JOHN F. MANN, JR.

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES
a Municipal Corporation,
Plaintiff,

vs.

CITY OF SAN FERNANDO
a Municipal Corporation, et al.,
Defendants.

No. 650079

SUPPLEMENT NO. 1

to

REPORT OF REFEREE

By
STATE WATER RIGHTS BOARD
REFEREE

December, 1963

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APPROVAL AND ADOPTION BY
STATE WATER RIGHTS BOARD

The State Water Rights Board, Referee in the action entitled "The City of Los Angeles, a Municipal Corporation, Plaintiff, v. City of San Fernando, a Municipal Corporation, et al., Defendants," before the Superior Court of the State of California in and for the County of Los Angeles, No. 650079, approves and adopts this "Supplement No. 1 to the Report of Referee," dated December, 1963, pursuant to the Court Order entered September 3, 1963, and entitled "Rulings on Exceptions to Report of Referee, etc.," hereby correcting, adding to, amending or otherwise revising the two volumes constituting the Report of Referee, adopted by the Board on July 27, 1962, and filed with the Court on October 24, 1962.

Approved and adopted by the State Water Rights Board at a meeting duly called and held at Sacramento, California on the 19th day of December 1963.

/s/ Kent Silverthorne
Kent Silverthorne, Chairman

/s/ Ralph J. McGill
Ralph J. McGill, Member

/s/ W. A. Alexander
W. A. Alexander, Member

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* Refers to Report of Referee dated July 1962
** Refers to paragraph number in Court Order of September 3, 1963 - see Cross-Reference Table

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II-3	Nicholas I	22
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Court Ruling	Exception Number	Change Number
II-3	Nicholas XI	23
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II-6	Sparkletts I-1	16
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San Fernando Valley Reference

SUPPLEMENT NO. 1
TO THE
REPORT OF REFEREE*

Authorization and Scope

After the hearing of exceptions to the Report of Referee during the 14th session of the pre-trial conference in the Superior Court of California in and for the County of Los Angeles in action No. 650079 entitled "The City of Los Angeles, a Municipal Corporation, Plaintiff, v. City of San Fernando, a Municipal Corporation, et al., Defendants," the Court made tentative oral rulings confirmed by written Order dated August 29, 1963, entitled "Rulings on Exceptions to Report of Referee, etc.," Paragraph V. of which provides:

> "V. That the referee herein (State Water Rights Board), in response to the exceptions and rulings contained in Paragraphs I and II above of this order, prepare and file herein a supplement to said Report of Referee to be designated as Supplement No. 1 to said Report of Referee, setting forth therein the corrections, additions, amendments, revisions and any and all matters as are necessary or required to meet said exceptions as sustained, reference to the discussions contained in the reporter's transcript as set forth in the references after each exception number herein above being hereby made and incorporated herein for a more particular specification of said corrections, additions, amendments, revisions and matters to be made and set forth in said Supplement No. 1 to said Report of Referee:"

This Supplement No. 1 is made pursuant to said Paragraph V.

*Dated July 1962 and filed with the Court on October 24, 1962.

Nomenclature

Exceptions to the Report of Referee were filed by the City of Los Angeles, represented by Mr. Robert E. Moore, Jr.; City of San Fernando, represented by Mr. Neville R. Lewis; Cities of Burbank and Glendale, represented by Mr. Paul D. Engstrand, Jr.; La Canada Irrigation District and Crescenta Valley County Water District, represented by Mr. Henry Melby; certain other defendants, represented by Mr. William Howard Nicholas; Sparkletts Drinking Water Corporation, represented by Mr. H. Jess Senecal; and the Southern California Edison Company, represented by Mr. G. Edward Fitzgerald. For convenience in referring to an exception, the following nomenclature will be used through this supplement:

City of Los Angeles will be referred to as "Los Angeles"

City of San Fernando will be referred to as "San Fernando"

Cities of Burbank and Glendale will be referred to as "Burbank"

La Canada Irrigation District and Crescenta Valley County Water District will be referred to as "La Canada"

Those defendants represented by Mr. Nicholas will be referred to as "Nicholas"

Sparkletts Drinking Water Corporation will be referred to as "Sparkletts"

Southern California Edison Company will be referred to as "Edison"

For convenience, all revisions of said Report of Referee will be referred to as changes. Page numbers of this supplement have been parenthesized in order to avoid confusion with other page notations.

Changes Adopted

The State Water Rights Board hereby corrects, adds to, amends or otherwise revises the two volumes dated July 1962 heretofore adopted by the Board as its Report of Referee and filed with the Clerk of Court on October 24, 1962.

Change 1:	Page	Exceptions
	xxxi	Los Angeles 1 and 2 San Fernando 3 Nicholas XLII Edison 3

On page xxxi, in the second line of the second paragraph, insert an asterisk after the word "BOUNDARIES" and add the following footnote at the bottom of page xxxi: *Interpreted by the Referee throughout its Report as if the Order of Reference read: "I.1. THE GEOGRAPHIC (SURFACE WATER) AND HYDROLOGIC (GROUND WATER) BOUNDARIES..."

