LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

HYDROLOGIC REPORT

1991 - 92

PREPARED BY THE

HYDRAULIC/WATER CONSERVATION DIVISION

JULY 1993

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Summary of Monthly Discharge Records at Selected Stations

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INTRODUCTION

This report contains hydrologic data relative to Los Angeles County for the period beginning October 1, 1991 and ending September 30, 1992. The data are presented in seven sections.

Precipitation - lists 294 active rainfall stations and presents corresponding seasonal rainfall amounts.

Evaporation - lists all locations for which evaporation data is on file and provides monthly evaporation amounts at 14 locations.

Runoff - presents the maximum, minimum, and mean of the daily flow rates for each month and the monthly volumes for 40 streamflow stations.

Dam Operation - presents the maximum and minimum of the daily inflow and outflow rates for each month, the instantaneous peak inflow and outflow rates and storage volumes for 14 dams and reservoirs.

Erosion Control - lists debris basins and debris production amounts.

Water Quality Monitoring - presents maps of surface and groundwater sampling locations, and data at selected locations.

Conservation and Groundwater - presents records of water conserved at various facilities, water injected at seawater barrier projects, well hydrographs, and static groundwater contour maps.

Where practical, data which would satisfy immediate needs and serve as useful reference are published in these reports. Several tables appear listing locations for which unpublished data are available. Additional information may be obtained by writing to:

Los Angeles County Department of Public Works
Hydraulic/Water Conservation Division
P.O. Box 1460
Alhambra, CA 91802-1460

or telephone: **(818) 458-6112**

LOS ANGELES COUNTY

TOPOGRAPHY

The County of Los Angeles covers an area of 4,083 square miles and measures approximately 66 miles in the east - west and 73 miles in the north - south directions.

The terrain within the County can be classified in broad terms as being 25 percent mountainous; 10 percent coastal plain; and 65 percent hills, valleys, or deserts. Relief of the terrain ranges from sea level to a maximum elevation of 10,000 feet. The coastal plain is generally of mild slope and contains relatively few depressions or natural ponding areas. The slopes of main river systems crossing the coastal plain, such as the San Gabriel River, Los Angeles River, and Ballona Creek, range from 4 to 14 feet per mile.

Topography in the mountainous area is generally rugged with deep, V-shaped canyons separated by sharp dividing ridges. Steepwalled canyons with side slopes of 70 percent or more are common. The gradient of principal canyons in the San Gabriel Mountains ranges from 150 to 850 feet per mile. Mountain ranges are aligned in a general east-west direction with the major range being the San Gabriel Mountains. The majority of mountain ridges lie below Elevation 5,000 feet. The total area above this level is approximately 210 square miles.

GEOLOGY - SOILS

Igneous, sedimentary, and metamorphic rock groups are all represented within the County. The San Gabriel Mountains and Verdugo Hills are composed primarily of highly fractured igneous rock, with large areas of granitic rock formation being exposed above soils that are coarse and porous. Faulting and deep weathering have produced porous zones in the rock formation; however, rock masses have produced a comparatively shallow soil mantle due to the steepness of slopes which accelerates erosion of the fine material.

LAND USE

The principal vegetative cover of upper mountain areas consists of various species of brush and shrubs known as chaparral. Most trees found on mountain slopes are oak, with alder, willow, and sycamore found along streambeds at lower elevations. Pine, cedar, and juniper are found in ravines at higher elevations and along high mountain summits.

The chaparral is extremely flammable, and extensive burns of the mountain vegetation frequently occur during dry, low-humidity weather accompanied by high winds. Chaparral has the ability to sprout following fire and grows rapidly to re-establish the watershed cover within a period of 5 to 10 years.

Grasses are the principal natural vegetation on the hills. Much of the hill land and nearly all of the valley land in the densely populated portion of the County south of the San Gabriel Mountains has been converted to urban and suburban use. Development of the

Santa Clarita Valley and desert areas to the north of the San Gabriel Mountains is sparse at present but is proceeding rapidly.

Other mountains and hilly reaches are composed primarily of folded and faulted sedimentary rock, including shale, sandstone, and conglomerate. Residual soils in these areas are shallow and are generally less pervious than those of the San Gabriel Mountain range.

Valley and desert soils are alluvial and vary from coarse sand and gravel near canyon mouths to silty clay and gravel or clay in lower valleys and the coastal plain. The alluvial fill has been built up by repeated deposition of debris to depths as great as 2,000 feet in places. This fill is quite porous in areas of relatively low clay content. Impervious layers and irregularities in the underlying bedrock divide the alluvium into several County groundwater basins. Valley soils are generally well drained but there are a few areas having perched water.

CLIMATE

The climate within the County varies between subtropical on the Pacific Ocean side of the San Gabriel Mountain range to arid in the Mojave Desert. Nearly all precipitation occurs during the months of December through March. Precipitation during summer months is infrequent, and rainless periods of several months are common. Snowfall at elevations above 5,000 feet is frequently experienced during the winter storms, but the snow melts rapidly except on higher peaks and the northern slopes. Snow is rarely experienced on the coastal plain.

January and July are the coldest and warmest months of the year, respectively. At Los Angeles, the 30-year average daily minimum temperature for January is 48 degrees above zero. The average daily maximum temperature for July is 84 degrees. At Mount Wilson (Elevation 5,850 feet), the 30-year average daily minimum temperature for January is 35 degrees above zero and the average daily maximum temperature for July is 80 degrees.

HYDROMETEOROLOGIC CHARACTERISTICS

Coastal and Mountain Areas

Precipitation in the Los Angeles area occurs primarily in the form of winter orographic rainfall associated with extratropical cyclones of North Pacific origin. Major storms consist of one or more frontal systems and occasionally last four days or longer. Air masses and frontal systems associated with major storms commonly extend for 500 to 1,000 miles in length and produce rainfall simultaneously throughout the County. Major storms approach Southern California from the west or southwest with southerly winds which continue until frontal passage. The mountain ranges lie directly across the path of the inflow of warm, moist air, and orographic effects greatly intensify precipitation.

The effects of snowmelt upon flood runoff is of significance in the few cases when warm

spring rains from southerly storms fall on a snowpack. During major storms, temperatures throughout the County may remain above freezing. Average individual storm rainfall amounts and intensities conform to a fairly definite aerial pattern which reflects general effects of topographic differences.

Desert Areas

Summer convective rainfall is principally experienced in the upper San Gabriel Mountains and the Mojave Desert regions. In many desert areas, the most serious flooding occurs as a result of summer convective storms.

RUNOFF CHARACTERISTICS

Mountain Areas

In mountain areas, the steep canyon slopes and channel gradients promote a rapid concentration of storm runoff quantities. Depression storage and detention storage effects are minor in the rugged terrain. Soil moisture during a storm has a pronounced effect on runoff from the porous soils supporting a good growth of deeprooted vegetation such as chaparral. Soil moisture deficiency is greatest at the beginning of a rainy season, having been depleted by the evapotranspiration process during the dry summer months. Precipitation during periods of soil moisture deficiency is nearly entirely absorbed by soils, and except for periods of extremely intense rainfall, significant runoff does not occur until soils are wetted to field moisture capacity. Due to high infiltration rates and porosity of mountain soils, runoff occurs primarily as subsurface flow or interflow rather than as direct runoff. Spring or base flow is essentially limited to portions of the San Gabriel Mountain range. Consequently, most streams in the County are intermittent.

Runoff from a mountain watershed recently denuded by fire exceeds that for the unburned state due to greatly increased quantities of inorganic debris present in the flow and increased direct runoff resulting from lowered infiltration rates. Debris production from a major storm has amounted to as much as 223,000 cubic yards per square mile of watershed. Boulders up to eight feet in diameter have been deposited in valley areas a considerable distance from their source.

Debris quantities equal in volume to storm runoff, or in other words 100 percent bulking of runoff from a major storm, have been recorded. Where debris-laden flow traverses an alluvial fill unconfined by flood control works, flood discharges follow an unpredictable path across the debris cone formed at the canyon mouth.

Hill and Valley Areas

In hill areas, runoff concentrates rapidly from the generally steep slopes; however, runoff rates from undeveloped hill areas are normally smaller than those from mountain areas of the same size. In those hill areas which have been developed for residential use, concentration times become considerably decreased due to drainage improvement, and

runoff volumes and rates become increased due to increased imperviousness. On the other hand, erosion is controlled and debris is practically eliminated from storm flows. Debris production rates from undeveloped hill areas are normally smaller than those from mountain areas of the same size.

In highly developed valley areas, local runoff volumes have increased as the soil surface has become covered by impervious materials. Peak runoff rates for valley areas have also increased due to elimination of natural ponding areas and improved hydraulic efficiency of water carriers such as streets and storm drain systems.

FLOOD CONTROL AND WATER CONSERVATION

FLOODS. . .AN OLD STORY

Floods in Los Angeles County have been recorded as far back as the days of the Mission Padres. For centuries waters have swept out of the San Gabriel Mountains causing extensive property damage and taking a great toll of lives.

Such a flood occurred in 1914 causing over $10 million in property damage and taking many lives. As a result, the State legislature enacted the statute creating the Los Angeles County Flood Control District. The responsibilities and authority vested in the Flood Control District are now part of the Los Angeles County Department of Public Works.

The Department has two tasks. . .control the floods and conserve the water.

CONTROLLING THE WATERS

Successful early bond issues financed construction of the 14 dams which the Department built in the San Gabriel Mountains and foothills to impound storm waters until they could be safely released. Debris basins were constructed to trap eroded materials which had caused terrible damage in the past. Flood channel improvements were undertaken to confine the waters.

Department engineers prepared a Comprehensive Plan in the early 1930's which would control flooding and save as much of the water as practicable when fully implemented.

Federal legislation in 1936 brought the United States Army Corps of Engineers into the local flood control picture. Since that time, the two agencies have been jointly pursuing implementation of the Comprehensive Plan. The Department also cooperates with the United States Soil Conservation Service and Forestry Service in erosion control.

CONSERVING THE WATERS

In addition to its flood control program, the Department has the equally important task of conserving as much of the storm and other waste waters as practicable. The use of water conservation facilities in or adjacent to river channels and their tributaries permits water to be percolated into underground reservoirs for later pumping and supply to consumers. These water conservation facilities are located in areas where the underlying soils are composed of porous sands and gravel formations. Some resemble rice paddies, while others are deep basins which were once gravel pits.

The importance of this activity is apparent when it is realized that about 30 to 40 percent of the water used in the County is pumped from ground supplies. The growth of the County, combined with periodic droughts, seriously depleted these supplies on numerous occasions throughout the history of the County.

Other major conservation efforts by the Department include combatting the serious salt water intrusion into underground fresh water supplies inland from the Pacific Ocean and utilizing imported water and reclaimed sewage waters in spreading operations.

ORGANIZED TO DO THE JOB

Day-to-day administration of Department affairs is vested in the Director of Public Works who is appointed by and responsible to the Los Angeles County Board of Supervisors. A part of the Department's activities involve the planning, design and construction of flood control and water conservation facilities, and the operation and maintenance of dams, debris basins, spreading grounds, channels, and storm drains.

PRECIPITATION

PRECIPITATION

This section contains annual precipitation data collected by the Department for the period beginning October 1, 1991 and ending September 30, 1992. Although the Department operates and maintains 293 rainfall stations, including standard and automatic gages which record amounts for durations ranging from 5 minutes to 24 hours, only annual amounts for the report period are listed herein. Additional data can be obtained by contacting the custodian of hydrologic records at the location shown in the front of the report.

RAINFALL AMOUNTS

For the year, rainfall recorded at the downtown Los Angeles station (No. 716) reached 23.26 inches, or 150 percent of the long-term average of 15.51 inches. The Cogswell Dam station (No. 334B) recorded 52.35 inches for the year which is 159 percent of the long-term average of 32.88 inches. The County received the greatest amount of rainfall during the month of February, with the San Fernando Valley in the vicinity of the Sepulveda Basin being among the hardest-hit areas. The above two stations recorded rainfall of 9.02 inches and 23.22 inches, respectively, during that month.

ALERT SYSTEM (AUTOMATIC LOCAL EVALUATION IN REAL TIME)

The Department of Public Works has installed a state-of-the-art ALERT computer system to monitor meteorological conditions in the County and Southern California in real time, i.e., as they occur. The system includes a network of field sensors that monitor precipitation amounts, river stages, and reservoir levels.

During the report period, the Department has continued to install and expand its ALERT System. The Department's ALERT system is also now automatically receiving rainfall data from the Corps of Engineers' Los Angeles Telemetry System.

COOPERATION

The cooperation of observers in furnishing rainfall data to the Department as a public service is appreciated. The effort of the many agencies and individuals who have so freely cooperated with us in the collection of this data have resulted in the large number of complete records for the period covered by this report.

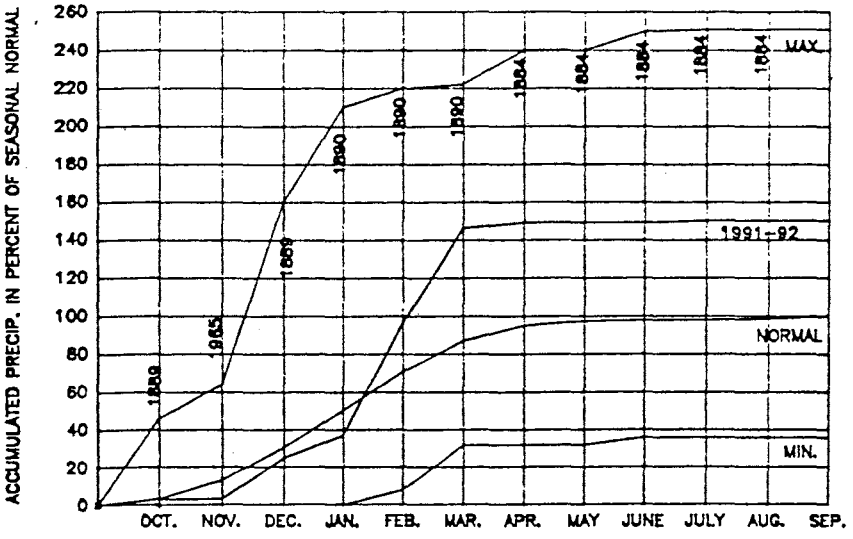
LOS ANGELES COUNTY RAINFALL INDICES
USING SELECTED STATIONS FOR THE PERIOD
OCTOBER 1, 1991 THROUGH SEPTEMBER 30, 1992

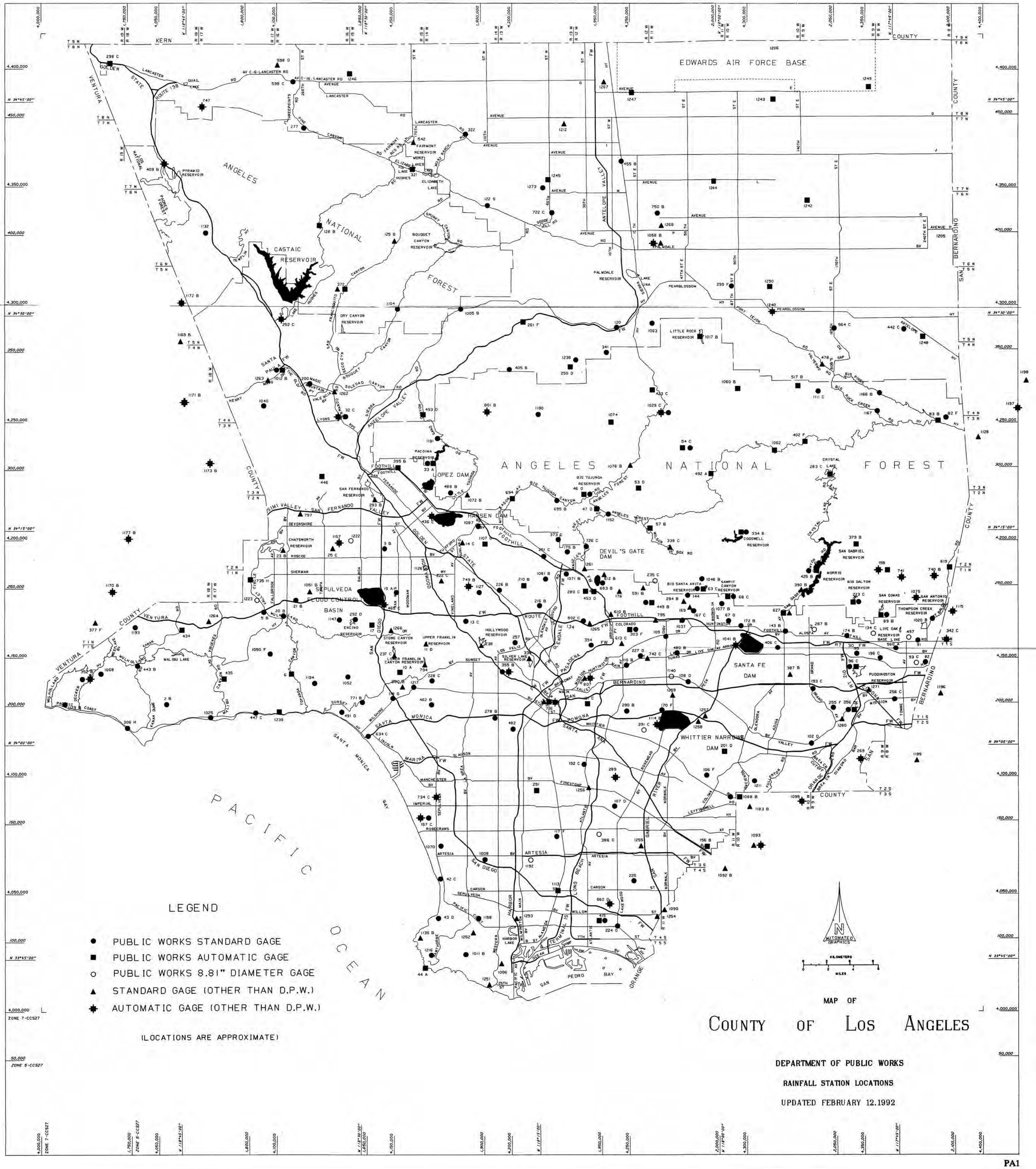
	PERCENT OF AREA	SEASONAL NORMAL PRECIP . (inches)	TOTAL PRECIP . (inches)	PERCENT OF SEASONAL NORMAL	TOTAL PRECIP . LAST YR. (inches)
A. COASTAL PLAIN	14.1	13.71	17.80	130	11.57
B. SAN FERNANDO VALLEY	7.9	17.62	30.56	173	15.21
C. SAN GABRIEL VALLEY	7.5	17.64	20.40	116	14.91
D. SAN GABRIEL MTS.	13.4	27.50	37.67	137	23.81
E. LITTLE ROCK, BIG ROCK	4.5	18.61	24.94	134	16.13
F. SANTA MONICA MTS.	5.7	19.96	31.56	158	14.80
G. SANTA CLARA	18.9	16.64	27.56	166	14.92
H. DESERT	28.0	7.83	14.79	189	8.61
COUNTY	100	15.65	23.77	152	13.94
LOS ANGELES (STATION #716)		15.51	23.26	150	12.60
COGSWELL DAM (STATION #334B)		32.88	52.35	159	26.88

MAX., MIN. & NORMAL CURVES

LOS ANGELES (STATION #716)

SEASONAL NORMAL PRECIPITATION – 15.51"




LEGEND
PUBLIC WORKS STANDARD GAGE
PUBLIC WORKS AUTOMATIC GAGE
PUBLIC WORKS 8.81" DIAMETER GAGE
STANDARD GAGE (OTHER THAN D.P.W.)
AUTOMATIC GAGE (OTHER THAN D.P.W.)
(LOCATIONS ARE APPROXIMATE)
MAP OF
COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
RAINFALL STATION LOCATIONS
UPDATED FEBRUARY 12.1992
EDWARDS AIR FORCE BASE
ANGELES NATIONAL FOREST
PACIFIC OCEAN
SAN PEDRO BAY
KERN COUNTY
VENTURA COUNTY
SAN BERNARDINO COUNTY
ORANGE COUNTY
CASTAIC RESERVOIR
PYRAMID RESERVOIR
PALMDALE RESERVOIR
LAKE LA SIERRA
LITTLE ROCK RESERVOIR
DRY CANYON RESERVOIR
BOUQUET CANYON RESERVOIR
FAIRMONT RESERVOIR
ELIZABETH LAKE
LAKE HUGHES
MUNZ LAKES
PACOIMA RESERVOIR
OPEZ DAM
HANSEN DAM
SAN FERNANDO RESERVOIR
CHATSWORTH RESERVOIR
SEPULVEDA FLOOD CONTROL BASIN
ENCINO RESERVOIR
STONE CANYON RESERVOIR
UPPER FRANKLIN RESERVOIR
LOWER FRANKLIN CANYON RESERVOIR
HOLLYWOOD RESERVOIR
SILVER LAKE RESERVOIR
MALIBU LAKE
BIG TUJUNGA RESERVOIR
DEVIL'S GATE DAM
COGSWELL RESERVOIR
SAN GABRIEL RESERVOIR
MORRIS RESERVOIR
BIG SANTA ANITA RESERVOIR
SAWPIT CANYON RESERVOIR
BIG DALTON RESERVOIR
SAN DIMAS RESERVOIR
SAN ANTONIO RESERVOIR
THOMPSON CREEK RESERVOIR
LIVE OAK RESERVOIR
PUDDINGSTON RESERVOIR
SANTA FE DAM
WHITTIER NARROWS DAM
HARBOR LAKE
ANTELOPE VALLEY
SANTA MONICA MOUNTAINS
LOS ANGELES NATIONAL FOREST
ANGELES FOREST HY
ANTELOPE VALLEY FW
SIMI VALLEY - SAN FERNANDO VALLEY FW
GOLDEN STATE FW
SAN DIEGO FW
FOOTHILL FW
SANTA ANA FW
POMONA FW
LONG BEACH FW
SAN GABRIEL RIVER FW
SAN DIEGO FREEWAY
HOLLYWOOD FREEWAY
GLENDALE-FOOTHILL FREEWAY
PASADENA FREEWAY
TERMINAL ISLAND FREEWAY
SANTA MONICA FREEWAY
VENTURA FREEWAY
HARBOR FREEWAY
SAN BERNARDINO FREEWAY
ORANGE FREEWAY
AUTOMATED GRAPHICS
KILOMETERS
MILES
PA1

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
2B	ESCONDIDO CANYON	S	112 E3	34-02-55	118-46-25	1050	19.00*
5B	CALABASAS	S	100 F3	34-09-24	118-38-14	924	33.47
6	TOPANGA PATROL STATION	A	109 C5	34-05-03	118-35-57	745	33.00
9B	SEPULVEDA AND RAYEN	S	8 C6	34-13-52	118-28-04	828	32.93
10A	BEL AIR HOTEL	A	32 E5	34-05-11	118-26-45	540	26.07
11D	UPPER FRANKLIN CYN RES.	SP	33 B1	34-07-10	118-24-35	867	25.72
13C	NORTH HOLLYWOOD-LAKESIDE	S	23 F4	34-08-46	118-21-13	550	31.51
14C	ROSCOE-MERRILL	S	9 F5	34-14-19	118-21-32	1050	29.00*
15A	VAN NUYS	S	15 D6	34-10-48	118-27-03	695	28.27
17	SEPULVEDA CYN AT MULHOLLAND	A	22 A5	34-07-51	118-29-26	1425	37.10
20B	GIRARD RESERVOIR	S	13 B3	34-09-07	118-36-36	986	36.55
21B	WOODLAND HILLS	S	13 C1	34-10-14	118-35-33	875	28.11
23B	CHATSWORTH RESERVOIR	SP AP	6 A6	34-13-44	118-37-18	900	26.35
25C	NORTHRIDGE-L.A.D.W.P.	SP	7 B6	34-13-52	118-32-28	810	27.97
32C	NEWHALL-SOLEDAD DIV. HDQTRS	AP S	127 C3	34-23-07	118-31-54	1243	31.61
33A	PACOIMA DAM	S A	128 F9	34-19-48	118-23-59	1500	31.66
42C	REDONDO BEACH-CITY HALL	S	67 D3	33-50-43	118-23-20	70	15.48
43D	PALOS VERDES ESTATES	S	72 C2	33-47-58	118-23-29	216	19.05
44A	POINT VICENTE LIGHTHOUSE	A	77 B3	33-44-30	118-24-38	125	14.30
46D	BIG TUJUNGA DAM	S A	M C2	34-17-40	118-11-14	2315	41.09
47D	CLEAR CREEK-CITY SCHOOL	A	M D3	34-16-38	118-10-12	3150	41.90
53D	COLBY'S	A	M F2	34-18-05	118-06-39	3620	38.20
54C	LOOMIS RANCH-ALDER CREEK	S A	(197)	34-20-55	118-02-54	4325	24.62
57B	CAMP HI HILL (OPIDS)	A	M F3	34-15-18	118-05-41	4250	62.93
63C	SANTA ANITA DAM	S A	20A F2	34-11-03	118-01-12	1400	36.04
67G	MONROVIA-MOUNTAIN AVENUE	S	29 C4	34-08-46	117-59-05	602	23.91
68C	SAWPIT DAM	S A	20B C6	34-10-30	117-59-07	1375	34.30
82F	TABLE MOUNTAIN	S	(201)	34-22-56	117-40-39	7420	32.60
83B	BIG PINES RECREATION PARK	A	(201)	34-22-44	117-41-20	6860	30.00
89B	SAN DIMAS DAM	S A	95A C3	34-09-10	117-46-17	1350	28.21
91	CLAREMONT-INDIAN HILL	S	91 B1	34-07-22	117-43-11	1403	23.44
92	CLAREMONT-POMONA COLLEGE	S	91 C4	34-05-48	117-42-33	1185	23.50*
93C	CLAREMONT-POLICE STATION	8.81	91 B4	34-05-45	117-43-18	1170	23.28
95	SAN DIMAS-FIRE WARDEN	S	89 F3	34-06-26	117-48-19	955	20.02
96C	PUDDINGSTONE DAM	S A	89 F4	34-05-31	117-48-24	1030	24.27
102D	WALNUT-N.I. INDUSTRIES	S	97 B2	34-00-11	117-52-10	500	17.91
106F	WHITTIER CITY YARD	S	55 D4	33-58-57	118-02-50	300	17.14
107D	DOWNEY-FIRE DEPARTMENT	S	60 A5	33-55-48	118-08-47	110	16.07
108D	EL MONTE FIRE STATION	S	38 D6	34-04-30	118-02-30	275	18.02
109D	WEST ARCADIA	S	28 A6	34-07-42	118-04-22	547	24.19

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
110B	ALHAMBRA	S	37 B3	34-05-40	118-07-41	533	25.52
117F	COMPTON FIRE STATION	S	64 F3	33-53-42	118-13-34	78	18.00*
119G	SAWTELLE-SOLDIERS HOME	S	41 D2	34-03-21	118-27-20	345	23.50*
120	VINCENT PATROL STATION	S	183 A9	34-29-17	118-08-27	3135	14.10
122G	LEONA VALLEY-RACKETT RANCH	S	171 G3	34-37-52	118-19-22	3300	16.40*
125B	SAN FRANCISQUITO CYN P.H. 1	SP	(169)	34-35-25	118-27-15	2105	25.02
128B	ELIZABETH LAKE	A	(168)	34-36-28	118-33-40	2075	29.10
134C	PUDDINGSTONE DIVERSION	8.81	95A C5	34-07-52	117-46-55	1160	24.40
143B	AZUSA-CITY PARK	S	86 D5	34-08-03	117-54-17	610	23.79
144	SIERRA MADRE DAM	S	20A D3	34-10-34	118-02-32	1100	35.66
156B	LA MIRADA-STANDARD OIL CO.	A	83 A4	33-52-59	118-01-00	75	16.20
157C	EL SEGUNDO-CHEVRON OIL CO.	AP S	56 A6	33-54-57	118-25-05	150	14.60*
158	TANBARK FLATS	AP A	P D5	34-12-20	117-45-40	2750	35.90
167C	ARCADIA PUMPING PLANT #1	S	28 E2	34-09-31	118-02-02	611	27.08
169	SIERRA MADRE PUMPING PLANT	SP	28 D2	34-09-47	118-02-21	700	29.96
170F	POTRERO HEIGHTS	S	47 A4	34-02-32	118-04-44	285	18.42
172B	DUARTE	S	29 E4	34-08-26	117-58-02	548	22.95
174B	GLENDORA	S	87 E6	34-07-43	117-49-08	930	25.56
175B	LA CANADA IRRIGATION DIS.	S	19 A1	34-13-39	118-12-40	2020	41.53
176	ALTADENA-RUBIO CANYON	SP	20 B6	34-10-55	118-08-15	1125	35.22
191C	L.A.C.D.P.W.-WAREHOUSE	A	45 B1	34-03-48	118-11-58	400	24.06*
192C	BELL-FIRE STATION	8.81	53 C5	33-58-45	118-11-16	145	16.00*
193C	COVINA-NIGG	S	89 A5	34-04-55	117-52-25	575	23.76
196C	LA VERNE-FIRE STATION	S	90 D3	34-06-06	117-46-20	1050	23.04
200	SAUGUS-S. C. EDISON CO.	S	123 H8	34-25-21	118-34-26	1096	22.40
201D	HACIENDA HEIGHTS	A	85 C3	33-59-40	117-59-28	875	22.70
210C	BRAND PARK	A	18 B5	34-11-18	118-16-20	1250	30.00*
216B	GLENDALE-ANDREE	S	25 D2	34-09-54	118-15-01	615	29.58
222C	NORTH HOLLYWOOD P. P.	SP	16 C4	34-11-39	118-23-17	717	28.80*
223C	BIG DALTON DAM	S A	87 F2	34-10-06	117-48-36	1587	32.59
224D	LONG BEACH-ALAMITOS LAND CO.	S	76 B3	34-47-	118-08-	45	14.04*
225	MONTANA RANCH	S	71 C3	33-50-35	118-07-09	47	15.77
226B	BURBANK-FIRE STATION	S	17 E6	34-10-58	118-18-23	680	28.05*
227D	SAN GABRIEL-BRUINGTON-ORTON	S	37 D2	34-06-18	118-06-32	472	25.02
228C	BEVERLY HILLS CITY HALL	AP S	33 C6	34-06-00	118-23-40	245	22.39
235C	HENNIGER FLATS	A 8.81	20 F4	34-11-38	118-05-17	2550	44.88
237C	STONE CANYON RESERVOIR	SP	32 D2	34-06-21	118-27-13	865	28.10
238	HOLLYWOOD DAM	SP	34 C1	34-07-04	118-19-55	750	27.06
250D	ACTON CAMP	A	189 E5	34-27-02	118-11-55	2625	16.00
251C	LA CRESCENTA	S	18 D1	34-13-20	118-14-40	1440	36.76

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
252C	CASTAIC DAM	SP AP	(178)	34-29-53	118-36-53	1150	21.79
255F	MT. SAN ANTONIO COLLEGE	S	93 D4	34-02-41	117-50-19	720	21.78
256C	POMONA-FIRE STATION	S	94 E3	34-03-16	117-45-10	844	22.00*
257	GRIFFITH PARK NURSERY	S	35 A1	34-07-18	118-17-04	850	26.20*
261F	ACTON-ESCONDIDO CANYON	A	181 H9	34-29-42	118-16-22	2960	15.76*
269D	DIAMOND BAR FIRE STATION	SP AP	97 F2	33-59-50	117-48-55	870	19.45
277	SAWMILL MOUNTAIN	S	(155)	34-43-15	118-35-00	3700	23.20*
278B	L.A. CLARK MEMORIAL LIBRARY	S	43 D5	34-02-00	118-18-46	203	22.00*
280C	FLINTRIDGE-SACRED HEART	A	19 D6	34-10-54	118-11-08	1600	37.25
283C	CRYSTAL LAKE-EAST PINE FLAT	A	P B1	34-19-02	117-50-28	5370	53.10
287B	GLENDORA-CITY HALL	8.81	87 B5	34-08-09	117-51-52	785	27.27
289	LAGUNA-BELL-S.C.E. CO.	SP	54 A5	33-58-37	118-08-48	140	15.20*
290B	MONTEREY PARK-FIRE STATION	S	46 B4	34-02-27	118-07-42	305	21.46
291	LOS ANGELES-96th AND CENTRAL	A	58 C3	33-56-56	118-15-17	121	19.70
292D	ENCINO RESERVOIR	S A	21 D3	34-08-56	118-30-57	1075	35.53
293B	LAKE LOS ANGELES	SP	2 A4	34-17-18	118-28-54	1150	31.15
294B	SIERRA MADRE-MIRA MONTE P.P.	SP	28 C1	34-10-11	118-02-51	985	33.97
298C	GORMAN - SHERIFF	A	(141)	34-47-47	118-51-27	3835	17.00*
299F	LITTLE ROCK - SCHWAB	S	184 F5	34-32-12	117-58-43	2800	12.85
303F	PASADENA - CALTECH	A	27 C5	34-08-14	118-07-25	800	27.80*
306H	ZUMA BEACH	S	111 F6	34-01-15	118-49-42	15	20.72
321	PINE CANYON PATROL STATION	A	157 D7	34-40-24	118-25-45	3286	23.70
322	MUNZ VALLEY RANCH	S	158 A2	34-42-50	118-21-15	2600	18.07
334B	COGSWELL DAM	S A	N D4	34-14-37	117-57-35	2300	52.35
336	SILVER LAKE RESERVOIR	SP	35 B3	34-06-08	118-15-54	445	25.55
338C	MT. WILSON-OBSERVATORY	SP	20A C1	34-14-07	118-04-28	5709	47.83
341	ALISO CANYON-BLUM RANCH	S	189 J4	34-27-33	118-09-20	2900	18.00*
342C	UPLAND-CHAPPEL	AP	96 E6	34-07-33	117-40-52	1610	23.52
352B	LECHUZA PATROL STATION	AP S	105 B6	34-04-38	118-52-47	1620	29.53
355B	LOS ANGELES CITY COLLEGE	AP S	34 F4	34-05-14	118-17-28	310	24.62
356C	SPADRA-LANTERMAN HOSPITAL	S A	93 F4	34-02-31	117-48-35	690	20.96
372	SAN FRANCISQUITO P. H. NO.2	SP A	(179)	34-32-02	118-31-27	1580	28.91
373C	BRIGGS TERRACE	S A	11 F5	34-14-17	118-13-27	2200	42.78
377F	LAKE SHERWOOD ESTATES	SP AP	102A C4	34-08-26	118-52-31	960	20.75*
379B	SAN GABRIEL-EAST FORK	A	P C4	34-14-09	117-48-18	1600	32.30
387B	COVINA CITY YARD	SP	88 E5	34-05-02	117-53-57	508	22.42
388D	PARAMOUNT-COUNTY FIRE DEPT.	8.81	65 E3	33-53-50	118-10-02	80	17.25*
390B	MORRIS DAM	SP	P A6	34-10-53	117-52-43	1210	31.12
391C	MONTEBELLO-FIRE DEPARTMENT	8.81	54 E1	34-01-08	118-06-15	250	15.52
394	HIGHLAND PARK	S	36 D1	34-07-06	118-10-39	620	28.54

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
395B	OLIVE VIEW SANITARIUM	A	2 D1	34-19-29	118-26-55	1425	35.51
402F	CEDAR SPRINGS	A	(199)	34-21-21	117-52-34	6780	40.00*
405B	SOLEDAD CANYON	S	188 F6	34-26-23	118-17-33	2150	23.76
406C	WEST AZUSA	S	88 C2	34-06-53	117-54-56	505	21.07
409B	PYRAMID RESERVOIR	SP AP	(154)	34-40-34	118-46-47	2505	28.61
415	SIGNAL HILL-CITY HALL	S A	75 E2	33-47-49	118-10-03	140	14.93
423C	ANGELES FOREST-ALISO CYN	A	(190A)	34-24-57	118-05-26	3920	30.69
425B	SAN GABRIEL DAM	S A	P A5	34-12-19	117-51-38	1481	36.66
434	AGOURA	A	100A A5	34-08-08	118-45-08	800	28.80
435	MONTE NIDO	A	108 A6	34-04-41	118-41-35	600	35.10
436C	HANSEN DAM	AP	9 C2	34-16-08	118-23-59	1110	30.10
442C	MESCAL CREEK	S	(194)	34-29-05	117-44-10	3570	13.26
443B	LATIGO CANYON-BEACH RANCH	S	106 B4	34-05-35	118-48-52	1700	19.50*
446	ALISO CANYON-OAT MOUNTAIN	A	1 A2	34-18-53	118-33-25	2367	34.47*
447C	CARBON CANYON	S	114 E4	34-02-18	118-38-56	50	16.37
449B	EATON WASH DAM	S A	27 E1	34-10-06	118-05-33	880	30.62
453D	DEVILS GATE DAM	A	19 D6	34-10-53	118-10-27	980	28.42*
455B	LANCASTER-HWY MAINTENANCE	S	160 B6	34-40-57	118-08-02	2395	13.87
462B	HILLCREST COUNTRY CLUB	S	42 B3	34-02-54	118-24-06	185	22.27
465C	SEPULVEDA DAM	AP	22 B1	34-10-06	118-28-11	683	29.45
478	VALYERMO-U.S.F.S.	SP	192 H5	34-26-44	117-51-10	3710	18.00*
480B	TEMPLE CITY FIRE STATION	S	38 C2	34-06-31	118-03-25	404	21.08
482	LOS ANGELES-U.S.C.	S	43 F6	34-01-14	118-17-15	208	21.95
488B	KAGEL CANYON PATROL STATION	S	3 E4	34-17-45	118-22-30	1450	30.10
491D	PACIFIC PALISADES	S	40 C4	34-02-22	118-31-43	293	21.03
492A	CHILAO-HWY MAINTENANCE STA.	A	N C1	34-19-05	118-00-30	5275	31.21*
493D	SAND CANYON-MACMILLAN RANCH	A	128 D3	34-23-17	118-24-50	1805	34.00*
497	CLAREMONT-SLAUGHTER	8.81	91 A1	34-07-35	117-43-55	1350	25.20
517B	LEWIS RANCH	A	(192A)	34-25-12	117-53-11	4615	19.36
542	FAIRMONT	SP	(145)	34-42-15	118-25-40	3050	23.84
560A	LA VERNE HEIGHTS	S	90 E2	34-06-48	117-45-02	1210	23.90
564C	LLANO	S	185 J9	34-29-13	117-50-02	3390	13.47
591B	SANTA ANITA RESERVOIR	SP	20 E5	34-11-08	118-06-16	1205	22.62
598C	NEENACH-ERSTAD	S	(143)	34-46-28	118-35-55	3062	20.16
598D	NEENACH-CHECK 43-D.W.R.	SP	(143)	34-47-40	118-37-15	2965	19.26
610B	PASADENA-CITY HALL	SP	27 A4	34-08-54	118-08-36	864	30.61
612B	PASADENA-CHLORINE PLANT	SP	19 E3	34-12-04	118-09-49	1160	35.16
613C	PASADENA FIRE STATION	SP	27 B5	34-07-15	118-08-05	779	26.96
619	SAN ANTONIO CYN-SIERRA P. H.	A	P F5	34-12-29	117-40-26	3110	41.42
627	SAN GABRIEL CANYON-P. H.	SP A	86 D3	34-09-20	117-54-28	744	27.07

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
634C	SANTA MONICA	S	49 A1	34-00-43	118-29-27	94	18.19
662D	LONG BEACH AIRPORT	SP	71 A6	33-49-	118-09-	34	13.66
680B	WESTWOOD (U.C.L.A.)	SP	41 E1	34-04-10	118-26-30	430	23.16
683B	SUNSET RIDGE	S A	19 E4	34-12-53	118-08-47	2110	32.59
694G	BIG TUJUNGA CANYON-CAMP 15	A	M D6	34-17-22	118-17-17	1525	34.30
695B	TUJUNGA CANYON-VOGEL FLAT	S	M B2	34-17-12	118-13-32	1850	47.54
716	LOS ANGELES-DUCOMMUN ST.	SP A AP	44 E3	34-03-09	118-14-13	306	23.26
722C	BELLEVIEW	S	171 B3	34-37-23	118-13-55	2880	19.84*
726C	ANGELES CREST GUARD STATION	S	M D4	34-14-01	118-11-04	2300	43.67
734C	L. A. INTERNATIONAL AIRPORT	SP AP	56 C3	33-56-25	118-23-44	105	14.85
735H	BELL CANYON	A	5 D4	34-11-40	118-39-23	895	33.60
740B	SAN DIMAS CANYON-FERN NO.2	AP	P F6	34-11-48	117-41-45	5200	34.00*
741	SAN DIMAS CYN	AP	P E6	34-11-41	117-44-26	2675	35.05*
742C	SAN GABRIEL FIRE DEPARTMENT	SP	37 E3	34-06-11	118-05-56	445	23.19
747	SANDBERG-AIRWAYS STATION	SP AP	(142)	34-44-47	118-43-29	4517	17.70
749B	BURBANK VALLEY PUMP PLANT	SP AP	17 A5	34-11-11	118-20-54	655	30.78
750B	PALMDALE REGIONAL AIRPORT	S	172 F6	34-37-20	118-05-00	2528	12.47
771B	PACIFIC PALISADES-RIVIERA	S	40 F3	34-03-03	118-29-58	315	23.00*
794	LOWER FRANKLIN RESERVOIR	SP	33 B4	34-05-43	118-24-40	585	24.51
795	PASADENA	SP	27 F4	34-08-52	118-05-14	***	27.08
797	DE SOTO RESERVOIR	SP	6 D1	34-16-17	118-35-12	1127	30.20
801B	MAGIC MOUNTAIN	AP	(195)	34-23-18	118-19-27	4720	36.65
802C	EAGLE ROCK RESERVOIR	SP	26 C4	34-08-47	118-11-20	970	28.58
807	ASCOT RESERVOIR	SP AP	36 C5	34-04-46	118-11-14	620	24.26
1005B	MINT CANYON FIRE STATION	S	(180)	34-30-35	118-21-40	2300	18.65
1006	SAN PEDRO-CITY RESERVOIR	SP A	78 F2	33-44-37	118-17-47	150	17.25
1008	LA FRESA-S.C.E.CO.	S	63 C6	33-52-07	118-19-55	65	18.09
1011B	PALOS VERDES FIRE STATION	S	78 A1	33-45-25	118-21-11	1275	21.27
1012B	CASTAIC JUNCTION	S A	123 E6	34-26-18	118-36-43	1005	22.72
1017B	LITTLE ROCK CREEK ABOVE DAM	A	(191)	34-28-41	118-01-24	3280	17.80*
1020B	PADUA HILLS PATROL STATION	S	96 D4	34-08-52	117-41-55	1800	26.47
1025	MALIBU BEACH-DUNNE	S	113 E5	34-02-00	118-42-42	160	17.12
1029C	TUJUNGA-MILL CREEK SUMMIT	AP S	(197)	34-23-22	118-04-49	4990	31.83
1037	ARCADIA-ARBORETUM	S	28 C4	34-08-48	118-02-59	565	23.43
1040	POTRERO CYN-SUNRAY OIL CO.	S	126 C2	34-23-50	118-38-18	1150	24.00*
1041B	SANTA FE DAM	AP	39 D1	34-07-04	117-58-24	427	20.61
1046B	SANTA ANITA CYN-CHANTRY FLAT	S	20A F1	34-11-46	118-01-20	2175	42.08
1050F	OLD TOPANGA CANYON	S	108 F3	34-06-24	118-37-43	1000	44.41
1051B	CANOGA PARK-PIERCE COLLEGE	SP	12 E5	34-10-51	118-34-23	800	33.57
1052	CAMP JOSEPHO	S	30 D5	34-04-51	118-31-10	660	26.00*

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
1058B	PALMDALE	SP AP	172 E7	34-35-17	118-05-31	2595	12.69
1060B	LITTLE ROCK-SYCAMORE CAMP	A	(191)	34-25-02	117-58-13	4000	22.00*
1062	BUCKHORN FLAT	A	(199)	34-20-44	117-55-08	6760	34.40
1063	SOLEDAD PASS	S	183 E9	34-29-35	118-05-28	3520	18.50
1068	RATTLESNAKE CANYON	S	105 C5	34-05-00	118-51-55	1290	22.62
1070	MANHATTAN BEACH	S	62 D4	33-53-00	118-23-19	182	15.59
1071B	DESCANSO GARDENS	S	19 B2	34-12-07	118-12-46	1325	35.87
1072B	LITTLE TUJUNGA RANGER STA.	SP A	3 F5	34-17-37	118-21-38	1275	31.11
1074	LITTLE GLEASON	A	(197)	34-22-43	118-08-57	5600	32.00*
1075	UPPER WOLFSKILL	AP	96 B2	34-10-13	117-43-16	3625	31.54
1076B	MONTE CRISTO RANGER STATION	SP	M E1	34-19-42	118-07-20	3360	29.77
1077B	MONROVIA-FIVE POINTS	S	29 B1	34-09-58	117-59-37	962	31.49
1081B	GLENDALE-GREGG	SP	18 D4	34-11-45	118-14-30	1350	35.52
1087	GREEN-VERDUGO PUMPING PLANT	S	10 B3	34-15-25	118-20-11	1340	27.12
1088B	LA HABRA HEIGHTS	S A	84 E2	33-56-55	117-57-51	445	19.55
1090	LOS ALAMITOS	SP	81 B6	33-48-35	118-04-35	25	14.60*
1092B	BUENA PARK	3"P	OC10 C1	33-51-28	117-59-29	80	17.80*
1093	FULLERTON AIRPORT	SP AP	83 D5	33-52-23	117-58-24	100	19.00*
1095	ORANGE COUNTY RESERVOIR	SP AP	OC 2 F4	33-56-07	117-52-58	660	19.59
1104	BOUQUET CANYON AT TEXAS CYN	S	(180)	34-30-35	118-27-00	1760	23.20*
1107D	LA TUNA DEBRIS BASIN	A	10 C5	34-14-13	118-19-37	1160	29.80
1111C	DEVILS PUNCHBOWL	S	(192A)	34-24-48	117-51-25	4760	24.85
1113	DOMINGUEZ WATER CO.	A	69 F4	33-49-54	118-13-30	30	16.50
1114B	WHITTIER NARROWS DAM	AP	47 A6	34-01-29	118-05-02	239	17.41
1115	SAN ANTONIO DAM	AP SP	96 F3	34-09-24	117-40-20	2120	28.88
1126A	LOS ANGELES-EAST VALLEY	8.81	16 B3	34-12-30	118-24-35	780	28.28
1127	WEST BURBANK	S	17 B6	34-10-47	118-20-07	615	29.00*
1128	WRIGHTWOOD FIRE DEPARTMENT	SP	S.B.CO.	34-21-34	117-37-57	5960	21.77
1129B	NICHOLAS CANYON	S	110 D3	34-02-52	118-54-57	340	22.77
1132	OAK FLAT GUARD STATION	S	(166)	34-35-56	118-43-15	2800	29.20*
1135B	LUNADA BAY	SP	72 A4	33-46-37	118-25-01	250	16.00*
1140	ROSEMEAD	8.81	38 B5	34-04-53	118-03-55	305	16.54
1147	EL CABALLERO COUNTRY CLUB	S	21 C4	34-08-52	118-31-53	1000	44.17
1152	CLEAR CREEK RANGER STATION	S	M D3	34-16-15	118-09-11	3625	47.41
1157	CAL STATE UNIV. NORTHRIDGE	SP AP	7 C5	34-14-17	118-31-48	890	29.80*
1158	TORRANCE MUNICIPAL AIRPORT	S	73 B2	33-47-59	118-20-08	102	20.40
1166B	MILE HIGH RANCH	S	(193)	34-24-40	117-46-15	5280	26.00*
1167	FENNER CANYON	S	(200)	34-23-25	117-46-27	5380	32.00*
1169B	PIRU-TEMESCAL GUARD STATION	SP	V.CO.	34-28-22	118-45-21	1150	29.12
1170B	THOUSAND OAKS WEATHER STA.	AP	V.CO.	34-10-44	118-51-01	805	29.04

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
1171B	CAMULOS RANCH	SP AP	V.CO.	34-24-22	118-45-21	725	27.68
1172B	PIRU CANYON ABOVE PIRU LAKE	AP	(177)	34-30-48	118-45-24	1120	29.45
1173B	TAPO CANYON	AP	V.CO.	34-19-54	118-42-39	1525	27.56
1177B	BARD RESERVOIR	AP	V.CO.	34-14-32	118-49-41	1010	26.27
1183B	LA HABRA FIRE STATION	3"P	84 F4	33-55-53	117-57-17	315	19.70*
1190	PACOIMA CYN-NORTH FORK	S	(195)	34-23-17	118-15-06	4180	32.00*
1191	BEAR DIVIDE	S	128 F6	34-21-35	118-23-37	2700	35.34
1192	CARSON FIRE STATION	8.81	64 C6	33-52-04	118-15-45	92	18.00*
1193	WESTLAKE VILLAGE	S	102 A5	34-08-19	118-49-05	885	33.60
1194	SANTA YNEZ RESERVOIR	S	109 F6	34-04-23	118-33-59	735	29.80*
1195	CHINO FIRE STATION NO. 2	SP	S.B.CO.	33-59-00	117-43-20	655	20.17
1196	MONTCLAIR FIRE DEPARTMENT	SP	95 E2	34-03-41	117-41-16	965	22.36
1197	CAJON WEST SUMMIT	SP	S.B.CO.	34-23-30	117-34-35	4838	26.00*
1198	PHELAN FIRE CONTROL	SP	S.B.CO.	34-25-30	117-34-00	4160	16.49
1211	HACIENDA GOLF CLUB	S	98A A1	33-57-40	117-56-57	750	20.00*
1212	LANCASTER FSS/FAA	SP	147 C9	34-44-00	118-13-00	2340	12.60
1216	RANCHO PALOS VERDES	S	77 C1	33-45-10	118-23-32	780	16.95
1217	LOS ANGELES COUNTRY CLUB	S	42 A1	34-04-10	118-25-17	380	23.69
1222	NORTHRIDGE-GARLAND	8.81	7 E3	34-14-17	118-30-59	911	30.70
1223	WOODLAND HILLS-SHERMAN	8.81	100 E1	34-10-06	118-38-57	1035	32.10
1238	ACTON-MEARNS	S	189 G2	34-27-05	118-12-50	2775	16.00*
1239	MALIBU-BIG ROCK MESA	A	115 A4	34-02-34	118-37-16	725	21.00
1240	PEARBLOSSOM-CALIF.D.W.R.	SP AP	185 B7	34-30-32	117-55-15	3050	12.31
1242	ROCKY BUTTES	A	(162)	34-39-00	117-51-48	2540	10.60*
1243	REDMAN	A	(150)	34-45-52	117-55-30	2360	9.60*
1244	LANCASTER-ROPER	A	161 C6	34-40-27	118-00-37	2450	11.00*
1245	QUARTZ HILL-HALL	A	159 B7	34-40-28	118-14-40	2395	14.10
1246	SCOTT RANCH	A	(145)	34-46-59	118-28-10	2710	19.70*
1247	NORTH LANCASTER	A	148 D6	34-45-41	118-07-30	2310	11.30
1248	MESCAL-SMITH	A	(194)	34-28-03	117-42-40	3810	14.20
1249	RELAY	A	(150)	34-45-43	117-47-55	3140	8.80
1250	AVEK	A	185 B5	34-32-21	117-55-23	2825	11.50
1251	PALOS VERDES-WHITES POINT	SP	78 D6	33-42-50	118-19-02	100	13.47
1252	PALOS VERDES LANDFILL	SP	73 A4	33-45-40	118-20-03	400	18.85
1253	CARSON-COUNTY SANITATION	SP	74 A2	33-48-07	118-16-58	40	16.91
1254	LONG BEACH RECLAMATION PLANT	SP	76 F1	33-48-11	118-05-20	20	14.38
1255	LOS COYOTES RECLAMATION	SP	66 E4	33-53-05	118-06-24	70	15.99
1256	SOUTH GATE TRANSFER STATION	SP	59 E3	33-56-40	118-09-56	100	15.43
1257	SAN JOSE CREEK RECLAMATION	SP	47 F4	34-01-55	118-01-16	275	20.78
1258	PUENTE HILLS LANDFILL	SP	47 E5	34-01-35	118-01-49	300	20.09

ACTIVE RAINFALL STATIONS 1991-1992

STATION NO.	STATION NAME	TYPE OF GAGE	THOMAS GUIDE PAGE	NORTH LATITUDE	WEST LONGITUDE	GAGE ELEV. (feet)	SEASONAL TOTAL (inches)
1259	WHITTIER NARROWS RECLAMATION	SP	47 B1	34-03-59	118-03-54	225	16.39
1260	SPADRA LANDFILL	SP	93 E4	34-02-36	117-49-50	700	20.48
1261	LA CANADA RECLAMATION PLANT	SP	19 D2	34-13-00	118-11-14	1800	36.74
1262	SAUGUS RECLAMATION PLANT	SP	124 B9	34-24-48	118-32-23	1150	24.77
1263	VALENCIA RECLAMATION PLANT	SP	123 D7	34-25-55	118-37-13	1000	22.57
1264	CALABASAS LANDFILL	SP	100A E3	34-08-25	118-42-35	800	33.32
1265	SCHOLL CANYON LANDFILL	SP	26 C4	34-08-38	118-11-07	1000	32.44
1266	MISSION CANYON LANDFILL	SP	22 B6	34-08-40	118-28-45	1150	27.48
1267	LANCASTER RECLAMATION PLANT	SP	147 H4	34-46-38	118-09-11	2302	11.45
1268	PALMDALE RECLAMATION PLANT	SP	172 G6	34-35-30	118-05-10	2565	10.94
1271	POMONA WASTE RECLAMATION	SP	94 B3	34-03-18	117-47-34	786	21.78

LEGEND:

S	Standard 8 Inch Non-recording Gage Owned By L.A. County Public Works
8.81	8.81 Inch Diameter Non-recording Gage Owned By L.A. County Public Works
A	Automatic Recording Gage Owned By L.A. County Public Works
SP	Standard 8 Inch Diameter Non-recording Gage Owned By Outside Interest
AP	Automatic Recording Gage Owned By Outside Interest
3"P	Standard 3 Inch Gage Owned By Outside Interest
( )	Thomas Guide Page
O.CO.	Orange County Thomas Guide Page
V.CO.	Ventura County Thomas Guide Page
S.B.CO.	San Bernardino County Thomas Guide Page
*	Estimated Seasonal Total

(CONTOURS ARE IN INCHES)

MAP OF

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

ISOHYETAL MAP
1991-92

PA2

(CONTOURS ARE IN INCHES)

MAP OF

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

FEB 9-13,1992 STORM

ISOHYETAL MAP

PART 4.HWC.1992.STORM
PLOT 4.HWC.PLOTTEMP

EVAPORATION

EVAPORATION

Data for 14 active evaporation stations were reported to the Department during the 1991-92 water year. Daily records of active and inactive Department stations, as well as some stations of other agencies, are available in the Department's files. Monthly and seasonal evaporation has been published in the Department's Annual or Biennial Reports on Hydrologic Data since the 1931-32 season.

COOPERATION

The Department receives evaporation data from The Metropolitan Water District, Palmdale Water District, California Department of Water Resources, and Descanso Gardens.

LENGTH OF RECORD

The first land pan installed by this Department was at Santa Anita Dam in March 1929. There are 30 evaporation stations which have records of 15 seasons or more in the Department's files.

EVAPORATION STATION LIST 1991-92

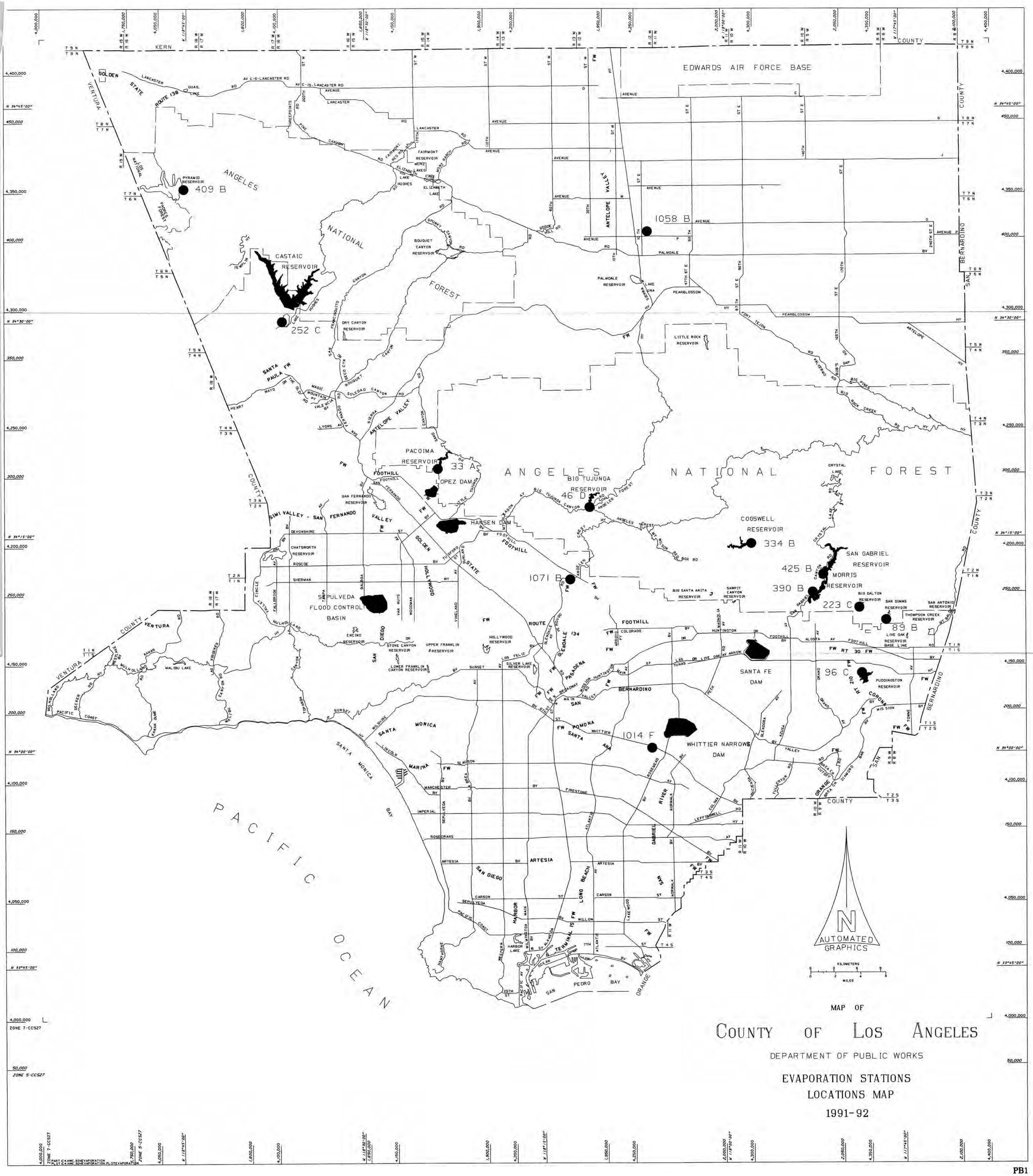
STA. NO.	STATION NAME	EQUIPMENT	ELEVATION OF PAN	THOMAS GUIDE	NORTH LATITUDE	WEST LONGITUDE
33 A	Pacoima Dam	24X36 S	1500 ft.	145 F9	34-19-48	118-23-59
46 D	Big Tujunga Dam	24X36 S	2315 ft.	F C2	34-17-40	118-11-14
63 C3	Santa Anita Dam	24X36 S	1400 ft.	99 F2	34-11-03	118-01-12
89 B	San Dimas Dam	24X36 S	1350 ft.	95A C3	34-09-10	117-46-17
96 C	Puddingstone Dam	24X36 S	1030 ft.	89 F4	34-05-31	117-48-24
223 B	Big Dalton Dam	24X36 S	1587 ft.	87 F1	34-10-06	117-48-36
252 C	Castaic Reservoir	48X10 S	1150 ft.	(178)	34-29-53	118-36-53
334 B	Cogswell Dam	24X36 S	2300 ft.	G D4	34-14-37	117-57-35
390 B	Morris Dam	72X36 US	1210 ft.	86 F1	34-10-53	117-52-43
409 B	Pyramid Reservoir	48X10 S	2505 ft.	(154)	34-40-34	118-46-47
425 B	San Gabriel Dam	24X36 S	1481 ft.	H A5	34-12-19	117-51-38
1014 F	Rio Hondo S.G.	24X36 S	170 ft.	54 D3	33-59-57	118-06-04
1058 B	Palmdale	24X36 S	2595 ft.	172 F7	34-35-17	118-05-31
1071 B	Descanso Gardens	24X36 S	1325 ft.	19 B3	34-12-07	118-12-46

LEGEND

24X36 S = Screened land pan, 24 inches in diameter by 36 inches deep.
48X10 S = Screened land pan, 48 inches in diameter by 10 inches deep.
72X36 US = Unscreened land pan, 72 inches in diameter by 36 inches deep.
( ) = Thomas Guide future page assignment.

MONTHLY EVAPORATION SUMMARY FOR WATER YEAR 1991-92 (inches)

STA. NO		STATION NAME	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	TOTAL
33	A	Pacoima Dam	10.35	9.33	5.64	7.35	4.94	2.46	7.44	5.03	7.29	7.88	10.69	10.52	88.90
46	D	Big Tujunga Dam	9.30	6.89	4.99	4.66	4.08	3.31	6.06	5.95	7.91	9.10	11.20	9.86	83.29
63	D	Santa Anita Dam	6.51	5.17	3.58	3.31	2.47	1.94	3.37	3.51	4.87	5.05	6.77	6.56	53.09
89	B	San Dimas Dam	4.67	2.89	1.83	2.03	1.89	1.88	4.16	4.75	6.27	6.58	8.13	6.06	51.11
96	C	Puddingstone Dam	6.73	4.81	3.33	3.07	2.90	2.42	5.71	6.25	8.20	8.51	10.95	8.59	71.46
223	B	Big Dalton Dam	5.19	3.00	1.74	1.84	1.77	1.51	3.73	4.60	6.11	6.02	8.10	6.28	49.86
252	C	Castaic Reservoir	7.15	5.48	6.00	3.25	7.45	4.14	4.78	4.96	7.26	7.38	9.27	8.14	75.25
334	B	Cogswell Dam	5.18	2.71	1.50	1.28	1.64	1.48	3.89	5.54	7.15	7.57	8.69	6.50	53.11
390	B	Morris Dam	7.99	7.14	4.08	3.78	3.55	3.08	7.46	7.15	9.05	9.43	12.32	10.48	85.52
409	B	Pyramid Reservoir	6.20	5.44	6.43	5.69	9.59	7.55	5.15	6.71	8.97	8.03	9.72	10.88	90.36
425	B	San Gabriel Dam	8.38	6.26	3.90	3.70	3.08	2.66	6.07	5.99	7.80	8.05	9.74	9.02	74.61
1014	F	Rio Hondo S.G.	4.44	3.62	2.21	1.80	3.20	2.27	4.26	4.88	6.52	6.66	7.69	5.59	53.13
1058	B	Palmdale	6.01	2.88	2.19	1.30	1.56	2.82	8.88	13.53	16.40	15.49	15.62	11.55	98.21
1071	B	Descanso Gardens	4.98	2.78	2.08	1.63	1.77	1.58	3.24	3.88	4.71	5.44	7.07	5.69	44.83



MAP OF

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

EVAPORATION STATIONS LOCATIONS MAP

1991-92

PART C:4.HWC.92\EVAPORATION
PLOT S:4.HWC.92\EVAPORATION.PLO\EVAPORATION

PB1

RUNOFF

RUNOFF

The Department operated or received data from 65 water-stage recording stations during the 1991-92 water year. Data from 40 of those stations are summarized and published in this volume.

