504
0600	3.25	4.12	5.00	3.69	623.0	1.2571
0615	3.37	4.16	5.10	3.79	625.0	1.2638
0630	3.39	4.22	5.10	3.81	632.0	1.2740
0700	3.44	4.27	5.15	3.86	630.0	1.2841
0715	3.46	4.37	5.20	3.90	634.0	1.2909
0730	3.48	4.40	5.25	3.93	649.0	1.3014
0800	3.48	4.40	5.25	3.93	668.0	1.3157
0830	3.48	4.40	5.25	3.93	682.0	1.3267
0845	3.48	4.47	5.25	3.94	688.0	1.3341

STA. NO. 08075900	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
GREENS BAYOU AT U.S. HWY75 NEAR HOUSTON, TX.	STORM OF JAN. 20-24, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	203R	204R	5900							
JAN.22										
0900	3.48	4.48	5.25					3.95	697.0	1.3416
0915	3.48	4.48	5.25					3.95	708.0	1.3491
0930	3.52	4.48	5.28					3.98	718.0	1.3569
0945	3.52	4.55	5.40					4.01	728.0	1.3647
1000	3.54	4.55	5.40					4.02	750.0	1.3727
1015	3.55	4.61	5.40					4.04	761.0	1.3809
1030	3.56	4.61	5.46					4.05	772.0	1.3892
1045	3.56	4.68	5.48					4.07	787.0	1.3976
1100	3.57	4.71	5.55					4.09	806.0	1.4063
1115	3.59	4.73	5.55					4.11	829.0	1.4152
1130	3.59	4.75	5.55					4.12	834.0	1.4241
1145	3.59	4.77	5.55					4.12	853.0	1.4333
1200	3.59	4.77	5.58					4.12	864.0	1.4425
1215	3.59	4.77	5.61					4.13	870.0	1.4612
1300	3.59	4.77	5.61					4.13	884.0	1.4849
1330	3.59	4.77	5.61					4.13	890.0	1.5040
1400	3.59	4.77	5.61					4.13	890.0	1.5231
1430	3.59	4.77	5.61					4.13	878.0	1.5420
1500	3.59	4.77	5.61					4.13	870.0	1.5886
1700	3.59	4.77	5.61					4.13	778.0	1.6888
2100	3.59	4.77	5.61					4.13	565.0	1.7737
2400	3.59	4.77	5.61					4.13	415.0	1.8272
JAN.23										
0000	3.59	4.77	5.61					4.13	415.0	1.8272
0300	3.59	4.77	5.61					4.13	312.0	1.8673
0600	3.59	4.77	5.61					4.13	248.0	1.8993
0900	3.59	4.77	5.61					4.13	204.0	1.9299
1300	3.59	4.77	5.61					4.13	161.0	1.9506
1500	3.59	4.77	5.61					4.13	161.0	1.9679
1800	3.59	4.77	5.61					4.13	144.0	1.9865
2100	3.59	4.77	5.61					4.13	126.0	2.0027
2400	3.59	4.77	5.61					4.13	111.0	2.0384
JAN.24										
0000	3.59	4.77	5.61					4.13	111.0	2.0384
1200	3.59	4.77	5.61					4.13	73.0	2.0760
2400	3.59	4.77	5.61					4.13	59.0	2.0912

STA. NO. 08075900	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
GREENS BAYOU AT U.S. HWY 75 NEAR HOUSTON, TX.	STORM OF MAR.27-31,1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 5780	203R	204R	5900					
MAR. 27									
0000	0.0	0.0	0.0	0.0			0.0	26.0	0.0011
0200	0.0	0.0	0.0	0.0			0.0	22.0	0.0022
0215	0.0	0.0	0.0	0.0			0.0	22.0	0.0024
0230	0.0	0.0	0.15	0.0			0.01	22.0	0.0027
0245	0.12	0.05	0.25	0.0			0.08	22.0	0.0029
0300	0.12	0.08	0.33	0.0			0.10	22.0	0.0031
0315	0.12	0.15	0.37	0.14			0.14	21.0	0.0033
0330	0.24	0.20	0.42	0.17			0.22	21.0	0.0036
0345	0.24	0.24	0.45	0.23			0.25	30.0	0.0039
0400	0.24	0.25	0.46	0.28			0.26	35.0	0.0043
0415	0.24	0.26	0.47	0.32			0.27	41.0	0.0047
0430	0.36	0.27	0.53	0.34			0.34	44.0	0.0052
0445	0.36	0.30	0.56	0.36			0.35	46.0	0.0057
0500	0.36	0.33	0.63	0.39			0.37	49.0	0.0062
0515	0.36	0.35	0.70	0.42			0.39	60.0	0.0068
0530	0.36	0.35	0.73	0.47			0.40	74.0	0.0076
0545	0.36	0.35	0.73	0.50			0.40	90.0	0.0086
0600	0.36	0.35	0.73	0.51			0.41	99.0	0.0097
0615	0.36	0.35	0.73	0.51			0.41	109.0	0.0108
0630	0.36	0.35	0.75	0.51			0.41	116.0	0.0127
0700	0.36	0.35	0.75	0.52			0.41	126.0	0.0154
0730	0.36	0.35	0.75	0.52			0.41	137.0	0.0184
0800	0.36	0.35	0.75	0.52			0.41	152.0	0.0232
0900	0.36	0.35	0.75	0.52			0.41	159.0	0.0301
1000	0.36	0.35	0.75	0.52			0.41	162.0	0.0344
1015	0.48	0.35	0.75	0.52			0.47	159.0	0.0378
1100	0.48	0.47	0.75	0.52			0.50	154.0	0.0411
1115	0.60	0.47	0.88	0.52			0.57	151.0	0.0428
1130	0.60	0.54	0.88	0.52			0.58	150.0	0.0444
1145	0.60	0.54	0.88	0.67			0.61	145.0	0.0459
1200	0.60	0.54	0.88	0.67			0.61	145.0	0.0475
1215	0.72	0.55	0.95	0.67			0.68	143.0	0.0490
1230	0.96	0.80	1.03	0.67			0.87	143.0	0.0505
1245	1.08	0.97	1.15	0.81			1.00	143.0	0.0521
1300	1.08	1.03	1.27	0.93			1.05	142.0	0.0536
1315	1.08	1.07	1.35	0.98			1.07	166.0	0.0554
1330	1.20	1.07	1.37	1.15			1.17	193.0	0.0575
1345	1.20	1.10	1.37	1.20			1.18	248.0	0.0601
1400	1.32	1.25	1.45	1.22			1.29	253.0	0.0628

STA. NO. 08075900	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
GREENS BAYOU AT U.S. HWY 75 NEAR HOUSTON, TX.	STORM OF MAR.27-31,1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	5780	203R	204R	5900						
MAR. 27										
1415	1.44	1.45	1.55	1.24				1.41	283.0	0.0659
1430	1.56	1.50	1.63	1.27				1.49	294.0	0.0690
1445	1.92	1.75	1.65	1.40				1.76	311.0	0.0724
1500	2.40	2.01	1.70	1.53				2.09	362.0	0.0762
1515	2.76	2.30	1.75	1.58				2.36	409.0	0.0806
1530	2.76	2.40	1.80	1.62				2.39	528.0	0.0863
1545	2.76	2.40	1.83	1.71				2.41	614.0	0.0929
1600	2.88	2.40	1.85	1.75				2.48	684.0	0.1002
1615	2.88	2.43	1.85	1.76				2.49	790.0	0.1087
1630	2.88	2.43	1.85	1.77				2.49	890.0	0.1230
1700	2.88	2.43	1.85	1.78				2.50	1050.0	0.1456
1730	2.88	2.43	1.85	1.78				2.50	1220.0	0.1718
1800	2.88	2.43	1.85	1.78				2.50	1360.0	0.2009
1830	2.88	2.43	1.95	1.78				2.50	1480.0	0.2327
1900	2.88	2.55	1.95	1.80				2.53	1560.0	0.2662
1930	2.88	2.55	1.95	1.80				2.53	1620.0	0.3010
2000	2.88	2.55	1.95	1.80				2.53	1660.0	0.3366
2030	2.88	2.55	1.95	1.80				2.53	1650.0	0.3720
2100	2.88	2.55	1.95	1.80				2.53	1620.0	0.4068
2130	2.88	2.55	1.95	1.80				2.53	1570.0	0.4405
2200	2.88	2.55	1.95	1.80				2.53	1530.0	0.4733
2230	2.88	2.55	1.95	1.80				2.53	1470.0	0.5048
2300	2.88	2.55	1.95	1.80				2.53	1410.0	0.5351
2330	2.88	2.55	2.00	1.80				2.54	1360.0	0.5570
2345	3.36	2.73	2.28	1.93				2.86	1320.0	0.5712
2400	3.36	2.78	2.28	2.37				2.96	1300.0	0.5921
MAR. 28										
0000	3.36	2.78	2.28	2.37				2.96	1300.0	0.5921
0030	3.36	2.78	2.28	2.37				2.96	1360.0	0.6213
0100	3.36	2.78	2.28	2.37				2.96	1350.0	0.6937
0300	3.36	2.78	2.28	2.37				2.96	1260.0	0.8289
0600	3.36	2.78	2.28	2.37				2.96	1090.0	0.9693
0900	3.36	2.78	2.28	2.37				2.96	890.0	1.0839
1200	3.36	2.78	2.28	2.37				2.96	718.0	1.1764
1500	3.36	2.78	2.28	2.37				2.96	536.0	1.2454
1800	3.36	2.78	2.28	2.37				2.96	420.0	1.2995
2100	3.36	2.78	2.28	2.37				2.96	334.0	1.3425
2400	3.36	2.78	2.28	2.37				2.96	269.0	1.3771
MAR. 29										
0000	3.36	2.78	2.28	2.37				2.96	269.0	1.3771
0300	3.36	2.78	2.28	2.37				2.96	228.0	1.4065

STA. NO. 08075900	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
GREENS BAYOU AT U.S. HWY 75 NEAR HOUSTON, TX.	STORM OF MAR.27-31,1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 5780	203R	204R	5900						
MAR. 29										
0600	3.36	2.78	2.28	2.37				2.96	193.0	1.4272
0800	3.36	2.78	2.28	2.37				2.96	173.0	1.4355
0815	3.36	2.83	2.28	2.37				2.98	170.0	1.4374
0830	3.48	2.85	2.50	2.40				3.06	168.0	1.4392
0845	3.60	2.90	2.85	2.42				3.15	167.0	1.4410
0900	3.60	2.91	3.20	2.90				3.27	166.0	1.4427
0915	3.96	3.04	3.35	3.55				3.62	230.0	1.4452
0930	3.96	3.04	3.75	3.90				3.71	370.0	1.4492
0945	3.96	3.04	4.05	4.23				3.79	528.0	1.4548
1000	3.96	3.04	4.10	4.32				3.81	634.0	1.4617
1015	3.96	3.04	4.18	4.35				3.82	704.0	1.4692
1030	3.96	3.04	4.18	4.35				3.82	920.0	1.4791
1045	3.96	3.04	4.18	4.35				3.82	1010.0	1.4899
1100	3.96	3.04	4.18	4.36				3.82	1090.0	1.5016
1115	3.96	3.04	4.18	4.36				3.82	1170.0	1.5142
1130	3.96	3.04	4.18	4.36				3.82	1240.0	1.5275
1145	3.96	3.04	4.18	4.36				3.82	1270.0	1.5411
1200	3.96	3.04	4.18	4.37				3.82	1280.0	1.5617
1230	3.96	3.04	4.18	4.37				3.82	1250.0	1.5885
1300	4.08	3.04	4.18	4.37				3.88	1240.0	1.6551
1500	4.08	3.04	4.18	4.37				3.88	1040.0	1.7667
1800	4.08	3.04	4.18	4.37				3.88	721.0	1.8595
2100	4.08	3.04	4.18	4.37				3.88	484.0	1.9218
2400	4.08	3.04	4.18	4.37				3.88	332.0	1.9860
MAR. 30										
0000	4.08	3.04	4.18	4.37				3.88	332.0	1.9860
0600	4.08	3.04	4.18	4.37				3.88	215.0	2.0413
1200	4.08	3.04	4.18	4.37				3.88	154.0	2.0810
1800	4.08	3.04	4.18	4.37				3.88	118.0	2.1114
2400	4.08	3.04	4.18	4.37				3.88	90.0	2.1346
MAR. 31										
0000	4.08	3.04	4.18	4.37				3.88	90.0	2.1346
0600	4.08	3.04	4.18	4.37				3.88	72.0	2.1531
1200	4.08	3.04	4.18	4.37				3.88	60.0	2.1654
1530	4.08	3.04	4.18	4.37				3.88	58.0	2.1716
1700	4.08	3.04	4.18	4.37				3.88	62.0	2.1789
2100	4.08	3.04	4.18	4.37				3.88	55.0	2.1872
2400	4.08	3.04	4.18	4.37				3.88	49.0	2.1903

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on U.S. Highway 59, 10.5 mi (16.9 km) northeast of Houston, 12.0 mi (19.3 km) upstream from Halls Bayou, and 23.4 mi (37.7 km) upstream from mouth.

DRAINAGE AREA.--69.6 mi^2 (180.3 km^2). Prior to Oct. 1, 1973, 72.7 mi^2 (188.3 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair. Channel rectified during the water years 1974-75. No known diversion above station. Low flow is sustained by Houston Light and Power Co. effluent, which is obtained from ground-water sources. Recording rain gage at station.

AVERAGE DISCHARGE.--28 years, 56.4 ft^3/s (1.597 m^3/s), 40,860 acre-ft/yr (50.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,730 ft^3/s (219 m^3/s) Apr. 18, 1976, gage height, 61.92 ft (18.873 m); maximum gage height, 65.75 ft (20.041 m) Sept. 12, 1961 (prior to channel rectification); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above baae of 1,700 ft^3/s (48.1 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
a Oct. 22	1230	119	3.37	46.71	14.237	a Jan. 22	1200	*2,570	72.8	58.38	17.794
a Nov. 21	2230	587	16.6	50.14	15.283	Mar. 29	1500	2,480	70.2	58.18	17.733
a Jan. 21	0500	2,040	57.8	57.44	17.508						

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 13 ft^3/s (0.37 m^3/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	51	20	24	31	82	99	133	24	22	18	23
2	20	27	17	22	36	32	70	71	24	20	18	19
3	20	23	17	65	36	28	60	29	21	20	17	16
4	19	23	17	34	31	32	46	24	23	20	15	16
5	17	21	19	25	38	32	39	24	23	20	39	27
6	16	20	17	22	34	28	37	24	24	20	33	1000
7	15	19	15	20	29	26	41	36	24	19	17	505
8	16	16	16	22	381	26	34	32	24	21	18	165
9	17	19	16	23	906	23	29	31	163	22	16	54
10	16	20	17	21	255	23	24	26	88	21	14	28
11	16	21	18	23	111	26	25	26	32	20	13	21
12	16	16	666	18	72	29	34	25	25	20	15	17
13	16	17	367	19	54	24	76	55	23	21	17	16
14	15	16	57	20	48	24	39	147	21	21	16	15
15	16	15	32	24	73	23	31	128	20	20	30	15
16	17	17	25	24	135	32	29	448	19	18	53	16
17	15	20	22	59	77	37	26	566	22	19	23	16
18	17	16	20	39	52	24	26	130	25	18	16	16
19	19	16	19	23	44	25	29	651	25	18	16	23
20	19	17	17	391	43	139	26	249	23	19	15	16
21	19	184	19	1600	37	59	26	79	22	52	14	18
22	48	163	20	1840	33	25	24	45	43	23	15	15
23	26	71	118	632	38	26	22	36	135	20	14	15
24	16	26	142	213	31	30	22	29	32	18	15	16
25	15	19	31	113	26	22	343	25	22	18	16	16
26	16	22	23	79	29	37	91	27	25	18	15	16
27	17	21	23	56	25	924	28	28	20	24	21	19
28	15	20	20	45	26	1560	23	27	19	192	19	18
29	15	19	208	43	25	1320	23	37	18	155	16	18
30	210	18	51	39	---	645	22	29	19	25	27	456
31	639	---	30	34	---	192	---	25	---	18	22	---
TOTAL	1383	973	2099	5612	2756	5555	1444	3242	1028	962	613	2631
MEAN	44.6	32.4	67.7	181	95.0	179	48.1	105	34.3	31.0	19.8	87.7
MAX	639	184	666	1840	906	1560	343	651	163	192	53	1000
MIN	15	15	15	18	25	22	22	24	18	18	13	15
AC-FT	2740	1930	4160	11130	5470	11020	2860	6430	2040	1910	1220	5220
(††)	2.51	1.50	3.21	5.00	2.22	5.36	1.55	4.65	1.74	1.40	1.55	5.39

CAL YR 1979 TOTAL 44022 MEAN 121 MAX 4280 MIN 13 AC-FT 87320 †† 55.01
WTR YR 1980 TOTAL 28298 MEAN 77.3 MAX 1840 MIN 13 AC-FT 56130 †† 36.08

†† Weighted-mean rainfall, in inches, based on seven rain gages.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT										
22...	1250	114	778	7.5	23.5	20	77	4.5	52	24
NOV										
21...	1506	145	478	7.3	19.5	40	600	7.1	76	20
23...	1040	80	435	7.1	12.0	45	64	8.4	76	14
JAN										
21...	1000	1660	161	6.9	15.5	280	200	7.7	75	11
22...	1235	2530	145	7.2	14.5	240	150	8.1	79	4.3
23...	1050	600	193	6.9	10.5	210	160	9.3	82	4.5
JUL										
30...	1225	24	590	7.3	29.5	25	120	2.8	36	22

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
22...	800000	200000	6700	--	--	--	--	--	--
NOV									
21...	660000	38000	19000	120	0	37	6.1	56	2.2
23...	34000	18000	7700	--	--	--	--	--	--
JAN									
21...	140000	36000	20000	--	--	--	--	--	--
22...	120000	38000	25000	53	0	17	2.6	8.2	.5
23...	28000	3400	2200	--	--	--	--	--	--
JUL									
30...	25000	4900	2200	130	0	44	5.6	69	2.6

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT									
22...	--	--	--	--	--	--	--	--	165
NOV									
21...	5.6	130	0	33	52	.3	16	285	1440
23...	--	--	--	--	--	--	--	--	146
JAN									
21...	--	--	--	--	--	--	--	--	634
22...	2.3	54	0	7.4	6.9	.1	7.1	84	344
23...	--	--	--	--	--	--	--	--	196
JUL									
30...	7.2	139	0	68	59	.4	21	358	160

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
22...	20	.74	.360	1.1	1.80	2.0	3.80	3.90	15
NOV									
21...	27	.60	.340	.94	1.40	3.2	4.60	1.00	24
23...	5	.30	.160	.46	.630	1.3	1.90	1.60	24
JAN									
21...	54	.10	.020	.12	.110	1.5	1.60	.280	19
22...	56	.03	.010	.04	.060	1.3	1.40	.190	18
23...	20	.07	.030	.10	.130	1.4	1.50	.010	18
JUL									
30...	38	.98	.420	1.4	1.40	1.1	2.50	2.10	17

08076000 GREENS BAYOU NEAR HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 21...	1506	4	200	<1	0	0	20
JAN 22...	1235	2	70	<1	0	2	100
JUL 30...	1225	10	200	<1	0	4	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 21...	1	30	.0	1	0	<3
JAN 22...	0	3	.1	0	0	<3
JUL 30...	0	3	.0	1	0	4

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
NOV 21...	1506	.00	--	.00	.00	.00	.00	.00	.02	.00
JAN 22...	1235	.00	.00	.00	.00	.00	.00	.00	.04	.00
JUL 30...	1225	.00	.00	.00	.00	.00	.00	.00	1.6	.00

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	.00	.01	.00	.00	.00
JAN 22...	.00	.00	.00	.00	.00	.00	.01	.00	.00
JUL 30...	.00	.00	.00	.00	.00	.02	.14	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	0	.00	.17	.01	.00
JAN 22...	.00	.00	.00	.00	0	.00	.00	.01	.00
JUL 30...	.00	.00	.00	.00	0	.00	.1	.00	.00

STA. NO. 08076000 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TX. — STORM OF JAN. 20-26, 1980