Change 2:	Page	Exceptions
	xxxiv	San Fernando 6
	10	La Canada I-13, Nicholas VII, VIII and XLV Edison 11

On page xxxiv, at middle of page, add asterisk after title: "Hydrologic Subareas", and add footnote at bottom of page: "*See explanatory note on page xxxiva."

On page 10, line 4, add asterisk after word "subarea," and add footnote at bottom of page: "*See explanatory note on page xxxiva."

After page xxxiv, add page xxxiva, in accordance with following page (4).

Exception 6 of defendant City of San Fernando and related exceptions of other defendants except to the use of the term "hydrologic subareas" as used by the Referee and state that the reference in the report should have been to basins and subbasins. Because the Referee knew that legal implications could be attached by the parties to the precise use or non-use of the terms "basin," "subbasin," and "ground water basin," and because this reference under Section 2001 of the Water Code was limited to a finding of physical facts, the Referee intentionally refrained from use of these terms in order to avoid and dispel any and all legal implications therefrom. The Referee, however, has described in detail the area, location, nature, characteristics and limits of the hydrologic areas under consideration, and the interconnection or interdependence thereof. On page xxxiv of Volume I of the report it is stated that the hydrologic subareas referred to "are bounded by impediments to flow of ground water which are caused by faulting, folding, alluvial constrictions or man-made works." This is a description which, coupled with any other impediment to flow, could be used in connection with a basin, a subbasin, or any smaller unit or subdivision thereof. Each hydrologic (ground water) area under consideration has characteristics of its own.

The report could have interchangeably used the terms "basin" or "subbasin" instead of "area" or "subarea" and the phrase "ground water basin" of the upper Los Angeles River area, instead of "ground water reservoir"; but regardless of the precise terms or phrases used, the physical facts with respect to said hydrologic areas, as set forth in this report, remain unchanged.

Change 3: Page xlix Exception Los Angeles 3

Delete the second paragraph on page xlix starting with "The safe yield..." and ending with "(see Table 55, page 246b)." Insert in its place the following paragraph:

The safe yield derived from native sources, in acre-feet per year, was 62,100, 57,700, and 54,700 for the years 1949-50, 1954-55 and 1957-58 respectively. That the effect of importation of foreign water was to increase the safe yield of the Upper Los Angeles River area, in acre-feet per year, in the amounts of 38,700, 42,700 and 42,900 for the years 1949-50, 1954-55 and 1957-58 respectively (see Table 55, page 246b). That the combined safe yield in acre-feet per year, of the Upper Los Angeles River area ground water reservoir determined under the conditions adopted thus was 100,800, 100,400 and 97,600 for the years 1949-50, 1954-55, and 1957-58 respectively.

Change 4: Page xlix Exception Los Angeles 4

Change the fourth line in last paragraph on page xlix beginning with "and 1957-58" and ending with "export and/or" to read "and 1957-58, it would have been necessary to modify the import, export and/or".

Change the verb in the last sentence on page xlix from "are" to "were".

Change 5:	Page	Exceptions
	106	San Fernando 29
	I-3	Burbank 5
		La Canada I-6
		Edison 14

Change footnote on pages 106 and I-3 to read as follows:

*Plaintiff and all defendants named in the Amended Complaint and in subsequent proceedings in connection with subject case prior to July 1, 1961.

Change 6:	Page	Exception
	I-8	Nicholas XXI

Change the word "established" to "located" in the first sentence of the first paragraph on page I-8. In the third sentence of the last paragraph on page I-8 beginning with "In 1854,..." and ending with "or water overseer.", change to read as follows: "In 1854 an ordinance was adopted by the Common Council purporting to establish a water department in the city and the water system was placed in charge of a "zanjero" or water overseer."

A copy of the entire page I-8 so revised follows on page (7).

History of Use and Development of Water

Plaintiff - City of Los Angeles

The Pueblo of Los Angeles was located on the west bank of Porciuncula River now known as the Los Angeles River in 1781. The first water system was a brush "toma" or dam across the river which diverted water into the "Zanja Madre" or mother ditch, and other open canals delivering water to irrigated fields. The water system was a gravity system with the dam being located at a place on the river upstream from the town.

On April 4, 1850, the Pueblo of Los Angeles was incorporated as the City of Los Angeles (see Plate 36). The primitive water system which had changed very little since its conception was inherited by the City. In 1854, an ordinance was adopted by the Common Council purporting to establish a water department in the City and the water system was placed in charge of a "zanjero" or water overseer. Various improvements to the water system were initiated including the construction of reservoirs, water wheels and distribution mains.

Change 7:	Page	Exceptions
	120	San Fernando 11 Nicholas L Edison 15

Change Table 13 on page 120 by adding a column for Defendant No. 1 (City of San Fernando). A copy of revised Table 13 follows on page (9).