The above normal rainfall during this report period and especially the heavy storm activity during February have resulted in heavy runoff in the rivers, channels, and streams. The Los Angeles River in particular during February 10th, experienced flow rates at near-channel capacity at some locations.

RECORDS OF STREAMFLOW

Records published give the following information:

1. Station description which presents location, drainage area, type of channel, control, regulations, diversions, and available records.

2. Discharge tabulation which summarizes the maximum, minimum, and mean of the daily flow rates in second-feet for each month and the total monthly volumes in acre-feet.

ALERT SYSTEM (AUTOMATIC LOCAL EVALUATION IN REAL TIME)

The Department of Public Works has installed a state-of-the-art ALERT computer system to monitor meteorological conditions at 57 locations in the County. The system includes a network of field sensors that monitor precipitation amounts, river stages, and reservoir levels.

During the report period, the Department has continued to install and expand its ALERT System. The Department's ALERT system is also now automatically receiving rainfall data from the Corps of Engineers' Los Angeles Telemetry System.

COOPERATION

The Department receives streamflow data from other agencies, or has access to the records for local stations. Data from 7 of the Department's stations are published in the United States Geological Survey's annual water supply papers.

Agencies with which the Department exchanges data are:

United States Geological Survey, Water Resource Division
United States Corps of Engineers
State Department of Water Resources
The Metropolitan Water District
San Gabriel River Water Committee

LEGEND

Stations are designated by letters and numbers which indicate ownership, operation agency, and type of station. The letters used have the following connotations:

Prefix F - Indicates a station owned and operated by the Los Angeles County Department of Public Works.

Prefix E - Indicates a station owned by the Corps of Engineers, Department of the Army, but operated and maintained by the United States Geological Survey.

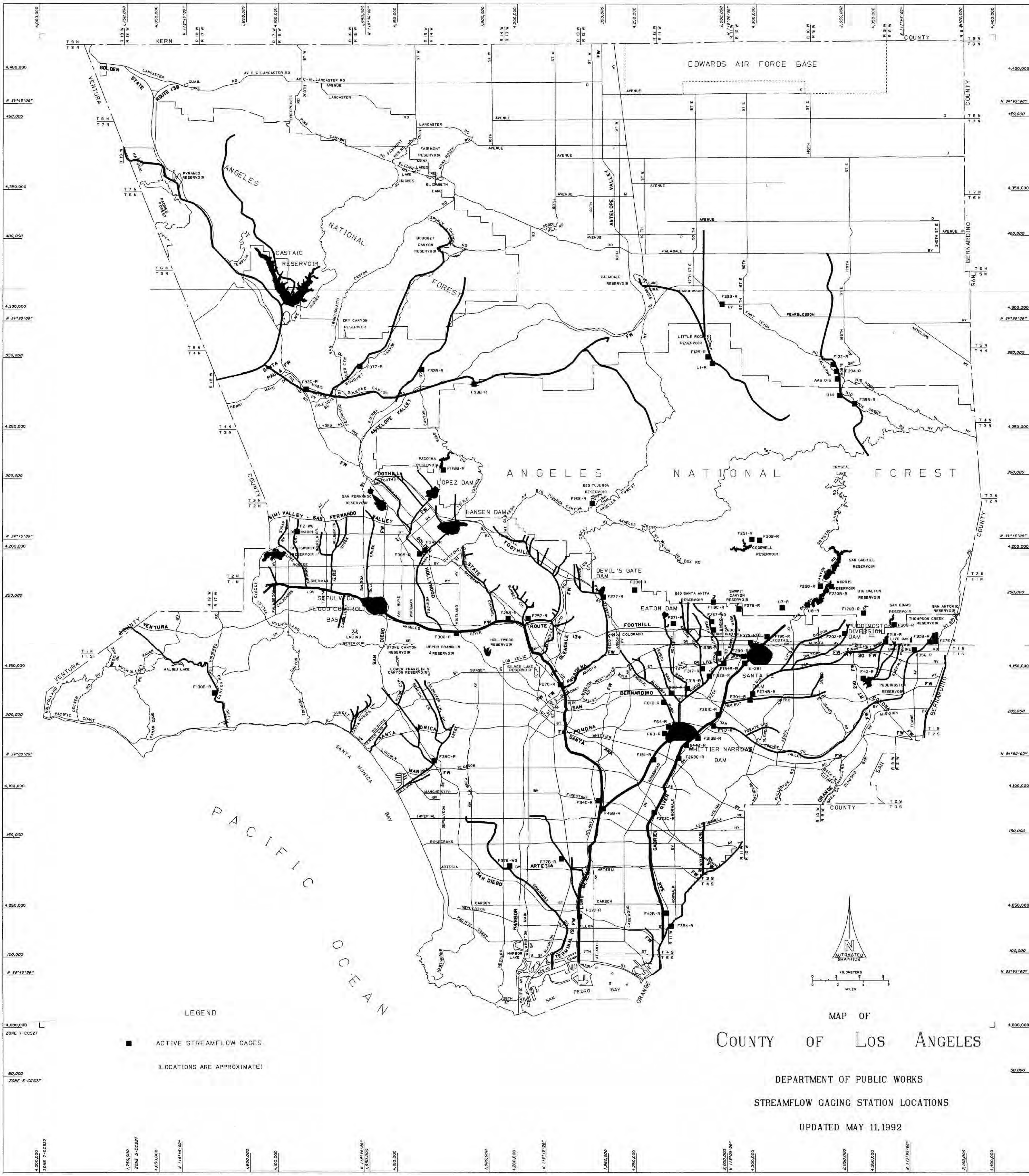
Prefix U - Indicates a station originally constructed and operated by the United States Geological Survey, Water Resources Division, now operated by the Department.

Prefix P - Indicates a station owned and operated by the Department, formerly operated by the Pasadena Water Department.

Prefix L - Indicates a station owned and operated by the Department, formerly owned by Little Rock Water District.

Suffix R - Indicates a recorder station.

Suffix B - Indicates that the station has been moved. B represents second location, C a third location, etc.



LEGEND

■ ACTIVE STREAMFLOW GAGES

(LOCATIONS ARE APPROXIMATE)

MAP OF

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

STREAMFLOW GAGING STATION LOCATIONS

UPDATED MAY 11, 1992

INDEX OF STREAM GAGING STATIONS

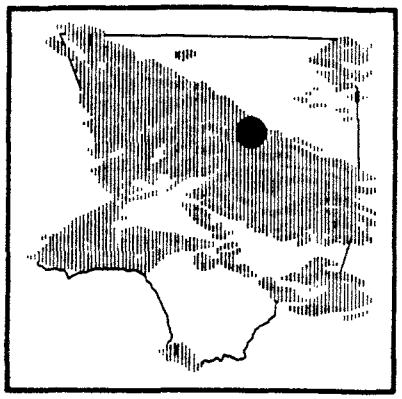
STATION	NAME	THOMAS GUIDE PG.	ALERT NO.	REGU-LATED	DRAINAGE AREA *
L1-R	LITTLE ROCK CREEK ABOVE LITTLE ROCK DAM	J		NO	49.20
F2WG	BROWNS CREEK AT VARIEL AVENUE	6 / D-2		NO	13.50
U7-R	FISH CREEK ABOVE MOUTH OF CANYON	86 / B-2		NO	6.36
U8-R	SAN GABRIEL RIVER BELOW MORRIS DAM	86 / F-1	415	YES	212.40
U14-R	BIG ROCK CREEK ABOVE MOUTH OF CANYON	J		NO	23.00
AAS(015)	VALYERMO S.G., BIG ROCK CK. D/S VALYERMO RD.	192/H-5			
F32B-R	THOMPSON CREEK BELOW THOMPSON CREEK DAM	96 / C-5	433	YES	3.70
F34D-R	LOS ANGELES RIVER BELOW FIRESTONE BLVD.	59 / E-3	315	YES	596.00
F37B-R	COMPTON CREEK NEAR GREENLEAF DRIVE	64 / F-4		NO	22.60
F38C-R	BALLONA CREEK ABOVE SAWTELLE BLVD.	50 / B-3	369	YES	88.60
F40-R	PUDDINGSTONE CREEK BELOW PUDDINSTONE DAM	89 / F-4	427	YES	33.20
F42B-R	SAN GABRIEL RIVER ABOVE SPRING STREET	76 / F-1	435	YES	231.00
F45B-R	RIO HONDO ABOVE STUART AND GRAY ROAD	59 / E-3	307	YES	140.00
F57C-R	LOS ANGELES RIVER ABOVE ARROYO SECO	35 / F-5		YES	511.00
F64-R	RIO HONDO ABOVE MISSION BRIDGE	47 / B-5		YES	115.00
F81D-R	ALHAMBRA WASH NEAR KLINGERMAN STREET	46 / F-2	347	NO	15.20
F82C-R	RUBIO WASH AT GLENDON WAY	38 / A-6	353	YES	10.90
F83	MISSION CREEK AT SAN GABRIEL BLVD.			YES	4.2
F92C-R	SANTA CLARA RIVER AT OLD ROAD BRIDGE	123 / G-7		YES	410.40
F93	SANTA CLARA RIVER AT LANG RAILROAD BRIDGE	125 / J-7		NO	157.30
F118B-R	PACOIMA CREEK FLUME BELOW PACOIMA DAM	3 / C-1	330	YES	28.20
F119C-R	SANTA ANITA CREEK BELOW SANTA ANITA DAM	20A / F-2	345	YES	10.80
F120B-R	BIG DALTON CREEK BELOW BIG DALTON DAM	87 / F-2	418	YES	4.80
F122-R	PALLETT CREEK AT VALYERMO HIGHWAY	199 / G-4		NO	15.80
F125-R	SANTIAGO CREEK ABOVE LITTLE ROCK CREEK	J		NO	11.20
F130B-R	MALIBU CREEK BELOW COLD CREEK	107 / F-6		YES	104.96
F168-R	BIG TUJUNGA CREEK BELOW BIG TUJUNGA DAM	M / C-2	333	YES	82.30
F181-R	MONTEBELLO STORM DRAIN OUTLET TO RIO HONDO	54 / E-3		NO	9.60
F190-R	SAN GABRIEL RIVER AT FOOTHILL BLVD.	86 / A-5		YES	230.00
F192B-R	RIO HONDO BELOW LOWER AZUSA ROAD	38 / E-4		YES	40.90
F193B-R	SANTA ANITA WASH AT LONGDEN AVENUE	38 / F-1		YES	18.80
F194B-R	SAWPIT WASH BELOW LIVE OAK AVENUE	39 / A-2		YES	16.10
F209-R	SAN GABRIEL RIVER - W. FORK BELOW COGSWELL DAM	N / D-4	410	YES	41.00
F218-R	SAN DIMAS WASH BELOW PUDD. DIVERSION DAM	95A / C-5	424	YES	19.90
F220B-R	SAN GABRIEL - AZUSA CONDUIT 10FT WEIR BELOW DAM	P / A-5		YES	0.00
F250-R	SAN GABRIEL - AZUSA CONDUIT 25FT WEIR BELOW DAM	P / A-5		YES	202.70
F251-R	SAN GABRIEL W. FORK AT TOE OF COGSWELL DAM	N / D-4		YES	39.20
F252-R	VERDUGO WASH AT ESTELLE AVENUE	25 / B-3		YES	26.80
F260C-R	SANTA ANITA WASH BELOW FOOTHILL BLVD.	28 / E-3		YES	17.20
F261C-R	SAN GABRIEL RIVER BELOW VALLEY BLVD.	48 / A-2	351	YES	118.00
F262B-R	SAN GABRIEL RIVER ABOVE FLORENCE AVE.	60 / E-4		YES	215.80
F263C-R	SAN GABRIEL RIVER BELOW S.G. RIVER PKWY	55 / C-1		YES	206.30
F267WG	SIERRA MADRE WASH AT HIGHLAND OAKS AVENUE	28 / E-3		YES	3.80
F271-R	EATON WASH BELOW EATON WASH DAM	27 / F-1	342	YES	12.40
F274B-R	DALTON WASH AT MERCED AVENUE	48 / F-1		YES	35.95
F277-R	ARROYO SECO BELOW DEVIL'S GATE DAM	19 / D-5	336	YES	32.50
F278-R	SAWPIT CREEK BELOW SAWPIT DAM	29 / C-1	339	YES	3.30
F280-R	SANTA FE DIVERSION CHANNEL BELOW SANTA FE DAM	39 / D-2		YES	CONTROLLED
E285-R	BURBANK WESTERN STORM DRAIN AT RIVERSIDE DR.	24 / E-2		YES	25.00
F300-R	LOS ANGELES RIVER AT TUJUNGA AVE.	23 / D-4		YES	401.00

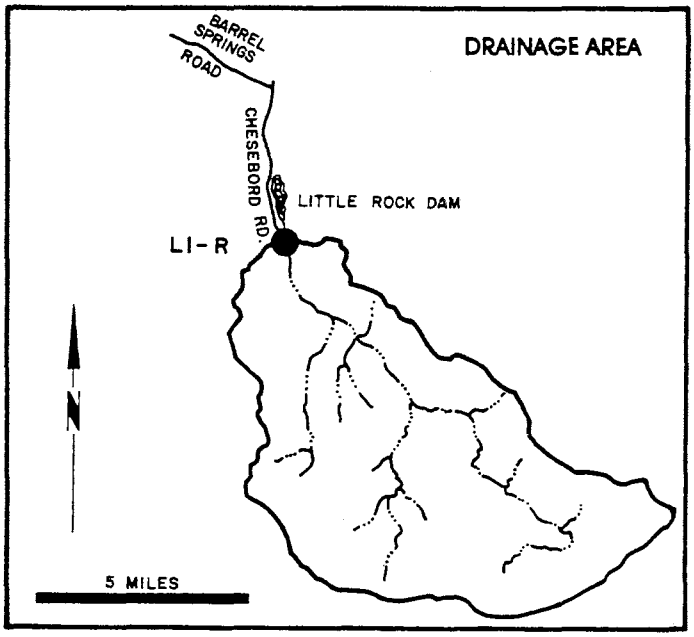
INDEX OF STREAM GAGING STATIONS

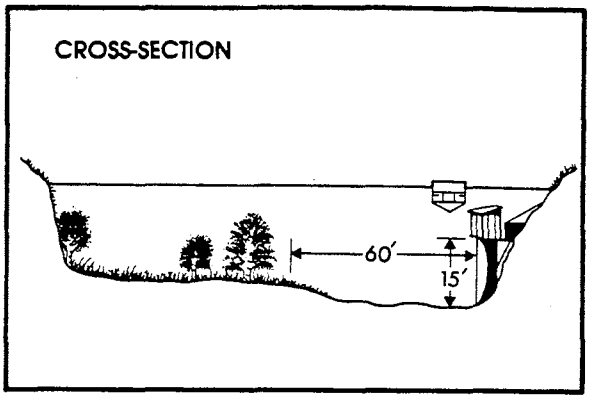
STATION	NAME	THOMAS GUIDE PG.	ALERT NO.	REGU-LATED	DRAINAGE AREA *
F303-R	SAN DIMAS CREEK BELOW SAN DIMAS DAM	95A / C-3	421	YES	16.20
F304-R	WALNUT CREEK ABOVE PUENTE AVENUE	48 / D-1		YES	57.60
F305-R	PACOIMA DIVERSION AT BRANFORD STREET	9 / A-5		YES	48.80
F312-R	SAN JOSE CHANNEL ABOVE WORKMAN MILL ROAD	47 / F-5	324	YES	83.40
F313B-R	RIO HONDO BYPASS CHANNEL ABOVE WHITTIER NAR.	47 / B-5		YES	CONTROLLED
F317-R	ARCADIA WASH BELOW GRAND AVENUE	38 / E-3	355	YES	8.50
F318-R	EATON WASH AT LOFTUS DRIVE	34 / C-6		YES	22.80
F319-R	LOS ANGELES RIVER BELOW WARDLOW RIVER RD.	70 / B-5	313	YES	815.00
F328-R	MINT CANYON CREEK AT FITCH AVENUE	125 / C-5		NO	26.90
F329-R	BRADBURY CHANNEL BELOW CENTRAL AVENUE	29 / F-5		YES	3.30
F338-R	RUBIO DIV. CHANNEL BEL. GOOSEBERRY CYN INLET	20 / C-4		YES	2.10
F342-R	BRANFORD STREET CHANNEL BELOW SHARP AVE.	9 / B-5		YES	5.01
F354-R	COYOTE CREEK BELOW SPRING STREET	76 / F-1	437	YES	185.00
F356-R	LIVE OAK CREEK BELOW LIVE OAK DAM	95A / F-6	430	YES	2.28
F377-R	BOUQUET CANYON CREEK AT URBANDALE AVENUE	124 / F-5		YES	51.90
F378WG	DOMINGUEZ CHANNEL BELOW WESTERN AVENUE	63 / F-5		NO	37.10
F393-R	LITTLE ROCK AT HIGHWAY 138	184 / D-6		YES	70.00
F394-R	BIG ROCK CREEK UPSTREAM FROM PALLETT CREEK	192 / J-4		NO	34.30
F395-R	MESCAL CREEK AT MOUTH	J		NO	5.71
G44B-R	SAN GABRIEL RIVER ABOVE WHITTIER NAR. DAM	47 / C-6		NO	

* NOTE: All drainage areas in square miles.

LITTLE ROCK CREEK
above Little Rock Dam
STATION NO. L1-R







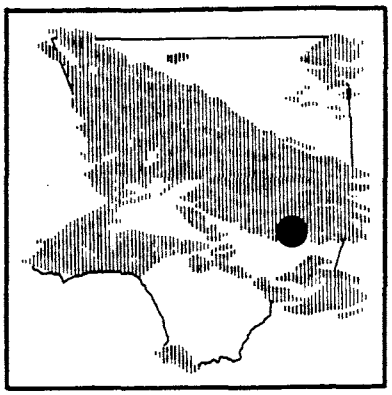
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from cable car.
DRAINAGE AREA- 49.2 square miles.
LOCATION- 2.0 miles above Little Rock Dam, 5.0 miles south of Little Rock.
REGULATION- none.
CHANNEL- sand, gravel, and boulders, natural in section.
CONTROL- channel forms control.
LENGTH OF RECORD- October 1, 1930 to date.

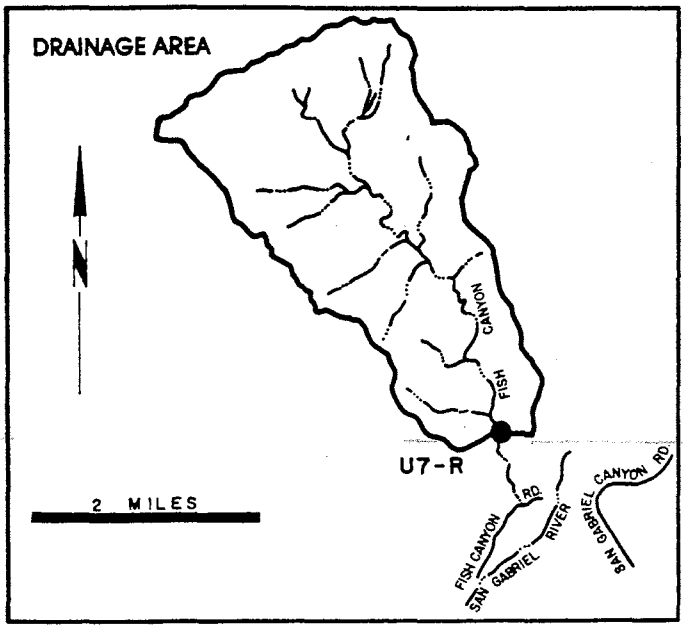
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

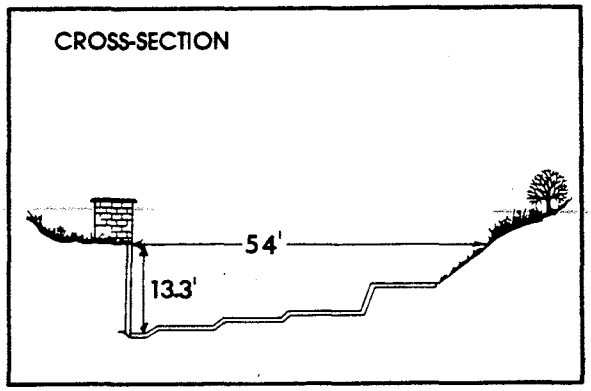
STATION NO. : L1–R DRAINAGE AREA : 49.20 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.0	0.0	2.4	12.3	51.9			27.0	8.9	4.6	1.2	0.3
MAX.	0.0	0.0	16.5	66.1	109.0	NO	RECORDS	58.5	13.6	8.0	1.6	0.6
MIN.	0.0	0.0	0.0	5.9	9.5			10.1	5.9	1.4	0.7	0.0
TOTAL AF	0.0	0.0	145.0	757.0	2,987.0			1,662.0	532.0	281.0	73.4	17.5

FISH CREEK
above Mouth of Canyon
STATION NO. U7-R







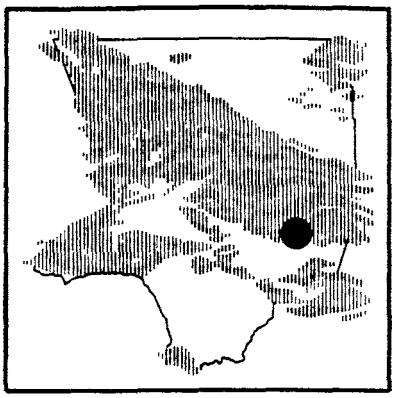
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading.
DRAINAGE AREA- 6.36 square miles.
LOCATION - 0.8 miles upstream of mouth of canyon and 3.0 miles northeast of Duarte.
REGULATION- none.
CHANNEL- natural, rock and gravel.
CONTROL- concrete control.
LENGTH OF RECORD- July to September 1916. July 1917 to date.
REMARKS- operated and maintained by USGS until October 1, 1971.

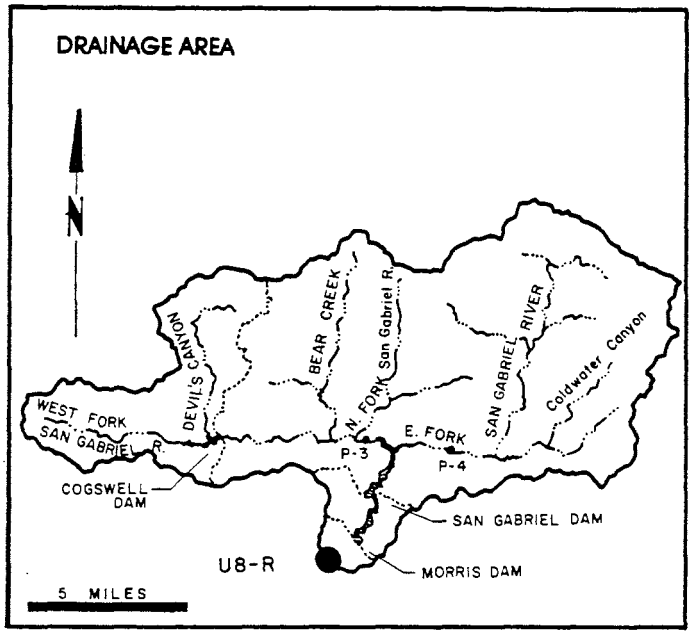
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

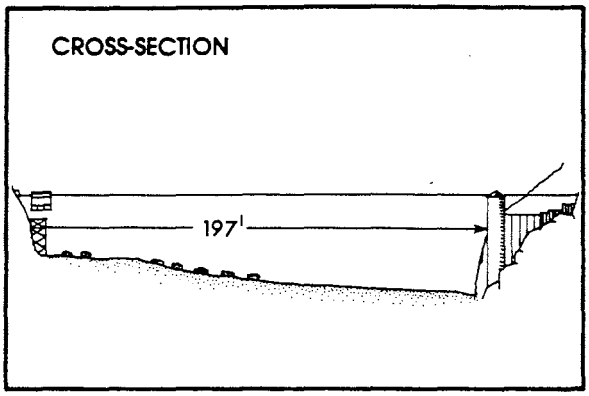
STATION NO. : U7–R DRAINAGE AREA : 6.36 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.1	0.1	5.0	7.2	32.6	52.7	13.6	8.4	2.4	1.1	0.8	0.4
MAX.	0.6	0.3	20.7	31.9	238.0	318.0	20.5	12.0	5.6	1.3	1.0	0.6
MIN.	0.0	0.0	0.4	2.0	0.7	12.6	12.0	5.0	1.6	0.8	0.6	0.3
TOTAL AF	3.8	3.4	305.0	444.0	1,874.0	3,241.0	808.0	515.0	144.0	66.4	51.8	24.4

SAN GABRIEL RIVER
below Morris Dam
STATION NO.U8-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 212.4 square miles.

LOCATION- 1.1 miles downstream of Morris Dam, 2.7 miles northeast of Azusa.

REGULATION- all flows regulated by Cogswell, San Gabriel, and Morris Dams.

CHANNEL- gravel and boulders, natural section.

CONTROL- concrete control.

LENGTH OF RECORD- May 1894 to date.

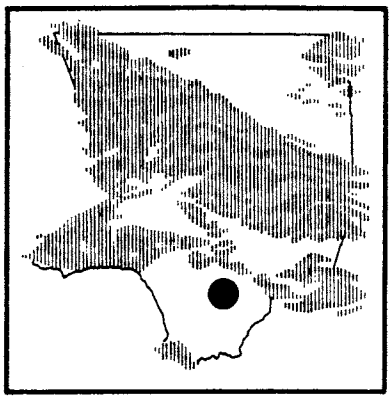
REMARKS- flows up to 90 cfs are at times diverted past the station through the Azusa Conduit; flows at station may include imported water from the MWD outlet below Morris Dam.

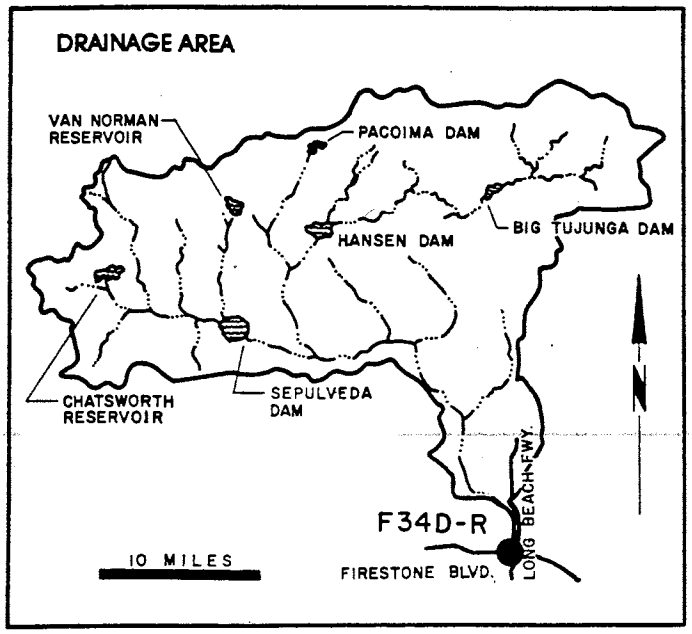
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

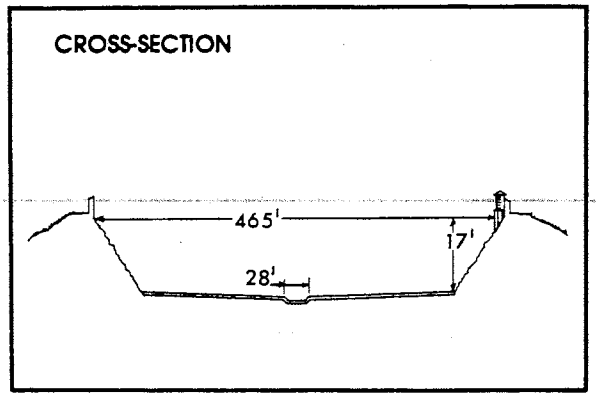
STATION NO. : U8–R DRAINAGE AREA : 212.40 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.6	4.9	3.9	219.0	354.0	332.0	407.0	326.0	372.0	258.0	9.0	138.0
MAX.	216.0	33.7	6.4	1,550.0	1,740.0	650.0	685.0	447.0	434.0	443.0	10.9	313.0
MIN.	1.2	1.6	2.3	0.8	4.6	21.9	342.0	140.0	209.0	10.9	7.0	9.1
TOTAL AF	3,788.0	289.0	241.0	13,461.0	20,340.0	20,409.0	24,224.0	20,045.0	22,134.0	15,835.0	552.0	8,190.0

LOS ANGELES RIVER
below Firestone Boulevard
STATION NO. F34D-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from bridge.

DRAINAGE AREA- 596.0 square miles.

LOCATION- 472.0 feet downstream of Firestone Boulevard 3.0 miles west of Downey.

REGULATION- partially regulated by Sepulveda, Pacoima, Big Tujunga, Hansen, and Devil's Gate Dam; and by several spreading grounds, reservoirs, and debris basins.

CHANNEL- concrete, with rip-rap side slopes, trapezoidal in section, with trapezoidal low- flow channel.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F34-R. March 1, 1928 to April 11, 1938. at Station F34B-R, April 11, 1938 to November 3, 1949. at Station F34C-R November 4, 1949, to December 11, 1956. at Station F34D-R December 11, 1956 to date.

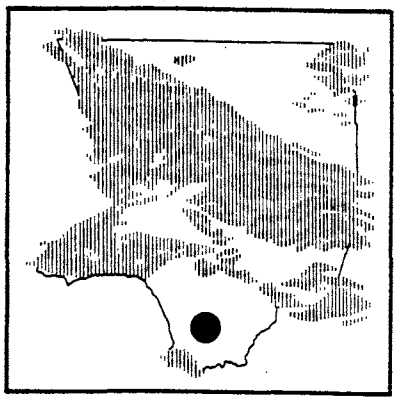
REMARKS- subject to diversions from Big Tujunga Creek, Arroyo Seco, and other domestic and irrigation diversions.

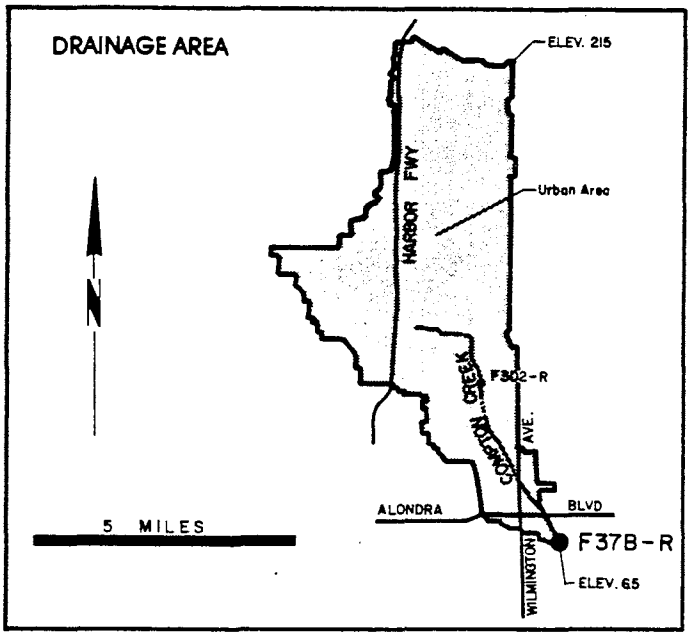
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

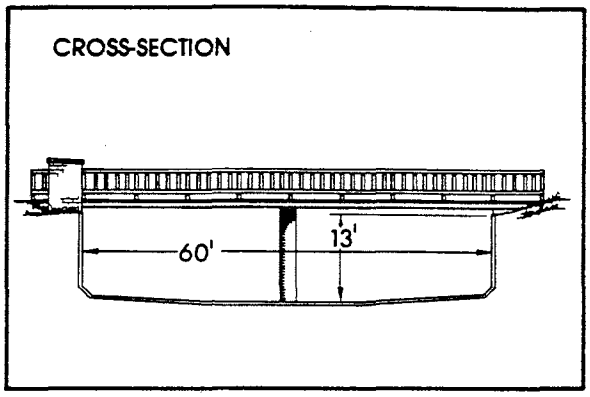
STATION NO. : F34D–R DRAINAGE AREA : 596.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	133.0	125.0	453.0	371.0	2,276.0	999.0	218.0	159.0	130.0	145.0	130.0	121.0
MAX.	377.0	144.0	7,040.0	5,020.0	16,500.0	5,280.0	1,120.0	200.0	136.0	208.0	139.0	124.0
MIN.	103.0	114.0	108.0	104.0	101.0	132.0	145.0	136.0	121.0	113.0	124.0	119.0
TOTAL AF	8,160.0	7,430.0	27,850.0	22,820.0	130,900.0	61,410.0	12,940.0	9,790.0	7,720.0	8,890.0	8,020.0	7,200.0

COMPTON CREEK
near Greenleaf Drive
STATION NO. F37B-R







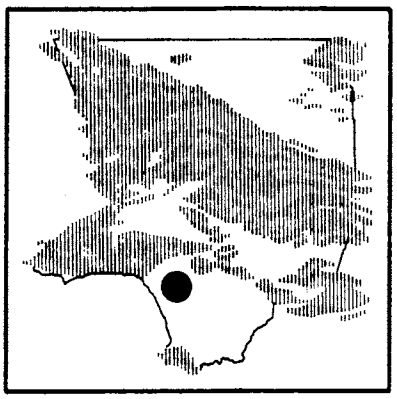
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from bridge.
DRAINAGE AREA- 22.6 square miles.
LOCATION- 120.0 feet above Greenleaf Boulevard, 1.5 miles south west of Compton.
REGULATION- none.
CHANNEL- concrete, rectangular in section, 60 feet wide by 13 feet deep.
CONTROL- channel forms control.
LENGTH OF RECORD- at Station F37-R January 22, 1928 to June 9, 1938. at Station F37B-R October 3, 1938 to date

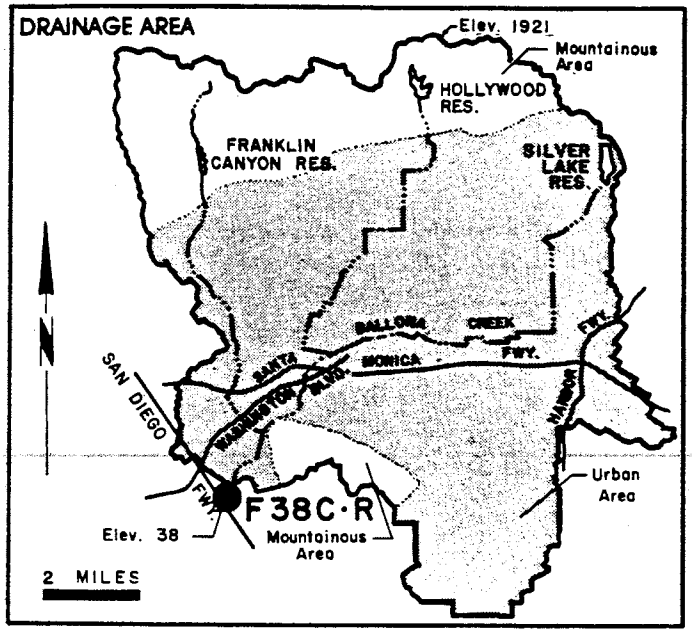
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

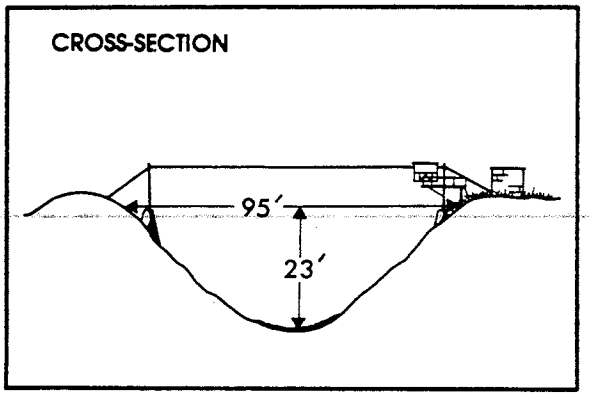
STATION NO.: F37B–R DRAINAGE AREA: 22.60 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.2	1.1	31.2	20.1	61.6	55.8	6.5	1.9	0.8	1.1	2.1	1.3
MAX.	19.3	4.1	510.0	339.0	493.0	403.0	114.0	6.6	0.9	1.5	5.6	4.3
MIN.	0.8	0.8	0.6	0.9	0.9	0.1	0.9	0.9	0.8	0.6	0.5	0.6
TOTAL AF	199.0	67.8	1,921.0	1,239.0	3,541.0	3,433.0	388.0	118.0	48.0	67.6	130.0	75.2

BALLONA CREEK
above Sawtelle Boulevard
STATION NO. F38C-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 88.6 square miles.

LOCATION- 530.0 feet above Sawtelle Boulevard, 1.5 miles southwest of Culver City.

REGULATION- Stone Canyon Reservoir prior to January, 1951. Upper and Lower Franklin Canyon Reservoir, Hollywood Reservoir, and Silverlake Reservoir.

CHANNEL- concrete rubble, trapezoidal in section.

CONTROL- channel forms control.

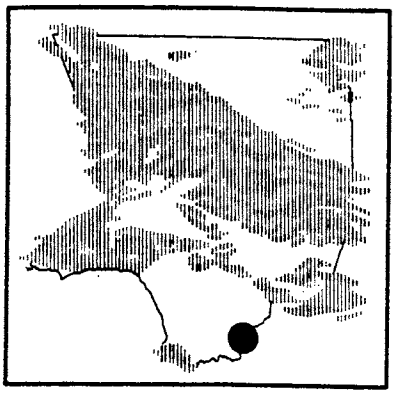
LENGTH OF RECORD- at Station F38-R February 27,1928 to April 27, 1936. at Station F388-R, May 14, 1936 to August 10, 1967. at Station F38C-R August 10, 1967, to date.

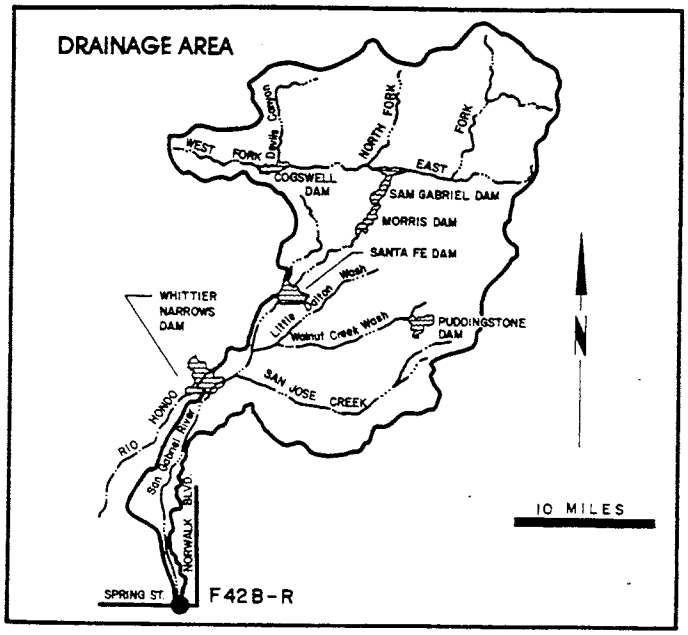
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

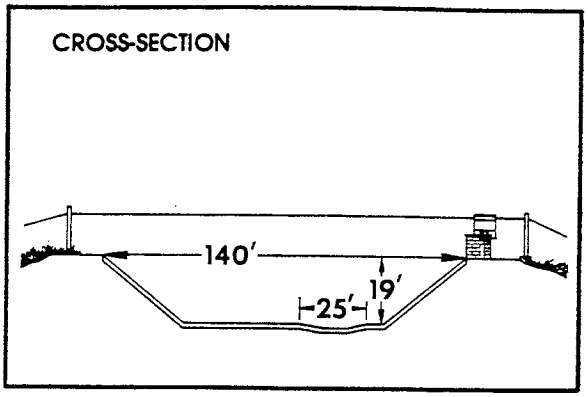
STATION NO. : F38C–R DRAINAGE AREA : 88.60 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.3	9.5	119.0	92.8	309.0	125.0	22.8	12.5	13.7	12.7	11.2	12.2
MAX.	253.0	13.5	1,600.0	1,240.0	2,490.0	1,560.0	298.0	13.0	51.3	54.7	12.4	16.6
MIN.	7.0	8.2	12.4	8.2	7.6	8.7	10.6	11.4	11.1	8.7	10.9	9.9
TOTAL AF	1,067.0	567.0	7,309.0	5,705.0	17,750.0	7,655.0	1,358.0	768.0	817.0	778.0	690.0	727.0

SAN GABRIEL RIVER
above Spring Street
STATION NO. F42B-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 231.0 square miles (excludes area above Santa Fe Dam).

LOCATION- 455.0 feet north of Spring Street, 4.0 miles east of Signal Hill, Long Beach.

REGULATION- partially regulated by Cogswell, San Grabriel, Morris, Santa Fe, Big Dalton, San Dimas, Puddingstone Diversion, Puddingstone, Live Oak, Thompson Creek, and Whittier Narrows Dams, several debris basins, MWD outlet, and several spreading grounds.

CHANNEL- concrete, trapizoidal section with a low-flow channel.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F42-R February 6, 1928 to May 26, 1964. at Station F42B-R, November 16, 1964 to date.

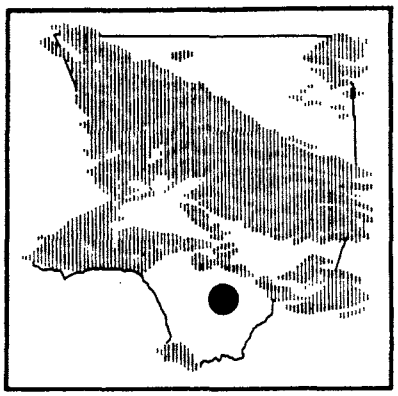
REMARKS- high flows into Whittier Narrows Reservoir are partially diverted to the Rio Hondo.

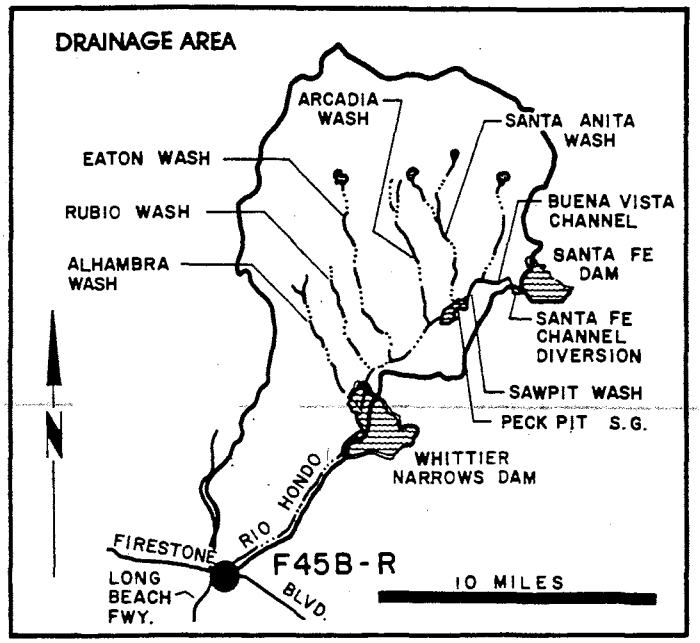
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

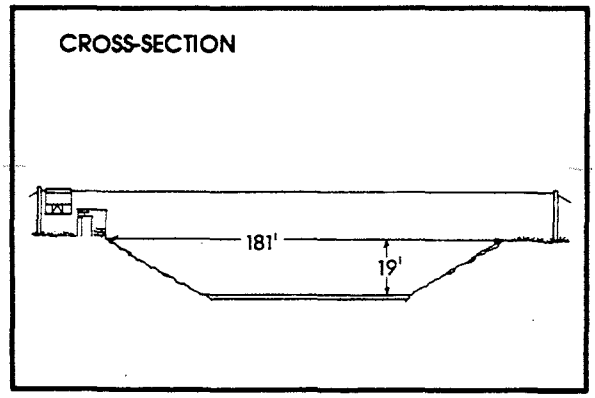
STATION NO. : F42B–R DRAINAGE AREA : 231.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.6	71.5	129.0	119.0	278.0	203.0	134.0	60.2	76.3	60.9	48.9	49.7
MAX.	123.0	137.0	288.0	318.0	2,000.0	528.0	154.0	138.0	140.0	139.0	115.0	137.0
MIN.	33.4	30.2	107.0	42.2	40.8	109.0	72.9	32.8	31.7	33.5	30.4	28.4
TOTAL AF	3,724.0	4,254.0	7,926.0	7,337.0	15,979.0	12,498.0	7,969.0	3,702.0	4,542.0	3,747.0	3,009.0	2,960.0

RIO HONDO
above Stewart and Gray Road
STATION NO. F45B-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 140 square miles (excludes area above Santa Fe Dam).

LOCATION- 0.6 mile upstream of the confluence of Rio Hondo and Los Angeles River, 1.5 miles west of Downey.

REGULATION- partially regulated by Sierra Madre, Santa Anita, Sawpit, Eaton, Santa Fe, and Whittier Narrows Dams, several debris basins, and spreading grounds.

CHANNEL- concrete with rip-rap side slopes. trapizodal in section.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F45-R March 1, 1928 to April 18, 1951. at Station F45B-R October 31, 1951 to date.

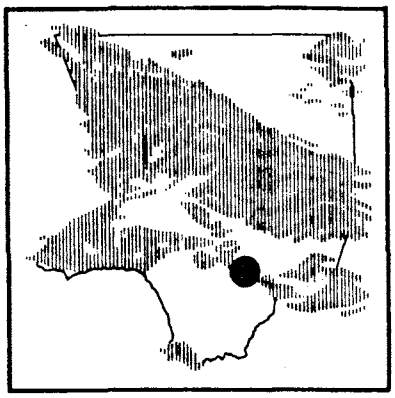
REMARKS- subject to diversions from Eaton Creek, Monrovia Creek, Sawpit Creek, Little Santa Anita Canyon and other locations for irrigation and spreading. High flows from San Gabriel River may flow into Rio Hondo above Whittier Narrows Dam.

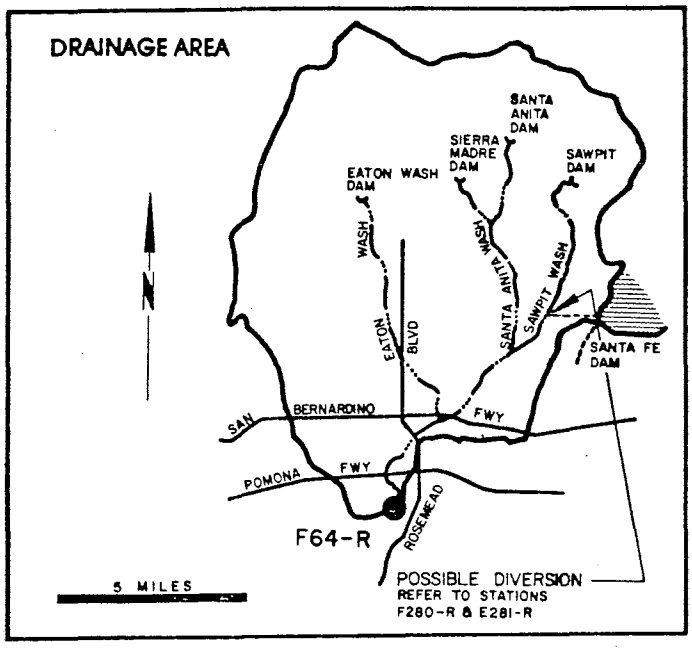
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

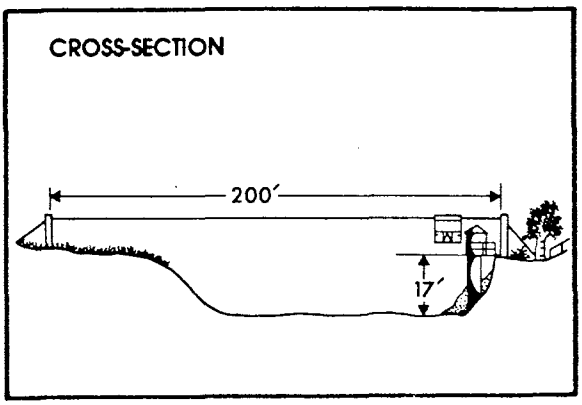
STATION NO. : F45B–R DRAINAGE AREA : 140.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.5	0.2	61.3	50.3	459.0	116.0	7.7	0.7	0.6	0.7	0.4	0.7
MAX.	32.2	0.5	1,260.0	1,470.0	6,930.0	1,830.0	26.4	1.3	1.2	7.2	1.7	1.4
MIN.	0.1	0.1	0.1	0.1	0.1	0.3	0.6	0.3	0.2	0.1	0.1	0.4
TOTAL AF	91.0	12.3	3,768.0	3,094.0	26,416.0	7,140.0	458.0	42.6	34.5	43.4	22.2	43.0

RIO HONDO
above Mission Bridge
STATION NO. F64-R







RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from cable car.
DRAINAGE AREA- 115 square miles (excludes area above Santa Fe Dam).
LOCATION- 1,000 feet above San Gabriel Boulevard, west of Rosemead Boulevard, 2.0 miles northeast of Montebello.
REGULATION- partially regulated by Sierra Madre, Santa Anita, Sawpit, Eaton, and Santa Fe Dams and several debris basins.
CHANNEL- sand and silt, natural in section.
CONTROL- none.
LENGTH OF RECORD- July 1, 1928 to date.
REMARKS- subject to diversions; water purchased from the MWD passes this station for spreading in the coastal basin.

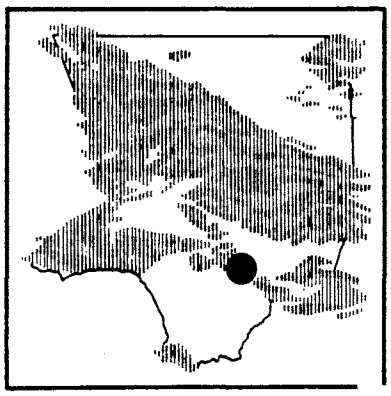
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

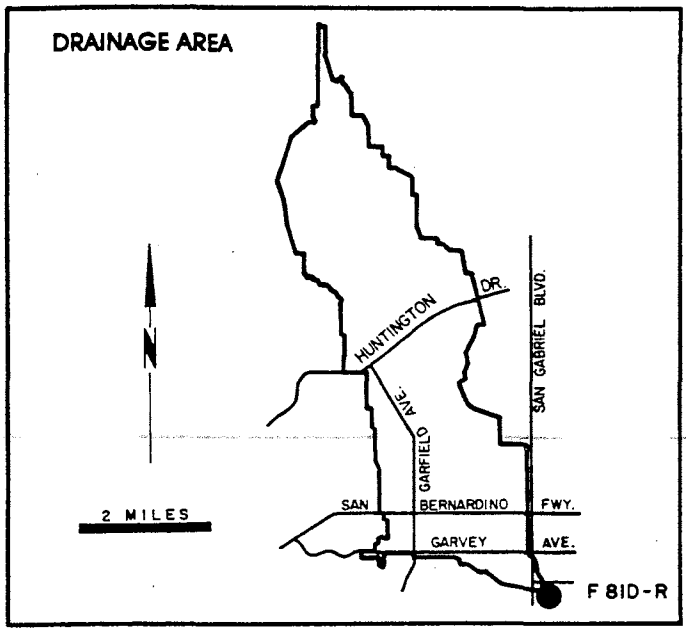
STATION NO. : F64-R DRAINAGE AREA : 115.00 SQ. MI.

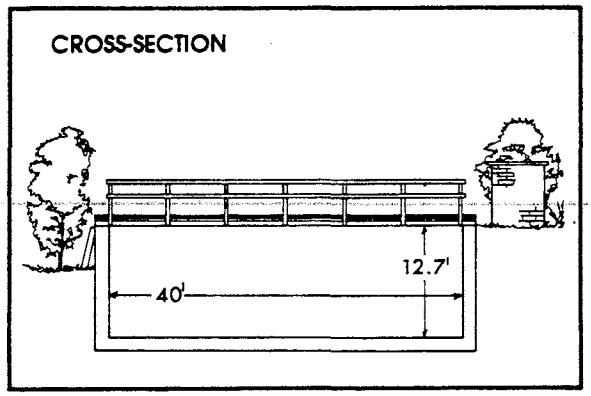
MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	85.1	96.0	71.5	272.0	840.0	1386.0	57.7	100.0	165.0	165.0	47.6	32.7
MAX.	*	102.0	157.0	*	*	*	1220.0	197.0	256.0	343.0	70.7	53.2
MIN.	20.6	87.8	0.0	0.1	15.9	16.8	2.2	30.6	91.8	84.9	25.4	19.6
TOTAL AF	*	5711.0	*	*	*	*	3432.0	6146.0	9843.0	10150.0	2924.0	1943.0

LEGEND * – Data inaccurate due to back water condition.

ALHAMBRA WASH
near Klingerman Street
STATION NO. F81D-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from footbridge.

DRAINAGE AREA- 15.2 square miles.

LOCATION- 250± feet above Klingerman Street and 2,650.0 feet below Garvey Avenue, South San Gabriel.

REGULATION- none.

CHANNEL- concrete, rectangular in section, 40.0 feet wide by 12.7 feet deep.

CONTROL- channel forms control.

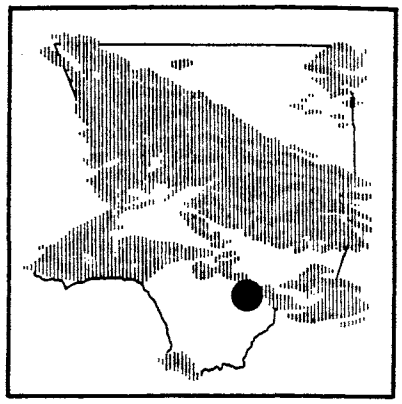
LENGTH OF RECORD- at Station F81- R January 14, 1930 to September 30, 1934. at Station F81B- R October 1, 1934 to February 25, 1935. at Station F81C- R February 25, 1935 to April 27, 1936. at Station F81B- R April 27, 1936 to May 22, 1936. at Station F81D- R September 2, 1936 to date.

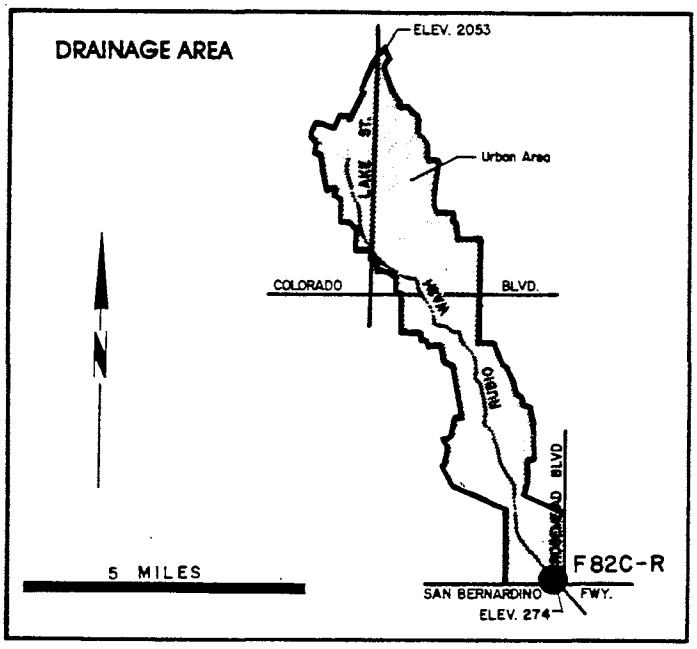
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

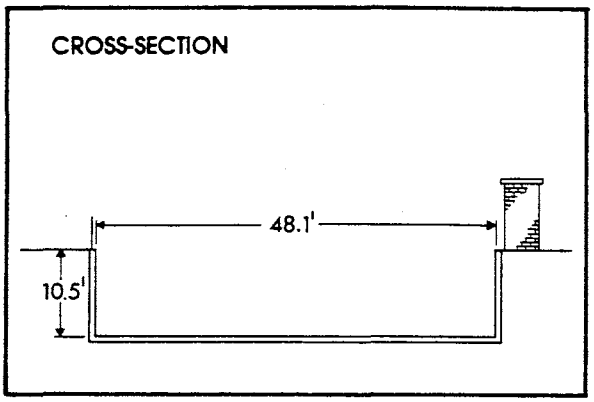
STATION NO. : F81D–R DRAINAGE AREA : 15.20 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.8	1.0	18.4	15.0	70.1	42.6	4.6	2.0	1.9	3.5	2.9	2.7
MAX.	54.5	1.5	381.0	284.0	570.0	291.0	84.6	2.5	2.2	29.0	3.7	3.2
MIN.	0.7	0.8	0.8	1.1	1.7	1.6	1.6	1.6	1.6	1.8	2.6	2.3
TOTAL AF	173.0	58.9	1,131.0	925.0	4,032.0	2,619.0	276.0	122.0	113.0	214.0	181.0	163.0

RUBIO WASH
at Glendon Wash
STATION NO. F82C-R







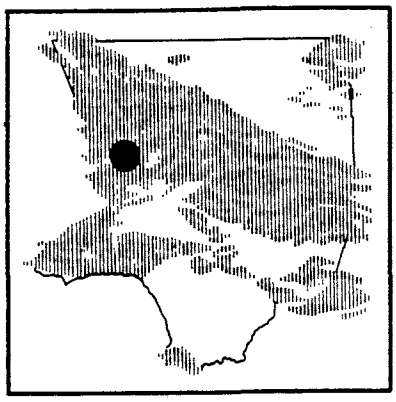
RECORDER- 15 minute punched tape.
METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from footbridge at station.
DRAINAGE AREA- 10.9 square miles.
LOCATION- on the east side of channel, 10 feet south of the westerly extension of Glendon Way, Rosemead.
REGULATION- flow partly regulated by Las Flores and Rubio debris basins.
CHANNEL- rectangular concrete.
CONTROL- channel forms control.
LENGTH OF RECORD- see station summary.

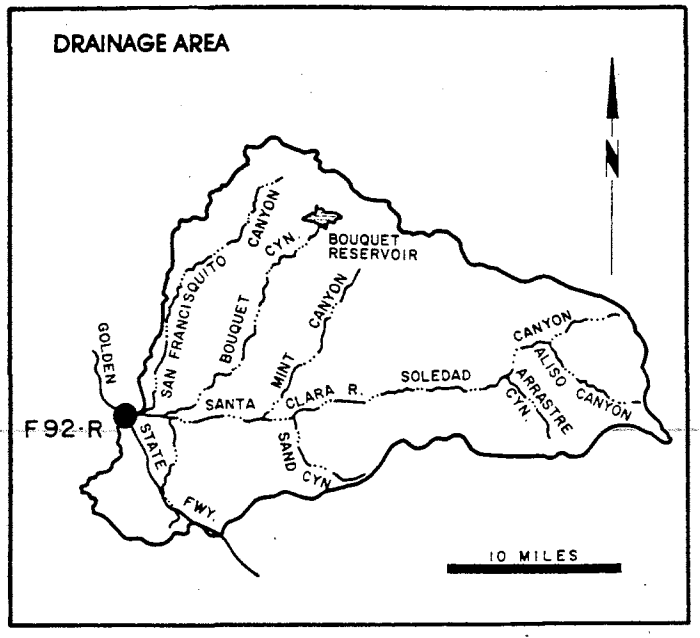
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

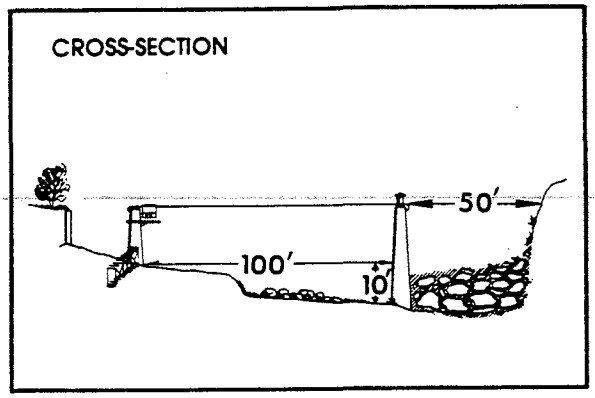
STATION NO. : F82C–R DRAINAGE AREA : 10.90 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.1	0.3	6.2	4.4	35.0	19.8	1.5	0.0	0.0	0.8	0.1	0.1
MAX.	23.3	0.3	151.0	82.0	287.0	134.0	38.6	0.1	0.2	13.0	0.1	0.1
MIN.	0.2	0.3	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1
TOTAL AF	68.6	17.9	383.0	272.0	2,011.0	1,215.0	89.7	1.6	0.6	46.2	3.2	6.0

SANTA CLARA RIVER
below Highway 5
STATION NO. F92C-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 410.4 square miles.

LOCATION- downstream side of Old Highway bridge, 3.0 miles west of Saugus.

REGULATION- partially regulated by Bouquet Canyon and Dry Canyon Reservoirs.

CHANNEL- sand and gravel with brush, natural section.

CONTROL- none.

LENGTH OF RECORD- at Station F92-R January 18, 1930 to March 28, 1938, and September 24, 1956 to date. at Station F92B-R, October 1, 1938 to September 24, 1956.

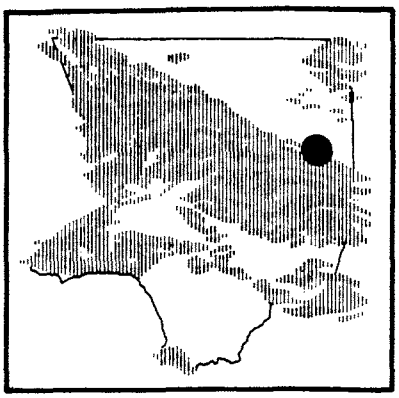
REMARKS- subject to diversions for irrigation.

