

STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC WORKS  
BEFORE THE STATE ENGINEER AND  
CHIEF OF THE DIVISION OF WATER RESOURCES

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In the Matter of Application 12361 by Steel Canyon Irrigation District to Appropriate Water from Sweetwater River Tributary to San Diego Bay in San Diego County for Domestic Purposes and Irrigation.

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Decision A. 12361 D. 646

Decided February 28, 1950.

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Appearances at Hearing Held at San Diego, March 15, 1949

For the Applicant

Steel Canyon Irrigation District

Allen G. Mitchell, Attorney

For the Protestants

California Water and  
Telephone Company )

(Bacigalupi, Elkus and  
(Salinger, Attorneys by  
(Tadini Bacigalupi, Jr., and  
(Peter A. Nenzel,  
(Vice President

City of National City

No appearance

City of Chula Vista

No appearance

Thomas E. Sharp

(Lindley, Lazar, Johnson and  
(Scales, Attorneys, by  
(F. E. Lindley

EXAMINER - GORDON ZANDER, Principal Hydraulic Engineer, Division of Water Resources, Department of Public Works, for EDWARD HYATT, State Engineer.

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## OPINION

### General Description of the Proposed Development

The application proposes a diversion of one cubic foot per second from Sweetwater River in San Diego County, for domestic purposes and irrigation. Diversion is contemplated from January 1 to December 31 but the application limits the total amount diverted in any one year to 400 acre feet. The proposed point of diversion is described as being located within the projected NW $\frac{1}{4}$  NE $\frac{1}{4}$  of Section 31, T 16 S, R 1 E, S.B.B.&M. Diversion is to be effected by pumping and regulatory storage is contemplated to the extent of 375,000 gallons. The conduit is to be an 8 inch steel pipe line approximately 3,500 feet long. The projected place of use is a tract of 295 acres situated within Sections 31 and 32 of T 16 S, R 1 E and Sections 5 and 6 of T 17 S, R 1 E, S.B.B.&M. This tract includes 135 acres of orchard and 160 acres of general crops. Domestic service is to be provided for 30 houses. The irrigation season is to extend from April 1 to December 1 and private wells are mentioned as another source already supplying the project.

### PROTESTS

The California Water and Telephone Company protests that the proposed diversion will take appropriated water that it is now diverting and distributing as a public utility within National City, Chula Vista and unincorporated areas contiguous thereto. It claims a riparian right as well as a right by appropriation and asserts that it has been diverting, for use and storage, all of the normal and flood waters of the Sweetwater River, both surface and subsurface, since 1886. It asserts further that waters so diverted are stored and used for domestic, industrial, irrigation and other purposes in the Sweetwater area and that water also is diverted for agricultural purposes

on its own lands in Jamacha Valley. It contends that there are no waters available from the Sweetwater River and tributaries beyond its own requirements and those of other riparian owners. According to the protest this protestant's diversion heads at a point within the SW $\frac{1}{4}$  NE $\frac{1}{4}$  of Section 17, T 16 S, R 2 E, S.B.B.&M.; mention is also made in the same connection of Loveland Dam, Rancho de la Nacion, Sweetwater Reservoir and Rancho Jamacha.

In answer to the foregoing protest the applicant states that the protestant's diversions at Loveland Dam, and at Jamacha Valley head at points upstream from the proposed point of diversion and therefore cannot be adversely affected. It alleges that the protestant's Sweetwater Dam is beyond the cone of influence of the well from which appropriation is proposed; furthermore that the water filed upon is not known or indicated to percolate to Sweetwater Dam and that on the contrary such water would be lost by absorption and transpiration in a shorter distance than the intervening 7 miles that it would have to travel.

Thomas E. Sharp protests on the basis of claimed riparian and appropriative rights which, he represents, would be injured by the proposed appropriation. He states himself to be the owner of Monte Vista Ranch which lies on both sides of and is riparian to Sweetwater River just below the proposed point of diversion, the latter lying some 1000 feet upstream from the uppermost of a series of wells that supply the water requirements of Monte Vista Ranch. He argues that the applicant's proposed development would conduct water over a divide which would prevent it from being available later to any but a small part of Monte Vista Ranch. He claims to have irrigated approximately 87 $\frac{1}{2}$  acres from wells in or along the river, but that during the past 3 years, due chiefly to water shortage, some 250 acres, only, have been irrigated.

In answer to the Thomas E. Sharp protest the applicant argues that the cone of influence of the well from which he proposes to pump does not extend to the nearest of this protestant's wells, and that water available at the proposed point of diversion would be lost by absorption and percolation before reaching the protestant. It alleges that the protestant had irrigated not over 50 acres during the past 5 years and that such restricted use has not been due to lack of water. It asserts that there are now (August, 1948) numerous standing pools of water in Sweetwater River on Protestant Sharp's property. It denies that either the protestant or his predecessors have ever curtailed irrigation by reason of shortage of water in Sweetwater River and alleges that the appropriation proposed under Application 12361 will not in any manner affect the protestant's supply.