TABLE 13

ESTIMATED AND MEASURED GROUND WATER EXTRACTIONS AND SURFACE WATER DIVERSIONS OF PARTIES AND THEIR PREDECESSORS MADE PRIOR TO 1928-29 FROM SOURCES IN THE UPPER LOS ANGELES RIVER AREA

In Acre-Feet

Year	Plaintiff[a]	Defendant Number[b]													
		1[d]	2	3	4	7	34	39	62	67	70	78	80	138
1913-14					10[c]									
14-15					10			70						
1915-16	52,780				10			100						
16-17	50,400				10			120						
17-18	44,780				10			130						
18-19	43,370				10			140						
19-20	40,590				10			150						60
1920-21	48,110	623			10			160		240				60
21-22	50,130	702			10			200		240				60
22-23	51,640	831	4,156		10			240		240				60
23-24	56,240	815	5,492		10			270		240				60
24-25	67,180	848	5,619		10			320	1,440	240	10			60
1925-26	66,150	980	6,474	2,112	10			400	2,100	240	10	2		60
26-27	56,980	1,210	7,296	2,376	10	6		480	1,960	240	10	4		60
27-28	60,620	1,257	8,242	2,718	10	86	4	510	1,820	240	10	20	220	60

a. Records are incomplete and do not include extractions made by the Department of Recreation and Parks, Sunland-Tujunga well field and surface diversions.
b. For name of defendant see Table 10.
c. Annual amounts 1906-07 through 1912-13 equal 10 acre-feet.
d. Estimate of Mr. Finley B. Laverty, consulting engineer for the City of San Fernando.

Change 8:

Page	Exceptions
173	San Fernando 17 La Canada I-16 Nicholas XVII and LIV

Change last sentence on page 173 to read: "A portion of the residual rain in transit to Gage F-57 percolates to the ground water and the remainder becomes part of the storm flow passing Gage F-57."

Change 9:

Page	Exception
199	Burbank 7a

Change tabulation on bottom of page 199 to read as follows:

In 1,000 Acre-Feet

Item	9-year average (1)	29-year average (2)	Difference (3)=(1)-(2)
Gross delivered water[a]	222.0	175.8	46.2
Gross recharge of delivered water[a]	58.6	49.8	8.8
Gross recharge as a percent of delivered water	26.4%	28.3%	1.9%
Cesspool recharge[b]	16.8	9.3	7.5
Gross recharge of delivered water less cesspool recharge	41.8	40.5	1.3
Gross recharge of delivered water less cesspool recharge as a percent of delivered water	18.8%	23.0%	4.2%

a Derived from Table 41
b Derived from Table 26

Change 10:	Page	Exception
	203 239 R-18	Burbank 7b, 7c and 7d

Change footnote of Table 43 on page 203 for column No. 2 to read:

"Table 42, Column 14"

Change footnote of Table 51 on page 238 for column No. 9 to read:

"Deep percolation from curve for safe yield year on Figure 11."

Change footnote of table R-8 on page R-18 for column No. 4 to read:

"Table 55, Item 10 minus Item 6 times Item 1-b."

Change 11:	Page	Exception
	248	Los Angeles 5

On the 13th line from the top of page 248, change the wording from "...it would be necessary..." to "...it would have been necessary..." The 13th and 14th lines are revised to read: "and water supply under safe yield conditions, it would have been necessary to adopt one or a combination of the following:"

Change 12:	Page	Exception
	79 G-4	Los Angeles 6

Delete the next to last paragraph on page 79

Delete the last sentence of the first paragraph on page G-4, Appendix G.

Pages 79 and G-4 in their entirety as revised follow on pages (12) and (13), respectively.

storage and regulating reservoirs near and within the Upper Los Angeles River area. The overall storage in the group of reservoirs along the aqueduct below Haiwee and above San Fernando Reservoir is 44,763 acre-feet. The maximum capacity of the conduit between these reservoirs and the San Fernando Reservoir inlet is 485 cubic feet per second, which is the controlling capacity of the system with respect to rate of delivery to the Upper Los Angeles River area and the City of Los Angeles.

Based on a limiting capacity of 485 cubic feet per second and a seven percent annual shutdown period, it appears that the aqueduct has operated at or near capacity during the latter portion of the base period.

Upstream on the Owens River, a short distance from the head of the aqueduct diversion, is located Tinemaha Reservoir of 16,405 acre-feet capacity which is used as a regulating reservoir to equalize variations in stream flow. Pleasant Valley Reservoir of 3,885 acre-feet capacity located immediately below the lowermost Owens Gorge power plant, is used to stabilize the power plant discharge. Crowley Lake, located above the gorge with a capacity of 183,465 acre-feet, is used to store and regulate upstream runoff.

Further detailed description of the aqueduct system and its operation is set forth in Appendix G.