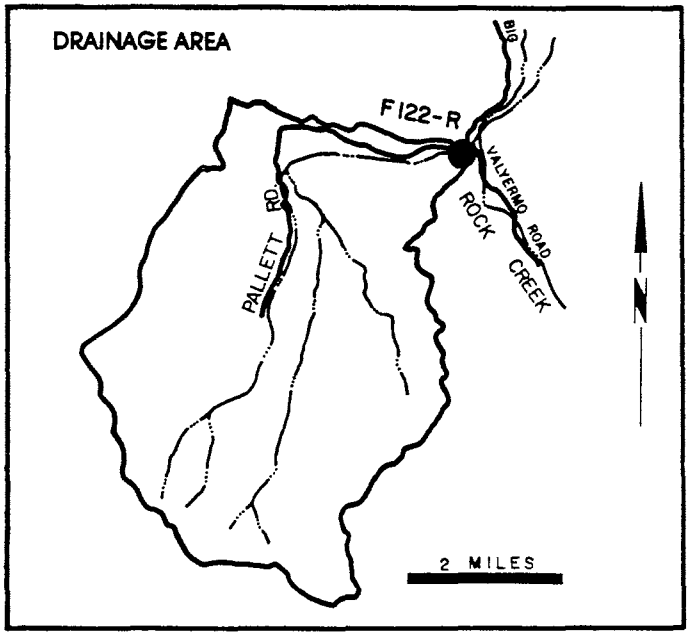
WATER YEAR 1991 - 1992
(DISCHARGE IN CFS)

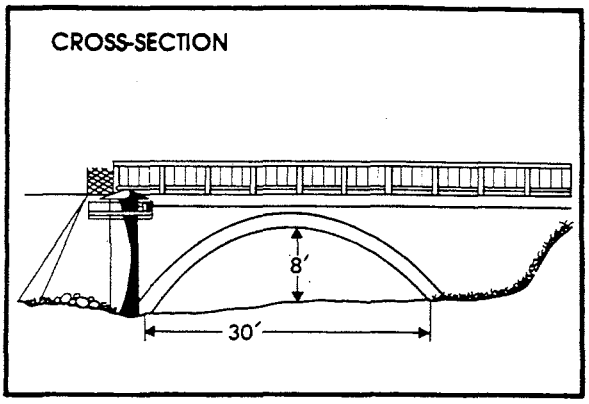
STATION NO. : F92C-R DRAINAGE AREA : 410.40 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.1	1.1										
MAX.	5.5	1.2	NO RECORDS DUE TO MISSING RECORDER									
MIN.	2.4	1.0										
TOTAL AF	250.0	67.4										

PALLETT CREEK
at Valyermo Highway
STATION NO. F122-R







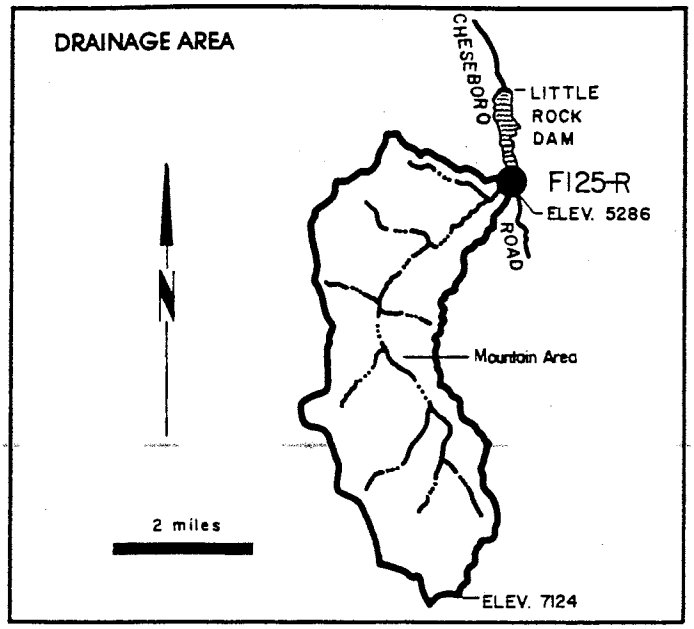
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from bridge.
DRAINAGE AREA- 15.8 square miles.
LOCATION- upstream side of Valyermo Highway bridge, 5.0 miles southeast of Pearblossom.
REGULATION- none.
CHANNEL- sand and gravel, natural section.
CONTROL- channel forms control for low flows; bridge culvert forms control for high flows.
LENGTH OF RECORD- at Station F122-S December 29, 1930 to October 31, 1961. at Station F122-R, October 31, 1961 to date.

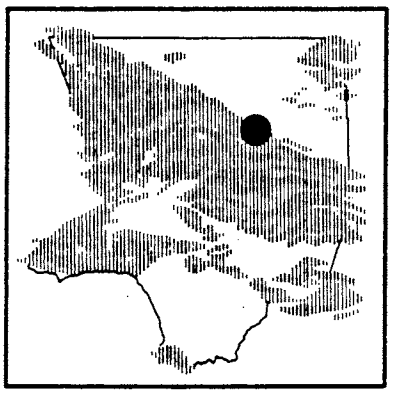
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

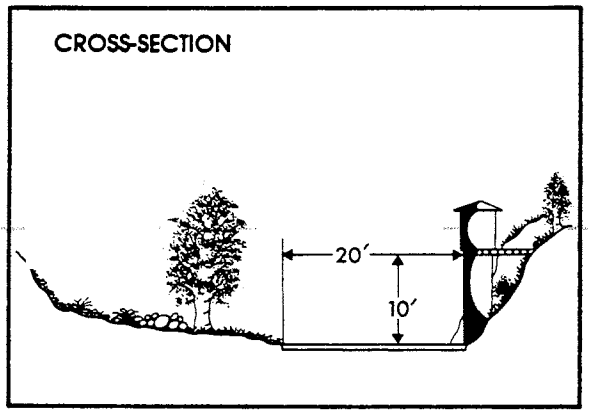
STATION NO. : F122–R DRAINAGE AREA : 15.80 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.0	0.0	0.0	0.1	26.8	3.7	13.3	6.4	4.8	3.3	2.1	0.0
MAX.	0.0	0.0	0.0	0.4	240.0	27.0	23.7	12.8	6.1	5.4	3.1	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	0.1	2.7	3.3	3.5	1.9	1.2	0.0
TOTAL AF	0.0	0.0	0.0	5.5	1,540.0	226.0	792.0	392.0	285.0	203.0	130.0	0.0

SANTIAGO CREEK
above Little Rock Creek
STATION NO. F125-R







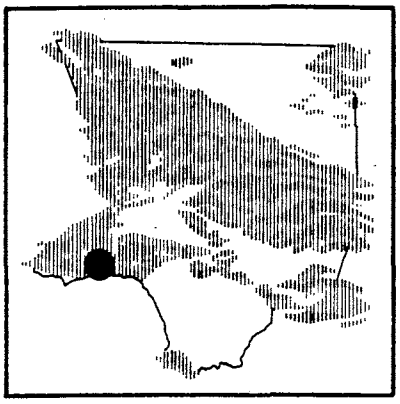
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading.
DRAINAGE AREA- 11.2 square miles.
LOCATION- 1,000 feet above Little Creek and 4.5 miles south of Little Rock.
REGULATION- none.
CHANNEL- sand, gravel and boulders.
CONTROL- concrete and rubble wall.
LENGTH OF RECORD- September 29, 1953 to date.
REMARKS- no high flow measurements.

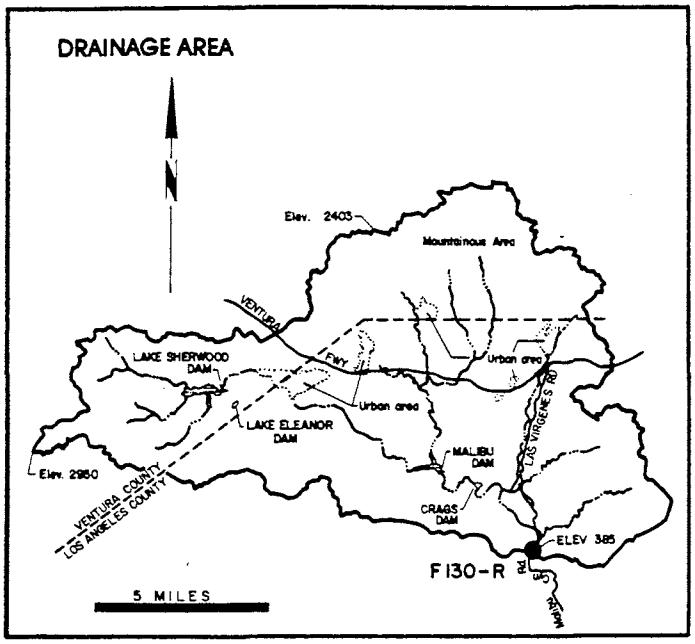
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

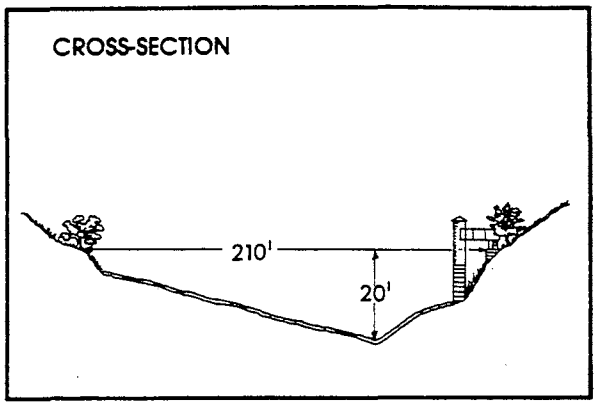
STATION NO.: F125–R DRAINAGE AREA: 11.20 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.0	0.0	0.0	0.0	6.0	2.7	1.3	0.6	0.0	0.0	0.0	0.0
MAX.	0.0	0.0	0.0	0.0	50.8	11.2	3.8	1.4	0.0	0.0	0.0	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.0
TOTAL AF	0.0	0.0	0.0	0.0	344.5	165.6	77.2	39.9	0.0	0.0	0.0	0.0

MALIBU CREEK
below Cold Creek
STATION NO. F130B-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 104.96 square miles

LOCATION- 0.2± mile downstream of Cold Creek, 6.0 miles southwest of Calabasas.

REGULATION- Lake Sherwood Dam, Lake Eleanor Dam, Malibu Lake Dam, and Crag's Dam. Other small recreational dams affect low summer flows.

CHANNEL- coarse sand and gravel, lined with trees and brush, natural in section.

CONTROL- concrete stabilizer.

LENGTH OF RECORD- January 17, 1931 to date.

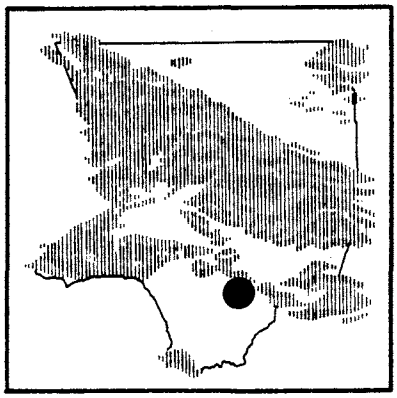
REMARKS- cableway washed out on January 25, 1969; no high flow measurements since that date.

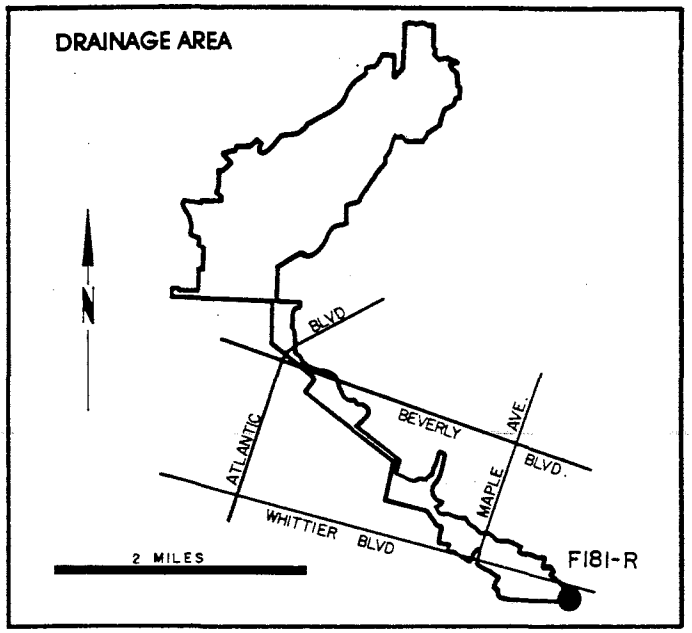
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

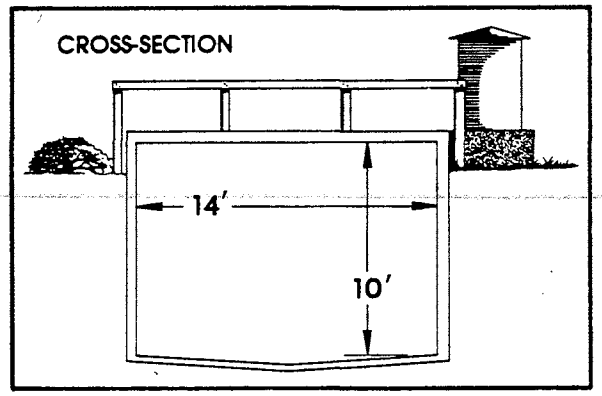
STATION NO. : F130B-R DRAINAGE AREA : 104.96 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.5	3.3	36.8	46.9	669.0	252.0	58.7	25.9	29.2	8.5	3.1	5.5
MAX.	3.8	4.2	616.0	395.0	5,850.0	1,060.0	112.0	33.9	52.0	18.7	3.8	16.3
MIN.	2.0	2.5	4.0	13.0	14.8	33.5	33.9	22.0	15.5	4.7	3.1	4.0
TOTAL AF	156.0	197.0	2,263.0	2,885.0	38,490.0	15,474.0	3,495.0	1,592.0	1,737.0	523.0	193.0	325.0

MONTEBELLO STORM DRAIN
above Rio Hondo
STATION NO. F181-R







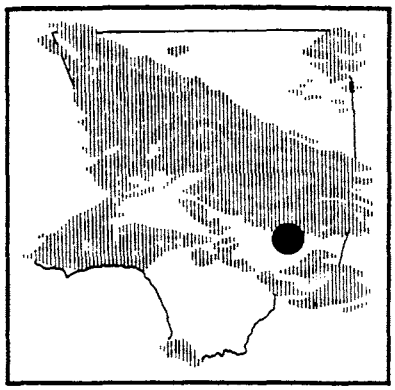
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from footbridge.
DRAINAGE AREA- 9.6 square miles.
LOCATION- 150.0 feet east of Mines Avenue and 500.0 feet west of Rio Hondo.
REGULATION- none.
CHANNEL- 14.0-foot by 10.0-foot concrete, box section.
CONTROL- channel forms control.
LENGTH OF RECORD- January 12, 1932 to date.
REMARKS- may be affected by backwater during flood flows.

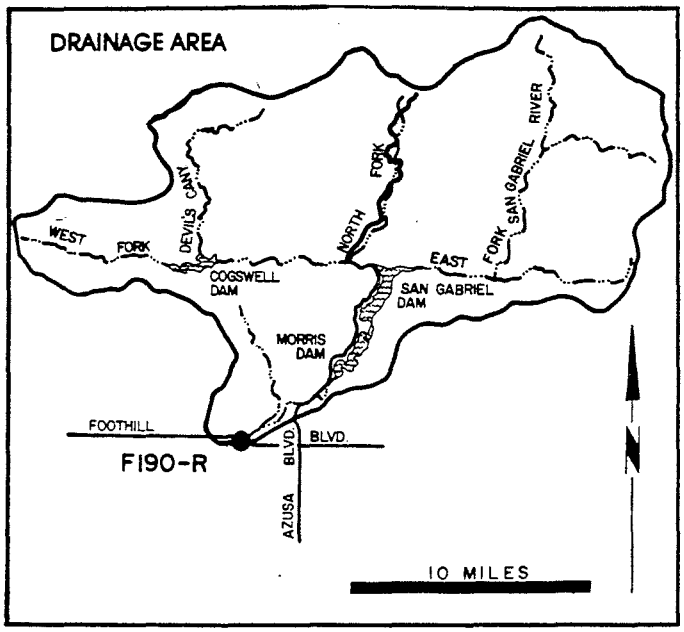
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

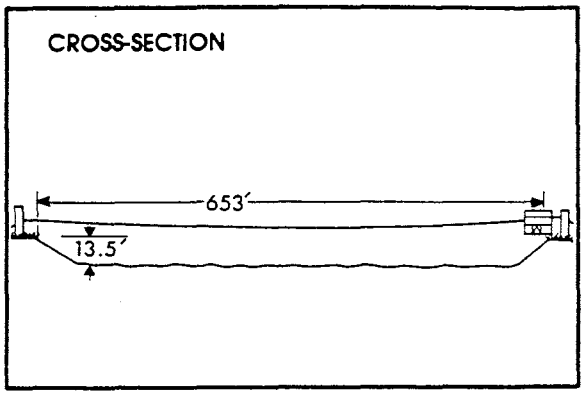
STATION NO. : F181–R DRAINAGE AREA : 9.60 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.4	0.2	3.2	1.8	13.0	6.0	0.5	0.2	0.2	0.4	0.2	0.2
MAX.	9.0	0.3	61.6	21.6	183.0	28.5	5.0	0.2	0.4	3.0	0.3	0.2
MIN.	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
TOTAL AF	27.6	9.9	197.0	112.0	750.0	367.0	27.0	12.3	12.7	24.2	12.9	11.9

SAN GABRIEL RIVER
at Foothill Boulevard
STATION NO. F190-R







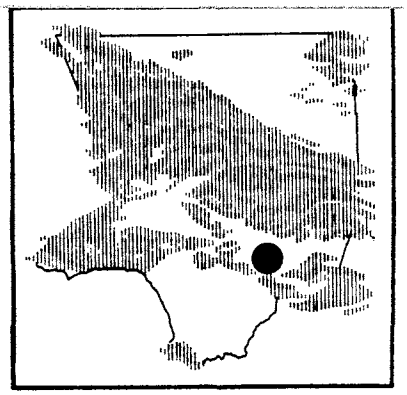
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from cable car.
DRAINAGE AREA- 230.0 square miles.
LOCATION- downstream side of Foothill Boulevard bridge, 2.0 miles west of Azusa.
REGULATION- partially regulated by Cogswell, San Gabriel, and Morris Dams.
CHANNEL- sand, gravel and rock,trapezoidal section with soft bottom.
CONTROL- gunited rock stabilizers.
LENGTH OF RECORD- February 22, 1932 to date.
REMARKS- flows may include imported water originating at the Metropolitan Water District outlet below Morris Dam.

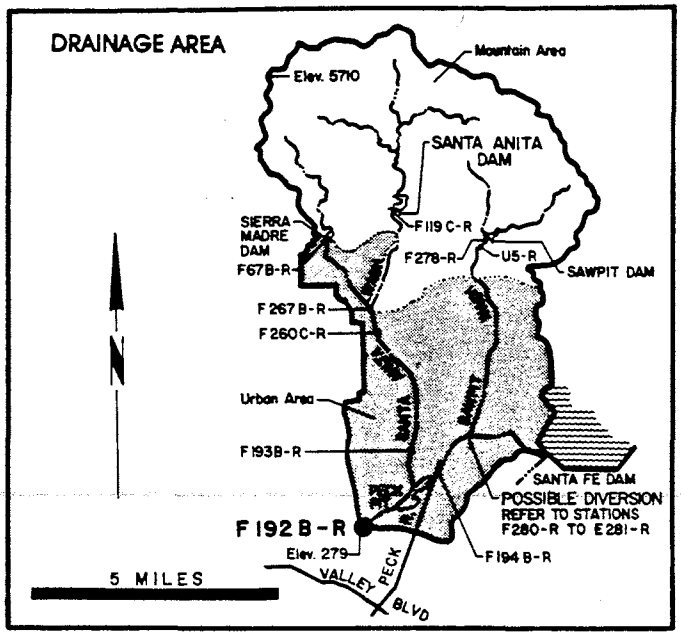
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

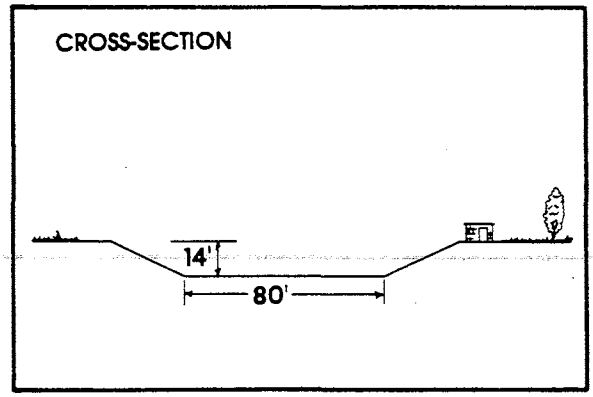
STATION NO. : F190–R DRAINAGE AREA : 230.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.8	0.5	0.2	195.0	384.0	371.0	394.0	318.0	354.0	238.0	0.1	103.0
MAX.	235.0	12.6	6.7	1,330.0	1,580.0	774.0	792.0	475.0	415.0	442.0	2.8	233.0
MIN.	0.0	0.0	0.0	0.0	0.0	64.0	361.0	108.0	195.0	3.8	0.0	0.0
TOTAL AF	3,060.0	29.8	15.3	11,998.0	22,085.0	22,814.0	23,437.0	19,583.0	21,062.0	14,628.0	6.0	6,147.0

RIO HONDO
below Lower Azusa Road
STATION NO. F192B-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading.

DRAINAGE AREA- 40.9 square miles (excludes area above Santa Fe Dam).

LOCATION- 300.0 feet downstream from Lower Azusa Road, 1.5 miles north of El Monte.

REGULATION- partially regulated by Sierra Madre Dam, Santa Anita Dam, Sawpit Dam, Santa Fe Dam, Peck Pit, Buena Vista Pit, and several debris basins.

CHANNEL- concrete, trapizoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F192-R February 22, 1932 to May 7, 1958. at Station F192B-R May 7, 1958 to date.

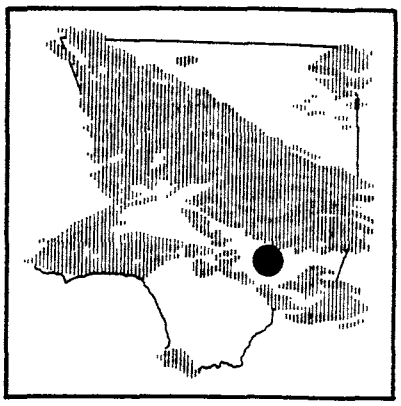
REMARKS- subject to diversions from Monrovia, Sawpit, and Little Santa Anita Creeks. Also from the San Gabriel River below Santa Fe Dam; and for irrigation and spreading.

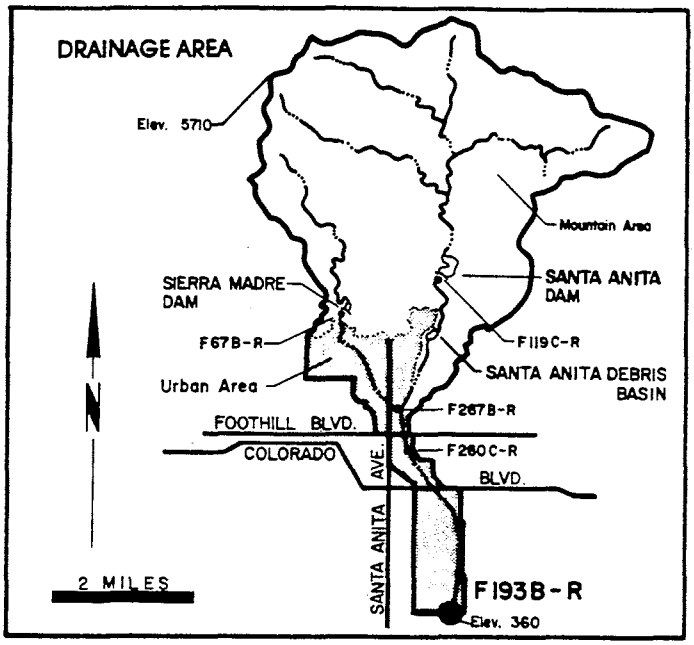
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

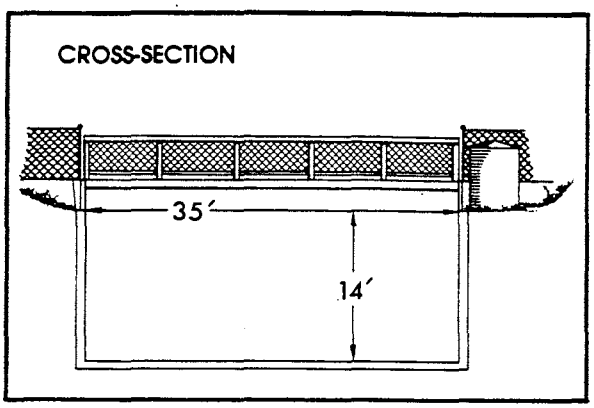
STATION NO. : F192B–R DRAINAGE AREA : 40.90 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.2	0.0	0.9	3.1	43.1	6.5	0.0	45.9	95.5	110.0	0.6	0.1
MAX.	4.5	0.2	18.2	16.2	809.0	56.9	1.1	114.0	170.0	180.0	8.2	0.2
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.3	19.5	0.0	0.0
TOTAL AF	9.9	0.4	54.9	194.0	2,481.0	402.0	2.2	2,823.0	5,682.0	6,742.0	33.9	3.4

SANTA ANITA WASH
at Longden Avenue
STATION NO. F193B-R







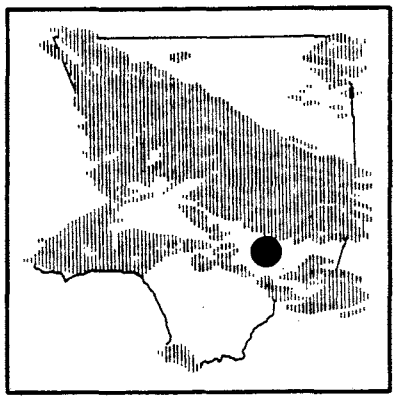
RECORDER - continuous water stage.
METHOD OF MEASUREMENTS- wading or from bridge.
DRAINAGE AREA- 18.8 square miles.
LOCATION - 30.0 feet above Longden Avenue, 1.5 miles south of Arcadia.
REGULATION - regulated by Santa Anita and Sierra Madre Dams, and Santa Anita Debris Basin.
CHANNEL - concrete rectangular section.
CONTROL- channel forms control.
LENGTH OF RECORD- at Station F193-R, April 25, 1932 to March 1, 1938. at Station F193B-R, January 5, 1960 to date.

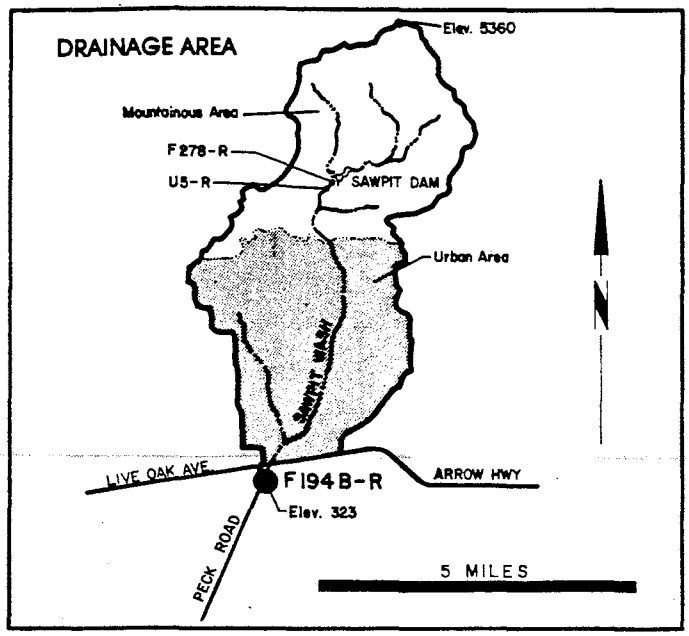
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

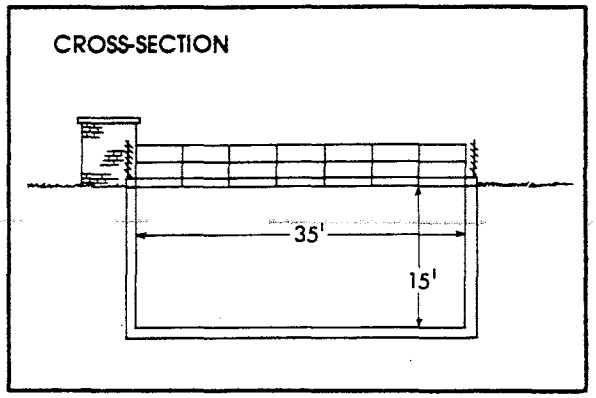
STATION NO. : F193B–R DRAINAGE AREA : 18.80 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.3	0.1	2.3	15.7	83.3	102.0	21.5	6.8	0.3	0.6	0.0	0.0
MAX.	9.9	0.4	44.4	426.0	498.0	238.0	78.5	13.2	0.3	12.3	0.1	0.0
MIN.	0.0	0.1	0.1	0.0	0.1	33.3	13.2	0.3	0.3	0.0	0.0	0.0
TOTAL AF	19.6	7.1	140.0	963.0	4,790.0	6,292.0	1,279.0	417.0	17.9	38.5	0.2	0.0

SAWPIT WASH
below Live Oak Avenue
STATION NO. F194B-R







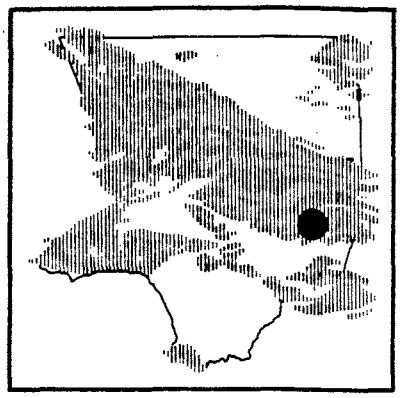
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from footbridge.
DRAINAGE AREA- 16.1 square miles.
LOCATION- 1,500 feet below Arrow Highway, 3.0 miles south of Monrovia.
REGULATION- partially regulated by Sawpit and Santa Fe Dams, and by several debris basins.
CHANNEL- concrete, rectangular section.
CONTROL- channel forms control.
LENGTH OF RECORD- at Station F194-R February 22, 1932 to September 1, 1935. at Station F194B-R December 5, 1960 to date.

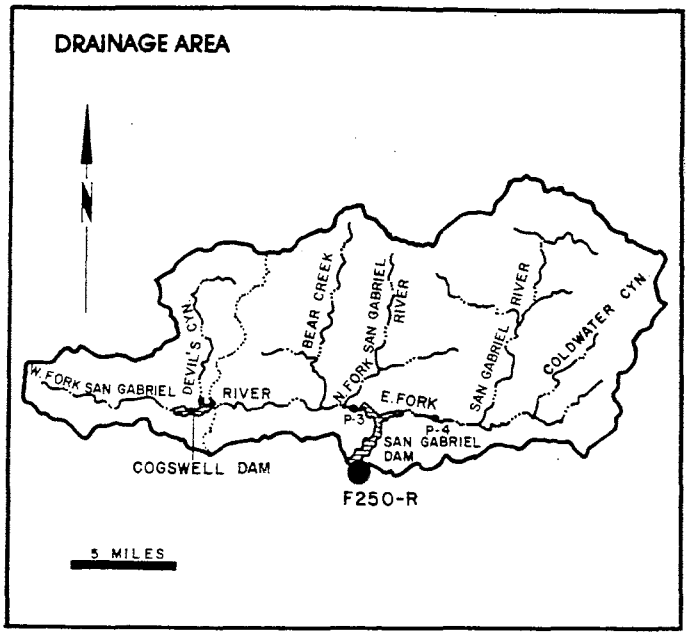
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

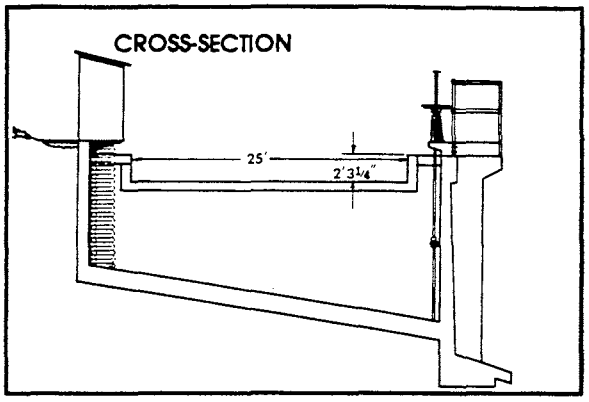
STATION NO. : F194B–R DRAINAGE AREA : 16.10 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.9	0.2	6.2	14.0	36.6	9.5	6.0	82.9	153.0	118.0	0.2	0.1
MAX.	57.4	0.2	119.0	77.1	259.0	93.1	38.3	179.0	325.0	180.0	0.6	0.1
MIN.	0.0	0.0	0.1	0.0	0.2	0.1	0.1	2.0	78.1	0.2	0.1	0.1
TOTAL AF	980.0	9.5	381.0	858.0	2,107.0	584.0	355.0	5,100.0	9,090.0	7,251.0	9.9	6.0

SAN GABRIEL-AZUSA CONDUIT
at 25 ft. Weir below San Gabriel Dam
STATION NO. F250-R







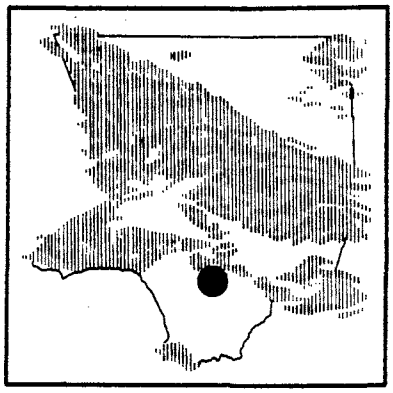
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- weir formula with gage height observation.
DRAINAGE AREA- none.
LOCATION- on the concrete conduit which diverts from San Gabriel Dam, 160 feet below the Dam.
REGULATION- regulated in section.
CONTROL- 25-foot concrete weir.
LENGTH OF RECORD- February 26, 1933, to date.
REMARKS- approximate capacity 95 second-feet.

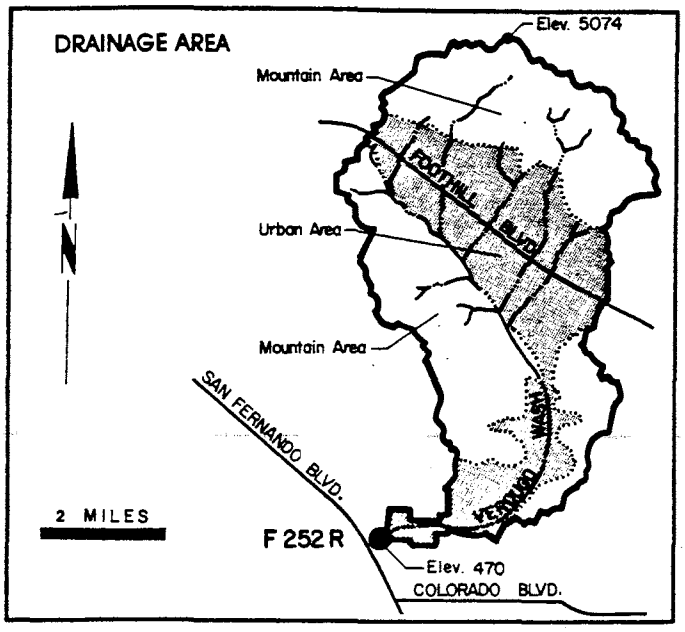
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

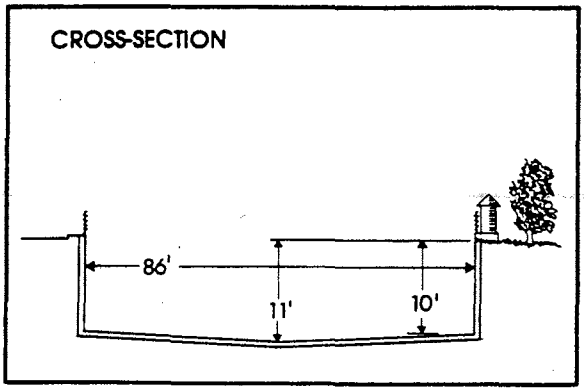
STATION NO. : F250–R DRAINAGE AREA : NONE SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	72.8	77.9	39.7	39.2	43.0	53.8	63.9	77.2	77.2	75.6	3.9	0.0
MAX.	79.2	78.5	76.3	42.2	65.0	65.4	82.6	79.7	78.0	79.4	52.5	0.0
MIN.	47.7	76.0	31.1	38.1	12.6	0.7	21.6	75.2	76.2	52.2	0.0	0.0
TOTAL AF	4,474.0	4,634.0	2,441.0	2,411.0	2,471.0	3,309.0	3,801.0	4,747.0	4,591.0	4,648.0	237.0	0.0

VERDUGO WASH
at Estelle Avenue
STATION NO. F252-R







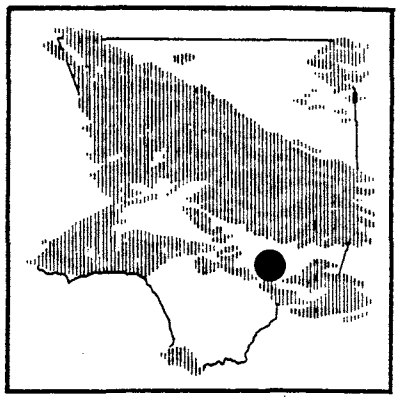
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from Concord Street Bridge.
DRAINAGE AREA- 26.8 square miles.
LOCATION- 800.0 feet east of San Fernando Road, 2.0 miles northwest of Glendale.
REGULATION- partially regulated by several debris basins.
CHANNEL- concrete, rectangular in section.
CONTROL- channel forms control.
LENGTH OF RECORD- December 2, 1935 to date.

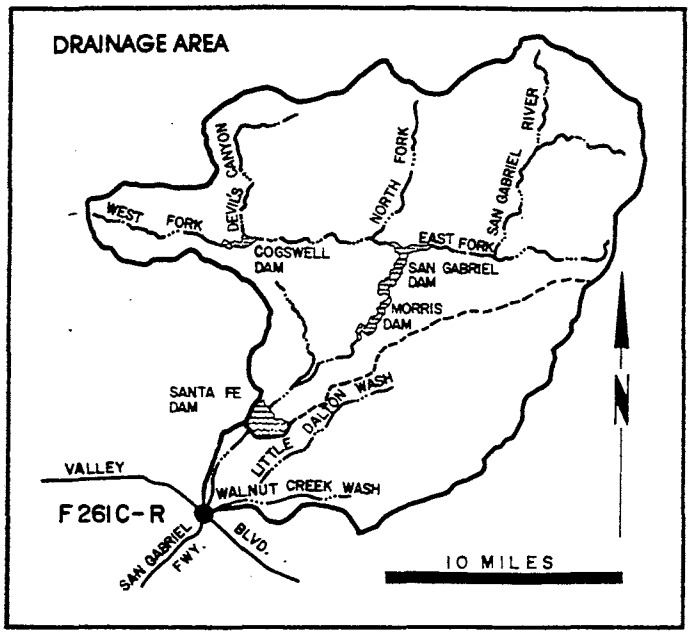
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

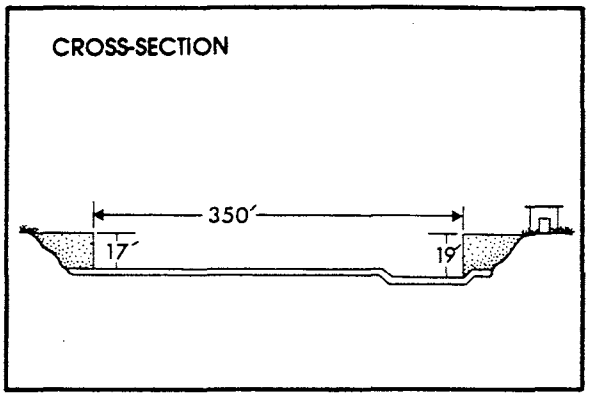
STATION NO. : F252–R DRAINAGE AREA : 26.80 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.1	2.5	47.5	18.5	71.7	81.5	4.2	3.2	1.9	4.1	1.5	1.9
MAX.	43.9	3.9	314.0	316.0	636.0	405.0	18.6	7.2	2.8	69.2	2.6	3.0
MIN.	1.0	1.7	0.0	0.7	0.0	2.5	1.5	1.3	1.0	1.1	0.9	1.2
TOTAL AF	252.0	149.0	2,922.0	1,137.0	4,127.0	5,013.0	250.0	195.0	116.0	253.0	94.0	113.0

SAN GABRIEL RIVER
below Valley Boulevard
STATION NO. F261C-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading.

DRAINAGE AREA- 118.0 square miles (excludes area above Santa Fe Dam).

LOCATION- 1,150.0 feet below Valley Boulevard, 2.5 miles east of El Monte.

REGULATION- partly regulated by Santa Fe, Big Dalton, Puddingstone Diversion, and Puddingstone Dams.

CHANNEL- sand and gravel bottom with rip-rap side slopes; trapezoidal section.

CONTROL- concrete stabilizer with low-flow notch.

LENGTH OF RECORD- at Station F261-R March 11, 1937 to September 30, 1941. at Station F261B-R October 1, 1941 to April 23, 1946. at Station F261C-R November 29, 1960 to date.

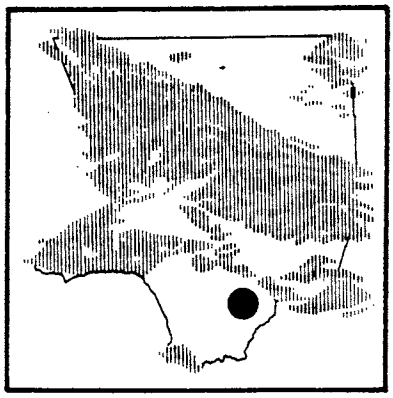
REMARKS- flows may include imported water originating at Metropolitan Water District outlets at San Dimas Canyon and below San Bernardino Road.

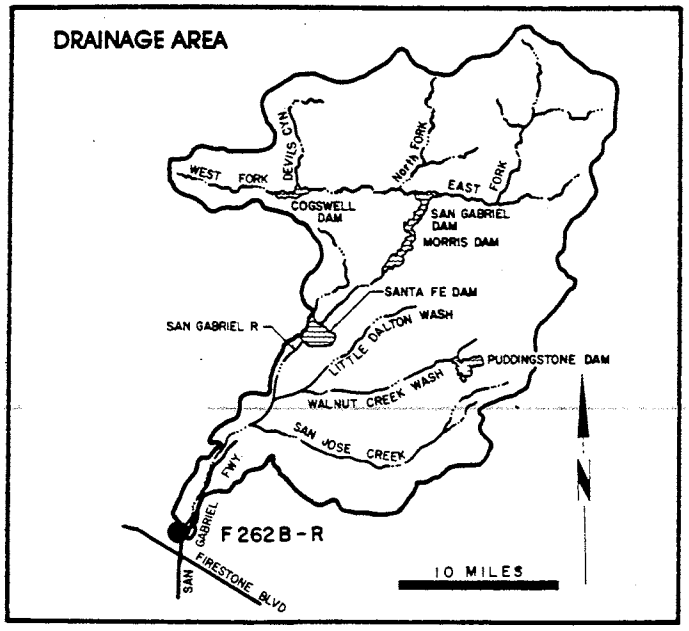
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

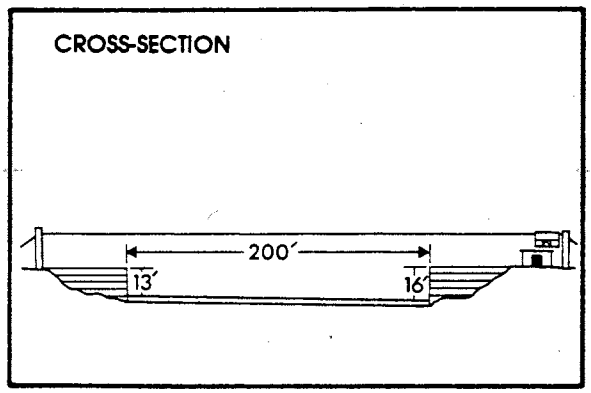
STATION NO. : F261C-R DRAINAGE AREA : 118.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.1	1.2	34.9	36.7	233.0	121.0	6.3	4.1	0.8	4.5	0.0	0.3
MAX.	113.0	11.0	796.0	691.0	2,150.0	572.0	35.6	75.4	7.4	33.8	0.1	3.1
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF	251.0	69.0	2,148.0	2,256.0	13,374.0	7,413.0	374.0	254.0	49.4	278.0	0.4	16.9

SAN GABRIEL RIVER
above Florence Avenue
STATION NO. F262C-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 215.8 square miles (excludes area above Santa Fe Dam).

LOCATION- 1,400 feet above Florence Avenue, 2.0 miles east of Downey.

REGULATION- partially regulated by Cogswell, San Gabriel, Morris, Santa Fe, Big Dalton, San Dimas, Puddingstone Diversion, Puddingstone, Live Oak, Thompson Creek and Whittier Narrows Dams, several debris basins, MWD outlets, and several spreading grounds.

CHANNEL- sand bottom with rip-rap slopes, trapezoidal section.

CONTROL- concrete stabilizer.

LENGTH OF RECORD- at Station F267-R February 27, 1937 to September 30, 1967. at Station F262B-R August 6, 1968 to date.

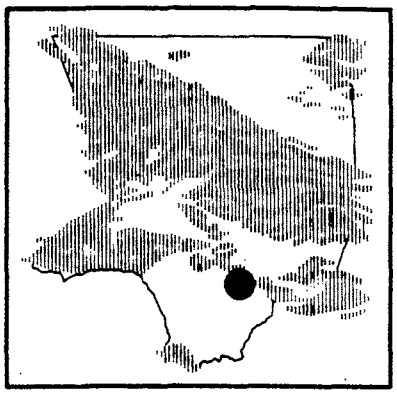
REMARKS- no record during 1967-1968 season due to channel construction.

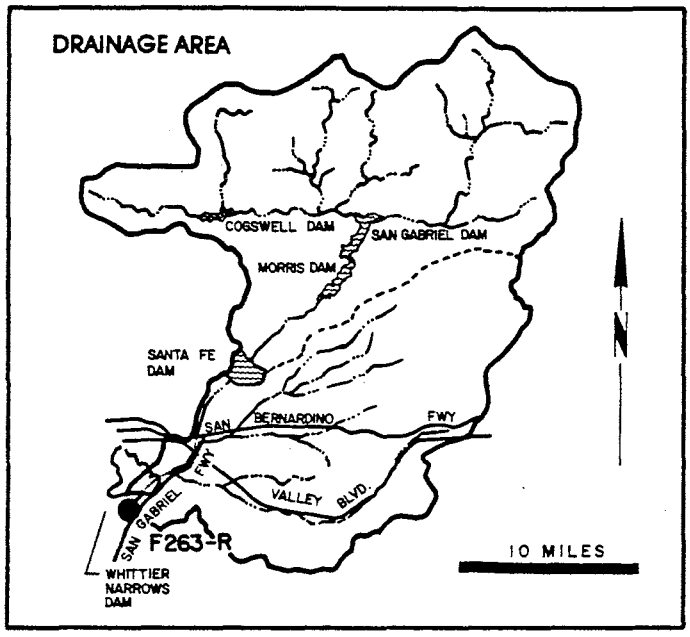
WATER YEAR 1991 - 1992
(DISCHARGE IN CFS)

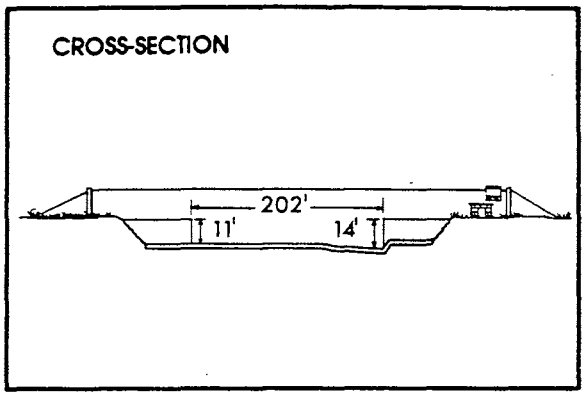
STATION NO. : F262C-R DRAINAGE AREA : 215.8 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.0	0.0	0.0	0.0	54.8	11.2	0.0	0.0	0.0	0.0	0.0	0.0
MAX.	0.0	0.0	0.0	0.1	673.0	126.0	0.0	0.0	0.0	0.0	0.0	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF	0.0	0.0	0.0	0.3	3,150.0	692.0	0.0	0.0	0.0	0.0	0.0	0.0

SAN GABRIEL RIVER
below San Gabriel River Parkway
STATION NO. F263C-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 206.3 square miles (excludes area above Santa Fe Dam).

LOCATION- 462.0 feet below San Gabriel River Parkway, 1.4 miles northeast of Pico Rivera.

REGULATION- partly regulated by Santa Fe, Big Dalton, Puddingstone Diversion, Puddingstone, and Thompson Creek Dams. Flows may include imported water from several Metropolitan Water District outlets. Water is at times diverted to the Zone I ditch upstream of Whittier Narrows Dam.

CHANNEL- rip-rap slopes with sand bottom trapezoidal section.

CONTROL- concrete stabilizer.

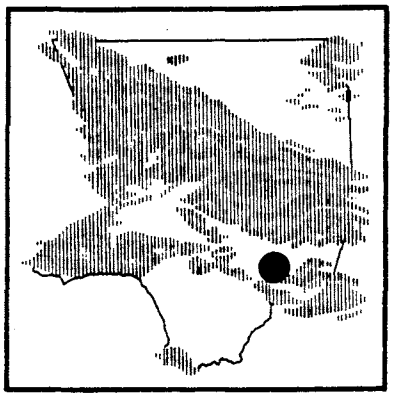
LENGTH OF RECORD - at Station F263-R February 4, 1937 to March 6, 1952. at Station F263B-R March 6, 1952 to August 9, 1968. at Station F263C-R August 9, 1968 to date.

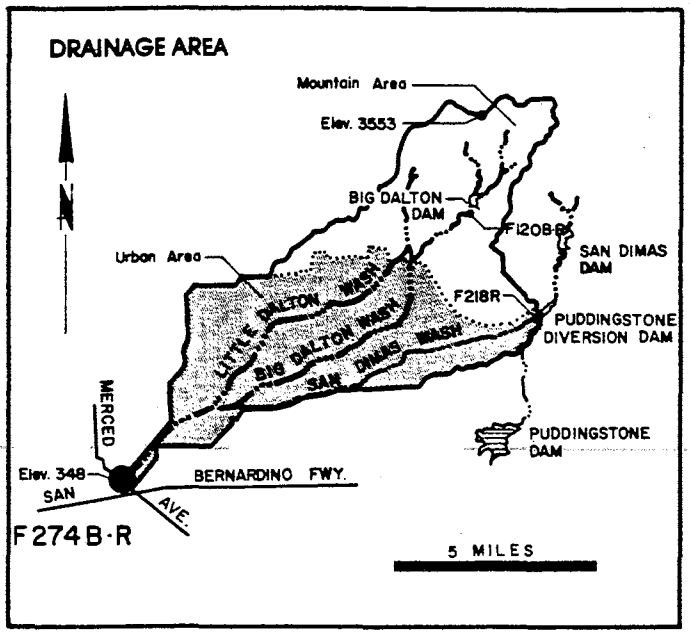
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

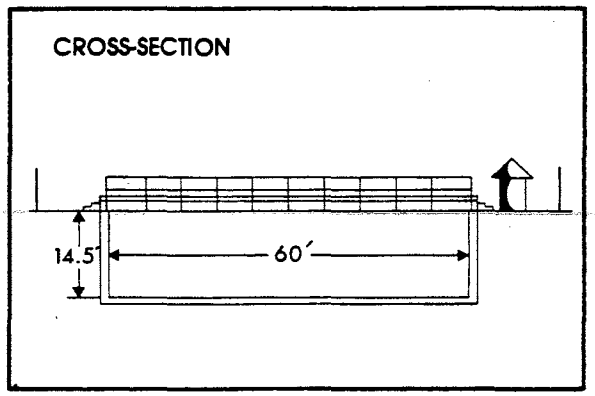
STATION NO.: F263C–R DRAINAGE AREA: 206.30 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.4	12.5	73.3	58.3	183.0	122.0	13.0	12.1	2.0	19.5	7.8	0.0
MAX.	116.0	83.8	330.0	441.0	1,320.0	481.0	97.6	49.8	2.1	66.6	71.6	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0
TOTAL AF	392.0	745.0	4,506.0	3,587.0	10,551.0	7,477.0	775.0	741.0	11.3	1,197.0	478.0	0.0

DALTON WASH
at Merced Avenue
STATION NO. F274B-R







RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from footbridge 100 feet upstream from station.

DRAINAGE AREA- 36.0 square miles, not including the area above Puddingstone Diversion Dam.

LOCATION- on the west bank and upstream of Merced Avenue about 150 feet, about one-half mile above the junction with Walnut Wash and about one mile south of Baldwin Park.

REGULATION- partly regulated by Big Dalton Dam, San Dimas Dam, Puddingstone Diversion Dam, Big Dalton Spreading Grounds, Little Dalton Spreading Grounds, Big Dalton Debris Basin, Little Dalton Debris Basin, and Irwindale Spreading Grounds.

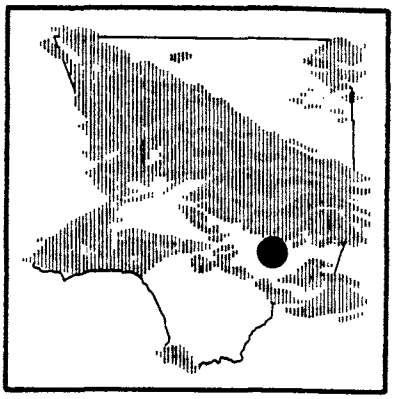
REMARKS- flow may include imported water originating at San Dimas.

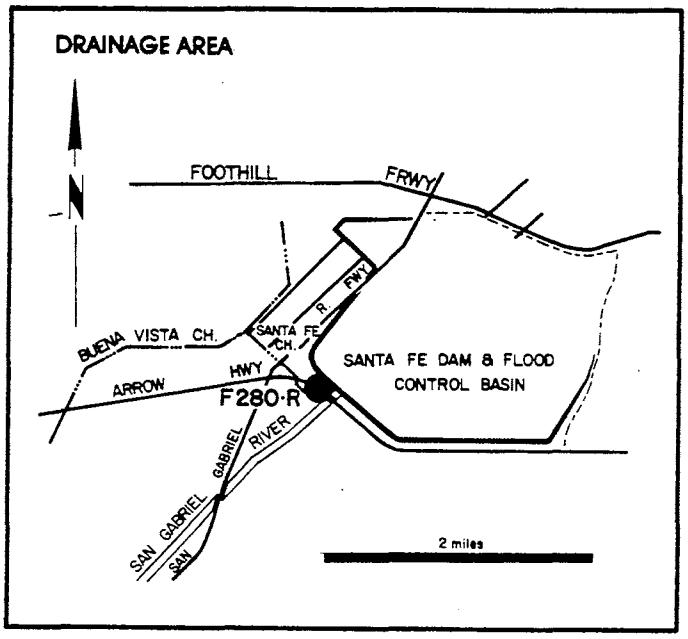
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

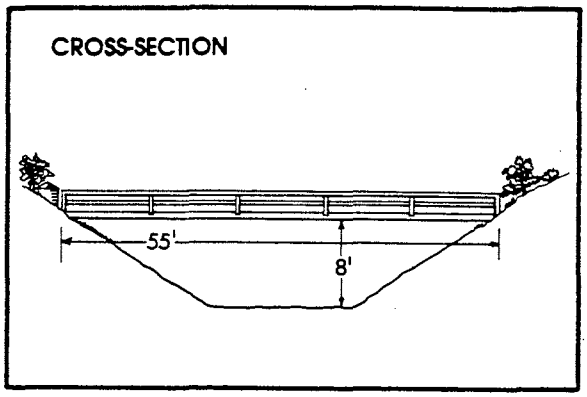
STATION NO. : F274B-R DRAINAGE AREA : 36.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.6	6.7	18.3	8.3	38.6	18.1	1.0	0.5	8.3	12.2	1.2	4.5
MAX.	80.2	38.0	427.0	190.0	529.0	128.0	3.9	3.9	36.7	32.9	6.8	14.7
MIN.	0.3	0.1	0.1	0.5	0.3	0.1	0.1	0.1	1.3	1.2	0.3	0.3
TOTAL AF	219.0	400.0	1,123.0	510.0	2,219.0	1,111.0	57.9	30.3	494.0	749.0	73.4	265.0

SANTA FE CHANNEL
below Santa Fe Dam
STATION NO. F280-R







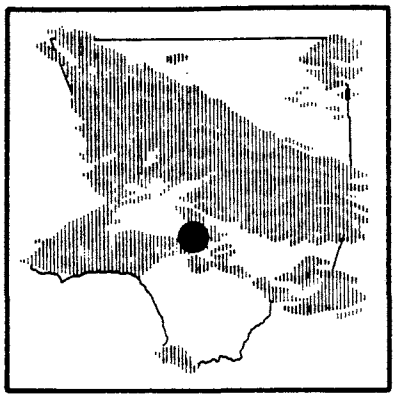
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from footbridge.
DRAINAGE AREA- controlled.
LOCATION- 400.0 feet downstream of Santa Fe Dam outlet and 1.5 miles north of Baldwin Park.
REGULATION- flow regulated by five gates of stilling basin outlet of Santa Fe Dam.
CHANNEL- sand and gravel, natural section.
CONTROL- concrete stabilizer.
LENGTH OF RECORD- at Station F280-S October 1, 1942 to May 12, 1944. at Station F280-R May 12, 1944 to date.

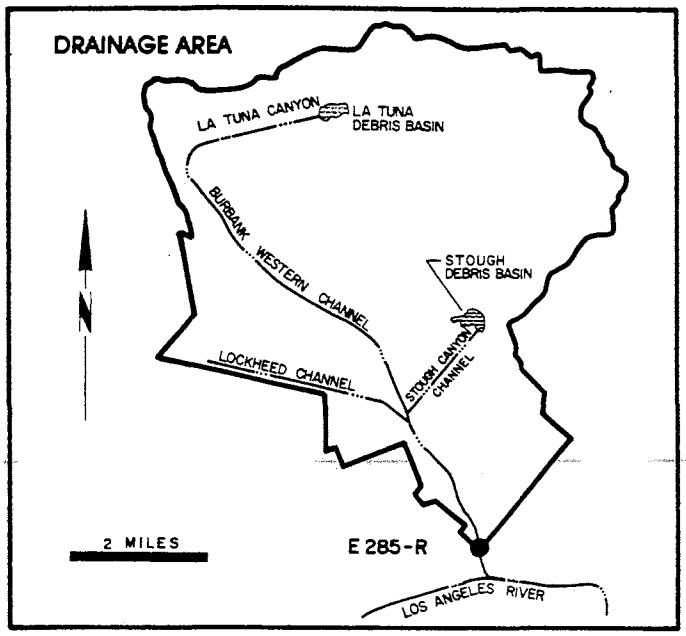
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

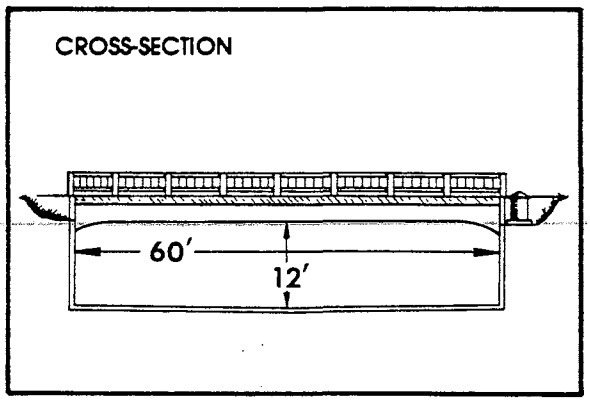
STATION NO. : F280–R DRAINAGE AREA : CONTROLLED

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.7	0.0	0.0	22.1	19.0	0.0	9.7	130.0	203.0	195.0	0.0	0.0
MAX.	75.2	0.0	0.2	118.0	276.0	0.0	84.2	271.0	428.0	305.0	0.0	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	88.9	0.1	0.0	0.0
TOTAL AF	1,333.0	0.0	0.4	1,360.0	1,095.0	0.0	577.0	7,988.0	12,056.0	11,996.0	0.0	0.0

BURBANK-WESTERN ST. DR.
at Riverside Drive
STATION NO. E 285-R







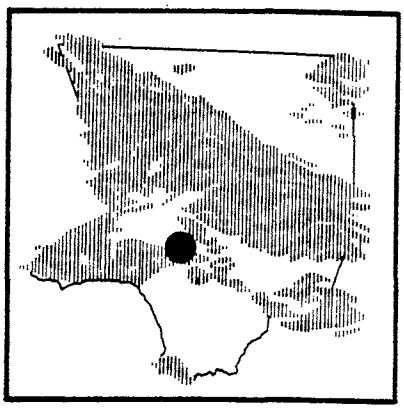
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading and from bridge.
DRAINAGE AREA- 25.0 square miles.
LOCATION- 20.0 feet upstream from Riverside Drive bridge, Glendale.
REGULATION- Several debris basins on tributaries.
CHANNEL- concrete, rectangular section.
CONTROL- channel forms control.
LENGTH OF RECORD- October 1, 1949 to date.
REMARKS- operated in cooperation with the USCE.

