

(2)

The cost of the System taken from various reports is as follows

Warner Dam 107 feet depth of water (Post 1917) Page 108 Vol 5 Reports	307,000
Conduit from Warner to South end of Page 108 Vol 5 Reports Long Tunnel (Post 1917)	338,000
Sutherland Dam 190 feet depth of Page 108 Vol 5 Reports Water (Post 1917)	965,000
Conduit from Sutherland to Pamo Res Page 101 Vol 5 Reports (Post-Seller 1917)	126,500
Pamo Dam 156 feet depth of water Page 92 Vol 3 Report (O'Shaughnessy and Leppeneit 1915)	1,361,900
Conduit from Pamo to San Clemente Res Page 111 Vol 5 Reports (Post-Seller 1917)	896,550
San Clemente Dam 190 feet depth of Page 111 Vol 5 Reports Water (Post-Seller 1917)	345,000
<hr/> Total Cost	<hr/> 4,339,950

Yours respectfully
Thomas H. King

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Post Estimate in 1917 + 50% main cost later

Warner dam today cost	560,000
" Conduit to Pamo Res	501,000
Dam at Pamo 50 ft H ₂ O required	90,000
Pamo to San Clemente - 28 miles =	1,350,000
San Clemente to City	600,000
	<hr/> 1,000
Pamo Dam	1,362,000

Total Cost Warner Dam	604,000	Warner Dam
	501,000	Warner to Pamo
	1,362,000	Pamo Dam
	1,350,000	} Pamo to City
	600,000	
<hr/> 442,000	<hr/> 4,417,000	=
		2,200,000
		530,000
		<hr/> 2,730,000

~~4317000 = 27300000~~

27300000 = ~~4317000~~

$100\% = 1,594,000$
 $1000\% = 15,940,000$
 16,534,000

$$\begin{array}{r} 220000.00 \\ 80000.00 \\ \hline 300000.00 \end{array}$$

$$\begin{array}{r} 22000000 \\ 5 \end{array}$$

$$\begin{array}{r} 8 \\ 50000 \\ \hline 400000 \end{array}$$

$$\begin{array}{r} 220000000 \\ 15 \\ \hline 37 \end{array}$$

$$\begin{array}{r} 307000 \\ 338000 \\ 90000 \\ 896550 \\ 300000 \\ \hline 1931550 \\ .09 \end{array}$$

$$\begin{array}{r} 25000000 \\ 1000 \\ \hline 25000000 \end{array}$$

$$25000 \overline{) 173839.50}$$

$$25000000 \overline{) 173839}$$

$$\begin{array}{r} 307000 \text{ Mann} \\ 338000 \text{ Mann} \\ 1361900 \text{ Parr} \\ 896550 \\ 300000 \\ \hline 3203450 \\ .09 \end{array}$$

$$365 \overline{) 695358}$$

$$\begin{array}{r} 3203450 \\ 600000 \\ \hline 28831050 \end{array}$$

$$37000 \overline{) 288310}$$

$$1.192175$$

307000	Mann
338000	" Credit
90000	Parr
896550	" Credit
300000	Sun Clark Credit
300000	Sutherland
300000	" Credit
<u>3141550</u>	

$$\begin{array}{r} 3141550 \\ 37000 \overline{) 282239.50} \end{array}$$

$$\begin{array}{r} 3203450 \\ 600000 \\ \hline 3863450 \\ .09 \end{array}$$

$$365 \overline{) 7.64}$$

.0289 per 1000 gal

Note In Estimating the cost per 1000 gal with Parr and Sutherland built I estimate 1000000 for the two dams

$$\begin{array}{r} 1341900 \\ 55000 \end{array}$$

Dam height dam Minimum X Sec 33
 Overly down ~ 161 1089
 26921

$$\begin{array}{r} 161 \\ \hline 996 \\ 1619 \end{array}$$

$$\begin{array}{r} 996 \\ \hline 1089 \end{array}$$

$$\begin{array}{r} 4 \frac{1}{2} \\ 12 \frac{1}{2} \\ \hline 16 \frac{1}{2} \\ 33 \end{array}$$

$$\begin{array}{r} 10 \frac{1}{2} \\ 70 \\ \hline 80 \frac{1}{2} \\ 161 \end{array}$$

San Diego, California, February 26, 1917.

Mr. T. H. King,
San Diego, Calif.

Dear Sir:

In case you make sale of the eighty-eight acres now standing in the name of Edford Hotel and Investment Company to H. H. Stevens, as per option given you this day, I agree to pay you Seven Hundred Dollars commission, as follows:

\$500 when the \$2000 shall have been paid ninety days from date, and
\$200 one year from date.

Yours very truly,

[assume E F]
CSM

202 West Ellenuood Drive
Eagle Rock, Cal

Mrs. A. King.

San Diego, Cal.

Dear Sir:

I have at hand, forwarded from Washington D.C., your letter of Feb. 15, 1917 addressed to Mrs. Elizabeth Lewis Griffin in regard to certain property of hers in the neighborhood of Del Mar, Cal. In reply, beg to state that Mrs. Griffin died at Eagle Rock, Cal. on Feb. 10, 1917 leaving no will. As she is survived by three children as well as myself it will probably be some little time before her estate can be settled. However if this class of property is in your line I should be glad to help

in touch with you with a
view to its sale at some
future date.

Very truly yours,

Clarence H. Griffin, M.D.

March 6, 1917

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SAN DIEGO, CALIFORNIA, January 14, 1918

Mrs. A. H. Vaile,
Maricopa, Kern Co., Calif.

Dear Madam:-

I understand that you own about 400 acres of
land near LaCosta, San Diego County, California. If you
care to sell, I would be pleased to have you give me your
price and terms. I have a prospective purchaser for a
tract of land in this neighborhood and should I succeed in
making a sale, I would want the usual 5% commission.

I would like to have your cash price and also
your price on terms, say of 1/3 down and the balance in one
and two years with 7% interest on deferred payments.

Thanking you for a prompt reply, I am,

Yours respectfully,

3225 Granada Ave.,
San Diego, Calif.

[Thos. H. KING]
csm

SAN DIEGO, CALIFORNIA, January 31, 1918

Mrs. A. H. Vaile,
Taft, Kern Co., Calif.

Dear Madam:-

I understand that you own about 400 acres near LaCosta, San Diego County, California.

If you care to sell, I would be pleased to have you give me your price and terms as I have a prospective purchaser for a tract of land in this neighborhood. Should I succeed in making a sale, I would of course want the usual 5% commission.

I would like to have your cash price and also your price if sold on terms, say of one-third down and the balance in one and two years with 7 percent interest on deferred payments.

Thanking you for a prompt reply, I am,

Yours respectfully,

3225 Granada Ave.,
San Diego, Calif.

Memorandum by T. H. King.

ACREAGE - CARDIFF IRRIGATION DISTRICT

The acreage of Cardiff Irrigation District as testified to by A. S. Monroe in Cardiff Irrigation District suit:

Total area within the boundary of enlarged District ;	26,368 acres
Area of old Cardiff District	<u>617 "</u>

making 25,751 acres added to the original District.

Acreage within the same boundary determined by this office 25,442. The acreage as testified to by Monroe being 946 acres greater than the acreage in the Tabulation of Land Values made by F. M. Faude.

This difference in acreage is accounted for by reason of the fact that Monroe used a government township plat for his acreage, thus giving the total area of the land within the District while F. M. Faude used the acreage as shown by the records of the County Tax Assessor, in which deductions are made for highways which have been dedicated to the State or County, railroad rights-of-way, streets, etc., and also certain deductions are made for non-fillable ground. Both figures are probably correct.

July May 16, 1918
[letter from] FAUDE
CSM

[C. L. HODGGS]
Office RES. LAND
December 24, 1918 0231

King:

Both Mr. Faulkner and I are absolutely in ignorance as to what kind of a title we have to the unsurveyed Government lands that we acquired through Johnson's scrip. Will you give me a history of this case, showing how we acquired the 80 acres: what we paid for it; or have we only floodage rights on that unsurveyed scrip land of Johnson's. My understanding is that we paid for the 80 acres outright, with scrip at \$45 per acre. Let me know in whose name the property stands on record today. What we are trying to do is to get everything in the name of the San Dieguito Mutual Water Co.

Please take this up with Miss Deasy: find out when Johnson acquired the 80 acres. Look through Miss Deasy's records and see if we did not at that time buy scrip and put it on that 80 acres. We must have a record of it either through the San Dieguito Mutual Water Co. or Wm. G. Henshaw accounts. Please let me have this information immediately.

E. F.

In answer to your inquiry regarding the land which was taken up ~~by P. S. Johnson~~ by means of Scrip

~~The SW⁴ NE⁴ Sec 18 T 13 S, R 2 W~~
was taken by Mr Post by means of a ~~Wyandotte~~
(Certificate N^o 10 Indian "B" 250 Wyandotte) Scrip
~~Indian Scrip. The application being N^o 023530~~
dated May 14, 1914

The SW⁴ NE⁴ Sec 18 T 13 S R 2 W was taken by Mr Post by means of Certificate N^o 10 Indian "B" Wyandotte Scrip - Application N^o 023530 dated May 14/1914

I am unable to find in this office ~~whether~~ when this application was granted but Mr Wickham writes me that the records of the land office can show this 40 ac to be in the name of W. S. Post.

⁴⁰/₁₂₀₀ On May 16, 1914 Mr Post made a Intclaim deed to you on this 40 ac. This deed has not been recorded and is in ~~the case of Miss Deasy~~ your safe

Regarding the unsurveyed lands within Lake Hodges:

No. 1 This 40 acres is the one on which the original damsite was located and was taken up by W. S. Post by means of Wyandotte Script. I have had Miss Deasy search for the patent but do not find it and I doubt if a patent has been issued as it is unsurveyed Government land, but the Land Office Records show it to be in the name of W. S. Post.

On May 16, 1914, Mr. Post made a quitclaim deed to Ed Fletcher for this 40 acres. This deed has never been recorded and is now in your safe.

No. 2 There is a patent on the 40 acres, in your safe, issued to Philip R. Johnson, Dated December 21, 1914, which has never been recorded. Johnson deeded to W. G. Henshaw October 5, 1915.

No. 3 Was taken up by means of Script by E. O. Faulkner, but I can find no record of a patent having been issued. The Land Office records show it in his name however.

No. 4 This 40 acres is vacant land according to records of the Land Office, subject, however, to an easement for floodage rights issued by the Department of the Interior, September 5, 1916. This 40 acres is unsurveyed land and can only be taken up by means of a certain class of script.

No. 5 & 6 Both of these parcels are vacant land but are subject to the same easement for flooding as No. 4, granted Sept. 5, 1916.

No. 7 Is vacant land and we have no easement of any kind upon it. Parcels 5, 6, 7, can probably be taken up under the Stone Act.

No. 8 Contains 10.01 acres. Would you want to take this along with the other adjoining land under the Stone Act.

3125 Canada Ave
San Diego Calif.
[by 1917]
cm

Miss Emily Preston
223 E. 17th St.
New York City.

Dear Mrs. Preston.

Yours of Feb 23 received and contents noted. I feel sure I can sell your Del Mar land at the price you ask, namely one hundred dollars an acre - on a basis of \$1000⁰⁰ cash - 1000⁰⁰ in one year and the balance of \$2000⁰⁰ in two years when one half of the purchase price is paid a mortgage would be given you for one year for the balance - you to give deed to the property at that time subject to said mortgage.