DATE & TIME	GAGE NUMBER 6000	5900	203R	22R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20								
0000	0.0	0.0	0.0	0.0	0.0	0.0	22.0	0.0031
1230	0.0	0.0	0.0	0.0	0.0	0.0	23.0	0.0064
1300	0.07	0.0	0.0	0.0	0.02	0.01	23.0	0.0068
1400	0.08	0.0	0.0	0.02	0.05	0.02	23.0	0.0072
1430	0.08	0.0	0.03	0.04	0.22	0.04	23.0	0.0074
1500	0.08	0.27	0.06	0.08	0.38	0.18	23.0	0.0078
1600	0.09	0.45	0.13	0.36	0.43	0.29	51.0	0.0086
1630	0.24	1.25	0.16	0.46	0.70	0.68	92.0	0.0097
1700	0.57	2.15	0.22	0.56	0.97	1.14	151.0	0.0122
1800	0.76	2.40	0.34	0.75	1.10	1.32	590.0	0.0220
1830	1.05	2.46	0.45	0.81	1.18	1.43	788.0	0.0308
1900	1.16	2.52	0.51	0.86	1.25	1.50	1010.0	0.0477
2000	1.27	2.73	0.60	0.94	1.34	1.64	1320.0	0.0771
2100	1.36	2.85	0.68	1.06	1.46	1.75	1560.0	0.1118
2200	1.39	2.94	0.77	1.13	1.55	1.83	1690.0	0.1494
2300	1.42	2.99	0.83	1.18	1.63	1.88	1700.0	0.1778
2330	1.43	3.00	0.84	1.23	1.64	1.89	1710.0	0.1969
2400	1.45	3.01	0.85	1.28	1.65	1.91	1690.0	0.2251
JAN. 21								
0000	1.45	3.01	0.85	1.28	1.65	1.91	1690.0	0.2251
0100	1.47	3.10	0.96	1.40	1.75	1.99	1690.0	0.2486
0115	1.52	3.65	0.99	1.42	1.84	2.24	1710.0	0.2629
0145	1.83	3.82	1.01	1.45	2.04	2.38	1760.0	0.2776
0200	1.84	3.85	1.04	1.47	2.14	2.42	1780.0	0.2875
0215	1.87	3.88	1.14	1.60	2.15	2.47	1810.0	0.3076
0300	1.87	3.89	1.20	1.72	2.18	2.50	1910.0	0.3289
0315	1.87	3.89	1.21	1.76	2.21	2.51	1930.0	0.3396
0330	1.87	3.89	1.27	1.80	2.24	2.53	1950.0	0.3505
0345	1.87	3.99	1.39	1.84	2.26	2.61	1980.0	0.3615
0400	1.87	4.01	1.44	1.87	2.29	2.64	2010.0	0.3783
0430	1.99	4.02	1.52	1.87	2.30	2.69	2020.0	0.4008
0500	2.09	4.02	1.53	1.87	2.32	2.71	2040.0	0.4348
0600	2.09	4.03	1.54	1.89	2.32	2.71	2020.0	0.5248
0900	2.10	4.04	1.54	1.94	2.32	2.72	1780.0	0.6437
1200	2.12	4.05	1.54	1.94	2.32	2.73	1410.0	0.7065
1300	2.12	4.05	1.56	1.94	2.32	2.73	1320.0	0.7358
1400	2.12	4.05	1.56	1.94	2.33	2.74	1220.0	0.7630
1500	2.12	4.05	1.57	2.06	2.49	2.76	1150.0	0.7886
1600	2.14	4.13	1.71	2.47	2.62	2.87	1120.0	0.8042
1615	2.22	4.30	1.76	2.49	2.77	2.98	1140.0	0.8105

STA. NO. 08076000 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TX. — STORM OF JAN. 20-26, 1980

DATE & TIME	GAGE NUMBER 6000	5900	203R	22R	20R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21										
1630	2.22	4.45	2.06	2.52	2.93			3.15	1160.0	0.8170
1645	2.25	4.49	2.45	2.55	3.08			3.30	1180.0	0.8236
1700	2.28	4.52	2.74	2.57	3.23			3.42	1210.0	0.8337
1730	2.32	4.65	2.93	2.58	3.36			3.55	1280.0	0.8479
1800	2.56	4.70	2.95	2.59	3.49			3.63	1340.0	0.8703
1900	2.59	4.74	2.98	2.61	3.51			3.66	1450.0	0.9026
2000	2.61	4.76	2.98	2.61	3.53			3.67	1520.0	0.9364
2100	2.62	4.78	3.03	2.61	3.55			3.70	1550.0	0.9709
2200	2.63	4.81	3.03	2.61	3.60			3.72	1560.0	1.0057
2300	2.64	4.81	3.03	2.61	3.60			3.72	1550.0	1.0402
2400	2.65	4.81	3.03	2.61	3.60			3.72	1520.0	1.0909
JAN. 22										
0000	2.65	4.81	3.03	2.61	3.60			3.72	1520.0	1.0909
0200	2.65	4.81	3.03	2.61	3.60			3.72	1440.0	1.1390
0300	2.65	4.81	3.03	2.65	3.60			3.72	1390.0	1.1854
0500	2.68	4.85	3.09	2.72	3.68			3.77	1320.0	1.2222
0530	2.69	4.86	3.12	2.84	3.74			3.80	1380.0	1.2337
0545	2.72	4.94	3.23	2.90	3.77			3.87	1440.0	1.2417
0600	2.80	5.02	3.25	2.97	3.80			3.93	1490.0	1.2500
0615	2.96	5.07	3.37	3.02	3.86			4.02	1570.0	1.2587
0630	3.20	5.08	3.39	3.06	3.92			4.07	1650.0	1.2725
0700	3.32	5.13	3.44	3.14	4.03			4.14	1780.0	1.2923
0730	3.50	5.25	3.48	3.14	4.10			4.24	1900.0	1.3082
0745	3.69	5.25	3.48	3.14	4.14			4.27	1950.0	1.3190
0800	3.70	5.25	3.48	3.14	4.17			4.27	2000.0	1.3469
0900	3.73	5.25	3.48	3.14	4.26			4.29	2260.0	1.3846
0930	3.78	5.27	3.52	3.14	4.32			4.32	2370.0	1.4110
1000	4.20	5.40	3.54	3.14	4.38			4.45	2460.0	1.4384
1030	4.45	5.45	3.56	3.14	4.47			4.52	2520.0	1.4664
1100	4.50	5.55	3.57	3.14	4.56			4.58	2560.0	1.5092
1200	4.56	5.61	3.59	3.14	4.61			4.62	2570.0	1.5664
1300	4.57	5.61	3.59	3.14	4.61			4.62	2490.0	1.6218
1400	4.60	5.61	3.59	3.14	4.61			4.63	2380.0	1.7013
1600	4.60	5.61	3.59	3.14	4.61			4.63	2140.0	1.7966
1800	4.60	5.61	3.59	3.14	4.61			4.63	1870.0	1.9007
2100	4.60	5.61	3.59	3.14	4.61			4.63	1500.0	2.0009
2400	4.60	5.61	3.59	3.14	4.61			4.63	1200.0	2.0944
JAN. 23										
0000	4.60	5.61	3.59	3.14	4.61			4.63	1200.0	2.0944
0400	4.60	5.61	3.59	3.14	4.61			4.63	919.0	2.1762
0800	4.60	5.61	3.59	3.14	4.61			4.63	709.0	2.2394

STA. NO. 08076000	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
GREENS BAYOU NEAR HOUSTON, TX.	STORM OF JAN. 20-26, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	6000	5900	203R	22R	20R					
JAN. 23										
1200	4.60	5.61	3.59	3.14	4.61			4.63	550.0	2.3006
1800	4.60	5.61	3.59	3.14	4.61			4.63	424.0	2.3572
2400	4.60	5.61	3.59	3.14	4.61			4.63	325.0	2.4079
JAN. 24										
0000	4.60	5.61	3.59	3.14	4.61			4.63	325.0	2.4079
0800	4.60	5.61	3.59	3.14	4.61			4.63	226.0	2.4481
1600	4.60	5.61	3.59	3.14	4.61			4.63	178.0	2.4798
2400	4.60	5.61	3.59	3.14	4.61			4.63	150.0	2.5132
JAN. 25										
0000	4.60	5.61	3.59	3.14	4.61			4.63	150.0	2.5132
1200	4.60	5.61	3.59	3.14	4.61			4.63	109.0	2.5424
2400	4.60	5.61	3.59	3.14	4.61			4.63	96.0	2.5680
JAN. 26										
0000	4.60	5.61	3.59	3.14	4.61			4.63	96.0	2.5680
1200	4.60	5.61	3.59	3.14	4.61			4.63	77.0	2.5886
2400	4.60	5.61	3.59	3.14	4.61			4.63	71.0	2.5981

STA. NO. 08076000 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TX. — STORM OF MAR.27 - APR.2, 1980

DATE & TIME	GAGE NUMBER 6000	5900	5780	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27								
0000	0.0	0.0	0.0	0.0	0.0	0.0	51.0	0.0011
0200	0.0	0.0	0.0	0.0	0.0	0.0	49.0	0.0028
0300	0.12	0.0	0.12	0.07	0.16	0.07	48.0	0.0036
0330	0.22	0.14	0.24	0.18	0.28	0.20	62.0	0.0043
0400	0.25	0.25	0.24	0.23	0.39	0.26	75.0	0.0051
0430	0.30	0.31	0.36	0.25	0.45	0.33	98.0	0.0062
0500	0.40	0.38	0.36	0.30	0.50	0.38	128.0	0.0083
0600	0.50	0.48	0.36	0.35	0.62	0.45	260.0	0.0141
0700	0.55	0.52	0.36	0.35	0.66	0.47	410.0	0.0232
0800	0.60	0.52	0.36	0.35	0.66	0.48	522.0	0.0349
0900	0.64	0.53	0.36	0.35	0.68	0.49	592.0	0.0480
1000	0.70	0.53	0.36	0.35	0.74	0.51	620.0	0.0618
1100	0.75	0.54	0.48	0.45	0.75	0.56	620.0	0.0722
1130	0.78	0.55	0.60	0.52	0.79	0.62	618.0	0.0791
1200	0.82	0.64	0.60	0.53	0.83	0.66	615.0	0.0842
1215	0.85	0.65	0.72	0.54	0.87	0.70	610.0	0.0876
1230	0.91	0.65	0.96	0.68	0.92	0.80	607.0	0.0910
1245	0.93	0.80	1.08	0.95	0.96	0.93	607.0	0.0944
1300	0.95	0.88	1.08	1.00	1.00	0.97	607.0	0.0977
1315	1.00	0.98	1.08	1.05	1.06	1.03	608.0	0.1011
1330	1.15	1.13	1.20	1.07	1.12	1.14	610.0	0.1045
1345	1.20	1.18	1.20	1.10	1.18	1.18	625.0	0.1080
1400	1.22	1.19	1.32	1.25	1.24	1.24	644.0	0.1116
1415	1.25	1.20	1.44	1.42	1.28	1.31	672.0	0.1153
1430	1.26	1.24	1.56	1.50	1.32	1.37	700.0	0.1192
1445	1.30	1.36	1.92	1.74	1.36	1.55	730.0	0.1233
1500	1.40	1.52	2.40	2.01	1.39	1.78	774.0	0.1276
1515	1.42	1.56	2.76	2.31	1.45	1.94	825.0	0.1322
1530	1.50	1.60	2.76	2.43	1.50	1.99	885.0	0.1371
1545	1.70	1.71	2.76	2.44	1.55	2.06	950.0	0.1424
1600	1.90	1.75	2.88	2.48	1.61	2.15	1020.0	0.1509
1630	1.96	1.78	2.88	2.50	1.62	2.17	1210.0	0.1644
1700	1.96	1.78	2.88	2.50	1.63	2.17	1400.0	0.1878
1800	1.96	1.78	2.88	2.51	1.66	2.18	1690.0	0.2254
1900	2.00	1.85	2.88	2.55	1.70	2.22	1900.0	0.2677
2000	2.02	1.86	2.88	2.55	1.72	2.23	2080.0	0.3140
2100	2.03	1.86	2.88	2.55	1.72	2.23	2240.0	0.3639
2200	2.03	1.86	2.88	2.55	1.72	2.23	2300.0	0.4023
2230	2.03	1.86	2.88	2.55	1.72	2.23	2330.0	0.4282

STA. NO. 08076000 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU NEAR HOUSTON, TX. — STORM OF MAR.27 - APR.2, 1980

DATE & TIME	GAGE NUMBER 6000	5900	5780	203R	20R			ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27										
2300	2.04	1.86	2.88	2.55	1.72			2.23	2310.0	0.4539
2330	2.04	1.86	2.88	2.55	1.72			2.23	2300.0	0.4731
2345	2.23	1.88	3.36	2.72	1.90			2.43	2300.0	0.4859
2400	2.42	2.37	3.36	2.78	2.07			2.66	2300.0	0.5179
MAR. 28										
0000	2.42	2.37	3.36	2.78	2.07			2.66	2300.0	0.5179
0100	2.42	2.37	3.36	2.78	2.07			2.66	2310.0	0.5694
0200	2.42	2.37	3.36	2.78	2.07			2.66	2310.0	0.6208
0300	2.42	2.37	3.36	2.78	2.08			2.66	2300.0	0.6720
0400	2.44	2.39	3.36	2.78	2.08			2.67	2250.0	0.7472
0600	2.44	2.39	3.36	2.78	2.08			2.67	2090.0	0.8635
0900	2.44	2.39	3.36	2.78	2.08			2.67	1790.0	0.9830
1200	2.44	2.39	3.36	2.78	2.08			2.67	1510.0	1.1007
1600	2.44	2.39	3.36	2.78	2.08			2.67	1200.0	1.2076
2000	2.44	2.39	3.36	2.78	2.08			2.67	947.0	1.2919
2400	2.44	2.39	3.36	2.78	2.08			2.67	760.0	1.3511
MAR. 29										
0000	2.44	2.39	3.36	2.78	2.08			2.67	760.0	1.3511
0300	2.44	2.39	3.36	2.78	2.08			2.67	639.0	1.3938
0600	2.44	2.39	3.36	2.78	2.10			2.67	543.0	1.4210
0730	2.44	2.39	3.36	2.78	2.10			2.67	496.0	1.4321
0800	2.46	2.39	3.36	2.80	2.10			2.68	485.0	1.4375
0830	2.50	2.41	3.48	2.86	2.32			2.75	470.0	1.4414
0845	2.50	2.44	3.60	2.90	2.42			2.81	463.0	1.4440
0900	2.52	2.70	3.60	2.92	2.53			2.91	455.0	1.4465
0915	2.56	3.52	3.96	3.04	2.73			3.33	455.0	1.4490
0930	2.60	3.90	3.96	3.04	2.93			3.49	454.0	1.4515
0945	2.94	4.22	3.96	3.04	3.13			3.68	465.0	1.4541
1000	3.15	4.34	3.96	3.04	3.33			3.77	509.0	1.4612
1100	3.20	4.38	3.96	3.04	3.38			3.80	822.0	1.4795
1200	3.24	4.40	3.96	3.04	3.39			3.81	1560.0	1.5142
1300	3.25	4.40	4.08	3.04	3.39			3.84	2120.0	1.5614
1400	3.26	4.40	4.08	3.04	3.39			3.84	2390.0	1.6014
1430	3.28	4.40	4.08	3.04	3.39			3.85	2470.0	1.6289
1500	3.28	4.40	4.08	3.04	3.39			3.85	2480.0	1.6565
1530	3.28	4.40	4.08	3.04	3.39			3.85	2470.0	1.6840
1600	3.28	4.40	4.08	3.04	3.39			3.85	2430.0	1.7516
1800	3.28	4.40	4.08	3.04	3.39			3.85	2170.0	1.8724
2100	3.28	4.40	4.08	3.04	3.39			3.85	1700.0	1.9859
2400	3.28	4.40	4.08	3.04	3.39			3.85	1320.0	2.0888
MAR. 30										
0000	3.28	4.40	4.08	3.04	3.39			3.85	1320.0	2.0888

STA. NO. 08076000	STORM RAINFALL AND RUNOFF RECORD						1980 WATER YEAR		
GREENS BAYOU NEAR HOUSTON, TX.	STORM OF MAR.27 - APR.2, 1980						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER 6000	5900	5780	203R	20R				
MAR. 30									
0400	3.28	4.40	4.08	3.04	3.39		3.85	961.0	2.1744
0800	3.28	4.40	4.08	3.04	3.39		3.85	727.0	2.2391
1200	3.28	4.40	4.08	3.04	3.39		3.85	567.0	2.2896
1600	3.28	4.40	4.08	3.04	3.39		3.85	461.0	2.3306
2000	3.28	4.40	4.08	3.04	3.39		3.85	375.0	2.3640
2400	3.28	4.40	4.08	3.04	3.39		3.85	305.0	2.3980
MAR. 31									
0800	3.28	4.40	4.08	3.04	3.39		3.85	305.0	2.3980
0800	3.28	4.40	4.08	3.04	3.39		3.85	225.0	2.4281
1200	3.28	4.40	4.08	3.04	3.29		3.84	179.0	2.4520
1800	3.28	4.40	4.08	3.04	3.29		3.84	148.0	2.4717
2400	3.28	4.40	4.08	3.04	3.29		3.84	137.0	2.4900
APR. 1									
0000	3.28	4.40	4.08	3.04	3.29		3.84	137.0	2.4900
0600	3.28	4.40	4.08	3.04	3.29		3.84	110.0	2.5047
1200	3.28	4.40	4.08	3.04	3.29		3.84	93.0	2.5171
1800	3.28	4.40	4.08	3.04	3.29		3.84	86.0	2.5258
2100	3.28	4.40	4.08	3.04	3.29		3.84	77.0	2.5309
2400	3.28	4.40	4.08	3.04	3.29		3.84	82.0	2.5391
APR. 2									
0000	3.28	4.40	4.08	3.04	3.29		3.84	82.0	2.5391
0600	3.28	4.40	4.08	3.04	3.29		3.84	80.0	2.5498
1200	3.28	4.40	4.08	3.04	3.29		3.84	65.0	2.5585
1800	3.28	4.40	4.08	3.04	3.29		3.84	61.0	2.5666
2400	3.28	4.40	4.08	3.04	3.29		3.84	71.0	2.5714

HALLS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Halls Bayou drainage basin are shown in figure 20.

Weighted-mean rainfall for the drainage basin, based on five rain gages above the Jensen Drive station for the 1980 water year was 35.53 inches, or 12.66 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of Jan. 20-24, and Sept. 5-7 were selected for analysis at station 08076200, Halls Bayou at Deertrail Street near Houston. The storms of Nov. 11-24 and Jan. 20-24 were selected for analysis at station 08076500, Halls Bayou at Houston (Jensen Drive).