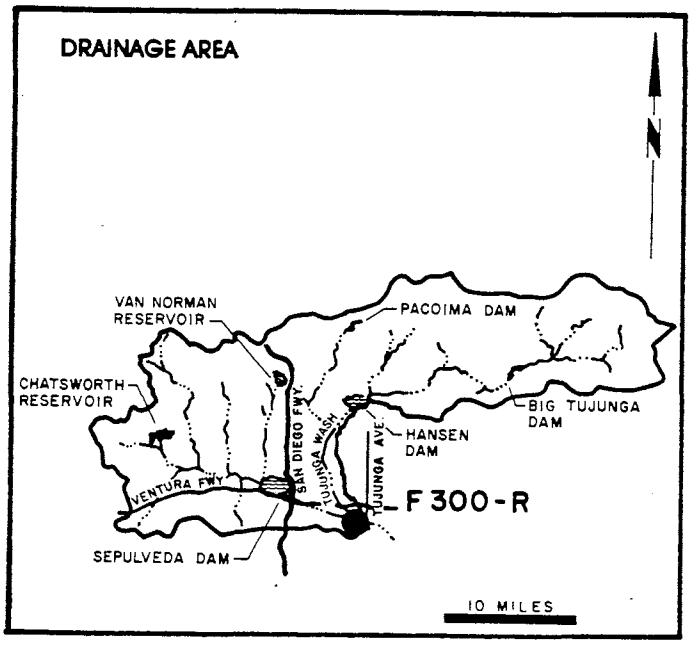
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

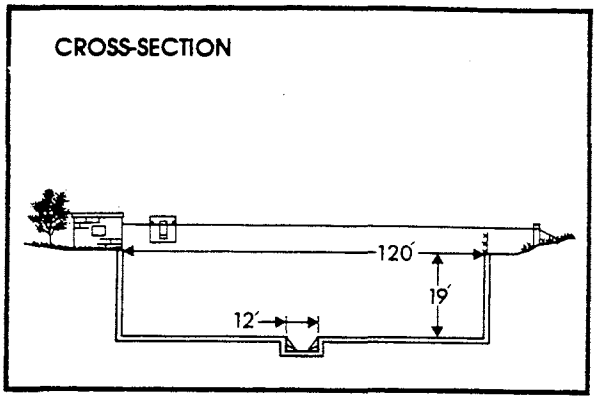
STATION NO. : E285–R DRAINAGE AREA : 25.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.0	11.6	41.0	56.1	185.0	72.7	13.9	7.4	5.5	7.9	7.8	11.6
MAX.	19.5	14.9	354.0	305.0	778.0	212.0	33.6	17.5	6.0	11.4	10.3	14.1
MIN.	9.6	6.6	9.0	12.8	6.9	6.7	4.1	3.0	4.6	4.6	6.2	7.2
TOTAL AF	802.0	688.0	2,522.0	3,449.0	10,616.0	4,470.0	829.0	453.0	324.0	487.0	479.0	693.0

LOS ANGELES RIVER
at Tujunga Avenue
STATION NO. F300-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 401.0 square miles.

LOCATION- 200.0 feet above Tujunga Avenue bridge, Studio City.

REGULATION- flow regulated by Sepulveda, Big Tujunga, Hansen, and Pacoima Dams, Lopez Debris Dam, and Project No. 85 Diversion.

CHANNEL- concrete, rectangular section, 120 feet wide by 19 feet deep.

CONTROL- channel forms control.

LENGTH OF RECORD- May 8, 1950, to date.

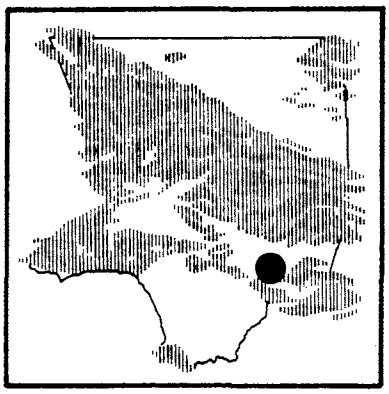
REMARKS- subject to diversions at mouth of Big Tujunga and Pacoima Canyons for irrigation, at Big Tujunga, Branford, Hansen, and Pacoima Spreading Grounds.

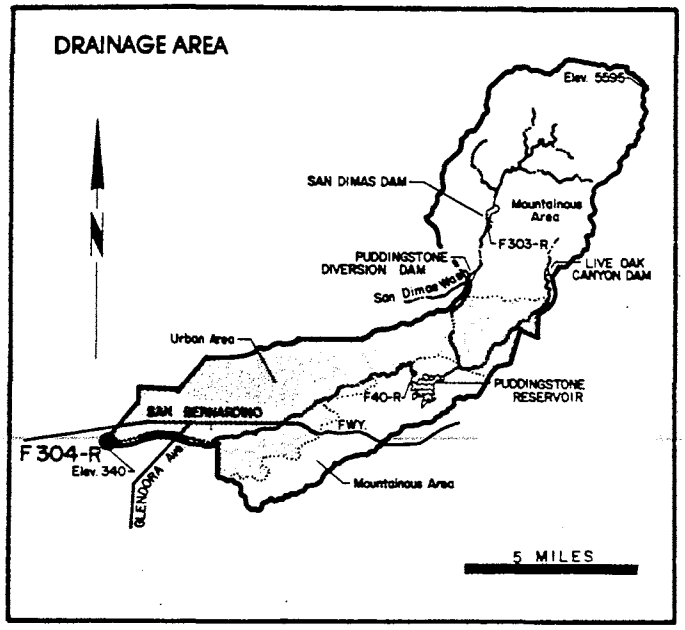
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

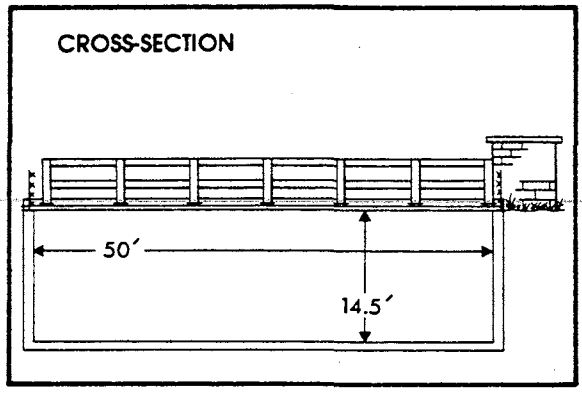
STATION NO. : F300-R DRAINAGE AREA : 401.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.0	38.7	288.0	228.0	1,250.0	590.0	118.0	69.2	72.2	51.2	58.8	65.5
MAX.	543.0	42.3	4,440.0	2,070.0	10,800.0	2,690.0	337.0	86.1	132.0	74.1	69.1	77.8
MIN.	33.7	36.1	35.1	60.8	88.1	94.0	86.3	46.7	57.0	34.2	47.7	58.9
TOTAL AF	4,734.0	2,301.0	17,703.0	14,021.0	72,131.0	36,296.0	7,000.0	4,256.0	4,298.0	3,147.0	3,613.0	3,898.0

WALNUT CREEK
above Puente Avenue
STATION NO. F304-R







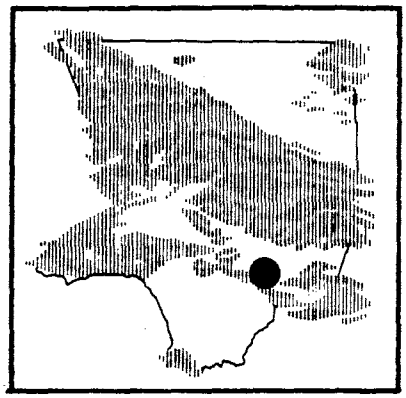
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from footbridge.
DRAINAGE AREA- 57.6 square miles.
LOCATION- 845.0 feet upstream of Puente Avenue bridge, Baldwin Park.
REGULATION- partially regulated by San Dimas, Puddingstone Diversion, Puddingstone, and Live Oak Dams.
CHANNEL- concrete, rectangular in section.
CONTROL- channel forms control.
LENGTH OF RECORD- October 14, 1952 to April 11, 1961, January 3, 1962 to date.
REMARKS- no record during April 11, 1961 to January 3, 1962 due to channel construction.

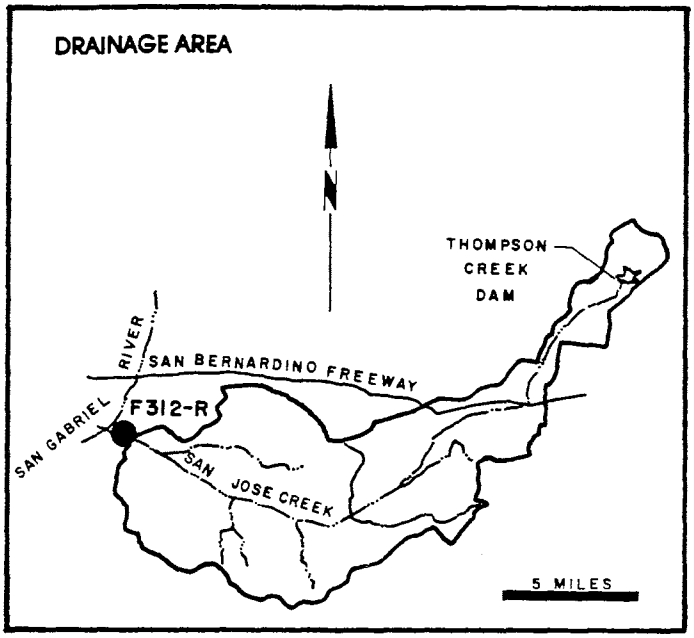
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

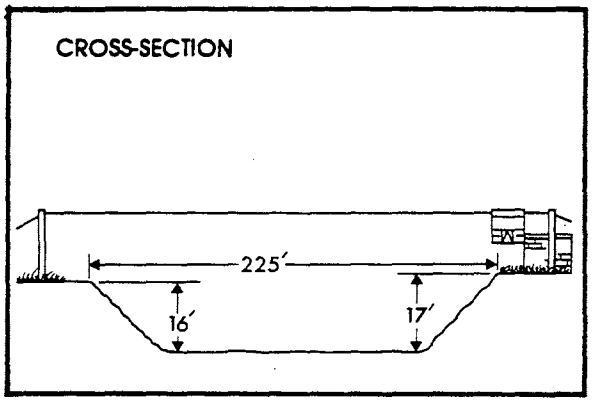
STATION NO. : F304–R DRAINAGE AREA : 57.60 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.5	0.6	20.1	19.8	103.0	190.0	0.0	0.2	0.3	1.6	0.7	0.2
MAX.	44.1	8.1	521.0	349.0	1,090.0	397.0	0.4	3.1	1.2	24.6	4.8	0.6
MIN.	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.1
TOTAL AF	90.2	32.7	1,237.0	1,218.0	5,913.0	11,704.0	2.8	14.3	15.5	97.6	43.8	14.1

SAN JOSE CHANNEL
above Workman Mill Road
STATION NO. F312-R







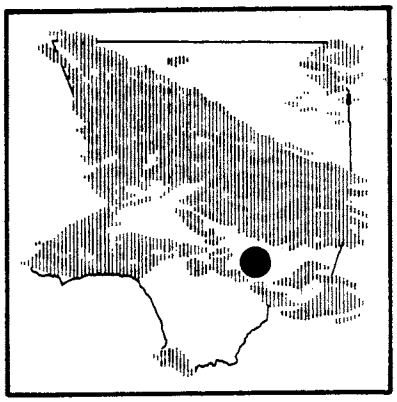
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from cable car.
DRAINAGE AREA- 83.4 square miles.
LOCATION- 1,650 feet above Workman Mill Road, 3.0 miles southeast of El Monte.
REGULATION- partially regulated by Thompson Creek Dam and Pomona Sewage Treatment Plant.
CHANNEL- grouted rip-rap side slopes with natural bottom, trapezoidal section.
CONTROL- rock stabilizer.
LENGTH OF RECORD- September 13, 1955 to date.

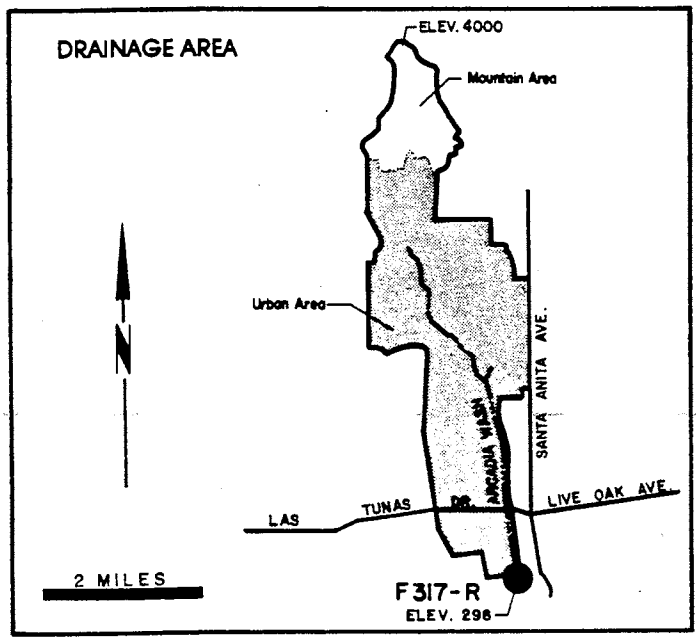
WATER YEAR 1991 – 19
(DISCHARGE IN CFS)

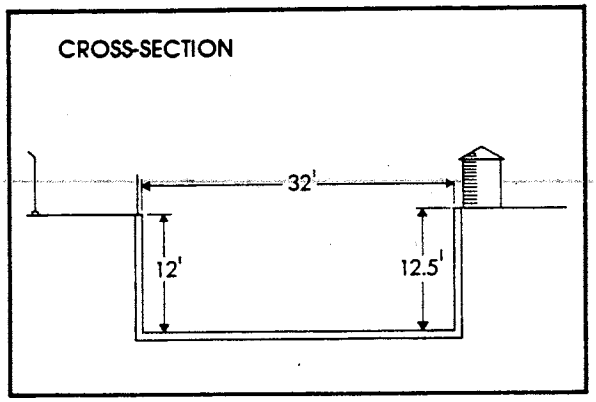
STATION NO. : F312–R DRAINAGE AREA : 83.40 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	157.0	76.0	155.0	69.7	288.0	172.0	23.3	12.1	10.6	13.6	12.7	11.8
MAX.	357.0	158.0	1,920.0	1,450.0	2,370.0	956.0	135.0	12.6	11.8	46.0	14.9	13.2
MIN.	38.4	8.2	11.3	7.3	12.1	12.6	11.5	11.2	10.2	10.2	11.5	10.5
TOTAL AF	9,627.0	4,524.0	9,543.0	4,285.0	16,592.0	10,564.0	1,386.0	745.0	633.0	837.0	780.0	705.0

ARCADIA WASH
below Grand Avenue
STATION NO. F317-R







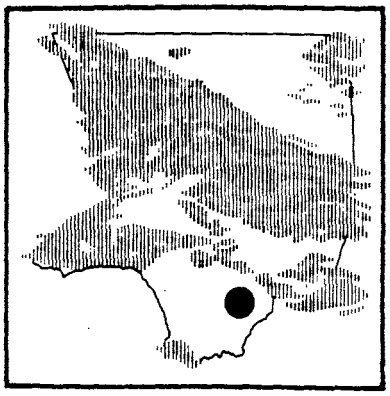
RECORDER- 15 minute punched tape.
METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from upstream side of Grand Avenue bridge.
DRAINAGE AREA- 8.5 square miles.
LOCATION- on the west wall of Arcadia Wash about 75 feet downstream from centerline of Grand Avenue.
REGULATION- several debris basins located upstream.
CHANNEL- rectangular concrete.
LENGTH OF RECORD- December 12, 1955 to date.

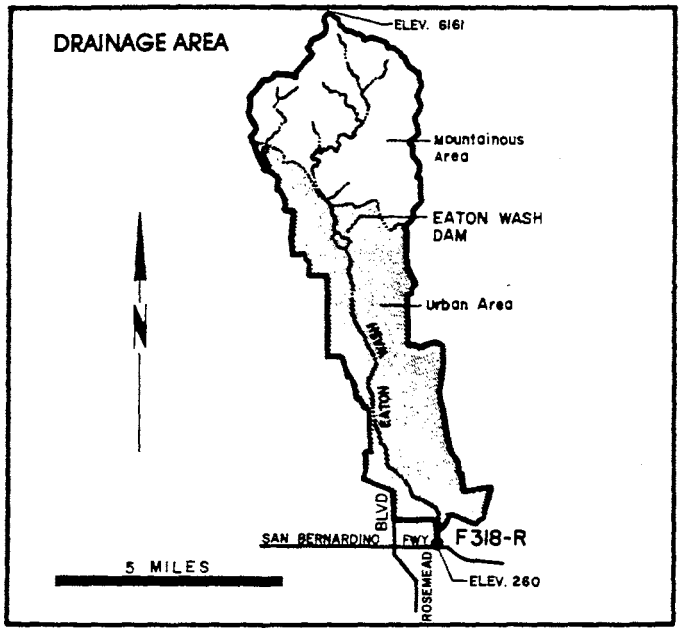
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

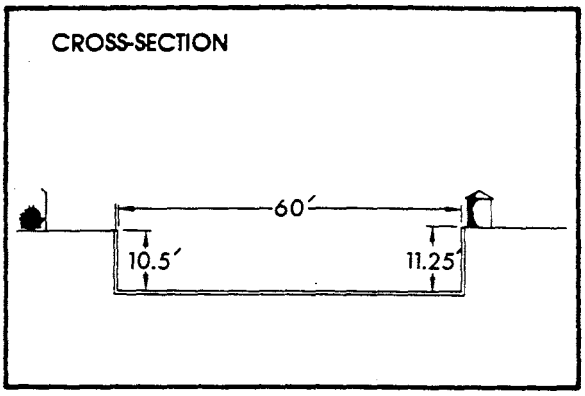
STATION NO. : F317–R DRAINAGE AREA : 8.50 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.7	0.4	7.6	7.4	68.8	38.8	2.4	0.8	1.1	4.6	0.1	1.6
MAX.	6.9	0.8	147.0	127.0	301.0	150.0	46.9	1.3	1.7	49.6	0.1	4.6
MIN.	0.5	0.2	0.1	0.1	0.1	0.3	0.5	0.5	0.7	0.1	0.1	0.3
TOTAL AF	105.0	22.4	468.0	455.0	3,959.0	2,388.0	145.0	51.8	67.6	281.0	6.1	94.2

EATON WASH
at Loftus Drive
STATION NO. F318-R







RECORDER- 15 minute punched tape.

METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from upstream side of East Loftus Drive bridge.

DRAINAGE- 22.8 square miles.

LOCATION- on the west wall of the channel 52 feet above the centerline of East Loftus Drive bridge, 1.3 miles west of El Monte.

REGULATION- partly regulated by Eaton Dam.

DIVERSIONS- the Pasadena Water Department diverts some water just above the mouth of Eaton Canyon. The Flood Control District diverts water to spreading grounds below Eaton Dam and below Huntington Drive.

CHANNEL- rectangular concrete, 60 feet wide, 11.3 feet.

CONTROL- channel forms control.

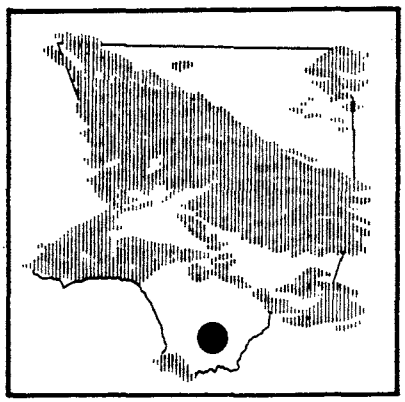
LENGTH OF RECORD- 1956 to date.

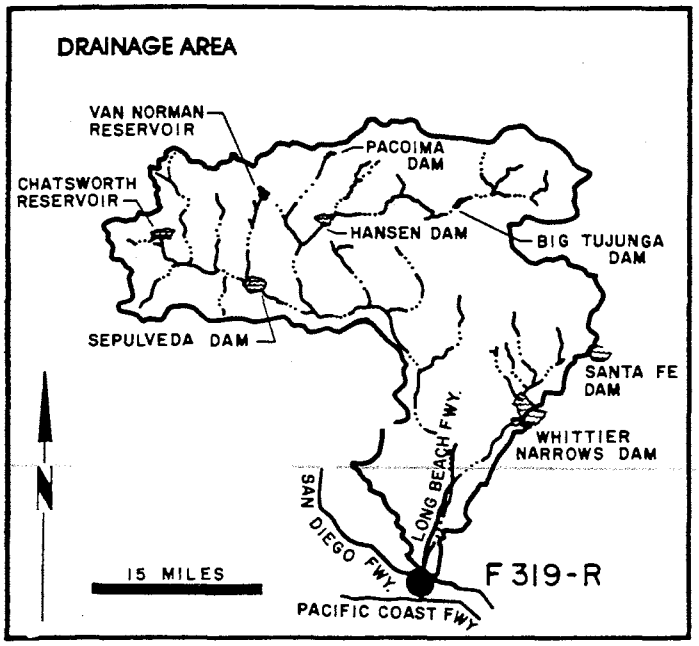
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

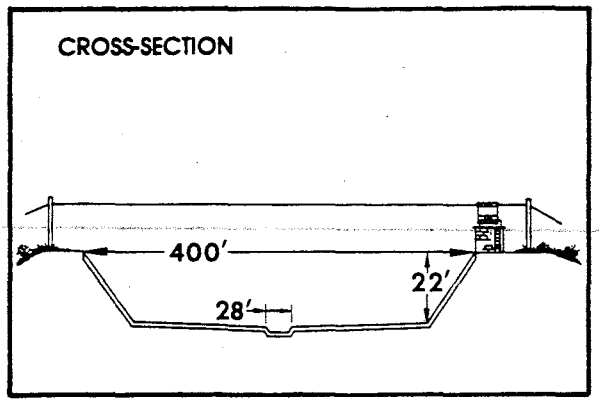
STATION NO.: F318–R DRAINAGE AREA: 22.80 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.6	0.1	10.8	8.2	79.9	60.1	9.0	1.5	0.2	1.4	0.2	0.1
MAX.	44.6	0.2	222.0	167.0	757.0	410.0	12.0	11.0	0.3	21.2	0.4	0.4
MIN.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
TOTAL AF	100.0	6.5	664.0	502.0	4,593.0	3,697.0	534.0	93.8	9.1	86.5	11.1	7.1

LOS ANGELES RIVER
below Wardlow Road
STATION NO. F319-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 815.0 square miles (excludes area above Santa Fe Dam).

LOCATION- 900.0 feet below Wardlow Road, Long Beach.

REGULATION- flow is subject to the same regulation as Stations F34D-R and P458-R.

DIVERSIONS- flows diverted to Dominguez Gap Spreading Grounds.

CHANNEL- trapezoidal, concrete, 302.0 feet wide at bottom with 2.25:1 side slopes. Low flow channel 28.0 feet wide by 1.0 foot deep in center of channel.

CONTROL- channel forms control.

LENGTH OF RECORD- at Station F180-R October 31, 1931 to January 13, 1956. at Station F319-R January 13, 1956 to date.

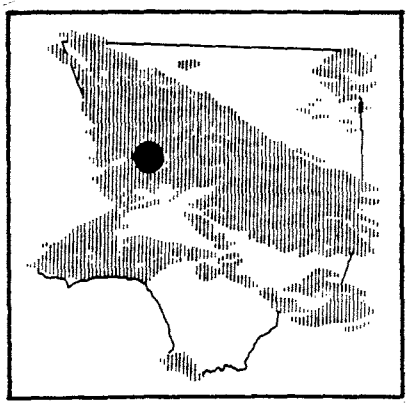
REMARKS- prior to 1931, see Station F36-R.

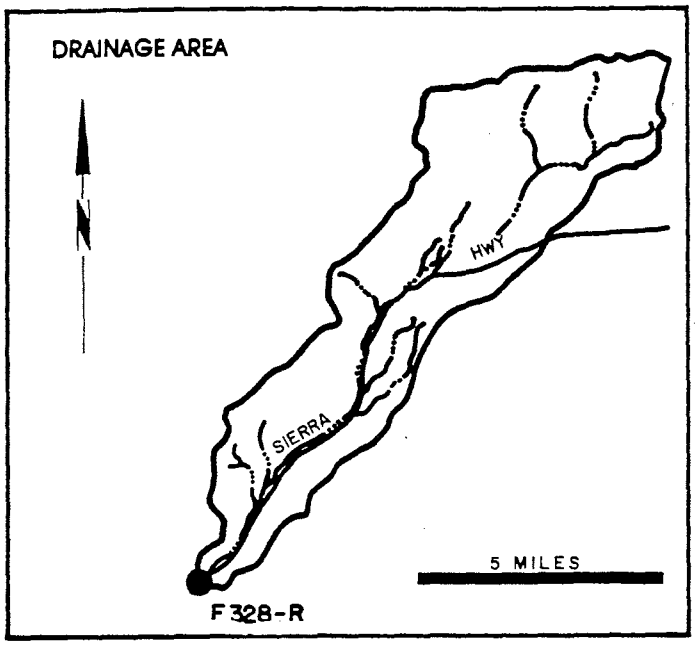
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

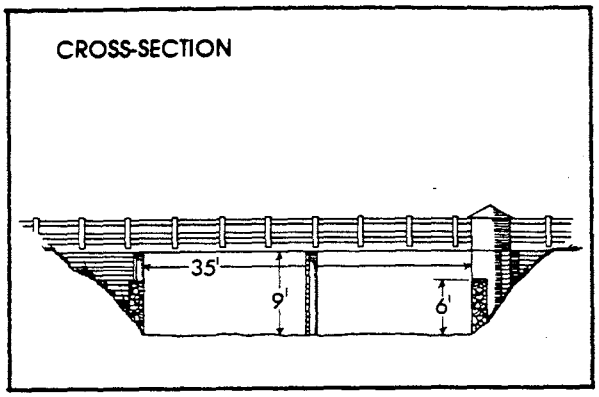
STATION NO. : F319–R DRAINAGE AREA : 815.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	159.0	137.0	695.0	604.0	3,580.0	1,730.0	345.0	208.0	168.0	206.0	164.0	145.0
MAX.	723.0	145.0	9,370.0	4,860.0	23,800.0	7,360.0	1,230.0	304.0	178.0	361.0	175.0	152.0
MIN.	110.0	121.0	128.0	312.0	459.0	361.0	239.0	167.0	157.0	174.0	154.0	138.0
TOTAL AF	9,759.0	8,126.0	42,748.0	37,135.0	206,140.0	106,302.0	20,523.0	12,791.0	9,973.0	12,666.0	10,058.0	8,628.0

MINT CANYON CREEK
at Finch Avenue
STATION NO. F328-R







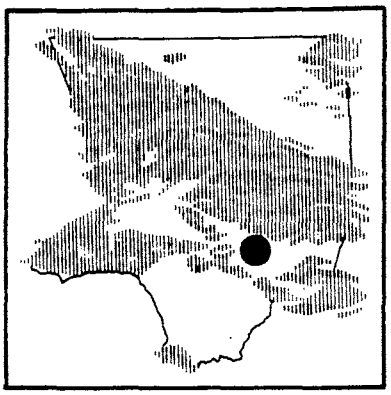
RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from bridge.
DRAINAGE AREA- 26.9 square miles.
LOCATION- 8.5 miles northeast of Saugus on west end of Fitch Avenue bridge.
REGULATION- none.
CHANNEL- natural, sand and gravel.
CONTROL- concrete control at downstream end of bridge.
LENGTH OF RECORD- October 26, 1956 to date.

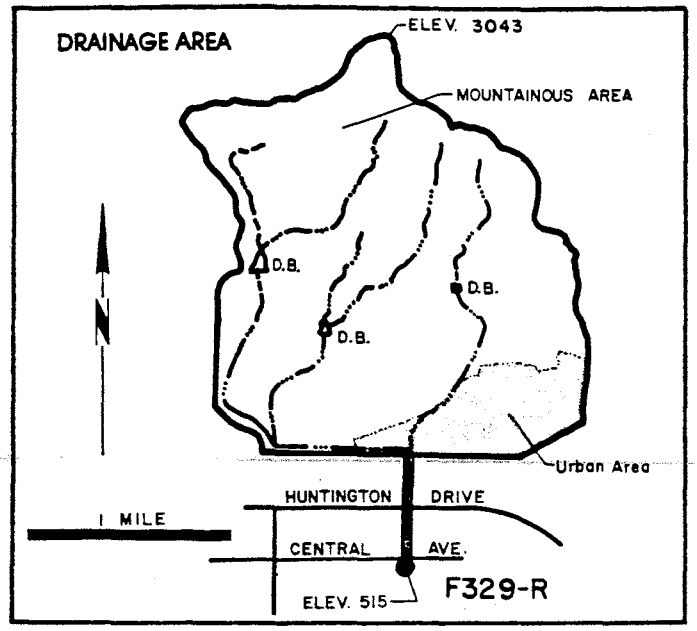
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

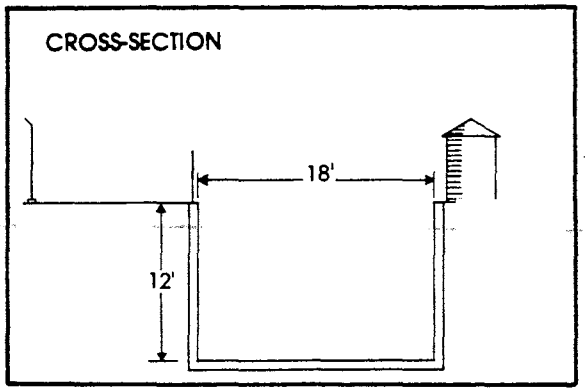
STATION NO. : F328–R DRAINAGE AREA : 26.90 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN				0.0								
MAX.	RECORDER INOPERATIVE			0.0	RECORDER INOPERATIVE FOR THE REST OF THE YEAR							
MIN.				0.0								
TOTAL AF				0.0								

BRADBURY CHANNEL
below Central Avenue
STATION NO. F329-R







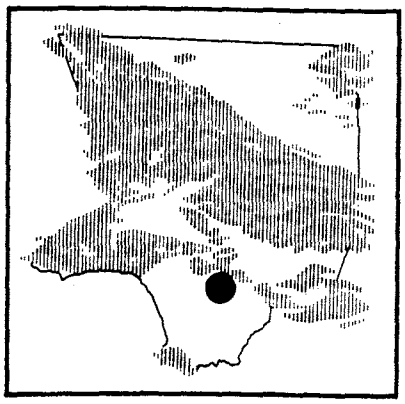
RECORDER- 15 minute punched tape.
METHOD OF MEASUREMENT- low flows measured by wading. High flows measured from footbridge four feet downstream from recorder.
DRAINAGE AREA- 3.3 square miles.
LOCATION- on the east wall of Bradbury Channel, 200 feet downstream from the centerline of Central Avenue, one mile east of Duarte.
REGULATION- two debris basins located upstream.
CHANNEL- rectangular concrete, 18 feet wide, 12 feet deep.
CONTROL- channel forms control.
LENGTH OF RECORD- June 14, 1957 to present.

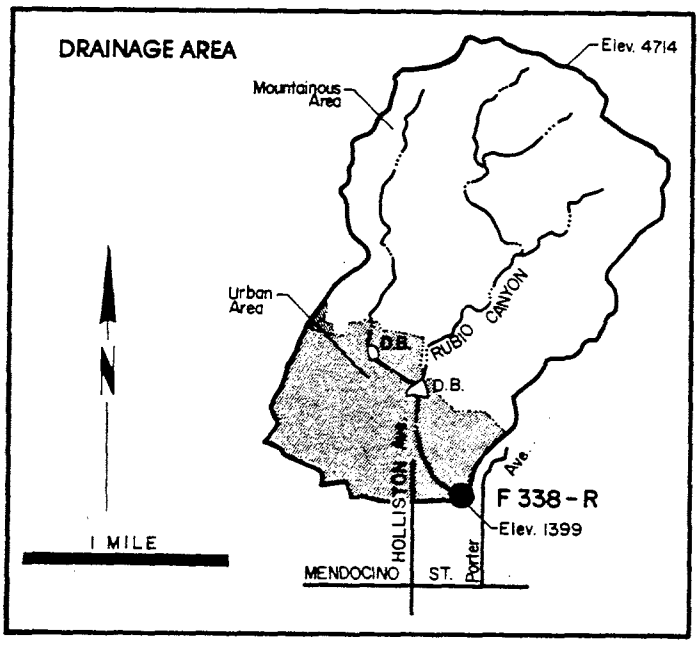
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

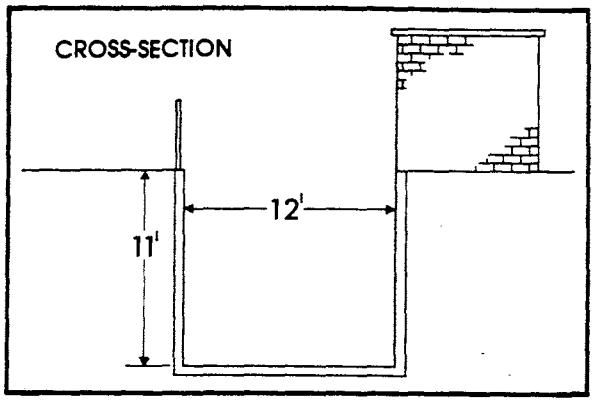
STATION NO. : F329–R DRAINAGE AREA : 3.30 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.2	0.3	0.9	0.6	5.6	2.9	2.4	0.5	0.1	0.2	0.1	0.1
MAX.	5.5	1.0	13.4	11.5	50.9	19.2	3.8	5.5	0.5	3.3	0.3	0.6
MIN.	0.3	0.0	0.0	0.0	0.1	0.1	1.5	0.1	0.0	0.0	0.0	0.0
TOTAL AF	74.2	16.1	57.1	33.9	319.0	175.0	141.0	28.0	6.5	13.5	5.8	6.9

RUBIO DIVERSION CHANNEL
below Goosebury Inlet
STATION NO. F338-R







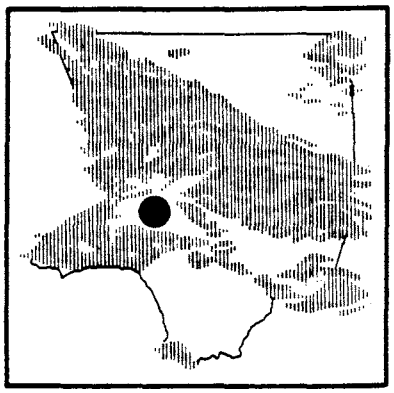
RECORDER- 15 minute punched tape.
METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured from steel footbridge 27 feet above station.
DRAINAGE AREA- 2.1 square miles.
LOCATION- on the north bank, 375 feet upstream of Crest Drive, three and one-half miles northeast of Pasadena.
REGULATION- flow partially regulated by Rubio and Gooseberry Debris Basins.
DIVERSIONS- Rubio Canyon Land and Water Association diverts low flows in Rubio Canyon.
CHANNEL- rectangular concrete, 12 feet wide and 11 feet deep.
CONTROL- channel forms control.
LENGTH OF RECORD- December 16, 1959 to date.

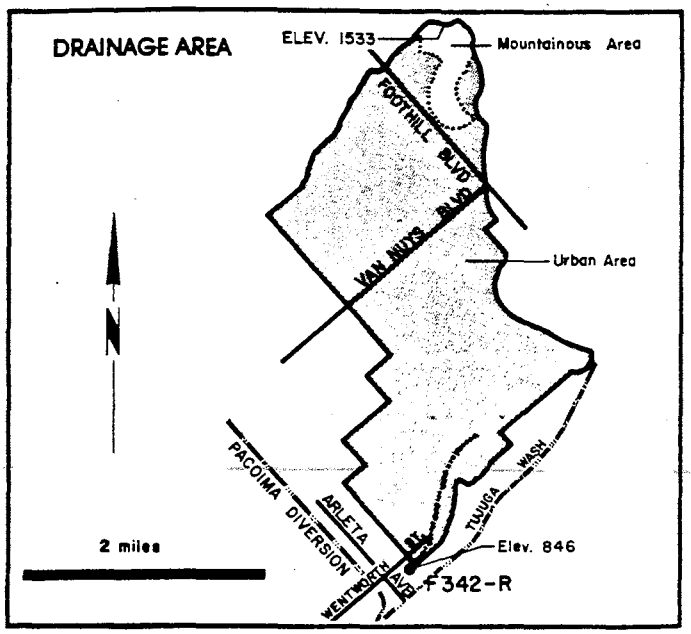
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

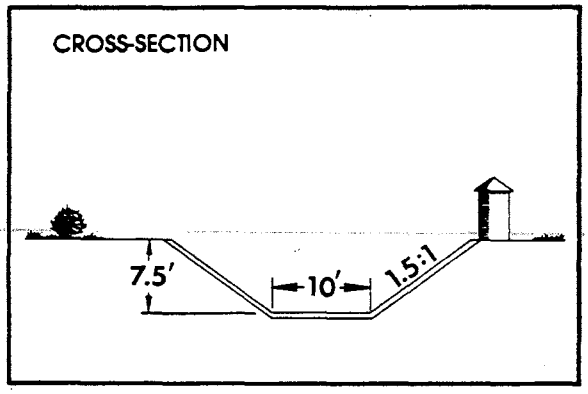
STATION NO. : F338–R DRAINAGE AREA : 2.10 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.2	0.2	0.5	1.3	7.9	6.0	5.2	1.0	1.3	1.4	1.1	0.7
MAX.	2.1	0.5	5.2	6.5	45.4	9.4	8.5	1.6	2.3	4.0	1.4	1.0
MIN.	0.0	0.0	0.0	0.2	1.4	1.7	1.5	0.6	0.2	0.9	0.8	0.5
TOTAL AF	11.0	9.0	32.0	78.0	454.0	369.0	310.0	62.0	79.0	85.0	65.0	41.0

BRANFORD STREET CHANNEL
below Sharp Avenue
STATION NO. F342-R







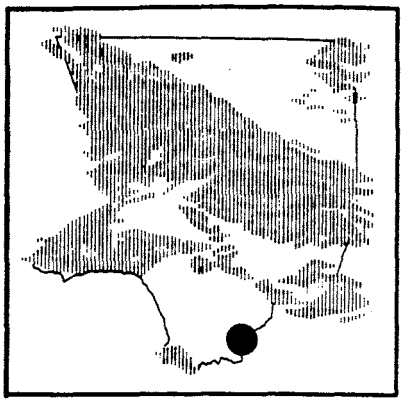
RECORDER- 15 minute punched tape.
METHOD OF MEASUREMENTS- low flows measured by wading. High flows measured by floats.
DRAINAGE AREA- 5.01 square miles.
LOCATION- on the south bank of channel, 125 feet downstream from Sharp Avenue, about 3.6 miles south of San Fernando.
REGULATION- flow from Lopez Creek is diverted to Hansen Dam at the mouth of Lopez Canyon.
CHANNEL- trapezoidal, 10 feet wide at bottom and 7.5 feet deep with 1. 5 to 1 side slopes.
CONTROL- channel forms control.
LENGTH OF RECORD- January 12, 1962 to date.

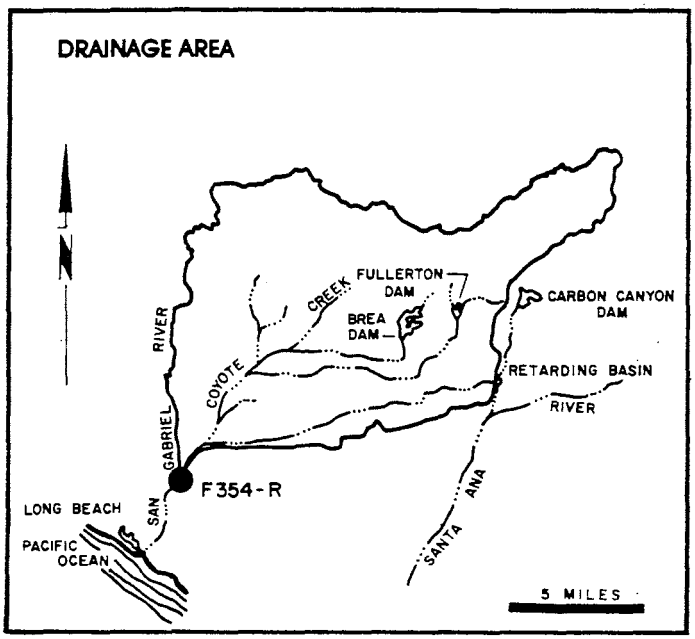
WATER YEAR 1991–1992
(DISCHARGE IN CFS)

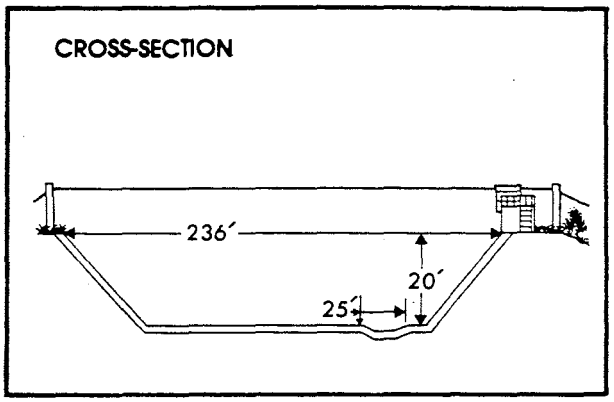
STATION NO. : F342–R DRAINAGE AREA : 5.01 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.5	0.0	4.1	2.3	18.9	7.5	0.2	0.2	0.0	0.1	0.0	0.0
MAX.	15.5	0.0	73.5	40.9	238.0	49.5	6.0	4.6	0.1	1.7	0.0	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL AF	32.1	0.0	252.0	140.0	1,086.0	462.0	11.9	10.5	0.2	6.1	0.0	0.0

COYOTE CREEK
below Spring Street
STATION NO. F354-R







RECORDER- continuous water stage.

METHOD OF MEASUREMENTS- wading or from cable car.

DRAINAGE AREA- 185.0 square miles.

LOCATION- 241.0 feet below Spring Street, 7.5 miles northeast of Long Beach.

REGULATION- partially regulated by Fullerton Dam, Brea Dam, and Carbon Canyon Dam.

CHANNEL- concrete, trapezoidal in section.

CONTROL- channel forms control.

LENGTH OF RECORD - December 17, 1963 to date.

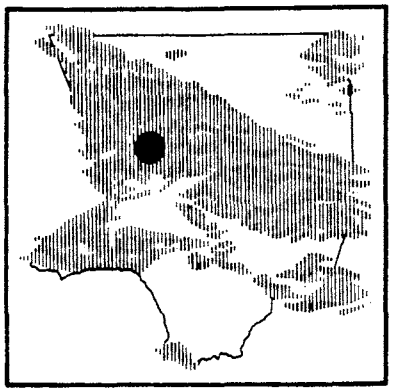
REMARKS - previous gaging stations for record corelation: Station F41 - S December 1, 1928 to January 14, 1930. Station F41 - R January 14, 1930 to October 30, 1936. Station F41B - R October 30, 1936 to February 17, 1937. Station F41C - R February 18, 1937 to February 8, 1956. Station F320 - R February 9, 1956 to July 2, 1965.

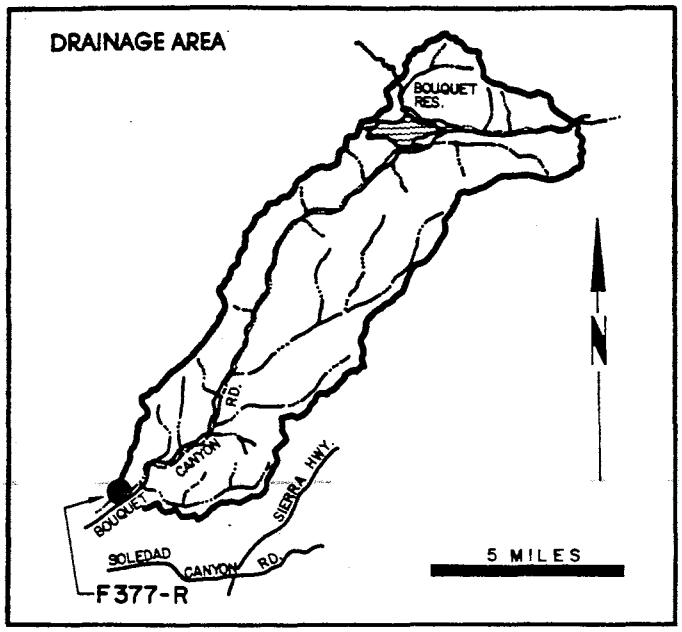
WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

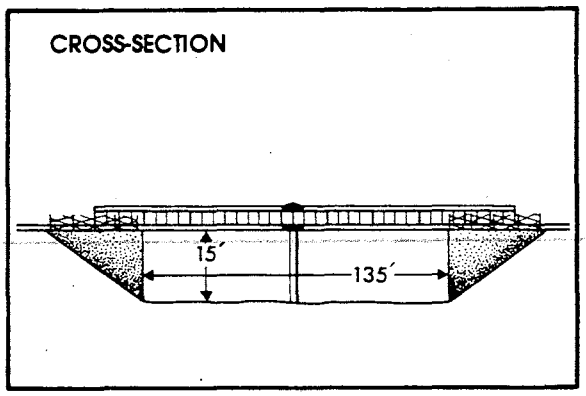
STATION NO. : F354–R DRAINAGE AREA : 185.00 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.0	5.6	83.5	15.1	346.0	231.0	11.5	10.7	7.6	8.7	6.7	7.3
MAX.	142.0	15.3	1,350.0	228.0	3,120.0	1,620.0	44.0	43.2	10.7	37.8	12.6	10.4
MIN.	3.3	3.1	3.4	0.0	4.9	5.2	6.1	3.8	4.8	4.8	4.8	4.6
TOTAL AF	863.0	332.0	5,137.0	928.0	19,879.0	14,206.0	681.0	656.0	453.0	535.0	414.0	434.0

BOUQUET CANYON CREEK
at Urbandale Avenue
STATION NO. F377-R







RECORDER- continuous water stage.
METHOD OF MEASUREMENTS- wading or from bridge.
DRAINAGE AREA- 51.9 square miles.
LOCATION- Bouquet Canyon Creek at Urbandale Avenue, 3.5 miles northeast of Saugus.
REGULATION- Bouquet Reservoir.
CHANNEL- concrete sides with natural bottom, trapezoidal in section.
CONTROL- concrete stabilizer.
LENGTH OF RECORD- October 11, 1967 to date.

WATER YEAR 1991 – 1992
(DISCHARGE IN CFS)

STATION NO. : F377–R DRAINAGE AREA : 51.90 SQ. MI.

MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.0	0.0	1.3	3.2	3.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0
MAX.	72.3	0.0	34.0	33.3	42.5	1.3	0.2	0.0	0.0	0.3	0.0	0.0
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
TOTAL AF	184.1	0.0	82.5	194.8	185.1	2.6	11.9	0.0	0.0	8.9	0.0	0.0

RESERVOIRS

RESERVOIRS

Following the damaging flood of 1914 and creation of the Los Angeles County Flood Control District in 1915, a program of flood control and water conservation was initiated. Part of this program included the construction of 14 dams which were completed between 1920 and 1939. These dams were operated by the Department during the period covered by this report. In addition, five Corps of Engineers' dams, Lopez, Hansen, Santa Fe, Sepulveda and Whittier Narrows Dams, and Morris Dam owned by The Metropolitan Water District were operated in conjunction with the Department dams to achieve flood control and/or water conservation.

OPERATION

The reservoirs are operated to control flood waters during storm periods. Post storm releases are made, when feasible, in amounts which can be conserved in downstream spreading grounds and by channel percolation. Cleanouts are done to regain storage capacity in reservoirs (see Erosion Control for cleanout data).

RECORDS

The storage and flow records at the 14 Department reservoirs are summarized on the Dam Operation Record Sheets. The sheets show:

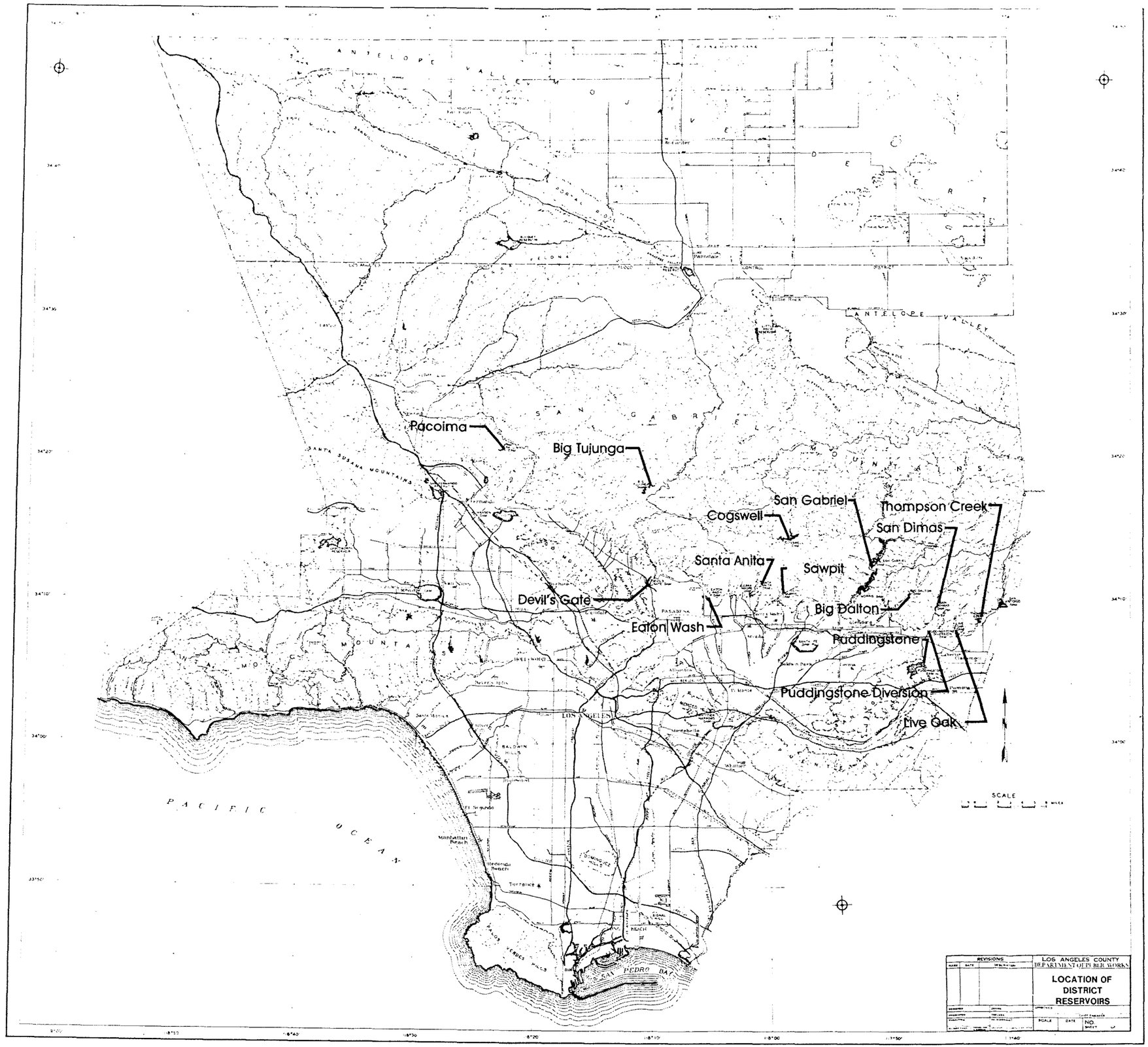
1. Daily reservoir water surface elevations. Elevations are obtained from water stage recorder graphs or interpolation from staff gage readings and recorded as of midnight of each day. Only maximum and minimum water surface elevations for each year are shown.

2. Available storage in acre-feet based on the most recent topographic surveys. Annual storage volumes are shown.

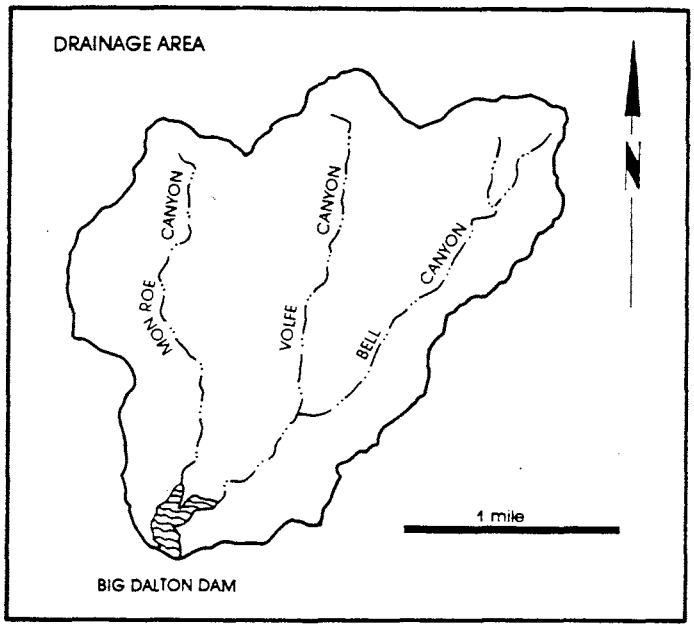
3. Stream inflow rates in cubic feet per second. This is usually calculated from storage change and known outflow.

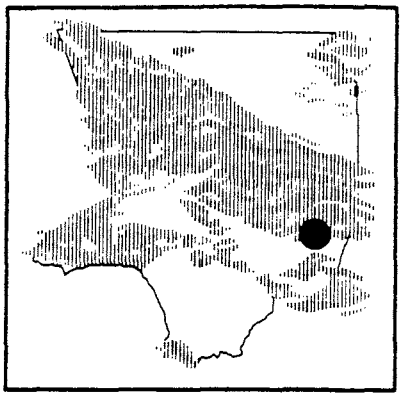
4. Outflow in cubic feet per second. These values are determined from gaging station records, or when these are not available, from valve and spillway rating curves. Only the maximum and minimum of the daily outflow rates for the year and the instantaneous peak outflow rate are shown.

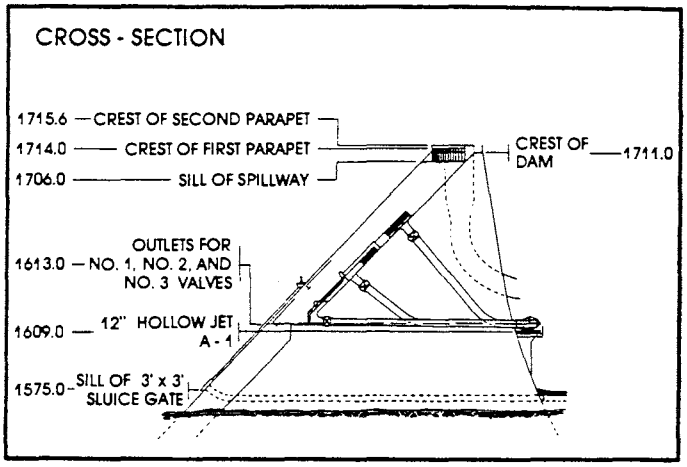
5. Discrepancies between outflow and storage losses at certain dams are attributable to evaporation and/or percolation losses. Total monthly evaporation losses are determined from the measurements made on land evaporation pans. In those cases where no allowances were made for evaporation, the amounts are necessarily included in the flow values. Accuracy of flow records computed from storage records is dependent on the frequency with which storage data are revised to keep in step with the physical change in reservoirs due to sediment deposition, accumulation and removal.


Pacoima
Big Tujunga
San Gabriel
Cogswell
Thompson Creek
San Dimas
Santa Anita
Sawpit
Devil's Gate
Big Dalton
Eaton Wash
Puddingstone
Puddingstone Diversion
Live Oak
SCALE
REVISIONS
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
LOCATION OF
DISTRICT
RESERVOIRS
SCALE
DATE
NO.

