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**PROPOSED  
WATER SUPPLY  
OF THE  
ENLARGED  
CARDIFF  
IRRIGATION  
DISTRICT**

**Since this pamphlet was compiled,**

the San Dieguito Mutual Water Co. has given notice of the withdrawal of their proposition to sell their system to the district.

This leaves the district without an excuse for existing, except that it is living to save funeral expenses.

This withdrawal by the San Dieguito Mutual Water Co. in no way affects the legality of the annexation, nor the status of the three suits now pending in the Appellate Court. If either of the suits first filed are decided against the district, the annexation will be declared illegal. If the annexation is declared legal, it will be necessary to pay off the present indebtedness (about \$15,000 or \$16,000) before the district can be dissolved.

As we have no intention of paying any portion of this debt, the fight will go on to a finish as far as we are concerned.

Your assistance will be appreciated:

**Committee**

**Ranchers' Protective Association,**

**G. H. JONES, Secretary,**

**Del Mar, Calif.**

There has been much discussion as to the available water supply from the various sources which, it is proposed, that the enlarged Cardiff Irrigation District shall purchase for the sum of.....\$2,053,716.61.

This amount does not include the distributing system and boosting plants, estimated...\$ 696,000.00 (Lippincott's Supplementary Report of Apr. 12, 1920, page 3.)

San Elijo Dam, estimated.....\$ 237,700.00  
Two large pumping plants, Lower San Pasqal and San Dieguito Valley.

Debts of the original district, about...\$ 12,000.00 (now 15,000) which the enlarged district must assume.

The following pages attempt to give, in a concise form, a statement of facts and estimates compiled from the best sources available. viz: The report of J. B. Lippincott, C. E., made by order of the Board of Directors of the district. The report of Frank Adams, University of California, on "Agricultural value of Lands and Duty of Water in proposed Irrigation District," made at request of San Dieguito Mutual Water Co. and "Water Supply Paper 446," Department of the Interior, U. S. A., on "Geology and Ground Waters of the Western Part of San Diego County," by Arthur J. Ellis and Charles H. Lee. Studies made 1914-15.

**Compiled by the Ranchers' Protective Association.**

Propositions to sell these water systems to the district at the prices here given, have been made to the district.

**San Dieguito Mutual Water Co.**

Lands.....	\$376,950.00
Lake Hodges reservoir...	333,826.00
San Dieguito reservoir...	46,750.00
Carroll Conduit.....	111,415.00
Pipe Line to Coast.....	121,991.00
Water Rights.....	785,000.00

20 acres on San Dieguito Rancho, with right to pump 250 inches. Right to pump 2000 acre-feet from the Lower San Pasqual Valley. Right to by-pass 2000 acre-feet from Pama reservoir.

Price for all properties listed above.....\$1,800,000.00

**Del Mar Water, Light and Power Co.**

and.....	\$ 800.00
Present value physical property .....	36,425.00
Total.....	\$ 37,225.00

Term lease and Pumping right not included.

**Oceanside Mutual Water Co.**

Land.....	\$ 32,000.00
Present value of physical Property .....	94,715.00
Water Right 200 inches, San Luis Rey Valley.....	82,000.00
Above listed property with late improvements.....	<u>\$ 216,491.61</u>
Total for systems now constructed.....	<u>\$2,053,716.61</u>

**Analysis of the proposed Water Supply of the  
enlarged Cardiff Irrigation District.**

**San Dieguito Mutual Water Co., price:\$1,800,000.00**

Lake Hodges, estimated safe yield  
"on ordinary and wet years" (J. B.  
Lippincott's Report, pages 4 and 14.) 10,500 acre feet  
Estimated annual use and loss in the  
San Pasqual Valley, within the Lake  
Hodges water shed, to be deducted.  
(J. B. Lippincott's Report, page 14)-- 6,000 acre feet

Estimated safe net yield of Lake  
Hodges water shed..... 4,500 acre feet

Proposed to by-pass from Pama reser-  
voir to Lake Hodges, (J. B. Lippin-  
cott's supplementary Report.)..... 2,000 acre feet

Estimated supply to be obtained by  
pumping the sands of the Lower San  
Pasqual Valley, near Bernardo P. O.,  
(J. B. Lippincott's Report, page 4,)-- 2,000 acre feet

"Only a portion of these lands are  
owned by the Volcan Land and Water  
Co. To pump several hundred inches of  
water out of this region, especially in  
groups of dry years, will probably cause  
a lowering plane and a depletion of the  
surface flow of the river, and in mak-  
ing a proposition which involves such  
a use of water, it appears to me, there  
should be some reasonable guarantee,"  
(Excerpt from letter of J. B. Lippin-  
cott to R. F. Hickox. Feb'y 16, 1920.)