The City of National City protests that it will be injured by the proposed appropriation inasmuch as the waters of Sweetwater River in their entirety are reasonably necessary for beneficial use at National City and Chula Vista and on the property of other prior users. It claims both riparian and prior appropriative rights to the use of such waters. It states that its diversion point is located within the SW $\frac{1}{4}$  NE $\frac{1}{4}$  of Section 17, T 16 S, R 2 E, S.B.B.&M. and in the same connection also mentions Loveland Dam, Rancho de la Nacion, Sweetwater Reservoir and Rancho Jamacha.

The City of Chula Vista protests in language practically identical with that of the National City protest.

The applicant answers the protests by the cities of National City and Chula Vista by asserting that those protestants do not themselves divert but are served by California Water and Telephone Company. It contends that the company named is the real protestant and that National City and Chula Vista are merely interested parties.

HEARING HELD IN ACCORDANCE WITH THE WATER CODE

Application 12361 was completed in accordance with the Water Code and the Rules and Regulations of the Division of Water Resources, and being protested, was set for public hearing under the provisions of Article 13, Section 733 (a) of the California Administrative Code on Tuesday, March 15, 1949 at 10:00 o'clock A.M. in the Board of Supervisors Hearing Chamber, Civic Center Building, San Diego, California. Of the hearing the applicant and the protestants were duly notified.

General Discussion

Loveland Dam is about 18 miles upstream from Sweetwater Dam, on Sweetwater River. The point at which the applicant proposes to divert is some 8 miles above Sweetwater Dam. Protestant Sharp's lands lie just below the applicant's proposed point of diversion. Water impounded by Loveland Dam is later released to Sweetwater Reservoir, from which distribution is made to customers. Upon release from Loveland Reservoir water thus far has been allowed to follow the river channel but a pipeline is contemplated so as eventually to eliminate transmission losses between the two dams.

The watershed tributary to Sweetwater Dam is 181 square miles in extent, of which 100 square miles lie also above Loveland Dam. The reported capacities of the two dams are 29,065 acre feet and 25,387 acre feet, respectively. Records of runoff at each of the dams are published in Water Supply Papers of the U. S. Geological Survey on information supplied by California Water and Telephone Company. Runoff at Sweetwater Dam has been recorded since 1887; at Loveland Dam since 1944. Annual yields at the Sweetwater site as calculated by California Water and Telephone Company are set forth in that protestant's Hearing Exhibit No. 4 (Item 8). The fuller record, including monthly as well as seasonal runoff, as shown in the Water Supply Papers, is as follows:

WATERSHED REACHING SWEETWATER DAM

April	May	June	July	August	September	Total
185	133					7 050
500	1 247	660				25 200
						20 600
475	725					21 600
575	1 515					6 200
700	231					16 260
						1 338
400	1 000	320				73 400
						1 321
532	139					6 860
						4
						245
						0
						825
						0
						0
						0
687	1 515	534	158			13 750
660	1 432	164				34 900
790	953	329				29 900
148						4 140
						16 000
373	43					9 620
442						3 160
200	861					5 000
180	24	6	2	3	4	916
198	137	20	4	2	2	3 520
030	9 170	1 011	53	3	3	27 100
940	1 981	827	140	12	12	160 600
270	1 181	478	85			15 270
565						10 180
314	176					4 110
740	1 113	77				14 930
	671				58	1 804
267	2 740	833	262			61 900

RUNOFF (IN ACRE FEET) FROM SWEETWATER

Season	October	November	December	January	February	March
1887-88			1 180	1 750	1 520	2 280
88-89		129	2 200	1 980	2 170	12 350
89-90						
90-91				489	15 100	3 840
91-92					2 090	1 015
92-93					482	12 850
93-94					716	622
94-95				53 900	10 280	5 500
95-96				273	266	782
96-97				227	2 490	3 470
97-98					4	
98-99				245		
1899 -00						
1900 -01				5	820	
01 -02						
02-03						
03-04						
04-05					2 360	7 500
05-06					1 140	25 500
06-07			694	8 530	3 878	9 770
07-08				719	2 170	1 101
08-09						
09-10			1 335	5 690	1 432	738
10-11				256	1 044	1 416
11-12						935
12-13	6	6	6	24	22	633
13-14	6	6	6	378	2 230	531
14-15	6	6	35	978	8 770	5 040
15-16	3	3	61	112 600	27 800	12 240
16-17	750	339	1 187	3 300	3 720	1 957
17-18				183	577	8 860
18-19		94	479	131	1 437	1 477
19-20				22	2 540	7 440
20-21			92	229	351	403
21-22			14 280	10 460	13 160	12 920