BIG DALTON DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started December 1927. Completed August 1929.
LOCATION - Big Dalton Canyon, 4.0 miles northeast of Glendora.
DRAINAGE AREA - 4.5 square miles.
CAPACITY - 963 acre - feet.
SPILLWAY ELEVATION - 1,706.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	121.08 CFS	from	1500	on	02–12–92	to	1600	on	02–12–92
MAX. PEAK OUTFLOW	21.70 CFS	from	1100	on	02–19–92	to	1130	on	02–19–92
MAX. W.S. ELEVATION	1655.50 feet	on	02–13–92		STORAGE	168.70 ACRE–FEET			
MIN. W.S. ELEVATION	1629.00 feet	on	05–26–92		STORAGE	50.00 ACRE–FEET			

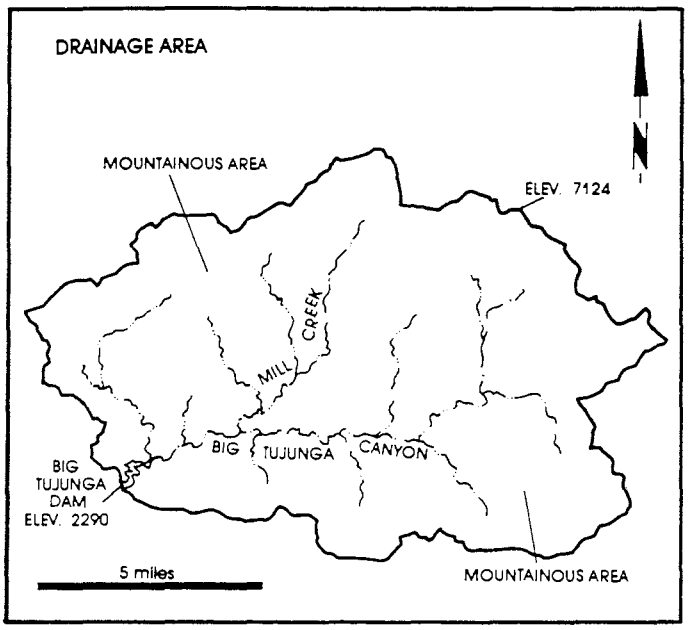
BIG DALTON DAM OPERATION RECORD SUMMARY

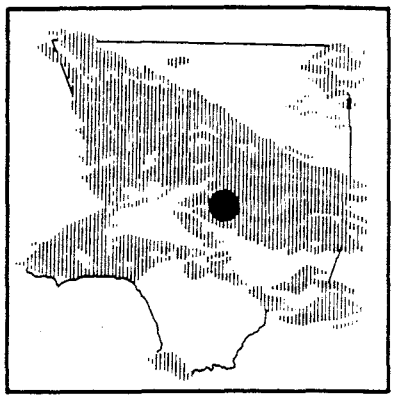
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	2.80	4.60	3.50	6.20
TOTAL MONTHLY OUTFLOW (AF)	0.00	20.60	0.00	1.20
MAX. MEAN DAILY INFLOW (CFS)	0.30	0.50	0.30	0.50
TOTAL MONTHLY LOSSES (AF)	1.70	0.80	0.40	0.50
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	1.10	−16.80	3.10	4.50

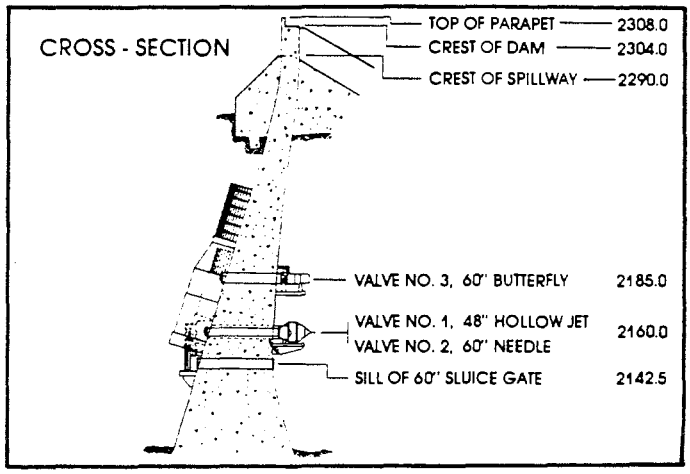
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	323.30	454.10	205.30	102.20
TOTAL MONTHLY OUTFLOW (AF)	327.30	424.30	235.20	110.50
MAX. MEAN DAILY INFLOW (CFS)	31.40	36.50	8.70	3.50
TOTAL MONTHLY LOSSES (AF)	0.60	0.50	1.10	1.30
MIN. MEAN DAILY INFLOW (CFS)	0.10	2.20	1.10	0.50
MONTHLY STORAGE CHANGE (AF)	−4.60	29.30	−31.00	−9.60

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	94.50	44.50	11.00	7.00
TOTAL MONTHLY OUTFLOW (AF)	81.70	42.40	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	2.30	2.30	0.30	0.20
TOTAL MONTHLY LOSSES (AF)	1.80	1.60	2.40	2.00
MIN. MEAN DAILY INFLOW (CFS)	0.50	0.20	0.10	0.10
MONTHLY STORAGE CHANGE (AF)	11.00	0.50	8.60	5.00

BIG TUJUNGA DAM
AND RESERVOIR







PURPOSE - Flood Control Conservation.
DATE CONSTRUCTED - Started January 1930. Completed July 1931.
LOCATION - Big Tujunga Canyon, 10.0 miles northeast of Sunland.
DRAINAGE AREA - 82.3 square miles.
CAPACITY - 6,027 acre - feet.
SPILLWAY ELEVATION - 2,290.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	5166.62 CFS	from	1400	on	02–12–92	to	1500	on	02–12–92
MAX. PEAK OUTFLOW	1780.00 CFS	from	2000	on	02–12–92	to	2015	on	02–12–92
MAX. W.S. ELEVATION	2283.20 feet	on	02–19–92		STORAGE	5132.30 ACRE–FEET			
MIN. W.S. ELEVATION	2205.20 feet	on	varies		STORAGE	1058.30 ACRE–FEET			

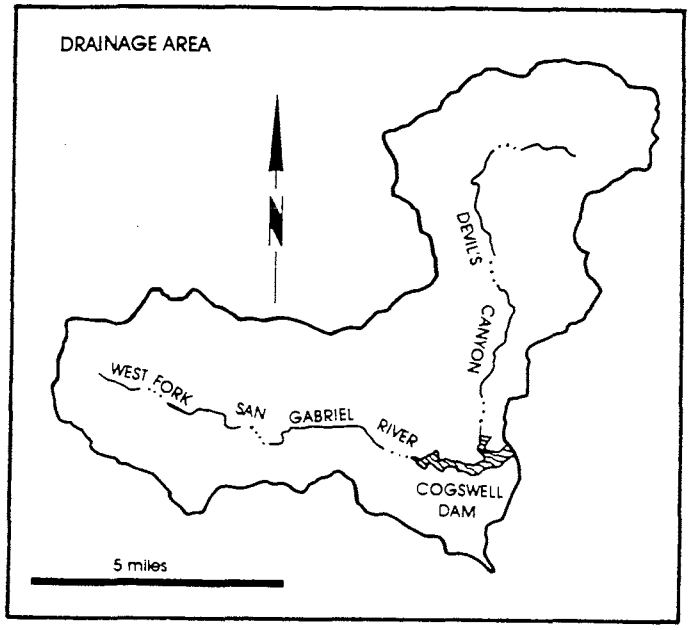
BIG TUJUNGA DAM OPERATION RECORD SUMMARY

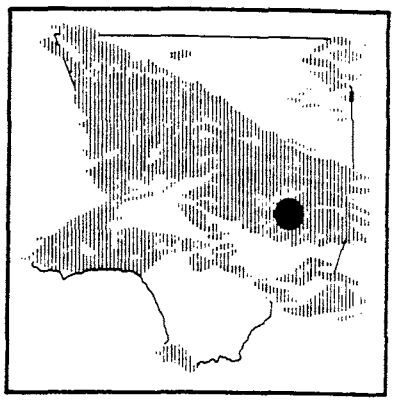
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	56.90	64.40	347.30	1,377.50
TOTAL MONTHLY OUTFLOW (AF)	11.50	92.40	337.40	1,384.10
MAX. MEAN DAILY INFLOW (CFS)	3.20	2.20	35.70	171.20
TOTAL MONTHLY LOSSES (AF)	20.70	15.50	11.00	10.30
MIN. MEAN DAILY INFLOW (CFS)	0.10	0.20	1.40	5.30
MONTHLY STORAGE CHANGE (AF)	24.70	−43.50	−1.10	−16.90

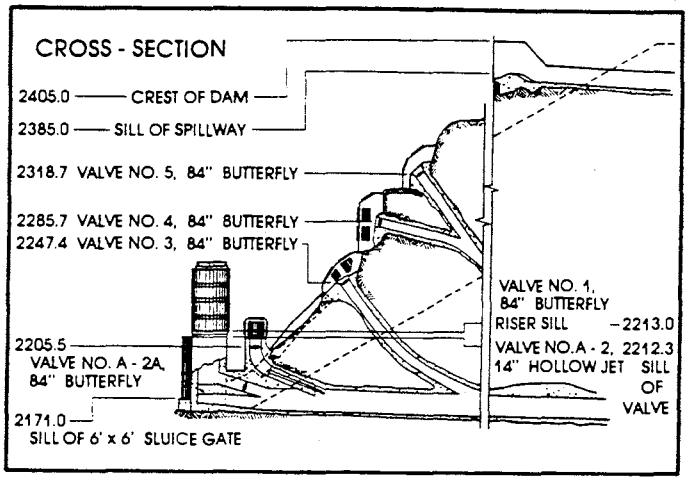
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	13,859.40	8,978.90	4,252.50	1,306.10
TOTAL MONTHLY OUTFLOW (AF)	13,561.00	8,756.40	3,936.80	1,266.00
MAX. MEAN DAILY INFLOW (CFS)	1,248.50	588.00	147.20	48.50
TOTAL MONTHLY LOSSES (AF)	11.90	8.70	17.90	19.60
MIN. MEAN DAILY INFLOW (CFS)	6.20	48.20	42.10	0.70
MONTHLY STORAGE CHANGE (AF)	286.50	213.80	297.80	20.50

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	674.60	551.30	157.70	140.40
TOTAL MONTHLY OUTFLOW (AF)	1,328.30	549.20	122.20	68.40
MAX. MEAN DAILY INFLOW (CFS)	21.60	12.80	5.20	4.70
TOTAL MONTHLY LOSSES (AF)	19.70	19.60	25.80	22.80
MIN. MEAN DAILY INFLOW (CFS)	1.70	6.00	0.30	1.80
MONTHLY STORAGE CHANGE (AF)	−673.40	−17.50	9.70	49.20

COGSWELL DAM
AND RESERVOIR







PURPOSE - Flood Control, Conservation, and Recreation.
DATE CONSTRUCTED - Started March 1932. Completed April 1934.
LOCATION - 22.0 miles north of Azusa.
DRAINAGE AREA - 39.2 square miles.
CAPACITY - 9,339 acre - feet.
SPILLWAY ELEVATION - 2,385.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	5231.21 CFS	from	0400	on	02–11–92	to	0500	on	02–11–92
MAX. PEAK OUTFLOW	2300.00 CFS	from	1230	on	02–12–92	to	1300	on	02–12–92
MAX. W.S. ELEVATION	2335.17 feet	on	04–08–92		STORAGE	3432.40 ACRE–FEET			
MIN. W.S. ELEVATION	2186.70 feet	on	varies		STORAGE	0.80 ACRE–FEET			

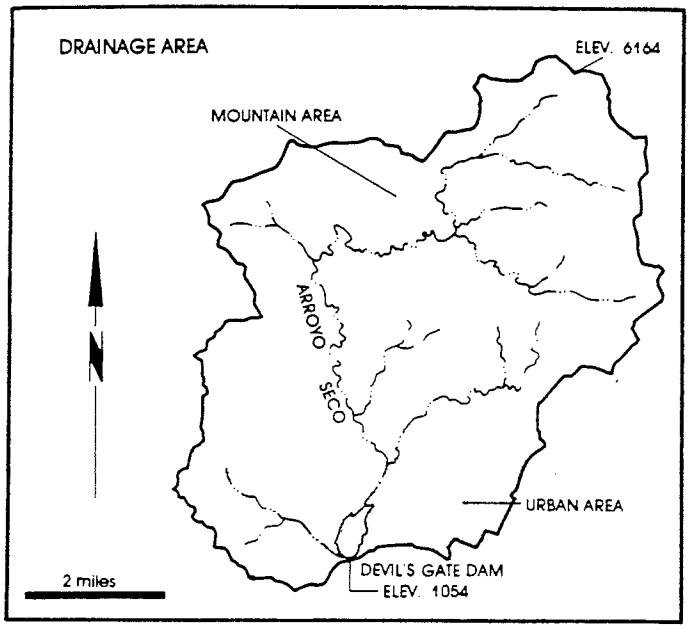
COGSWELL DAM OPERATION RECORD SUMMARY

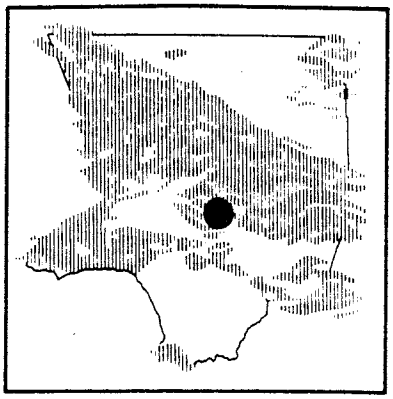
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	75.50	37.60	162.40	1,370.50
TOTAL MONTHLY OUTFLOW (AF)	75.40	29.00	137.50	1,370.40
MAX. MEAN DAILY INFLOW (CFS)	1.60	1.00	30.30	248.40
TOTAL MONTHLY LOSSES (AF)	0.20	0.10	0.20	0.20
MIN. MEAN DAILY INFLOW (CFS)	0.70	0.30	0.20	5.90
MONTHLY STORAGE CHANGE (AF)	0.10	8.50	24.70	−0.10

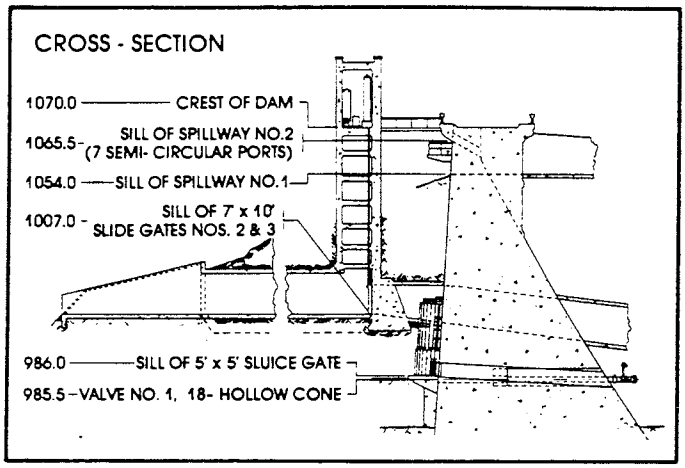
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	18,646.30	10,908.30	4,972.20	2,107.40
TOTAL MONTHLY OUTFLOW (AF)	17,692.20	8,895.10	7,439.60	2,345.10
MAX. MEAN DAILY INFLOW (CFS)	2,351.60	696.90	162.50	70.20
TOTAL MONTHLY LOSSES (AF)	2.30	5.30	15.50	6.90
MIN. MEAN DAILY INFLOW (CFS)	0.20	52.10	41.90	20.40
MONTHLY STORAGE CHANGE (AF)	951.80	2,007.90	−2,482.90	−244.60

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	814.50	522.20	201.40	104.10
TOTAL MONTHLY OUTFLOW (AF)	814.20	518.30	195.40	110.70
MAX. MEAN DAILY INFLOW (CFS)	17.70	11.70	5.70	2.20
TOTAL MONTHLY LOSSES (AF)	5.40	7.10	9.10	6.30
MIN. MEAN DAILY INFLOW (CFS)	10.30	5.60	1.90	0.90
MONTHLY STORAGE CHANGE (AF)	−5.10	−3.20	−3.10	−12.90

DEVIL'S GATE DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started May 1919. Completed June 1920.
LOCATION - On Arroyo Seco, northwest of Pasadena.
DRAINAGE AREA - 31.9 square miles.
CAPACITY - 1,928 acre - feet.
SPILLWAY ELEVATION - 1,054.0 feet.

DAM OPERATION RECORD SUMMARY †

MAX. PEAK INFLOW	3107.00 CFS	from	1200	on	02–12–92	to	1300	on	02–12–92
MAX. PEAK OUTFLOW	1800.00 CFS	from	1200	on	02–11–92	to	0600	on	02–12–92
MAX. W.S. ELEVATION	1045.20 feet	on	02–11–92		STORAGE	1798.80 ACRE–FEET			
MIN. W.S. ELEVATION	992.00 feet	on	varies		STORAGE	0.00 ACRE–FEET			

† – Values estimated due to incomplete records

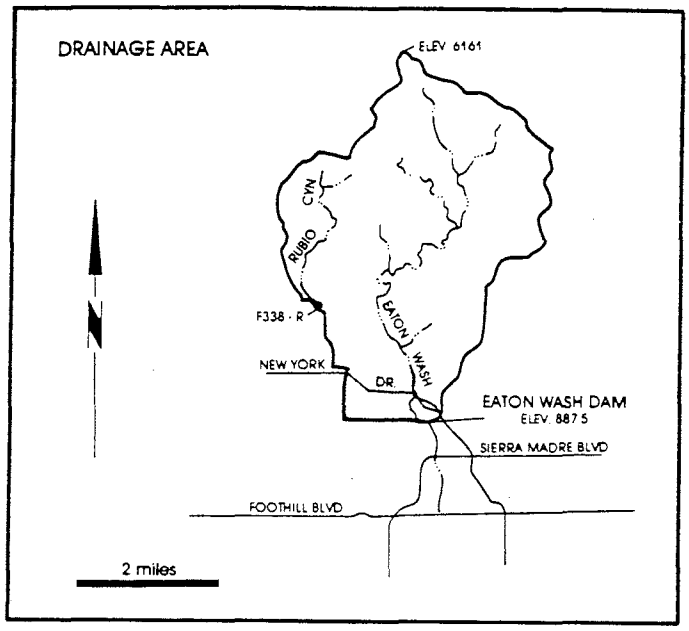
DEVIL'S GATE DAM OPERATION RECORD SUMMARY

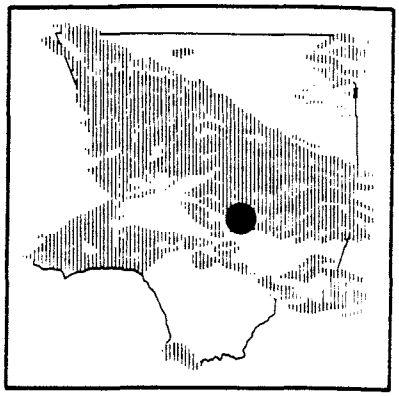
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	343.40	74.60
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	342.90	74.90
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	133.40	8.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.50	−0.30

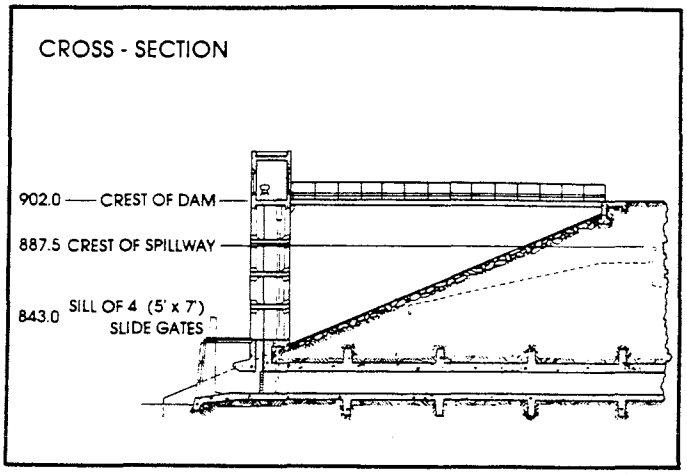
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	9,591.10	6,584.50	3,206.10	77.40
TOTAL MONTHLY OUTFLOW (AF)	9,591.10	6,514.70	3,275.90	77.40
MAX. MEAN DAILY INFLOW (CFS)	1,309.60	438.80	156.60	2.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	20.70	2.00	0.50
MONTHLY STORAGE CHANGE (AF)	0.00	69.80	−69.80	0.00

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	7.90	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	7.90	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.50	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

EATON WASH DAM
AND RESERVOIR







PURPOSE - Debris Storage and Conservation.
DATE CONSTRUCTED - Started January 1936 . Completed February 1937.
LOCATION - Eaton Wash, northeast of Pasadena.
DRAINAGE AREA - 12.4 square miles.
CAPACITY - 879 acre - feet.
SPILLWAY ELEVATION - 887.5 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	1068.04 CFS	from	0400	on	02–11–92	to	0500	on	02–11–92
MAX. PEAK OUTFLOW	1240.00 CFS	from	0445	on	02–11–92	to	1500	on	02–11–92
MAX. W.S. ELEVATION	885.00 feet	on	02–11–92		STORAGE	654.60 ACRE–FEET			
MIN. W.S. ELEVATION	845.00 feet	on	varies		STORAGE	0.00 ACRE–FEET			

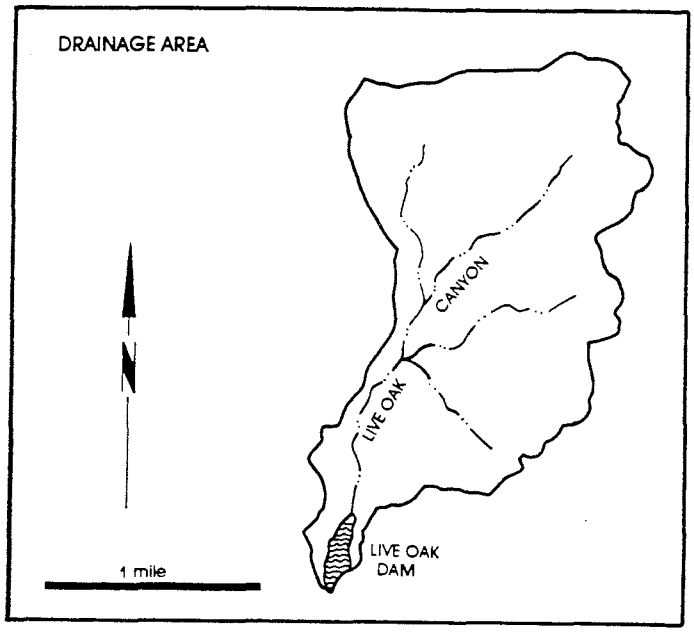
EATON WASH DAM OPERATION RECORD SUMMARY

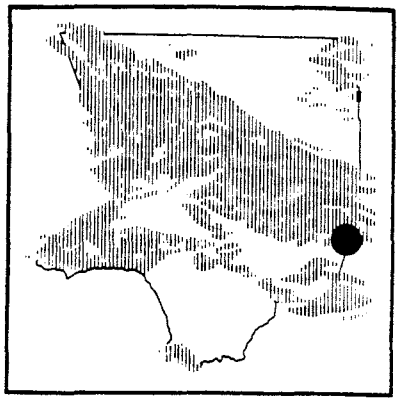
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	118.30	56.60
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	47.20	62.50
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	40.50	32.60
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	71.10	−5.90

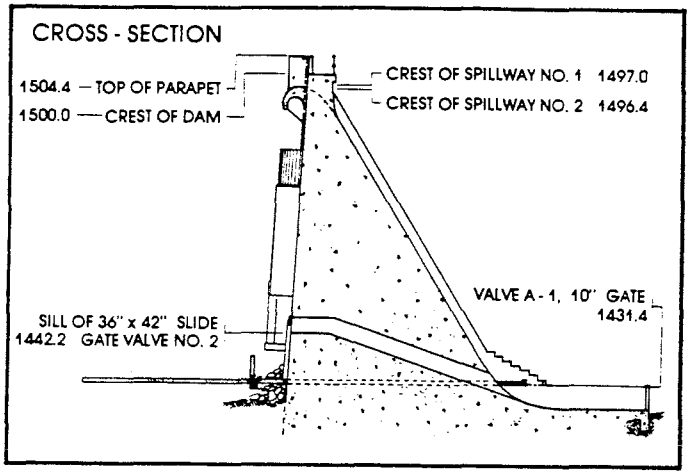
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	1,723.90	2,537.60	911.70	213.70
TOTAL MONTHLY OUTFLOW (AF)	1,573.90	2,471.40	1,138.50	160.70
MAX. MEAN DAILY INFLOW (CFS)	295.40	197.80	31.90	8.50
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	6.30	3.00	0.60
MONTHLY STORAGE CHANGE (AF)	150.00	66.20	−226.80	53.00

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	120.10	5.70	5.40	0.00
TOTAL MONTHLY OUTFLOW (AF)	183.10	35.50	5.40	0.00
MAX. MEAN DAILY INFLOW (CFS)	9.90	4.60	0.30	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.40	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	−63.00	−29.80	0.00	0.00

LIVE OAK DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started August 1921. Completed November 1922.
LOCATION - 2.5 miles northeast of La Verne.
DRAINAGE AREA - 2.3 square miles.
CAPACITY - 240 acre -feet.
SPILLWAY ELEVATION - 1,496.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	111.92 CFS	from	1300	on	02–12–92	to	1400	on	02–12–92
MAX. PEAK OUTFLOW	35.90 CFS	from	1300	on	02–13–92	to	1315	on	02–13–92
MAX. W.S. ELEVATION	1477.80 feet	on	02–13–92		STORAGE	88.90 ACRE–FEET			
MIN. W.S. ELEVATION	1440.00 feet	on	varies		STORAGE	0.00 ACRE–FEET			

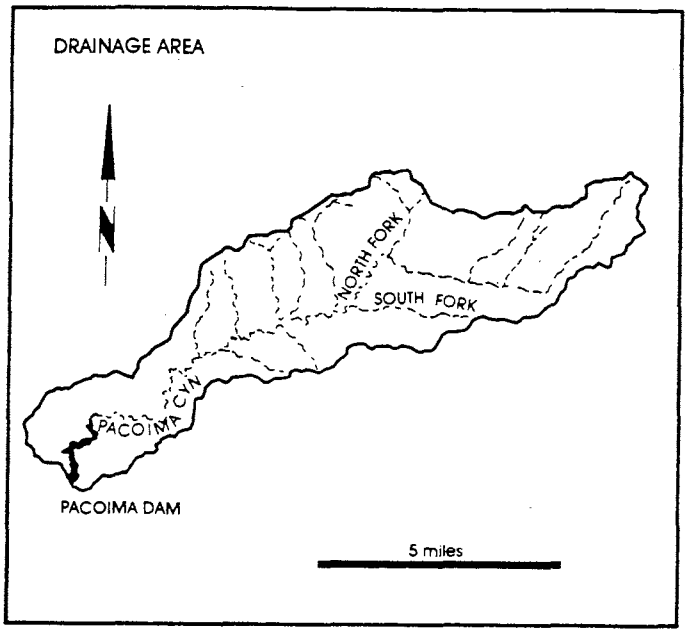
LIVE OAK DAM OPERATION RECORD SUMMARY

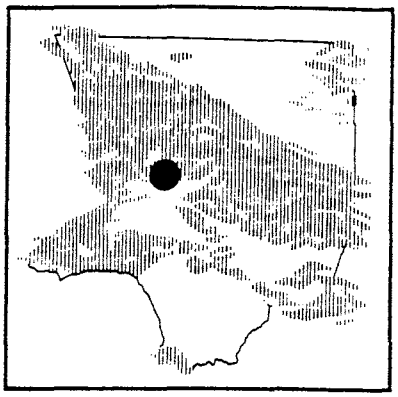
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.00	6.90
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.00	6.90
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.60
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

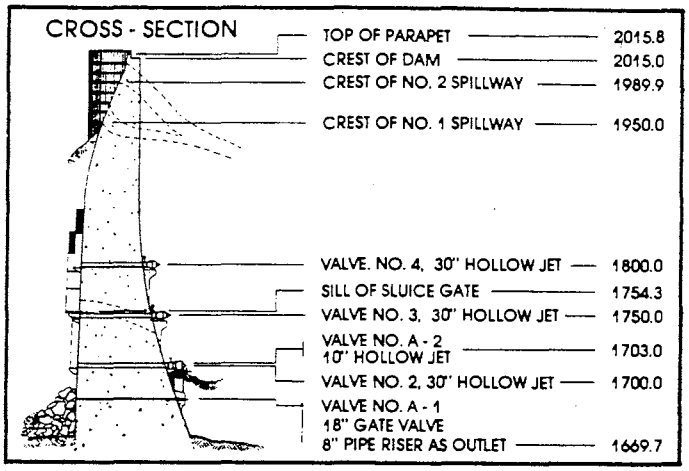
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	108.30	107.50	30.10	19.40
TOTAL MONTHLY OUTFLOW (AF)	108.30	107.50	30.10	19.40
MAX. MEAN DAILY INFLOW (CFS)	25.50	11.20	1.30	0.80
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.20	0.10
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	3.00	1.80	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	3.00	1.80	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.10	0.40	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

PACOIMA DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started March 1925. Completed February 1929.
LOCATION - Pacoima Canyon, 4.0 miles northeast of San Fernando.
DRAINAGE AREA - 28.2 square miles.
CAPACITY - 3,929 acre - feet.
SPILLWAY ELEVATION - 1,950.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	1180.36 CFS	from	2100	on	02–10–92	to	2200	on	02–10–92
MAX. PEAK OUTFLOW	917.00 CFS	from	1400	on	02–12–92	to	1500	on	02–12–92
MAX. W.S. ELEVATION	1951.90 feet	on	03–29–92		STORAGE	3851.20 ACRE–FEET			
MIN. W.S. ELEVATION	1872.95 feet	on	07–16–92		STORAGE	905.60 ACRE–FEET			

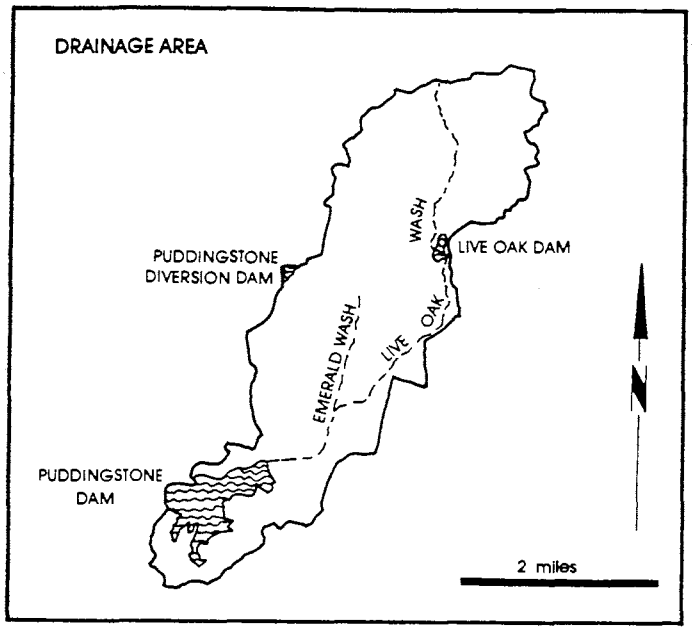
PACOIMA DAM OPERATION RECORD SUMMARY

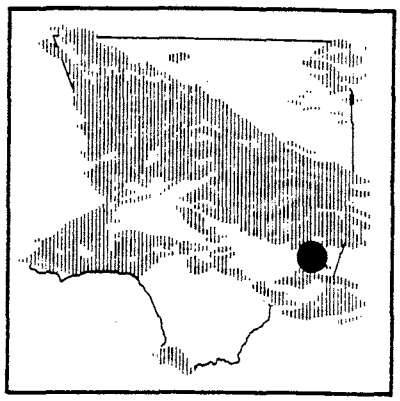
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	27.70	24.20	56.90	204.80
TOTAL MONTHLY OUTFLOW (AF)	4.40	0.00	176.50	239.80
MAX. MEAN DAILY INFLOW (CFS)	1.30	0.80	7.10	17.60
TOTAL MONTHLY LOSSES (AF)	21.30	19.20	10.50	14.40
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.00	0.20	0.10
MONTHLY STORAGE CHANGE (AF)	2.00	5.00	−130.10	−49.40

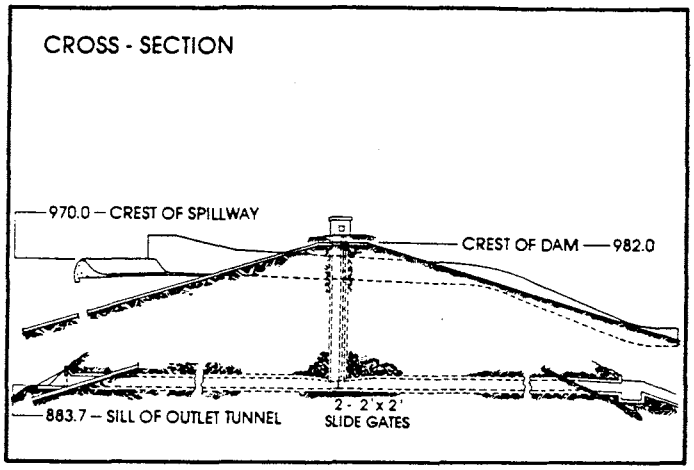
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	6,878.30	5,155.90	3,523.10	1,037.20
TOTAL MONTHLY OUTFLOW (AF)	5,211.60	4,055.00	3,539.50	2,218.10
MAX. MEAN DAILY INFLOW (CFS)	708.40	207.10	101.90	26.90
TOTAL MONTHLY LOSSES (AF)	15.60	9.70	36.90	21.90
MIN. MEAN DAILY INFLOW (CFS)	1.40	36.20	15.60	12.30
MONTHLY STORAGE CHANGE (AF)	1,651.10	1,091.20	−53.30	−1,202.80

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	532.70	INC	79.70	56.30
TOTAL MONTHLY OUTFLOW (AF)	2,059.40	INC	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	16.50	INC	1.90	1.10
TOTAL MONTHLY LOSSES (AF)	18.80	INC	18.00	18.90
MIN. MEAN DAILY INFLOW (CFS)	4.80	INC	0.80	0.70
MONTHLY STORAGE CHANGE (AF)	−1,545.50	INC	61.70	37.40

PUDDINGSTONE DAM
AND RESERVOIR







PURPOSE - Flood Control and Recreation.
DATE CONSTRUCTED - Started February 1925. Completed January 1928.
LOCATION - 1.0 mile south of San Dimas.
DRAINAGE AREA - 11.0 square miles (uncontrolled)
22.1 square miles (controlled)
Total 33.1 square miles
CAPACITY - 16,856 acre - feet.
SPILLWAY ELEVATION - 970.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	959.41 CFS	from	1500	on	02–12–92	to	1600	on	02–12–92
MAX. PEAK OUTFLOW	580.00 CFS	from	1130	on	02–12–92	to	1200	on	02–12–92
MAX. W.S. ELEVATION	945.36 feet	on	03–23–92		STORAGE	7439.00 ACRE–FEET			
MIN. W.S. ELEVATION	940.16 feet	on	varies		STORAGE	6108.80 ACRE–FEET			

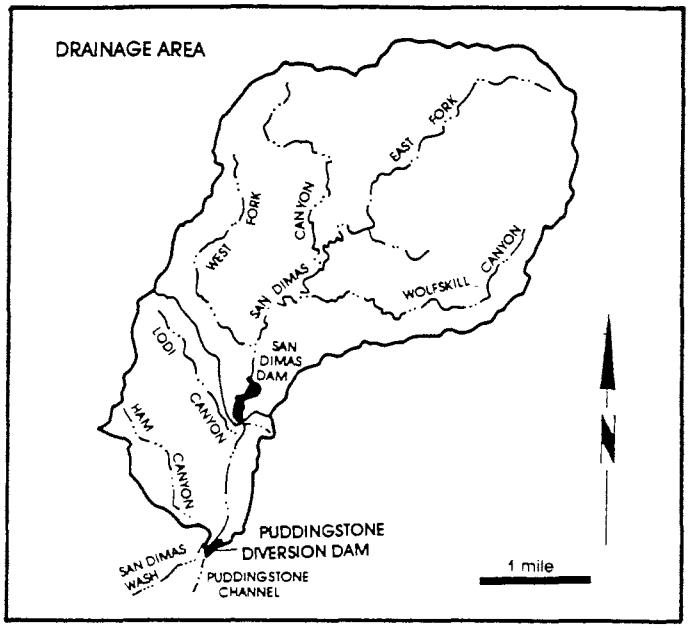
PUDDINGSTONE DAM OPERATION RECORD SUMMARY

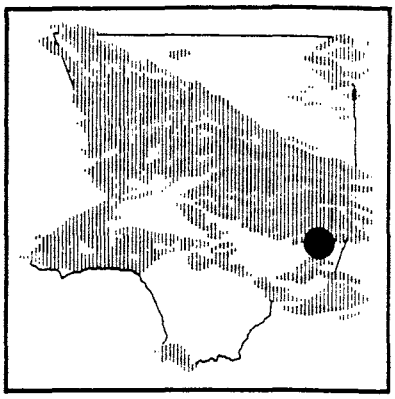
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	118.70	61.20	494.00	508.40
TOTAL MONTHLY OUTFLOW (AF)	14.50	11.50	13.50	708.90
MAX. MEAN DAILY INFLOW (CFS)	17.80	2.80	146.50	110.90
TOTAL MONTHLY LOSSES (AF)	138.90	99.30	68.80	62.40
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.30	0.30	0.10
MONTHLY STORAGE CHANGE (AF)	−34.70	−49.60	411.70	−262.90

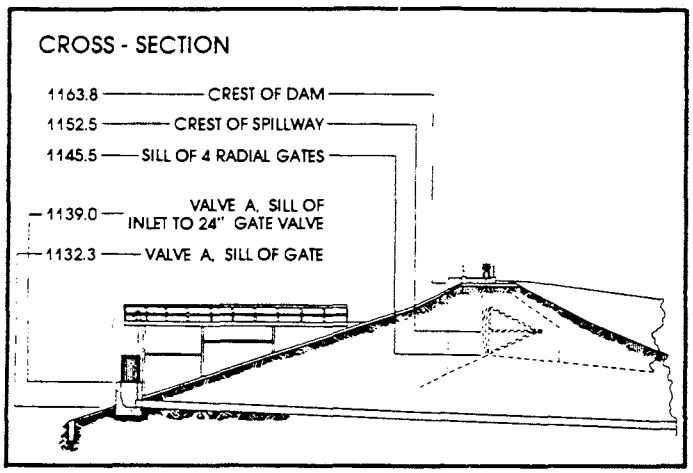
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	2,448.80	2,527.40	160.30	44.60
TOTAL MONTHLY OUTFLOW (AF)	2,076.50	2,103.30	143.40	192.60
MAX. MEAN DAILY INFLOW (CFS)	407.00	279.10	9.20	2.00
TOTAL MONTHLY LOSSES (AF)	59.70	51.30	122.70	139.20
MIN. MEAN DAILY INFLOW (CFS)	0.30	0.80	0.40	0.00
MONTHLY STORAGE CHANGE (AF)	312.60	372.80	−105.80	−287.20

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	81.90	106.90	125.30	103.40
TOTAL MONTHLY OUTFLOW (AF)	23.40	14.30	15.30	15.30
MAX. MEAN DAILY INFLOW (CFS)	2.90	3.00	4.40	3.10
TOTAL MONTHLY LOSSES (AF)	171.50	177.90	227.10	177.40
MIN. MEAN DAILY INFLOW (CFS)	0.30	0.50	0.20	0.30
MONTHLY STORAGE CHANGE (AF)	−113.00	−85.30	−117.10	−89.30

PUDDINGSTONE DIVERSION DAM
AND RESERVOIR







PURPOSE - Flood Control and Diversion of flow and Conservation.
DATE CONSTRUCTED - Started September 1927. Completed July 1928.
LOCATION - 2.0 miles northeast of San Dimas.
DRAINAGE AREA - 3.7 square miles (uncontrolled)
16.2 square miles (controlled)
Total 19.9 square miles
CAPACITY - 148 acre feet.
SPILLWAY ELEVATION - 1,152.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	264.12 CFS	from	1200	on	02-12-92	to	1300	on	02-12-92
MAX. PEAK OUTFLOW	174.20 CFS	from	1200	on	02-12-92	to	1300	on	02-12-92
MAX. W.S. ELEVATION	1146.50 feet	on	02-12-92		STORAGE	110.80 ACRE-FEET			
MIN. W.S. ELEVATION	1133.00 feet	on	varies		STORAGE	0.00 ACRE-FEET			

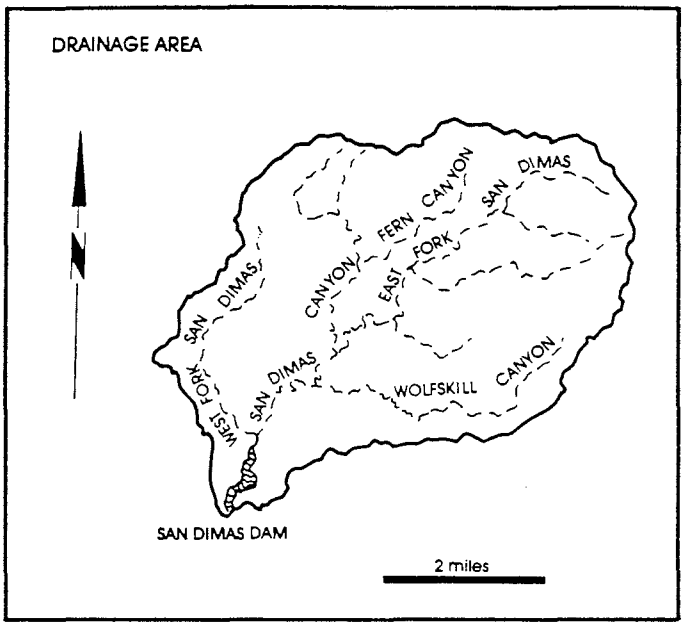
PUDDINGSTONE DIVERSION DAM OPERATION RECORD SUMMARY

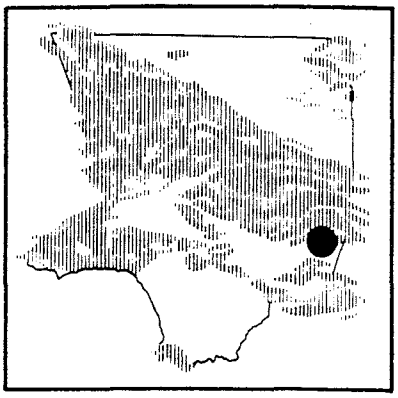
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	12.70	5.30
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	2.40	14.70
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	6.30	8.30
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	10.30	−9.40

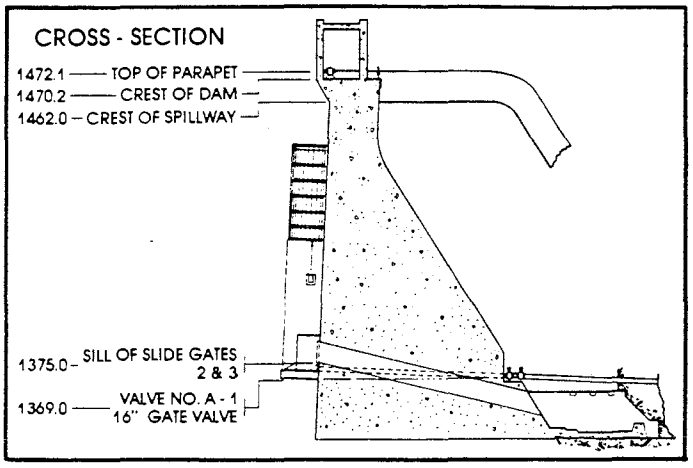
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	482.80	1,169.80	498.30	493.30
TOTAL MONTHLY OUTFLOW (AF)	435.80	1,176.80	494.10	516.10
MAX. MEAN DAILY INFLOW (CFS)	54.00	162.70	16.60	12.40
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	47.00	−7.00	4.20	−22.80

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	158.40	338.40	128.60	1.40
TOTAL MONTHLY OUTFLOW (AF)	139.60	341.20	154.70	1.40
MAX. MEAN DAILY INFLOW (CFS)	11.40	6.80	6.90	0.20
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	11.70	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	3.70	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	18.80	−2.80	−37.80	0.00

SAN DIMAS DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started November 1920. Completed September 1922.
LOCATION - 3.0 miles northeast of San Dimas.
DRAINAGE AREA - 16.2 square miles.
CAPACITY - 1,515 acre - feet.
SPILLWAY ELEVATION - 1,462.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	403.17 CFS	from	1500	on	02-12-92	to	1600	on	02-12-92
MAX. PEAK OUTFLOW	150.00 CFS	from	0900	on	03-24-92	to	0945	on	03-24-92
MAX. W.S. ELEVATION	1462.40 feet	on	04-14-92		STORAGE	1574.60 ACRE-FEET			
MIN. W.S. ELEVATION	1374.00 feet	on	varies		STORAGE	0.00 ACRE-FEET			

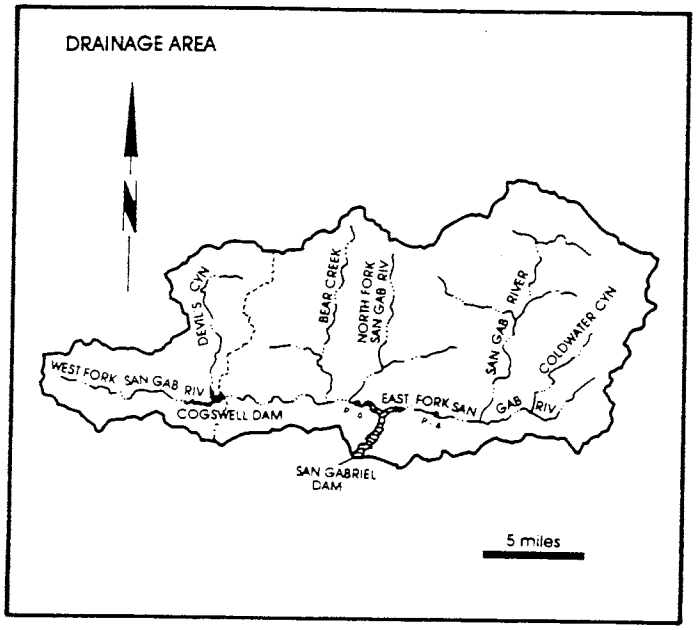
SAN DIMAS DAM OPERATION RECORD SUMMARY

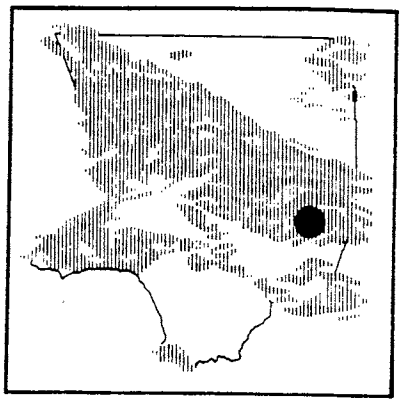
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	24.40	23.80	70.40	131.40
TOTAL MONTHLY OUTFLOW (AF)	24.40	23.80	39.30	5.60
MAX. MEAN DAILY INFLOW (CFS)	0.90	0.60	6.10	11.70
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	1.80
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.30	0.10	0.50
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	31.10	124.00

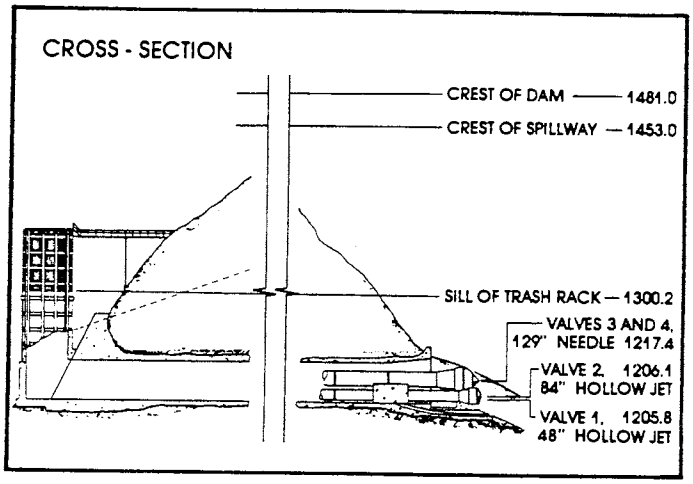
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	1,099.50	1,279.40	692.80	382.50
TOTAL MONTHLY OUTFLOW (AF)	233.70	994.70	652.20	720.60
MAX. MEAN DAILY INFLOW (CFS)	143.30	108.00	20.50	9.10
TOTAL MONTHLY LOSSES (AF)	3.70	6.50	12.30	12.00
MIN. MEAN DAILY INFLOW (CFS)	0.80	3.20	8.20	3.40
MONTHLY STORAGE CHANGE (AF)	862.10	278.20	28.30	−350.10

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	133.70	111.50	64.30	23.30
TOTAL MONTHLY OUTFLOW (AF)	299.70	604.20	284.60	55.30
MAX. MEAN DAILY INFLOW (CFS)	3.60	3.60	2.60	1.10
TOTAL MONTHLY LOSSES (AF)	15.00	12.80	6.80	2.70
MIN. MEAN DAILY INFLOW (CFS)	1.20	0.40	0.00	0.10
MONTHLY STORAGE CHANGE (AF)	−181.00	−505.50	−227.10	−34.70

SAN GABRIEL DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started December 1932. Completed July 1939.
LOCATION - San Gabriel Canyon, 7.5 miles north of Azusa.
DRAINAGE AREA - 163.5 square miles (uncontrolled)
39.2 square miles (controlled)
Total 202.7 square miles
(includes Cogswell drainage)
CAPACITY - 41,549 acre - feet.
SPILLWAY ELEVATION - 1,453 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	11425.86 CFS	from	1300	on	02–12–92	to	1400	on	02–12–92
MAX. PEAK OUTFLOW	8258.50 CFS	from	1400	on	02–11–92	to	1500	on	02–11–92
MAX. W.S. ELEVATION	1451.08 feet	on	04–23–92		STORAGE	43161.00 ACRE–FEET			
MIN. W.S. ELEVATION	1279.00 feet	on	varies		STORAGE	0.00 ACRE–FEET			

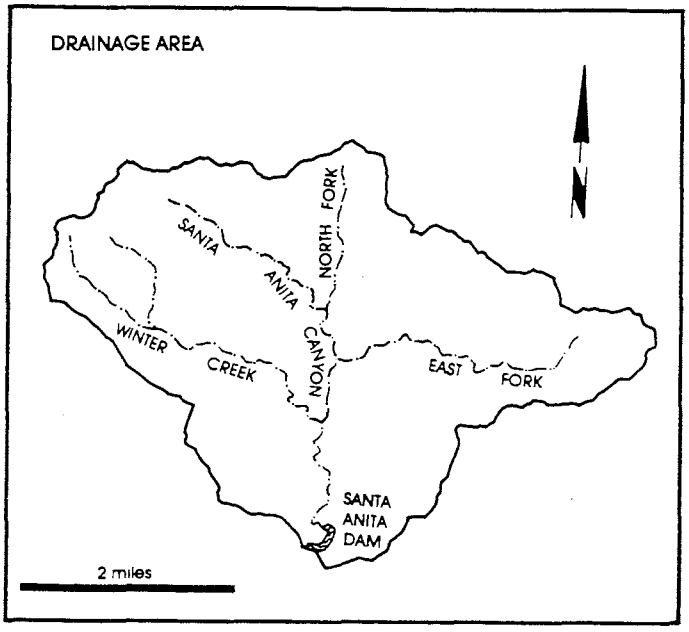
SAN GABRIEL DAM OPERATION RECORD SUMMARY

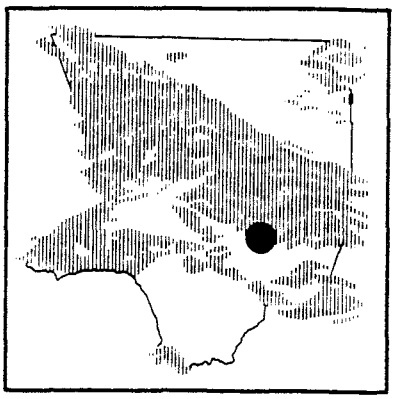
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	1,376.10	982.90	2,081.80	5,752.80
TOTAL MONTHLY OUTFLOW (AF)	5,049.70	7,034.00	9,708.70	4,670.10
MAX. MEAN DAILY INFLOW (CFS)	58.60	39.80	154.40	586.80
TOTAL MONTHLY LOSSES (AF)	246.90	164.20	75.10	70.20
MIN. MEAN DAILY INFLOW (CFS)	11.90	0.80	13.80	31.50
MONTHLY STORAGE CHANGE (AF)	−3,920.50	−6,215.30	−7,702.00	1,012.50

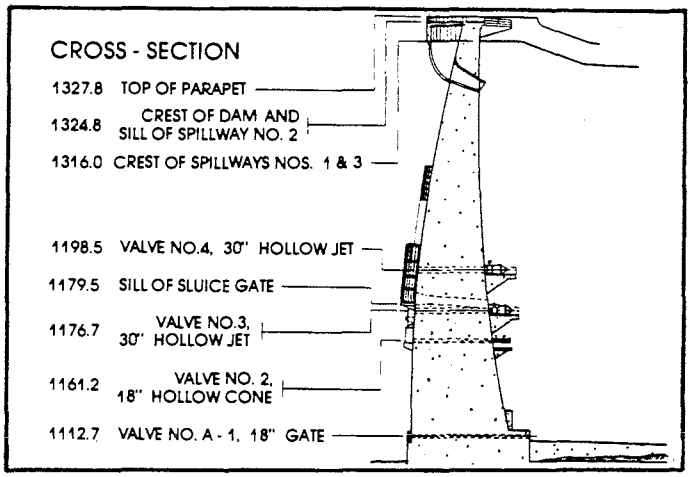
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	52,178.10	42,440.00	32,198.10	16,024.80
TOTAL MONTHLY OUTFLOW (AF)	36,284.00	27,628.20	26,557.10	18,649.20
MAX. MEAN DAILY INFLOW (CFS)	5,795.80	2,489.90	678.60	367.10
TOTAL MONTHLY LOSSES (AF)	81.80	90.00	259.90	254.40
MIN. MEAN DAILY INFLOW (CFS)	41.70	306.70	288.30	178.20
MONTHLY STORAGE CHANGE (AF)	15,812.30	14,721.80	5,381.10	−2,878.80

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	7,844.20	6,426.40	2,499.10	1,812.90
TOTAL MONTHLY OUTFLOW (AF)	17,311.10	30,600.80	7,852.40	1,812.90
MAX. MEAN DAILY INFLOW (CFS)	171.50	181.20	75.60	40.80
TOTAL MONTHLY LOSSES (AF)	296.10	211.90	10.90	0.00
MIN. MEAN DAILY INFLOW (CFS)	92.50	50.50	0.00	24.90
MONTHLY STORAGE CHANGE (AF)	−9,763.00	−24,386.30	−5,364.20	0.00

SANTA ANITA DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started October 1924. Completed March 1927.
LOCATION - 2.5 miles north of Arcadia
DRAINAGE AREA - 10.8 square miles.
CAPACITY - 836 acre - feet.
SPILLWAY ELEVATION - 1,316.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	863.20 CFS	from	0300	on	02-11-92	to	0400	on	02-11-92
MAX. PEAK OUTFLOW	592.00 CFS	from	0600	on	02-11-92	to	0645	on	02-11-92
MAX. W.S. ELEVATION	1297.08 feet	on	02-11-92		STORAGE	603.20 ACRE-FEET			
MIN. W.S. ELEVATION	1240.50 feet	on	07-22-92		STORAGE	153.10 ACRE-FEET			

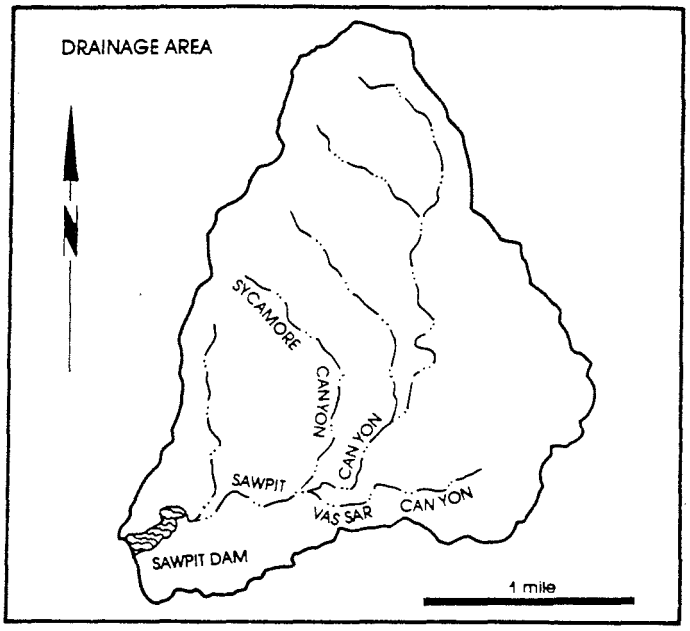
SANTA ANITA DAM OPERATION RECORD SUMMARY

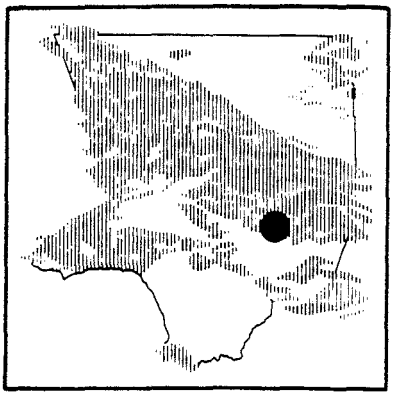
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	27.30	39.90	75.10	183.90
TOTAL MONTHLY OUTFLOW (AF)	0.00	94.00	0.00	280.70
MAX. MEAN DAILY INFLOW (CFS)	1.40	1.50	7.90	21.20
TOTAL MONTHLY LOSSES (AF)	3.40	2.70	1.70	1.60
MIN. MEAN DAILY INFLOW (CFS)	0.20	0.20	0.60	0.20
MONTHLY STORAGE CHANGE (AF)	23.90	−56.80	73.40	−98.40

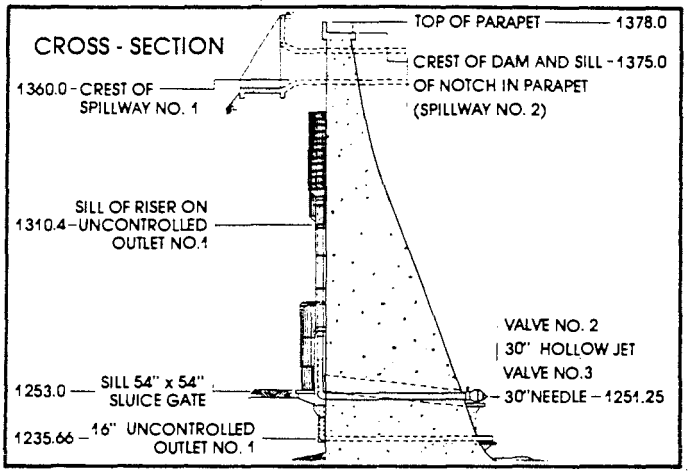
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	2,891.50	3,052.50	1,596.30	576.70
TOTAL MONTHLY OUTFLOW (AF)	2,694.00	3,048.00	1,566.10	737.90
MAX. MEAN DAILY INFLOW (CFS)	389.80	155.40	49.30	12.70
TOTAL MONTHLY LOSSES (AF)	1.70	1.50	2.30	2.30
MIN. MEAN DAILY INFLOW (CFS)	1.20	13.60	14.10	5.50
MONTHLY STORAGE CHANGE (AF)	195.80	3.00	27.90	−163.50

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	363.40	301.90	136.10	94.10
TOTAL MONTHLY OUTFLOW (AF)	421.00	245.20	107.10	97.80
MAX. MEAN DAILY INFLOW (CFS)	9.70	8.50	3.30	2.10
TOTAL MONTHLY LOSSES (AF)	2.50	2.40	3.40	3.10
MIN. MEAN DAILY INFLOW (CFS)	3.90	3.20	0.80	0.80
MONTHLY STORAGE CHANGE (AF)	−60.10	54.30	25.60	−6.80

SAWPIT DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started March 1926. Completed June 1927.
LOCATION - 2.0 miles north of Monrovia.
DRAINAGE AREA - 3.2 square miles.
CAPACITY - 391 acre - feet.
SPILLWAY ELEVATION - 1,360.0 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	123.22 CFS	from	1300	on	02-12-92	to	1400	on 02-12-92
MAX. PEAK OUTFLOW	58.70 CFS	from	0445	on	02-11-92	to	0500	on 02-11-92
MAX. W.S. ELEVATION	1316.10 feet	on	02-12-92		STORAGE	118.10 ACRE-FEET		
MIN. W.S. ELEVATION	1310.00 feet	on	10-24-91		STORAGE	94.80 ACRE-FEET		

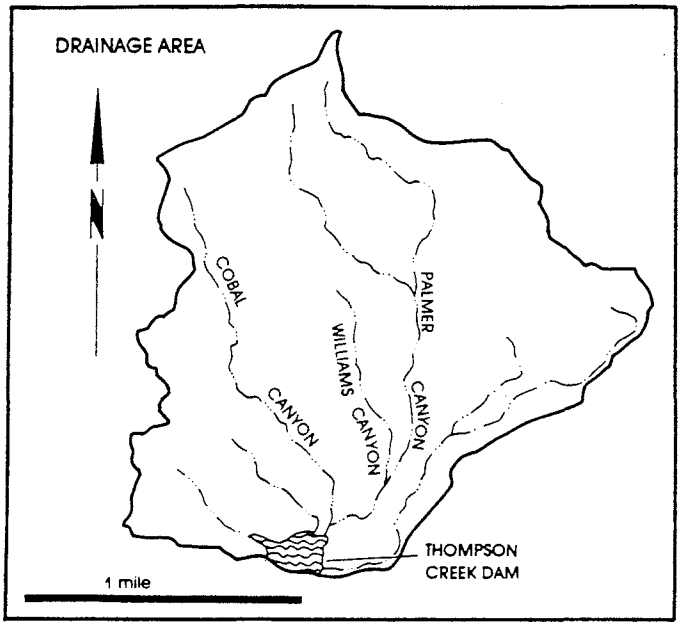
SAWPIT DAM OPERATION RECORD SUMMARY

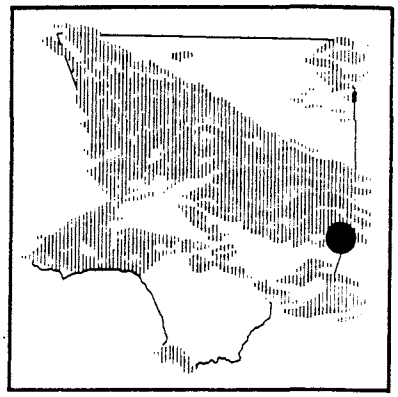
WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	49.90	61.60	80.50	103.90
TOTAL MONTHLY OUTFLOW (AF)	49.80	61.70	80.30	103.90
MAX. MEAN DAILY INFLOW (CFS)	1.50	1.30	2.60	3.80
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.40	0.80	1.00	1.20
MONTHLY STORAGE CHANGE (AF)	0.10	−0.10	0.20	0.00

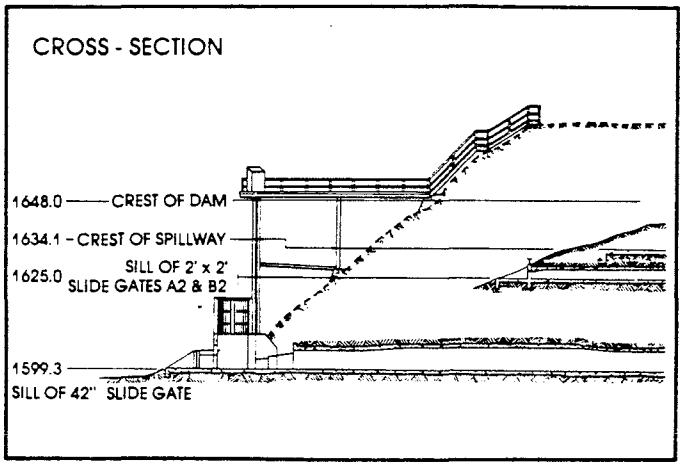
WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	375.40	394.80	258.60	187.40
TOTAL MONTHLY OUTFLOW (AF)	375.30	394.40	259.00	187.40
MAX. MEAN DAILY INFLOW (CFS)	41.20	24.40	5.80	3.80
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	1.40	2.60	3.30	2.60
MONTHLY STORAGE CHANGE (AF)	0.10	0.40	−0.40	0.00

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	144.60	104.20	77.70	71.70
TOTAL MONTHLY OUTFLOW (AF)	144.80	104.10	77.80	71.80
MAX. MEAN DAILY INFLOW (CFS)	2.80	2.50	1.40	1.30
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	1.60	1.40	1.10	0.80
MONTHLY STORAGE CHANGE (AF)	−0.20	0.10	−0.10	−0.10

THOMPSON CREEK DAM
AND RESERVOIR







PURPOSE - Flood Control and Conservation.
DATE CONSTRUCTED - Started September 1925. Completed March 1928.
LOCATION - 3.0 miles north of Claremont.
DRAINAGE AREA - 3.5 square miles.
CAPACITY - 447.5 acre - feet.
SPILLWAY ELEVATION - 1,634 feet.

DAM OPERATION RECORD SUMMARY

MAX. PEAK INFLOW	19.96 CFS	from	1500	on	03–23–92	to	1600	on	03–23–92
MAX. PEAK OUTFLOW	6.30 CFS	from	1500	on	02–10–92	to	1545	on	02–10–92
MAX. W.S. ELEVATION	1610.40 feet	on	02–13–92		STORAGE		88.80 ACRE–FEET		
MIN. W.S. ELEVATION	1600.00 feet	on	varies		STORAGE		0.00 ACRE–FEET		

THOMPSON CREEK DAM OPERATION RECORD SUMMARY

WATER YEAR 1991–92	OCTOBER	NOVEMBER	DECEMBER	JANUARY
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

WATER YEAR 1991–92	FEBRUARY	MARCH	APRIL	MAY
TOTAL MONTHLY INFLOW (AF)	85.20	93.10	11.60	0.00
TOTAL MONTHLY OUTFLOW (AF)	51.20	59.70	70.60	8.10
MAX. MEAN DAILY INFLOW (CFS)	14.80	15.60	0.60	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	34.00	33.40	−59.00	−8.10

WATER YEAR 1991–92	JUNE	JULY	AUGUST	SEPTEMBER
TOTAL MONTHLY INFLOW (AF)	0.00	0.00	0.00	0.00
TOTAL MONTHLY OUTFLOW (AF)	0.00	0.00	0.00	0.00
MAX. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
TOTAL MONTHLY LOSSES (AF)	0.00	0.00	0.00	0.00
MIN. MEAN DAILY INFLOW (CFS)	0.00	0.00	0.00	0.00
MONTHLY STORAGE CHANGE (AF)	0.00	0.00	0.00	0.00

EROSION CONTROL

EROSION CONTROL

Each year eroded material in various forms (trees, rock, sand, etc.) flows out of the mountain watersheds of Los Angeles County. In an effort to control this potentially disruptive force, the Department maintains a series of debris basins in canyon mouths and upstream stabilization structures in selected watersheds.

DEBRIS BASINS

The purpose of a debris basin is to entrap the debris flows emanating from the canyon and let the relatively desilted water pass into the flood control channels.

In the 1991-1992 water year, there were 114 debris basins. The total maximum capacity of the basins is approximately 7,573,050 cubic yards.

The Department cleaned out fifty debris basins and removed approximately 434,200 cubic yards of sediment.

Records of sediment inflow at individual debris basins and amounts excavated and removed are available in the Hydraulic/Water Conservation Division.

STABILIZATION STRUCTURES

Stabilization structures are constructed to control erosion in natural canyons. They serve to prevent downcutting by stabilizing alluvium deposits. In addition, they store debris generated by the watershed and serve to stabilize side banks, reducing side slope sloughing and bank erosion.

The Department maintains 225 stabilization structures in 47 major watersheds. No structures have been constructed since the 1973-74 water year.

EMERGENCY STRUCTURES

Emergency structures (rail and timber, and crib type) have been constructed to entrap the debris inflow from burned watersheds. They serve to protect improvements (road, channel, residence, etc.) located immediately downstream of the watersheds. Currently, 34 emergency structures exist with a total maximum capacity of 269,600 cubic yards. One major fire (over 500 acres) burned 1323 acres in this water year and is shown on the Burned Area Location Map on page PE2.