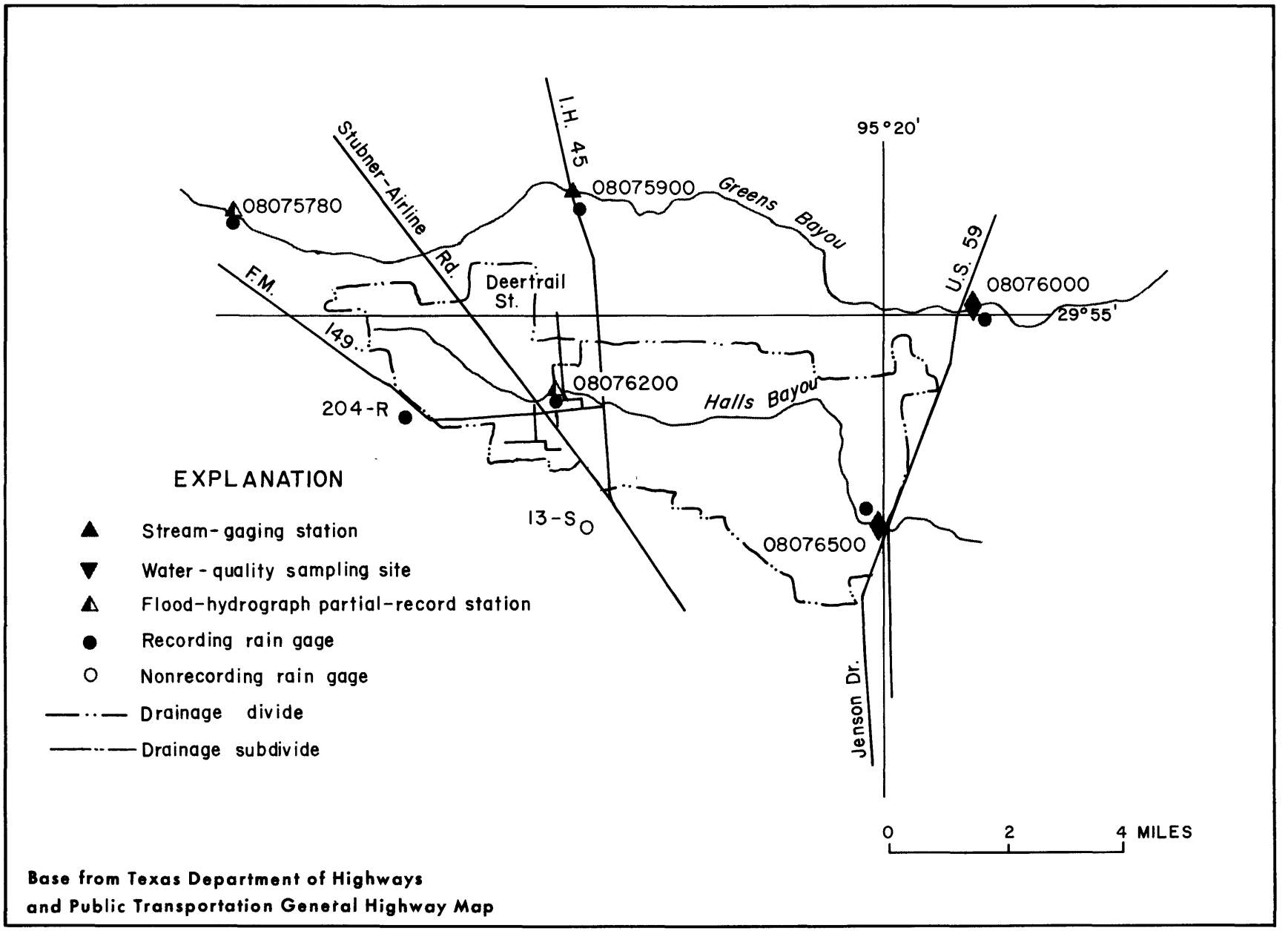

Figure 20.– Locations of data-collection sites in the Halls Bayou drainage basin

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 17.--Storm rainfall-runoff data, 1980 Water Year, Halls Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Halls Bayou at Deertrail St., Houston, Tx. (Drainage area -- 8.99 mi^2)								
Jan. 20-24, 1980	39.8	4.30	0.50	0.94	1.37	2.99	0.70	495
Sept. 5-7, 1980	26.8	3.06	0.37	0.48	0.63	0.42	0.14	261
Halls Bayou at Houston, Tx. (Drainage area -- 27.6 mi^2)								
Nov. 21-24, 1979	12.8	1.68	0.30	0.55	0.72	0.28	0.17	233
Jan. 20-24, 1980	41.4	4.17	0.50	0.94	1.37	2.85	0.68	2,030*

* - Annual peak discharge for 1980 WY.

08076200 HALLS BAYOU AT DEERTRAIL STREET NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°54'07", long 95°25'21", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Deertrail Street, 0.6 mile west of U.S. Highway 75, 3.0 miles north of city limits of Houston, and 7.7 miles upstream from station 08076500, Halls Bayou at Houston.

DRAINAGE AREA (revised).--8.99 mi^2. For period Oct. 1, 1973 to Sept. 30, 1977, 8.69 mi^2. Prior to Oct. 1, 1973, 6.31 mi^2.

PERIOD OF RECORD.--Aug. 1964 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 27, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1961 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft^3/s, Mar. 20, 1972; maximum gage height, 86.07 ft, April 18, 1976. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 400 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Jan. 21	0300	495	81.89
Mar. 27	1900	370	81.17
Mar. 29	unknown	*649	83.15

Minimum discharge not determined.

STA. NO. 08076200 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX. — STORM OF JAN.20-24, 1980

DATE & TIME	GAGE NUMBER 204R	6200	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 20						
0000	0.0	0.0	0.0	0.0	6.3	0.0065
1200	0.0	0.12	0.0	0.07	6.4	0.0145
1430	0.0	0.12	0.0	0.07	6.4	0.0160
1445	0.0	0.12	0.35	0.08	5.0	0.0162
1500	0.04	0.12	0.40	0.10	6.0	0.0165
1515	0.07	0.12	0.40	0.11	6.6	0.0168
1530	0.10	0.12	0.43	0.13	6.6	0.0171
1545	0.22	0.12	0.4[illegible]	0.18	6.6	0.0174
1600	0.26	0.24	0.60	0.27	6.6	0.0176
1615	0.70	0.48	0.97	0.59	6.6	0.0179
1630	1.20	0.48	1.24	0.81	19.0	0.0187
1645	1.54	0.72	1.64	1.09	37.0	0.0203
1700	1.63	0.72	1.85	1.14	60.0	0.0229
1715	1.84	0.72	2.25	1.24	81.0	0.0264
1730	1.96	0.84	2.27	1.36	95.0	0.0305
1745	2.03	0.84	2.40	1.39	114.0	0.0354
1800	2.09	0.96	2.45	1.49	157.0	0.0422
1815	2.14	1.08	2.55	1.58	217.0	0.0515
1830	2.19	1.08	2.58	1.60	278.0	0.0635
1845	2.22	1.08	2.60	1.61	317.0	0.0772
1900	2.25	1.20	2.65	1.69	350.0	0.0923
1915	2.26	1.20	2.70	1.70	370.0	0.1082
1930	2.28	1.20	2.72	1.71	390.0	0.1250
1945	2.31	1.20	2.74	1.72	395.0	0.1420
2000	2.34	1.20	2.75	1.73	396.0	0.1591
2015	2.37	1.32	2.77	1.81	397.0	0.1762
2030	2.41	1.32	2.80	1.83	399.0	0.1934
2045	2.44	1.32	2.83	1.84	418.0	0.2114
2100	2.46	1.32	2.87	1.85	422.0	0.2296
2115	2.48	1.44	2.90	1.93	423.0	0.2478
2130	2.51	1.44	2.93	1.94	423.0	0.2660
2145	2.54	1.44	2.95	1.96	422.0	0.2842
2200	2.55	1.44	2.96	1.96	420.0	0.3114
2230	2.58	1.44	2.98	1.97	416.0	0.3472
2300	2.59	1.44	3.00	1.98	409.0	0.3737
2315	2.59	1.56	3.00	2.04	404.0	0.3911
2330	2.59	1.56	3.00	2.04	396.0	0.4081
2345	2.59	1.56	3.01	2.04	391.0	0.4250
2400	2.60	1.56	3.01	2.05	384.0	0.4415
JAN. 21						

STA. NO. 08076200	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX.	STORM OF JAN.20-24, 1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	204R	6200	5900							
JAN. 21										
0000	2.62	1.56	3.01					2.06	384.0	0.4415
0015	2.66	1.56	3.01					2.07	374.0	0.4577
0030	2.76	1.56	3.04					2.11	370.0	0.4736
0045	3.11	1.56	3.09					2.26	368.0	0.4895
0100	3.25	1.80	3.16					2.45	368.0	0.5053
0115	3.31	1.92	3.60					2.56	378.0	0.5216
0130	3.32	1.92	3.78					2.57	405.0	0.5391
0145	3.32	1.92	3.85					2.58	424.0	0.5573
0200	3.37	1.92	3.90					2.60	450.0	0.5767
0215	3.37	2.04	3.90					2.66	474.0	0.5971
0230	3.37	2.04	3.91					2.67	483.0	0.6180
0245	3.37	2.04	3.91					2.67	492.0	0.6392
0300	3.37	2.04	3.91					2.67	495.0	0.6605
0315	3.37	2.04	3.91					2.67	495.0	0.6818
0330	3.37	2.04	3.91					2.67	492.0	0.7030
0345	3.43	2.04	4.05					2.70	490.0	0.7241
0400	3.43	2.04	4.05					2.70	487.0	0.7451
0415	3.43	2.04	4.05					2.70	483.0	0.7659
0430	3.45	2.04	4.05					2.70	478.0	0.7865
0445	3.45	2.16	4.05					2.77	475.0	0.8070
0500	3.45	2.16	4.05					2.77	471.0	0.8577
0600	3.45	2.16	4.05					2.77	441.0	0.9053
0615	3.46	2.16	4.05					2.77	428.0	0.9329
0645	3.46	2.16	4.05					2.77	415.0	0.9597
0700	3.50	2.16	4.05					2.79	408.0	1.0037
0800	3.50	2.16	4.05					2.79	370.0	1.0994
1000	3.50	2.16	4.05					2.79	310.0	1.2062
1200	3.50	2.16	4.05					2.79	256.0	1.3165
1500	3.50	2.16	4.05					2.79	189.0	1.3695
1515	3.52	2.16	4.05					2.80	184.0	1.3774
1530	3.52	2.16	4.11					2.80	180.0	1.3852
1545	3.55	2.16	4.15					2.82	177.0	1.3928
1600	3.65	2.28	4.25					2.93	176.0	1.4042
1630	3.65	2.28	4.47					2.94	180.0	1.4158
1645	3.66	2.28	4.50					2.94	181.0	1.4236
1700	3.69	2.40	4.55					3.02	181.0	1.4314
1715	3.70	2.40	4.57					3.03	181.0	1.4392
1730	3.74	2.40	4.63					3.05	183.0	1.4471
1745	3.76	2.40	4.69					3.06	185.0	1.4551

STA. NO. 08076200 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX. — STORM OF JAN.20-24, 1980

DATE & TIME	GAGE NUMBER 204R	6200	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 21						
1800	3.76	2.40	4.70	3.06	188.0	1.4632
1815	3.76	2.40	4.70	3.06	191.0	1.4714
1830	3.78	2.40	4.70	3.07	194.0	1.4797
1845	3.82	2.40	4.73	3.08	198.0	1.4883
1900	3.84	2.52	4.75	3.16	203.0	1.5101
2000	3.84	2.52	4.75	3.16	214.0	1.5332
2015	3.84	2.52	4.78	3.16	216.0	1.5425
2030	3.84	2.52	4.78	3.16	216.0	1.5518
2045	3.87	2.52	4.79	3.17	217.0	1.5612
2100	3.87	2.52	4.80	3.17	217.0	1.5705
2115	3.87	2.52	4.80	3.17	217.0	1.5799
2130	3.88	2.52	4.80	3.18	216.0	1.5892
2145	3.88	2.64	4.81	3.24	216.0	1.5985
2200	3.88	2.64	4.81	3.24	216.0	1.6218
2300	3.89	2.64	4.81	3.25	209.0	1.6488
2330	3.89	2.64	4.81	3.25	204.0	1.6620
2345	3.90	2.64	4.81	3.25	202.0	1.6707
2400	3.90	2.64	4.81	3.25	198.0	1.7219
JAN. 22						
0000	3.90	2.64	4.81	3.25	198.0	1.7219
0245	3.90	2.64	4.81	3.25	160.0	1.7632
0300	3.91	2.64	4.81	3.26	155.0	1.7699
0315	3.95	2.64	4.81	3.27	152.0	1.7765
0330	3.95	2.64	4.84	3.27	148.0	1.7860
0400	3.98	2.64	4.85	3.29	145.0	1.8079
0515	3.98	2.64	4.85	3.29	132.0	1.8250
0530	4.05	2.76	4.85	3.38	131.0	1.8306
0545	4.10	2.76	4.95	3.41	130.0	1.8362
0600	4.12	2.76	5.00	3.42	130.0	1.8418
0615	4.16	3.00	5.10	3.57	141.0	1.8479
0630	4.22	3.00	5.10	3.59	167.0	1.8551
0645	4.25	3.12	5.13	3.67	196.0	1.8635
0700	4.27	3.12	5.13	3.68	216.0	1.8728
0715	4.37	3.24	5.20	3.79	232.0	1.8828
0730	4.40	3.24	5.25	3.80	249.0	1.9096
0830	4.40	3.24	5.25	3.80	295.0	1.9414
0845	4.47	3.36	5.25	3.90	297.0	1.9542
0900	4.48	3.36	5.25	3.90	302.0	1.9672
0915	4.48	3.48	5.25	3.97	309.0	1.9806
0930	4.48	3.48	5.28	3.97	313.0	1.9940

STA. NO. 08076200 STORM RAINFALL AND RUNOFF RECORD 1980 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX. STORM OF JAN.20-24, 1980

DATE & TIME	GAGE NUMBER 204R	6200	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN. 22						
0945	4.55	3.48	5.40	4.00	317.0	2.0077
1000	4.55	3.60	5.40	4.07	324.0	2.0217
1015	4.61	3.60	5.40	4.09	329.0	2.0358
1030	4.61	3.60	5.46	4.10	334.0	2.0502
1045	4.68	3.60	5.48	4.13	339.0	2.0648
1100	4.71	3.72	5.55	4.21	345.0	2.0797
1115	4.73	3.84	5.55	4.28	352.0	2.0949
1130	4.75	3.84	5.55	4.29	357.0	2.1103
1145	4.77	3.84	5.55	4.30	360.0	2.1258
1200	4.77	3.84	5.58	4.30	361.0	2.1413
1215	4.77	3.84	5.63	4.30	361.0	2.1724
1300	4.77	3.84	5.63	4.30	353.0	2.2257
1400	4.77	3.84	5.63	4.30	330.0	2.3110
1600	4.77	3.84	5.63	4.30	286.0	2.4096
1800	4.77	3.84	5.63	4.30	239.0	2.4920
2000	4.77	3.84	5.63	4.30	194.0	2.5589
2200	4.77	3.84	5.63	4.30	157.0	2.6130
2400	4.77	3.84	5.63	4.30	126.0	2.6673
JAN. 23						
0000	4.77	3.84	5.63	4.30	126.0	2.6673
0300	4.77	3.84	5.63	4.30	94.0	2.7159
0600	4.77	3.84	5.63	4.30	78.0	2.7764
1200	4.77	3.84	5.63	4.30	58.0	2.8364
1800	4.77	3.84	5.63	4.30	44.0	2.8819
2400	4.77	3.84	5.63	4.30	34.0	2.9170
JAN. 24						
0000	4.77	3.84	5.63	4.30	34.0	2.9170
0600	4.77	3.84	5.63	4.30	27.0	2.9450
1200	4.77	3.84	5.63	4.30	21.0	2.9667
1800	4.77	3.84	5.63	4.30	19.0	2.9863
2400	4.77	3.84	5.63	4.30	16.0	2.9946

STA. NO. 08076200	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR
HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX.	STORM OF SEPT.5-7,1980							
DATE & TIME	GAGE NUMBER						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
	204R	6200	5900						
SEPT. 5									
0000	0.0	0.0	0.0				0.0	3.0	0.0047
1800	0.0	0.0	0.0				0.0	3.0	0.0094
1815	0.20	0.12	0.10				0.15	3.0	0.0095
1830	0.30	0.12	0.15				0.19	5.0	0.0097
1845	0.35	0.12	0.23				0.22	6.0	0.0100
1900	0.40	0.24	0.25				0.30	7.0	0.0103
1915	0.45	0.24	0.37				0.33	8.0	0.0106
1930	0.50	0.36	0.42				0.42	9.0	0.0110
1945	0.55	0.48	0.45				0.51	9.1	0.0114
2000	0.60	0.48	0.47				0.53	9.1	0.0118
2015	0.65	0.48	0.50				0.55	9.1	0.0122
2030	0.80	0.48	0.60				0.61	9.1	0.0126
2045	0.85	0.60	0.90				0.71	9.1	0.0130
2100	0.90	0.72	0.95				0.80	17.0	0.0137
2115	0.90	0.84	0.95				0.87	31.0	0.0150
2130	0.90	0.84	1.08				0.88	34.0	0.0165
2145	0.90	0.84	1.10				0.88	34.0	0.0180
2200	0.90	0.84	1.10				0.88	31.0	0.0193
2215	0.90	0.84	1.13				0.88	26.0	0.0204
2230	0.95	0.84	1.13				0.90	20.0	0.0213
2245	0.95	0.96	1.18				0.97	17.0	0.0220
2300	0.95	0.96	1.18				0.97	14.0	0.0226
2315	1.02	0.96	1.20				1.00	11.0	0.0231
2330	1.02	0.96	1.20				1.00	10.0	0.0235
2345	1.02	0.96	1.25				1.00	9.5	0.0239
2400	1.05	0.96	1.25				1.01	9.5	0.0243
SEPT. 6									
0000	1.05	0.96	1.25				1.01	9.5	0.0243
0015	1.20	1.08	1.40				1.14	9.5	0.0248
0030	1.25	1.20	1.55				1.24	9.5	0.0252
0045	1.25	1.20	1.55				1.24	14.0	0.0258
0100	1.40	1.20	1.88				1.31	25.0	0.0268
0115	1.50	1.32	2.00				1.43	34.0	0.0283
0130	1.68	1.68	2.08				1.70	51.0	0.0305
0145	1.70	1.68	2.12				1.71	77.0	0.0338
0200	1.75	1.80	2.40				1.81	97.0	0.0380
0215	1.80	1.92	2.45				1.90	115.0	0.0430
0230	1.85	2.04	2.45				1.98	129.0	0.0485
0245	1.95	2.04	2.45				2.02	135.0	0.0543
0300	2.10	2.16	2.45				2.15	150.0	0.0608

STA. NO. 08076200 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX. — STORM OF SEPT.5-7,1980

DATE & TIME	GAGE NUMBER 204R	6200	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
SEPT. 6						
0315	2.10	2.28	2.48	2.22	181.0	0.0686
0330	2.10	2.28	2.50	2.22	228.0	0.0784
0345	2.10	2.28	2.50	2.22	253.0	0.0893
0400	2.10	2.28	2.50	2.22	261.0	0.1006
0415	2.10	2.28	2.50	2.22	259.0	0.1117
0430	2.10	2.28	2.53	2.22	251.0	0.1226
0445	2.10	2.28	2.58	2.22	244.0	0.1331
0500	2.10	2.28	2.58	2.22	233.0	0.1431
0515	2.10	2.28	2.58	2.22	223.0	0.1527
0530	2.20	2.28	2.58	2.26	209.0	0.1617
0545	2.20	2.28	2.58	2.26	198.0	0.1703
0600	2.25	2.28	2.58	2.28	186.0	0.1783
0615	2.30	2.28	2.58	2.30	174.0	0.1858
0630	2.30	2.28	2.58	2.30	165.0	0.1964
0700	2.30	2.28	2.58	2.30	145.0	0.2089
0730	2.30	2.28	2.60	2.30	130.0	0.2201
0800	2.30	2.28	2.60	2.30	119.0	0.2458
1000	2.30	2.28	2.70	2.31	94.0	0.2782
1200	2.35	2.28	2.70	2.33	79.0	0.2935
1215	2.45	2.28	2.70	2.37	76.0	0.2968
1230	2.65	2.28	2.70	2.45	73.0	0.3015
1300	2.65	2.28	2.70	2.45	68.0	0.3088
1345	2.65	2.40	2.70	2.51	65.0	0.3144
1400	2.65	2.40	2.70	2.51	62.0	0.3211
1500	2.65	2.40	2.70	2.51	54.0	0.3304
1600	2.65	2.40	2.70	2.51	44.0	0.3418
1800	2.65	2.40	2.70	2.51	29.0	0.3487
1845	2.68	2.40	2.70	2.53	24.0	0.3507
1900	2.68	2.40	2.70	2.53	21.0	0.3530
2000	2.68	2.40	2.70	2.53	17.0	0.3552
2030	2.70	2.40	2.70	2.53	17.0	0.3563
2045	2.80	2.40	2.70	2.57	15.0	0.3569
2100	2.88	2.52	2.70	2.67	15.0	0.3576
2115	2.88	2.52	2.85	2.68	17.0	0.3583
2130	2.88	2.52	2.85	2.68	29.0	0.3596
2145	2.88	2.52	3.05	2.69	37.0	0.3612
2200	2.88	2.52	3.10	2.69	42.0	0.3657
2300	2.88	2.52	3.10	2.69	40.0	0.3726
2400	2.88	2.52	3.10	2.69	36.0	0.3881
SEPT. 7						

STA. NO. 08076200	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

HALLS BAYOU AT DEERTRAIL ST., HOUSTON, TX. — STORM OF SEPT.5-7,1980

DATE & TIME	GAGE NUMBER 204R	6200	5900	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
SEPT. 7						
0000	2.88	2.52	3.10	2.69	36.0	0.3881
0400	2.88	2.52	3.10	2.69	16.0	0.3939
0415	2.88	2.52	3.13	2.69	16.0	0.3946
0430	2.88	2.64	3.13	2.76	15.0	0.3956
0500	2.88	2.64	3.13	2.76	14.0	0.3986
0700	2.88	2.64	3.13	2.76	13.0	0.4011
0715	2.88	2.64	3.13	2.76	13.0	0.4017
0730	3.25	2.64	3.13	2.91	13.0	0.4023
0745	3.25	2.64	3.13	2.91	13.0	0.4028
0800	3.25	2.64	3.13	2.91	13.0	0.4034
0815	3.35	2.64	3.13	2.95	12.0	0.4044
0900	3.35	2.64	3.13	2.95	12.0	0.4055
0915	3.35	2.64	3.25	2.95	11.0	0.4064
1000	3.35	2.64	3.25	2.95	11.0	0.4081
1100	3.35	2.64	3.25	2.95	10.0	0.4098
1200	3.35	2.64	3.25	2.95	9.0	0.4108
1215	3.45	2.64	3.25	2.99	8.0	0.4111
1230	3.45	2.64	3.30	3.00	8.0	0.4114
1245	3.45	2.76	3.30	3.06	8.0	0.4132
1500	3.45	2.76	3.30	3.06	6.0	0.4159
1800	3.45	2.76	3.30	3.06	5.0	0.4198
2400	3.45	2.76	3.30	3.06	5.0	0.4223

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°51'42", long 95°20'05", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Jensen Drive in northeast section of Houston and 11.0 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--27.6 mi² (71.5 km²). Oct. 1, 1973, to Sept. 30, 1977, 28.3 mi² (73.3 km²). Prior to Oct. 1, 1973, 24.7 mi² (64.0 km²). Changes were result of drainage ditch extensions or relocations.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732: Drainage area. WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for April, May, and September, which are poor. No known diversion above station. Low flow is sustained by sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--28 years, 27.4 ft³/s (0.776 m³/s), 19,850 acre-ft/yr (24.5 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,780 ft³/s (107 m³/s) Mar. 21, 1972, gage height, 60.70 ft (18.501 m); maximum gage height, 60.75 ft (18.517 m) June 13, 1973; no flow at times prior to 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
a Oct. 22	unknown	60	1.70	unknown	--	a Jan. 22	1300	*2,030	57.5	57.79	17.614
a Nov. 21	2030	233	6.60	49.50	15.088	Mar. 27	2000	1,280	36.2	56.06	17.087
a Jan. 21	0630	1,060	30.0	54.72	16.679						

a Water-quality samples were obtained during this runoff event.