WATERSHED REACHING SWEETWATER DAM -- Continued

April	May	June	July	August	September	Total
1 665						9 100
1 300	99					2 810
688	151					1 136
12 840	389	351				14 400
6 000	2 030	493				118 700
116	120	78	37	36	60	3 949
1 259	132	118	116	92	28	3 572
319	2 268	80	31	25	50	4 598
109	104	38	30	20	20	1 425
1 552	445	125	40	85	92	25 904
784	1 219	166	58	35	48	6 969
79	41	56	94	108	101	1 089
891	120	53	17			3 809
2 181	64	63	53	59	56	3 952
7 915	2 500	1 036	60			62 100
2 370	1 610	173	12	5		31 220
1 100	283				286	11 105
1 100				31		4 910
29 420	6 880	1 680	449	118	91	67 610
1 540	478	57	35	60	44	10 400
4 620	516	14		3	2	14 100
1 750	836	43				15 980
301		8		40		3 960
396					2	1 490
66	65	55	64	2	53	4 864
74	46	12	24	25	18	908
						1 027 763
						16 849



RUNOFF (IN ACRE FEET) FROM SWEETWATER

Season	October	November	December	January	February	March
1922-23		223	1 812	948	2 680	1 768
23-24			160	28	90	1 136
24-25		66	145			86
25-26	29	140	168	132	219	136
26-27				554	84 300	25 300
27-28	313		1 118	643	931	497
28-29	76	73	164	125	306	1 083
29-30	50	110	114	272	89	1 190
30-31	142	63	101	194	454	100
31-32	50	90	723	624	18 033	4 045
32-33	157	142	194	1 987	1 442	737
33-34	68	69	119	58	216	80
34-35	135	130	189	177	548	1 549
35-36			46	40	911	174
36-37	96	98	287	2 384	34 310	13 412
37-38		12	120	433	1 920	24 060
38-39	19	3	670	1 498	3 902	2 675
39-40	24	92	31	661	1 720	927
40-41	93	39	5 030	1 220	4 360	18 230
41-42	888	346	1 490	1 730	1 140	2 090
42-43	47	29	117	2 650	1 310	4 790
43-44			478	274	6 460	6 140
44-45		308	137	396	919	1 800
45-46	56	68	457	217	196	95
46-47	133	190	152	3 819	188	77
47-48	27	10	428	67	147	50
TOTAL FOR 61 SEASONS						
Average seasonal runoff reaching Sweetwater Reservoir (acre feet)						

The runoff figures above tabulated are stated (in the Water Supply Papers) to be based on "records of storage, release, leakage, spill, evaporation, rainfall and release and spill from Loveland Dam". The figures for the seasons 1887-88 to 1925-26 inclusive (in the tabulation) result from transforming the figures published in Water Supply Paper 636E, by slide rule, from cubic feet per second to acre feet per month and year. The figures for the seasons 1927-28 to 1935-36 were copied directly from Water Supply Paper 811. The figures from the seasons 1936-37 to 1943-44 were copied directly from the later applicable Water Supply Papers and those for the seasons 1946-47 and 1947-48 were obtained from unpublished Geological Survey Records. A comparison of the figures herein tabulated with those contained in the protestant company's Hearing Exhibit No. 4 shows substantial agreement except for the season 1889-90, for which the exhibit reports 36823 acre feet instead of the 20,600 acre feet shown in Water Supply Paper 636E. It so happens that for that season the record does not show the runoff occurring each month and the total for the season therefore cannot be verified directly. As a result mainly of the discrepancy mentioned there is a divergence also between the 61 year total of 1,046,667 acre feet shown on Exhibit No. 4 and the 1,027,763 acre feet resulting from the U. S. Geological Survey record, these figures indicating seasonal averages of 17,158 acre feet and 16,849 acre feet respectively. Since estimates of runoff are seldom closely accurate it is concluded that the discrepancies discussed are not serious and that the average runoff of Sweetwater River at Sweetwater Dam may be taken as approximately 17,000 acre feet per season.

From the tabulated figures it is apparent that the average runoff of 17,000 acre feet occurred or was exceeded in but 14 of the 61 seasons of record, that runoff occurring in approximately half the seasons of record

did not exceed 6,000 acre feet, and that in 7 consecutive seasons runoff was less than 1,000 acre feet. The figures show also the wide variation of runoff which occurred from month to month. These circumstances point to the impracticability of utilizing the runoff of Sweetwater River for any purpose requiring a reasonably firm supply, except by equalization of the fluctuating runoff, by storage.