If you care to take up a proposition of this kind I will see that a cash deposit is made with you as a guarantee of good faith while the necessary papers are being drawn up.

I would of course expect the usual 5% commission for making the sale.

Thanking you in advance for your early reply I am

Yours respect.
T. H. King

Office,
Jan. 24, 1919

King:

Will you please handle this?

E.F.

Office,
Jan. 24, 1919

King:

What is this?

E.F.

February 11, 1919.

Mr. T. H. King,
c/o Ed. Fletcher Company,
San Diego, California.

My Dear Mr. King:

Please make a copy of the recorded deed to the San Diego Plume Company from the El Cajon Valley Company, which transfers all riparian rights and affecting the El Monte pumping plant, the Thum lands, and whatever lands are included in that recorded instrument, for Mr. W. L. Huber. Please rush this up to Mr. Huber and send me a copy of everything you send Mr. Huber.

Sincerely,

EF/RH

FEB 14 1919

Office,
Feb. 27, 1919

111-A

Mr. King:

Enclosed find letter from Mr. Faulkner. Will you please get all the questions answered and submit the thing for my approval at the earliest possible date.

What is the matter with Holyoke in the matter of these negatives. It looks like a mighty small piece of business and I want you to tell Holyoke so.

E. F.

encl

[see Feb 24, 1919]

March 17, 1919.

Mr. King:

Enclosed find letter from the South Coast Land Company. Can you get this information out immediately?

Ed Fletcher.

EF-mk

WM. G. KERCKHOFF, PRESIDENT

H. W. KELLER, VICE-PRESIDENT

OWNERS AND SUBDIVIDERS OF

DEL MAR TOWNSITE

CARLSBAD AND SOUTH
OCEANSIDE IRRIGATED
LEMON LANDS

SOUTH COAST LAND COMPANY

(INCORPORATED)

MAIN OFFICE AT

~~DEL MAR SAN DIEGO CALIF.~~

712 Garland Bldg.,
Los Angeles, Cal.

OWNING AND OPERATING

STRATFORD INN AT DEL MAR

STRATFORD INN GARAGE

DEL MAR BATH HOUSE
AND PLUNGE

DEL MAR WATER, LIGHT
AND POWER CO.

OCEANSIDE MUTUAL
WATER CO.

March 3rd,
1919.

Mr. E. W. Case,
c/o San Dieguito Mutual Water Co.,
920 Eighth Street,
San Diego, California.

My dear Mr. Case:-

About a year ago you made a survey of the Del Mar pipe line across the flats from your San Dieguito transmission line.

If you could furnish us with the general report of your survey, showing length, elevation and etc., and your recommendations as to the kind of pipe and etc., to be used, I would appreciate it very much. In fact, if you could have drawn for us a rough sketch showing the general lay out, ~~of~~ the approximate distance ~~and~~ etc., it would be very good.

I hope that we can get something stated on this before long.

With kindest personal regards.

Very truly yours,

SOUTH COAST LAND COMPANY,

J. W. Keller
Secretary & General Manager.

FHT/G

King

SAN DIEGO, CALIFORNIA, March 18, 1919

Col. Ed Fletcher,
Office.

Dear Sir:-

In answer to your inquiry about the survey for the Del Mar pipe line referred to by Mr. Tolle.

About a year ago a couple of days field work was done on this line and from these notes I find the length will be approximately 1 1/2 miles from the San Dieguito Distribution Line to the tank in Del Mar. Further than this there have been no details worked up.

While this is a good survey, it is only a preliminary one and is not necessarily the line upon which a pipe line would be constructed.

Yours respectfully,

THK: BK

T. M. King

1492
1450
0042

110.20 + 3.31 = 76 000 lbs 108-A
3.31
113.51

1492 March 18, 1919.

Mr. King:

Can you not furnish me with a map of the survey mentioned in your letter of March 18th, which I herewith return, also take the sizes, dimensions of pipe as estimated in Mr. Huber's report, and make up a statement of estimate of cost and state that this is simply tentative and the survey was only preliminary. Get me up something the best you can. You can come down to the office here if you have not Huber's report available and copy it from his report - the sizes dimensions and estimate of cost of pipe.

Ed Fletcher.

12¢ per 100 76 000 lbs @ per 100
91.20
2.74
93.94
Wain Tax 2.74
See Dugan's
Careful

14 1/2¢ per 100 to Escrowed on cement.

SAN DIEGO, CALIFORNIA, March 29, 1919

Col. Ed Fletcher,
Office.

Dear Sir:-

I want to bring to your attention the measurement of the water delivered from Lake Hodges Reservoir. I do not know whether you have given this matter any consideration or not, but it should be gone into carefully and not left to haphazard or guess work. Unless we have an abnormal rain this Spring, Lake Hodges will not overflow and water will be drawn off from time to time to keep the San Dieguito Reservoir filled. Unless we have a method of accurately measuring this water as it is drawn from Lake Hodges, we will have absolutely no records of the runoff into Lake Hodges. Some device should have been installed before any water was drawn from Lake Hodges. Since this was not done, the only thing to do is to keep drawing on Lake Hodges continuously until the San Dieguito Reservoir is full. This will give enough water available for irrigation below for some time to come. In the meantime, our measuring device can be installed. After the San Dieguito Reservoir is filled as suggested, we will be absolutely lost if any water is passed through the conduit until after we have some means of measuring.

It seems to me that it would be to the Company's interest to also install a measuring device for the water delivered from the San Dieguito Dam, but this is not so important to my mind as to know the amount of water drawn from Lake Hodges. I have written to the Engineering Department of the University of California who have recently completed some interesting experiments in the measuring of water flowing through open canals and should hear from them in a few days. Kindly let me know if you want me to go into this matter any further.

Yours respectfully,

T. H. King

THK: BK

ARTHUR S. BENT

ESTABLISHED 1886

[see: FAULKNER] KING CSM
H. STANLEY BENT

BENT BROTHERS ENGINEERING CONTRACTORS

CONCRETE PIPE LINES
CONDUITS
IRRIGATION SYSTEMS
CONCRETE SILOS
TUNNEL LININGS
SUBWAYS

GENERAL OFFICES: CENTRAL BUILDING
LOS ANGELES, CALIFORNIA

CONCRETE CHIMNEYS
DAMS
RESERVOIRS
MACADAM ROADS
CONCRETE ROADS
ASPHALT PAVEMENTS

April 16, 1919.

San Dieguito Mutual Water Company,
Col. Ed. Fletcher, President,
San Diego, Cal.

Dear Sir:

At the closing of our accounts on the Lake Hodges Dam and Conduit, we find a net loss of \$58,309.37 after allowing liberally for a possible salvage on plant.

Analysis shows this loss to be distributed very uniformly throughout the different units of the construction and makes apparent the fact that it was not due to a miscalculation of ours upon some part or parts of the work, but rather to some external condition which radically changed the entire situation. This condition of course was the war.

The effect of the war upon contractors all over the country has been most disastrous, and where they have been able to carry out their undertakings, the states, municipalities and private owners have very generally shown a disposition to give them relief by assuming a share of the losses.

It is in the hope that you will view our contract in the same way, that we are now presenting the matter for your consideration, as follows:

1.- Since every class of work was done at a unit loss, whatever you added to the Engineers estimated quantities, added to our loss. The estimated quantities are always understood to be approximate. It is obvious that in fairness to a bidder, they should be. On Lake Hodges Dam the quantities were as follows:

	Est. yards	Actual yds	Excess yds	Excess percent
Earth	300 "	1063.3 "	763.3	254%
Loose Rock	300 "	1731.3	1431.3	477%
Solid Rock	400 "	3016.8	2616.8	654%
Concrete	16100 "	18669.8	2569.8	16%

On the Conduit the quantities were as follows:

	Est. yds	Actual yds	Excess yds	Excess percent
Earth	5100 yds	13,334.35 yds	8234.35	161%
Loose Rock	5100 "	6,359.3	1259.3	25%
Solid Rock	6700 "	9,358.4	2658.4	40%

Our loss on the above excess alone was \$16,018.90.

The original plan of the dam was entirely changed two months after we started work. This change we agreed to although we knew at the time that the change was not to our advantage. The original plans showed the overflow dam with

APR 17 1919

Apr. 16, '19.

a plain roll top which is simple to form and pour. The new plan substituted what is known as the "vertical head" which involved a great deal of complicated form work and was much more difficult to handle with the spouting system. We find that the costs of form carpentering up to the time we reached the vertical head, averaged \$1.94 per cu.yd. of concrete. The form carpentering from that time to the finish averaged \$4.67 per cu.yd. of concrete, or an increase of \$2.73 per cu.yd. This loss per yard applies to 2014.38 yds. which amounts to \$5499.25. Thus our total loss on excess quantities and changes of plan was \$21,518.15.

2.- You are of course aware that it is standard practice among contractors to make capital at the owners' expense out of items like the above. Ordinarily every change and addition you desired to make would have been taken the fullest possible advantage of by the contractor. This has never been our practice. We always try to meet the owners' wishes in every way we can, believing that this attitude will beget a reciprocal friendliness on his part and that at the end of the job, if it appears that the changes which have been to his advantage have worked a hardship on us, he will recognize our rights in a spirit of fairness.

3.- We have given you the best quality of work throughout and a first class job, and you will recall that at the outset our bid saved you some thirty thousand dollars.

4.- You are doubtless aware of the relief that has been afforded all over the country to contractors who have put through their contracts in war times. Many of them threw up their jobs rather than bear the losses they could not prevent. Other hundreds failed and left the owners to struggle through their jobs themselves. Even bonding companies went down under the strain. It was with the greatest difficulty and jeopardy that we stayed with our job, but we resisted every influence looking toward abandoning it, and carried out our obligations in full regardless of where this landed us. Now at the end we are asking that you take care of only the loss on the extra work and changes. There is plenty of precedent for this. Legislatures have passed Bills to reimburse contractors - (one is before the California Legislature now); the Government has intervened in some cases; owners have shared losses; contractors have been allowed to suspend work (as in the case of the Santa Fe Railroad Company and Maney Brothers of Oklahoma) etc., etc. New York covered this matter by the Waters Bill which was passed some time ago, authorizing State, County and Municipal officials to receive and adjust claims of contractors for the actual losses sustained by them, due to war conditions. An amendment to the River and Harbor Act passed by the last session of Congress, authorizes the Secretary of War along these same lines. The General Deficiency Bill, which was before the recent Congress, authorizes the Secretary of the Treasury to reimburse contractors in his department for losses incurred by them through war conditions. The Santa Fe Railroad Company allowed Maney Brothers of Oklahoma to suspend work on a large contract pending a readjustment with them of their scale of prices. We also know, though not at liberty to mention the names, that similar adjustments have been made with contractors by the Pennsylvania Railway, the Erie, the New York Central, and the Illinois Central.

And all of these adjustments have been upon the basis of the contractors total loss.

5.- We understand that State Engineer McClure in appraising the value of the ~~plan~~ with reference to the proposed District and its bond issue, added our loss of \$50,000 to the price you paid for it, thus giving you the benefit of its actual worth at the present time. We feel that this at least establishes the justice of our request and that you will not be willing thus to profit at our expense. If the State Engineer is willing to credit you with the valuation of \$50,000 more than

Apr. 16, '19.

you paid us, we feel that you will at least be willing to cover that portion of our loss which is due, as set forth above, solely to the plan changes and excess quantities. That would still leave a loss of nearly \$40,000 to be borne by us.