Minimum daily discharge, 6.4 ft³/s (0.18 m³/s) Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	19	11	15	20	25	32	11	10	8.0	8.3	18
2	14	12	17	15	21	18	25	10	10	7.8	9.6	14
3	14	11	12	48	23	14	22	10	10	7.9	9.4	12
4	13	11	11	27	21	17	20	10	10	8.5	9.0	10
5	13	12	11	17	20	18	18	9.5	10	7.5	16	25
6	13	11	10	15	19	15	17	9.5	9.9	7.8	9.1	250
7	12	11	10	15	17	15	20	9.0	9.8	8.2	9.4	150
8	12	11	9.7	14	176	15	18	9.0	9.2	7.9	10	70
9	11	11	11	14	254	16	16	50	49	7.9	9.3	30
10	10	10	11	14	72	14	14	25	40	8.9	8.8	15
11	12	9.8	11	14	45	14	13	15	13	8.3	8.0	13
12	11	10	260	13	33	16	12	12	9.9	7.3	9.7	12
13	10	9.2	103	12	28	16	45	12	9.8	7.6	8.2	11
14	9.5	9.3	30	13	28	15	15	45	9.7	7.6	11	10
15	10	9.2	18	12	41	14	13	75	9.4	7.5	11	9.5
16	11	9.0	15	12	60	17	12	110	9.8	6.8	14	9.0
17	12	9.4	14	37	39	30	11	160	9.0	7.5	9.5	9.0
18	11	9.8	12	40	28	19	11	40	8.9	7.7	8.2	8.5
19	12	11	13	18	22	15	11	220	8.5	7.6	6.9	8.5
20	13	9.9	12	111	18	31	10	60	8.7	7.9	7.1	8.0
21	12	88	13	720	16	30	11	25	8.4	19	7.0	12
22	30	79	13	994	15	14	10	15	10	14	6.9	10
23	15	36	44	209	15	14	9.9	13	30	8.3	7.0	9.0
24	10	16	54	77	14	16	9.6	12	12	8.2	6.8	15
25	10	13	19	50	14	14	150	11	9.5	7.8	6.4	12
26	10	12	13	38	15	22	70	11	10	7.1	6.5	10
27	9.9	12	14	30	14	511	15	10	8.2	10	12	9.0
28	10	12	14	25	14	436	13	10	8.5	45	15	9.0
29	11	11	87	24	14	300	12	20	8.1	26	12	12
30	168	13	28	24	---	150	11	13	8.4	12	50	140
31	201	---	18	21	---	50	---	11	---	8.3	25	---
TOTAL	724.4	507.6	918.7	2688	1116	1911	666.5	1053.0	377.7	321.9	347.1	930.5
MEAN	23.4	16.9	29.6	86.7	38.5	61.6	22.2	34.0	12.6	10.4	11.2	31.0
MAX	201	88	260	994	254	511	150	220	49	45	50	250
MIN	9.5	9.0	9.7	12	14	14	9.6	9.0	8.1	6.8	6.4	8.0
AC-FT	1440	1010	1820	5330	2210	3790	1320	2090	749	638	688	1850
(††)	2.79	1.73	3.12	5.19	1.85	5.12	1.76	4.22	1.55	1.36	1.63	5.21

CAL YR 1979 TOTAL 20260.5 MEAN 55.5 MAX 2480 MIN 7.5 AC-FT 40190 †† 54.06
WTR YR 1980 TOTAL 11562.4 MEAN 31.6 MAX 994 MIN 6.4 AC-FT 22930 †† 35.53

†† Weighted-mean rainfall, in inches, based on five rain gages.

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT										
22...	1340	45	671	7.1	24.0	40	2.8	2.1	25	24
NOV										
21...	1440	72	674	7.3	21.0	45	55	2.3	26	47
23...	1140	32	529	6.4	13.0	35	17	6.4	60	12
JAN										
21...	1210	712	195	6.8	15.5	120	100	6.6	65	9.6
22...	1315	2010	149	7.1	13.5	140	96	8.3	79	5.8
23...	1220	166	271	6.9	11.0	120	84	7.5	66	9.6
JUL										
30...	1110	11	560	7.2	28.5	40	4.0	2.7	34	10

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
OCT									
22...	1300000	620000	17000	--	--	--	--	--	--
NOV									
21...	3800000	2800000	18000	160	0	49	10	81	2.8
23...	130000	120000	10000	--	--	--	--	--	--
JAN									
21...	420000	100000	46000	--	--	--	--	--	--
22...	21000	6700	5500	53	0	17	2.6	7.2	.4
23...	200000	26000	7300	--	--	--	--	--	--
JUL									
30...	14000	3600	200	120	0	39	6.1	53	2.1

08076500 HALLS BAYOU AT HOUSTON TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	CARBONATE FET-FLD (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT									
22...	--	--	--	--	--	--	--	--	6
NOV									
21...	7.7	220	0	31	70	.3	20	403	175
23...	--	--	--	--	--	--	--	--	11
JAN									
21...	--	--	--	--	--	--	--	--	254
22...	2.5	54	0	6.3	7.2	.1	7.4	83	262
23...	--	--	--	--	--	--	--	--	184
JUL									
30...	7.9	160	0	31	55	.2	19	308	3

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT									
22...	12	.15	.180	.33	2.30	7.7	10.0	7.60	28
NOV									
21...	9	.13	.140	.27	7.90	10	18.0	1.10	44
23...	0	.20	.180	.38	1.50	2.9	4.40	5.80	19
JAN									
21...	34	.11	.030	.14	.170	1.6	1.80	.430	21
22...	48	.18	.020	.20	.210	1.6	1.80	.400	18
23...	28	.16	.050	.21	.350	1.7	2.00	.040	19
JUL									
30...	2	.10	.050	.15	5.00	4.0	9.00	4.10	19

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 21...	1440	4	200	<1	0	0	60
JAN 22...	1315	3	70	<1	0	0	160
JUL 30...	1110	28	200	<1	0	2	90

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 21...	1	390	.3	0	0	20
JAN 22...	0	3	.0	0	0	9
JUL 30...	0	230	.1	1	0	4

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
NOV 21...	1440	.00	--	.00	.10	.00	.00	.00	.46	.00
JAN 22...	1315	.00	.00	.00	.20	.01	.00	.02	.06	.01
JUL 30...	1110	.00	.00	.00	.00	.00	.00	.00	.53	.00

SAN JACINTO RIVER BASIN

08076500 HALLS BAYOU AT HOUSTON TX--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	.00	.02	.09	.00	.00
JAN 22...	.00	.00	.00	.01	.02	.00	.00	.00	.00
JUL 30...	.00	.00	.00	.00	.00	.01	.07	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 21...	.00	.00	.00	.00	0	.00	.01	.00	.00
JAN 22...	.00	.00	.00	.00	0	.00	.03	.00	.00
JUL 30...	.00	.00	.00	.00	0	.00	.16	.02	.00

STA. NO. 08076500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT HOUSTON, TEXAS — STORM OF NOV.21-24,1979

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV 21						
0000	0.0	0.0	0.0	0.0	9.9	0.0019
0700	0.0	0.0	0.0	0.0	11.0	0.0043
0745	0.0	0.12	0.0	0.07	11.0	0.0056
1100	0.0	0.12	0.0	0.07	11.0	0.0067
1130	0.0	0.12	0.0	0.07	11.0	0.0070
1145	0.0	0.24	0.15	0.17	12.0	0.0071
1200	0.10	0.36	0.45	0.31	12.0	0.0073
1215	0.20	0.60	0.70	0.51	12.0	0.0075
1230	0.25	0.84	0.70	0.67	12.0	0.0076
1245	0.40	0.96	0.70	0.78	13.0	0.0078
1300	0.45	1.08	0.80	0.88	14.0	0.0080
1315	0.60	1.08	0.80	0.92	15.0	0.0082
1330	0.65	1.08	0.80	0.93	16.0	0.0085
1345	0.70	1.20	0.80	1.01	22.0	0.0088
1400	0.80	1.20	0.80	1.04	27.0	0.0091
1415	0.85	1.20	0.80	1.05	44.0	0.0098
1430	0.85	1.20	0.80	1.05	60.0	0.0106
1445	0.90	1.20	0.80	1.06	76.0	0.0117
1500	0.90	1.20	0.80	1.06	93.0	0.0130
1515	0.95	1.20	0.80	1.08	102.0	0.0144
1530	0.95	1.32	0.80	1.15	110.0	0.0159
1545	1.00	1.32	0.85	1.17	112.0	0.0175
1600	1.00	1.32	0.85	1.17	114.0	0.0191
1615	1.00	1.32	0.90	1.18	118.0	0.0208
1630	1.00	1.32	0.90	1.18	121.0	0.0225
1645	1.05	1.32	0.90	1.19	128.0	0.0243
1700	1.10	1.44	1.00	1.29	134.0	0.0262
1715	1.10	1.44	1.10	1.30	146.0	0.0282
1730	1.10	1.44	1.15	1.31	158.0	0.0304
1745	1.15	1.56	1.15	1.40	170.0	0.0328
1800	1.15	1.56	1.21	1.40	182.0	0.0354
1815	1.15	1.56	1.21	1.40	193.0	0.0381
1830	1.20	1.56	1.21	1.42	204.0	0.0409
1845	1.20	1.56	1.21	1.42	212.0	0.0439
1900	1.20	1.56	1.21	1.42	219.0	0.0470
1915	1.20	1.56	1.21	1.42	222.0	0.0501
1930	1.20	1.56	1.21	1.42	226.0	0.0533
1945	1.24	1.56	1.21	1.43	228.0	0.0565
2000	1.24	1.56	1.21	1.43	230.0	0.0613

STA. NO. 08076500	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

HALLS BAYOU AT HOUSTON, TEXAS — STORM OF NOV.21-24,1979

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
NOV 21						
2030	1.24	1.56	1.21	1.43	233.0	0.0679
2100	1.24	1.56	1.21	1.43	231.0	0.0776
2200	1.24	1.56	1.21	1.43	228.0	0.0968
2400	1.24	1.56	1.21	1.43	210.0	0.1204
NOV 22						
0000	1.24	1.56	1.21	1.43	210.0	0.1204
0200	1.24	1.56	1.21	1.43	185.0	0.1411
0400	1.24	1.56	1.21	1.43	134.0	0.1562
0600	1.35	1.56	1.21	1.45	100.0	0.1625
0615	1.35	1.56	1.30	1.47	96.0	0.1638
0630	1.38	1.56	1.30	1.48	92.0	0.1658
0700	1.40	1.56	1.30	1.48	87.0	0.1682
0730	1.45	1.56	1.37	1.50	81.0	0.1705
0800	1.45	1.56	1.37	1.50	77.0	0.1727
0830	1.45	1.56	1.37	1.50	72.0	0.1747
0900	1.56	1.56	1.37	1.53	68.0	0.1775
1000	1.56	1.56	1.37	1.53	62.0	0.1828
1200	1.56	1.56	1.37	1.53	51.0	0.1899
1500	1.56	1.68	1.37	1.60	39.0	0.1965
1800	1.56	1.68	1.37	1.60	33.0	0.2002
1900	1.56	1.80	1.37	1.68	32.0	0.2029
2100	1.56	1.80	1.37	1.68	32.0	0.2074
2400	1.56	1.80	1.37	1.68	38.0	0.2170
NOV 23						
0000	1.56	1.80	1.37	1.68	38.0	0.2170
0600	1.56	1.80	1.37	1.68	53.0	0.2348
1200	1.56	1.80	1.37	1.68	32.0	0.2510
2400	1.56	1.80	1.37	1.68	22.0	0.2658
NOV 24						
0000	1.56	1.80	1.37	1.68	22.0	0.2658
1200	1.56	1.80	1.37	1.68	14.0	0.2753
2400	1.56	1.80	1.37	1.68	14.0	0.2800

STA. NO. 08076500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT HOUSTON, TEXAS — STORM OF JAN.20-24,1980

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN 20						
0000	0.0	0.0	0.0	0.0	19.0	0.0063
1145	0.0	0.0	0.0	0.0	17.0	0.0120
1200	0.0	0.12	0.0	0.07	17.0	0.0126
1300	0.07	0.12	0.0	0.09	21.0	0.0138
1400	0.08	0.12	0.0	0.09	21.0	0.0149
1500	0.08	0.12	0.04	0.10	24.0	0.0158
1515	0.08	0.12	0.07	0.10	24.0	0.0161
1530	0.08	0.12	0.10	0.11	23.0	0.0165
1545	0.08	0.12	0.22	0.12	23.0	0.0168
1600	0.09	0.24	0.26	0.21	22.0	0.0171
1615	0.24	0.48	0.70	0.45	22.0	0.0174
1630	0.24	0.48	1.20	0.53	23.0	0.0177
1645	0.44	0.72	1.54	0.77	23.0	0.0180
1700	0.57	0.72	1.63	0.82	24.0	0.0184
1715	0.60	0.72	1.84	0.86	26.0	0.0187
1730	0.64	0.84	1.96	0.96	28.0	0.0191
1745	0.69	0.84	2.03	0.98	30.0	0.0196
1800	0.76	0.96	2.09	1.08	32.0	0.0200
1815	0.90	1.08	2.14	1.19	49.0	0.0207
1830	1.05	1.08	2.19	1.24	66.0	0.0216
1845	1.09	1.08	2.22	1.25	83.0	0.0228
1900	1.16	1.20	2.25	1.35	100.0	0.0242
1915	1.20	1.20	2.26	1.36	126.0	0.0260
1930	1.25	1.20	2.28	1.37	155.0	0.0281
1945	1.25	1.20	2.31	1.38	182.0	0.0307
2000	1.27	1.20	2.34	1.39	210.0	0.0336
2015	1.30	1.32	2.37	1.47	248.0	0.0371
2030	1.32	1.32	2.41	1.48	285.0	0.0411
2045	1.34	1.32	2.44	1.49	322.0	0.0456
2100	1.36	1.32	2.46	1.50	361.0	0.0507
2115	1.37	1.44	2.48	1.58	404.0	0.0564
2130	1.38	1.44	2.51	1.59	445.0	0.0626
2145	1.38	1.44	2.54	1.59	490.0	0.0695
2200	1.39	1.44	2.55	1.59	537.0	0.0770
2215	1.39	1.44	2.56	1.60	575.0	0.0851
2230	1.40	1.44	2.58	1.60	615.0	0.0937
2245	1.41	1.44	2.58	1.60	660.0	0.1030
2300	1.42	1.44	2.59	1.61	703.0	0.1129
2315	1.42	1.56	2.59	1.68	732.0	0.1231

STA. NO. 08076500	STORM RAINFALL AND RUNOFF RECORD							1980 WATER YEAR		
HALLS BAYOU AT HOUSTON, TEXAS	STORM OF JAN.20-24,1980							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
DATE & TIME	GAGE NUMBER									
	6000	6200	204R							
JAN 20										
2330	1.43	1.56	2.59					1.68	760.0	0.1338
2345	1.44	1.56	2.60					1.69	790.0	0.1449
2400	1.45	1.56	2.62					1.69	819.0	0.1564
JAN 21										
0000	1.45	1.56	2.62					1.69	819.0	0.1564
0015	1.45	1.56	2.66					1.70	834.0	0.1681
0030	1.46	1.56	2.76					1.71	848.0	0.1800
0045	1.46	1.56	3.11					1.77	862.0	0.1921
0100	1.47	1.80	3.25					1.93	877.0	0.2044
0115	1.52	1.92	3.31					2.03	892.0	0.2169
0130	1.64	1.92	3.32					2.06	908.0	0.2297
0145	1.83	1.92	3.32					2.11	923.0	0.2426
0200	1.84	1.92	3.37					2.12	938.0	0.2558
0215	1.87	2.04	3.37					2.20	952.0	0.2892
0315	1.87	2.04	3.37					2.20	1000.0	0.3243
0330	1.87	2.04	3.37					2.20	1000.0	0.3383
0345	1.87	2.04	3.37					2.20	1010.0	0.3596
0415	1.87	2.04	3.37					2.20	1020.0	0.3811
0430	1.99	2.04	3.45					2.24	1020.0	0.3954
0445	1.99	2.16	3.45					2.31	1030.0	0.4098
0500	2.09	2.16	3.45					2.34	1030.0	0.4460
0600	2.09	2.16	3.45					2.34	1060.0	0.4832
0615	2.09	2.16	3.46					2.34	1060.0	0.4981
0630	2.09	2.16	3.46					2.34	1060.0	0.5204
0700	2.09	2.16	3.50					2.34	1060.0	0.5948
0900	2.10	2.16	3.50					2.35	970.0	0.7309
1200	2.12	2.16	3.50					2.35	732.0	0.8542
1500	2.12	2.16	3.50					2.35	511.0	0.9008
1515	2.12	2.16	3.52					2.35	498.0	0.9078
1530	2.12	2.16	3.52					2.35	484.0	0.9146
1545	2.12	2.16	3.55					2.36	472.0	0.9212
1600	2.14	2.28	3.65					2.45	459.0	0.9277
1615	2.22	2.28	3.65					2.47	450.0	0.9340
1630	2.22	2.28	3.65					2.47	440.0	0.9402
1645	2.25	2.28	3.66					2.48	431.0	0.9462
1700	2.28	2.40	3.69					2.56	422.0	0.9521
1715	2.30	2.40	3.70					2.57	416.0	0.9580
1730	2.32	2.40	3.74					2.58	410.0	0.9637
1745	2.54	2.40	3.76					2.64	405.0	0.9694
1800	2.56	2.40	3.76					2.64	399.0	0.9750

STA. NO. 08076500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT HOUSTON, TEXAS — STORM OF JAN.20-24,1980