The upper part of the aqueduct system starts in Mono Basin at Leevining Creek with a covered conduit to Walker Creek having a capacity of 300 cubic feet per second (cfs), as indicated on Plate 14. Walker Creek may be diverted across or into the conduit. The capacity of the conduit from Walker Creek to Parker Creek is 325 cfs. Parker Creek may also be diverted across or into the conduit. The capacity of the conduit from Parker Creek to Grant Lake is 350 cfs. Rush Creek flows directly into Grant Lake. The storage capacity of Grant Lake Reservoir is 47,525 acre-feet and facilities are provided by which water may be returned to Rush Creek below the reservoir. A covered conduit conveys the diverted water from Grant Lake to the Mono Craters Tunnel through which the Mono Basin water reaches Owens River Basin. The capacity of Mono Craters Tunnel is 365 cfs.

The City of Los Angeles has no controls on Owens River above Long Valley Reservoir; however, by agreement it is restrained from releasing water through the Mono Craters Tunnel when such release would cause the flow of the Owens River between the outlet of the tunnel and Long Valley Reservoir to exceed 400 cfs.

The capacity of Long Valley Reservoir is 183,465 acre-feet. Water from the reservoir passes through a series of three power plants located in the Owens River Gorge (see Plate 14). The power plants have

Change 13:	Page	Exceptions
	251	San Fernando 19 Nicholas LVI

Change the word "given" to "patented" in second sentence of the second paragraph and add the word "acres" at the end of the sentence after "17,172."

Change 14:	Plate	Exception
	7	San Fernando 32

Change Plate 7 to show the topographic divide between the east and west cienagas. Plate 7 so revised is bound following the text.

Change 15:	Plate	Exceptions
	12	San Fernando 24 Nicholas LXII

Change Plate 12 by deleting the portion of lined channel shown for Project 24 from the southeasterly end of Project 25 to the spreading grounds shown as Lopez.

Change 16:	Plate	Exception
	12	La Canada II-2 Nicholas II Sparkletts I-1

The tabulation at the left of Plate 12 which identifies channel improvements is changed by adding information to show whether each project was constructed and is maintained by the U. S. Corps of Engineers or the Los Angeles County Flood Control District, or both. The revised tabulation follows on page (15).

IDENTIFICATION NUMBER	IMPROVEMENT	YEAR PROJECT ACCEPTED	CONSTRUCTED BY LACFCD	CONSTRUCTED BY USCE	MAINTAINED BY LACFCD	MAINTAINED BY USCE
(1)	LOS ANGELES RIVER	1940		x		x
(2)	LOS ANGELES RIVER	1938		x		x
(3)	LOS ANGELES RIVER	1939		x		x
(4)	LOS ANGELES RIVER	1948		x		x
(5)	LOS ANGELES RIVER	1949		x	x	
(6)	LOS ANGELES RIVER	1951		x	x	
(7)	LOS ANGELES RIVER	1952		x	x	
(8)	LOS ANGELES RIVER	1953		x	x	
(9)	LOS ANGELES RIVER	1941		x		x
(10)	LOS ANGELES RIVER	1955		x	x	
(11)	LOS ANGELES RIVER	1957		x	x	
(12)	LOS ANGELES RIVER	1958		x	x	
(13)	BROWN'S CANYON WASH	1953	x		x	
(14)	BROWN'S CANYON WASH	1959	x		x	
(15)	ALISO CANYON	1953	x		x	
(16)	ALISO CANYON	1942 to 1956	x		x	
(17)	BULL CANYON	1953	x		x	x
(18)	BULL CANYON	1955	x		x	
(19)	BULL CANYON	1956	x		x	
(20)	PACOIMA WASH	1957		x	x	
(21)	TUJUNGA WASH	1950		x	x	
(22)	TUJUNGA WASH	1952		x	x	
(23)	PACOIMA DIVERSION	1953		x	x	
(24)	PACOIMA WASH	1932-1954		x	x	
(25)	MAY CHANNEL	1953	x		x	
(26)	PACOIMA RESERVOIR	1929	x		x	
(27)	TUJUNGA WASH	1952		x	x	
(28)	HANSEN DAM	1940		x		x
(29)	HAINES CANYON CHANNEL	1938	x	x	x	x
(30)	WESTERN BURBANK UPPER	1952		x	x	
(31)	WESTERN BURBANK LOWER	1939		x	x	x
(32)	COOKS CANYON	1952	x		x	
(33)	DUNSMUIR CANYON	1936	x		x	
(34)	EAGLE CANYON	1936	x		x	
(35)	PICKENS CANYON	1935	x		x	
(36)	SNOVER-WEBER CANYON	1936	x		x	
(37)	HALLS CANYON	1936	x		x	
(38)	VERDUGO WASH	1930-1938	x		x	
(39)	SYCAMORE CANYON	1932	x		x	
(40)	BIG TUJUNGA RESERVOIR	1931	x		x	
36	VAN NUYS - TYRONE AVENUE	1954	x		x	
60	TROPICO	1955	x		x	
88	SEPULVEDA BOULEVARD	1958	x		x	
94	HILLROSE STREET	1955	x		x	
96	RESEDA BOULEVARD	1954	x		x	
101	WENTWORTH STREET	1955	x		x	
107	BRANFORD STREET-CANTARA STREET	1957	x		x	
146	CENTRAL AVENUE-GLENDALE AVENUE	1956	x		x	
152	GARDENA AVENUE-RAILROAD STREET-LOS ANGELES STREET	1954	x		x	
156	HARVARD STREET-WILSON AVENUE-UPPER CENTRAL AVENUE-UPPER GLENDALE AVENUE	1956	x		x	
166	TOLUCA PARK - ALAMEDA	1954	x		x	
167	NIAGARA STREET	1956	x		x	
169	GLENWOOD PLACE	1957	x		x	
170	ALAMEDA - VERDUGO AVENUE	1956	x		x	
256	GLEN OAKS BOULEVARD	1954	x		x	