In view of all the foregoing we beg to ask your consideration and help, to which we feel we are in justice entitled. Our bid saved you \$30,000 to start with. Then war conditions increased our cost heavily, a situation which the State Engineer has recognized to your benefit by his intention to allow you as a Public Service Corporation to add nearly our whole loss to your real investment, just as if this money had actually been spent by you. And yet we are asking of you only that portion of our loss which was caused directly by plan changes and excess quantities.

Yours very truly,

BENT BROTHERS

Arthur Bent

ASB:K

April 24, 1919.

Mr. King:

answering yours of the 25d: take the matter up with Ebert and get his recommendation and then let me know what the cost is and I will make a final decision.

As soon as you get to it, take up with me the question of throwing subdivisions back into acreage.

Ed Fletcher.

EHgak

San Dieguito Mutual Water Company

ED. FLETCHER,
President.
E. O. FAULKNER,
Sec.-Treas.

354 Kerckhoff Building

Los Angeles, Calif.,

E. W. CASE,
Engineer.

Los Angeles, Apr. 30, 1919.

SPL 2-26-4

Payment, Bent Bros.

Col. Ed Fletcher,
924 Eighth St.,
San Diego, Cal.

My dear Colonel:

I have your letter of April 26th, enclosing one from Bent Bros., requesting an increase of payments for their recent contract, on account of the loss.

There are one or two points in their letter which I think we should look into before replying to it.

In section 5, they say they understand Mr. McClure in appraising the value of the dam, with reference to the proposed district, and its bond issue, added \$50,000 to the price they are to receive for it, thus giving us the actual benefit of the worth at this time, consequently they claim they are entitled to this sum.

I have not the last report of Mr. Huber to the State Engineer, giving the details of the amounts allowed for each part of the work; will you not please send me a statement of this, that is how much does he allow for the dam, conduit, San Dieguito Dam, distributing line, telephone and other items, outside of the allowance for land and water rights, in which Bent Bros. are not interested, and which make up the total of \$1,838,753.50, which I understand is the total of the whole, outside of San Elijo.

Again, there are other points made, which I think we will have to meet in some way, for instance their argument under paragraph one, namely the great difference between the estimated yardage and the actual, their argument being that if the actual had been anything like the estimates their loss would have been proportionately smaller; it is true this was on a unit basis, and logically their overhead expenses, etc. had a larger distribution than if the yardage had been

MAY 1 1919

SAN DIEGO, CALIFORNIA, May 2, 1919

E. Fletcher, #2.

smaller, and so far as the conduit is concerned, where a large increase in earth work exists, the delay in finishing the work was not due to that fact.

As you will want their letter to look over, and possibly will need to discuss it with Mr. Case, or with Mr. Holyoke, I am returning all the correspondence with this, to admit of it.

Yours truly,

E. Faulkner
Secretary-Treasurer.

F-B

Col. Ed Fletcher,
Office.

Dear Sir:-

In regard to Bent Brothers request for relief. The following tabulation will show the comparison between expenditures as shown in Mr. Faulkner's statement of February 28, 1919 and the amounts allowed by the State Engineer:

	<u>Allowance by State Engineer</u>	<u>Expenditures to February 28, 1919</u>	<u>Difference</u>
Lake Hodges	354,337	320,342	Gain 33,995
Conduit	126,214	143,955	Loss 17,741
San Dieguito Reservoir	46,750	44,621	Gain 2,129
Pipe Lines	<u>127,334</u>	<u>129,242</u>	Loss <u>1,908</u>
Totals	654,635	648,160	Gain 16,475

Yours respectfully,

Thomas H. King

THK: BK

Henry King

108-A

May 9, 1919

Col. Ed Fletcher,
President S D H W Co.

Dear Sir:-

I have estimated the cost of a 16" riveted steel pipe line to deliver water to the South Coast Land Company's system in the two ways you requested, namely:

1. A 16" steel pipe line from the main distribution line of the San Dieguito Mutual Water Company's system, connecting with the present 6" line of the South Coast Land Company at a point near the shack of the Santa Ana Sugar Company, as follows:

2,125 ft. 16" Steel pipe, 10 gauge	
wrapped at \$2.90 -----	\$ 6,162.50
Trenching and backfilling -----	700.00
Hauling and distributing pipe -----	100.00
Valves and connections -----	400.00
Engineering & Overhead, 5% -----	561.50
	<u> </u>
	\$ 7,724.00

2. A 16" steel pipe line from the main distribution line of the San Dieguito Mutual Water Company's system, delivering water to the lowest sump at Del Mar:

7,730 ft. 16" Steel pipe, 10 gauge	
wrapped, at \$2.90 -----	\$22,417.00
Trenching, backfilling and setting sleepers	1,400.00
Hauling and distributing pipe and sleepers-	500.00
Valves and connections -----	400.00
Sleepers -----	420.00
Engineering and Overhead, 5% -----	1,247.00
	<u> </u>
	\$26,184.00

There are one or two points to which I should like to call your attention, however, in connection with this pipe line.

First, I do not consider it feasible to connect into the old 6 inch line as is shown in Estimate No. 1 for the reason that the present old 6 inch line will not be equal to withstanding the pressure to which it will be subjected and will undoubtedly fail as soon as the water is turned in.

Second, there is a tremendous waste of energy in delivering the water as per Estimate No. 2 to the lowest sump in Del Mar. Every gallon of water delivered at this point must be pumped to the concrete

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

RECEIVED AT

1919 MAY 2 PM 10 24

A 588GS 42 NL

ELCENTRO CALIF 2

T H KING

475

CHIEF ENGINEER CUYAMUCA WATER CO SANDIEGO CALIF

CAN SUPPLY TWO NUMBER SIX THREE THREE REGISTERS FIVE FOOT RANGE IN FOUR WEEKS PRICE ONE HUNDRED THREE DOLLARS EACH IF ORDER IS PLACED IN SEATTLE AT ONCE SUGGEST YOU WIRE COLLECT OTHER TYPE MENTIONED NOT ADAPTABLE FOR RANGERS

ABOVE TWO FEET

W J RANKIN JR.

108-A

Col. Ed Fletcher,
Page 2.

sump on the hillside, a lift of some 210 feet.

My recommendation is to run the steel pipe up toward the higher sump or reservoir as an inverted siphon, for the water can thus be delivered at an elevation of 190 feet without pumping, from which elevation a greater part of the mains in Del Mar could be reached.

If the present plant, which pumps from the concrete basin to the tank on the hill, is capable of pumping against an additional 20 ft. head, it would be advantageous to move the plant down to the end of the new line, abandoning the present concrete basin and build another small sump for the high service only.

If the High Service pumping plant is not capable of the additional 20 ft. lift, a small booster pump could be installed to lift a portion of the water from the 16 inch line to the present concrete basin which would then act only as a sump for the high service point.

The additional cost of such a line would only be about \$1,500 additional first cost and a large portion of continuous pumping expense would be eliminated.

Yours respectfully,

THK: BK

Requisition for Material No. 1495

Cuyamaca Water Company

Aug 2/1916

ARTICLES REQUIRED	FOR WHAT USE	ESTIMATED COST
500 lbs 7/8" x 1 3/8" Mild Steel		
cut in lengths of 6 1/2' etc		
500 - 3/8" x 1 1/2" Machine Bolts		
300 - 3/8" x 5"		

H. 150, 265, 172, 612, 175, 425, 138, 688, 1275, 1500, 300 70.6
 V. 11, 9, 33, 23, 15, 52, 42

282, 165, 65, 60.13, 207.18, 74.5, 85, 180, 232.44, 246, 365, 140.

108-11

20

250.24
 265.15
 175.14
 612.55
 175.64
 428.32
 144.25
 688.
 1275.
 1500.
 300
 70.
 282.
 165.
 65.
 60.13
 207.18
 74.5
 85.0
 180.
 232.44
 246.
 365.
 140.

130.3
 98.9
 152.5
 58.5
 346.1
 180.4
 190.7
 151.0
 2.7
 188.7
 1500.8

7986
~~856~~
 7930
~~8~~ 12
~~7730~~
 8000
 7730
 270

7986.54 ✓

79100
 62400
 1540

8000 | H
 2500

10 Gauge

800
 600
 15

220
 30
 810

Barbara Ann Mink
 12 gang 564 Ave
 - 16 # Masseyburg
 16' 10" 1084
 290

Dear Sir

I have estimated the cost of a 16" riveted steel pipe line to deliver water to the South Coast Land Company's system in the two ways you requested namely

1 - A 16" steel pipe line from the main distribution line of the San Diego Mutual Water Company's system - connecting with the present 6" line of the South Coast Land Company at a point near the shack of the Santa Ana Sugar Co

as follows

2125 ft 16" Steel pipe 10 gauge muffed @ 2.90	6162.50
Trenching & backfilling	700.00
Hauling and distributing pipe	100.00
Valves and Connections	400.00
Eng & overhead 5%	361.50
	<u>7724.00</u>

2 - 772' 16" Steel pipe line from the main distribution line of the San Diego Mutual Water Company's system, delivering water to the lowest Sump at Del Mar

7730 feet 16" Steel pipe 10 gauge, muffed @ 2.90	22417.00
Trenching - backfilling + setting sleepers	1400.00
Hauling and distributing pipe + sleepers	300.00
Valves & Connections	400.00
Sleepers	420.00
Eng & Overhead 5%	1247.00
	<u>26184.00</u>

centrifugal -
 1600 gals per min 8" pump -
 20 hp motor -
 Rotary
 present same 1300 -
 450
 465
 30
945 hp -

130 -
 9
1170

No 16 Wonder Rotary
 1500 gals min -
 Pump - 1300 gals min
 @ 250 Revs min against
 (60 head) 7 hp -

\$400 dis. 15%
 234 motor
 30 Pelt
\$664 =

847
 0.81
847

Return #46 \approx p.m. 4x12

108-A

Estimate of Dil Mar Pipe Line

Estimate No 1

16" steel pipe line from main distribution line of San Diego Mutual Water Co connecting with present 6" line of South Coast Land Co near the small Santa Ana Sugar Shack

2125 feet 16" steel pipe 10 gauge wapped @ 2.90	6162.50
708 cu yds Excavation (2 1/2 x 3 1/2 = 8.75 cu yd @ 2200) @ 1.00	708.00
9 cu ft per foot	
Hauling	50.00
Valves & connections	250.00
Distributing	1150.00
	<hr/>
	7220.50
Emergency & Overhead 5%	361.00
	<hr/>
	7581.50

2125
290

191250
4250

61625.0

5 miles haul 2125 feet
30 lbs per foot
2000) 64000 lbs
32 Tons
5 miles
150 Tons @ 25¢ = 40¢ hauler

8.75 x 2200 = 714
3) 2125
221 708

130
9

1170

9) 150
17

Estimate No 2

108-A

16" steel pipe line from main distribution line of San Diego Mutual Water Co delivering water to the lowest sump at Dil Mar

7730 feet 16" steel pipe 10 gauge @ 2.90	22417.00
1400 cu yds Exc & Backfill @ 1.00	1400.00
Hauling	150.00
Distributing	150.00
Sleepers 700 sleepers 4x12 - 3 ft long	420.00
Valves & Connections	400
	<hr/>
	24937.00
	1247
	<hr/>
	26184.00

Emergency & Overhead

7730
290

695700
15460

22417.00

7730
290

5605
700 x 1/2 yd

7730
30

232900 lbs
116 Tons
5
580 ton miles

12 ft each
700
8400 board feet
5
420.00

24937
1247

26184

2900
1160

145.00

24937
05

26184

108-A

May 12, 1919

Col. Ed Fletcher,
President S D M W Co.