### San Dieguito Valley.

Estimated annual safe yield (Ellis and Lee, page 154, table 41) ----- 2,430 acre feet  
 Studies made 1914-15, before Hodges dam was built.

The Sweetwater Valley pumping yield was reduced 50% after Sweetwater reservoir was built, (Ellis and Lee, page 153.) Therefore deduct 50% from safe yield of San Dieguito Valley, leaving ----- 1,215 acre feet

J. B. Lippincott's report (page 4) estimates that 2400 acre feet could be pumped from this source, but fails to make deductions for Hodges reservoir and amount pumped by the Santa Fe Ranch for the irrigation of valley lands of which about 40% would be lost by evaporation. The Santa Fe Land Co. has refused to give a **prior** right to pump water from this valley. Therefore this source will yield very little or no water to the district.

Total estimated safe yield from the San Dieguito Mutual Water Co.'s system ----- 9,715 acre feet  
 Deduct 3,000,000 gal. per day sold City of San Diego ----- 3,360 acre feet  
 Net available supply from this system for irrigation ----- 6,355 acre feet

### Proposed San Elijo Reservoir.

Estimated cost of constructing dam, \$237,700.00.

It is claimed that "an irrigation draft on average and wet years" may be relied upon (Lippincott's Report, page 24 and 26,) amounting to.....1,600 acre feet

As observations were made only in two seasons, 1917-18 and 1918-19, (Lippincott's Report, page 23, table 6.) This estimate is little more than a guess, and old residents in this section consider it absurdly high. Ellis and Lee make no mention of this stream, evidently considering it too small to justify a report. Possible net estimated supply for irrigation, if this reservoir were built,..... 7,955 acre feet

In a conservative estimate, the estimated yield from the San Dieguito Valley (1215 acre feet,) and the estimated yield from the San Elijo reservoir (1,600 acre feet,) should be deducted. The first, because it will have been appropriated by the San Dieguito Valley lands, which are not in the district. The second, because the estimate is based on insufficient data. If these two sources are eliminated, the total conservative estimated yield left for irrigation from the San Dieguito Mutual Water Co.'s system would be..... 5,140 acre feet

### Del Mar Water, Light and Power Co.

Price ..... \$ 37,225.00

This pumping plant has been abandoned for more than a year, and as it drew its supply from the sands of the San Dieguito Valley, it could produce no additional water, and never was of any value to the district, except for the old distributing system in Del Mar, much of which needs replacing. Lippincott's Report makes no mention of this system.

### Oceanside Mutual Water Co.

Price ..... \$ 216,491.61

Water rights in San Luis Rey Valley (Lippincott's Report, page 30) 200 inches equals ..... 2,903 acre feet

According to agreement with the City of Oceanside, dated Aug. 13, 1913, this water cannot be taken south of the north line of the Agua Hedionda slough, (Recorded in the office of County Recorder, San Diego, Book 627 of the Record of Deeds, page 240, et sequitur.)



### Summary

Lake Hodges watershed below Pama damsite .....	10,500	acre feet
Use and Loss in San Pasqual Valley, to be deducted .....	<u>6,000</u>	“ “
Estimated net safe yield Lake Hodges watershed .....	4,500	“ “
Proposed to By-pass from Pama res'r	2,000	“ “
Estimated supply by pumping Lower San Pasqual Valley .....	2,000	“ “
Estimated supply by pumping San Dieguito Valley .....	1,215	“ “
Estimated supply from San Elijo res'r Oceanside Mutual Water Co. 200 inches equals .....	<u>2,903</u>	“ “
Total estimated yield for average and wet years .....	14,218	“ “
Amount sold to City of San Diego ..	<u>3,360</u>	“ “
Total estimated yield left for irrigation	10,858	“ “
Deducted estimated yield from San Dieguito Valley .....	1215	“ “
Deducted estimated yield from San Elijo reservoir .....	1,600	2,815 “ “
Total conservative estimated yield left for irriffation .....	8,043	“ “

## Irrigable Land

Acreege in entire district .....	24,748 acres
Deduct 28% unfit for irrigation (Frank Adams' Report page 4, Lippincott's Report, page 6), all of which could demand water .....	6,929 acres

The 10% agricultural land not always irrigated (Lippincott's Report, page 6) would be more than equalled eventually by demands from land classed as unfit for irrigation.