SEDIMENT REMOVAL FROM RESERVOIRS

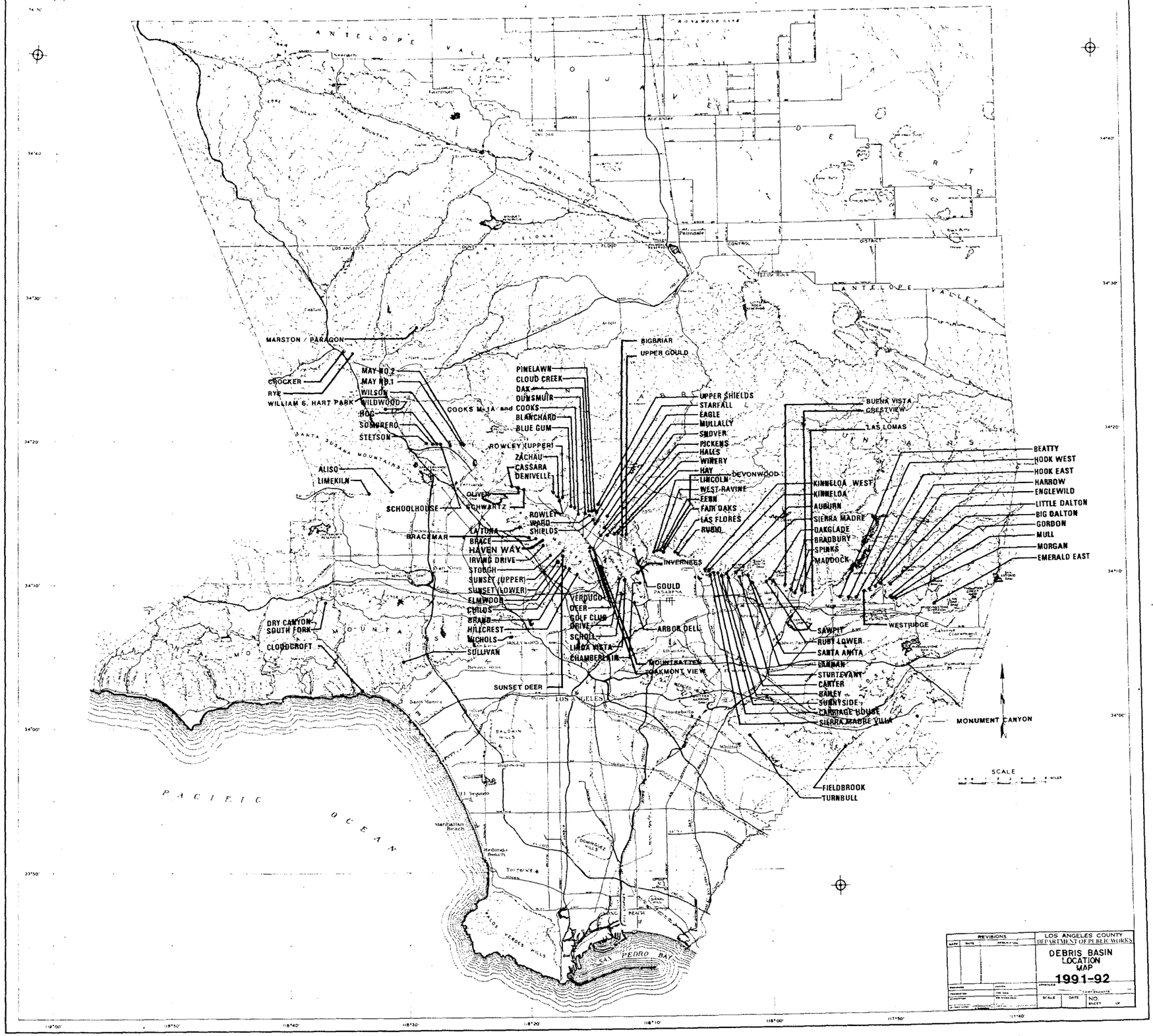
Sediment deposition in reservoirs reduces the storage capacities and adversely affects flood control and water conservation efforts. Sediment removal is periodically necessary and is generally an expensive effort due to large quantities, the need to deal with water inflows, and in several cases, remote locations and limited accessibility for equipment.

Where practical, the Department encourages sediment removal by permittees at no cost to the Department such as at Eaton Wash and Devil's Gate Dams.

During the 1991-92 water year the Department completed cleanouts in Cogswell Reservoir and Morris Reservoir. These are two of three reservoirs in San Gabriel Canyon which collectively contain 36 million cubic yards (cy), about three-quarters of the cumulative volume of sediment currently behind all dams under the Department's control.

Morris reservoir's cleanout consisted of a Pilot Sluicing Project. This is the first debris removed from Morris Reservoir in its 57 year history. About 435,000 cy of material was removed with this year's cleanout.

The Department has also developed a Sediment Management Plan (SMP) with the goal of maintaining current flood control and water conservation capacities at the San Gabriel Canyon Reservoirs. The SMP identifies feasible alternatives for the removal, transport, and disposal of sediment from Cogswell, San Gabriel, and Morris Reservoirs. Sediment removal alternatives identified in the SMP include sluicing, flow assisted sediment transport, dredging, trucking, use of conveyor belts, and construction of a slurry pipeline. The Department is currently preparing an environmental document to evaluate the impacts of the various sediment removal concepts.


ANTELOPE VALLEY
MOJAVE DESERT
MARSTON / PARAGON
CROCKER
RYE
WILLIAM S. HART PARK
MAY NO. 2
MAY NO. 1
WILSON
WILDWOOD
HOG
SOMBRERO
STETSON
ALISO
LIMEKILN
SCHOOLHOUSE
OLIVER
SCHWARTZ
BRACEMAR
LATONA
BRACE
HAVEN WAY
IRVING DRIVE
STOUGH
SUNSET (UPPER)
SUNSET (LOWER)
ELMWOOD
CHILDS
BRAND
HILLCREST
NICHOLS
SULLIVAN
DRY CANYON SOUTH FORK
CLOUDCROFT
SUNSET DEER
PINELAWN
CLOUD CREEK
OAK
DUNSMUIR
COOKS No. 1A and COOKS
BLANCHARD
BLUE GUM
ROWLEY (UPPER)
ZACHAU
CASSARA
DENIVELLE
ROWLEY
WARD
SHIELDS
VERDUGO
DEER
GOLF CLUB DRIVE
SCHOOL
LINDA VISTA
CHAMBERLAIN
BIGBRIAR
UPPER GOULD
UPPER SHIELDS
STARFALL
EAGLE
MULLALLY
SHOVER
PICKENS
HALES
WINERY
HAY
LINCOLN
DEVONWOOD
WEST-RAVINE
EERN
FAIR OAKS
LAS FLORES
RUBIO
INVERNESS
GOULD
ARBOR DELL
MOUNTBATTEN
OAKMONT VIEW
BUENA VISTA
CRESTVIEW
LAS LOMAS
KINNELOA WEST
KINNELOA
AUBURN
SIERRA MADRE
OAKGLADE
BRADBURY
SPINKS
MADDOCK
WESTRIDGE
SAWPIT
RUBY LOWER
SANTA ANITA
LARMAN
STURTEVANT
CARTER
BARLEY
SUNNYSIDE
CARRIAGE HOUSE
SIERRA MADRE VILLA
FIELDBROOK
TURNBULL
BEATTY
HOOK WEST
HOOK EAST
HARROW
ENGLEWILD
LITTLE DALTON
BIG DALTON
GORDON
MULL
MORGAN
EMERALD EAST
MONUMENT CANYON
SCALE
PACIFIC OCEAN
SAN PEDRO BAY
LOS ANGELES
REVISIONS
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
DEBRIS BASIN
LOCATION
MAP
1991-92

PE1

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DATA SHEET A

DEBRIS BASIN - DESIGN DATA

Including 1991-1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSA92.WK4

DEBRIS BASIN	FIRST DEBRIS SEASON	UNCONTROLLED DRAINAGE AREA ABOVE BASIN (SQ. MI.)	BOTTOM ELEV. AT MAX CAP. (FT.)	ELEV PORT INVERT (FT.)	ELEV. SPILLWAY CREST (FT.)	WIDTH SPILLWAY (FT.)	ELEV. CREST. OF DAM (FT.)	MAX. DEB. CAP. (CU. YDS.)
Aliso	1970 - 71	2.77	1108	1108.4	1120.0	70.0	1134.0	41,700 (8)
Arbor Dell	1971 - 72	0.11	898.7	898.4	913.0	22.9	919.6	12,400
Auburn	1954 - 55	0.19	1263.9	1263.0	1275.0	30.0	1283.0	31,600 (15)
Bailey	1945 - 46	0.60	1123	1123.1	1155.0	30.0	1166.0	128,800
Beatty	1970 - 71	0.27	800	800.0	807.0	32.0	815.5	43,000
Bigbriar	1971 - 72	0.02	1898.3	1896.0	1910.0	14.0	1910.8	2,600
Big Dalton	1959 - 60	2.94	1102	1101.9 (3)	1131.5	116.0	1148.7	517,800
Blanchard	1968 - 69	0.47	2026	2026.0	2053.5	40.0	2065.0	74,500
Blue Gum	1968 - 69	0.19	2020	2020.0	2042.0	25.0	2053.0	39,600
Brace	1971 - 72	0.29	1189.7	1189.7	1194.5	20.0	1203.3	27,500
Bracemar	1971 - 72	0.01	1140	1140.0	1145.5	8.0	1148.0	700
Bradbury	1954 - 55	0.68	912.5	913.1	920.0	58.0	928.0	89,800
Brand	1935 - 36	1.04	860	860.0	890.0	60.0	903.0	166,000
Buena Vista	1985 - 86	0.10	978.7	978.7	992.2	39.0	997.7	21,400
Carriage House	1970 - 71	0.03	1350.3	1350.0	1362.9	15.0	1366.8	6,100
Carter	1954 - 55	0.12	1222	1223.2	1238.2	30.0	1245.0	14,600
Cassara	1976 - 77	0.21	1271.5	1271.5	1291.7	66.0	1295.4	36,700
Chamberlain	1974 - 75	0.04	1084.6	1084.0	1097.5	20.0	1101.3	4,700
Childs	1963 - 64	0.30	1022	1022.0	1058.8	23.0	1071.0	50,400
Cloud Creek	1972 - 73	0.01	2350.5	2350.5	2360.0	(5)	2362.0	5,100 (14)
Cloudcroft	1973 - 74	0.21	313.9	315.0	329.5	36.0	329.5	34,700
Cooks	1951 - 52	0.58	2058	2058.0	2082.9	48.0	2092.0	51,900 (14)
Cooks M-1A	1975 - 76	(13)	2120.0	(10)	2142.4	(10)	(10)	33,700 (14)
Crestview	1983 - 84	0.03	864.4	864.0	886.2	20.0	891.7	5,900 (18)
Crocker	1983 - 84	0.67	1064.2	1064.2	1069.8	36.0	1077.0	19,300 (18)
Deer	1954 - 55	0.59	1185.4	1185.0	1201.0	56.0	1209.6	56,600
Denivelle	1976 - 77	0.18	1471	1471.0	1479.3	46.0	1483.3	8,200
Devonwood	1981 - 82	0.03	1899	1899.0	1915.8	22.0	1921.5	5,700
Dry Canyon-South Fork	1978 - 79	1.05	1062.8	1062.5	1074.8	32.0	1079.3	7,900
Dunsmuir	1935 - 36	0.84	2228	2227.7	2257.2	60.0	2272.2	102,700
Eagle	1936 - 37	0.48	1848.3	1848.3	1880.2	60.0	1895.2	62,400
Elmwood	1964 - 65	0.31	912	911.5	938.0	22.0	952.0	61,900
Emerald-East	1964 - 65	0.32	1185.1	1181.1	1192.0	30.0	1204.0	13,200
Englewild	1961 - 62	0.44	1274.9	1275.0	1297.0	50.0	1300.0	40,600
Fair Oaks	1935 - 36	0.21	1544	1544.0	1561.9	(6)	1566.5	23,800 (14)
Fern	1935 - 36	0.31	1438.7	1462.4 (1)	1470.2	25.0	1480.5	30,600
Fieldbrook	1974 - 75	0.35	712.7	713.0	718.0	28.0	722.3	2,800
Golf Club Drive	1970 - 71	0.32	880.7	880.7	902.0	36.7	915.0	14,700
Gordon	1973 - 74	0.18	1075.7	1075.0	1088.0	22.0	1096.0	16,800

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DATA SHEET A

DEBRIS BASIN - DESIGN DATA

Including 1991-1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSA92.WK4

DEBRIS BASIN	FIRST DEBRIS SEASON	UNCONTROLLED DRAINAGE AREA ABOVE BASIN (SQ. MI.)	BOTTOM ELEV. AT MAX CAP. (FT.)	ELEV PORT INVERT (FT.)	ELEV. SPILLWAY CREST (FT.)	WIDTH SPILLWAY (FT.)	ELEV. CREST. OF DAM (FT.)	MAX. DEB. CAP. (CU. YDS.)
Gould	1947 - 48	0.36	1529.5	1528.2	1548.0	55.0	1548.0	52,800 (14)
Gould (Upper)	1976 - 77	0.18	1863.9	1863.9	1897.7	32.0	1901.0	52,300
Halls	1935 - 36	0.86	1641.6	1641.8	1661.3	131.0	1664.0	89,400
Harrow	1958 - 59	0.43	1254.8	1255.0	1269.0	40.0	1277.8	68,000
Haven Way	1991 - 92	0.13	1323	1323.0	1329.0	20.0	1335.6	51,700 (16)
Hay	1936 - 37	0.20	1875.4	1901.0	1905.0	36.0	1915.0	34,400
Hillcrest	1962 - 63	0.35	863.5	863.5	885.0	18.0	901.0	57,800
Hog	1969 - 70	0.33	1520.1	1520.0	1535.0	32.0	1547.0	39,600
Hook East	1968 - 69	0.18	1197.5	1198.0	1210.9	37.0	1215.0	22,300
Hook West	1970 - 71	0.17	1144.8	1145.0	1158.9	40.0	1167.0	21,600
Inverness	1982 - 83	0.03	1253	1252.9	1256.7	20.0	1261.0	3,300
Irving Drive	1974 - 75	0.03	905.8	905.0	915.3	12.0	920.0	1,200
Kinneloa	1964 - 65	0.20	1370	1370.0	1388.0	40.0	1395.0	14,100
Kinneloa - West	1966 - 67	0.16	1384.9	1385.0	1400.0	22.0	1408.5	14,200
Lannan	1954 - 55	0.25	1016.0	1015.0	1035.8	14.0	1043.0	41,400 (14)
La Tuna	1955 - 56	5.34	1109.0	1110.0	1140.0	75.0	1157.0	482,300
Las Flores	1935 - 36	0.45	1685.1	(9)	1715.6	50.0	1726.4	55,600
Las Lomas	1983 - 84	0.07	895.4	896.0	906.6	24.0	911.0	5,400
Limekiln	1963 - 64	3.72	992.0	992.0	1003.0	77.0	1019.0	171,600
Lincoln	1935 - 36	0.50	1275.8	1276.0	1304.0	56.0	1322.5	38,400
Linda Vista	1970 - 71	0.37	979.5	979.5	989.8	40.0	995.7	3,200
Little Dalton	1959 - 60	3.31	1140.0	1139.5	1186.0	84.0	1200.2	660,500
Maddock	1954 - 55	0.26	888.6	891.8	901.0	36.0	904.0	45,000
Marston/Paragon	1988 - 89	0.20	1455.6	1455.6	1460.0	20.0	1466.0	6,000
May No. 1	1953 - 54	0.70	1665.9	1666.0	1684.0	60.0	1692.5	64,000
May No. 2	1953 - 54	0.09	1663.4	1663.5 (2)	1669.5	20.0	1674.0	10,000
Monument	1981 - 82	0.11	943.8	942.3	950.0	12.0	954.0	6,800
Morgan	1964 - 65	0.60	1135.0	1135.0	1158.0	45.0	1167.0	47,700
Mountbatten	1983 - 84	0.01	1136.2	1135.5	1140.9	20.0	1141.0	1,400
Mull	1973 - 74	0.15	1146.9	1147.0	1154.0	20.0	1165.0	12,500
Mullally (11)	1974 - 75	0.34	2420.0	2420.0	2435.4	42.0	2439.6	9,400
Nichols	1937 - 38	0.35	480.5	481.0	485.1	50.0	495.0	14,100 (14)
Oak	1975 - 76	0.05	2145.4	2145.7	2151.8	50.0	2156.2	8,700
Oakglade	1974 - 75	0.06	1274.6	1280.0	1290.0	20.0	1296.0	7,250
Oakmont View Drive	1984 - 85	0.02	1315.5	1315.5	1327.5	20.0	1327.5	3,400
Oliver	1989 - 90	0.18	1258.0	1258.0	1278.3	41.0	1283.3	32,100
Pickens	1935 - 36	1.50	1583.6	1584.0	1600.0	123.0	1613.0	125,100
Pinelawn	1973 - 74	0.02	2431.0	2430.5	2443.0	(7)	2448.5	3,200

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DATA SHEET A

DEBRIS BASIN - DESIGN DATA

Including 1991-1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSA92.WK4

DEBRIS BASIN	FIRST DEBRIS SEASON	UNCONTROLLED DRAINAGE AREA ABOVE BASIN (SQ. MI.)	BOTTOM ELEV. AT MAX CAP. (FT.)	ELEV PORT INVERT (FT.)	ELEV. SPILLWAY CREST (FT.)	WIDTH SPILLWAY (FT.)	ELEV. CREST. OF DAM (FT.)	MAX. DEB. CAP. (CU. YDS.)
Rowley	1953 - 54	0.21	1703.6	1703.6	1714.0	60.0	1722.0	43,100
Rowley (Upper)	1976 - 77	0.31	1926.0	1926.0	1946.0	42.0	1951.3	28,800
Rubio	1943 - 44	1.26	1582.1	1582.1	1608.3	59.0	1625.5	127,200
Ruby (Lower)	1955 - 56	0.28	810.8	809.6	828.0	45.0	833.0	28,600
Rye	1981 - 82	1.11	1073.9	1073.8	1077.7	58.2	1081.5	19,100
Saddleback	1988 89	0.04	1779.0	1779.3	1790.0	(10)	1796.0	27,000
Santa Anita	1959 - 60	1.70	748.5	748.5 (3)	774.7	160.0	796.0	394,600
Sawpit	1954 - 55	2.82	930.3	930.3	982.0	110.0	1000.0	635,700
Scholl	1945 - 46	0.16	950.0	950.0 (2)	956.0	76.0	966.0	9,300
Schoolhouse	1962 - 63	0.28	1459.6	1460.0	1478.5	20.0	1491.0	67,700
Schwartz	1976 - 77	0.25	1294.7	1294.7	1313.2	35.0	1319.0	45,400 (14)
Shields	1937 - 38	0.06	2030.0	2050.0	2058.1	30.0	2070.2	34,800
Sierra Madre Dam (12)	1927 - 28	2.39	1119.6	1119.5	1172.5	62.5	1175.0	136,400
Sierra Madre Villa	1957 - 58	1.46	1069.2	1069.2	1088.9	48.0	1102.5	402,700
Snover	1936 - 37	0.21	1862.8	1862.7	1879.0	40.0	1893.7	24,800
Sombrero	1969 - 70	1.06	1539.6	1540.0	1564.8	45.0	1580.0	87,900
Spinks	1958 - 59	0.42	750.0	750.0	761.5	40.0	765.9	56,000
Starfall	1973 - 74	0.13	2428.0	2428.0	2441.5	30.0	2446.5	14,900
Stetson	1969 - 70	0.29	1556.0	1555.0	1570.0	32.0	1570.0	41,300
Stough	1940 - 41	1.65	1006.0	1005.8	1031.5 (4	100.0	1043.5	180,600 (14)
Sturtevant	1967 - 68	0.03	975.0	971.0	983.6	8.0	990.0	1,400
Sullivan	1970 - 71	2.38	570.0	570.0	587.0	50.0	599.3	51,000
Sunnyside	1970 - 71	0.02	1290.0	1290.0	1299.5	15.0	1303.8	3,400
Sunset Canyon-Deer	1982 - 83	0.21	1382.4	1380.5	1401.8	24.0	1409.1	5,000
Sunset (Lower)	1963 - 64	0.45	1003.8	994.5	1040.0	40.0	1056.0	160,600
Sunset (Upper)	1928 - 29	0.44	1574.2	1574.0	1603.7	75.0	1610.1	15,900
Turnbull	1952 - 53	0.99	476.1	475.6	492.0	40.0	503.0	21,600
Upper Shields (11)	1976 - 77	0.20	2505	2502.0	2518.8	29.5	2524.0	5,600
Verdugo	1935 - 36	9.40	1109.5	1110.0	1119.7	145.0	1131.0	131,000
Ward	1956 - 57	0.12	2021.8	2022.0	2043.0	58.0	2035.3	26,400
West Ravine	1935 - 36	0.25	1468.8	1469.6 (1)	1501.9	20.0	1505.5	44,900
Westridge	1974 - 75	0.02	894	894.0	901.0	10.7	906.0	1,400
Wildwood	1967 - 68	0.65	1342.9	1342.9	1354.0	50.0	1360.0	20,700
William S. Hart Park	1983 - 84	0.09	1282.5	1280.0	1290.0	19.0	1293.0	2,400
Wilson	1962 - 63	2.58	1493.3	1493.0	1526.0	60.0	1543.0	313,100
Winery	1968 - 69	0.18	1920	1920.0	1935.0	20.0	1945.0	29,200
Zachau	1956 - 57	0.35	1803.4	1803.1	1820.5	44.0	1823.0	48,400
114 DEBRIS BASINS		74						7,574,050

DATA SHEET A # DEBRIS BASIN - DESIGN DATA

Including 1991-1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE:DSAR92.WK4

(1) LOWEST CLEAR WATER OUTLET, NOT SPILLWAY.
(2) ELEVATION OF SPILLWAY NOTCH.
(3) FLOW LINE OF SLUICEWAY.
(4) ELEVATION OF SPILLWAY INTO OUTLET CHANNEL. ELEVATION OF OVERFLOW SPILLWAY 1036.9 FEET.
(5) ONE 30-INCH REINFORCED CONCRETE PIPE.
(6) FOUR 36-INCH CORRUGATED METAL PIPES.
(7) ONE 36-INCH REINFORCED CONCRETE PIPE. (ELEVATED INLET)
(8) DEBRIS CAPACITY AVAILABLE WITHIN RIGHT OF WAY LIMITS.
(9) PIT-TYPE BASIN.
(10) INFORMATION UNAVAILABLE.
(11) SPECIAL CLEANOUT REQUIRED DUE TO LIMITED STORAGE.
(12) CLEANOUT REQUIRED WHEN DEBRIS REACHES OR EXCEEDS ELEV. 1128.9 AGAINST FACE OF DAM.
(13) VALUES ARE COMBINED WITH COOKS DEBRIS BASIN
(14) VALUES ARE BASED ON RECENTLY APPROVED CUTPLANS OR NEW MAX. CAPACITY
(15) REDUCED CAPACITY BASED ON 5% MAX CONE SLOPE
(16) CAPACITY BASED ON "F" DRAWINGS AND IT WILL BE REVISED BASED ON A NEW TOPO MAP.
(17) BASIN BEING REPLACED WITH NEW DEBRIS BASIN DOWNSTREAM.
(18) SPILLWAY LEVEL STORAGE CAPACITY.
(19) MAXIMUM CAPACITY MAY BE MORE THAN SHOWN AND WILL BE REVIEWED.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DATA SHEET B

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1991 - 1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSB92.WK4

DEBRIS BASIN	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED (CU. YDS.) (1)	MAXIMUM SEASONAL DEBRIS PRODUCTION (CU. YDS.)	SEASON	ESTIMATED CONDITIONS DEBRIS STORED (CU. YDS.)	CAPACITY AVAILABLE (CU. YDS.)	PER CENT
Aliso (11)	22	170,575	30,700	1982-83	-1483	43,183	104 (5)
Arbor Dell (11)	21	1,929	800	1979-80	400	12,000	97
Auburn	38	84,889	20,100	1961-62	1523	30,077	95
Bailey	47	239,231	91,000	1979-80	8577	120,223	93
Beatty	22	13,920	7,600	1979-80	3859	39,141	91
Bigbriar	21	3,014	623	1987-88	-244	2,844	109
Big Dalton	33	833,003	296,700	1968-69	5200	512,600	99
Blanchard	24	70,881	36,600	1977-78	2811	71,689	96
Blue Gum	24	38,346	19,100	1977-78	-2913	42,513	107
Brace	21	39,855	12,000	1977-78	97	27,403	100
Bracemar	21	664 (7)	283	1980-81	-200	900	129 (9)
Bradbury	38	268,262	70,200	1968-69	2098	87,702	98
Brand	57	266,632	53,100	1977-78	4951	161,049	97
Buena Vista	7	40	40	1987-88	40	21,360	100
Carriage House	22	4,742	3,400	1979-80	200	5,900	97
Carter	38	37,148	12,600	1979-80	1152	13,448	92
Cassara	16	28,798	16,800	1977-78	1611	35,089	96
Chamberlain (11)	18	556	300	1974-75	-100	4,800	102
Childs	29	45,220	10,700	1980-81	202	50,198	100
Cloud Creek	20	3,322	1,800	1977-78	-610	5,710	112
Cloudcroft	19	12,290	6,100	1973-74	1368	33,332	96
Cooks	41	175,472 (3)	61,200 (3)	1977-78	2451 (3)	83,149	97 (3)
Cooks M-1A	17	(13)	(13)	(13)	(13)	(13)	(13)
Crestview	9	(6)	(6)	(6)	5	5,895	100
Crocker	9	5,745	5745	1991-92	4046	15,254	79
Deer	38	161,857	44,200	1968-69	-251	56,851	100
Denivelle	16	9,626	5,500	1977-78	349	7,851	96
Devonwood	11	626	400	1991-92	200	5,500	96
Dry Canyon-South Fork	14	8,348	5,300	1979-80	400	7,500	95
Dunsmuir	57	361,512	86,200	1977-78	-3416	106,116	103
Eagle	56	194,910	41,700	1937-38	5447	56,953	91
Elmwood (11)	28	53,433	16,100	1980-81	22	61,878	100
Emerald-East (11)	28	10,561	1,800	1985-86	45	13,155	100
Englewild	31	85,640 (2)	60,200 (2)	1968-69	570	40,030	99
Fair Oaks	57	109,020	15,700	1935-36	-2462	26,262	110
Fern	57	164,359	23,900	1968-69	-1340	31,940	104
Fieldbrook	18	1,405	500	1977-78	408	2,392	85
Golf Club Drive	22	33,400	11,600	1979-80	642	14,058	96
Gordon	19	4,485	3,800	1977-78	-119	16,919	101

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DATA SHEET B

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1991 - 1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSB92.WK4

DEBRIS BASIN	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED (CU. YDS.) (1)	MAXIMUM SEASONAL DEBRIS PRODUCTION (CU. YDS.)	SEASON	ESTIMATED CONDITIONS DEBRIS STORED (CU. YDS.)	CAPACITY AVAILABLE (CU. YDS.)	PER CENT
Gould	45	121,394	18,000	1965-66	521	52,279	99
Gould (Upper)	16	36,621	11,177	1991-92	1108	51,192	98
Halls	57	597,961	102,100	1937-38	-1249	90,649	101
Harrow	34	78,297 (2)	63,400 (2)	1968-69	-5561	73,561	108
Haven Way	1	(8)	(8)	(8)	(8)	51,700	100
Hay	56	72,463	18,200	1937-38	5249	29,151	85
Hillcrest	30	52,349	11,700	1964-65	4462	53,338	92
Hog	23	6,500	3,900	1977-78	66	39,534	100
Hook East	24	45,709 (2)	40,200 (2)	1968-69	0	22,300	100
Hook West	22	7,139	3,600	1979-80	301	21,299	99
Inverness	10	281	252	1982-83	483	2,817	85
Irving Drive	18	1,584	600	1980-81	38	1,162	97
Kinneloa	28	54,484 (2)	17,600 (2)	1968-69	528	13,572	96
Kinneloa West	26	69,340 (2)	22,200 (2)	1968-69	976	13,224	93
Lannan	38	84,067	18,200	1969-70	0	41,400	100
La Tuna	37	632,474	172,100	1977-78	26115	456,185	95
Las Flores	57	214,754	36,000	1937-38	0	55,600	100
Las Lomas	9	(6)	(6)	(6)	35	5,365	99
Limekiln	29	308,861	42,300	1965-66	3613	167,987	98
Lincoln (11)	57	131,545	28,400	1968-69	688	37,712	98
Linda Vista (11)	22	12,546	3,400	1977-78	-240	3,440	108
Little Dalton	33	905,170	337,800	1968-69	16037	644,463	98
Maddock	38	56,979	16,200	1980-81	2045	42,955	95
Marston/Paragon	4	(8)	(8)	(8)	(8)	6,000	100
May No. 1 (11)	39	220,149	45,800	1968-69	562	63,438	99
May No. 2	39	27,937	6,200	1966-67	578	9,422	94
Monument	11	3,009	2,600	1981-82	292	6,508	96
Morgan	28	30,292	12,900	1968-69	651	47,049	99
Mountbatten	9	95	(6)	(6)	95	1,305	93
Mull	19	2,040	1,100	1979-80	146	12,354	99
Mullally (10)	18	62,990 (4)	24,400 (4)	1977-78	1309	8,091	86 (16)
Nichols	55	128,067	21,800	1951-52	471	13,629	97
Oak	17	13,258	6,900	1977-78	785	7,915	91
Oakglade	18	1,455	1,200	1977-78	538	6,712	93
Oakmont View Drive	8	221	221	1991-92	221	3,179	94
Oliver	3	30380 (14)	16255 (14)	1977-78	0	32,100	100
Pickens	57	729,000	140,600	1977-78	-107	125,207	100
Pinelawn	19	5,258	1,200	1976-77	79	3,121	98

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

DATA SHEET B

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1991 - 1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSB92.WK4

DEBRIS BASIN	NUMBER OF SEASONS	TOTAL DEBRIS DEPOSITED (CU. YDS.) (1)	MAXIMUM SEASONAL DEBRIS PRODUCTION (CU. YDS.)	SEASON	ESTIMATED CONDITIONS DEBRIS STORED (CU. YDS.)	CAPACITY AVAILABLE (CU. YDS.)	PER CENT
Rowley	39	77,618 (4)	13,000 (4)	1977-78	1383	41,717	97
Rowley (Upper)	16	50,306 (4)	31,900 (4)	1977-78	-2073	30,873	107
Rubio	49	285,876	133,000	1979-80	-1172	128,372	101
Ruby (Lower)	37	20,448	8,300	1968-69	1016	27,584	96
Rye	11	13,577	10,000	1981-82	-771	19,871	104
Saddleback	4	500	(6)	(6)	500	26,500	98
Santa Anita	33	701,789 (2,3)	132,000 (2,3)	1961-62	17942	376,658	95
Sawpit	38	688,846 (2,3)	232,200 (2,3)	1968-69	1849	633,851	100
Scholl	47	18,164	800	1968-69	670	8,630	93
Schoolhouse	30	34,331	21,600	1962-63	5076	62,624	93
Schwartz	16	49,165	21,600	1977-78	4106	41,294	91
Shields	55	173,612 (3)	7,800	1937-38	1800	33,000	95
Sierra Madre Dam (12)	65	365,888 (2)	95,200 (2)	1968-69	1015	135,385	99
Sierra Madre Villa	35	508,701	118,600	1961-62	-38674	441,374	110
Snover	56	109,280	19,300	1938-39	4883	19,917	80
Sombrero	23	6,030	3,300	1977-78	175	87,725	100
Spinks	34	67,086	15,600	1968-69	700	55,300	99
Starfall	19	29,030	14,200	1977-78	1857	13,043	88
Stetson (11)	23	19,196	1,500	1977-78	1962	39,338	95
Stough	52	162,766	44,100	1964-65	3447	177,153	98
Sturtevant	25	1,321	500	1977-78	120	1,280	91
Sullivan	22	93,952	35,300	1979-80	5178	45,822	90
Sunnyside	22	1,764	800	1978-79	35	3,365	99
Sunset Canyon-Deer	10	4,075	3,400	1982-83	100	4,900	98
Sunset (Lower)	29	144,350	20,200	1980-81	2581	158,019	98
Sunset (Upper)	64	146,427	27,000	1964-65	-1123	17,023	107
Turnbull (11)	40	54,372 (2)	15,900 (2)	1968-69	-957	22,557	104 (5)
Upper Shields (15)	16	43,217 (4)	16,900 (4)	1977-78	(15)	(15)	(15)
Verdugo	57	827,992	105,400	1937-38	13334	117,666	90
Ward	36	51,668	17,800	1977-78	230	26,170	99
West Ravine	57	149,160	29,900	1937-38	-463	45,363	101
Westridge	18	200	(6)	(6)	187	1,213	87
Wildwood	25	81,546	16,700	1977-78	171	20,529	99
William S. Hart Park	9	608	600	1983-84	-97	2,497	104
Wilson	30	215,634	55,500	1968-69	14671	298,429	95
Winery	24	27,215	9,400	1968-69	1659	27,541	94
Zachau	36	107,185 (4)	48,100 (4)	1977-78	1100	47,300	98
114 DEBRIS BASINS		**13,621,280**				**7,429,662**	

DATA SHEET B

DEBRIS BASIN-DEBRIS PRODUCTION HISTORY

Including 1991 - 1992 Storm Season

Compiled by: Hydraulic and Water Conservation Division - Sedimentation Management
Date: December 31, 1992
FILE: DSB92.WK4.

(1) VOLUME OF DEBRIS DEPOSITED IN BASINS DOES NOT INCLUDE DEBRIS SLUICED THROUGH OPEN PORTS OR NOTCH.

(2) VOLUME OF DEBRIS DEPOSITED DOES NOT INCLUDE DEBRIS WHICH PASSED OVER SPILLWAY DURING THE STORMS IN 1968-69 SEASON.

(3) INCLUDING DEBRIS FROM UPSTREAM BASIN OR DAM.

(4) VOLUME OF DEBRIS DEPOSITED DOES NOT INCLUDE DEBRIS WHICH PASSED OVER SPILLWAY DURING THE STORMS IN 1977-78 SEASON.

(5) DEBRIS CAPACITY AVAILABLE WITHIN RIGHT OF WAY LIMITS.

(6) NO SIGNIFICANT DEBRIS INFLOWS RECORDED.

(7) NO DEBRIS RECORDS EXIST FOR THE FIRST 9 SEASONS.

(8) INFORMATION UNAVAILABLE.

(9) MAXIMUM CAPACITY MAY BE MORE THAN SHOWN AND WILL BE REVIEWED.

(10) SPECIAL CLEANOUT REQUIRED DUE TO LIMITED STORAGE

(11) SPECIAL CLEANOUT REQUIRED DUE TO BURNED WATERSHED

(12) CLEANOUT REQUIRED WHEN DEBRIS REACHES OR EXCEEDS ELEV. 1128.9 AGAINST FACE OF DAM.

(13) VALUES ARE COMBINED WITH COOKS DEBRIS BASIN.

(14) INCLUDING DEBRIS DATA FROM PREVIOUS BASIN.

(15) BASIN BEING REPLACED WITH NEW DEBRIS BASIN DOWNSTREAM

(16) BASIN TO BE CLEANED.


DEVIL FIRE
07-20-92
(1323 ACRES)
ANTELOPE VALLEY
PACIFIC OCEAN
SAN GABRIEL MOUNTAINS
SANTA SUSANA MOUNTAINS
LOS ANGELES
PASADENA
HOLLYWOOD
Beverly Hills
Santa Monica
Inglewood
El Segundo
Redondo Beach
Torrance
Palmdale
Lancaster
Little Rock
Pomona
SAN PEDRO BAY
SCALE
REVISIONS
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
1991 — 92
BURNED AREA
LOCATION MAP
SCALE
DATE
NO.

PE2

WATER QUALITY

WATER QUALITY

Since its conception, the Flood Control District (now Department of Public Works) has actively engaged in operations which have proven indispensable in preserving the integrity of our water resources, both quantity and quality, and has aided in the establishment of regulations or controlling criteria by those agencies so empowered.

Prior to March 1986, monitoring activities in the field of water quality control were conducted by the Water Quality Section of Hydraulic/Water Conservation Division. In March 1986, the responsibilities of conducting such activities were transferred to Waste Management Division as a result of the consolidation. These activities include, among others, the collection of water quality samples, their analyses, and the interpretation and reporting of the resulting data.

Areas of involvement include the monitoring of all groundwater basins through the sampling of numerous wells, the monitoring of storm and low water flows at various strategic locations on the major streams or channels, and an assumed or obligated responsibility to monitor the quality effects and subsurface travel of recharge areas, specifically the Whittier Narrows Spreading Grounds area.

The Water Quality Section, together with personnel of other Departmental divisions, also conducts investigations into pollution problems relative to our facilities, particularly those from industrial discharges, vehicle accidents, ruptured pipelines, or the indiscriminate dumping of various waste products.

The principal objectives of these investigations are to determine the degree and apparent source or origin of the pollution and to take the necessary action that will immediately abate the existing problem and possibly provide a means to prevent or limit recurrence.

Since 1986, the Water Quality Section also has been conducting the screening of proposed connections to County storm drains, and developments over County right-of-ways, for the purpose of minimizing/eliminating potential of pollutants to the storm drain waters and, thereby, to the environment.

The above-mentioned activities of the Water Quality Section have recently been intensified, particularly in the areas of interfacing and coordinating with other municipalities/cities, environmental organizations, as well as Federal and State agencies, in an effort to comply with the regulations and requirements mandated under the 1987 Clean Water Act, whereby the Department's storm drain system is under the National Pollutant Discharge Elimination System (NPDES) permitting regulations of the California Regional Water Quality Control Board (CRWQCB).

The NPDES Permit (CA0061654) issued for the storm drain system in Los Angeles County requires the development of programs to improve the quality of stormwater/urban runoff discharges into the storm drain system. Los Angeles County, represented by the Department of Public Works, is the Principal Permittee and the cities within the County are

Co-Permittees. The drainage area covered by the Permit will become active in three phases, with Phase I, the Santa Monica Bay Drainage Basin, having begun July 1, 1990.

Phase II, which involves San Fernando and San Gabriel Drainage Basins, has begun in July 1992.

The Permit requires the County, together with the cities in the County, to (a.) develop and implement a stormwater/urban runoff monitoring program to gather data on the type and source of pollutants within the drainage basin, and (b.) develop and implement Best Management Practices (BMPs) to reduce the amount of pollutants that find their way into the storm drain system.

SURFACE WATER QUALITY

Prior to 1984, dry weather samples were collected from 30 sampling stations on a monthly basis for analysis such as general minerals, bacteria, pesticides, and heavy metals. In addition, storm samples were also collected and analyzed at least three times annually from the same 30 stations during storms season.

From 1984 to 1987, as a result of reorganization, the number of surface water monitoring stations was reduced to 21, while the parameters analyzed were reduced to include only total dissolved solids, pH, and dissolved oxygen. Storm sampling activities were also significantly curtailed.

In 1988, recognizing the inadequacy of the then existing monitoring program to meet the Department's need in dealing with the important issues in the areas of water quality, the Department Administration approved and implemented an expanded monitoring program effective May 1, 1988.

There are 28 monitoring stations in the Department's current Surface Water Quality Monitoring Program, from which dry weather samples are collected and analyzed on a monthly basis. These sampling stations are strategically located throughout the Department's major storm drains and water conservation facilities where the flows are representative of typical land uses as well as areas of significant water quality concerns. Of the 28 monitoring stations in the program, six are located at the outlets to Santa Monica Bay, while one is located in the mountain area where flow is considered to be natural and uncontaminated with the various pollutants associated with urbanization and developed land uses.

Monthly dry weather samples, thus collected, are analyzed for general minerals (pH, specific conductance, total dissolved solids, total hardness, potassium sulfate, calcium, magnesium, chloride, fluoride, nitrate-nitrogen, nitrite-nitrogen, ammonium-nitrogen, phosphate-P, boron, iron, and manganese), bacteria, pesticides, heavy metals (silver arsenic, barium, cadmium, chromium, mercury, lead, selenium, copper, nickel, zinc, and chromium [VI]), oil and grease, total organic carbon, total petroleum hydrocarbons, PCB's, biochemical oxygen demand, and volatile organic compounds (TCE, carbon tetrachloride, vinyl chloride, 1,2 dichlorethene,

benzene, 1,1 dichloroethylene, 1,1,1 trichloroethane, p-dichlorobenzene). In addition, storm samples are collected for three to four storms annually from 21 stations, including San Gabriel Coastal and Rio Hondo Spreading Grounds for extensive analysis similar to those for dry weather samples, with additional testing of total suspended solids and volatile suspended solids to be included. For storm samples collected at San Gabriel Coastal and Rio Hondo Spreading Grounds, priority pollutant constituents are also analyzed under an agreement with the Central and West Basin Water Replenishment District.

A selective list of total dissolved solids is shown for some of the sampling locations on the streams and channels monitored under the Surface Water Quality Program. For a conception of the analysis performed on the surface flows, a yearly compilation of constituent determination is shown for one (Los Angeles River at Wardlow) of the sampling stations in the program.

GROUNDWATER QUALITY

The annual sampling of water wells, under a selected scheduling, in five major basins in Los Angeles County comprise the Groundwater Quality Program. The program, initiated in 1970, is coordinated with the State of California Department of Water Resources and the City of Los Angeles Department of Water and Power. These agencies participate in the obtainment and analysis of samples.

All the water well samples are from active production wells used either for municipal supply, irrigation, or for industrial purposes and are selected to represent a general portrayal of basin water quality conditions. The samples taken under this program are analyzed for major minerals, total dissolved solids, electrical conductivity, pH, and in specific cases, phosphate, iron, manganese, fluoride, or boron.

WATER QUALITY DATA ACCESSIBILITY

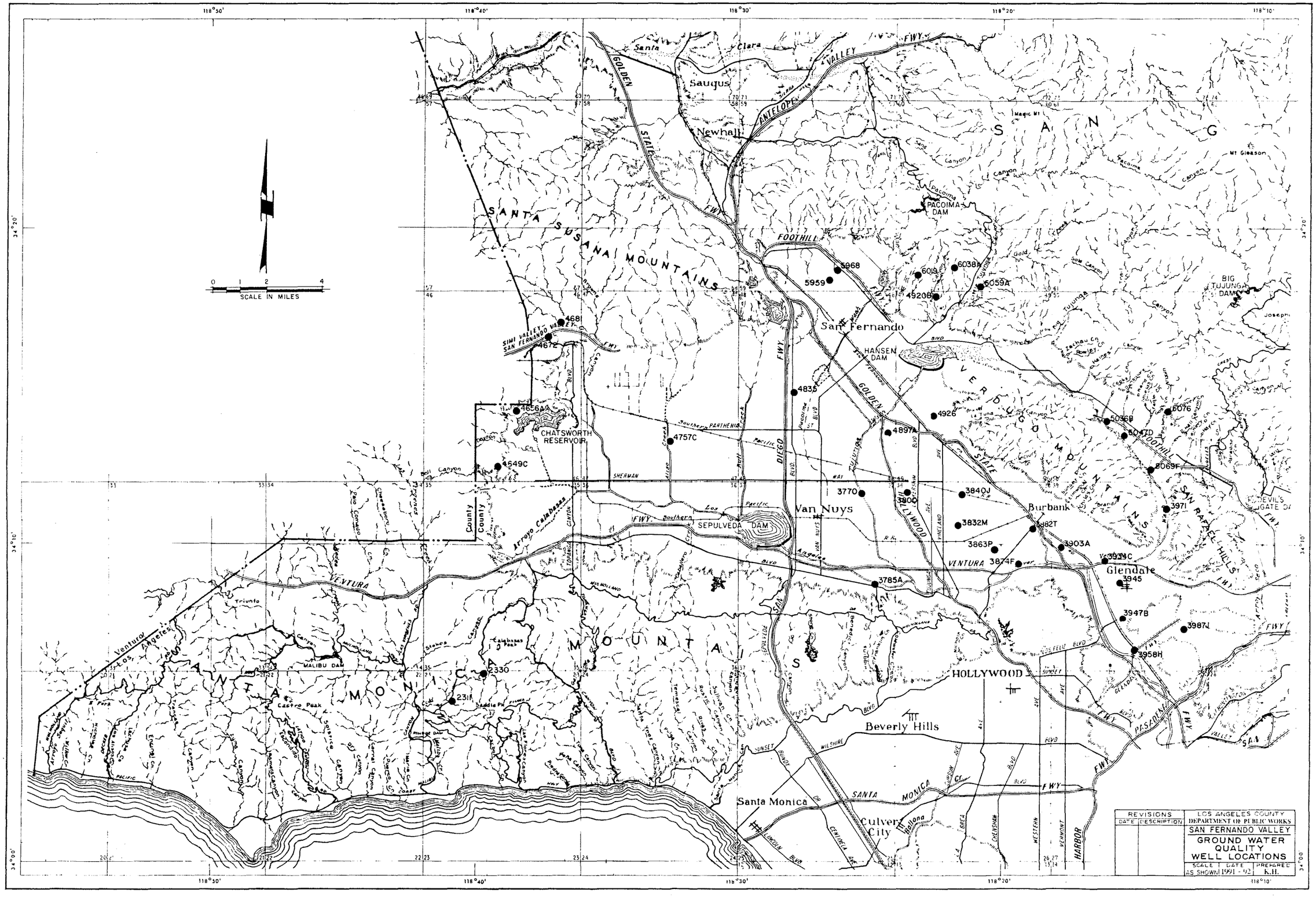
Data acquired from the various programs are on file in the Water Quality Section. In addition, all data is accessible to any user through STORET, an Environmental Protection Agency computer system that stores, retrieves, and manipulates data using agency code 21CALAFD.

Surface Water Quality Monitoring Selected Surface Station
Table 1 Total Dissolved Solids - mg/l
1991-92 Season (Dry Weather Flow)

Sampling Location	Oct. 1991	Nov. 1991	Dec. 1991	Jan. 1992	Feb. 1992	Mar. 1992	Apr. 1992	May 1992	Jun. 1992	Jul. 1992	Aug. 1992	Sep. 1992	Average Value
Ballona Creek at Sawtelle Blvd.	642	772	952	972	856	988	884	570	602	700	752	638	777
Coyote Creek at	1028	1080	676	1070	1144	1164	1110	1150	1060	1100	926	886	1033
Orangethorpe Avenue	686	768	668	680	676	920	782	1030	788	1140	818	698	805
Willow Street													
Dominguez Channel Above Vermont Avenue	649	748	564	736	-	472	770	-	908	630	170	838	649
Los Angeles River at	680	776	688	694	780	852	796	742	782	854	728	764	761
Wardlow Road	680	684	688	610	380	832	804	666	708	652	610	694	667
Firestone Boulevard													
Los Cerritos Channel at Stearns Street	559	424	300	560	608	484	740	606	978	682	916	-	623
Rio Hondo River at	705	692	352	500	-	932	1214	2020	660	-	-	-	884
Southern Avenue	660	604	-	480	460	648	542	246	352	256	-	608	486
Spreading Grounds													
Santa Monica Cyn. Ch. at Short Street	949	788	880	1096	778	880	904	844	856	898	782	948	884
San Gabriel River at	655	604	-	640	-	-	568	562	582	-	-	-	604
Spreading Grounds	810	740	772	790	668	736	828	850	788	662	896	698	770
Willow Street													
San Jose Creek at Workman Mill Road	677	664	596	860	912	888	966	788	880	874	874	890	822

Surface Water Quality Analysis (Partial Data)
Monthly Monitoring 1991-92 Season (Dry Weather)
Los Angeles River at Wardlow Road

Constituent mg/l	Oct. 1991	Nov. 1991	Dec. 1991	Jan. 1992	Feb. 1992	Mar. 1992	Apr. 1992	May 1992	Jun. 1992	Jul. 1992	Aug. 1992	Sep. 1992	Average
Hardness as $CaCO_3$	300	295	240	276	400	390	380	337	337	345	332	340	331
Calcium	96	48	76	75	114	112	104	83	75	81	77	78	85
Magnesium	15	43	12	21	28	27	29	31	36	35	34	35	29
Sodium	132	134	125	131	120	124	126	112	121	129	132	139	127
Potassium	13.7	16.5	16.3	19.0	14.6	13.9	10.9	14.2	14.3	16.6	15.1	13.0	14.8
Ammonium	2.0	9.2	8.0	9.7	9.7	3.0	7.0	8.2	0.5	1.7	2.2	0.7	5.2
Alkalinity as $CaCO_3$	189	200	139	198	209	192	230	192	214	193	184	194	195
Sulfate	144	158	161	195	287	274	283	239	170	225	222	307	222
Chloride	164	136	122	146	134	125	205	161	140	173	183	166	155
Nitrate-N	6.71	10.60	4.64	2.33	3.10	2.13	3.23	2.16	1.89	6.28	1.60	4.65	4.11
Phosphate	5.20	2.80	3.60	3.50	2.10	3.02	4.38	4.59	2.96	<0.03	2.62	3.72	3.50
Total Dissolved Solids	680	776	688	694	780	852	796	742	782	854	728	764	761
BOD	20.6	63.6	50.3	<1	55.0	<1	29.3	2.0	3.5	10.6	16.8	16.4	22.3
Total Organic Carbon	11.2	14.9	14.8	10.2	12.6	16.5	22.5	29.3	25.4	20.7	23.4	11.6	17.8
MPN/100ml													
Fecal Coliform	5,000	5,000	9,000	3,000	800	1,400	20	5,000	3,000	5,000	16,000	1,200	4,535
Total Coliform	>16,000	>16,000	>16,000	>16,000	16,000	>16,000	20	>16,000	>16,000	>16,000	>16,000	1,900	>16,000
Fecal Streptococcus	290	500	16,000	30	1,300	300	<20	700	2,200	3,000	5,000	3,000	2,693
Enterococcus	170	500	5,000	30	1,300	300	<20	700	2,200	2,400	5,000	3,000	1,717
pH	8.3	8.7	8.3	8.3	8.1	8.6	8.5	8.5	8.4	8.8	8.8	8.0	8.4
Temperature	60	64	52	50	58	60	66	68	70	70	70	68	63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SANTA MONICA MOUNTAINS
SAN GABRIEL MOUNTAINS
Santa Clara
Saugus
Newhall
Magic Mt
Mt Gleason
PACOIMA DAM
San Fernando
HANSEN DAM
BIG TUJUNGA DAM
CHATSWORTH RESERVOIR
SEPULVEDA DAM
Van Nuys
Burbank
Glendale
HOLLYWOOD
Beverly Hills
Santa Monica
Culver City
Malibu Lake
MALIBU DAM
Castro Peak
Saddle Pk
Calabasas Peak
Triunfo
Ventura
Los Angeles
5968
5959
6019
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5059A
4920B
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4897A
5036B
5076
5047D
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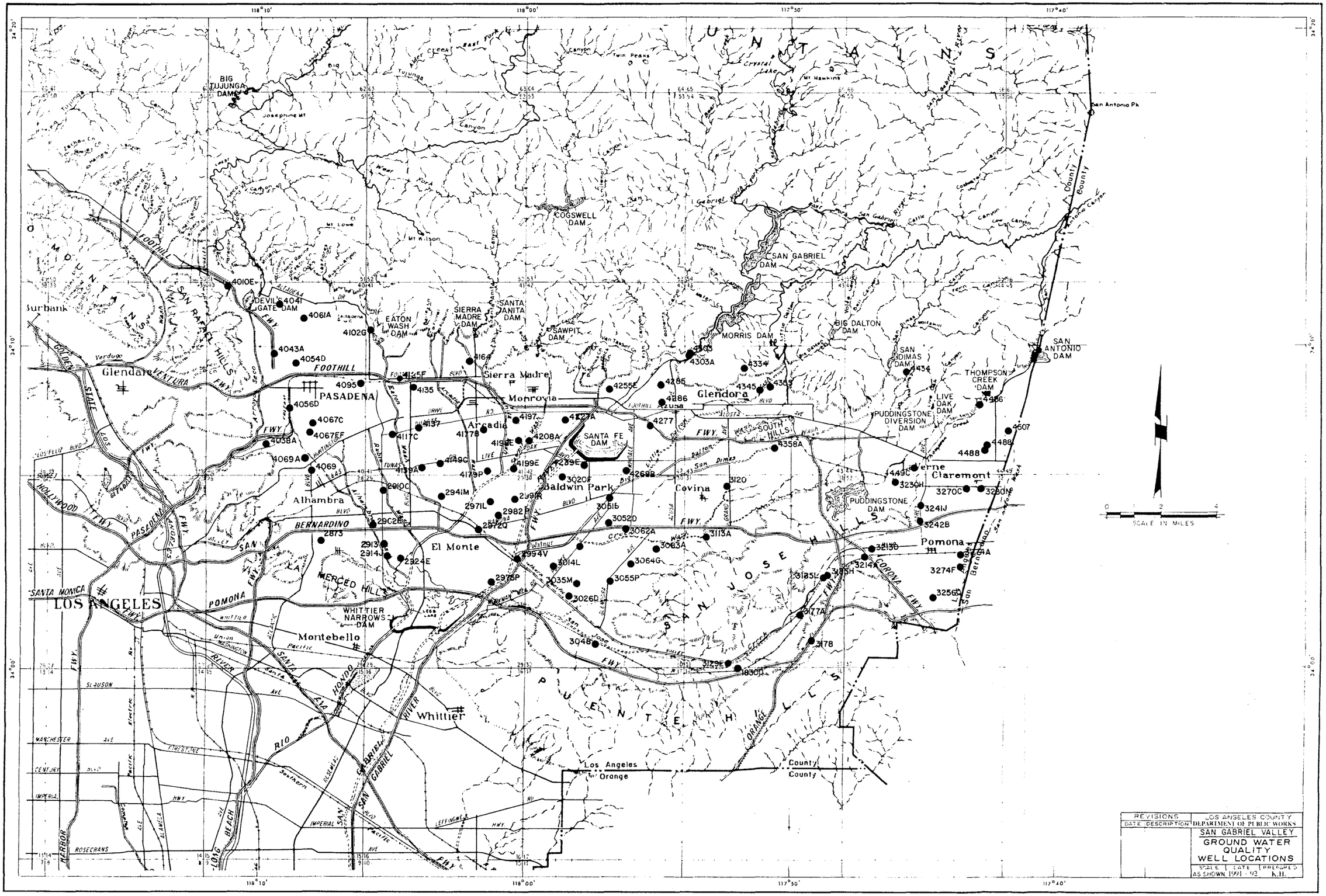
4656A
4649C
4757C
2330
2311
168
REVISIONS
DATE | DESCRIPTION
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
SAN FERNANDO VALLEY
GROUND WATER
QUALITY
WELL LOCATIONS
SCALE: AS SHOWN
DATE: 1991 - 92
PREPARED: K.H.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COGSWELL DAM
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MORRIS DAM
BIG DALTON DAM
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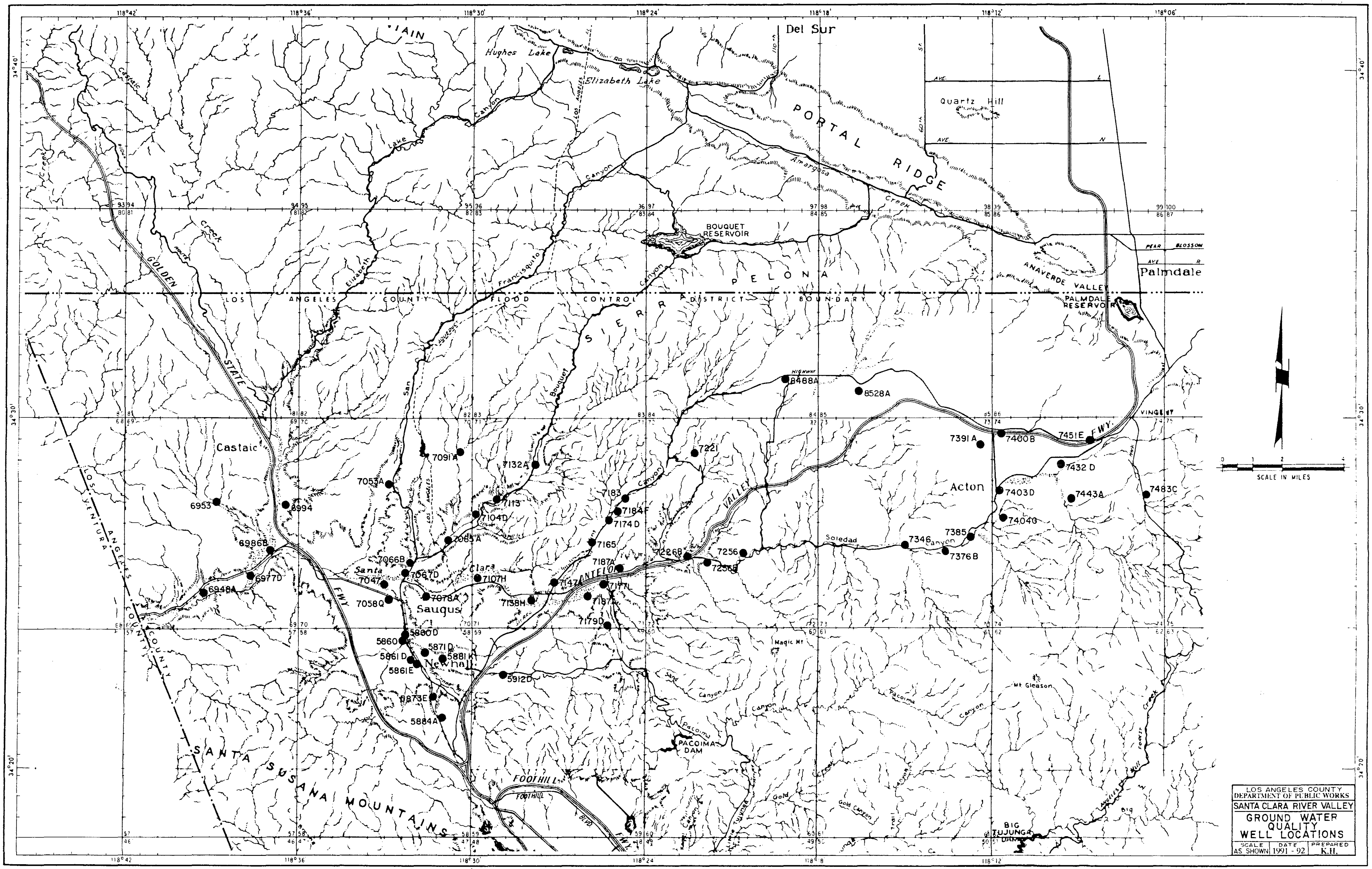
THOMPSON CREEK DAM
LIVE OAK DAM
PUDDINGSTONE DIVERSION DAM
PUDDINGSTONE DAM
EATON WASH DAM
SIERRA MADRE DAM
SANTA ANITA DAM
SAWPIT DAM
SANTA FE DAM
WHITTIER NARROWS DAM
SAN GABRIEL MOUNTAINS
SAN JOSE HILLS
PUENTE HILLS
SAN ANTONIO PK
Burbank
Glendale
PASADENA
Sierra Madre
Monrovia
Arcadia
Glendora
Azusa
Duarte
Irwindale
Baldwin Park
Covina
West Covina
Alhambra
El Monte
South El Monte
LOS ANGELES
Montebello
Whittier
La Verne
Claremont
Pomona
SANTA MONICA
Los Angeles County
Orange County
FOOTHILL FWY.
SAN BERNARDINO FWY.
POMONA FWY.
SAN GABRIEL RIVER FWY.
CORONA FWY.
HOLLYWOOD FWY.
GOLDEN STATE FWY.
SAN BERNARDINO
SCALE IN MILES
REVISIONS
DATE DESCRIPTION
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
SAN GABRIEL VALLEY
GROUND WATER
QUALITY
WELL LOCATIONS
SCALE AS SHOWN
DATE 1991 - 92
PREPARED K.H.

PF2

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
COASTAL PLAIN
GROUND WATER QUALITY
WELL LOCATIONS

SCALE	DATE	PREPARED
AS SHOWN	1991 92	K.H.