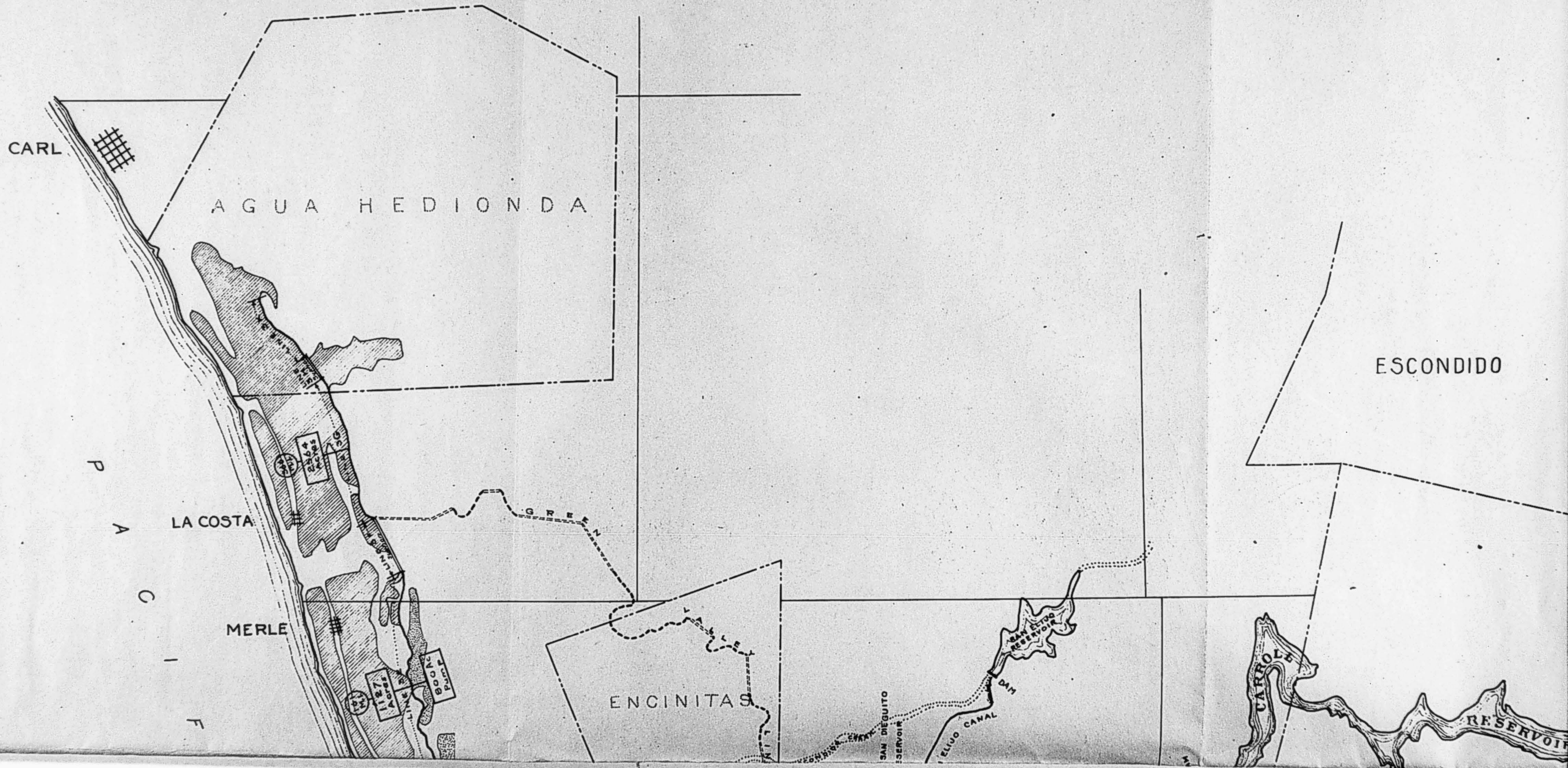
Dear Sir:-

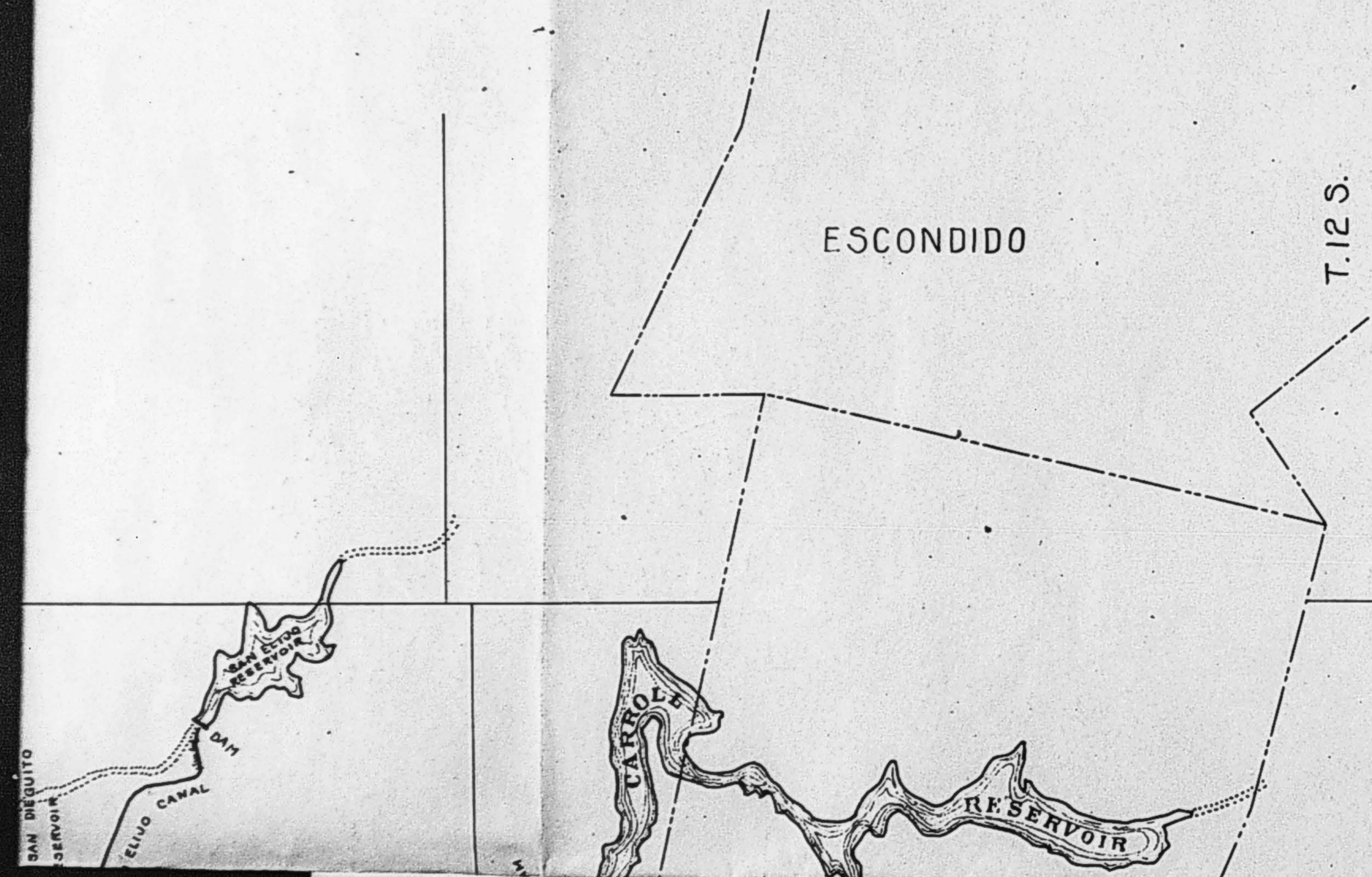
Enclosed you will find my letter giving Estimates on the pipe line as you requested. I am also enclosing a map showing the alignment of this pipe line to the concrete reservoir on the hillside in Del Mar, but have marked in red pencil the points to which the estimates 1 and 2 were made. I am sending this to you as I believe it will show you the conditions more clearly than I can explain by letter.

Yours respectfully,

THK: BK

Enclos.





PIPE TABLE (c)

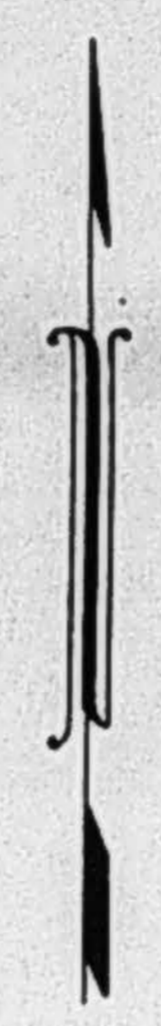
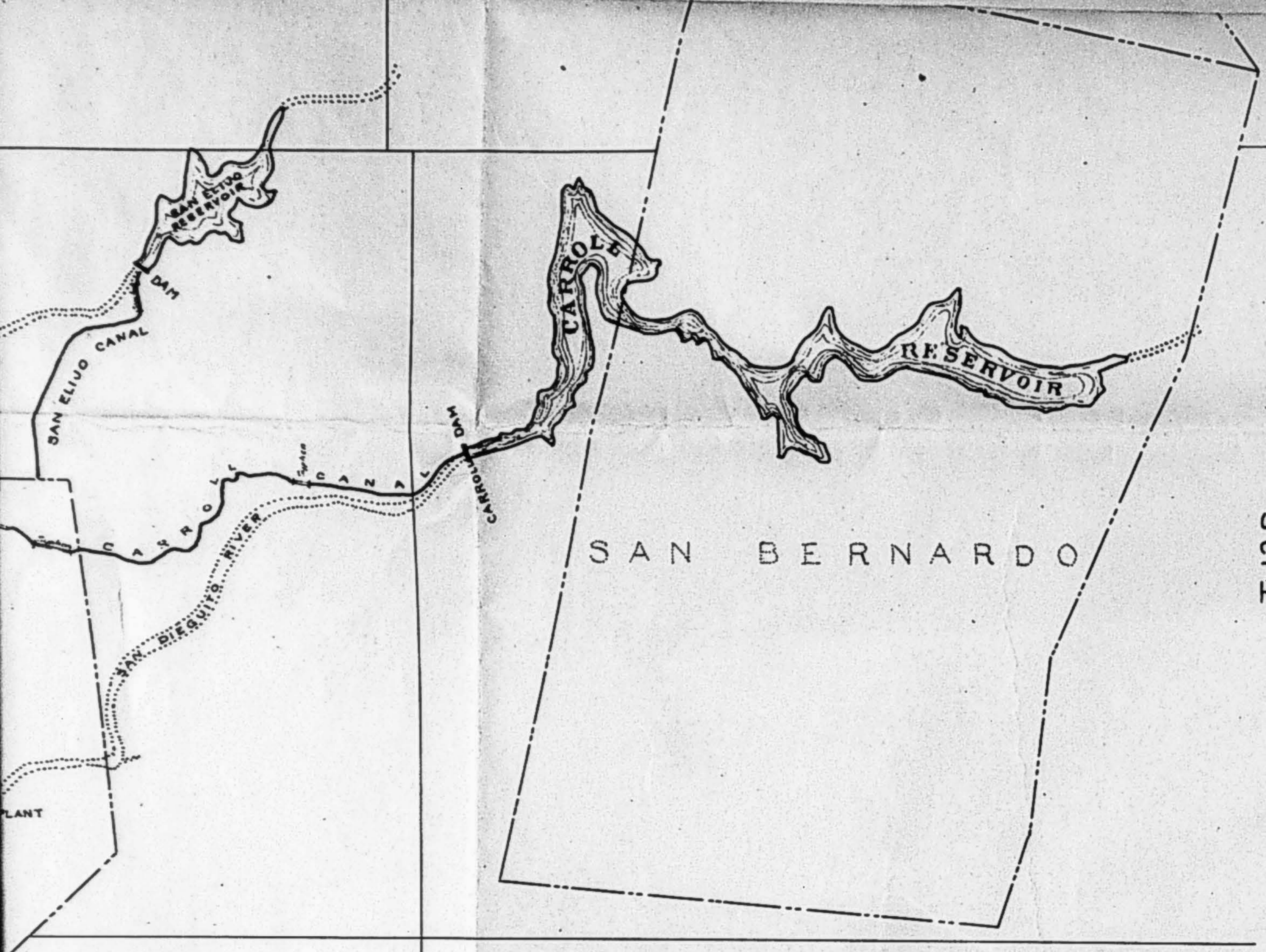
Line	Local Requirement Miners Inches	Total Water to be passed by each section	Approximate Size based on 0.8 ft per 1000 ft. (b)
1 A	57	301	(a) 26"
2 B	14	244	24"
2 C	46	230	22"
2 D	35	184	20"
2 E	50	50	12"
2 F	35	99	18"
2 G	64	64	14"
Total	301		