DATE & TIME	GAGE NUMBER 6000	6200	204R					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN 21										
1815	2.56	2.40	3.76					2.64	399.0	0.9806
1830	2.59	2.40	3.78					2.65	398.0	0.9862
1845	2.59	2.40	3.82					2.66	400.0	0.9918
1900	2.59	2.52	3.84					2.74	402.0	0.9975
1915	2.59	2.52	3.86					2.74	406.0	1.0089
2000	2.61	2.52	3.87					2.74	421.0	1.0295
2100	2.62	2.52	3.87					2.75	441.0	1.0481
2130	2.62	2.52	3.88					2.75	454.0	1.0577
2145	2.62	2.64	3.88					2.82	460.0	1.0641
2200	2.63	2.64	3.88					2.82	466.0	1.0805
2300	2.64	2.64	3.89					2.83	484.0	1.1077
2400	2.65	2.64	3.90					2.83	489.0	1.1626
JAN 22										
0000	2.65	2.64	3.90					2.83	489.0	1.1626
0300	2.65	2.64	3.91					2.83	440.0	1.2027
0315	2.65	2.64	3.95					2.84	432.0	1.2088
0330	2.65	2.64	3.95					2.84	423.0	1.2147
0345	2.65	2.64	3.97					2.84	414.0	1.2205
0400	2.65	2.64	3.98					2.84	406.0	1.2262
0415	2.65	2.64	3.98					2.84	399.0	1.2402
0515	2.68	2.64	3.98					2.85	370.0	1.2532
0530	2.69	2.76	4.05					2.94	365.0	1.2583
0545	2.72	2.76	4.10					2.95	359.0	1.2634
0600	2.80	2.76	4.12					2.97	354.0	1.2683
0615	2.96	3.00	4.16					3.16	360.0	1.2734
0630	3.20	3.00	4.22					3.23	380.0	1.2787
0645	3.29	3.12	4.25					3.33	400.0	1.2843
0700	3.32	3.12	4.27					3.34	440.0	1.2905
0715	3.44	3.24	4.37					3.46	490.0	1.2974
0730	3.50	3.24	4.40					3.48	540.0	1.3050
0745	3.69	3.24	4.40					3.53	590.0	1.3132
0800	3.70	3.24	4.40					3.53	640.0	1.3312
0845	3.70	3.36	4.47					3.61	852.0	1.3551
0900	3.73	3.36	4.48					3.62	928.0	1.3681
0915	3.73	3.48	4.48					3.69	1000.0	1.3822
0930	3.78	3.48	4.48					3.70	1080.0	1.3973
0945	3.90	3.48	4.55					3.75	1160.0	1.4136
1000	4.20	3.60	4.55					3.89	1240.0	1.4310
1015	4.40	3.60	4.61					3.95	1340.0	1.4498
1030	4.45	3.60	4.61					3.96	1450.0	1.4702

STA. NO. 08076500 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

HALLS BAYOU AT HOUSTON, TEXAS — STORM OF JAN.20-24,1980

DATE & TIME	GAGE NUMBER 6000	6200	204R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN 22						
1045	4.48	3.60	4.68	3.98	1570.0	1.4922
1100	4.50	3.72	4.71	4.06	1700.0	1.5161
1115	4.52	3.72	4.73	4.07	1770.0	1.5409
1130	4.54	3.72	4.75	4.08	1830.0	1.5666
1145	4.56	3.84	4.77	4.16	1900.0	1.5933
1200	4.56	3.84	4.77	4.16	1960.0	1.6621
1300	4.57	3.84	4.77	4.16	2030.0	1.7760
1400	4.60	3.84	4.77	4.17	1940.0	1.8850
1500	4.60	3.84	4.77	4.17	1780.0	1.9849
1600	4.60	3.84	4.77	4.17	1580.0	2.1179
1800	4.60	3.84	4.77	4.17	1210.0	2.2878
2100	4.60	3.84	4.77	4.17	778.0	2.4188
2400	4.60	3.84	4.77	4.17	511.0	2.5049
JAN 23						
0000	4.60	3.84	4.77	4.17	511.0	2.5049
0300	4.60	3.84	4.77	4.17	353.0	2.5644
0600	4.60	3.84	4.77	4.17	256.0	2.6075
0900	4.60	3.84	4.77	4.17	204.0	2.6418
1200	4.60	3.84	4.77	4.17	169.0	2.6703
1500	4.60	3.84	4.77	4.17	147.0	2.6951
1800	4.60	3.84	4.77	4.17	129.0	2.7168
2100	4.60	3.84	4.77	4.17	116.0	2.7363
2400	4.60	3.84	4.77	4.17	105.0	2.7628
JAN 24						
0000	4.60	3.84	4.77	4.17	105.0	2.7628
0600	4.60	3.84	4.77	4.17	87.0	2.7922
1200	4.60	3.84	4.77	4.17	73.0	2.8167
1800	4.60	3.84	4.77	4.17	68.0	2.8397
2400	4.60	3.84	4.77	4.17	62.0	2.8501

SAN JACINTO RIVER BASIN

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TX

LOCATION.--Lat 29°50'13", long 95°13'59", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of Ley Road Bridge in northeast Houston and 300 ft (91 m) downstream from mouth of Halls Bayou.

DRAINAGE AREA.--182 mi² (471 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1962 to December 1964, May to September 1971 (discharge measurements only), October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2.13 ft (0.649 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Water-discharge records fair except those below 1,000 ft³/s (28.3 m³/s), which are poor. Discharge is computed for all storms which produce peak discharges over 1,000 ft³/s (28.3 m³/s). Tidal influences on the stage-discharge relationship affect discharge below about 500 ft³/s (14.2 m³/s). Discharge below 1,000 ft³/s (28.3 m³/s) is estimated following designated storm periods only.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft³/s (473 m³/s) June 13, 1973, gage height, 34.27 ft (10.445 m); minimum not determined (affected by tides).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft³/s (119 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
aJan. 22	1900	*9,540	270	26.15	7.971
Mar. 28	0600	5,920	168	21.75	6.629

a Water-quality samples were obtained during this runoff event.

Minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	320	---	---	---	---	190	257				---
2	---	120	---	---	---	---	---	460				---
3	---	---	---	---	---	---	---	80				---
4	---	---	---	---	---	---	---	---				---
5	---	---	---	---	---	---	---	---				120
6	---	---	---	---	---	---	---	---				1630
7	---	---	---	---	80	---	---	---				930
8	---	---	---	---	1000	---	---	---				320
9	---	---	---	---	2200	---	---	---				120
10	---	---	---	---	600	---	---	---				---
11	---	---	---	---	300	---	---	---				---
12	---	---	964	---	200	---	---	---				---
13	---	---	1420	---	---	---	---	---				---
14	---	---	276	---	---	---	---	410				---
15	---	---	100	---	---	---	---	490				---
16	---	---	---	---	---	---	---	960				---
17	---	---	---	---	---	---	---	1200				---
18	---	---	---	---	---	---	---	530				---
19	---	---	---	---	---	---	---	1340				---
20	---	---	---	604	---	---	---	900				---
21	---	206	---	4540	---	---	---	250				---
22	---	517	---	6960	---	---	---	100				---
23	---	50	---	3840	---	---	---	---				---
24	---	---	---	750	---	---	---	---				---
25	---	---	---	400	---	---	1560	---				---
26	---	---	---	250	---	---	990	---				---
27	---	---	---	---	---	2180	100	---				---
28	---	---	---	---	---	4780	---	---				---
29	---	---	---	---	---	2830	---	---				---
30	775	---	---	---	---	2560	---	---				---
31	2570	---	---	---	---	640	---	---				---
TOTAL	---	---	---	---	---	---	---	---				---
MEAN	---	---	---	---	---	---	---	---				---
MAX	---	---	---	---	---	---	---	---				---
MIN	---	---	---	---	---	---	---	---				---
AC-FT	---	---	---	---	---	---	---	---				---

CAL YR 1979 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1980 TOTAL - MEAN - MAX - MIN - AC-FT -

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
JAN										
21...	0945	5130	184	7.0	16.0	120	230	7.3	72	12
22...	1130	7020	145	6.5	16.0	140	180	8.0	81	4.8
23...	1030	3790	171	7.1	11.5	240	96	8.2	73	4.4

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
JAN									
21...	140000	39000	30000	62	4	20	2.8	13	.7
22...	500000	60000	32000	54	12	18	2.1	8.8	.5
23...	74000	15000	6700	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	CAR-BONATE FET-FLD (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
JAN									
21...	2.4	57	0	11	15	.1	6.1	105	800
22...	1.9	42	0	16	10	.1	5.3	87	360
23...	--	--	--	--	--	--	--	--	180

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN									
21...	68	.19	.030	.22	.180	1.8	2.00	.380	23
22...	28	.13	.020	.15	.130	1.2	1.30	.200	19
23...	32	.06	.030	.09	.110	1.1	1.20	.180	18

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JAN							
21...	0945	2	80	<1	0	2	90

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JAN						
21...	0	8	.1	0	0	<3

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN										
21...	0945	.00	.00	.00	.10	.00	.00	.00	.06	.00

SAN JACINTO RIVER BASIN

08076700 GREENS BAYOU AT LEY ROAD, HOUSTON, TEX.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JAN 21...	.00	.00	.00	.00	.00	.00	.02	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 21...	.00	.00	.00	.00	0	.00	.06	.08	.00

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU AT LEY ROAD, HOUSTON, TEXAS — STORM OF JAN.20-26,1980

DATE & TIME	GAGE NUMBER 6200	6000	5900	5770	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN 20									
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0018
1200	0.12	0.0	0.0	0.0	0.0	0.0	0.02	35.0	0.0037
1300	0.12	0.07	0.0	0.40	0.0	0.02	0.07	35.0	0.0039
1330	0.12	0.07	0.0	0.65	0.0	0.03	0.08	35.0	0.0041
1400	0.12	0.08	0.0	0.65	0.0	0.05	0.09	385.0	0.0057
1430	0.12	0.08	0.0	0.65	0.03	0.22	0.11	392.0	0.0074
1500	0.12	0.08	0.27	0.65	0.06	0.38	0.16	399.0	0.0091
1530	0.12	0.08	0.36	0.65	0.10	0.40	0.18	380.0	0.0107
1600	0.36	0.09	0.45	0.65	0.13	0.43	0.23	360.0	0.0123
1630	0.60	0.24	1.25	1.00	0.16	0.70	0.47	360.0	0.0138
1700	0.72	0.57	2.15	1.10	0.22	0.97	0.76	360.0	0.0153
1730	0.84	0.67	2.28	1.55	0.28	1.04	0.88	605.0	0.0179
1800	1.02	0.76	2.40	2.00	0.34	1.10	1.00	850.0	0.0215
1830	1.08	1.05	2.46	2.15	0.45	1.18	1.17	1100.0	0.0262
1900	1.20	1.16	2.52	2.25	0.51	1.25	1.27	1360.0	0.0320
1930	1.20	1.21	2.62	2.30	0.55	1.30	1.31	1590.0	0.0388
2000	1.26	1.27	2.73	2.40	0.60	1.34	1.38	1820.0	0.0465
2030	1.32	1.32	2.79	2.40	0.63	1.40	1.43	1960.0	0.0548
2100	1.38	1.36	2.85	2.40	0.68	1.46	1.47	2100.0	0.0638
2130	1.44	1.39	2.90	2.40	0.74	1.50	1.51	2240.0	0.0733
2200	1.44	1.39	2.94	2.40	0.77	1.55	1.53	2370.0	0.0834
2230	1.44	1.40	2.96	2.40	0.80	1.59	1.54	2480.0	0.0940
2300	1.50	1.42	2.99	2.45	0.83	1.63	1.57	2600.0	0.1050
2330	1.56	1.43	3.00	2.50	0.84	1.64	1.59	2720.0	0.1166
2400	1.56	1.45	3.01	2.51	0.85	1.65	1.61	2830.0	0.1287
JAN 21									
0000	1.56	1.45	3.01	2.51	0.85	1.65	1.61	2830.0	0.1287
0030	1.56	1.45	3.06	2.55	0.91	1.70	1.63	2980.0	0.1414
0100	1.86	1.47	3.10	2.60	0.96	1.75	1.70	3140.0	0.1547
0130	1.92	1.68	3.74	2.60	1.01	1.94	1.89	3220.0	0.1684
0200	1.98	1.84	3.85	2.65	1.04	2.14	2.01	3310.0	0.1825
0230	2.04	1.87	3.88	2.70	1.15	2.16	2.06	3490.0	0.2122
0400	2.04	1.87	4.01	2.70	1.44	2.29	2.13	3810.0	0.2447
0430	2.10	1.99	4.02	2.90	1.52	2.30	2.22	3980.0	0.2616
0500	2.16	2.09	4.02	2.90	1.53	2.32	2.27	4140.0	0.2792
0530	2.16	2.09	4.02	2.90	1.54	2.32	2.27	4280.0	0.2975
0600	2.16	2.09	4.03	2.90	1.54	2.32	2.28	4420.0	0.3633
0900	2.16	2.10	4.04	2.90	1.54	2.32	2.28	4880.0	0.4880
1200	2.16	2.12	4.05	2.90	1.54	2.32	2.29	5340.0	0.5789
1300	2.16	2.12	4.05	2.90	1.56	2.32	2.29	5340.0	0.6244

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU AT LEY ROAD, HOUSTON, TEXAS — STORM OF JAN.20-26,1980

DATE & TIME	GAGE NUMBER 6200	6000	5900	5770	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN 21									
1400	2.16	2.12	4.05	2.90	1.56	2.33	2.29	5300.0	0.6695
1500	2.16	2.12	4.05	2.90	1.57	2.49	2.31	5250.0	0.7030
1530	2.16	2.13	4.09	2.90	1.64	2.51	2.33	5200.0	0.7251
1600	2.28	2.14	4.13	2.90	1.71	2.62	2.38	5160.0	0.7471
1630	2.28	2.22	4.45	2.90	2.06	2.93	2.53	5070.0	0.7687
1700	2.40	2.28	4.52	2.90	2.74	3.23	2.72	4980.0	0.7899
1730	2.40	2.32	4.65	2.90	2.93	3.36	2.79	4920.0	0.8108
1800	2.40	2.56	4.70	3.10	2.95	3.49	2.93	4860.0	0.8315
1830	2.40	2.58	4.72	3.20	2.95	3.50	2.95	4770.0	0.8518
1900	2.52	2.59	4.74	3.25	2.98	3.51	2.98	4680.0	0.8718
1930	2.52	2.60	4.75	3.25	2.98	3.52	2.98	4640.0	0.8915
2000	2.52	2.61	4.76	3.30	2.98	3.53	2.99	4600.0	0.9111
2030	2.58	2.61	4.77	3.31	3.00	3.54	3.01	4550.0	0.9305
2100	2.64	2.62	4.78	3.32	3.03	3.55	3.03	4500.0	0.9496
2130	2.64	2.62	4.80	3.33	3.03	3.58	3.03	4450.0	0.9686
2200	2.64	2.63	4.81	3.34	3.03	3.60	3.04	4400.0	0.9873
2230	2.64	2.63	4.81	3.35	3.03	3.60	3.04	4380.0	1.0059
2300	2.64	2.64	4.81	3.36	3.03	3.60	3.05	4360.0	1.0338
2400	2.64	2.64	4.81	3.39	3.03	3.60	3.05	4350.0	1.1079
JAN 22									
0000	2.64	2.64	4.81	3.39	3.03	3.60	3.05	4350.0	1.1079
0300	2.64	2.64	4.81	3.85	3.03	3.60	3.07	4400.0	1.1734
0330	2.64	2.64	4.81	3.90	3.03	3.60	3.07	4420.0	1.1922
0400	2.64	2.64	4.81	3.90	3.03	3.60	3.07	4450.0	1.2112
0430	2.64	2.64	4.81	4.10	3.03	3.60	3.08	4480.0	1.2303
0500	2.64	2.65	4.85	4.10	3.09	3.68	3.11	4520.0	1.2495
0530	2.76	2.69	4.86	4.55	3.12	3.74	3.18	4540.0	1.2688
0600	2.88	2.80	5.02	5.00	3.25	3.80	3.31	4550.0	1.2882
0630	3.06	3.20	5.08	5.50	3.39	3.92	3.58	4870.0	1.3089
0700	3.18	3.32	5.13	5.65	3.44	4.03	3.69	5190.0	1.3310
0730	3.24	3.50	5.25	5.85	3.48	4.10	3.81	5340.0	1.3537
0800	3.24	3.70	5.25	6.05	3.48	4.17	3.92	5500.0	1.3772
0830	3.30	3.72	5.25	6.30	3.48	4.22	3.95	5710.0	1.4015
0900	3.42	3.73	5.25	6.30	3.48	4.26	3.98	5920.0	1.4267
0930	3.48	3.78	5.27	6.45	3.52	4.32	4.03	6110.0	1.4527
1000	3.60	4.20	5.40	6.70	3.54	4.38	4.27	6300.0	1.4795
1030	3.60	4.45	5.45	6.90	3.56	4.47	4.41	6560.0	1.5074
1100	3.72	4.50	5.55	7.00	3.57	4.56	4.48	6820.0	1.5365
1130	3.78	4.53	5.57	7.00	3.58	4.58	4.51	7020.0	1.5663
1200	3.84	4.56	5.61	7.00	3.59	4.61	4.54	7220.0	1.5971

STA. NO. 08076700	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

GREENS BAYOU AT LEY ROAD, HOUSTON, TEXAS — STORM OF JAN.20-26,1980

DATE & TIME	GAGE NUMBER 6200	6000	5900	5770	203R	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
JAN 22									
1230	3.84	4.56	5.61	7.02	3.59	4.61	4.54	7420.0	1.6287
1300	3.84	4.57	5.61	7.05	3.59	4.61	4.55	7620.0	1.6773
1400	3.84	4.60	5.61	7.05	3.59	4.61	4.56	8100.0	1.7808
1600	3.84	4.60	5.61	7.05	3.59	4.61	4.56	8950.0	1.9332
1800	3.84	4.60	5.61	7.05	3.59	4.61	4.56	9400.0	2.0532
1900	3.84	4.60	5.61	7.05	3.59	4.61	4.56	9540.0	2.1751
2100	3.84	4.60	5.61	7.05	3.59	4.61	4.56	9220.0	2.3713
2400	3.84	4.60	5.61	7.05	3.59	4.61	4.56	8260.0	2.6878
JAN 23									
0000	3.84	4.60	5.61	7.05	3.59	4.61	4.56	8260.0	2.6878
0600	3.84	4.60	5.61	7.05	3.59	4.61	4.56	5500.0	2.9688
1200	3.84	4.60	5.61	7.05	3.59	4.61	4.56	3420.0	3.1435
1800	3.84	4.60	5.61	7.05	3.59	4.61	4.56	1840.0	3.2375
2400	3.84	4.60	5.61	7.05	3.59	4.61	4.56	1180.0	3.2827
JAN 24									
0000	3.84	4.60	5.61	7.05	3.59	4.61	4.56	1180.0	3.2827
0300	3.84	4.60	5.61	7.05	3.59	4.61	4.56	900.0	3.3287
1200	3.84	4.60	5.61	7.05	3.59	4.61	4.56	750.0	3.3957
2400	3.84	4.60	5.61	7.05	3.59	4.61	4.56	550.0	3.4519
JAN 25									
0000	3.84	4.60	5.61	7.05	3.59	4.61	4.56	550.0	3.4519
1200	3.84	4.60	5.61	7.05	3.59	4.61	4.56	400.0	3.4928
2400	3.84	4.60	5.61	7.05	3.59	4.61	4.56	325.0	3.5260
JAN 26									
0000	3.84	4.60	5.61	7.05	3.59	4.61	4.56	325.0	3.5260
1200	3.84	4.60	5.61	7.05	3.59	4.61	4.56	250.0	3.5515
2400	3.84	4.60	5.61	7.05	3.59	4.61	4.56	175.0	3.5604

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU AT LEY RD., HOUSTON, TX. — STORM OF MAR. 27 - APR. 2, 1980