PF3


LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
SANTA CLARA RIVER VALLEY
GROUND WATER QUALITY WELL LOCATIONS
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DATE 1991 - 92
PREPARED K.H.
SCALE IN MILES
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118°06'
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34°30'
34°20'
Del Sur
Hughes Lake
Elizabeth Lake
Quartz Hill
PORTAL RIDGE
Amargosa Creek
BOUQUET RESERVOIR
PELONA
SIERRA
ANAVERDE VALLEY
Palmdale
PALMDALE RESERVOIR
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT BOUNDARY
GOLDEN STATE FWY
Castaic
Saugus
Newhall
Acton
Soledad Canyon
ANTELOPE VALLEY FWY.
VINCENT
Magic Mt
Mt Gleason
PACOIMA DAM
BIG TUJUNGA DAM
SANTA SUSANA MOUNTAINS
LOS ANGELES COUNTY
VENTURA COUNTY
FOOTHILL FWY.
FOOTHILL BLVD
Santa Clara
Pacoima Canyon
Sand Canyon
Gold Canyon
Bouquet Canyon
San Francisquito Canyon
Elizabeth Lake Canyon
Castaic Creek
Angeles Forest Hwy
6953
6994
6986B
6977D
6948A
7053A
7091A
7132A
7113
7104D
7085A
7066B
7067D
7047
7058Q
7078A
7107H
7138H
7147A
7165
7174D
7184F
7183
7187A
7177L
7179D
7221
7226B
7256
7256B
7346
7376B
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7391A
7400B
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7432D
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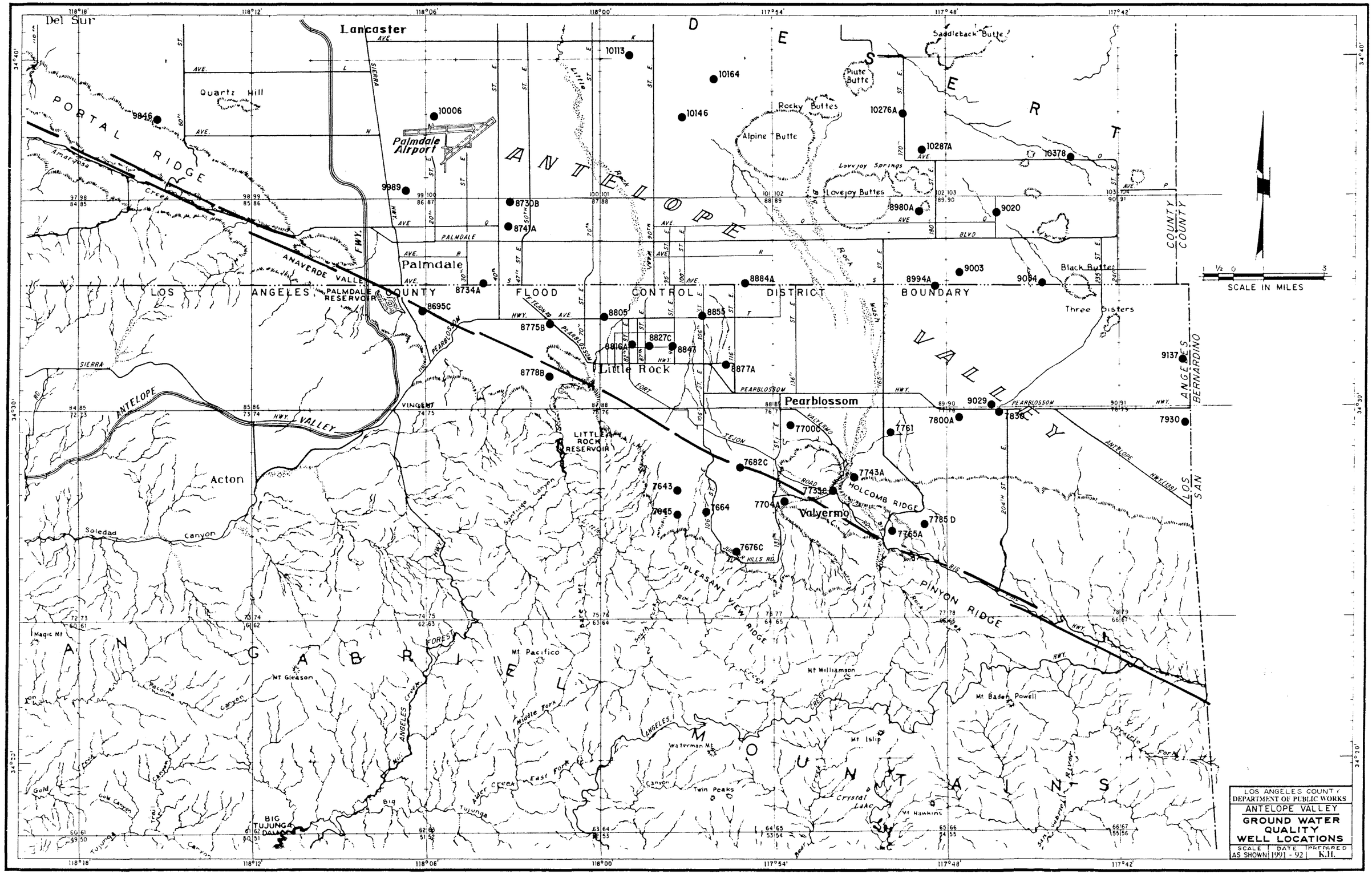
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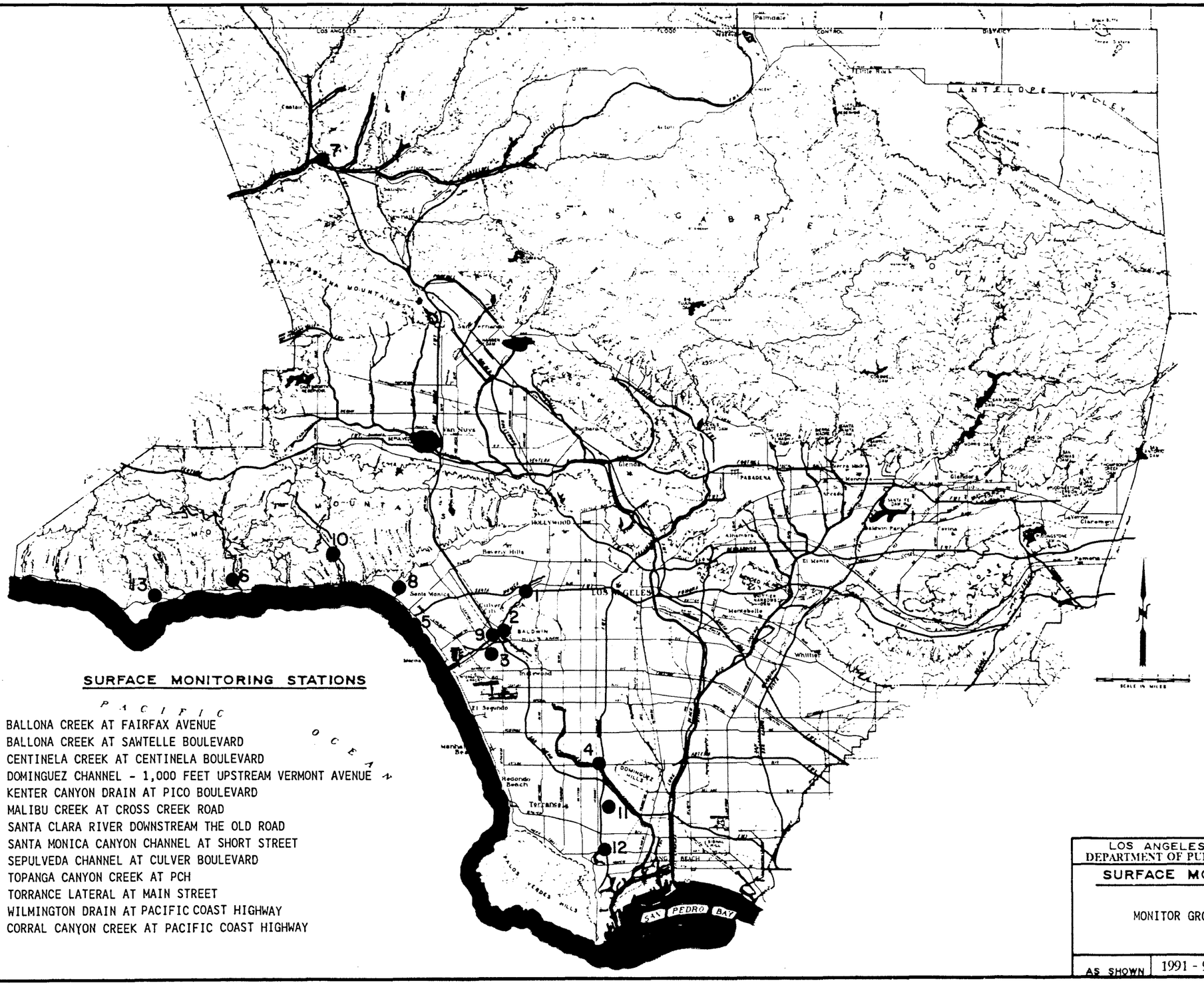
Lancaster
Quartz Hill
Palmdale Airport
Palmdale
PORTAL RIDGE
ANAVERDE VALLEY
ANTELOPE VALLEY
DESERT
Saddleback Butte
Piute Butte
Rocky Buttes
Alpine Butte
Lovejoy Springs
Lovejoy Buttes
Black Buttes
Three Sisters
Pearblossom
Little Rock
Acton
Soledad Canyon
Valyermo
HOLCOMB RIDGE
PLEASANT VIEW RIDGE
PINYON RIDGE
ANGELES NATIONAL FOREST
SAN GABRIEL MOUNTAINS
Mt Pacifico
Mt Gleason
Mt Williamson
Mt Baden Powell
Waterman Mt
Mt Islip
Twin Peaks
Crystal Lake
Mt Hawkins
Big Tujunga Dam
PALMDALE RESERVOIR
LITTLEROCK RESERVOIR
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT BOUNDARY
LOS ANGELES COUNTY / SAN BERNARDINO COUNTY
SCALE IN MILES
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
ANTELOPE VALLEY
GROUND WATER QUALITY WELL LOCATIONS
SCALE AS SHOWN | DATE 1991 - 92 | PREPARED K.H.

PF5



SURFACE MONITORING STATIONS

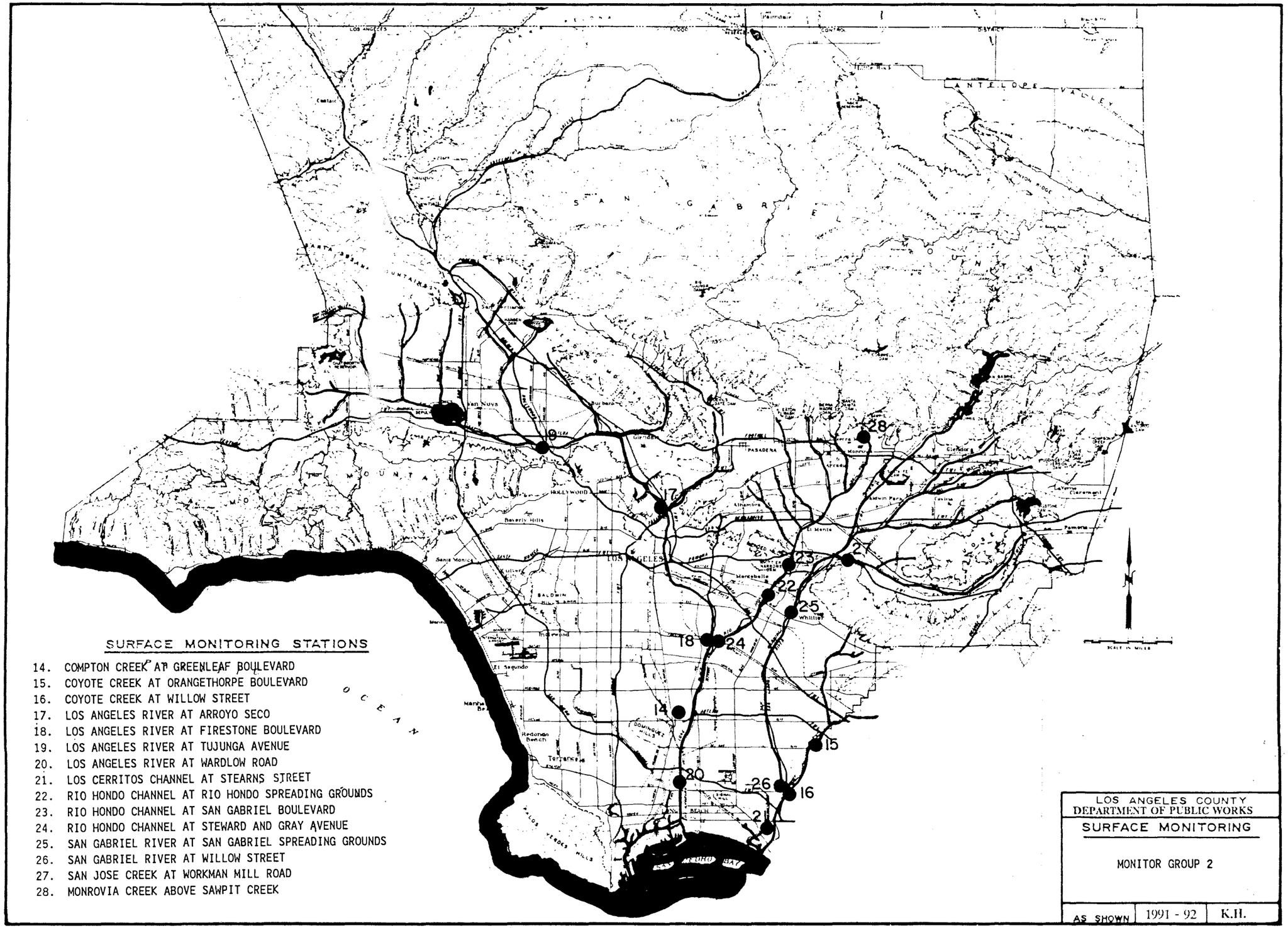
1. BALLONA CREEK AT FAIRFAX AVENUE
2. BALLONA CREEK AT SAWTELLE BOULEVARD
3. CENTINELA CREEK AT CENTINELA BOULEVARD
4. DOMINGUEZ CHANNEL - 1,000 FEET UPSTREAM VERMONT AVENUE
5. KENTER CANYON DRAIN AT PICO BOULEVARD
6. MALIBU CREEK AT CROSS CREEK ROAD
7. SANTA CLARA RIVER DOWNSTREAM THE OLD ROAD
8. SANTA MONICA CANYON CHANNEL AT SHORT STREET
9. SEPULVEDA CHANNEL AT CULVER BOULEVARD
10. TOPANGA CANYON CREEK AT PCH
11. TORRANCE LATERAL AT MAIN STREET
12. WILMINGTON DRAIN AT PACIFIC COAST HIGHWAY
13. CORRAL CANYON CREEK AT PACIFIC COAST HIGHWAY

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

SURFACE MONITORING

MONITOR GROUP 1

AS SHOWN	1991 - 92	K.H.



SURFACE MONITORING STATIONS

14. COMPTON CREEK AT GREENLEAF BOULEVARD
15. COYOTE CREEK AT ORANGETHORPE BOULEVARD
16. COYOTE CREEK AT WILLOW STREET
17. LOS ANGELES RIVER AT ARROYO SECO
18. LOS ANGELES RIVER AT FIRESTONE BOULEVARD
19. LOS ANGELES RIVER AT TUJUNGA AVENUE
20. LOS ANGELES RIVER AT WARDLOW ROAD
21. LOS CERRITOS CHANNEL AT STEARNS STREET
22. RIO HONDO CHANNEL AT RIO HONDO SPREADING GROUNDS
23. RIO HONDO CHANNEL AT SAN GABRIEL BOULEVARD
24. RIO HONDO CHANNEL AT STEWARD AND GRAY AVENUE
25. SAN GABRIEL RIVER AT SAN GABRIEL SPREADING GROUNDS
26. SAN GABRIEL RIVER AT WILLOW STREET
27. SAN JOSE CREEK AT WORKMAN MILL ROAD
28. MONROVIA CREEK ABOVE SAWPIT CREEK

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS

SURFACE MONITORING

MONITOR GROUP 2

AS SHOWN	1991 - 92	K.H.

WATER CONSERVATION

WATER CONSERVATION

Information presented in this section includes amounts of local, imported, and reclaimed water conserved in spreading areas and information on the seawater barrier projects which prevent saltwater intrusion to groundwater zones in the coastal areas. Pertinent data is presented regarding the locations and descriptions of Department water conservation facilities, a well as facilities owned by others. Also included are groundwater maps delineating static groundwater elevations recorded during the report period and hydrographs of selected key wells.

CONSERVING THE WATERS

In addition to the flood control program, the Department has the equally important task of conserving as much of the storm and other waters as practicable. The use of water conservation facilities adjacent to river channels, and in soft-bottom channels permits water to percolate into groundwater basins for later pumping. These water spreading facilities are located in areas where the underlying soils are composed of permeable formations.

The various types of water conserved, local, imported, and reclaimed, are construed to have the following meanings in this section: Local water is primarily runoff due to rainfall on the mountain and valley watersheds, dam releases, and rising water within the County. Imported water is water originating outside the County either from Northern California or from the Colorado River. Reclaimed water is the effluent produced by the Whittier Narrows Water Reclamation Plant, the San Jose Creek Water Reclamation Plant, and the Pomona Reclamation Plant, all operated by the Los Angeles County Sanitation District.

The importance of this activity is apparent when it is realized that about 30 to 40 percent of the water used in the County is pumped from ground supplies. The growth of the County, combined with periodic droughts, has seriously depleted these supplies on numerous occasions.

The Department's policy is to conserve the maximum amount of storm water possible consistent with considering runoff quantity and quality, capacities of the spreading facilities, and groundwater conditions.

IMPORTED WATER

During this report period, imported Colorado River and State Project water for spreading was received from the Metropolitan Water District (MWD). Imported water for groundwater recharge in the Coastal Plain was spread at the Department's facilities in the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds on behalf of the Water Replenishment District of Southern California. Imported water for groundwater recharge in the San Gabriel Valley was spread in Santa Fe Spreading Grounds, in the San Gabriel River, in Irwindale Spreading Basin/Manning Pit, and in Forbes Spreading Grounds on behalf of MWD, the Main San Gabriel Basin Watermaster, Three Valleys Municipal Water District, and the San Gabriel Valley Municipal Water District.

RECLAIMED WATER

The County Sanitation District's Whittier Narrows Water Reclamation Plant effluent, purchased by the Water Replenishment District of Southern California, was transported to the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds for groundwater replenishment.

The County Sanitation District's San Jose Creek Water Reclamation Plant, activated in May 1972, made its first delivery of effluent in November 1972. The portion of the effluent that is spread is also purchased by the Water Replenishment District of Southern California.

Water from the Pomona Reclamation Plant is released down the San Jose Creek - San Gabriel River System to the Department's recharge facilities in the Rio Hondo and San Gabriel Coastal Basin spreading grounds.

The maximum amount of reclaimed water allowed for spreading in the Montebello Forebay, effective July 1991, is 60,000 acre-feet per year, but not to exceed 150,000 acre-feet over a three year period.

SEAWATER BARRIER PROJECTS

The Department operates three barrier projects to protect the groundwater in the West Coast and Central Basins against seawater intrusion by creating freshwater pressure ridges along the coastline. The pressure ridges are created by injecting fresh water through a series of injection wells. During the report period, 22,180 acre-feet of water was injected at the West Coast Basin Barrier Project, 6,893 acre-feet at the Dominguez Gap Barrier Project, and 4,172 acre-feet at the Los Angeles part of the Alamitos Barrier Project. On behalf of the Orange County Water District, 1,553 acre-feet of water was injected at the Orange County portion of the Alamitos Barrier Project.

The following seawater barrier improvements were completed during the 1991-92 water year:

1. Alamitos Barrier Project:

   No construction activity occurred during this period.

2. Dominguez Gap Barrier Project

   Construction began on ten multizone observation wells. The geohydrologic information gathered from this drilling contract will be used for determination of the required remedial improvements for mitigating intrusion around the North-South leg of the barrier.

3. West Coast Basin Barrier Project

During this period the construction of three injection wells and two observation wells was completed. In addition, construction commenced for three injection wells and two observation wells.

These wells were constructed as part of the Department's consultant study recommendations to mitigate barrier deficiencies in the Silverado and Lower San Pedro aquifers.

SEASONAL DATA AND MAPS

During this report period, weekly, monthly, and semi-annual measurements of groundwater levels in observation wells located throughout the groundwater basins in Los Angeles County were made and processed.

Hydrographs of selected key wells are included in this report.

GROUNDWATER BASINS AND GROUNDWATER RECHARGE

Groundwater in Los Angeles County is stored in basins underlying five major geographic areas. These groundwater basins are separated by geologic features which impede groundwater movement or sometimes by arbitrary political boundaries. The following is a background summary of the Department's groundwater recharge activities within each of these areas:

The Department operates 2,436 acres of spreading grounds and soft-bottom channel spreading areas for replenishment of local groundwater supplies. The Department also assisted in the operation and maintenance of 269 acres of spreading grounds owned by others. An additional 656 acres of spreading grounds are controlled, maintained, and operated by other agencies. The total gross acreage of spreading grounds in the county is 3,361 acres. During the report period, above normal rainfall allowed the Department to conserve approximately 389,270 acre-feet of storm runoff.

The conservation of local runoff is supplemented by spreading imported water and reclaimed water purchased by water agencies. During the period, 102,505 acre-feet of imported water and 46,900 acre-feet of reclaimed water were spread.

The Department is continuing its efforts to improve its water spreading facilities in order to maximize the amounts of water conserved and to simplify the spreading operations.

SAN GABRIEL VALLEY

The Department operates 20 spreading grounds in the San Gabriel Valley that receive direct valley runoff and flows from the San Gabriel Mountains. Some of these spreading grounds can also receive imported water. During the report period, the Department added

approximately 214,275 acre-feet of local water and 59,100 acre-feet of imported water to the groundwater stored in the basins underlying the San Gabriel Valley and diverted 4,933 acre-feet of local water to grounds owned by others.

Main San Gabriel Basin

This is the largest basin underlying the San Gabriel Valley with an estimated storage capacity of 9.5 million acre-feet. It reacts quickly to artificial spreading in Santa Fe Reservoir Spreading Grounds and to infiltration in the San Gabriel River Downstream of Santa Fe Dam.

During the report period, the Department replenished the Main San Gabriel Basin with 178,533 acre-feet of local water and 53,573 acre-feet of imported water. Well 3030F in Baldwin Park recorded a high groundwater elevation for the report period of 238.7 ft on July 29, 1992.

Upper San Gabriel Canyon Basin

Approximately 25,718 acre-feet of local water and approximately 4,727 acre-feet of imported water were recharged by the Department through its San Gabriel Canyon Spreading Grounds and by percolation in the adjacent San Gabriel River. Also, 2,617 acre-feet of local water was routed to Fish Canyon Spreading Grounds which is operated by the Committee of Nine.

Lower San Gabriel Canyon Basin

The basin is located south of the Upper San Gabriel Canyon Basin and is separated from it by the underground Lohmon Dike. Groundwater cascades over the Lohmon Dike from the Upper San Gabriel Canyon Basin and recharges the Lower San Gabriel Canyon Basin. The Department spread 1,217 acre-feet of local water in Sawpit Spreading Grounds which is within the Lower Canyon Basin.

Wayhill Basin

The Department spread 175 acre-feet of local water and 800 acre-feet of imported water at Forbes spreading facility in the Wayhill Basin.

Foothill Basin

The Department spread 2,375 acre-feet of local water at its San Dimas Canyon Spreading Grounds facility in the Foothill Basin.

Glendora Basin

The Department spread 977 acre-feet of local water in its Big and Little Dalton facilities within the Glendora Basin.

Claremont Heights Basin

The Department has no spreading facilities in the Claremont Heights Basin.

Live Oak Basin

The Department has no spreading facilities in the Live Oak Basin.

Chino Basin

The basin is located in the most eastern part of the County. No Department recharge facilities are located within the Chino Basin.

San Dimas Basin

The basin is north of the San Jose Hills, east of the Main Basin, and south of the Wayhill Basin. The Department spread 13 acre-feet of local water in its Live Oak Spreading Grounds to recharge the basin.

Pomona Basin

The basin is located south of Claremont, Live Oak, and San Dimas Basins, and north of the Chino Basin and northeast of the San Jose Hills. The Department has no water spreading facilities within this basin.

Puente and Spadra Basins

No spreading occurs in this area.

Raymond Basin

The basin covering approximately 40 square miles is located in the northwest corner of the San Gabriel Valley and is separated from the Main San Gabriel Basin by the Raymond Fault. The Raymond Basin contains the Monk Hill Basin and the Pasadena and Santa Anita Subareas. The Department recharged 5,266 acre-feet of local water by its spreading facilities in the Raymond Basin and diverted 2,315 acre-feet to the City of Sierra Madre's spreading facility during the report period.

COASTAL PLAIN

The groundwater basins underlying the Coastal Plain are divided by geological features into the Central (includes the Montebello and Los Angeles Forebays), West Coast, Santa Monica, and Hollywood Basins. During the period of October 1, 1991 to September 30, 1992, the Department recharged 136,608 acre-feet of local water, 42,900 acre-feet of imported water, and 46,900 acre-feet of reclaimed water to the groundwater basins underlying the Coastal Plain. Most of the water was spread in the Montebello Forebay.

Central Basin

The Central Basin has the most storage capacity of the basins in the Coastal Plain. In addition to the water recharged in the Department's spreading facilities, water injected in the Alamitos Barrier Project also contributes to the replenishment of the pressure aquifers underlying the Central Basin.

West Coast Basin

The West Coast Basin is the second largest basin underlying the Coastal Plain and is separated from the Central Basin by the Newport-Inglewood Fault zone. Groundwater is primarily recharged by Central Basin subsurface flows and by water injected by the Department in the West Coast Basin and Dominguez Gap Barrier Projects. Groundwater elevations in the West Coast Basin are below sea level except in the area of the West Coast Basin Barrier injection mound.

James M. Montgomery Consulting Engineers and Camp, Dresser and McKee, Inc., completed the West Coast Basin Saline Water Plume Mitigation Study and their final report has been accepted.

The Department spread 46 acre-feet of water in the Dominguez Spreading Grounds.

Santa Monica and Hollywood Basins

The Department has no spreading facilities in either the Santa Monica or Hollywood groundwater basins.

SAN FERNANDO VALLEY

The San Fernando Valley is also called the Upper Los Angeles River Area (ULARA). Most of the runoff from the surrounding mountains flows to the Valley.

San Fernando Main Basin

The basin is the largest basin underlying the San Fernando Valley. During the report period, 38,386 acre-feet of local water and 505 acre-feet of imported water were spread by the Department. The County entered into an agreement with the City of Los Angeles to spread water at the newly renovated Tujunga Wash Spreading Grounds which is located approximately two miles downstream of Hansen Spreading Grounds. The City installed a rubber dam diversion and appurtenant facilities for County Spreading operations which started in March 1990.

Sylmar Basin

A much smaller basin underlying the San Fernando Valley is the Sylmar Basin; the Department has no spreading facility within this basin.

Verdugo and Eagle Rock Basins

The small Verdugo and Eagle Rock Basins comprise the remaining basins underlying the San Fernando Valley. The Department has no spreading facilities within either basin.

SANTA CLARITA VALLEY

The Department has no spreading facilities in the area. Most of the Valley is farmland, permitting substantial natural percolation.

The Upper Santa Clarita subunit comprises five basins.

ANTELOPE VALLEY

There are several groundwater subbasins underlying the Antelope Valley. Five of them are located within Los Angeles County.

The Department operates no spreading facilities in the Antelope Valley.

The hydrographs for well Nos. 9974 and 8825 are shown on page G25. They are located in the Lancaster and Little Rock subbasins respectively.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
HYDRAULIC/WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
OWNED AND OPERATED BY THE DEPARTMENT
UPDATED THROUGH SEPTEMBER 1992

SPREADING FACILITY	TYPE	SEASON FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	WETTED	CHANNEL** (CFS)	INTAKE (CFS)	STORAGE (A.F.)	PERCOLATION* (CFS)			
ARROYO SECO	SHALLOW BASINS	1948-49	24	15.1	-	75	30	18	EASTERLY SIDE OF ARROYO SECO, 0.5 MILES ABOVE DEVIL'S GATE DAM.	CONTROLLED FLOW FROM CITY OF PASADENA. UNCONTROLLED FROM ARROYO SECO AND THE ALTADENA STORM DRAIN.	SPREADING GROUNDS ARE HELD UNDER EASEMENT FROM THE CITY OF PASADENA.
BEN LOMOND	SHALLOW BASINS	1958-59	24	17.0	-	25	25	18	BOTH NORTH AND SOUTH SIDES OF SAN DIMAS WASH CHANNEL AT SOUTHWESTERLY CORNER OF INTERSECTION OF ARROW HIGHWAY AND BARRANCA AVENUE.	COVINA IRRIGATING COMPANY.	SPREADING GROUNDS UTILIZED TO CONSERVE EXCESS COVINA IRRIGATION COMPANY WATER RELEASED FROM THE COMMITTEE OF NINE.
BIG DALTON	SHALLOW BASINS	1930-31	24	7.7	-	45	12	15	WESTERLY SIDE OF BIG DALTON WASH, ONE HALF MILE ABOVE SIERRA MADRE AVENUE.	CONTROLLED FLOWS FROM BIG DALTON DAM AND BIG DALTON DEBRIS BASIN.	
BRANFORD	DEEP BASIN	1956-57	12	7	1,540	1,540	137	1	SOUTHWESTERLY OF ARLETA AVENUE ABOVE CONFLUENCE OF TUJUNGA WASH AND PACOIMA DIVERSION CHANNEL.	UNCONTROLLED FLOWS FROM BRANFORD STREET DRAIN.	INSTREAM SPREADING FACILITY. OUTLET CAPACITY 1,540 CFS TO PACOIMA DIVERSION CHANNEL.
BUENA VISTA	DEEP BASIN	1954-55	10	6	2,900	2,900	177	6	1.0 MILE EASTERLY OF SAWPIT WASH. 0.5 MILE NORTHERLY OF ARROW HIGHWAY, BETWEEN MERIDIAN STREET AND BUENA VISTA CHANNEL.	CONTROLLED FLOW FROM SANTA FE DAM AND UNCONTROLLED FLOW FROM BUENA VISTA CHANNEL.	INSTREAM SPREADING FACILITY. AN ADDITIONAL OUTLET CONSTRUCTED TO PROVIDE TOTAL OUTLET CAPACITY OF 270 CFS.
CITRUS	MEDIUM DEPTH BASINS	1960-61	19	14.6	-	200	80	28	SOUTH SIDE OF BIG DALTON WASH BETWEEN CITRUS AND CERRITOS AVENUES.	CONTROLLED FLOWS FROM BIG DALTON DAM AND LITTLE DALTON DEBRIS DAMS. UNCONTROLLED FLOWS FROM BIG DALTON WASH.	THERE ARE 2 INTAKES, ONE IS A DROP INLET, THE OTHER AN AIR INFLATED RUBBER DAM.
DOMINGUEZ GAP	DEEP BASINS	1957-58	54	23.8	-	20	234	1	SOUTH OF DEL AMO BOULEVARD AND BORDERS THE EASTERN AND WESTERN SIDES OF THE LOS ANGELES RIVER	CONTROLLED FLOW FROM LOS ANGELES RIVER LOW FLOW CHANNEL AND UNCONTROLLED FLOWS FROM STORM DRAINS.	EAST SIDE BASIN USED FOR FLOOD REGULATION WITH SOME CONSERVATION STORAGE. INTAKE CAPACITY IS 20 CFS FOR LOW FLOW DIVERSION FROM THE LOS ANGELES RIVER. THE WEST SIDE BASIN IS FED BY A 24-INCH CONCRETE PIPE FROM THE EAST SIDE BASIN.
EATON BASIN	DEEP BASIN	1956-57	16	10.5	9,600	400	284	10	EAST SIDE OF EATON WASH, NORTH OF DUARTE ROAD, 0.6 MILES SOUTH OF HUNTINGTON DRIVE.	CONTROLLED FLOW FROM EATON WASH DAM AND UNCONTROLLED FLOWS BETWEEN DAM AND SPREADING BASIN.	

* THE CAPACITIES LISTED ARE ESTIMATES OF INFILTRATION RATES WHICH MAY BE EXPECTED TO OCCUR DURING OPERATIONS FOR UP TO FIVE DAYS. NUMBERS DO NOT REFLECT LONG TERM SPREADING OPERATIONS.

** DESIGN CAPACITY OF MAIN CONCRETE CHANNEL

*** INCLUDES RUBBER DAMS STORAGE

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
HYDRAULIC/WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
OWNED AND OPERATED BY THE DEPARTMENT
UPDATED THROUGH SEPTEMBER 1992

SPREADING FACILITY	TYPE	SEASON FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	WETTED	CHANNEL** (CFS)	INTAKE (CFS)	STORAGE (A.F.)	PERCOLATION* (CFS)			
EATON WASH	DEEP & SHALLOW BASINS	1947-48	28	25.4	6,600	200	525	17	EASTERLY SIDE OF EATON WASH FROM BELOW EATON DAM TO FOOTHILL BOULEVARD.	CONTROLLED FLOW FROM EATON WASH DAM.	GROUND MODIFICATIONS COMPLETED IN DECEMBER 1991.
FORBES	MEDIUM DEPTH BASINS	1964-65	21	10	-	100	87	5	SOUTH SIDE OF SAN DIMAS WASH BETWEEN LONE HILL AVENUE AND VALLEY CENTER AVENUE.	CONTROLLED RELEASES FROM PUDDINGSTONE DIVERSION DAM, AND UNCONTROLLED FLOWS FROM SAN DIMAS WASH; ALSO IMPORTED FROM SGVMWD AND CB48.	RECONSTRUCTION OF BASINS, FROM SHALLOW TO MEDIUM DEPTHS, WAS COMPLETED IN APRIL 1989.
HANSEN	SHALLOW BASINS	1944-45	156	105.3	22,000	400	279	250	NORTHWESTERLY SIDE OF TUJUNGA WASH FROM ABOVE GLENOAKS BOULEVARD SOUTHWESTERLY TO SAN FERNANDO ROAD.	CONTROLLED FLOWS FROM HANSEN DAM AND BIG TUJUNGA DAM.	
IRWINDALE/MANNING PIT	DEEP BASINS	1958-59	62	30	20,000	400	1133	60	NORTHEASTERLY OF INTERSECTION OF BIG DALTON CHANNEL AND IRWINDALE AVENUE; CONTINUES 1,300 FEET EAST OF IRWINDALE AVENUE	BIG DALTON CHANNEL CONTROLLED FLOWS FROM BIG AND LITTLE DALTON DEBRIS DAMS AND PUDDINGSTONE DIVERSION DAM; UNCONTROLLED FLOWS; ALSO IMPORTED WATER FROM CB48 AND SGVMWD.	MANNING PIT INTAKE COMPLETED MARCH 1991.
LITTLE DALTON	SHALLOW BASINS	1931-32	14	4.7	-	20	5	15	WESTERLY OF GLENDORA MT. ROAD, FROM LITTLE DALTON DEBRIS BASIN SOUTH TO EAST PALM DRIVE.	CONTROLLED FLOW FROM LITTLE DALTON DEBRIS BASIN.	
LIVE OAK	SHALLOW BASINS	1961-62	5	1.2	-	15	2	13	WESTERLY SIDE OF LIVE OAK WASH. NORTH OF BASE LINE ROAD (PROJECTED).	CONTROLLED FLOW FROM LIVE OAK DAM AND LIVE OAK DEBRIS BASIN.	
LOPEZ	SHALLOW BASINS	1956-57	18	11.9	-	25	23.6	15	SOUTHEASTERLY SIDE OF PACOIMA WASH, NORTHEASTERLY OF FOOTHILL BOULEVARD.	CONTROLLED FLOW FROM PACOIMA DAM AND LOPEZ FLOOD CONTROL BASIN.	
PACOIMA	MEDIUM DEPTH BASINS	1932-33	169	107.3	17,000	600	440	65	BOTH SIDES OF OLD PACOIMA WASH CHANNEL FROM ARLETA AVENUE SOUTHWESTERLY TO WOODMAN AVENUE.	CONTROLLED FLOW FROM PACOIMA DAM. PARTIALLY CONTROLLED FLOW FROM LOPEZ FLOOD CONTROL BASIN, UNCONTROLLED FLOW FROM EAST CANYON AND PACOIMA WASH. IMPORTED WATER FROM OWENS VALLEY DELIVERED BY CITY OF LOS ANGELES.	

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LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
HYDRAULIC/WATER CONSERVATION DIVISION

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UPDATED THROUGH SEPTEMBER 1992

SPREADING FACILITY	TYPE	SEASON FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	WETTED	CHANNEL** (CFS)	INTAKE (CFS)	STORAGE (A.F.)	PERCOLATION* (CFS)			
PECK ROAD	DEEP BASIN	1959-60	157	85	30,100	30,100	3,347	25	CONFLUENCE OF SAWPIT AND SANTA ANITA WASHES.	CONTROLLED RELEASES FROM SANTA ANITA AND SAWPIT DEBRIS BASINS AND UNCONTROLLED FLOWS FROM LOCAL RUNOFF VIA SAWPIT AND SANTA ANITA WASHES.	INSTREAM SPREADING FACILITY.
RIO HONDO COASTAL	MEDIUM DEPTH BASINS	1937-38	570	430.1	40,000	1,950	3,694	400	EASTERLY SIDE OF RIO HONDO SOUTHERLY FROM S.P.R.R. (SOUTH OF WHITTIER BLVD.) TO SLAUSON AVENUE; WEST SIDE OF RIO HONDO CHANNEL FROM 0.2 MILE ABOVE WHITTIER BOULEVARD SOUTH TO FOSTER BRIDGE BOULEVARD.	CONTROLLED RELEASES FORM SAN GABRIEL CANYON DAMS, SANTA FE AND WHITTIER NARROWS DAMS. UNCONTROLLED RUNOFF VIA SAN GABRIEL RIVER, RIO HONDO CHANNEL AND THEIR TRIBUTARIES; ALSO IMPORTED AND RECLAIMED WATER.	IN COOPERATION WITH THE CORPS OF ENGINEERS. THE DISTRICT OPERATES 2,500 ACRE-FOOT POOL AT WHITTIER NARROWS DAM FOR RETENTION OF STORM WATER.
SAN DIMAS CANYON	SHALLOW BASINS	1965-66	22	10.8	-	25	22	12	SOUTHEAST SIDE OF SAN DIMAS WASH BETWEEN PUDDINGSTONE DIVERSION AND SAN DIMAS CANYON ROAD.	CONTROLLED RELEASES FROM PUDDINGSTONE DIVERSION DAM; UNCONTROLLED FLOW FROM LOCAL STORM RUNOFF.	
SAN GABRIEL CANYON	DEEP BASINS	1917	165	-	-	40	-	35	EASTERLY SIDE OF SAN GABRIEL RIVER. BELOW MOUTH OF SAN GABRIEL CANYON. NORTH OF THE CITY OF AZUSA.	SAN GABRIEL RIVER CONTROLLED RELEASES FROM COGSWELL DAM, SAN GABRIEL DAM, AND MORRIS DAM. COMMITTEE OF NINE SURPLUS FLOWS.	
SAN GABRIEL COASTAL	MEDIUM DEPTH BASINS	1938-39	128	95.9	-	350	575	75	WESTERLY SIDE OF SAN GABRIEL RIVER, SOUTHERLY FROM WHITTIER BOULEVARD TO WASHINGTON BOULEVARD.	CONTROLLED RELEASES FROM SAN GABRIEL CANYON DAMS, SANTA FE AND WHITTIER NARROWS DAMS. ALSO IMPORTED AND RECLAIMED WATER.	IN COOPERATION WITH THE CORPS OF ENGINEERS. THE DISTRICT OPERATES 2,500 ACRE-FOOT POOL AT WHITTIER NARROWS DAM FOR RETENTION OF STORM WATERS.
SAN GABRIEL RIVER (MONTEBELLO FOREBAY)	MEDIUM DEPTH BASINS	1954-55	156	156	20,000	550	1,462***	100	SAN GABRIEL RIVER FROM WHITTIER NARROWS DAM TO FLORENCE AVE. STORAGE BEHIND THE RUBBER DAMS.	SAME AS UPPER PORTION. ALSO RECLAIMED WATER.	FIVE RUBBER DAMS INSTALLED ON DROP STRUCTURES. WHEN INFLATED, CONVERTS RIVER BED TO SPREADING AREAS.
SAN GABRIEL RIVER (SAN GABRIEL VALLEY)	TEMPORARY CHECK LEVEES	1965-66	196	196	-	-	-	180	SAN GABRIEL RIVER FROM SANTA FE DAM TO WHITTIER NARROWS DAM.	CONTROLLED FLOW FROM DAMS IN SAN GABRIEL CANYON, SANTA FE DAM AND UNCONTROLLED VALLEY RUNOFF BELOW SANTA FE DAM; ALSO IMPORTED WATER.	CHECK LEVEES DEVELOPED IN RIVER TO SPREAD WATER.

* THE CAPACITIES LISTED ARE ESTIMATES OF INFILTRATION RATES WHICH MAY BE EXPECTED TO OCCUR DURING OPERATIONS FOR UP TO FIVE DAYS. NUMBERS DO NOT REFLECT LONG TERM SPREADING OPERATIONS.

** DESIGN CAPACITY OF MAIN CONCRETE CHANNEL

*** INCLUDES RUBBER DAMS STORAGE

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
HYDRAULIC/WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
OWNED AND OPERATED BY THE DEPARTMENT
UPDATED THROUGH SEPTEMBER 1992

SPREADING FACILITY	TYPE	SEASON FIRST USED	AREA IN ACRES		CAPACITIES				LOCATION	SOURCE OF WATER	REMARKS
			GROSS	WETTED	CHANNEL** (CFS)	INTAKE (CFS)	STORAGE (A.F.)	PERCOLATION* (CFS)			
SANTA ANITA	SHALLOW BASINS	1944-45	20	8.5	-	20	25	5	WESTERLY SIDE OF SANTA ANITA WASH 1.25 MILES ABOVE FOOTHILL BOULEVARD.	CONTROLLED FLOW FROM SANTA ANITA DAM AND SANTA ANITA DEBRIS BASIN.	THE HEADWORKS LOCATED UPSTREAM OF THE DEBRIS BASIN DIVERTS WATER TO SANTA ANITA SPREADING GROUNDS AND CITY OF SIERRA MADRE SPREADING GROUNDS.
SANTA FE	SHALLOW AND MEDIUM DEPTH BASINS	1953-54	338	168	-	400	606	400	WITHIN SANTA FE DAM RESERVOIR AND SPILLWAY AREAS.	CONTROLLED FLOWS FROM SAN GABRIEL CANYON RESERVOIRS. UNCONTROLLED FLOWS FROM SAN GABRIEL RIVER BELOW MORRIS RESERVOIR; ALSO IMPORTED WATER FROM SGVMWD AND USG-3.	RIGHT OF WAY, HELD UNDER LICENSE FROM THE FEDERAL GOVERNMENT INCLUDES 30 ACRES IN SAN GABRIEL RIVER BED FOR EARTH DIVERSION LEVEE.
SAWPIT	SHALLOW BASINS	1946-47	12	3.8	-	30	13	12	WESTERLY SIDE OF SAWPIT WASH BELOW MOUTH OF CANYON NEAR NORUMBEGA DRIVE, MONROVIA.	CONTROLLED FLOWS FROM SAWPIT DAM AND SAWPIT DEBRIS BASIN.	
WALNUT	DEEP BASIN	1962-63	16	8.4	8,000	50	174	5	WEST SIDE OF WALNUT WASH, NORTH OF SAN BERNARDINO FREEWAY.	CONTROLLED FLOW FROM PUDDINGSTONE DAM AND UNCONTROLLED FLOWS FROM WALNUT WASH CHANNEL.	
TOTAL:			**2,436**	**1,576**	**-**	**-**	**13,360**	**1,756**			

* THE CAPACITIES LISTED ARE ESTIMATES OF INFILTRATION RATES WHICH MAY BE EXPECTED TO OCCUR DURING OPERATIONS FOR UP TO FIVE DAYS. NUMBERS DO NOT REFLECT LONG TERM SPREADING OPERATIONS.

** DESIGN CAPACITY OF MAIN CONCRETE CHANNEL

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LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
HYDRAULIC/WATER CONSERVATION DIVISION

SUMMARY OF DATA ON SPREADING FACILITIES
NOT OWNED BY THE DEPARTMENT
UPDATED THROUGH SEPTEMBER 1992

GROUNDS	TYPE	SEASON FIRST USED	AREA IN ACRES GROSS	AREA IN ACRES WETTED	CAPACITIES CHANNEL** (CFS)	CAPACITIES INTAKE (CFS)	CAPACITIES STORAGE (A.F.)	CAPACITIES PERCOLATION* (CFS)	LOCATION	SOURCE OF WATER	REMARKS
SIERRA MADRE**** (CITY OF SIERRA MADRE)	SHALLOW BASINS	ABOUT 1933	22	9	-	25	47	15	CITY OF SIERRA MADRE, SOUTH SIDE OF GRANDVIEW AVENUE, ONE HALF MILE WEST OF SANTA ANITA AVENUE.	LITTLE SANTA ANITA CREEK AND STREET RUNOFF ALSO CONTROLLED FLOWS FROM SANTA ANITA DAM.	
FISH CANYON (COMMITTEE OF NINE)	SHALLOW BASINS	ABOUT 1917	6	4	-	-	-	7	WESTERLY SIDE OF SAN GABRIEL RIVER BELOW MOUTH OF FISH CANYON AND NORTH OF THE CITY OF AZUSA.	THE 'COMMITTEE OF NINE'.	OWNED AND OPERATED BY CAL-AMERICAN WATER COMPANY.
THOMPSON CREEK **** POMONA VALLEY PROTECTIVE ASSOCIATION	DITCHES CHECKS AND DEEP BASIN	ABOUT 1928	53	37	-	35	-	15	SOUTHERLY FROM, AND ADJACENT TO THOMPSON CREEK DAM, EAST SIDE OF CREEK. ELEVATION 1,625.	COBAL, WILLIAMS, PALMER, AND PADUA CREEKS, ALSO THOMPSON CREEK, WHEN RESERVOIR ABOVE	OPERATED BY POMONA VALLEY PROTECTIVE ASSOCIATION.
TUJUNGA (L.A. CITY DEPT. OF WATER AND POWER) ***	SHALLOW BASINS	1931-32	188	83.2	22,000	400	-	390	SAN FERNANDO VALLEY, EAST SIDE OF TUJUNGA WASH AT ROSCOE BOULEVARD.	LOS ANGELES CITY'S OWENS VALLEY AQUEDUCT AND CONTROLLED RELEASES FROM HANSEN DAM.	PRIOR TO 1938 FLOOD, USED 80 ACRES NET. TUJUNGA CHANNEL ON WESTERLY SIDE OF GROUNDS PAVED IN 1950.
TOTALS:			269	133	-	-	-	427			

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** DESIGN CAPACITY OF MAIN CONCRETE CHANNEL.

*** THE DEPARTMENT ENTERED INTO AN AGREEMENT WITH THE CITY OF LOS ANGELES TO OPERATE THIS FACILITY.

**** THE DEPARTMENT DIVERTS WATER TO THESE FACILITIES.

Los Angeles County, Department of Public Works, Hydraulic / Water Conservation Division

WATER CONSERVED ALL FACILITIES FOR WATER YEAR 1991–1992

BASINS	SPREADING FACILITIES	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ACC. TOT
SAN FERNANDO	BRANFORD	32.1	0.0	103.7	48.2	140.0	300.1	11.9	10.5	0.2	6.1	0.0	0.0	652.8
VALLEY	HANSEN	209.1	177.1	398.7	1,110.9	3,219.7	2,804.0	2,733.1	1,120.9	1,709.1	1,217.9	732.0	28.7	15,461.2
	LOPEZ	0.0	0.0	83.0	168.0	156.0	109.0	233.0	126.0	219.0	0.0	0.0	0.0	1,094.0
	PACOIMA	27.8	484.3	444.3	375.6	2,577.7	3,570.1	2,233.4	1,775.2	767.2	150.1	5.7	0.0	12,411.4
	TUJUNGA	0.0	0.0	179.5	367.8	2,700.0	2,677.0	1,222.0	1,038.0	610.0	0.0	90.0	388.0	9,272.3
	SUBTOTAL	269.0	661.4	1,209.2	2,070.5	8,793.4	9,460.2	6,433.4	4,070.6	3,305.5	1,374.1	827.7	416.7	38,891.7
SAN GABRIEL	ARROYO SECO	2.9	6.1	101.0	168.0	550.0	734.0	744.0	355.0	34.0	17.0	0.0	2.0	2,714.0
VALLEY	BEN LOMOND	52.0	64.0	48.0	146.0	258.0	473.0	476.0	473.0	588.0	465.0	318.0	83.0	3,444.0
	BIG DALTON	0.0	0.0	0.0	0.0	225.0	115.0	29.0	47.0	0.0	0.0	0.0	0.0	416.0
	BUENA VISTA	61.0	37.1	58.0	42.0	89.0	86.0	2.0	18.0	0.0	0.0	0.0	0.0	393.1
	CITRUS	12.0	6.5	34.0	42.0	80.0	82.0	143.0	14.0	0.0	5.4	0.0	0.0	418.9
	EATON BASIN	33.0	22.0	252.0	180.0	426.0	775.0	294.0	34.0	49.0	61.0	7.4	0.0	2,133.4
	EATON GROUNDS	0.0	0.0	0.0	62.0	577.0	553.0	483.0	75.0	111.0	31.0	0.0	0.0	1,892.0
	FORBES	18.0	163.0	93.0	76.0	64.0	63.0	81.0	80.0	118.0	16.0	142.0	61.0	975.0
	IRWINDALE	5,260.0	4,910.0	4,600.0	2,150.0	1,730.0	2,560.0	3,960.0	3,770.0	3,290.0	3,230.0	3,880.0	1,770.0	41,110.0
	LITTLE DALTON	0.0	0.7	0.1	0.5	166.0	195.0	150.0	40.0	8.5	0.0	0.0	0.0	560.8
	LIVE OAK	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
	MORRIS TO STA. F190	851.0	375.8	631.7	2,101.0	1,511.0	3,047.0	1,962.0	1,247.0	1,511.0	1,536.0	763.4	2,282.0	17,818.9
	STA. F190 TO SANTA FE DAM	0.0	26.0	2.0	4,218.0	4,010.0	6,304.0	4,510.0	1,185.0	0.0	0.0	6.0	67.0	20,328.0
	PECK ROAD	989.7	16.2	466.1	1,627.0	4,416.0	6,474.0	1,631.8	2,694.0	3,425.9	547.5	0.0	2.6	22,290.8
	SAN DIMAS CANYON	0.0	0.0	2.4	9.3	304.0	462.0	458.0	512.0	134.0	341.0	151.0	1.4	2,375.1
	SAN GABRIEL CANYON	417.0	342.0	548.0	1,010.0	1,290.0	1,630.0	1,670.0	1,460.0	1,170.0	1,360.0	1,190.0	539.0	12,626.0
	SANTA ANITA	0.0	17.0	0.0	73.0	165.0	117.0	72.0	38.0	82.0	23.0	5.5	67.0	659.5
	SANTA FE SPRD. GROUNDS	0.0	0.0	0.0	2,690.0	6,730.0	10,790.0	13,310.0	6,000.0	4,710.0	3,150.0	0.0	2,100.0	49,480.0
	SANTA FE TO STA. F261	2,830.0	3.0	26.0	3,730.0	10,570.0	5,720.0	5,040.0	4,410.0	8,690.0	3,370.0	0.0	3,980.0	48,369.0
	SANTA FE DIVERSION	292.0	0.0	0.0	460.0	200.0	0.0	220.0	2,870.0	2,966.0	4,745.0	0.0	0.0	11,753.0
	SAWPIT	0.0	0.0	27.0	85.0	221.0	316.0	331.0	96.0	48.0	65.0	28.0	0.0	1,217.0
	WALNUT	44.0	6.8	6.9	575.0	53.0	282.0	176.0	189.0	115.0	112.0	66.0	46.0	1,671.7
	WALNUT,S.JOSE CRK TO 263	4,236.2	2,198.6	7,927.8	4,456.9	1,500.0	1,600.0	1,203.6	981.5	1,131.2	2,698.2	1,512.4	1,268.0	30,714.4
	SUBTOTAL	15,098.8	8,194.8	14,824.0	23,901.7	35,148.0	42,378.0	36,946.4	26,588.5	28,181.6	21,773.1	8,069.7	12,269.0	273,373.6
COASTAL PLAIN	RIO HONDO EAST FLUME	6,990.0	4,050.0	4,830.0	2,390.0	5,310.0	6,130.0	759.0	2,810.0	4,660.0	3,760.0	2,440.0	3,870.0	47,999.0
	WEST FLUME	742.0	1,230.0	1,040.0	541.0	868.0	837.0	131.0	599.0	1,230.0	1,210.0	583.0	45.0	9,056.0
	R/W FLUME	531.0	380.0	70.0	113.0	468.0	499.0	64.0	2.1	153.0	268.0	393.0	275.0	3,216.1
	102' INTAKE	2,274.0	1,730.0	2,898.0	1,961.0	3,026.0	3,295.0	537.0	1,285.0	1,566.0	773.0	0.0	569.0	19,914.0
	RIO HONDO SYSTEM	1,200.0	2,752.0	10,500.0	10,000.0	9,000.0	50,128.0	2,038.3	2,171.4	3,452.3	4,838.6	4,273.1	2,256.6	102,610.3
	SAN GABRIEL SYSTEM	5,402.6	2,475.1	4,506.0	3,586.7	7,401.0	6,785.0	863.8	4,730.3	3,257.6	3,410.0	478.0	670.1	43,566.2
	DOMINGUEZ GAP	0.0	0.0	0.0	0.0	19.1	19.4	6.9	0.1	0.0	0.0	0.0	0.0	45.5
	SUBTOTAL	17,139.6	12,617.1	23,844.0	18,591.7	26,092.1	67,693.4	4,400.0	11,597.9	14,318.9	14,259.6	8,167.1	7,685.7	226,407.1
ANTELOPE VALLEY	BIG ROCK	0.0	0.0	1.2	28.0	428.0	536.0	813.0	912.0	799.0	711.0	192.0	101.0	4,521.2
OTHER FACILITIES	SIERRA MADRE	0.0	84.0	0.0	191.0	142.0	243.0	480.0	601.0	293.0	186.0	86.0	9.4	2,315.4
	FISH CREEK	831.9	229.7	96.2	71.2	71.2	116.8	164.1	252.7	226.8	277.6	238.4	40.8	2,617.4
	SUBTOTAL	831.9	313.7	96.2	262.2	213.2	359.8	644.1	853.7	519.8	463.6	324.4	50.2	4,932.8
TOTAL OF ALL WATER SPREAD &/OR DIVERTED		33,339.3	21,787.0	39,974.6	44,854.1	70,674.7	120,427.4	49,236.9	44,022.7	47,124.8	38,581.4	17,580.9	20,522.6	548,126.4

NOTES: *: SUBJECT TO ADJUSTMENT.

Los Angeles County, Department of Public Works
Hydraulic Water Conservation Division

TOTAL WATER DELIVERED IN ACRE–FEET
WATER YEAR : 1991–1992

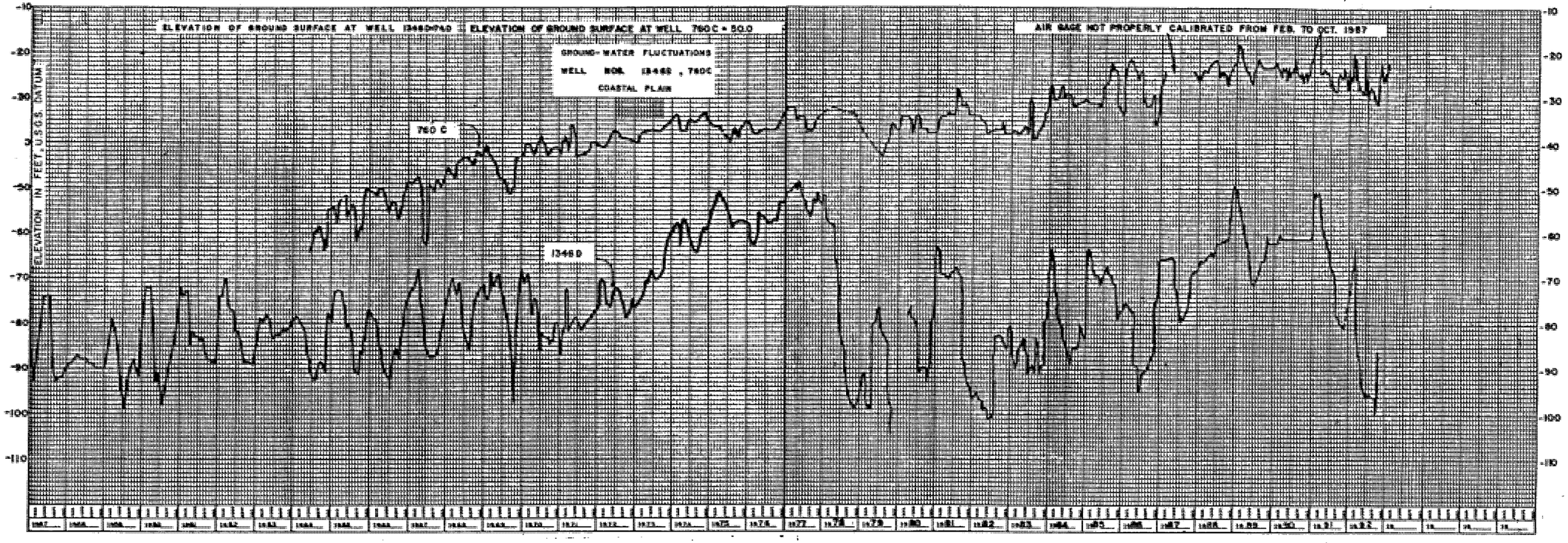
MONTH	IMPORTED WATER OUTLET RELEASES									RECLAIMED WATER DELIVERED									
										WHITTIER NARROWS PLANT				SAN JOSE PLANT				POMONA	
										DELIVERED		WASTED	MONTHLY	DELIVERED		WASTED	MONTHLY		
	SAN DIMAS CB – 48	THOMPSON CREEK CB – 28	SAN GAB. RIVER CB – 37	ALHAMBRA CB – 36	OLDEN ST L.A. 699	USG 3 USGMWD	BEATTY CANYON SGVMWD	SAN DIMAS WH SGVMWD	MONTHLY TOTAL SPREAD	R.HONDO	S.GABRIEL		SPREAD	R.HONDO	S.GABRIEL		SPREAD	PLANT	MONTHLY TOTAL SPREAD
OCT	5,335.4	6,851.4	0.0	5,320.3	0.0	2,534.4	0.0	212.3	20,253.8	1,385.5	0.0	0.0	1,385.5	0.0	5,010.6	0.0	5,010.6	130.8	6,526.9
NOV	4,580.6	3,430.8	0.0	5,743.2	484.0	0.0	0.0	1,494.3	15,732.9	1,296.0	0.0	0.0	1,296.0	1,072.1	1,759.9	0.0	2,832.0	239.6	4,367.6
DEC	4,985.5	4,125.8	0.0	4,971.1	0.0	0.0	0.0	96.0	14,178.4	508.6	927.8	0.0	1,436.4	0.0	0.0	0.0	0.0	200.7	1,637.1
JAN	1,352.5	0.0	0.0	704.2	0.0	4,957.5	0.0	0.0	7,014.2	334.7	1,089.0	0.0	1,423.7	0.0	946.7	0.0	946.7	235.8	2,606.2
FEB	785.1	0.0	0.0	501.6	21.3	0.0	0.0	0.0	1,308.0	998.9	0.0	154.3	844.6	0.0	848.8	110.0	738.8	353.6	1,937.0
MAR	956.0	0.0	0.0	996.8	0.0	0.0	0.0	840.3	2,793.1	595.6	564.6	210.5	949.7	0.0	37.1	0.2	36.9	340.2	1,326.8
APR	3,305.9	0.0	0.0	566.1	0.0	0.0	279.7	1,021.8	5,173.5	459.3	572.0	459.3	572.0	0.0	88.8	0.0	88.8	333.6	994.4
MAY	2,491.3	0.0	0.0	1,778.7	0.0	0.0	520.0	1,497.0	6,287.0	100.8	620.7	0.0	721.5	0.0	4,301.5	0.0	4,301.5	200.6	5,223.6
JUN	3,186.0	0.0	0.0	1,687.2	0.0	0.0	0.0	1,103.0	5,976.2	1,218.3	0.0	0.0	1,218.3	0.0	3,246.3	0.0	3,246.3	154.7	4,619.3
JUL	3,108.0	0.0	0.0	1,900.2	0.0	0.0	0.0	1,228.0	6,236.2	586.9	112.8	0.0	699.7	0.0	4,311.8	0.0	4,311.8	268.6	5,280.1
AUG	3,152.8	0.0	0.0	2,619.2	0.0	0.0	0.0	1,079.0	6,851.0	826.1	0.0	0.0	826.1	4,416.5	615.8	0.0	5,032.3	245.1	6,103.5
SEP	1,041.6	0.0	0.0	1,906.7	0.0	6,635.1	0.0	1,121.0	10,704.4	1,246.6	0.0	0.0	1,246.6	4,109.9	670.1	0.0	4,780.0	251.1	6,277.7
TOTALS	**34,280.7**	**14,408.0**	**0.0**	**28,695.3**	**505.3**	**14,127.0**	**799.7**	**9,692.7**	**102,508.7**	**9,557.3**	**3,886.9**	**824.1**	**12,620.1**	**9,598.5**	**21,837.4**	**110.2**	**31,325.7**	**2,954.4**	**46,900.1**

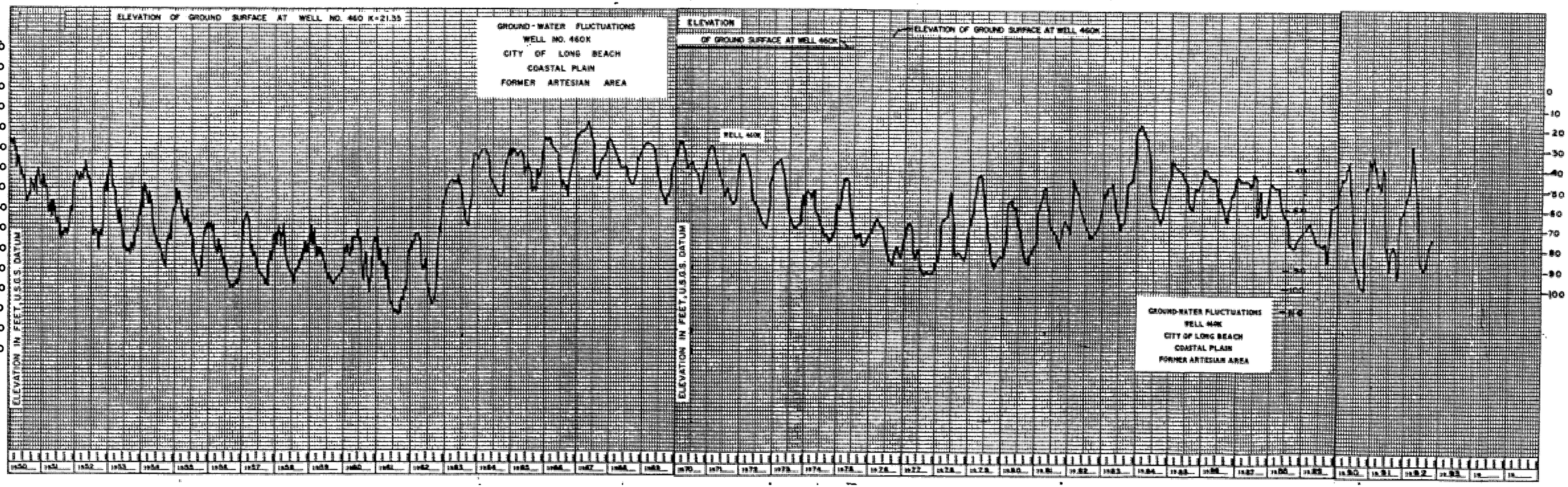
NOTES : – The Amounts of Reclaimed Water from Pomona Plant are estimated.
– Water delivered from CB–48 during October 1991 thru September 1992 were spread in San Gabriel Valley.