(a) Decreased from Kelloggs 34"

(b) Complete survey may show that this size will be increased 2 inches, due to lessened grade.

(c) See Kellogg Report Pages 9b & 9e



=NOTE=





NOTE
 Line 1 A and Line 2 limited to their irrigation loading.
 (No provision for Cardiff and Encinitas.) May 7, 1917 - W.S. Post.

R.3W.

R.2W. S.B.M.

Lands irrigated by Gravity shown thus: 
 "Pumping" 

SAN DIEGUITO MUTUAL WATER CO.
 MAP SHOWING IRRIGABLE LANDS
 ON
 BEACH MESAS

Acreage assigned shown thus 
 Miners Inches of water assigned shown thus 
 by Kellogg and Post Dec. 1916

Scale $\frac{1}{62500}$

May 15, 1917.

Drawing No 158
 File No SA4

108-A

89
37,000/4

370 / 89,000
2.46

SAN DIEGO, CALIFORNIA, June 16, 1919

Col. Ed Fletcher,
Office.

Dear Sir:-

Answering your inquiry about the net safe yield of Warner, Sutherland, Pamo and San Clemente Reservoirs and the cost of constructing the Volcan Project.

In January 1917 a Board of Engineers consisting of J. B. Lippincott, H. Hawgood, F. L. Sellow and W. S. Post made a report, after very careful consideration, on the net safe yield of the above mentioned Reservoirs.

The following tabulation gives the results of their work:

Table 1.

Net Safe Yield of Volcan Water System without allowance for priorities in San Pasqual Valley.

Reservoir	Domestic		Irrigation		Storage Capacity
	Acre Feet	Gals Daily	Acre Feet	Mi. In.	
Warner	24,750	22,000,000	28,000	2,800	200,000
Sutherland	11,200	10,000,000	12,900	1,290	60,000
Pamo and San Clemente	7,000	6,200,000	7,950	795	56,000
Total	42,950	38,200,000	48,850	4,885	316,000

Table 2.

Same as Table No. 1 but with allowances for Priorities in San Pasqual Valley.

Reservoir	Domestic		Irrigation		Storage Capacity
	Acre Feet	Gals Daily	Acre Feet	Mi. In.	
Warner	24,750	22,000,000	28,000	2,800	200,000
Sutherland	11,200	10,000,000	12,900	1,290	60,000
Pamo and San Clemente	5,300	4,700,000	6,000	600	56,000
Total	41,250	36,700,000	46,900	4,690	316,000

Note: Miners Inches used above based upon 8 months continuous flow.

Col. Ed Fletcher,
Page 2.

The cost of the System taken from various reports is as follows:

Warner Dam - 107 feet depth of water (Post 1917) ----	\$ 307,000
Conduit from Warner to South end of Long Tunnel, (Post 1917) -----	338,000
Sutherland Dam, 190 feet depth of water (Post 1917) --	965,000
Conduit from Sutherland to Pamo Reservoir, (Post - Sellow 1917) -----	126,500
Pamo Dam, 156 feet depth of water, (O'Shaughnessy & Lippincott 1915) ----	1,361,900
Conduit from Pamo to San Clemente Reservoir, (Post - Sellow 1917) -----	896,550
San Clemente Dam, 190 feet depth of water, (Post - Sellow 1917) -----	345,000
TOTAL COST -----	\$ 4,339,950
	=====

Yours respectfully,

THK: BK

SAN DIEGO, CALIFORNIA, June 26, 1919

Col. Ed Fletcher,
Office.

Dear Sir:-

I have gone very carefully into the matter of measuring the water at the Hodges Dam and have taken the matter up with Mr. Ebert of the United States Geological Survey, Mr. Etcheverry of the Berkeley University and Mr. Tait of the United States Department of Agriculture. They all agree with me that the best method we can employ in the measuring of water in the conduit is to install an automatic water stage register in a concrete house. The cost of the entire installation should not exceed \$175. I am attaching blue prints showing the method of constructing the gaging station. This is according to the recommendation of Mr. Ebert and is the house which they have found is the cheapest and most practical.

Yours respectfully,

THK:EK

San Diego, Cal. Aug. 27, 1919.

Col. Ed Fletcher,
Office.

Dear Sir:

In June, 1919, you instructed me to go ahead with the installation of an automatic gauging station on the Hodges conduit. In accordance with your instructions, I ordered an automatic gauge which is now in this office.

Mr. Holyoke visited Mr. Bartl and showed him the point on the conduit at which Mr. Ebert wished the gauge installed and also gave Mr. Bartl the plans for the house to contain the gauge which were approved by Mr. Ebert.

Mr. Holyoke made a trip yesterday to see how the work was progressing and finds that there has been no start made on the construction of the housing for the gauge. What are your instructions regarding the disposition of the automatic gauge which we have purchased?

Water is continually being passed through the Hodges conduit and without a recording device there is absolutely no method of knowing how much water is being passed from Hodges to San Dieguito and therefore it will be impossible to compute the runoff at Lake Hodges Dam. Since we have expended the money for the gauge, would it not be advisable to have the installation completed so that we could get the benefit of having accurate records?

Yours respectfully,

THK:K

Copy in regular file

111-A

October 6, 1919.

Mr. E. O. Faulkner,
c/o Atchison, Topeka & Santa Fe Railway Co.,
Kerckhoff Bldg.,
Los Angeles, Calif.

Dear Sir:--

In reply to Mr. G. C. Millett's request for data pertaining to Lake Hodges Dam, I have endeavored to answer the questions in Mr. Millett's inquiry number by number. Number 3, however, - Estimated Total Quantities and Cost - as you are aware there were several estimates made at various times as to the cost; I am giving the last estimate. Number 5 can not be answered by this office in as much detail as the inquiry would seem to indicate since the only reference to Bent Brothers' books could give the segregation of Labor and Material under the contract.

The enclosed tabulation under the head of Statement of Cost, Lake Hodges Dam, will, I believe, give sufficient detail.

In addition to answering the questions, I am enclosing the Capacity and Area Curves of the reservoir as well as the condensed profile of the conduit which shows the relation between each unit of the system.

I have had it before me to prepare a similar statement to the one I have prepared on Lake Hodges for the San Dieguito Dam, but as yet have not had the time to go through all the vouchers and dig it out. I do not know whether I could make up as complete a statement for the San Dieguito since it was a lump sum contract.

If, in going over the enclosed information, Mr. Millett should think of any further information he would like to have, I will do my best to supply it.

Yours truly,

THK:K
Encs.

STATEMENT OF COST - LAKE HODGES DAM

Excavation

Dam Proper

Earth	- 1063.3 cu.yds.	at \$0.40	-----	\$ 425.32	
Loose Rock	- 1731.3 "	" 1.00	-----	1,731.30	
Solid Rock	- 3061.8 "	" 3.00	-----	9,050.40	\$ 11,207.02

Spillway

Earth	- 2456.4 cu.yds.	at \$0.50	-----	\$ 1,228.20	
Rock	-27575.4 "	" 1.50	-----	41,363.10	
				42,591.30	

Credit on rock taken from Spillway					
Excavation and used in Concrete			-----	4,453.27	\$ 38,138.03

Concrete

1:2½:5 Mix Plain,	12,392.22 cu.yds.	at \$ 7.36	---\$91,206.74	
1:2 :4 Mix Reinf.	6,248.28 "	" 11.27	--- 70,418.12	161,624.86

Note: 29 cu.yds. concrete placed by Force Account, making total concrete yardage 18,669.50 cu.yds.

Cement)	-----	68,376.59
Freight)	-----	
Pipes and Valves	-----	4,342.12
Force Account, includes 29 cu.yds. concrete in stairways, etc., railing on Dam	-----	5,670.05
Guniting Face of Dam	5518 sq.yds.	
" " " cliff	195 "	
Total Guniting	5713 " at \$0.65	----- 3,713.45
Freight and handling of Cement Gun outfit & unwatering Dam, etc., Force Account	-----	1,324.22
Brushing and Fencing	-----	9,842.87
Engineering, Overhead & preliminary Investigations	-----	14,957.59
Testing Materials	-----	719.10
Consulting Engineer	-----	8,547.99
		\$ 328,463.89

LAKE HODGES DAM

INFORMATION REGARDING CONSTRUCTION FOR MR. MILNETT.

The Lake Hodges Dam is located on the San Dieguito River about eight miles Southwest from Escondido, the Santa Fe Railroad terminal.

All supplies, cement, lumber, etc., were hauled by truck from Escondido to the Dam.

Actual work commenced May 15, 1917 and finished on January 29, 1919.

(1) Main Dimensions:

Overall length - 750 feet
 Crest length - 390 feet
 Spillway - 560 feet (160 ft. over gorge, 192 ft. into hillside).
 (for details of construction, see plans).

Buttresses:-

Greatest length of Buttress - 150.6 ft.
 Greatest height of Buttress from lowest point bedrock, 135.0 ft.
 Width of Buttress, 4'-0" at elevation 200', tapering to 1'6" at elevation 285', continuing 1'6" to top of structure.
 Buttresses were poured in 8'-0" sections of 1 - 2 1/2 - 5 plain concrete, containing 1.5 barrels of cement per cu.yd.
 Buttresses were strengthened by docks or wing walls on rear (see plans for details).