DATE & TIME	GAGE NUMBER 6000	5900	5780	208				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27										
0000	0.0	0.0	0.0	0.0				0.0	35.0	0.0003
0200	0.0	0.0	0.0	0.0				0.0	250.0	0.0035
0300	0.12	0.0	0.12	0.16				0.09	358.0	0.0058
0330	0.22	0.14	0.24	0.26				0.21	394.0	0.0075
0400	0.25	0.25	0.24	0.39				0.26	448.0	0.0094
0430	0.30	0.31	0.36	0.45				0.32	550.0	0.0117
0500	0.40	0.38	0.36	0.50				0.40	720.0	0.0163
0600	0.50	0.48	0.36	0.62				0.49	1000.0	0.0248
0700	0.55	0.52	0.36	0.66				0.53	1200.0	0.0350
0800	0.60	0.52	0.36	0.66				0.56	1430.0	0.0472
0900	0.64	0.53	0.36	0.68				0.59	1560.0	0.0605
1000	0.70	0.53	0.36	0.74				0.63	1670.0	0.0747
1100	0.75	0.54	0.48	0.75				0.67	1840.0	0.0865
1130	0.78	0.55	0.60	0.79				0.71	1940.0	0.0947
1200	0.82	0.64	0.60	0.83				0.75	2030.0	0.1012
1215	0.85	0.65	0.72	0.87				0.79	2070.0	0.1056
1230	0.91	0.65	0.96	0.92				0.85	2100.0	0.1101
1245	0.93	0.80	1.08	0.96				0.92	2140.0	0.1146
1300	0.95	0.88	1.08	1.00				0.95	2170.0	0.1192
1315	1.00	0.98	1.08	1.06				1.01	2200.0	0.1239
1330	1.15	1.13	1.20	1.12				1.15	2220.0	0.1287
1345	1.20	1.18	1.20	1.18				1.19	2260.0	0.1335
1400	1.22	1.19	1.32	1.24				1.22	2300.0	0.1384
1415	1.25	1.20	1.44	1.28				1.26	2330.0	0.1433
1430	1.26	1.24	1.56	1.32				1.29	2360.0	0.1483
1445	1.30	1.36	1.92	1.36				1.38	2430.0	0.1535
1500	1.40	1.52	2.40	1.39				1.53	2490.0	0.1588
1515	1.42	1.56	2.76	1.45				1.59	2540.0	0.1642
1530	1.50	1.60	2.76	1.50				1.65	2600.0	0.1698
1545	1.70	1.71	2.76	1.55				1.79	2670.0	0.1754
1600	1.90	1.75	2.88	1.61				1.93	2740.0	0.1842
1630	1.96	1.78	2.88	1.62				1.97	2880.0	0.1964
1700	1.96	1.78	2.88	1.63				1.97	3000.0	0.2156
1800	1.96	1.78	2.88	1.66				1.98	3260.0	0.2434
1900	2.00	1.85	2.88	1.70				2.02	3550.0	0.2736
2000	2.02	1.86	2.88	1.72				2.04	3870.0	0.3065
2100	2.03	1.86	2.88	1.72				2.04	4180.0	0.3599
2300	2.04	1.86	2.88	1.72				2.05	4800.0	0.4110
2330	2.04	1.86	2.88	1.72				2.05	4950.0	0.4268

STA. NO. 08076700 — STORM RAINFALL AND RUNOFF RECORD — 1980 WATER YEAR

GREENS BAYOU AT LEY RD., HOUSTON, TX. — STORM OF MAR. 27 - APR. 2, 1980

DATE & TIME	GAGE NUMBER 6000	5900	5780	20R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 27							
2345	2.23	1.88	3.36	1.90	2.22	5040.0	0.4375
2400	2.42	2.37	3.36	2.07	2.47	5100.0	0.5081
MAR. 28							
0000	2.42	2.37	3.36	2.07	2.47	5100.0	0.5081
0300	2.42	2.37	3.36	2.08	2.47	5720.0	0.6299
0500	2.44	2.39	3.36	2.08	2.48	5900.0	0.7052
0600	2.44	2.39	3.36	2.08	2.48	5920.0	0.7556
0700	2.44	2.39	3.36	2.08	2.48	5890.0	0.8308
0900	2.44	2.39	3.36	2.08	2.48	5750.0	0.9532
1200	2.44	2.39	3.36	2.08	2.48	5290.0	1.0883
1500	2.44	2.39	3.36	2.08	2.48	4550.0	1.2046
1800	2.44	2.39	3.36	2.08	2.48	3860.0	1.3525
2400	2.44	2.39	3.36	2.08	2.48	2600.0	1.4521
MAR. 29							
0000	2.44	2.39	3.36	2.08	2.48	2600.0	1.4521
0300	2.44	2.39	3.36	2.08	2.48	2030.0	1.5039
0600	2.44	2.39	3.36	2.10	2.49	1610.0	1.5382
0800	2.46	2.39	3.36	2.10	2.50	1440.0	1.5535
0830	2.50	2.41	3.48	2.32	2.56	1400.0	1.5580
0845	2.50	2.44	3.60	2.42	2.59	1380.0	1.5609
0900	2.52	2.70	3.60	2.53	2.67	1360.0	1.5638
0915	2.56	3.52	3.96	2.73	2.96	1350.0	1.5667
0930	2.60	3.90	3.96	2.93	3.09	1340.0	1.5695
0945	2.94	4.22	3.96	3.13	3.38	1410.0	1.5725
1000	3.15	4.34	3.96	3.33	3.55	1480.0	1.5804
1100	3.20	4.38	3.96	3.38	3.59	1990.0	1.5974
1200	3.24	4.40	3.96	3.39	3.62	2280.0	1.6265
1400	3.26	4.40	4.08	3.39	3.64	2770.0	1.6619
1500	3.28	4.40	4.08	3.39	3.65	3020.0	1.7133
1800	3.28	4.40	4.08	3.39	3.65	4050.0	1.8167
2100	3.28	4.40	4.08	3.39	3.65	4830.0	1.9093
2230	3.28	4.40	4.08	3.39	3.65	4950.0	1.9725
2400	3.28	4.40	4.08	3.39	3.65	4860.0	2.0656
MAR. 30							
0000	3.28	4.40	4.08	3.39	3.65	4860.0	2.0656
0300	3.28	4.40	4.08	3.39	3.65	4380.0	2.1775
0600	3.28	4.40	4.08	3.39	3.65	3700.0	2.2720
0900	3.28	4.40	4.08	3.39	3.65	3020.0	2.3877
1500	3.28	4.40	4.08	3.39	3.65	1720.0	2.4536
1800	3.28	4.40	4.08	3.39	3.65	1340.0	2.4878
2100	3.28	4.40	4.08	3.39	3.65	1120.0	2.5164
2400	3.28	4.40	4.08	3.39	3.65	980.0	2.5414
MAR. 31							

STA. NO. 08076700	STORM RAINFALL AND RUNOFF RECORD	1980 WATER YEAR

GREENS BAYOU AT LEY RD., HOUSTON, TX. — STORM OF MAR. 27 - APR. 2, 1980

DATE & TIME	GAGE NUMBER 6000	5900	5780	20R				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN CFS	ACCUM. RUNOFF IN.
MAR. 31										
0000	3.28	4.40	4.08	3.39				3.65	980.0	2.5414
0300	3.28	4.40	4.08	3.39				3.65	850.0	2.5631
0600	3.28	4.40	4.08	3.39				3.65	750.0	2.5823
0900	3.28	4.40	4.08	3.39				3.65	675.0	2.5995
1200	3.28	4.40	4.08	3.39				3.65	638.0	2.6240
1800	3.28	4.40	4.08	3.39				3.65	520.0	2.6505
2400	3.28	4.40	4.08	3.39				3.65	380.0	2.6700
APR. 1										
0000	3.28	4.40	4.08	3.39				3.65	380.0	2.6700
0600	3.28	4.40	4.08	3.39				3.65	230.0	2.6817
1200	3.28	4.40	4.08	3.39				3.65	170.0	2.6947
2400	3.28	4.40	4.08	3.39				3.65	110.0	2.7060
APR. 2										
0000	3.28	4.40	4.08	3.39				3.65	110.0	2.7060
1200	3.28	4.40	4.08	3.39				3.65	60.0	2.7121
2400	3.28	4.40	4.08	3.39				3.65	40.0	2.7141

CLEAR CREEK BASIN

08077000 CLEAR CREEK NEAR PEARLAND, TX

LOCATION.--Lat 29°35'50", long 95°17'11", Harris-Brazoria County line, Hydrologic Unit 12040204, at downstream side of pier of bridge on State Highway 35, 0.7 mi (1.1 km) downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) upstream from Hickory Slough, 2.3 mi (3.7 km) north of Pearland, and about 30 mi (48 km) upstream from head of Clear Lake.

DRAINAGE AREA.--38.8 mi² (100.5 km²).

PERIOD OF RECORD.--July to October 1944, March to October 1946, April 1947 to December 1959, March 1963 to current year. Discharge for some high-water periods in 1944 and 1946 published in WSP 1392.

REVISED RECORDS.--WSP 1392: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 26.58 ft (8.102 m) National Geodetic Vertical Datum of 1929, 1973 adjustment; prior records unadjusted for land-surface subsidence. Prior to June 9, 1948, nonrecording gage, and June 9, 1948, to Apr. 22, 1952, water-stage recorder at same site and datum 5.80 ft (1.768 m) higher.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Large area of riceland above station is irrigated with water from the Brazos River. Low flow from April to October is largely drainage from irrigated lands. Many diversions for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years (water years 1948-59, 1964-80), 36.7 ft³/s (1.039 m³/s), 26,590 acre-ft/yr (32.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft³/s (61.5 m³/s) Mar. 18, 1957; maximum gage height, 18.57 ft (5.660 m) July 26, 1979; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 26, 1960 (stage and discharge unknown), may have exceeded that of Mar. 18, 1957. Channel was rectified in 1933, 1952, 1968, and 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 31	0100	697	19.7	10.62	3.237
Jan. 22	about 2400	*1,800	51.0	a17.89	5.453
Mar. 29	2200	614	17.4	9.90	3.018

a From floodmark.

Minimum daily discharge, 0.74 ft³/s (0.021 m³/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	109	2.0	6.6	9.8	4.5	61	30	15	11	9.6	2.2
2	8.0	40	2.0	4.5	8.2	3.5	33	160	15	9.7	7.0	1.9
3	7.0	21	2.1	4.3	8.3	3.1	24	95	17	9.3	5.1	2.5
4	6.0	15	5.6	4.4	7.7	3.5	14	29	15	8.9	3.8	1.8
5	5.0	11	7.6	4.4	6.7	3.5	8.0	11	14	9.3	3.4	3.5
6	4.5	8.0	5.7	4.4	6.0	3.1	5.6	5.2	13	8.4	4.6	40
7	4.0	6.0	3.8	4.4	5.1	3.1	5.4	3.9	13	9.1	3.2	32
8	3.5	5.0	2.6	4.0	40	3.1	4.8	4.5	8.9	9.3	2.7	59
9	3.0	4.0	1.9	3.5	314	3.0	3.8	6.0	11	9.6	2.8	40
10	2.7	3.0	1.5	3.1	168	2.9	3.0	4.6	17	11	2.6	18
11	2.3	2.5	1.3	3.0	75	2.9	2.8	3.2	25	12	2.3	12
12	2.0	2.0	1.8	2.6	42	2.9	2.8	2.7	14	12	1.9	10
13	1.8	1.5	14	2.2	26	2.6	27	3.0	9.8	11	1.6	6.5
14	1.6	1.3	15	2.0	20	2.3	11	3.6	8.4	12	4.5	4.4
15	1.4	1.2	9.7	2.0	59	2.1	5.6	4.3	8.4	13	4.5	3.2
16	1.2	1.1	7.6	2.0	60	2.3	3.8	8.6	11	13	3.4	2.2
17	1.1	1.1	5.5	3.0	46	4.6	2.9	13	11	14	6.8	1.8
18	1.0	1.1	4.0	6.0	28	3.1	6.6	9.9	10	14	6.0	1.4
19	.90	1.8	3.2	7.0	20	3.1	21	120	9.2	14	4.2	1.4
20	.90	2.2	2.9	10	15	6.8	8.3	85	8.9	12	3.0	1.3
21	1.5	3.0	2.8	100	12	11	16	41	11	13	2.8	1.4
22	1.4	8.5	2.8	1150	10	7.8	15	32	12	19	2.5	1.3
23	1.2	9.5	2.8	1500	8.1	6.7	16	19	17	23	2.4	1.1
24	1.1	6.6	2.8	800	6.7	5.7	15	14	13	34	2.3	1.0
25	1.0	4.6	3.1	250	5.3	3.9	25	13	18	23	2.2	.92
26	.90	3.7	3.2	130	4.2	4.0	28	15	15	24	2.1	2.9
27	.80	3.2	2.9	65	3.7	184	26	18	13	22	2.1	5.9
28	.75	2.9	2.4	35	3.5	408	23	18	12	38	2.2	48
29	.74	2.4	16	23	4.1	373	20	16	11	53	4.3	40
30	128	2.1	16	17	---	421	7.0	17	11	35	4.0	39
31	449	---	10	13	---	149	---	17	---	16	3.2	---
TOTAL	654.29	284.3	164.6	4166.4	1022.4	1640.1	445.4	822.5	387.6	522.6	113.1	386.62
MEAN	21.1	9.48	5.31	134	35.3	52.9	14.8	26.5	12.9	16.9	3.65	12.9
MAX	449	109	16	1500	314	421	61	160	25	53	9.6	59
MIN	.74	1.1	1.3	2.0	3.5	2.1	2.8	2.7	8.4	8.4	1.6	.92
AC-FT	1300	564	326	8260	2030	3250	883	1630	769	1040	224	767

CAL YR 1979 TOTAL 31717.49 MEAN 86.9 MAX 1910 MIN .74 AC-FT 62910
WTR YR 1980 TOTAL 10609.91 MEAN 29.0 MAX 1500 MIN .74 AC-FT 21040

NOTE.--No gage-height record Jan. 17-28.

Table 18.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations

Station no. 1/	Station name	Location	Period of record 2/
10-S	Houston Heights	Lat 29°47', long 95°26' near Houston.	--
12-R	Houston-WB, City	Lat 29°46', long 95°22' at old Federal Building in downtown Houston.	--
13-S	Houston-Independent Heights	Lat 29°52', long 95°25' in northern section of Houston.	--
20-R	Houston WSO Airport	Lat 29°59', long 95°22' at Houston Intercontinental Airport in north Houston.	--
21-R	Brittmore	Lat 29°51'02", long 95°33'46", behind home of Mrs. Annie A. Joseph, 10610 Tanner Road, in northwest Houston.	May 6, 1964 to date
22-R	Houston-Satsuma	Lat 29°54', long 95°37' at Satsuma community northwest of Houston.	--
23-S	Houston-North Houston	Lat 29°53', long 95°31' near Fairbanks-North Houston Road, Houston.	--
24-S	Houston-Spring Branch	Lat 29°48', long 95°30' on Ridgecrest Street, Houston.	--
29-R	Mills Road	Lat 29°57'29", long 95°33'40", at home of Frances L. Farquhar, 9502 Mills Road, northwest Harris County, Houston	July 30, 1970 to date

See footnotes at end of table.

Table 18.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
31-R	Stafford	Lat 29°36'43", long 95°32'58", at Ft. Bend County Water Control and Improvement District No. 2, Stafford.	May 9, 1964 to date
32-R	Houston-Alief	Lat 29°43', long 95°36' at Alief.	--
33-R	Houston-Addicks	Lat 29°46', long 95°39' at U.S. Army Corps of Engineers office, Addicks	--
34-S	Clodine	Lat 29°43', long 95°41' at Clodine.	--
35-S	Houston-Westbury	Lat 29°40', long 95°28' in Westbury Subdivision, Houston.	--
36-S	Sugar Land	Lat 29°37', long 95°38' at Sugar Land.	--
39-R	KHTV	Lat 29°43'25", long 95°30'06", at station KHTV-TV at Hillcroft and West Park Drive, Houston.	Aug. 22, 1967 to Sept. 30, 1970; Oct. 1, 1971 to date
42-S	Houston FAA Airport	Lat 29°39', long 95°17' at old Terminal Building, William P. Hobby Airport, Houston.	--
101-R	Liberty Road	Lat 29°47'19", long 95°18'50", near intersection of Liberty Road and Sakowitz Street, Houston.	Aug. 23, 1972 to date
201-S	Humble	Lat 30°00', long 95°15' at Humble.	--

See footnotes at end of table

Table 18.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
202-S	Houston-San Jacinto Dam	Lat 29°55', long 95°09' on west bank of Lake Houston at San Jacinto River Dam, Houston.	--
203-R	Mintz Lane	Lat 29°59'53", long 95°28'39", at home of Mr. Draper D. Mintz, in northwest Harris County, Houston.	Aug. 23, 1972 to date
204-R	Breen Street	Lat 29°53'57", long 95°27'38", at home of Mr. Joseph O. Eiland, 4909 Breen, in northwest Harris County, Houston.	Aug. 23, 1972 to date
205-R	Frontier Street	Lat 29°50'08", long 95°31'22", at home of Mrs. Eva S. Murphree near intersection of Frontier Street and Outpost Street in northwest Harris County, Houston.	Nov. 9, 1972 to date
303-R	Four Corners	Lat 29°40'07", long 95°39'36", Fort Bend County behind home of Mr. Richard Wright, 900 feet west of intersection of Gaston Road and Gains Road at Four Corners community.	Sept. 24, 1975 to date
304-R	Chasewood	Lat 29°36'32", long 95°29'57", Fort Bend County inside water-treatment plant at 1700 Chasewood Street.	Oct. 29, 1975 to date

See footnotes at end of table.

Table 18.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
305-R	Furman	Lat 29°37'45", long 95°22'45", Harris County on extreme right side of floodway for Sims Bayou at 14201 Furman Street.	Sept. 24, 1975 to date
308-R	Public Health	115 N. MacGregor, Houston.	--
401-R	Llano Street	Lat 29°39'11", long 95°12'07", behind home of Mrs. Lana H. Sims, 702 Llano, Pasadena, in Southeast Harris County.	Nov. 9, 1972 to date
402-R	Klondike	Lat 29°38'06", long 95°15'04", behind home of H. F. Reams, 9302 Klondike, 10.9 miles southeast of Harris County Courthouse, Houston.	Nov. 11, 1973 to date
403-R	Edgebrook	Lat 29°38'55", long 95°12'55", southeast Harris County, in Sewage Treatment Plant near the intersection of Old Galveston Road and Edgebrook Street.	Sept. 19, 1975 to date

See footnotes at end of table.

Table 18.--Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations--Continued

Station no. 1/	Station name	Location	Period of record 2/
404-S	Deer Park	Lat 29°43', long 95°08' Harris County near Houston.	--

1/ Station numbers are arbitrarily assigned for use in this project as follows: R, recording rain gage; S, nonrecording rain gage.

2/ Period of record is given only for those stations operated and maintained by the U.S. Geological Survey for this project.