Storage has been developed on Sweetwater River, as earlier stated, at two sites, i.e. Sweetwater Reservoir and Lake Loveland, to a total capacity of 54,452 acre feet. In only 6 out of the 61 years of record did the runoff exceed the combined capacities of the two reservoirs. Such excessive runoffs occurred in 94-95, 15-16, 21-22, 26-27, 36-37, and 40-41. Extensive natural, underground storage also exists at the so-called Lower Basin, the so-called Upper Basin and, to smaller degree, on other reaches of the stream. The amount of underground storage is not definitely apparent from the data at hand but it is probably considerable and Protestant Sharp for one appears to depend upon it heavily. In the reach from the proposed point of diversion to Sweetwater Reservoir the Hearing Testimony indicates that there is much native vegetation, suggestive of considerable losses of ground water by transpiration. Any residual ground water not lost by transpiration and /or evaporation or pumped for irrigation or other use or impounded by some impervious barrier presumably percolates downstream and enters Sweetwater Reservoir. The right of California Water and Telephone Company to divert water at Sweetwater Dam, according to the testimony (page 126 of Transcript) is based upon an appropriation of 75,000 miner's inches, initiated in 1888. As to the extent to which that right may have been perfected by application to beneficial use Witness Poulter testified

(pages 129 of Transcript) that total draft and production over the last five year period has been a little less than 13,000 acre feet. A rough corroboration of that figure is found in a statement on page 82 of Division Bulletin No. 48 (San Diego County Investigation) to the effect that Sweetwater Corporation (predecessor to California Water and Telephone Company) irrigated 3,111 acres in 1933, serving a gross area of 14,000 acres including the urban areas of National City, Chula Vista and Otay City. According to Hearing Item # 11 Sweetwater Dam last filled to capacity in 1944; prior to that it filled or nearly filled in 1943, 1942, 1941, 1939, 1938, 1937, 1932, 1927, 1922 and 1916, neglecting operations prior to the raising of the dam to its present crest elevation.

California Water and Telephone Company also holds Permit 6207 under Application 10661 to divert 30.94 cubic feet per second and 27,000 acre feet per annum from Sweetwater River at Lake Loveland. It is noteworthy that Application 10661 is senior to Application 12361.

Protestant Sharp may be supposed entitled to sufficient water to irrigate from 207.62 to 845.92 acres, according to the testimony (Page 108 of Transcript). His right also must be considered superior to any right acquired by the filing of Application 12361.

The protestant California Water and Telephone Company takes the position that it is entitled to all of the water that originates within Sweetwater watershed excepting such water as may be required to satisfy existing rights held by others (as for example Protestant Sharp) and that no unappropriated water exists in the stream except at rare intervals, during seasons of excessive rainfall. In view of the infrequency of the times when Sweetwater Reservoir is completely filled and the short duration of that condition when

it does occur (as indicated by Hearing Item 11) it would appear that that position is well taken.

The applicant takes the position that surpluses occur at the proposed point of diversion because water exists there and, the applicant argues, such water in large part, especially in times of scarcity, is lost by transpiration by wild vegetation before it can reach Sweetwater Reservoir. Testimony (pages 35 and 42 of Transcript) points to the probability of sizeable transpiration losses but it does not follow that the diversion which the applicant proposes would materially decrease those losses. There is evidence that a residual subsurface flow occurs in the gravels and it is logical to presume that a portion of it gradually works its way down-channel into Sweetwater Reservoir. This residual, subsurface flow, whatever its amount, is evidently an element in the supply reaching that reservoir. The abstraction of 400 acre feet per year (or any part thereof) from the flow of Sweetwater River, either surface or subsurface, in the manner proposed in Application 12361 would therefore reduce accordingly the net supply heretofore reaching Sweetwater Reservoir to be distributed therefrom to the protestant company's customers. The entire flow of Sweetwater River, except during unusually wet seasons which are of too infrequent occurrence to be of material benefit to the applicant District evidently has already been appropriated.

#### SUMMARY AND CONCLUSIONS

Unappropriated water in Sweetwater River is non-existent except in comparatively small quantities for short periods at infrequent intervals, and Application 12361 by Steel Canyon Irrigation District to divert one cubic foot per second therefrom (total diversion not to exceed 400 acre feet per annum) should for that reason be rejected and cancelled upon the records of this office.


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ORDER

Application 12361 having been filed with the Division of Water Resources as above stated, protests having been filed, a public hearing having been held and the State Engineer now being fully informed in the premises:

IT IS HEREBY ORDERED that Application 12361 be rejected and cancelled upon the records of the Division of Water Resources.

WITNESS my hand and the seal of the Department of Public Works of the State of California this 28th day of February, 1950.

  
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A. D. Edmonston, State Engineer