Arches:--

Extrados - Radius 18'-10 1/2" to vertical head, elevation 320'
 Intrados varies from 11'-3" at elevation 200' to 12'-10 1/2" at elevation 279.50.
 Radius - 12'-10 1/2" continues to elevation 320' bottom vertical head.
 Vertical Head Radius, Extrado 12'5", Intrado 11'5".
 Thickness of Arches - 2'7 1/2" at elevation 200', reducing to 1'-0" at 279.50', continuing 1'0" from 279.50 to 330'.

Strut beams were poured from Buttress to Buttress as near monolithic as possible and at hillside were tied in to the bedrock. Arches were also poured as near monolithic as possible.

All reinforced concrete was poured with a 1 : 2 : 4 mixture.

Delays on the work were due partly to engine trouble, but mainly to lack of excavation ahead.

(2) Bont Bros. of Los Angeles were the Contractors.

Gravity system of pouring was used on the entire job.

Equipment:-

- 1 Tower and spouting system, skip handled by one gas engine.
- 1 Air Compressor, operated by one 24 h.p. gas engine.
- 1- 1/2 yard mixer operated by one gas engine.
- 1 Gyrotory Crusher operated by one gas engine.
- 1 small gas engine and pump for water supply.
- Quarrying was done with Jack hammer and Burleigh air drills.
- Sand was hauled from river bottom, 1 1/2 miles to the work.
- Rock was obtained from spillway. Excavation forms were built in 4'0" x 8'0" panels and were used several times.

(3) Last Estimated Quantities:

12128 cu.yds. plain concrete at 7.36	\$ 89,262.00
6000 " Reinforced concrete, 11.27 ...	67,520.00

Excavations:

1015 cu.yds. Earth at .40	406.00
1443 " L. Rock at 1.00	1,443.00
2400 " S. Rock at 3.00	7,200.00

\$165,931.00

Spillway:

5000 cu.yds. Earth at .50	2,500.00
25270 " Rock at 1.50	37,905.00

\$206,336.00

(4) and (5) - See attached sheet.

(6) 37,699 Acre feet.

(7) At elevation 254, lowest outlet, Elevation 1420 A.ft.
 Net capacity 37,699 - 1420 = 36,279 A. ft.

(8) Total submerged area, 1517.1 acres, or 2.058 sq.miles.

(9) Maximum depth of water, 115 ft.

(10) Maximum depth of Excavation:
 Buttresses - 27.0 ft. -- Arches 25.0 ft.

Average depth of Excavation:
 Buttresses - 7.6 ft. -- Arches 8.6 ft.

[THOS. H. KING]
94-A

San Diego, Cal., November 4, 1919.

Colonel Ed Fletcher,
Office.

Dear Sir:--

The acreage included within the Cardiff Irrigation District before dropping out the Kelly and Pritchard lands was 25422 acres.

Kelly's and Pritchard's lands combined amount to 1520 acres, leaving a balance, after eliminating Kelly's and Pritchard's lands of 23,902 acres.

The petitions of the Santa Fe Land and Improvement Company total 1457 acres.

The petition of Wm. G. Henshaw totals 560 acres, making a total to be added of 2017 acres.

This will give the revised District a grand total of 25,919 acres.

Yours respectfully,

THK:K

Office
Dec. 10, 1919

[Te: Eberle land purchase; see McFadden letter to FF of Dec 2, 1919 CSm]

King:

Will you try to straighten out this hitch, and see what the trouble is?

E.F.

391-352
389-447

BA

SOUTH COAST LAND COMPANY

FLETCHER INVESTMENT COMPANY

Office
3 January 1920

Mr. King:

I want you to get into your machine, giving this party your home address, if necessary, and go out and see Mrs. M. D. Bryson, who owns a ten acre tract just this side of Hinkle & Snyders. Pay \$50.00 down on the basis of buying it for \$100 to \$200 an acre, the lowest you can get it, the terms of payment to be one-third or one-half down, and the balance in a year at 7%. You ought to buy it for \$150 an acre, but do the very best you can.

Mrs. Bryson is to furnish a certificate of title showing the property is free and clear of encumbrance. By paying \$50.00 down, and the balance of the first payment of one-third or one-half in 30 days will be all right. Take it in your own name and no commissions off. Tell her it is net.

Also write up to Bullock again and ask him if he will take \$150 an acre for the 12 1/2 acres. If not what is his lowest net price and terms?

You had better go down to the Title Company and see if Mrs. Bryson still owns the ten acres. Also try and locate the owner of Lot "E". Go down and find out who is paying the taxes. The Tax Collector will let you know. You want to buy it at so much an acre. Do not buy it by the tract, because we do not want to pay for rights of way for railroad and state highway but so much an acre, according to the Certificate of Title, or some engineer. Get me this information immediately.

On your way Monday morning to Del Mar you can go right by Mrs. Bryson's house and see her personally. She lives right at the entrance to Camp Kearny, near the concrete tank, living just south of the concrete tank east of the road. If you cannot locate her there, and if she still owns the property, you can get track of her thru ~~_____~~.

E.F. M.H. Fleming =

Office 1-9-20

Mr. King:

Will you please get from your records, or from Mr. Holyoke, the following information: What is the size and capacity of ditch used by the west siders in the San Pasqual Valley before the flood. I assume that you have that information that was secured by Mr. Ellis. I would also like to know the fall of the ditch. Also, what is the size, capacity and fall of the present ditch? This is the ditch that takes out of the river Webb property and just above the Roberts place.

E.F.

San Diego, Cal., January 15, 1920.

Col. Ed Fletcher,
Office.

Dear Sir:--

In answer to your inquiry regarding the cost of the completion of Warners Dam and the connecting links by way of Pamo to the city of San Diego, I can submit the following figures by W. S. Post, your former Chief Engineer, made in the Fall of 1917:

Completion of Warner Dam to the height for impounding water to the depth of 107 feet, as per report of Board of Engineers	\$ 307,000.00
Conduit from Warners to Power House	338,000.00
Diverting Dam at Pamo 50 feet high	90,000.00
Conduit from Pamo to San Clemente	896,550.00
" " " " University Heights Reservoir	300,000.00
	<hr/>
	\$ 1,931,550.00

These amounts will necessarily have to be increased somewhat to meet the increased costs prevailing to-day.

When the above work is completed, we will be able to divert practically all of the water of the San Luis Rey River above Warners and the Diverting Dam at Pamo will divert the normal flow of the Santa Mabel River. This combination will produce a net safe yield of, roughly, 25 million gallons per day. Taking 25 million gallons daily, as a basis, assuming the interest, operating expenses and depreciation to be 9% on the construction cost, would show the cost of water delivered to the city to be about two cents per thousand gallons.

These estimates do not include the cost of Mr. Honshaw's present holdings, including the riparian rights, reservoir sites, surveys, other work already completed, etc.

The cost of constructing the major dam at Pamo site, impounding water to a depth of 156 feet, was made by O'Shaughnessy & Lippincott. This estimate was for an earth fill dam and was \$1,361,900, but the dam impounding water to 156 feet in depth, the net safe yield would, I believe,

Col E. F. Page #2 .

be increased easily by five million gallons per day, and by building Sutherland at an estimated cost by Mr. Post of \$965,000, the net safe yield of Sutherland and Pamo Reservoirs could be added to the 22 million gallons from Warners, giving a total of about 37 million gallons daily. Figuring on this basis, the cost of delivering the water to the city, using the same interest and depreciation, as above, would be about two cents per thousand gallons. I believe, however, that dams can be built at Sutherland and Pamo to-day at a lower cost than the estimates of Mr. Post in 1917. For both of these points, Damsites are available, which are apparently ideal for the construction of multiple arch dams, which, in both cases, can be built at a cost not to exceed \$500,000 each.

Yours respectfully,

THK:K

January 30, 1920.

Mr. J. B. Lippincott,
1134 Central Building,
Los Angeles, California.

Dear Sir:--

Enclosed you will find area and capacity
tabulations of Lake Hodges, San Elijo and San Dieguito
Reservoirs.

Yours very truly,

THK:K
Enc.

Maps etc furnished in file of Mr Lippincott's
Office Jan 24, 1920

To file personally - County Waterbed Map

- 1 Topog map from Santa Fe Ranch to Ocean
- 2 " " " " " "
- 3 " " " " " "
- 4 Profile of line up coast to South Oceanside
- 5 Alignment " " " " " "
- 6 Alignment of distribution line now built
- 7 Profile " " " " " "
- 8 San Elijo Riparian Map
- 9 Property map of Cardiff Irrigation District
- 10 Condensed Profile of Hodges Conduit.
- 11 Alignment of San Elijo Canal
- 12 Discharge Measurements San Elijo Creek

217
January 31, 1920.

Mr. W. S. Post,
1104 Central Building,
Los Angeles, California.

My dear Mr. Post:

Your letter of January 28th, asking for area and capacity curves was received after I had sent these tabulations to Mr. Lippincott in response to a telegram from him. I did not, however, indicate the elevations of the outlets and spillway crests which are as follows:

Lake Hodges:

Outlet - 254 -- Spillway Crest - 315.

San Dieguito:

Outlet - 235 -- Spillway Crest - 250.

San Elijo:

Outlet - 360 -- Spillway Crest - 450

This information, however, would have shown on the drawings furnished Mr. Volk and that was the reason I did not put it in my letter to Mr. Lippincott.

Yours truly,

THK:K

April 9, 1920.

Merchants National Bank,
Fifth and Broadway,
City.

Gentlemen:--

The City Engineer, by direction of the City Manager of Operations, has changed the design of the reservoir which is to be built as a portion of the La Jolla pipe line at the top of the Torrey Pines.

I am herewith handing you a complete set of the revised plans and specifications of this reservoir which you will probably want to attach to the contracts which you now hold.

Yours very truly,

THK:K

Chief Engineer

August 18, 1920.

Miss Fletcher,
San Diego, Calif.,

Dear Miss Fletcher:

In reply to the letter of Mr. Faulkner regarding the freight on the trenching machine amounting to \$186.39. I understand from Mr. Fletcher that the following is the arrangement arrived at in taking care of freight for this machine. The \$186.39 is the freight down from Los Angeles and will be paid by the S.F.L.I. Company and the Henshaw-Fletcher Company in proportion to the amount of trench dug.

The total trench dug amounted to 25107.6 lineal feet of which 11,829 lineal feet was for the S.F. L.I. Company which equals 47.12% of the total. The trench for the Henshaw-Fletcher was 13,278.6 lineal feet which equals 52.88 %. This will pro-rate the total amount of freight as follows: S.F.L.I. Company \$87.83, Henshaw-Fletcher \$98.56.

The contract that Bent made with the San Diego Glazed Cement Pipe Company was made at an advanced price and he will therefore take care of the return freight himself and neither the S.F.L.I. Company nor the Henshaw-Fletcher Company will be billed for this return freight.

Yours very truly,

THK:ME

U
Send
1 copy each
to James H. Hodge
San Diego, California
February 9, 1921
Hodge
Henshaw-Fletcher

Mr. Fletcher,

Dear Sir:

Attached hereto are four copies of the portion of the decision against the Cardiff Irrigation District.