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																			
	3630	4400	4250	4200	4150	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	29R	20R	5770	5760	101R
OCT																				
16	0.00	0.01	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
22	0.36	0.36	0.52	0.60	0.58	0.57	0.58	0.42	0.60	0.48	0.32	0.22	0.96	0.56	0.17	0.31	0.46	0.11	0.72	0.33
30	2.04	1.92	1.23	1.92	1.57	2.07	2.00	2.72	2.64	2.04	2.62	1.95	2.04	1.56	1.97	2.38	2.34	4.20	1.56	4.05
MTOT	2.40	2.29	2.12	2.52	2.15	2.64	2.58	3.14	3.24	2.52	2.94	2.17	3.00	2.12	2.14	2.69	2.80	4.31	2.40	4.43
NOV																				
9	0.00	0.03	0.13	0.00	0.00	0.00	0.00	0.08	0.12	0.00	0.13	0.00	0.00	0.00	0.00	0.30	0.10	0.00	*****	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	*****	0.00
18	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.04	0.00	0.00	*****	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.10	0.00	0.00	0.00	0.02	0.00	0.00	*****	0.15	0.02	0.00	*****	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	*****	0.00
21	1.20	1.65	1.40	0.72	1.23	0.90	1.17	0.81	1.20	1.56	1.24	1.15	0.96	1.21	*****	1.05	1.32	1.02	*****	0.73
22	0.24	0.30	0.32	0.24	0.21	0.20	0.29	0.26	0.36	0.24	0.32	0.28	0.24	0.16	*****	0.32	0.29	0.42	*****	0.32
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.04	*****	0.00
MTOT	1.44	2.00	1.85	0.96	1.44	1.15	2.06	1.34	1.68	1.80	1.69	1.53	1.20	1.37	*****	1.86	1.78	1.48	*****	1.05
DEC																				
12	2.40	1.82	1.69	2.28	2.34	2.34	2.38	2.23	2.04	2.16	2.18	1.82	2.28	2.24	1.62	2.22	2.17	0.95	1.50	1.28
13	0.12	0.06	0.00	0.00	0.08	0.07	0.00	0.04	0.12	0.12	0.15	0.06	0.00	0.05	0.06	0.08	0.15	0.32	0.20	0.26
15	0.12	0.03	0.05	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.02	0.00	0.05	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
22	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	*****	0.62	0.13	0.60	0.13	0.65	0.16	0.93	0.48	0.24	0.43	0.40	0.36	0.38	0.60	0.41	0.98	0.20	0.40	0.31
28	*****	0.06	0.10	0.12	0.03	0.22	0.57	0.05	0.06	0.06	0.00	0.04	0.24	0.05	0.05	0.05	0.12	0.04	0.10	0.09
29	*****	0.55	0.58	0.48	0.54	0.53	0.13	0.60	0.30	0.42	0.50	0.55	0.60	0.60	0.51	0.75	0.57	0.52	0.55	0.55
MTOT	*****	3.14	2.57	3.48	3.14	3.81	3.24	3.85	3.00	3.00	3.26	2.90	3.48	3.32	2.89	3.54	4.03	2.03	2.80	2.49
CTOT	*****	59.39	58.68	54.86	51.97	56.76	45.29	51.78	*****	47.96	56.06	54.54	50.08	49.09	*****	55.71	58.97	74.21	*****	71.96
JAN																				
3	0.84	0.46	0.67	0.36	0.38	0.41	0.14	0.40	0.36	0.36	0.26	0.18	0.24	0.55	0.15	0.17	0.26	0.72	0.45	0.42
9	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
15	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.96	0.50	1.21	1.08	1.45	1.10	0.10	1.21	0.36	0.36	0.18	0.31	0.00	0.74	0.12	0.07	1.14	0.82	0.75	0.94
20	1.20	1.23	1.44	1.32	1.54	1.38	1.28	1.40	*****	1.56	1.45	3.01	*****	2.62	0.85	1.20	1.65	2.51	1.80	1.69
21	0.84	0.75	0.80	1.08	0.85	1.06	1.33	1.80	*****	1.08	1.20	1.80	*****	1.28	2.18	1.57	1.95	0.90	0.80	0.78
22	0.72	1.70	1.47	0.72	0.94	0.82	0.53	1.00	*****	1.20	1.95	0.80	*****	0.87	0.56	0.67	1.01	3.72	2.35	3.17
29	0.00	0.00	0.00	0.12	0.00	0.06	0.00	0.12	0.00	0.00	0.00	0.05	0.00	0.00	0.10	0.05	0.05	0.00	0.05	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
MTOT	4.56	4.65	5.59	5.04	5.16	4.86	3.38	5.93	*****	4.68	5.04	6.15	*****	6.06	3.96	3.73	6.09	8.67	6.20	7.00

MTOT=MONTHLY TOTALS
CTOT=CALENDAR YEAR TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU — PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																		
	3630	4400	4250	4200	4150	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	29R	20R	5770	5760	101R
FEB																				
2	0.12	0.11	0.13	0.24	0.08	0.17	0.17	0.17	0.00	0.12	0.05	0.14	0.12	0.14	0.12	0.19	0.22	0.03	0.10	0.13
5	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.13	0.01	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
7	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	*****	1.12	1.39	1.20	1.32	1.37	2.08	1.18	1.08	1.44	1.39	1.47	2.28	1.20	1.10	2.50	1.63	1.11	1.35	1.28
9	*****	0.10	0.07	0.12	0.10	0.10	0.07	0.06	0.12	0.12	0.05	0.04	0.12	0.08	0.05	0.08	0.11	0.23	0.05	0.09
14	0.48	0.41	0.25	0.24	0.10	0.18	0.10	0.11	0.36	0.12	0.07	0.06	0.24	0.12	0.04	0.27	0.23	0.25	0.25	0.25
15	0.00	0.02	0.04	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.02
16	0.24	0.21	0.20	0.24	0.25	0.26	0.28	0.27	0.12	0.24	0.21	0.23	0.36	0.24	0.05	0.32	0.28	0.24	0.25	0.27
29	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	*****	1.97	2.08	2.04	1.87	2.15	2.77	1.79	1.68	2.04	1.90	1.95	3.12	1.78	1.36	3.38	2.54	1.87	2.00	2.04
MAR																				
1	*****	0.27	0.40	0.60	0.43	0.58	0.24	0.30	0.36	0.48	0.40	0.30	0.48	0.28	0.20	0.27	0.50	0.49	*****	0.53
4	*****	0.09	0.07	0.12	0.05	0.11	0.06	0.00	0.00	0.12	0.02	0.03	0.12	0.00	0.12	*****	0.05	0.00	*****	0.00
7	*****	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.01	0.00	*****	0.00
11	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	*****	0.01	0.00	*****	0.00
12	*****	0.05	0.00	0.12	0.05	0.00	0.00	0.00	0.12	0.00	0.06	0.03	0.00	0.07	0.00	*****	0.05	0.00	*****	0.06
15	*****	0.07	0.12	0.12	0.05	0.08	0.08	0.05	0.00	0.24	0.00	0.08	0.12	0.12	0.12	*****	0.17	0.00	*****	0.08
16	*****	0.01	0.01	0.12	0.04	0.08	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.06	0.00	*****	0.01	0.02	*****	0.12
17	*****	0.55	0.40	0.12	0.16	0.15	0.08	0.13	0.36	0.12	0.26	0.14	0.12	0.14	0.10	*****	0.15	0.39	*****	0.36
19	*****	0.10	0.04	0.12	0.08	0.08	0.00	0.03	0.00	0.12	0.07	0.07	0.12	0.12	0.00	*****	0.15	0.02	0.00	0.02
20	*****	0.02	0.05	0.12	0.17	0.23	0.37	0.70	0.12	0.36	0.01	0.58	0.48	0.60	0.48	*****	0.41	0.06	0.15	0.12
23	*****	0.08	0.03	0.24	0.06	0.12	0.00	0.10	0.12	0.12	0.01	0.00	0.12	0.10	*****	*****	0.17	0.18	0.10	0.11
26	*****	0.18	0.21	0.24	0.20	0.24	0.31	0.25	0.24	0.36	0.26	0.27	0.24	0.20	0.35	*****	0.32	0.28	0.20	0.20
27	*****	3.33	2.25	2.40	2.10	2.44	1.93	3.01	2.17	2.52	2.42	2.37	3.36	2.28	2.78	*****	2.07	3.25	3.20	3.35
28	*****	0.00	0.00	0.00	0.02	0.02	0.00	0.01	0.12	0.12	0.02	0.03	0.00	0.00	0.00	*****	0.01	0.01	0.05	0.02
29	*****	0.84	0.86	1.44	1.56	1.40	0.12	1.73	0.72	0.84	0.84	2.00	0.72	1.90	0.26	*****	1.31	0.98	0.75	1.20
MTOT	*****	5.59	4.44	5.88	4.97	5.53	3.19	6.31	4.33	5.52	4.37	5.95	5.88	5.87	*****	*****	5.39	5.68	*****	6.17
APR																				
2	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	*****	0.00	0.00	0.00	0.00
3	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.01	0.00	0.00	0.00
6	*****	0.09	0.10	0.24	0.05	0.20	*****	0.17	0.00	0.12	0.08	0.06	0.12	0.18	0.25	*****	0.19	0.08	0.10	0.15
7	*****	0.01	0.03	0.00	0.01	0.00	*****	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00
8	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.12	0.00	0.02	0.00	0.00	0.00	0.00	*****	0.03	0.10	0.05	0.04
11	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.01	0.05	0.00	0.06
12	*****	0.02	0.02	0.00	0.00	0.06	*****	0.00	0.00	0.00	0.00	0.02	0.12	0.06	0.02	*****	0.10	0.00	0.00	0.17
13	*****	0.34	0.29	0.36	0.32	0.38	*****	0.64	0.48	0.36	0.41	0.30	0.24	0.32	0.33	*****	0.41	0.65	0.70	0.62
25	*****	0.77	0.98	0.96	1.25	0.98	*****	1.22	1.08	1.20	1.20	1.50	0.60	1.45	0.50	*****	1.30	2.57	3.10	3.25
30	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
MTOT	*****	1.23	1.42	1.56	1.63	1.62	*****	2.03	1.68	1.68	1.71	1.89	1.08	2.01	1.12	*****	2.05	3.46	3.95	4.29

MTOT=MONTHLY TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU

PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																		
	3630	4400	4250	4200	4150	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	29R	20R	5770	5760	101R
MAY																				
1	*****	0.02	0.07	*****	0.23	0.25	0.86	0.37	0.36	0.48	1.52	0.13	0.36	0.63	0.48	0.53	1.61	0.30	0.15	0.25
4	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
7	*****	0.03	0.27	0.24	0.12	0.14	0.28	0.29	*****	0.36	0.12	0.12	0.36	0.26	*****	0.28	0.24	0.19	0.60	0.43
8	*****	0.12	0.14	0.12	0.17	0.18	0.94	0.17	*****	0.12	0.08	0.07	0.24	0.12	*****	0.32	0.11	0.21	0.20	0.24
12	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.06	0.00	0.00	0.04
13	0.36	0.84	0.90	0.72	1.14	0.49	0.33	0.54	*****	0.96	0.30	0.66	0.72	1.16	0.67	*****	0.71	0.15	0.30	0.27
14	0.00	0.02	0.03	0.00	0.03	0.02	0.22	0.00	*****	0.12	0.00	0.01	0.00	0.00	0.03	*****	0.02	0.02	0.00	0.02
15	0.36	0.16	0.46	0.60	0.75	0.64	0.69	0.89	*****	0.96	0.35	1.30	0.84	1.35	1.00	*****	0.80	0.12	0.30	0.24
16	0.24	0.28	0.55	0.48	0.50	0.34	0.34	0.33	*****	0.60	0.38	0.47	0.24	0.45	0.44	*****	0.50	0.80	0.55	0.70
17	0.48	0.16	0.18	0.12	0.17	0.18	0.26	0.13	*****	0.12	0.09	0.73	0.48	0.11	0.24	*****	0.61	0.00	0.10	0.05
18	0.00	0.13	0.08	0.00	0.08	0.02	0.24	0.05	*****	0.24	0.10	0.15	0.12	0.09	0.11	*****	0.21	0.19	0.15	0.12
19	0.96	0.90	0.87	0.96	0.82	0.85	1.42	1.07	*****	0.72	0.80	0.80	0.84	0.83	1.58	*****	0.76	0.93	0.90	1.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.15	0.00	0.12
28	0.00	0.00	0.02	0.00	0.04	0.00	2.23	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.15	0.69	0.00	0.00	0.00	0.00
MTOT	*****	2.66	3.57	*****	4.05	3.11	7.81	3.84	*****	4.68	3.74	4.44	4.20	5.00	*****	*****	5.63	3.06	3.25	3.54
JUNE																				
9	0.84	0.66	1.20	0.84	0.93	0.64	2.13	0.58	0.60	1.44	1.00	1.50	*****	1.90	1.68	0.95	0.66	0.48	1.05	0.80
20	*****	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	*****	0.00	0.00	0.00	0.09	0.00	0.00	0.00
22	*****	0.88	1.15	1.56	0.82	1.32	0.51	0.86	0.12	0.48	0.42	0.86	0.72	0.73	0.02	0.00	0.17	0.00	*****	0.03
23	*****	0.03	0.04	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00
MTOT	*****	1.60	2.44	2.52	1.75	1.96	2.64	1.44	0.72	1.92	1.47	2.36	*****	2.63	1.70	0.95	0.92	0.48	*****	0.83
JULY																				
8	0.00	0.00	0.00	*****	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	*****	0.80
9	0.00	0.25	0.22	*****	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.03	*****	0.13
10	0.00	0.00	0.00	*****	0.09	0.00	0.49	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	*****	0.00
20	0.00	0.00	0.05	*****	0.18	0.05	0.00	0.27	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.04	*****	0.05
21	0.86	0.03	0.23	*****	0.59	1.28	0.51	2.08	*****	0.00	1.47	0.17	0.00	0.00	0.00	*****	0.10	1.43	*****	1.30
22	0.01	0.17	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.28	0.15	*****	0.17
26	0.01	0.00	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.35	0.00	*****	0.00	0.07	*****	0.00
27	0.29	0.82	0.00	*****	0.22	0.18	0.09	0.00	*****	0.00	0.11	0.00	0.00	0.30	0.00	*****	0.03	0.00	*****	0.18
28	0.68	0.24	0.46	*****	0.53	0.80	1.04	0.47	*****	0.96	1.35	0.57	1.22	1.00	1.44	*****	1.16	0.44	*****	0.29
29	1.24	0.03	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	*****	0.00
MTOT	3.09	1.54	0.96	*****	1.76	2.55	2.13	2.88	*****	0.96	2.93	0.74	1.22	1.65	1.44	*****	1.57	2.16	*****	2.22

MTOT=MONTHLY TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES NORTH OF BUFFALO BAYOU — PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																			
	3630	4400	4250	4200	4150	205R	22R	21R	6500	6200	6000	5900	5780	204R	203R	29R	20R	5770	5760	101R
AUG																				
1	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.56	0.00	0.00	*****	0.00	0.00	*****	0.00
2	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.01	0.00	0.00	*****	0.00	0.00	*****	0.00
5	0.00	0.38	0.30	*****	0.15	0.00	0.00	0.00	0.00	*****	0.00	0.31	0.35	0.00	0.00	*****	0.16	0.00	*****	0.38
6	0.00	0.01	0.05	*****	0.05	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	*****	0.00
7	0.01	0.03	0.10	*****	0.18	0.28	0.06	0.36	0.12	*****	0.02	0.00	0.09	0.00	0.00	*****	0.67	0.30	0.05	0.07
11	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.01	0.00	0.00	*****	0.10	0.00	0.00	0.00
12	0.00	0.00	0.60	*****	0.03	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	1.60	0.30
13	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.03	0.18	0.00	*****	0.00	0.00	0.05	0.00
14	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.10	0.00
15	0.56	0.07	0.70	*****	0.56	0.60	0.37	1.20	0.48	*****	0.95	0.32	1.60	0.62	0.05	1.55	0.27	0.32	0.55	0.85
16	0.00	0.02	0.05	*****	0.10	0.07	0.00	0.20	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	*****	0.00	0.00	0.05	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	*****	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00
26	0.03	0.00	0.00	*****	0.00	0.02	0.00	0.00	0.00	0.24	0.00	0.00	0.32	0.12	0.00	0.00	0.00	0.00	0.00	0.13
27	0.00	0.00	0.00	*****	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.32	0.10	0.00	0.16	0.00	0.03
29	1.39	0.00	0.12	*****	0.00	0.19	0.03	1.07	0.36	0.24	0.00	0.00	1.20	0.72	0.05	0.00	0.01	0.14	1.20	1.14
30	0.49	0.01	0.04	*****	0.03	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.65	0.05	0.00	0.15	0.40	0.70	0.24
31	0.01	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.04	0.00	0.05	0.00
MTOT	2.49	0.52	1.96	*****	1.10	1.49	0.69	2.83	0.96	*****	0.97	0.75	4.45	2.75	0.47	*****	1.40	1.44	*****	3.14
SEPT																				
1	0.05	0.00	0.00	*****	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.04	0.04	0.00	*****	0.00	0.09	0.21	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.71	*****	1.18	*****	0.62	1.00	1.13	1.00	1.40	1.08	1.38	1.25	1.11	1.05	1.40	2.19	2.00	1.87	1.85	2.05
6	0.80	*****	2.83	*****	2.52	2.01	1.55	1.00	1.60	1.80	1.47	1.85	2.00	1.83	1.95	2.48	1.00	1.48	1.50	1.49
7	0.34	*****	0.54	*****	1.08	0.65	0.19	0.60	0.84	0.24	0.03	0.20	0.00	0.57	0.31	0.57	0.12	0.10	1.20	1.05
8	0.01	*****	0.04	*****	0.15	0.13	0.67	0.20	0.00	0.12	0.18	0.09	0.00	0.80	*****	0.28	0.01	0.00	0.00	0.00
18	0.00	*****	0.00	*****	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
19	0.00	*****	0.00	*****	0.00	0.00	0.57	0.00	0.00	0.00	0.06	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	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.15	0.26
21	0.00	*****	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00
24	0.00	*****	0.37	*****	0.10	0.00	0.45	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
25	0.90	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00
26	0.45	*****	0.26	0.36	0.20	0.35	0.07	0.32	0.00	0.12	0.08	0.02	0.11	0.16	0.00	0.05	0.09	0.38	0.40	0.46
27	0.40	*****	0.23	0.00	0.15	0.00	0.06	0.00	0.00	0.00	0.12	0.03	0.05	0.00	0.00	0.10	0.09	0.08	0.05	0.14
28	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.16	0.00	0.00	0.04	0.05	0.00	0.00
29	0.00	*****	0.00	0.00	0.00	0.02	0.09	0.00	0.24	0.00	0.05	0.44	0.67	0.10	0.00	0.15	1.32	0.05	0.30	0.10
30	1.20	0.40	0.78	0.00	0.88	1.00	1.60	0.95	1.08	1.44	1.44	1.32	1.58	1.10	0.72	1.54	1.16	0.80	0.90	0.80
MTOT	5.90	*****	6.23	*****	5.70	5.25	6.80	4.30	5.16	5.04	4.81	5.20	5.57	5.77	*****	7.36	6.00	4.87	6.70	6.35
WTOT	*****	*****	35.23	*****	34.72	36.12	*****	39.68	*****	*****	34.83	36.03	*****	40.33	*****	*****	40.20	39.51	*****	44.25

MTOT=MONTHLY TOTALS
WTOT=WATER YEAR TOTAL

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																		
	4910	4850	4800	4780	308R	303R	39R	32R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
OCT																				
22	0.24	0.24	0.17	0.24	0.34	0.05	0.28	0.15	0.17	0.50	0.40	0.20	0.70	0.20	0.23	0.83	*****	0.50	0.60	0.53
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00
30	1.80	1.68	0.90	1.08	3.14	2.98	*****	1.44	2.72	3.30	0.80	3.28	3.10	2.20	1.09	4.25	*****	4.00	4.59	4.43
MTOT	2.04	1.92	1.07	1.32	3.48	3.03	*****	1.59	2.89	3.80	1.30	3.48	3.80	2.40	1.32	5.08	*****	4.50	5.19	4.96
NOV																				
9	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.06	0.01	0.00	0.00	0.10	0.10	0.00	0.05	0.10	0.10	0.00	0.12	0.12
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00
17	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.03	0.12	0.00	0.14	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
21	1.08	2.28	1.23	1.32	0.85	0.75	1.75	0.66	0.80	0.70	0.90	0.70	1.10	0.90	1.96	0.51	0.60	0.70	0.80	0.65
22	0.24	0.24	0.26	0.24	0.28	0.24	0.26	0.27	0.27	0.30	0.30	0.20	0.30	0.20	0.19	0.30	0.40	0.40	0.38	0.40
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	1.35	2.52	1.54	1.68	1.16	1.13	2.11	1.22	1.15	1.30	1.20	1.10	1.50	1.30	2.44	1.01	1.10	1.10	1.30	1.17
DEC																				
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	1.08	1.20	1.37	1.68	1.17	2.84	1.58	1.99	1.20	0.60	0.50	1.11	0.70	1.20	1.17	0.20	0.48	0.68	0.37	1.25
13	0.24	0.24	0.16	0.24	0.26	0.07	0.13	0.00	0.24	0.50	*****	0.30	0.40	0.40	0.21	0.60	0.48	0.50	0.61	0.08
15	0.12	0.00	0.06	0.00	0.07	0.00	0.03	0.04	0.05	0.00	*****	0.10	0.00	0.20	0.07	0.00	0.00	0.00	0.03	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.12	0.04	0.00	0.00	0.00	0.03	0.10	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.48	0.36	0.19	0.12	0.37	0.75	0.42	0.25	0.42	0.10	*****	0.41	0.20	0.90	0.28	0.10	0.12	0.10	0.13	0.10
28	0.12	0.12	0.07	0.12	0.11	0.32	0.12	0.57	0.08	0.00	*****	0.10	0.20	0.10	0.30	0.00	0.06	0.05	0.04	0.08
29	0.72	0.60	0.58	0.60	0.56	0.64	0.60	0.10	0.58	0.60	*****	0.50	0.60	0.50	0.47	0.50	0.60	0.60	0.64	0.62
MTOT	2.76	2.52	2.43	2.88	2.58	4.62	2.88	3.00	2.60	1.90	*****	2.52	2.10	3.30	2.55	1.40	1.74	1.93	1.82	2.13
CTOT	57.92	56.66	54.94	57.78	64.88	67.43	*****	55.96	62.19	68.60	*****	58.20	61.80	62.00	58.90	72.53	*****	68.85	69.88	71.79
JAN																				
3	0.72	0.48	0.61	0.60	0.63	0.74	0.90	0.75	0.74	0.70	*****	0.61	0.40	0.50	0.43	0.52	0.60	0.60	0.56	0.63
9	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.13
10	0.00	0.00	0.00	*****	0.01	0.00	0.00	0.00	0.02	0.00	*****	0.00	0.10	0.00	0.00	0.10	0.06	0.10	0.12	0.00
16	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.10	0.12	0.10	0.00	0.23
17	0.24	0.96	0.52	*****	1.37	1.60	0.98	1.73	1.26	0.70	0.30	0.51	0.50	0.50	0.42	0.93	0.84	0.88	0.91	0.80
19	0.00	0.00	0.00	*****	0.00	0.05	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	1.20	1.32	1.33	*****	0.92	1.60	1.40	1.43	1.22	2.30	2.30	1.12	2.20	1.20	1.32	1.92	2.52	2.50	2.33	2.69
21	1.32	0.84	0.86	*****	0.91	0.97	0.87	0.83	0.74	1.40	1.80	1.01	1.80	1.20	1.35	1.23	1.32	1.30	1.36	1.20
22	2.64	2.16	2.16	1.68	3.27	1.32	1.82	1.21	2.42	3.00	2.90	2.96	3.10	2.60	2.15	2.45	2.52	2.50	2.43	2.27
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.04	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	6.12	5.76	5.48	*****	7.17	6.28	6.16	5.98	6.43	8.10	*****	6.21	8.20	6.00	5.67	7.25	7.98	8.03	7.71	7.95