LACFDC - Los Angeles County Flood Control District
USCE - U. S. Corps of Engineers

Change 17:	Page	Exceptions
	126	San Fernando 12 Nicholas LI

Plates

22, 23, 24, 25

Change page 126 by adding the following at bottom of the page.

The location and proportions of the colors shown on Plates 22, 23, 24 and 25 are a schematic representation of the culture that existed in 1928, 1949, 1955 and 1958 and are not intended to be an exact representation. Because of the small scale of the plates certain minor areas do not appear.

Change 18:	Plate	Exception
	34-C	San Fernando 16

Change written location description of the City of San Fernando Well No. 5969 on Plate 34-C to read as follows: "300 FEET NORTHWEST OF HUBBARD AVENUE AND 30 FEET NORTHEAST OF DRONFIELD STREET."

Change 19:	Page	Exceptions
	A- 4	San Fernando 28 and 33
	A-59	Nicholas XXIII, XXXII
	A-61	and XXXIII
	A-62	La Canada I-18
	A-63	Edison 20 and 21
	A-64	Sparkletts IV
	A-65	

Page A-4: In Table of Contents, change "Geologic Defenses" to "Geologic Investigations" and title of Table A-2 from "Summary of Physical Facts Found in Connection with Defendant's Geological Defenses" to "Summary of Physical Facts Found in Connection with Geological Investigations."

Page A-59: Revise page A-59 to consist only of the following paragraph:

Geologic Investigations

Results of detailed geologic investigations of certain wells and tunnels, located both within and outside the valley fill, are reported in Table A-2, which follows. Definitions at the end of Table A-2 apply to words and phrases used in the column entitled "Summary remarks."

Page A-60 and A-61: Strike pages A-60 and A-61 in their entirety.

Pages A-62 through A-65: Change title of Table A-2 from "SUMMARY OF PHYSICAL FACTS FOUND IN CONNECTION WITH GEOLOGIC DEFENSES" to "SUMMARY OF PHYSICAL FACTS FOUND IN CONNECTION WITH GEOLOGIC INVESTIGATIONS." Delete column entitled "Affirmative defense claimed."

Under "Summary remarks" for Defendant No. 7, La Canada Irrigation District, add the following remark:

> "7. Well No. 5077A is in the valley fill area of the Monk Hill Basin within the Upper Los Angeles River area. Tunnels in Snover and Hall Beckley Canyons are in the hill and mountain areas tributary to the Monk Hill Basin within the Upper Los Angeles River area."

Under "Summary remarks" for Defendant No. 8, Crescenta County Water District, change remarks to read as follows:

> "1. Same as those listed for Defendant No. 7 except for remark No. 7."

Under "Summary remarks" for Defendants Nos. 141 and 142, change remarks No. 3 to read as follows:

"The defendants' wells are located in the valley fill which, when saturated, would be in direct hydraulic connection with surface and/or subsurface flows moving through the Pacoima or Sylmar Notches and toward the Los Angeles River Narrows. Under natural conditions, portions of the subsurface flow that may flow toward Sylmar Notch would be available for consumptive use in the Sylmar cienaga area."

Under "Summary remarks" for Defendants Nos. 37 and 64, in remark No. 3, change "Upper Los Angeles River Basin" to "Upper Los Angeles River area."

Page A-65: Add a new note at the end of Table A-2 as follows:

As used in Table A-2, the terms "saturated" and "direct hydraulic connection" are defined, and the phrase "flows moving...toward the Los Angeles River Narrows" and the similar phrase in Table A-2 are limited as follows:

"saturated" - a condition existing when the interstices of a porous or fractured material are filled with water.

"direct hydraulic connection" - a condition existing when water occupying an interstice of a saturated material is able to move, under a head differential imposed by gravity, to adjoining interstices and/or surface channels.

"flows moving...toward the Los Angeles River Narrows" and "flow which, under natural conditions, would flow toward the Los Angeles River Narrows", do not include water, if any, which, under natural conditions, had been consumptively used by evaporation or transpiration or had been retained in storage to replace water which had been so consumed.