Respectfully,

T. H. King
T. H. King.

THK:ME

Section 86 of the Irrigation District Act reads as follows: "The holder or holders of title, or evidence of title, representing one-half or more of any body of lands adjacent to the boundary of an irrigation district, which are contiguous, and which, taken together, constitute one tract of land, may file with the board of directors of said district a petition, in writing, praying that the boundaries of said district may be so changed as to include therein said lands. The petition shall describe the boundaries of said parcel or tract of land, and shall also describe the boundaries of the several parcels owned by the petitioners, if the petitioners be the owners, respectively of distinct parcels, but such descriptions need not be more particular than they are required to be when such lands are entered by the county assessor in the assessment book. Such petition must contain the assent of the petitioners to the inclusion within said district of the parcels or tracts of land described in the petition, and of which said petition alleges they are, respectively, the owners; and it must be acknowledged in the same manner that conveyances of land are required to be acknowledged."

Appellants contend that the petition for inclusion of these lands as part of the Cardiff Irrigation District is void on its face for the reason that the description of the boundaries of the land proposed to be included, as set forth in the petition, clearly exhibits the fact that the lands to be included are not contiguous and do not, taken together or at all, constitute one tract of land. If the fact be as thus claimed, it must result that the filing of the petition did not vest in the board of directors any jurisdiction over the proceeding and that the order of inclusion, as well as the intervening steps in the proceeding, must be held to be void. In *people v. City of Monterey Park*, 181 Pac. 825, this court had under consideration certain proceedings for the annexation of land to the city of Alhambra; the proceedings being conducted

AMK:ME

B. H. KIRBY
[Signature]
ALHAMBRA

of the decision rendered by the Cardiff Irrigation District.

attached hereto are four copies of the decision

DEPT. OF:

RE: REASON:

File Cardiff Papers

ALHAMBRA
COUNTY OF LOS ANGELES
JAN 10 1910

U

under a statute providing for the annexation of inhabited territory. From the description contained in the annexation petition it appeared that several distinct portions of the territory were not inhabited. Therefore it was held that the petition was on its face not sufficient, and for that reason no valid annexation proceeding was pending. It was contended by appellants in that case that the defense based upon the validity of the annexation proceedings could not be maintained because such defense came by way of collateral attack, in a quo warranto case. But the court held, for reasons there stated more at length, that such claim of want of jurisdiction may be asserted in an action of this nature where the facts which make the proceedings void appear in the petition by which they were initiated.

It is contended by appellants that this area of 25751 acres sought to be annexed to the Cardiff Irrigation District consists of not less than six large areas comprised in the description contained in the petition, (and, for illustrative purposes, shown on the map received in evidence herein,) separated from each other by five natural features consisting of deep indentations of salt water lagoons of the Pacific Ocean. These acres for convenience are numbered consecutively from one to six. Numbers one and two lie south of the old district, and the other divisions lie north and east thereof. Assuming without deciding that areas numbered one and two might reasonably be held to constitute one tract of land, and that the remaining areas taken together might constitute one other tract of land, it seems clear to us that numbers one and two are in all respects a different tract of land from the remaining portion of the territory sought to be included. This is so by reason of the fact that there is no connection whatever between parcels two and three, which, on the contrary, are so separated from each other that we are unable to find any justification for the claim that they

should be considered as one parcel or body of land. While the description as written in the petition is continuous, we find that the calls thereof leave parcel two and run around the southeasterly boundary of the old district about a third of a mile before they touch and begin to run around the boundaries of parcel three. The connecting line thus written into the description bounds no part of the lands sought to be included. As to them, it is purely a mathematical abstraction, unrelated to any material thing. Covering nearly the entire width of the district at that point, parcels two and three are separated by a lagoon, known as the San Elijo Lagoon, which appears to be, roughly speaking, from a quarter of a mile to three-quarters of a mile in width. Counsel for respondent point out that the nature of the land underlying this lagoon is such that it could not appropriately be made part of an irrigation district; that if it had been included in the district, justice would have required that it be immediately excluded therefrom by proceedings for that purpose; and argue that therefore the lagoon should not count as an element in determining the contiguity or non-contiguity of the lands north and south thereof. We must reply that the question here to be answered should not turn upon the narrowness or liberality of definition of the word "contiguous." The statute was carefully written so as to govern the use of that word by providing for the inclusion in the district of only such lands as "are contiguous and which taken together constitute one tract of land." And since these lands as they lie are separated by a great and conspicuous natural feature, to such a degree that it is admitted that the intervening territory could not appropriately have been brought within the district, we are constrained to hold that they are not "one tract of land" within the meaning of the statute. To the suggestion that this would be a very technical construction of the words used, the obvious reply is that the opposite construction might easily

frustrate the purpose of the limitation expressed in the right of petition which the statute has granted. It was not intended that the more numerous owners of one parcel of land should have the power, on their own volition, to initiate a proceeding to bring in their less numerous neighbors in an entirely different parcel, jointly involving all of them together in an annexation petition. Our conclusion is, that the board of directors did not acquire jurisdiction to proceed on the petition filed, and that the order of inclusion is void.

The judgment is reversed.

CONREY, P. J.

I Concur:

JAMES, J.

San Diego, California
April 25, 1921.

Colonel Fletcher,

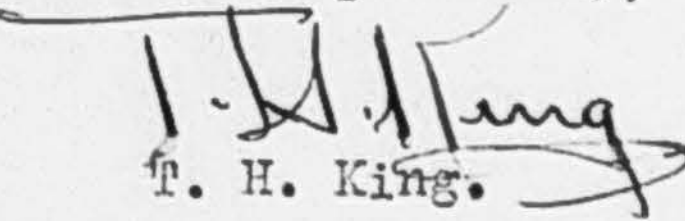
Dear Sir:

By moving the point of diversion on Black Canyon Creek off the Indian Reservation we necessarily change that portion of the map pertaining to the Black Canyon Diversion which we filed with the State Water Commission. It will be necessary, therefore, to locate a new point of diversion and furnish the State Water Commission a copy of the revised map showing the line from this point of diversion to the point where it ties in with the line from Sutherland.

A copy of this map will also have to be filed with the U. S. Forestry Service before the State Water Commission will issue their permit. To do this work will require about three days field work.

It is very advisable that I go to Sutherland for a day this week as this is the last week that Mr. DuBois will be on the job and I am anxious to see how the new man is taking hold. I can at this time locate a new point of diversion and get the party started on the relocation of this line.

Yours respectfully,


T. H. King.

THK:ME

San Diego, California
April 26, 1921.

Colonel Fletcher,

Dear Sir:

I understand that the land holdings of the La Mesa - Lemon Grove and Spring Valley Irrigation District within the proposed Mission Gorge reservoir can be purchased for \$65.00 an acre. This statement was made by Mr. Halley last Sunday.

Yours respectfully,
(Signed) T.H.King.

THK:ME

Original to Mr. Naugleheim

San Diego, California.
May 2, 1921.

Colonel Fletcher,

Dear Sir:

In answer to your inquiry as to the probable cost of a dam at the El Capitan site.

I have gone into this matter rather carefully and find the following results, namely: There will be a minimum of 450,000 cu. yds. of excavation. This amount will in all probability be exceeded as the character of the material which will be encountered in excavation is likely to fray out making the excavation considerably wider at the top than I have figured.

There will be required a minimum of 580,000 cu. yds. of concrete.

The dam as I have laid it out is of a gravity arch design of very slightly lighter section than that used in the design of the Barrett dam by Mr. O'Shaughnessy but I feel will be ample in this case. Estimating the cost of the concrete at \$8.00 per cu. yd. gives a total cost of the concrete at \$4,640,000 and the cost of excavation at \$2.00 per cu. yd. gives \$900,000 or a total construction cost for the dam of \$5,540,000. Added to this would be the cost of a pressure pipe line from the El Capitan dam to the University Heights reservoir which would be approximately thirty miles in length. This pipe would have to be at least 24 inches in diameter and would cost, roughly, \$40,000 a mile or \$1,200,000 making a total construction cost on El Capitan dam and pipe line of \$6,640,000 at the very least.

Yours respectfully,

T. H. King
T. H. King.

THK:ME

San Diego, California
May 3d, 1921.

Colonel Fletcher,

Dear Sir:

You have asked me the concrete yardage in the Multiple Arch Dam and also the Constant Angle Arch Dam at the Mission Gorge site.

The Eastwood Multiple Arch Dam will require for a dam 220 feet in height 29,028 cu. yds. of 1-2½-5 concrete and 11,927 cu. yds. of 1-2-4 concrete making a total of 40,955 cu. yds. of concrete in the Eastwood Multiple Arch Dam.

The Jorgensen Constant Angle Arch Dam will require a total of 69,800 cu. yds. in the arch portion and 5700 cu. yds. in the gravity tangents at each end or a total of 75,500 cu. yds.

Yours respectfully,

(Signed) T.H.King.

THK:ME

Original to Mr Jorgensen

395
All Dies Lando
= Stodges
was over on
River S.D.
Map of
RR on River
Fletcher + distinct
Map
San Suelo
San Ranch
Conduit Sackled
to Permits
King copy

San Diego, California
May 5, 1921.

Colonel Fletcher,

Dear Sir:

Attached hereto is a riparian map of the San Elijo creek from the San Elijo reservoir to the ocean. I have platted thereon the lands described in the three protests. Denk in red, Gantner in green, and Bernhard in brown.

The lands of Louis Denk lie entirely beyond the high water line of the creek and I do not believe he has any claim, however, it might be wise to make an investigation in the field on the parcel B. In the case of Gantner, parcel A is evidently above the high water line of the creek but parcel B does extend down almost to the creek channel and is unquestionably riparian. In the case of Bernhard, one of the creek channels passes directly through the land in question and he is also unquestionably riparian.

This map was compiled from some old surveys which I believe are good but it is possible that the river may have shifted some and it might pay to spend a day in the field to determine whether or not the stream at high water would actually flood any of the land in question.

Yours respectfully,


T. H. King.

THK:ME

*Return to Col Fletcher's
file - he has taken action
in this matter
W L H
5/24/21*

San Diego, California
May 14, 1921.

Colonel Fletcher,
Palace Hotel,
San Francisco, California.

Dear Mr. Fletcher:

I am inclosing herewith two letters from Mr. Clotfelter. One will simply be of interest to you because it shows that we have gotten everything in proper shape for the San Dieguito Mutual Water Company application.

The other letter is in connection with the protests against the San Elijo dam and since you are in San Francisco you could take the matter up directly with the ^{State} Water Commission and I am therefore sending you the copies of the protests and you can make the statement to the Water Commission as Mr. Clotfelter suggests under "1". I am also inclosing a ^(original) ~~copy of~~ the letter which I secured from J. F. Cullen bearing on the lands included in the protests.

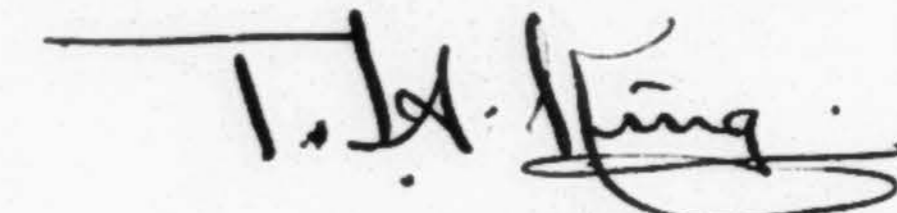
Mr. Clotfelter's recommendation under "2" is the same recommendation that I made to you in my letter of May the 5th that "it might pay to spend a day in the field to determine whether or not the stream at high water would actually flood any of the land in question."