Total of irrigable land in district .....	17,819 acres
Irrigable land north of Agua Hedionda slough .....	3,000 acres
Irrigable land south of Agua Hedionda slough ..	14,819 acres

Therefore the estimated safe yield on average and wet years, from the San Dieguito Mutual Water Co.'s system, plus the San Elijo reservoir, if built, would be 7,955 acre feet per annum, or about one-half of an acre foot per acre per annum for the 14,819 acres of irrigable land south of Agua Hedionda slough. This supply would probably be cut in half during a series of dry years, (see Lippincott's Report, page 4.)

The water right of the Oceanside Mutual Water Co. amounts to 2,903 acre feet per annum, or about one acre foot per annum for the 3,000 acres north of the Agua Hedionda slough, is about double the supply to the southern portion of the district from all other sources combined, and should of course be apportioned throughout the entire district.

The total estimated net safe yield from all sources left for irrigation is 10,858 acre feet per annum. If this were divided among the 24,748 acres now included

within the Cardiff Irrigation District, it would mean less than one-half of an acre foot per acre per annum.

The Oceanside Mutual Water Co. is at present, (Sept. and Oct., 1920), pumping an average of 160 inches which it is supplying to about 1,000 acres for irrigation, or an average during these two months of about .4 acre foot per acre, and many of these irrigators complain that they are not receiving enough water for best results.

Frank Adams, Irrigation expert, University of California, in his report on this district, stated (page 8), "In the absence of more data, it is not considered prudent to recommend any lower net figures for the proposed district than shown by the average given in the summary, viz. About 1.1 acre foot per acre per annum for citrus fruit, and about 1.6 acre foot per acre per annum for truck farming. Even then some doubt is felt as to the sufficiency of these amounts for maximum yields." In Carlsbad the "doubt" has become a certainty.

What would the result be to Carlsbad if all water stock in the Oceanside Mutual Water Co. was sold to irrigators, and each demanded his full share of water? Or worse still, if the enlarged Cardiff Irrigation District is declared legal, and they should have to share this inadequate supply with the southern part of the District.

If these estimates are anywhere near correct, the district is a scheme to sell an entirely inadequate water supply at a large price.

Part of the infamous Resolution No. 41, passed by Board of Directors of the Cardiff Irrigation District, November 16, 1918:

Now, therefore, be it resolved by the Board of Directors of the Cardiff Irrigation District as follows, to-wit:

1. That all matter and things hereinbefore recited are true.
2. That all the lands within the boundaries of the present Cardiff Irrigation District, and all of the lands which would be within the boundaries of the said District, were the boundaries thereof changed so as to include the lands in the petition described, are susceptible of irrigation from a common source and by the same system of works, and are susceptible of irrigation from the source selected and chosen for the irrigation of the lands in said district;
3. That the question of the adequacy of a supply of water sufficient to irrigate the lands of the present Cardiff Irrigation District, and the lands described in the said petition from the said source and by the said system of works has been investigated by the Department of Engineering of the State of California, which has reported to this Board, and this Board does now find that **it has a source of water supply sufficient to irrigate all of the lands which would be within the boundaries were such boundaries changed as in the said petition prayed for;**
4. That each and all of the objections to the said petition are without merit;
5. That each and every lot, tract or parcel of land in the said petition specifically described and contained would be benefitted by the change of the boundaries of the said District, were the boundaries thereof changed as prayed for in the said petition;

6. That it is for the best interests of the Cardiff Irrigation District, that the boundaries thereof be changed so as to include therein the lands in the said petition described."

Nos. 1, 2, 3, 4 and 5, are pure fiction; while No. 6 is certainly true.

#### Part of Resolution No. 44.

Now, therefore, The Board of Directors of the Cardiff Irrigation District hereby orders: That the boundaries of the Cardiff Irrigation District be, and they are, hereby changed in accordance with the said petition and the said Resolution No. 41."

#### Table of Water Measures

- 1 inch equals 9 gallons per minute perpetual flow.
- 1 inch equals 12,960 gallons per day, or 4,730,400 gallons per year.
- 1 inch equals 14.5 acre feet per year.
- 1 inch for 8 months usually reckoned equal to 10 acre feet.
- 1 cubic foot equals 7.48 gallons.
- 1 acre foot equals 43,560 cubic feet, or 325,851.4 gallons.
- 1 acre foot will cover 1 acre 1 foot deep.
- 1 inch equals  $11\frac{1}{4}$  gallons, according to the California Statutes, but the old miner measure of 9 gallons has been used in these estimates.