Change 20: Page Exception

Table 12 La Canada III-7
Table T-6

On Table 12, page 117, in the right hand column opposite Defendant No. 7, La Canada Irrigation District, add the letter x to denote a footnote after 5077A and Snover. Add footnote x at end of table to read:

> x Extractions and diversions for years 1928-29 through 1957-58 shown on Supplement No. 1 as change 20. Identical information has already been included in Basic Data filed with Court, on pages 0-46 and 0-47.

La Canada Exception No. III-7 states: "The Report should indicate which of the defendants' extractions, if any, are from the Monk Hill Basin as distinguished from the Verdugo Basin." Pursuant to the above exception, the following tabulation gives the extractions and diversions from the Monk Hill Basin and its tributary hill and mountain areas within the Upper Los Angeles River area.

EXTRACTIONS AND DIVERSIONS BY LA CANADA IRRIGATION DISTRICT FROM VALLEY FILL AND HILL AND MOUNTAIN AREAS IN MONK HILL BASIN WITHIN UPPER LOS ANGELES RIVER AREA*
In Acre-Feet

Year	Well #5077A	Snover Canyon	Year	Well #5077A	Snover Canyon	Year	Well #5077A	Snover Canyon
1928-29	7	6	1940-41	0	19	1950-51	0	8
29-30	1	7	41-42	0	20	51-52	0	10
			42-43	0	21	52-53	0	8
1930-31	0	6	43-44	0	23	53-54	0	8
31-32	0	7	44-45	0	19	54-55	0	7
32-33	0	5						
33-34	0	4	1945-46	0	15	1955-56	0	7
34-35	0	7	46-47	0	15	56-57	0	6
			47-48	0	11	57-58	0	9
1935-36	0	7	48-49	0	10			
36-37	0	8	49-50	0	9			
37-38	0	9						
38-39	0	14						
39-40	0	11						

* These values are included in Table 12 under La Canada Irrigation District

Change 21:

Page	Exception
Table T-12	La Canada III-5

Following Table T-12 on page T-22 add Table T-12 (Continued), numbered page T-23, in accordance with page (21), which follows.

TABLE T-12 (Continued)

DEEP PERCOLATION OF IMPORTED DELIVERED WATER
VALLEY FILL AREA FOR
CRESCENTA VALLEY COUNTY WATER DISTRICT
AND
LA CANADA IRRIGATION DISTRICT

In Acre-Feet

Year	Crescenta Valley County Water District						
	Gross Delivered Water			Valley Fill Area Delivered Water			
	Total (1)	Hill Area (2)	Valley Fill (3)	Consumptive Use (4)	Deep Percolation (5)	Percent Import (6)	Deep Percolation of Import (7)
54-55	2850	30	2820	1670	1150	17.0	200
55-56	3150	40	3110	1880	1230	28.3	350
56-57	3320	40	3280	2010	1270	30.5	390
57-58	3300	50	3250	2130	1120	18.5	210