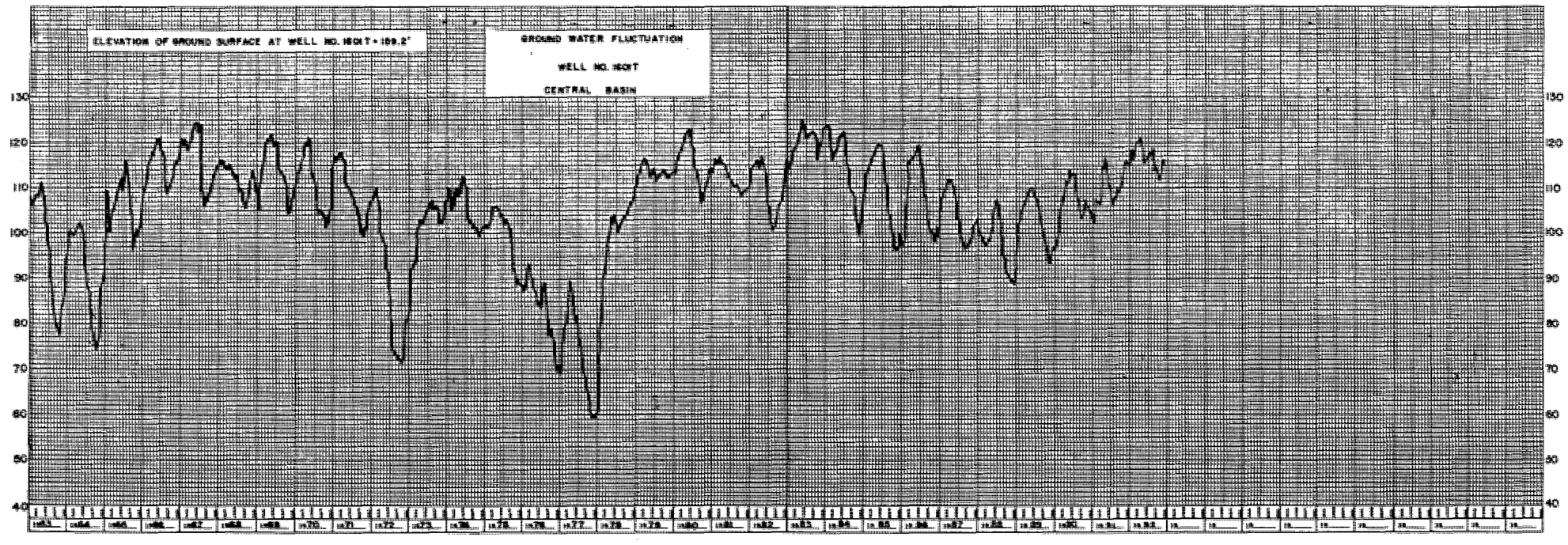
WELL HYDROGRAPHS INCLUDED IN THIS REPORT

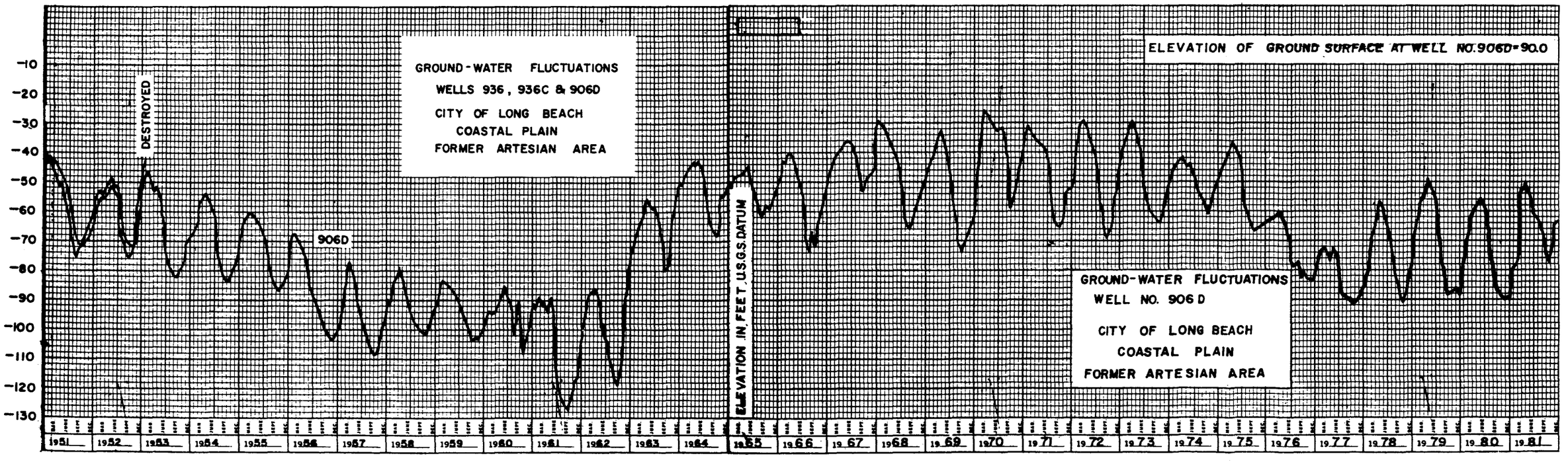
GROUNDWATER BASIN	WELL NO.	APPROXIMATE LOCATION	PAGE NO.
WEST COAST	1346D 760C	11305 TRURO AVE., 250FT. N. OF IMPERIAL HWY., COMPTON 99 FT. S.W. OF INTERSECTION OF COMPTON BLVD. & DOTY AVE., LAWNDALE	G18
CENTRAL BASIN	460K 1601T 906D	2,600 FT. N.E. OF THE INTERSECTION OF LAKEWOOD BLVD. & PACIFIC COAST HWY., LONG BEACH 1,000 FT. S. OF THE INTERSECTION OF WASHINGTON BLVD. & ROSEMEAD BLVD., MONTEBELLO 1,300 FT. N.W. OF THE INTERSECTION OF LONG BEACH & SAN ANTONIO DR., LONG BEACH	G18 G19 G19
MAIN SAN GABRIEL	3030F 2965C	600 FT. N.W. OF THE INTERSECTION OF LOS ANGELES ST. & MAINE AVE., BALDWIN PARK 100 FT. S.W. OF THIENES AVE. & 180 FT. N.W. OF DURFEE AVE. (NOW PECK ROAD)	G20 G21
SAN GABRIEL CANYON	4284A 4285	5,600 FT. N.W. OF THE INTERSECTION OF SIERRA MADRE AVE. & SAN GABRIEL CANYON ROAD., AZUSA 2,700 FT. N.W. OF SAN GABRIEL CANYON RD. & SIERRA MADRE AVE.	G21
POMONA	3251E 3261P 4469A	2,200 FT. N. OF THE INTERSECTION OF SAN BERNARDINO FWY. & TOWNE AVE., POMONA 630 FT. N.E. FROM INTERSECTION OF LA VERNE AVE. & 50 FT. S.E. OF CENTERLINE OF TOWNE AVE. 739 FT. W. OF MOUNTAIN AVE., 1,025 FT. N. OF HARRISON AVE.	G22
CLAREMONT HEIGHTS	4508B 4508A	800 FT. S.E. OF THE INTERSECTION OF BASELINE RD. & PADUA AVE., CLAREMONT 270 FT. N.W. OF WELL 4508	G23
RAYMOND	4057H	LOS ROBLES & GLENARM STREETS, PASADENA	G23
SANTA CLARA	7048A 7048C	S.E. OF THE INTERSECTION OF NEWHALL AVE. & MAGIC MOUNTAIN PARKWAY, SAUGUS 544 FT. W. OF W. CURB OF VALENCIA BLVD., 56 FT. S. OF MAGIC MOUNTAIN PARKWAY, VALENCIA	G24
ANTELOPE VALLEY	9974 8825	8,976 FT. S. OF AVE. K & 200 FT. W. OF SIERRA HWY., LANCASTER 25 FT. N. OF AVE. T & 45 FT. E. OF 90TH ST., LITTLE ROCK	G25 G25
MAIN SAN FERNANDO	3872H 4709	CLARK AVE. & GRIFFITH PARK DR., BURBANK SHERMAN WAY & DEERING AVE., CANOGA PARK	G26 G26


9974
8825
7048 A
7048 C
4709
3872 A
4057 H
4284 A
4285
4508 A
4508 B
4469 A
3241 J
3030 F
3251 E
2955 X
1601 T
1346 D
760 C
906 D
460 K
PACIFIC OCEAN
SAN PEDRO BAY
SCALE
REVISIONS
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
KEY WELL
LOCATION MAP
1991-92


ELEVATION OF GROUND SURFACE AT WELL 1348D/760 = ELEVATION OF GROUND SURFACE AT WELL 760C + 50.0
GROUND-WATER FLUCTUATIONS
WELL NOS. 1348D , 760C
COASTAL PLAIN
760 C
1348 D
AIR GAGE NOT PROPERLY CALIBRATED FROM FEB. TO OCT. 1987
ELEVATION IN FEET, U.S.G.S. DATUM


ELEVATION OF GROUND SURFACE AT WELL NO. 460 K=21.35
GROUND-WATER FLUCTUATIONS
WELL NO. 460K
CITY OF LONG BEACH
COASTAL PLAIN
FORMER ARTESIAN AREA
ELEVATION OF GROUND SURFACE AT WELL 460K
WELL 460K
GROUND-WATER FLUCTUATIONS
WELL 460K
CITY OF LONG BEACH
COASTAL PLAIN
FORMER ARTESIAN AREA
ELEVATION IN FEET, U.S.G.S. DATUM

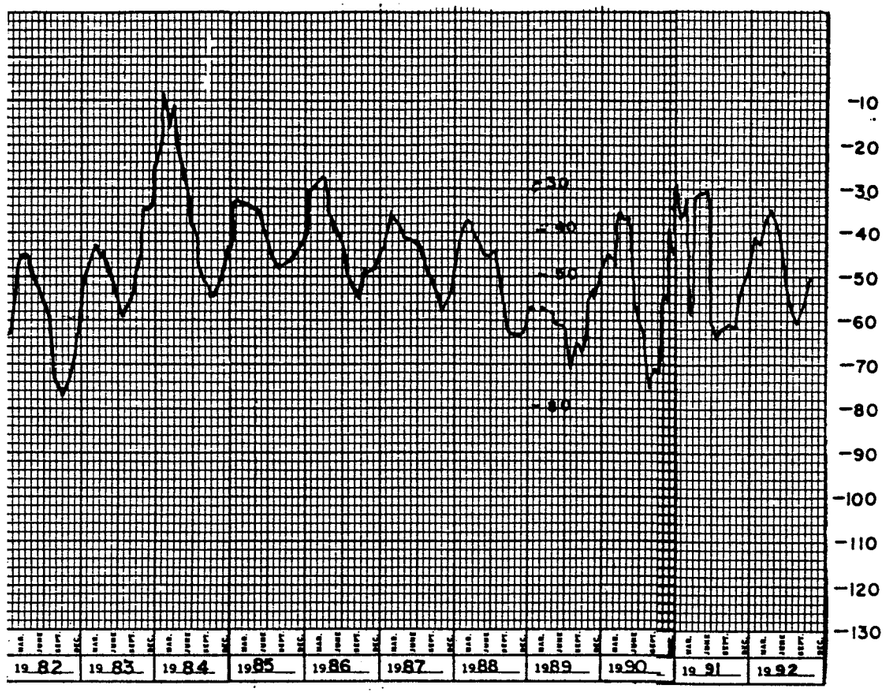


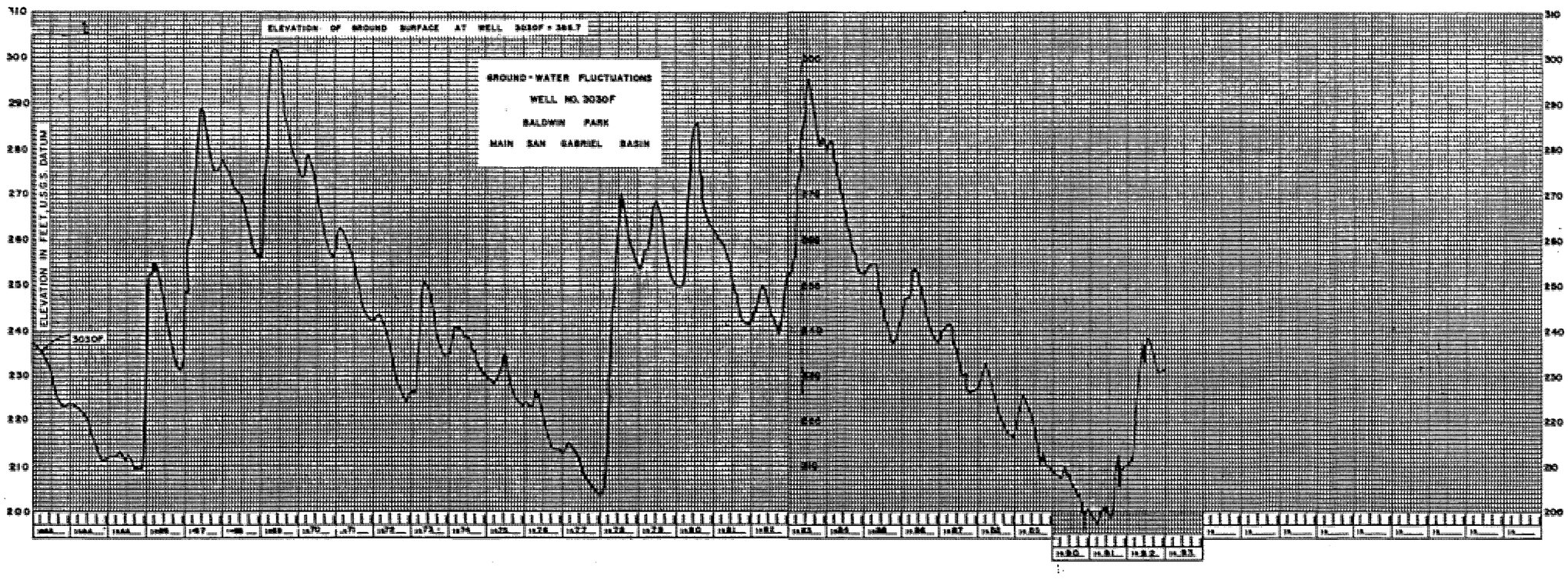


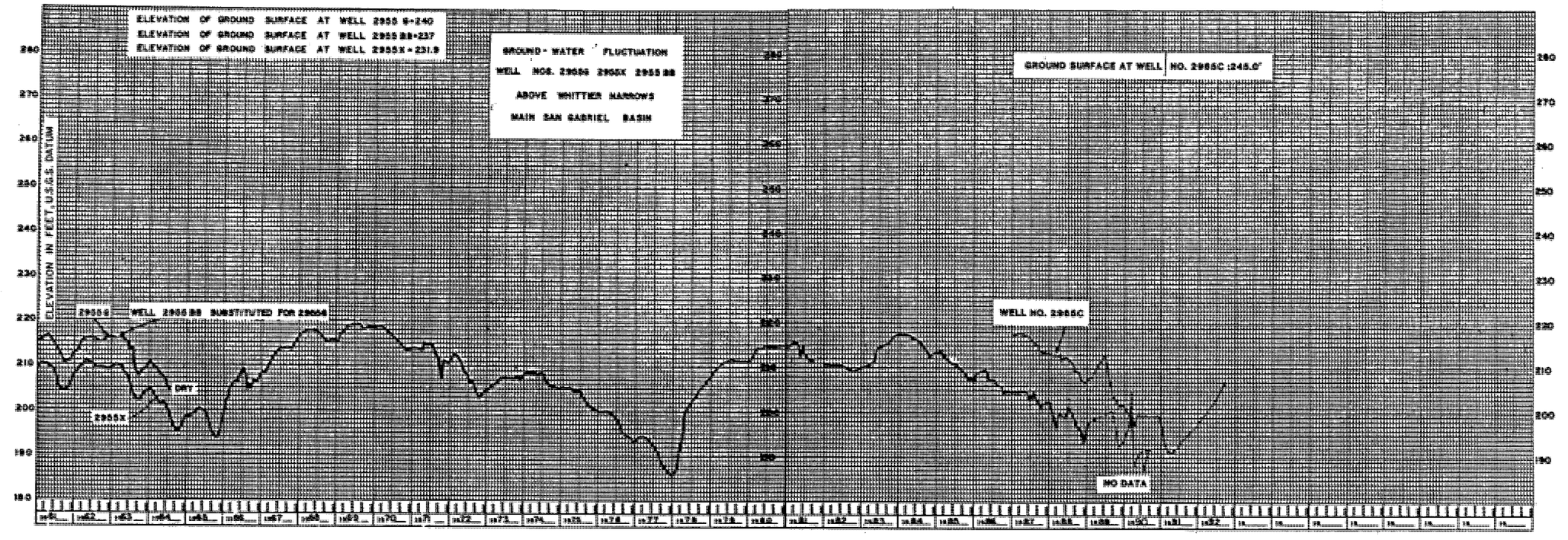
CONTINUED ON PAGE G20

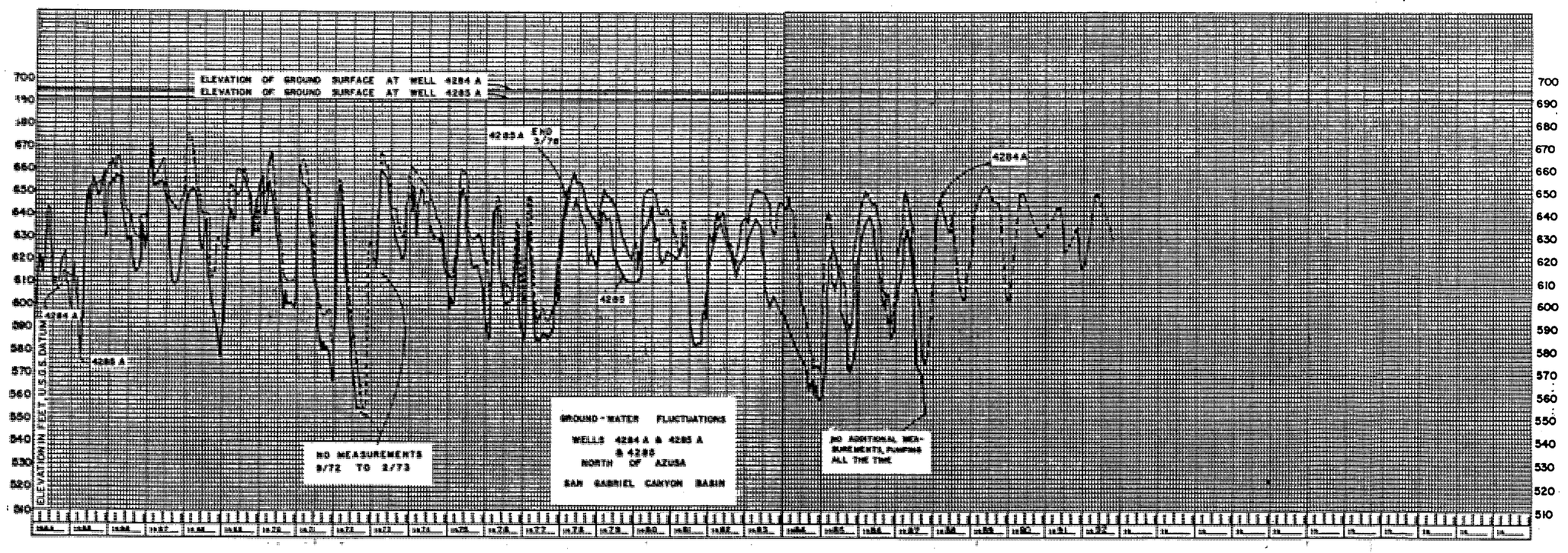
WELL NO. 906D

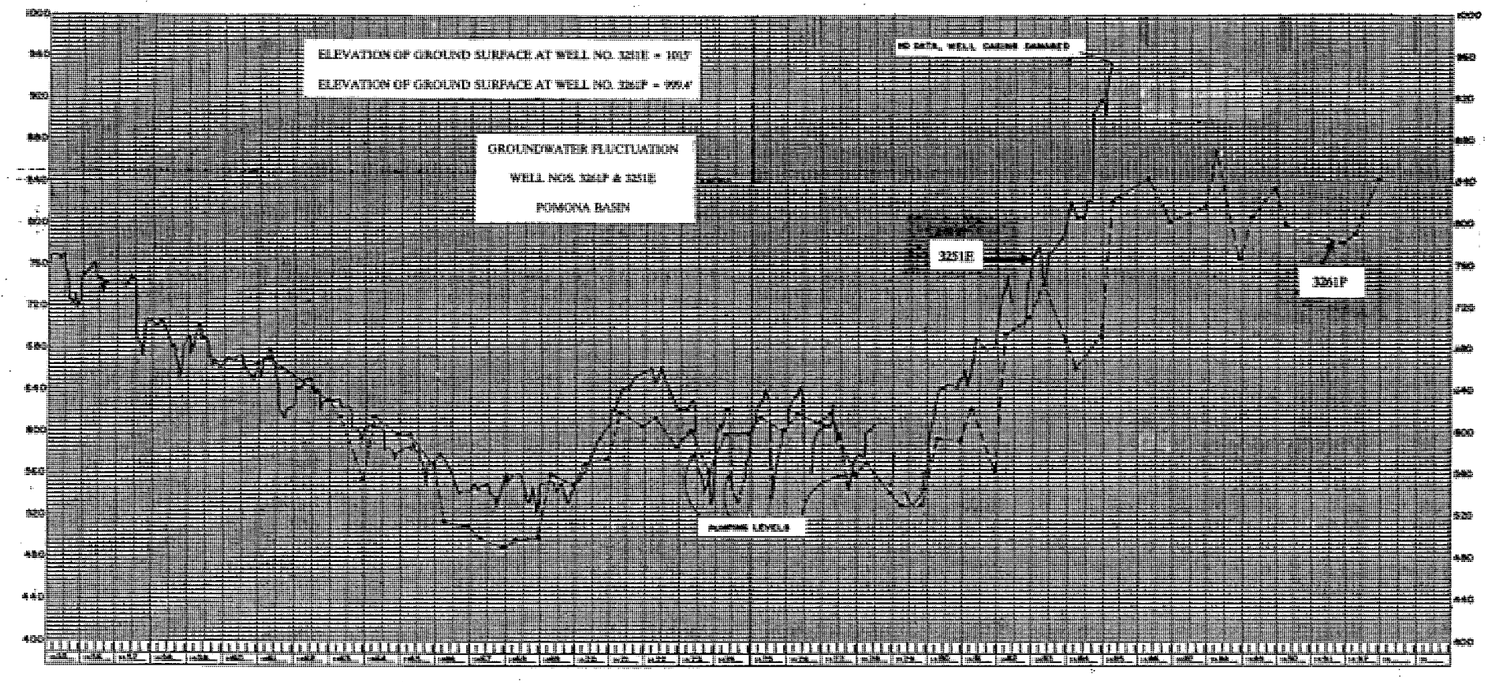
CONTINUED FROM PAGE G19

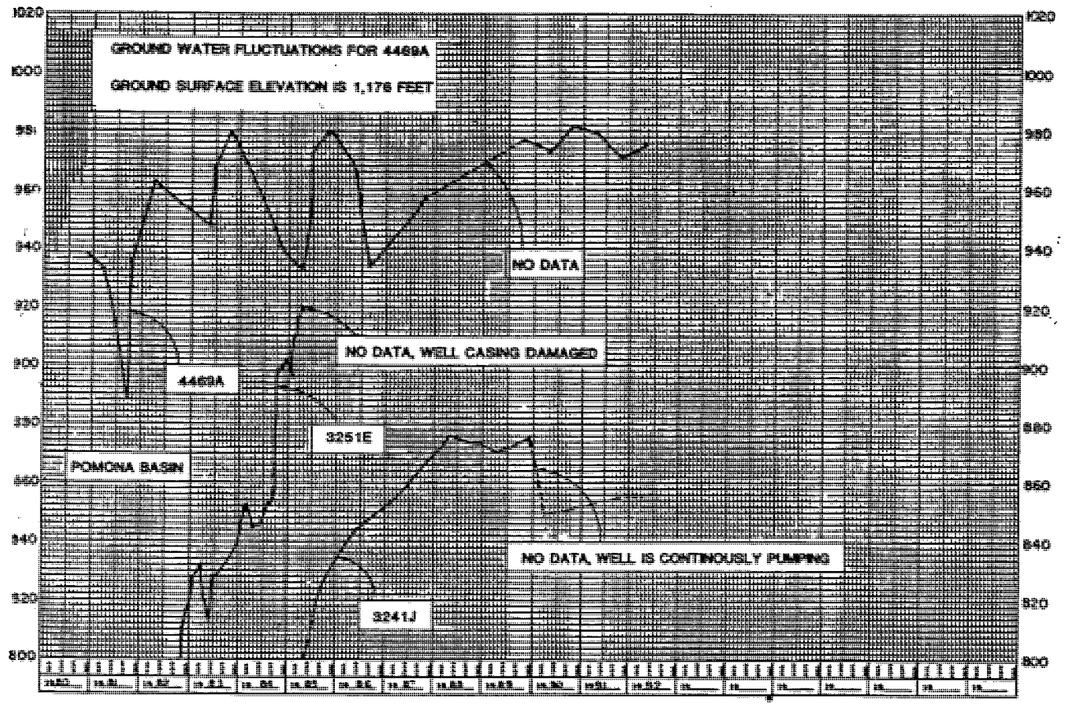





ELEVATION OF GROUND SURFACE AT WELL 2955 B = 240
ELEVATION OF GROUND SURFACE AT WELL 2955 BB = 237
ELEVATION OF GROUND SURFACE AT WELL 2955 X = 231.9
GROUND - WATER FLUCTUATION
WELL NOS. 2955 B 2955X 2955 BB
ABOVE WHITTIER NARROWS
MAIN SAN GABRIEL BASIN
ELEVATION IN FEET, U.S.G.S. DATUM
2955 B
WELL 2955 BB SUBSTITUTED FOR 2955 B
DRY
2955 X
GROUND SURFACE AT WELL NO. 2955C = 245.0'
WELL NO. 2955C
NO DATA


ELEVATION OF GROUND SURFACE AT WELL 4284 A
ELEVATION OF GROUND SURFACE AT WELL 4285 A
4285 A END 3/72
4284 A
4285
4284 A
4285 A
NO MEASUREMENTS 9/72 TO 2/73
GROUND - WATER FLUCTUATIONS
WELLS 4284 A & 4285 A
& 4285
NORTH OF AZUSA
SAN GABRIEL CANYON BASIN
NO ADDITIONAL MEASUREMENTS, PUMPING ALL THE TIME
ELEVATION IN FEET, U.S.G.S. DATUM


ELEVATION OF GROUND SURFACE AT WELL NO. 3251E = 1017'
ELEVATION OF GROUND SURFACE AT WELL NO. 3261P = 999.4'
GROUNDWATER FLUCTUATION
WELL NOS. 3261P & 3251E
POMONA BASIN
NO DATA, WELL CASING DAMAGED
3251E
3261P
PUMPING LEVELS


GROUND WATER FLUCTUATIONS FOR 4469A
GROUND SURFACE ELEVATION IS 1,176 FEET
NO DATA
NO DATA, WELL CASING DAMAGED
4469A
3251E
POMONA BASIN
NO DATA, WELL IS CONTINOUSLY PUMPING
3241J

ELEVATION OF GROUND SURFACE AT WELL NO. 4508B = 1476.1

GROUND-WATER FLUCTUATIONS
WELL NO. 4508B
UPPER CLAREMONT HEIGHTS

ELEVATION IN FEET, U.S.G.S. DATUM

1460 1440 1420 1400 1380 1360 1340 1320 1300 1280 1260 1240

1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971

ELEVATION OF GROUND SURFACE AT WELL NO. 4508B = 1476.1

GROUND-WATER FLUCTUATIONS
WELL NOS. 4508B & 4508A
UPPER CLAREMONT HEIGHTS

DESTROYED

4508A

NO MEASUREMENT
11/88 TO 8/89

ELEVATION IN FEET, U.S.G.S. DATUM

1460 1440 1420 1400 1380 1360 1340 1320 1300 1280 1260 1240

1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993

GROUND-WATER FLUCTUATIONS
WELL NO. 4057H
RAYMOND BASIN

ELEVATION OF GROUND SURFACE AT WELL 4057H = 749.9

ELEVATION IN FEET, U.S.G.S. DATUM

660 650 640 630 620 600 590 580

1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971

ELEVATION OF GROUND SURFACE AT WELL 4057H = 749.9

GROUND-WATER FLUCTUATIONS
WELL NO. 4057H
RAYMOND BASIN

WELL 4057H

ELEVATION IN FEET, U.S.G.S. DATUM

660 650 640 630 620 610 600 590 580 570 560 550

1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993

GROUND-WATER FLUCTUATIONS

WELL NO. 7048A

NEAR CASTAIC JUNCTION

SANTA CLARITA VALLEY

ELEVATION OF GROUND SURFACE AT WELL NO.7048A= 1133'

ELEVATION OF GROUND SURFACE AT WELL NO. 7048C:1145.2'

NO DATA

7048C

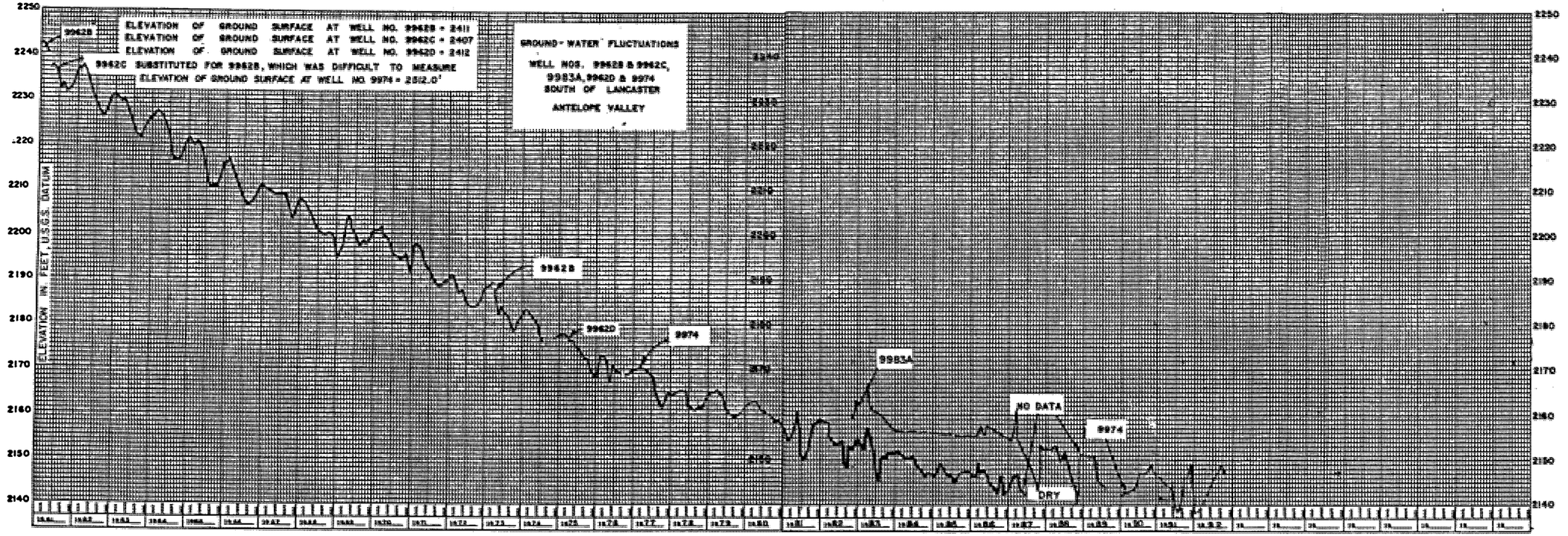
7048A

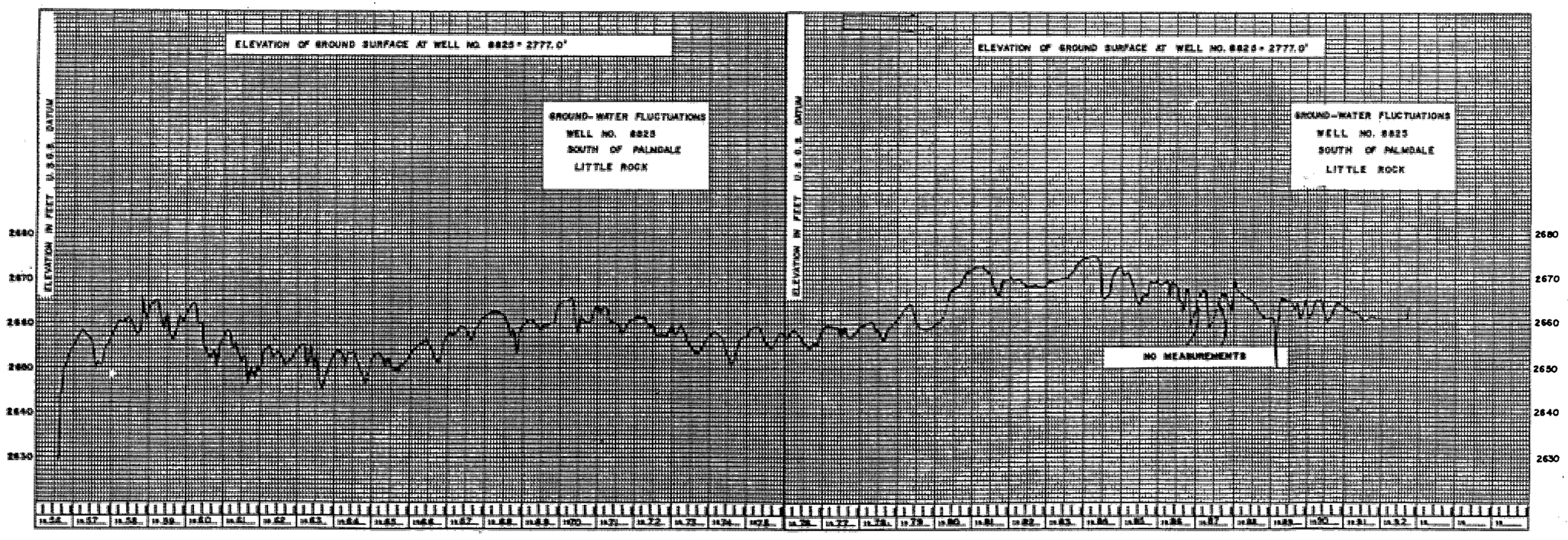
WELL WAS DESTROYED

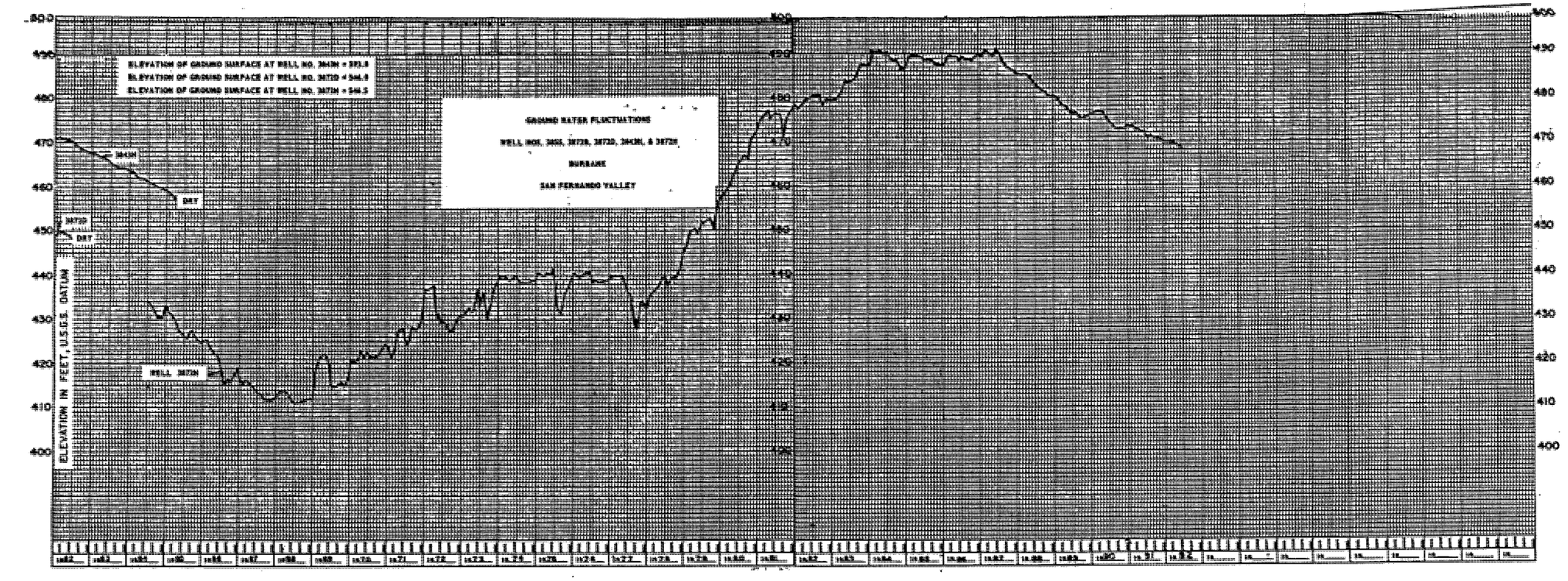
ELEVATION IN FEET, U.S.G.S. DATUM

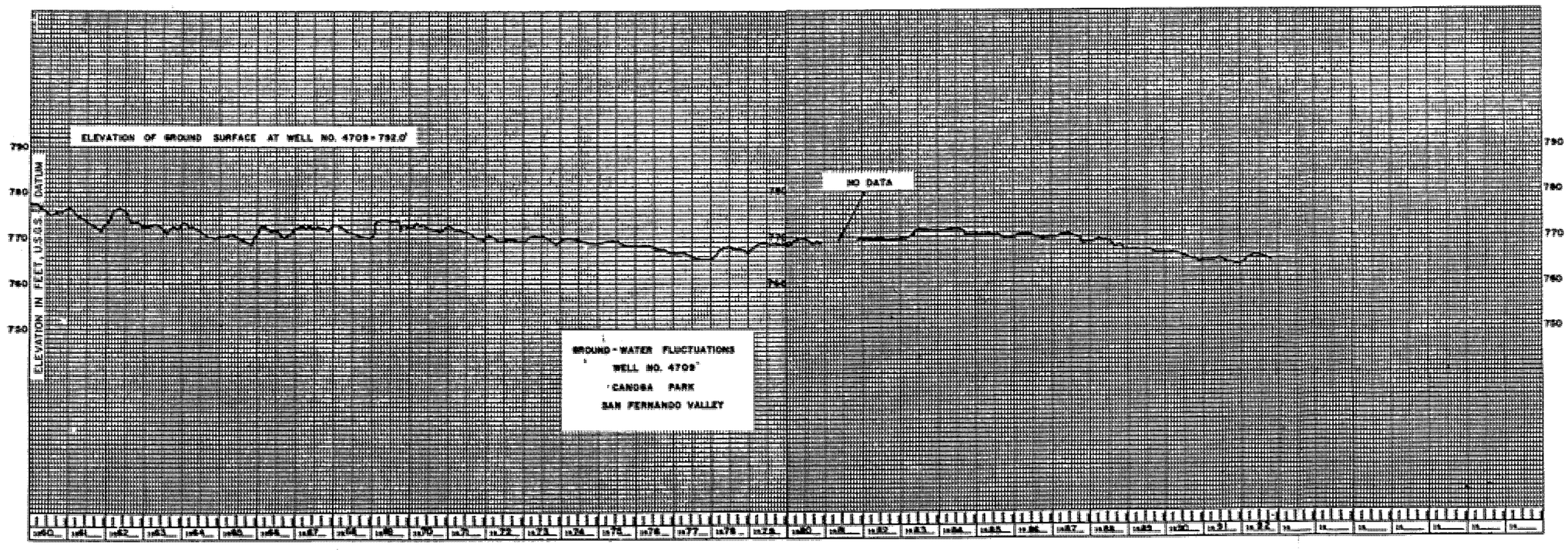
1120
1110
1100
1090
1080
1070
1060
1050
1040
1030
1020

1084 1085 1086 1087 1088 1089 1090 1091 1092 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__


ELEVATION OF GROUND SURFACE AT WELL NO. 9962B = 2411
ELEVATION OF GROUND SURFACE AT WELL NO. 9962C = 2407
ELEVATION OF GROUND SURFACE AT WELL NO. 9962D = 2412
9962C SUBSTITUTED FOR 9962B, WHICH WAS DIFFICULT TO MEASURE
ELEVATION OF GROUND SURFACE AT WELL NO. 9974 = 2512.0'
GROUND-WATER FLUCTUATIONS
WELL NOS. 9962B & 9962C, 9983A, 9962D & 9974
SOUTH OF LANCASTER
ANTELOPE VALLEY
ELEVATION IN FEET, U.S.G.S. DATUM
9962B
9962D
9974
9983A
NO DATA
DRY
2250
2240
2230
2220
2210
2200
2190
2180
2170
2160
2150
2140


ELEVATION OF GROUND SURFACE AT WELL NO. 8823 = 2777.0'
GROUND-WATER FLUCTUATIONS
WELL NO. 8823
SOUTH OF PALMDALE
LITTLE ROCK
ELEVATION IN FEET, U.S.G.S. DATUM
NO MEASUREMENTS
2680
2670
2660
2650
2640
2630


ELEVATION OF GROUND SURFACE AT WELL NO. 3N4N = 393.8
ELEVATION OF GROUND SURFACE AT WELL NO. 3N7N = 346.8
ELEVATION OF GROUND SURFACE AT WELL NO. 3N7N = 346.5
GROUND WATER FLUCTUATIONS
WELL NOS. 3N5S, 3N7W, 3N7W, 3N4W, & 3N7W
BURBANK
SAN FERNANDO VALLEY
3N4W
DRY
3N7W
DRY
WELL 3N7N
ELEVATION IN FEET, U.S.G.S. DATUM


ELEVATION OF GROUND SURFACE AT WELL NO. 4703 = 792.0'
NO DATA
GROUND-WATER FLUCTUATIONS
WELL NO. 4703
CANOGA PARK
SAN FERNANDO VALLEY
ELEVATION IN FEET, U.S.G.S. DATUM

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
GROUNDWATER BASINS AND RECHARGE FACILITIES

- 1 CENTRAL BASIN
  - A DOMINGUEZ GAP S.G.
  - B RIO HONDO COASTAL BASIN S.G.
  - C SAN GABRIEL COASTAL BASIN S.G.
  - D SAN GABRIEL RIVER (LOWER)
- 2 CHINO BASIN
- 3 CLAREMONT HEIGHTS BASIN
  - E POMONA S.G. (this facility of owned and operated by the Pomona Valley Protective Assn.)
  - F SAN ANTONIO S.G. (this facility of owned and operated by the Pomona Valley Protective Assn.)
  - G THOMPSON CK. S.G. (this facility of owned and operated by the Pomona Valley Protective Assn.)
- 4 EAGLE ROCK BASIN
- 5 FOOTHILL BASIN
  - H SAN DIMAS CYN. S.G.

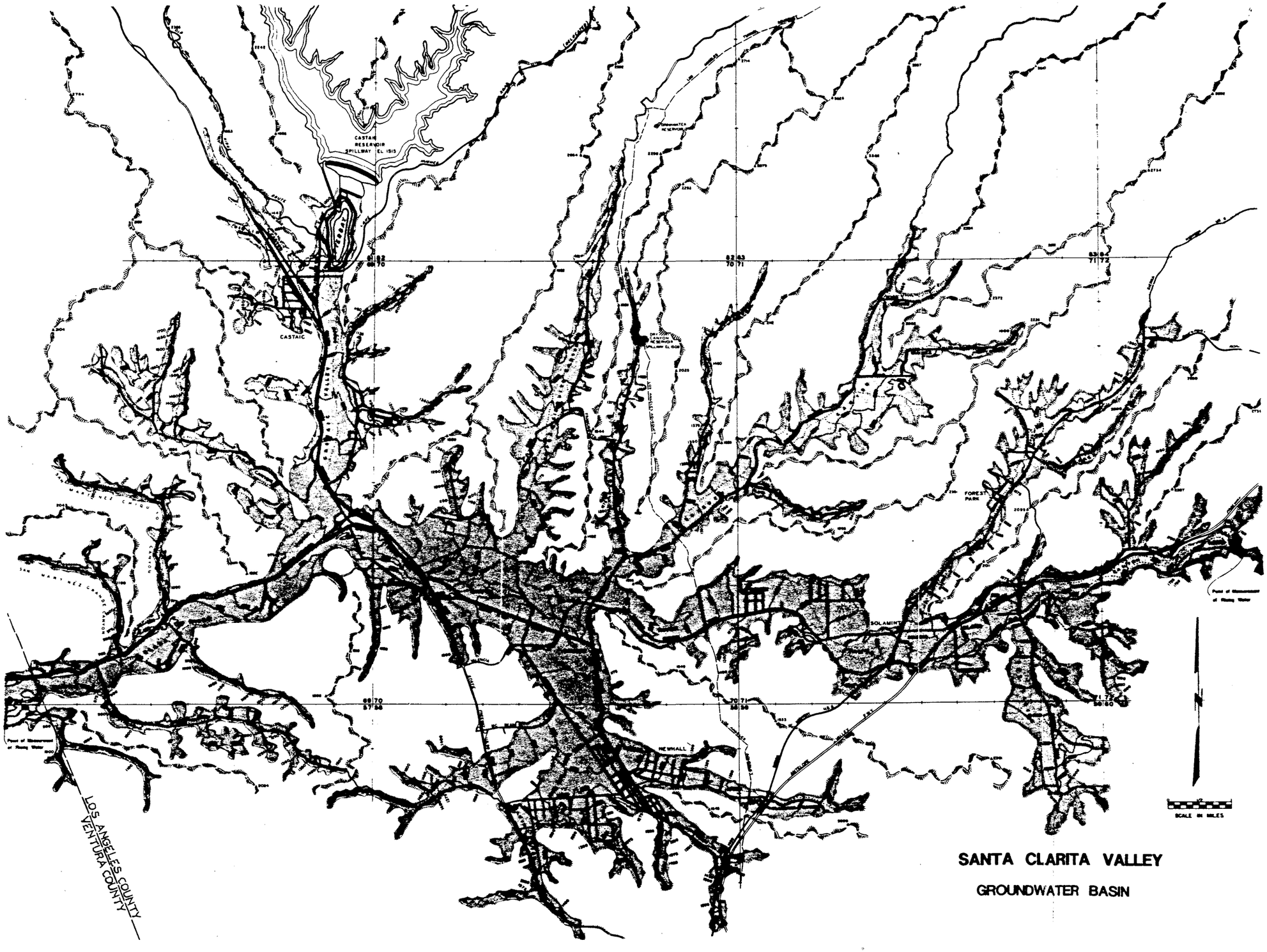
- 6 GLENDORA BASIN
  - I BIG DALTON S.G.
  - J LITTLE DALTON S.G.
- 7 HOLLYWOOD BASIN
- 8 LA HABRA BASIN
- 9 LIVE OAK BASIN
- 10 LOWER SAN GABRIEL CANYON BASIN
  - K SAWPIT S.G.
- 11 MAIN SAN GABRIEL BASIN
  - L BEN LOMOND S.G.
  - M BUENA VISTA S.B.
  - N CITRUS S.G.
  - O EATON S.B.
  - P IRWINDALE S.B./MANNING PIT
  - Q PECK RD. S.B.
  - R SAN GABRIEL RIVER (UPPER)
  - S SANTA FE RESERVOIR S.G.
  - T WALNUT S.B.
  - U WHITTIER NARROWS W.C. DIVERSION CANAL (ZONE 1 DITCH)

- 12 POMONA BASIN
- 13 PUENTE BASIN
- 14 RAYMOND BASIN
  - V ARROYO SECO S.G.
  - W EATON S.G.
  - X SANTA ANITA S.G.
  - Y SIERRA MADRE S.G. (this facility is owned and operated by the City of Sierra Madre)
- 15 SAN DIMAS BASIN
  - Z LIVE OAK S.G.
- 16 SAN FERNANDO BASIN
  - AA BRANFORD S.B.
  - BB HANSEN S.G.
  - CC HEADWORKS S.G. (this facility is owned and operated by the City of Los Angeles - D.W.P.)
  - DD LOPEZ S.G.
  - EE PACOIMA S.G.
  - FF TUJUNGA S.G. (owned by the City of Los Angeles - D.W.P.) (operated by the County of Los Angeles - L.A.C.D.P.W.)

- 17 SANTA MONICA BASIN
- 18 SPADRA BASIN
- 19 SYLMAR BASIN
- 20 UPPER SAN GABRIEL CANYON BASIN
  - GG FISH CYN. S.G. (this facility is owned and operated by Cal American Water Co.)
  - HH SAN GABRIEL CANYON S.G.
- 21 VERDUGO BASIN
- 22 WAY HILL BASIN
  - II FORBES S.G.
- 23 WEST COAST BASIN

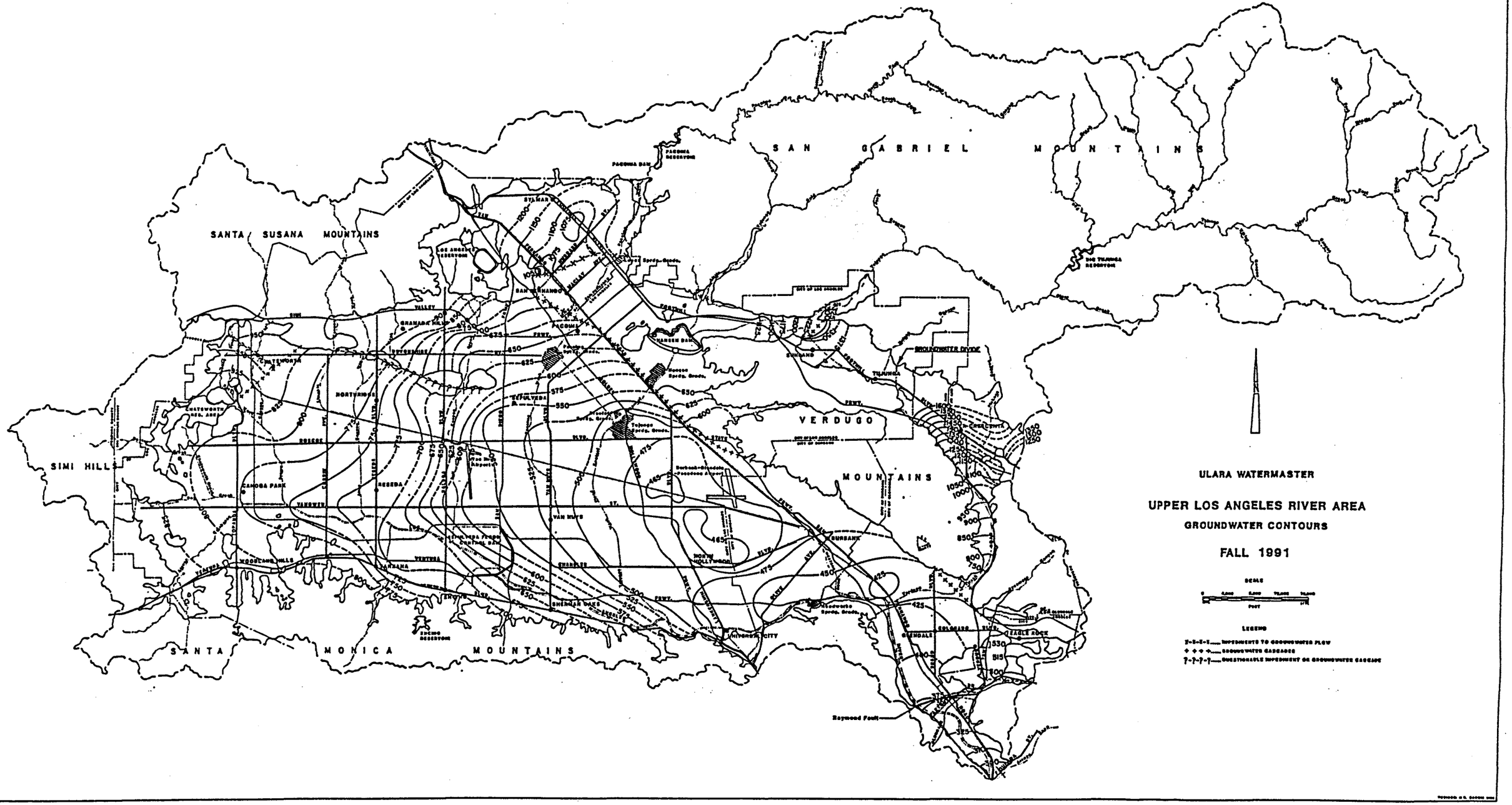
- SGVMWD
- OWENS VALLEY (LA)
- MWD OUTLETS

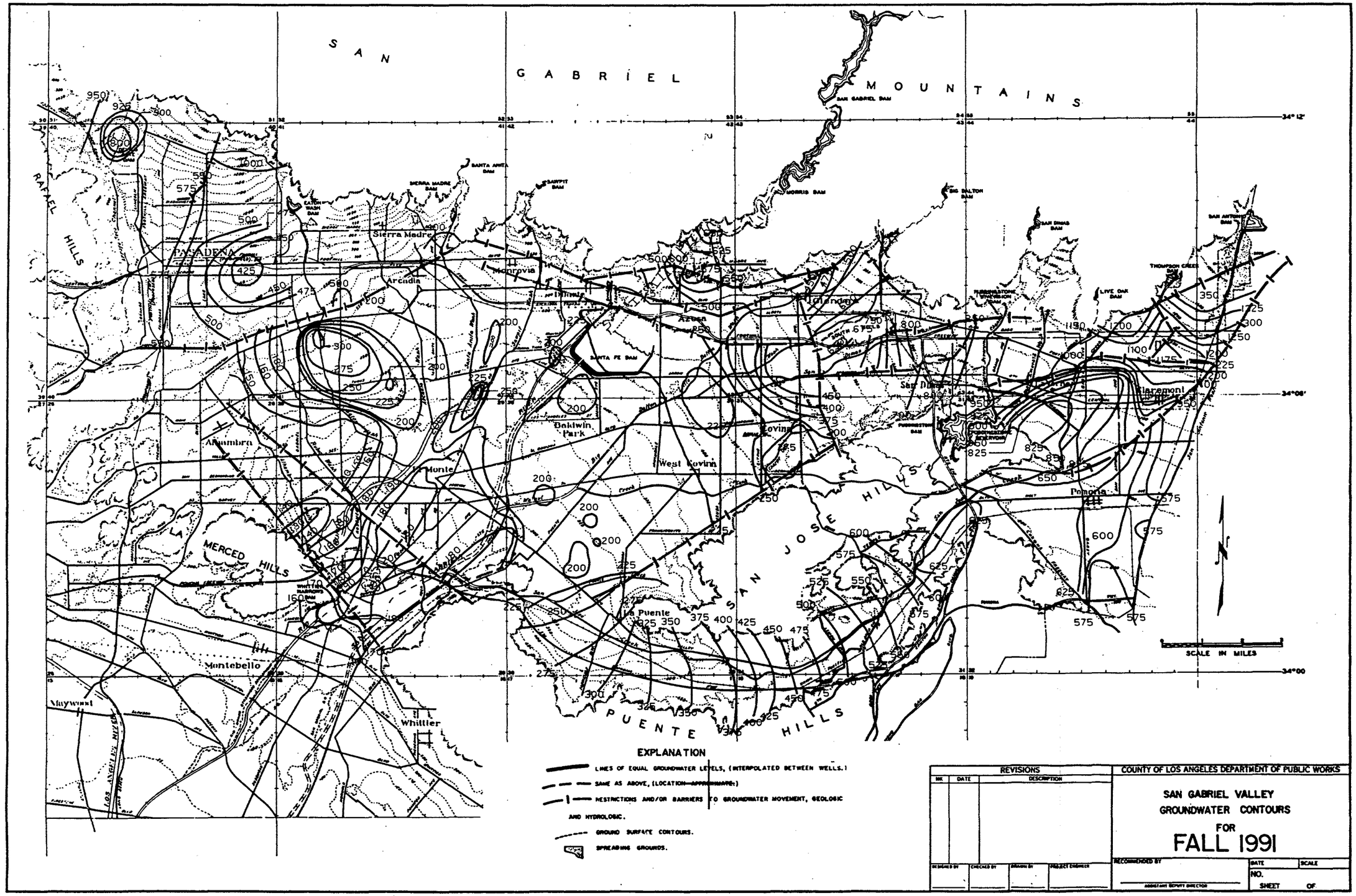
SCALE

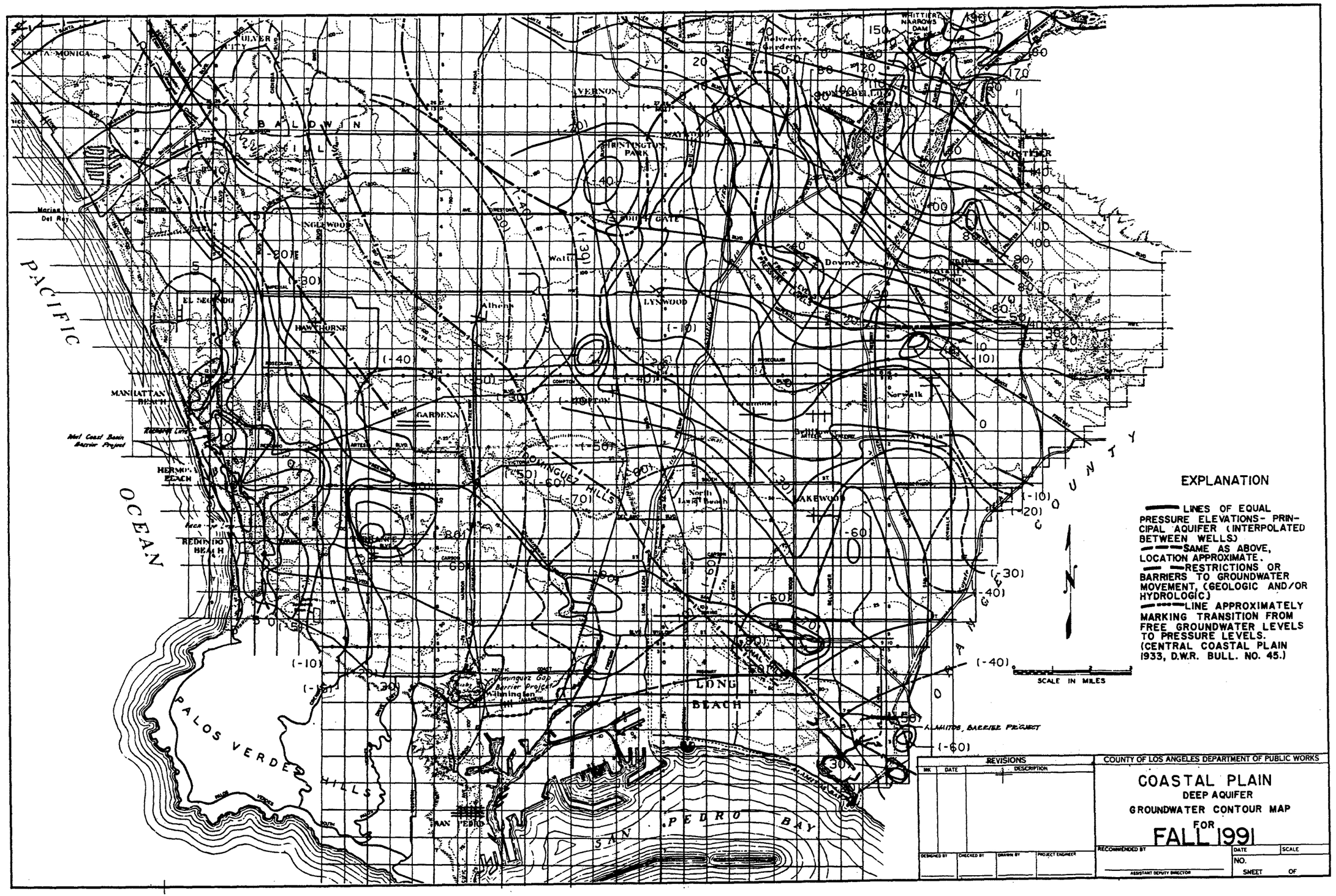


SANTA CLARITA VALLEY

GROUNDWATER BASIN


SAN GABRIEL MOUNTAINS
SANTA SUSANA MOUNTAINS
SIMI HILLS
VERDUGO MOUNTAINS
SANTA MONICA MOUNTAINS
PACOIMA DAM
PACOIMA RESERVOIR
BIG TUJUNGA RESERVOIR
LOS ANGELES RESERVOIR
HANSEN DAM
GROUNDWATER DIVIDE
Raymond Fault
ULARA WATERMASTER
UPPER LOS ANGELES RIVER AREA
GROUNDWATER CONTOURS
FALL 1991
SCALE
LEGEND


SAN GABRIEL MOUNTAINS
RAFAEL HILLS
PASADENA
Sierra Madre
Arcadia
Monrovia
Duarte
Azusa
Glendora
San Dimas
Claremont
Covina
West Covina
Baldwin Park
Monte
Alhambra
MERCED HILLS
La Puente
SAN JOSE HILLS
Pomona
Montebello
Whittier
Maywood
PUENTE HILLS
SCALE IN MILES
34°12'
34°08'
34°00'
EXPLANATION
LINES OF EQUAL GROUNDWATER LEVELS, (INTERPOLATED BETWEEN WELLS.)
SAME AS ABOVE, (LOCATION APPROXIMATE)
RESTRICTIONS AND/OR BARRIERS TO GROUNDWATER MOVEMENT, GEOLOGIC AND HYDROLOGIC.
GROUND SURFACE CONTOURS.
SPREADING GROUNDS.
REVISIONS
NO. DATE DESCRIPTION
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
SAN GABRIEL VALLEY
GROUNDWATER CONTOURS
FOR
FALL 1991
RECOMMENDED BY
ASSISTANT DEPUTY DIRECTOR
DESIGNED BY
CHECKED BY
DRAWN BY
PROJECT ENGINEER
DATE
SCALE
NO.
SHEET OF


PACIFIC OCEAN
SANTA MONICA
MARINA DEL REY
BALDWIN HILLS
INGLEWOOD
EL SEGUNDO
HAWTHORNE
MANHATTAN BEACH
GARDENA
HERMOSA BEACH
REDONDO BEACH
PALOS VERDES HILLS
SAN PEDRO
SAN PEDRO BAY
LONG BEACH
VERNON
HUNTINGTON PARK
SOUTH GATE
WALNUT
LYNWOOD
ATHENS
COMPTON
PARAMOUNT
DOWNEY
NORWALK
WHITTIER
WHITTIER NARROWS DAM
LOS ANGELES COUNTY
ALAMITOS BARRIER PROJECT
Dominguez Gap Barrier Project
Ballona Creek
Los Angeles River
San Gabriel River
Coastal Basin Barrier Project
EXPLANATION
LINES OF EQUAL PRESSURE ELEVATIONS- PRINCIPAL AQUIFER (INTERPOLATED BETWEEN WELLS)
SAME AS ABOVE, LOCATION APPROXIMATE.
RESTRICTIONS OR BARRIERS TO GROUNDWATER MOVEMENT, (GEOLOGIC AND/OR HYDROLOGIC)
LINE APPROXIMATELY MARKING TRANSITION FROM FREE GROUNDWATER LEVELS TO PRESSURE LEVELS. (CENTRAL COASTAL PLAIN 1933, D.W.R. BULL. NO. 45.)
SCALE IN MILES
REVISIONS
NO. DATE DESCRIPTION
DESIGNED BY CHECKED BY DRAWN BY PROJECT ENGINEER
RECOMMENDED BY
ASSISTANT DEPUTY DIRECTOR
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
COASTAL PLAIN
DEEP AQUIFER
GROUNDWATER CONTOUR MAP
FOR
FALL 1991
DATE SCALE
NO.
SHEET OF

EXPLANATION

LINES OF EQUAL GROUNDWATER LEVEL.

LINES OF EQUAL GROUNDWATER LEVEL, LOCATION APPROXIMATE.

---900--- GROUND SURFACE CONTOURS.

DIVIDES.

LOW-FLOW LINE NATURAL CHANNEL.

REACH OF RISING WATER.

NOTE: ALL ELEVATIONS ARE IN FEET, U.S.B.S. DATUM.

REVISIONS			COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
MK	DATE	DESCRIPTION	SANTA CLARITA VALLEY GROUNDWATER CONTOURS FOR FALL 1991

DESIGNED BY	CHECKED BY	DRAWN BY	PROJECT ENGINEER	RECOMMENDED BY	DATE	SCALE
				ASSISTANT DEPUTY DIRECTOR	NO.	
					SHEET	OF