MTOT=MONTHLY TOTALS
CTOT=CALENDAR YEAR TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																		
	4910	4850	4800	4780	308R	303R	39R	32R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
FEB																				
2	0.12	*****	0.04	0.12	0.16	0.17	0.10	0.17	0.17	0.10	0.10	0.20	0.10	0.20	0.16	0.10	0.12	0.10	0.15	0.16
4	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	*****	0.00	0.12	0.14	0.00	0.00	0.02	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.10	0.12	0.10	0.17	0.14
6	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	*****	0.00	0.00	0.01	0.00	*****	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.84	*****	0.68	0.96	1.04	0.96	*****	0.62	1.04	1.80	1.40	1.55	1.20	1.20	0.78	1.01	1.08	1.10	1.08	1.24
9	0.12	*****	0.03	0.12	0.11	0.00	*****	0.07	0.06	0.00	0.00	0.10	0.10	0.10	0.04	0.00	0.00	0.00	0.00	0.00
14	0.24	*****	0.16	0.24	0.37	0.46	0.43	0.48	0.28	0.30	0.30	0.20	0.30	0.30	0.21	0.20	0.24	0.20	0.24	0.19
15	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.10	0.10	0.10	0.02	0.00	0.00	0.00	0.00	0.00
16	0.24	*****	0.11	0.12	0.16	0.08	0.17	0.18	0.19	0.10	0.10	0.10	0.10	0.00	0.14	0.10	0.12	0.20	0.17	0.13
23	0.00	*****	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.12	0.10	0.06	0.00
MTOT	1.56	*****	1.02	1.68	2.00	1.67	*****	1.68	1.78	2.40	2.00	2.25	2.00	1.90	1.35	1.72	1.80	1.80	1.87	1.86
MAR																				
1	0.24	*****	0.11	0.24	0.30	0.30	0.37	0.16	0.32	0.30	0.20	0.20	0.20	0.10	0.31	0.20	0.24	0.30	0.33	0.41
4	0.12	*****	0.08	0.00	0.06	0.00	0.10	0.09	0.07	0.10	0.10	0.00	0.10	0.00	0.12	0.10	0.12	0.10	0.00	0.08
7	0.00	*****	0.00	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	*****	0.00	0.12	0.01	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.02	0.00
12	0.12	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.12	*****	0.02	0.00	0.00	0.12	0.08	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.01	0.00
16	0.00	*****	0.00	0.00	0.00	0.00	0.01	0.29	0.03	0.00	0.00	0.00	0.10	0.10	0.00	0.10	0.00	0.10	0.12	0.05
17	0.36	*****	0.25	0.48	0.02	0.26	0.35	0.00	0.29	0.30	0.30	0.30	0.20	0.50	0.45	0.30	0.36	0.30	0.39	0.22
19	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	*****	0.00	0.12	0.00	0.08	0.13	0.00	0.07	0.60	0.40	0.00	0.30	0.00	0.06	0.63	0.12	0.30	0.41	0.28
23	0.00	*****	0.00	0.12	*****	0.00	0.05	0.00	0.10	0.10	0.10	0.10	0.20	0.10	0.05	0.10	0.24	0.10	0.07	0.16
26	0.24	*****	0.25	0.12	*****	0.19	0.17	0.24	0.22	0.20	0.20	0.20	0.20	0.20	0.15	0.20	0.36	0.20	0.29	0.28
27	1.80	*****	1.33	1.56	2.26	1.80	1.92	0.99	2.76	1.80	2.20	1.91	1.90	1.60	1.31	1.81	1.80	2.00	1.73	1.88
28	0.00	*****	0.02	0.00	0.01	0.00	0.01	0.75	0.01	0.05	0.10	0.10	0.20	0.00	0.00	0.00	0.12	0.00	0.02	0.00
29	0.60	*****	0.44	0.72	0.89	0.60	0.77	1.26	1.05	1.00	0.60	0.61	0.80	0.60	0.53	1.03	0.46	1.00	1.03	0.87
MTOT	3.60	*****	2.50	3.48	*****	3.35	3.96	3.96	5.09	4.45	4.20	3.42	4.20	3.20	3.06	4.57	3.82	4.40	4.42	4.23
APR																				
1	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
2	0.00	*****	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
6	0.12	*****	0.00	0.12	0.14	0.12	0.17	0.12	0.14	0.10	0.10	0.00	0.10	0.10	0.00	0.20	0.24	0.10	0.12	0.10
7	0.00	*****	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	*****	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	*****	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.24	*****	0.00	0.00	0.15	0.20	0.02	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.11	0.05
13	0.48	*****	0.05	0.36	0.72	0.49	0.24	0.46	0.66	0.95	0.40	0.50	0.70	0.50	0.46	0.93	0.48	0.40	0.64	0.35
25	0.84	*****	0.90	1.08	2.47	0.50	1.00	0.85	2.50	0.40	0.50	1.85	0.50	1.70	0.90	0.50	0.48	0.40	0.50	0.53
30	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	1.68	*****	0.95	1.56	3.55	1.34	1.43	1.43	3.42	1.45	1.00	2.35	1.30	2.30	1.40	1.63	1.20	1.00	1.38	1.03

MTOT=MONTHLY TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																		
	4910	4850	4800	4780	308R	303R	39R	32R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
MAY																				
1	0.60	*****	0.27	0.72	0.58	0.00	0.31	0.27	0.40	1.00	1.50	1.23	1.20	1.40	0.91	1.50	1.08	1.00	1.25	0.80
2	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00
3	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
4	0.00	*****	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	*****	0.07	0.12	0.17	0.25	0.24	0.28	0.35	0.20	0.20	0.10	0.60	0.20	0.18	0.20	0.36	0.20	0.18	0.22
8	0.36	*****	0.04	0.24	0.27	0.33	0.23	0.35	0.23	0.20	0.20	0.30	0.20	0.30	0.30	0.20	0.12	0.20	0.20	0.21
12	0.00	*****	0.00	0.00	0.02	0.00	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
13	0.60	*****	*****	0.84	0.31	0.47	0.44	0.74	0.26	0.20	0.20	0.30	0.30	0.40	0.22	0.10	0.12	0.20	0.14	0.12
14	0.00	*****	*****	0.00	0.03	0.03	0.00	0.03	0.01	0.10	0.00	0.00	0.00	0.00	0.03	0.10	0.12	0.10	0.06	0.10
15	0.00	*****	*****	0.12	0.30	0.18	0.03	0.39	0.35	0.10	0.10	0.30	0.20	0.10	0.03	0.30	0.12	0.20	0.29	0.15
16	0.36	*****	*****	0.12	0.33	0.50	0.37	0.23	0.42	0.30	0.90	0.20	0.20	0.20	0.12	0.30	1.08	1.00	0.68	1.08
17	0.00	*****	*****	0.00	0.00	0.00	0.03	0.39	0.01	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.00
18	0.00	*****	*****	0.00	0.12	0.00	0.06	0.07	0.13	0.10	0.10	0.10	0.20	0.10	0.10	0.10	0.12	0.10	0.10	0.08
19	0.96	*****	*****	0.96	0.93	1.25	0.92	1.21	0.82	1.00	1.00	1.00	1.00	1.00	1.06	1.00	1.08	1.10	1.05	1.12
21	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.02	0.00
28	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	2.88	*****	*****	3.12	3.06	3.01	2.66	4.21	3.01	3.20	4.30	3.53	4.40	4.00	2.95	4.00	4.20	4.10	3.97	3.90
JUNE																				
9	0.96	*****	1.25	1.80	0.77	2.06	1.80	2.05	2.19	1.00	1.10	1.22	0.90	1.10	1.95	0.82	0.84	1.40	1.38	1.09
20	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.36	*****	0.00	0.00	0.00	0.00	0.46	0.03	0.02	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
22	0.00	*****	0.00	0.00	0.23	0.00	0.80	0.38	0.32	0.00	0.10	0.00	0.30	0.00	0.02	0.00	0.12	0.10	0.23	0.02
23	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00
MTOT	1.32	*****	1.25	1.80	1.00	2.06	3.06	2.46	2.73	1.20	1.20	1.32	1.20	1.10	1.97	1.03	0.96	1.50	1.61	1.18
JULY																				
8	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.33	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	*****	0.00	0.03	0.00	0.00	*****	0.09	0.02	0.00	0.30	0.00	0.00	0.10	*****	0.00	0.00	0.00	0.24	0.05
21	1.58	*****	0.19	0.17	2.01	0.00	*****	0.10	1.08	0.80	0.50	0.82	0.50	*****	0.05	0.20	0.60	0.50	0.81	0.12
22	0.00	*****	0.02	0.10	0.33	0.00	*****	0.00	0.31	0.80	0.30	0.10	0.40	*****	0.00	0.10	0.00	0.00	0.11	0.14
26	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.04	0.70	0.10	0.10	0.00	*****	0.00	0.20	0.00	0.00	0.00	0.00
27	0.08	*****	0.15	0.07	0.00	0.90	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.05	0.00	0.00	0.00	0.63	0.00
28	1.22	*****	0.55	0.56	0.88	0.63	*****	0.61	0.44	1.10	1.20	0.82	1.40	*****	1.25	0.81	0.96	1.00	0.94	1.05
29	0.00	*****	0.00	0.00	0.12	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
MTOT	2.88	*****	0.91	0.93	3.34	1.53	*****	0.80	2.22	3.40	2.70	1.84	2.40	*****	1.35	1.31	1.56	1.50	2.73	1.36

MTOT=MONTHLY TOTALS

HOUSTON URBAN HYDROLOGY STUDY

DAILY AND MONTHLY RAINFALL SUMMARY FOR GAGES SOUTH OF BUFFALO BAYOU — PERIOD :1980 WATER YEAR

DATE	GAGE NUMBER																		
	4910	4850	4800	4780	308R	303R	39R	32R	12R	5500	5470	5400	305R	304R	31R	5650	5550	403R	402R	401R
AUG																				
2	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.10	*****	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	*****	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
5	0.53	*****	0.00	0.00	0.68	0.00	0.50	0.00	1.39	0.00	0.10	0.10	0.30	*****	0.15	0.00	0.00	0.00	0.00	0.00
6	0.01	*****	0.00	0.00	0.10	0.00	0.00	0.00	0.01	0.30	0.80	0.00	0.40	*****	0.10	0.00	0.00	0.00	0.30	0.00
7	0.24	*****	0.00	0.04	0.04	0.00	0.48	0.68	0.04	0.00	0.00	0.31	0.30	*****	0.06	0.00	0.24	0.30	0.00	0.00
8	0.00	*****	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	*****	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	*****	0.00	0.00	0.12	0.00	0.00	0.00
13	0.00	*****	0.00	0.00	0.00	0.00	0.06	0.00	0.08	0.00	0.20	0.00	0.00	*****	0.00	0.31	0.12	0.10	0.00	0.00
15	0.47	*****	1.37	0.84	0.71	0.58	0.70	1.21	0.58	0.20	0.30	0.61	*****	*****	1.10	0.30	0.12	0.10	0.27	0.00
16	0.22	*****	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.10	0.02	0.00	0.00	0.00	0.00
22	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	*****	0.00	0.55	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	*****	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	*****	0.03	0.03	0.00	0.00	0.04	0.00	0.09	0.00	0.00	0.00	0.00	*****	0.00	0.10	0.00	0.00	0.00	0.00
27	0.00	*****	0.00	0.00	0.00	0.05	0.00	0.21	0.04	0.00	0.10	0.00	0.00	*****	0.00	0.00	0.20	0.60	0.50	0.16	0.74
29	0.13	*****	0.00	0.10	0.00	0.35	0.46	0.30	2.24	1.20	0.00	0.00	*****	*****	0.00	0.15	1.24	0.36	0.20	0.51	0.09
30	0.30	*****	0.00	0.01	0.00	0.10	0.36	0.00	0.19	0.00	0.00	0.00	*****	*****	0.00	0.00	0.10	0.00	0.00	0.13	0.09
MTOT	1.90	*****	1.40	1.57	1.62	2.52	2.60	2.54	4.68	2.20	1.60	1.02	*****	*****	1.68	2.15	1.56	1.20	1.37	0.92
SEPT																				
1	0.00	*****	0.00	0.00	0.00	0.00	*****	0.00	0.09	0.00	0.00	0.00	*****	*****	0.00	0.00	0.00	0.00	0.00	0.00
2	0.17	*****	0.00	0.01	0.02	0.05	*****	0.00	0.09	0.00	0.10	0.10	*****	*****	0.20	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	*****	0.00	0.00	0.00	0.00	*****	0.13	0.00	0.00	0.00	0.00	*****	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.83	*****	1.07	1.32	1.86	1.27	*****	1.81	2.27	1.30	1.80	1.62	*****	*****	1.20	0.95	0.91	1.68	1.70	1.50	2.02
6	1.54	*****	2.57	2.30	1.68	3.26	*****	1.71	1.12	1.70	1.00	1.23	*****	*****	2.20	2.92	1.85	1.08	1.20	0.82	0.54
7	0.62	*****	0.60	0.70	1.00	0.84	*****	0.80	0.44	0.70	1.10	0.61	*****	*****	1.00	1.45	0.61	1.32	1.30	0.69	0.20
8	0.57	*****	0.28	0.39	0.15	0.82	*****	0.22	0.13	0.10	0.70	0.31	*****	*****	0.20	0.45	0.00	0.24	0.30	0.21	0.40
10	0.01	*****	0.00	0.00	0.00	0.00	*****	0.00	0.03	0.00	0.00	0.00	*****	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.15	*****	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	*****	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	*****	0.00	0.02	0.00	0.16	*****	0.34	0.00	0.00	0.00	0.00	*****	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	*****	0.00	0.00	0.05	0.00	*****	0.00	0.00	1.30	0.00	0.00	0.00	*****	0.00	0.00	0.20	0.12	0.20	0.11	0.12
20	0.13	*****	0.00	0.00	0.10	0.00	*****	0.00	0.11	0.10	0.40	0.10	0.10	*****	0.20	0.00	0.00	0.24	0.20	0.19	0.13
24	0.00	*****	0.00	0.00	0.00	0.06	*****	0.00	0.01	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	*****	0.00	0.01	0.49	0.00	*****	0.15	0.87	0.00	0.00	0.00	0.00	*****	0.00	0.00	0.00	0.48	0.30	0.03	0.00
26	0.96	*****	0.72	0.79	0.59	0.75	*****	0.62	0.45	0.70	0.70	0.80	0.80	0.90	1.10	0.51	0.84	0.70	0.83	0.73
27	0.39	*****	0.74	0.88	0.31	0.87	*****	0.62	0.11	0.20	0.30	1.64	0.10	1.10	0.81	0.00	0.12	0.20	0.23	0.17
28	0.14	*****	0.00	0.00	0.00	0.03	*****	0.19	0.01	0.10	0.00	0.00	0.00	0.10	0.05	0.20	0.12	0.10	0.00	0.10
29	0.10	*****	0.00	0.03	0.08	0.03	*****	0.22	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	1.07	*****	0.93	1.07	0.88	1.45	*****	1.15	0.75	0.80	0.90	1.02	1.20	1.20	1.02	0.81	0.96	0.90	0.82	0.87
MTOT	7.68	*****	6.91	7.52	7.21	9.59	*****	7.96	6.56	7.00	7.00	7.43	*****	8.30	8.75	5.09	7.20	7.10	5.43	5.28
WTOT	35.77	*****	*****	*****	*****	40.13	*****	36.83	42.56	40.40	*****	36.47	*****	*****	34.49	36.24	*****	38.16	38.80	35.97

MTOT=MONTHLY TOTALS
WTOT=WATER YEAR TOTAL

MONTHLY RAINFALL-DATA SUMMARY IN THE HOUSTON METROPOLITAN AREA,
NATIONAL WEATHER SERVICE STATIONS, 1980 WATER YEAR

Month	Nonrecording rain-gage numbers															
	10S	12R	13S	20R	22R	23S	24S	32R	33R	34S	35S	36S	42S	201S	202S	404S
Oct. 1979	2.77	2.89	3.08	2.80	2.58	3.07	2.21	1.59	3.20	3.15	2.74	1.36	5.87	4.33	4.45	4.83
Nov.	2.21	1.15	2.15	1.78	2.06	0.84	1.93	1.22	1.24	1.42	1.31	1.45	1.41	1.99	1.90	2.08
Dec.	4.33	2.60	3.55	4.03	3.24	4.84	3.17	3.00	3.91	4.57	2.82	3.54	2.38	3.76	2.09	2.13
Annual	65.07	62.19	64.43	58.97	45.99	55.02	66.24	58.16	50.96	60.18	66.98	60.29	83.02	63.23	77.00	88.63
Jan. 1980	5.91	6.43	5.27	6.09	3.38	5.51	5.74	5.98	5.01	4.89	6.05	4.75	7.38	6.04	8.19	8.51
Feb.	1.62	1.78	1.84	2.54	2.77	2.33	2.53	1.68	1.96	1.97	2.51	1.47	1.81	2.12	2.42	2.24
Mar.	5.81	5.09	5.68	5.39	3.19	7.08	5.46	3.96	6.23	5.35	3.34	3.71	4.49	5.62	8.17	5.39
April	1.93	3.42	1.91	2.05	0.74	2.60	1.78	1.43	1.48	1.15	2.12	1.53	2.22	2.14	4.04	1.01
May	3.62	3.01	4.19	5.63	7.81	4.75	3.80	4.21	3.27	4.93	3.38	3.14	4.68	5.16	3.43	4.95
June	2.07	2.73	1.69	0.92	2.64	2.27	3.12	2.46	1.83	2.08	2.08	1.93	1.87	0.69	0.23	0.40
July	2.22	2.22	1.65	1.57	2.13	2.47	1.15	0.80	2.07	0.54	3.25	1.70	2.28	0.88	4.21	1.85
Aug.	1.82	4.68	4.76	1.40	0.69	1.55	1.69	2.54	2.66	1.57	1.73	3.08	0.94	1.16	1.15	2.12
Sept.	7.38	6.56	5.31	6.00	6.80	5.74	6.45	7.96	6.76	8.42	7.89	10.64	7.52	7.99	10.54	5.32
Totals	41.69	42.56	41.11	40.20	38.03	43.05	39.03	36.83	39.62	40.04	39.22	38.30	42.85	41.88	50.82	40.83