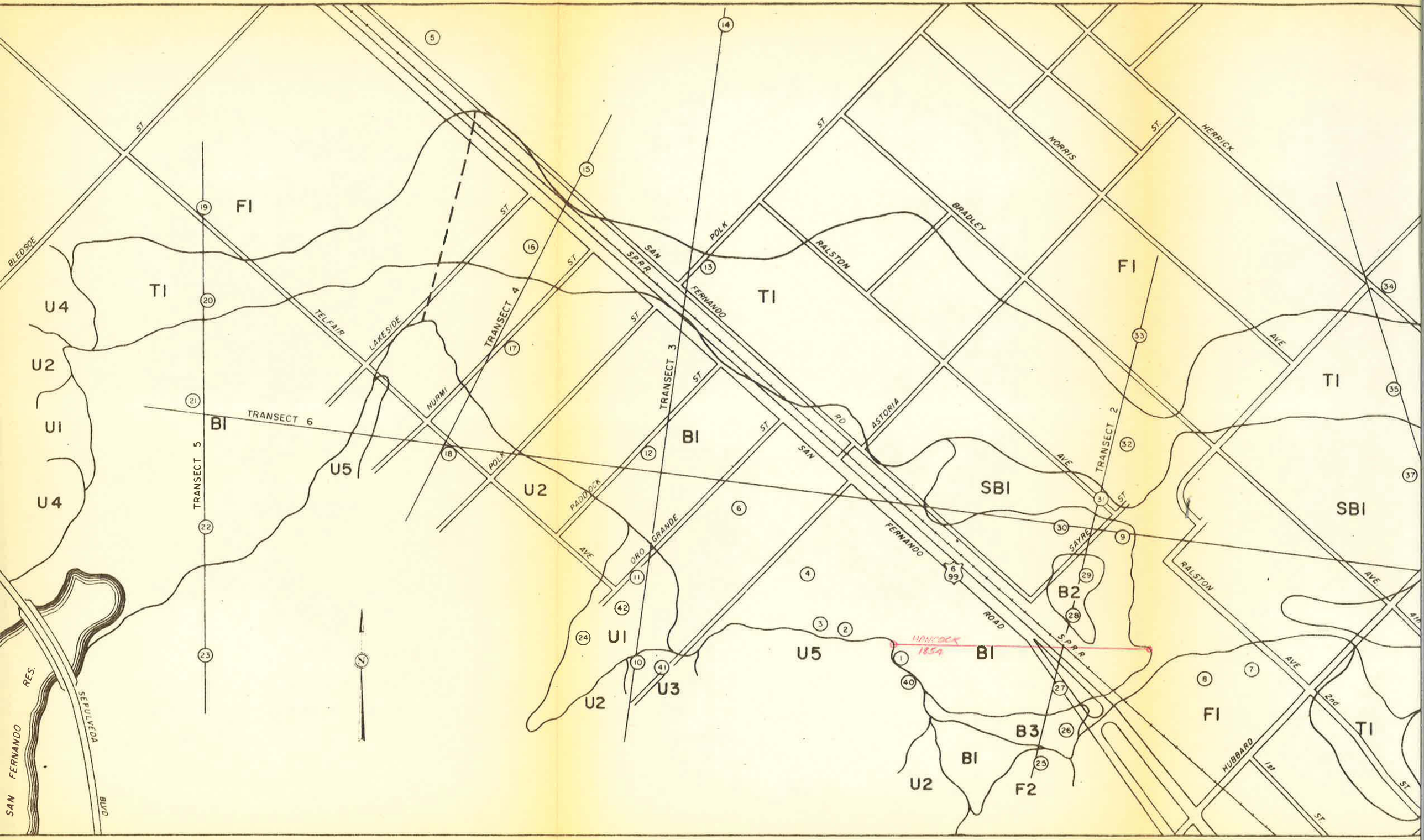
Column No.

1. Table J-5
2. Table J-13
3. Column 1 minus Column 2
4. Table T-12, Column 1
5. Column 3 minus Column 4
6. Column 3, Table T-12 divided by Column 3 herein
7. Column 5 times Column 6 divided by 100

Year	La Canada Irrigation District						
	Gross Delivered Water			Valley Fill Area Delivered Water			
	Total (1)	Hill Area (2)	Valley Fill (3)	Consumptive Use (4)	Deep Percolation (5)	Percent Import (6)	Deep Percolation of Import (7)
51-52	570	20	550	300	250	5.5	10
52-53	720	20	700	380	320	15.7	50
53-54	760	20	740	390	350	16.2	60
54-55	730	40	690	380	310	37.7	120
55-56	790	40	750	420	330	64.0	210
56-57	840	50	790	450	340	48.1	160
57-58	800	60	740	450	290	56.8	160

Column No.

1. Table J-5
2. Table J-13
3. Column 1 minus Column 2
4. Table T-12, Column 2
5. Column 3 minus Column 4
6. Column 4, Table T-12 divided by Column 3 herein
7. Column 5 times Column 6 divided by 100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TELFAIR
LAKESIDE
NURMI
TRANSECT 4
TRANSECT 3
TRANSECT 6
TRANSECT 5
TRANSECT 2
SAN FERNANDO
SPRR
POLK
RALSTON
BRADLEY
NORRIS
HERRICK
AVE
PADDOCK
ORO GRANDE
RO
ASTORIA
SAYRE
ROAD
HUBBARD
1st
2nd
RES.
SEPULVEDA
BLVD
HANCOCK
1854
F1
T1
U4
U2
U1
U5
U3
B1
B2
B3
SB1
F2
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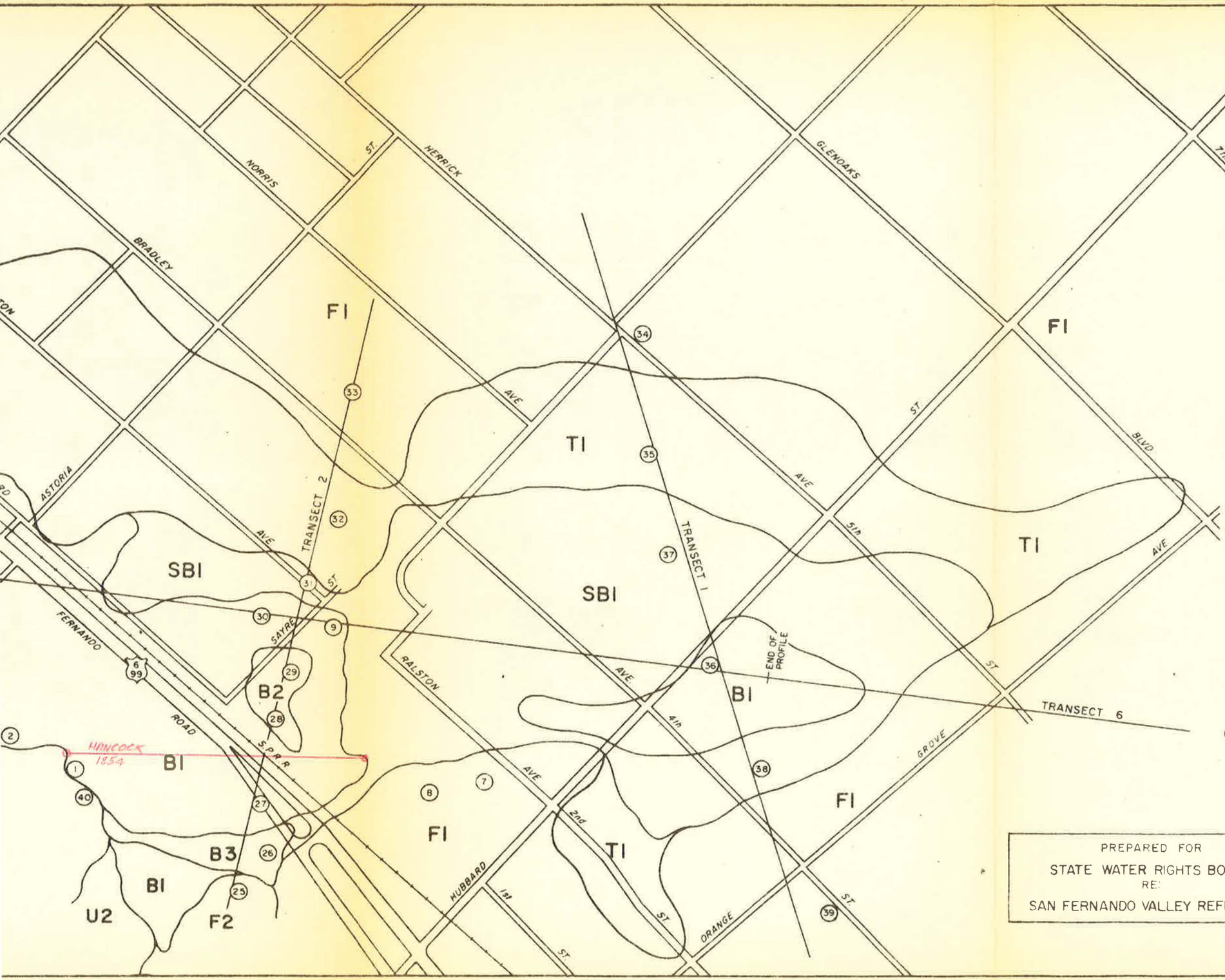

LEGEND

B – SOILS MOST STRONGLY AFFECTED BY HIGH WATER TABLE.

- B1 – CHINO FINE SANDY LOAM
- B2 – MERRILL FINE SANDY LOAM
- B3 – FOSTER SANDY LOAM

SB – SOILS SOMEWHAT LESS STRONGLY AFFECTED BY HIGH WATER TABLE.

- SB1 – GRANGEVILLE FINE SANDY LOAM

T – TRANSITION AREA BETWEEN HIGH WATER TABLE SOILS AND RELATED WELL DRAINED ALLUVIAL FAN SOILS. AFFECTED TO A SMALL DEGREE BY WATER TABLE.

- T1 – HESPERIA FINE SANDY LOAM (INCLUDES SMALL AREAS OF OTHER SOILS OF SIMILAR NATURE)

F – WELL DRAINED ALLUVIAL FAN SOILS UNAFFECTED BY WATER TABLE. RELATED TO ADJACENT CIENAGA SOILS IN SOURCE OF MATERIAL AND GENERAL AGE.

- F1 – HANFORD SANDY LOAM
- F2 – GREENFIELD SANDY LOAM

U – SOILS IN THE SURROUNDING AREA THAT ARE UNRELATED IN GENERAL AGE, PARENT MATERIAL, OR MODE OF FORMATION TO CIENAGA SOILS. NOT AFFECTED BY WATER TABLE.

- U1 – ZAMORA LOAM
- U2 – CHUALAR SANDY LOAM AND RAMONA SANDY LOAM
- U3 – PLACENTIA SANDY LOAM
- U4 – ALTAMONT SANDY LOAM
- U5 – DIABLO SANDY LOAM AND LOAM

SYMBOLS

(1) THROUGH (42) – SOIL SAMPLE LOCATIONS

SOILS BOUNDARIES

TOPOGRAPHIC DIVIDE BETWEEN EAST AND WEST CIENAGA AREAS

PREPARED FOR
STATE WATER RIGHTS BOARD
RE:
SAN FERNANDO VALLEY REFERENCE

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
SAN FERNANDO CIENAGA AREA

SOIL SURVEY
AND
LOCATION OF TRANSECTS
JUNE 1960

SCALE OF FEET
0 500 1000