Col. E.F. #2 5/14/21

I am also inclosing my letter of May the 5th and the riparian map of the San Elijo Creek in case you want to see Mr. Clotfelter when in Los Angeles.

I will await your instructions before sending a party into the field to investigate.

Yours very truly,



T. H. King.

THK:ME

June 17, 1921.

MEMORANDA REGARDING PAMO RESERVOIR AND DAM.

According to the U. S. Reclamation Service a dam at Pamo impounding 60,000 acre feet or approximately 20 billion gallons will yield 6900 acre feet annually or 6.16 million gallons daily. This will require a dam 200 feet in height above stream bed.

An Eastwood Multiple Arch dam will require approximately 70,000 cubic yards of concrete at \$15.00 a yard or \$1,050,000.00.

A Jorgensen Constant Angle dam will require approximately 126,000 cubic yards of concrete at \$10.00 a yard or \$1,260,000.00.

A concrete gravity arch dam will require approximately 436,000 cubic yards of concrete at \$8.00 a yard or \$3,488,000.00.

(Signed) T. H. King.

June 17, 1921.

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A concrete gravity arch dam will require approximately 436,000 cubic yards of concrete at \$8.00 a yard or \$3,488,000.00.

T. H. King

San Diego, California
June 17, 1921.

Colonel Fletcher,

Dear Sir:

You have asked me for the probable safe yield of the Mission Gorge reservoir. The dam located about two miles below the Old Mission Dam and about 3000 feet above the outlet of the Mission Gorge.

There can be no study of the yield of the San Diego river at any point below the Diverting Dam without taking into account not only the present development of the Cuyamaca Water Company but also its probable future development. The present study treats with the Mission Gorge reservoir under two sets of conditions as will be outlined below.

The studies have only been carried over the period from 1895 to 1905 during which the most severe drought in the history of San Diego County occurred.

The rainfall, runoff, and evaporation data used in these studies are the results of actual observations supplemented by restoration studies of the U. S. Reclamation Service. Where there was no authoritative data from the above sources the accompanying notes show the method used in making the necessary restorations of runoff, etc.

Following is a summary of the studies showing the yield of the Mission Gorge reservoir during the period of greatest drought and under two sets of conditions.

CONDITION I.

Cuyamaca dam built as at present, res'r capacity, 11,595 ac.ft.
Main Cuyamaca flume, capacity 31 sec. ft.
South Fork feeder flume, capacity 14 sec. ft.

(A) A dam at Mission Gorge 210 feet in height, reservoir capacity 25,000 acre feet, will deliver 7,500 acre feet annually or 6.7 million gallons daily.

(B) If the Mission Gorge dam is built to 220 feet in height, reservoir capacity 31,000 acre feet, there can be delivered 8,400 acre feet annually or 7.25 million gallons daily.

Col. Fletcher

#2

6/17/21

(C) With the Mission Gorge dam 230 feet in height, reservoir capacity 40,000 acre feet, there can be delivered 8,800 acre feet annually or nearly 7.9 million gallons daily.

CONDITION II.

Cuyamaca dam built as at present, res'r capacity 11,595 ac. ft.
Fletcher dam built, capacity 12,000 " "
Main Cuyamaca flume, capacity 31 sec. ft.
South Fork feeder flume, capacity 14 sec. ft.

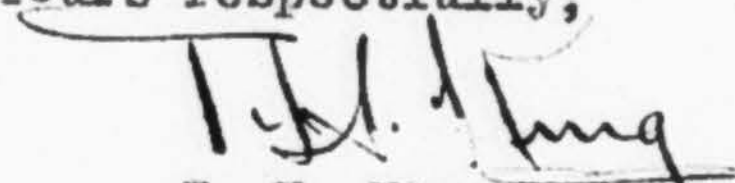
(A) A dam at Mission Gorge 210 feet in height, reservoir capacity 25,000 acre feet, will deliver 5,000 acre feet annually or 4.5 million gallons daily.

(B) The Mission Gorge ^{Dam} 220 feet in height, reservoir capacity 31,000 acre feet, will deliver 5,600 acre feet annually or 5.0 million gallons daily.

(C) With the Mission Gorge dam 230 feet in height, reservoir capacity 40,000 acre feet, 6,300 acre feet can be drawn annually or 5.6 million gallons daily.

As the height of the dam is increased there is a much greater lake surface exposed in proportion to the amount of water stored. Owing to this increased surface exposed to evaporation I would not recommend that a dam be built in the Mission Gorge to impound water to a greater depth than 230 feet. I believe the additional yield of a higher dam would not warrant its greatly increased cost.

Yours respectfully,


T. H. King.

THK:ME

San Diego, California
July 2, 1921.

Colonel Ed Fletcher,
Palace Hotel,
San Francisco, Calif.

My dear Mr. Fletcher:

I am sending you, under separate cover, in care of the Riverside Portland Cement Company the cross section of the Fletcher damsite showing the test pits and approximate depth to which the footings of a multiple arch dam would have to be taken.

I am inclosing herewith the copy of the cross section of the lower Warner damsite on which, by means of a dotted line, I show the approximate depth to which the footings of a multiple arch dam would have to be carried together with my estimate of yardage. I went into the estimate of yardage as carefully as possible with the data at hand.

I developed a curve which shows the concrete yardage in the buttresses and arches. The yardage for a multiple arch dam picked off these curves checks the actual yardage used in the construction of Hodges almost exactly.

This method of computing the yardage is very much more accurate than by comparing two damsites and *my curve* can be used now for obtaining an approximate estimate on any damsite where a multiple arch dam can be used and

Col. E.F.

#2

7/2/21

should give very accurate results and has the added advantage of giving both the plain and reenforced concrete. I did not separate this in the estimate sent to Mr. Treanor and Mr. Henshaw but will give it here for your information. There will be about 21,766 cu. yds. of 1-2 $\frac{1}{2}$ -5 concrete and 11,376 cu. yds. of 1-2-4 reenforced concrete making a total, which I used in my other letter, of 33,142 cu. yds.

There is no special news other than what you have probably gotten in the newspapers about the City's opposition to the Healion condemnation suit.

The matter of moving the chlorination plant down to the Torrey Pines reservoir has been delayed owing to the fact that the City Council did not pass the necessary ordinance and I told Mr. Rhodes that I would not move it until they did so. He then said that he would not advise moving the plant until after this ordinance was passed but that unquestionably the ordinance would be passed at the first meeting of the Council after the Fourth of July as the City Attorney had given a favorable ruling on it.

I am glad to know that you are having a fine trip and hope that you will be greatly benefited. We are working along trying to get things in shape by the time you get back and believe we will have things pretty well lined up.

Miss May called me up this morning from down stairs. She is back from Los Angeles and she will call up

at the telegraph office Sunday and Monday to see if there is anything important there.

The core drilling machine is at work at Mission Gorge but have just about gotten well started and I have had no report of their findings as yet as they are not far enough down.

Mr. Shropshire has collected all the rents that he was to get on the first with the exception of the Southern Electrical building and they promised to pay on the tenth. I believe that everything is going as smoothly as can be expected so enjoy yourself and don't worry.

Yours very truly,
T. H. King
T. H. King.

THK:ME

San Diego, California
July 5, 1921.

Mr. Fletcher,

Dear Sir:

You have asked me to investigate the dam-site on the San Diego River immediately below the Old Mission Dam.

I have tabulated below:

First the concrete yardage required to construct a gravity arch dam to various heights together with the approximate cost based on \$10.00 per cubic yard.

Second the concrete yardage required to construct a constant angle single arch dam to the same heights and the approximate cost based on \$12.00 per cubic yard.

Third the number of acres flooded by dams of the various heights considered above.

Gravity Arch Dam.

120 feet in height requires 236,686 cu. yds. concrete	
at \$10.00 per yard	\$2,366,860
140 feet in height requires 290,723 cu. yds. concrete	
at \$10.00 per yard	2,907,230
160 feet in height requires 349,630 cu. yds. concrete	
at \$10.00 per yard	3,496,300
180 feet in height requires 411,320 cu. yds. concrete	
at \$10.00 per yard	4,113,200
200 feet in height requires 476,800 cu. yds. concrete	
at \$10.00 per yard	4,768,000

Constant Angle Arch Dam.

120 feet in height requires 68,400 cu. yds. concrete	
at \$12.00 per yard - - - - -	\$ 820,800
140 feet in height requires 84,000 cu. yds. concrete	
at \$12.00 per yard - - - - -	1,008,000
160 feet in height requires 101,040 cu. yds. concrete	
at \$12.00 per yard - - - - -	1,212,480
180 feet in height requires 118,860 cu. yds. concrete	
at \$12.00 per yard - - - - -	1,426,320
200 feet in height requires 137,720 cu. yds. concrete	
at \$12.00 per yard - - - - -	1,652,640

A dam 120 feet in height will flood 5800 acres of land and put about 3½ miles of San Diego and Arizona R.R. and five miles of paved highway under water and will flood the town of Santee.

If the dam is built to 140 ft. in height 8000 acres of land will be flooded, about 4½ miles of the San Diego and Arizona track and 6 miles of paved highway will be flooded and the water will reach to the outskirts of Lakeside.

A 160 ft. dam will flood approximately 10,400 acres of land, will cover about 5 miles of the San Diego and Arizona R.R. and both the towns of Santee and Lakeside would be under water. There will also be about 6½ miles of paved highway flooded. The water would extend to the State Highway at a point about a quarter of a mile west of the thickly populated portion of El Cajon.

A dam 180 feet in height will flood about 12,900 acres. This would mean the flooding of practically all of the town of El Cajon and would put the Monte Pumping Plant about one foot under water. About 6 miles of San Diego and Arizona track would be flooded and about 8½ miles of paved highway.

A dam 200 feet in height will flood about 15,500 acres. The water would reach to a point approximately a mile above the Monte Pumping Plant on the San Diego River and will completely inundate the town of Foster in addition to the towns previously mentioned and would place about seven miles of the San Diego and Arizona track under water and about 15½ miles of paved highway.

Yours respectfully,

T. H. King
T. H. King.

THK:ME

243

Office

July 17, 1922.

Mr. King:

July 12, 1922

↓ letter from E. HYATT, for KLUEGER

Read this and return and get the desired information which I understand you already have in the office and can make up a map.

E. F.

Office

In my opinion, there are a number of advantages in using the lower site; first, San Diego, California much to be preferred to an earth fill dam, on general principles; second,

San Diego, California
July 23, 1921.

Colonel Fletcher,

Dear Sir:

My understanding of your question about the construction of Warners dam is what is the cost of the work which would be abandoned at the upper site if a dam were constructed at the lower site and also what the cost of the conduit would be between the upper and lower site and what advantages, if any, would accrue by building at the lower site.

The cost of the work at the lower dams site was compiled by Mr. F. M. Faude on November 29th, 1916 and is attached hereto.

The distance from the upper dams site to the lower dams site is 5,500 feet. The cost of the conduit would be, roughly, \$6.00 a foot or say \$30,000 to complete the conduit between the upper and lower site which, of course, would not be expended if the lower dams site is used.

You will note the total expenditure as outlined by Mr. Faude is, in round figures, \$50,000. The \$30,000 it would cost to construct the conduit should be deducted from this leaving, roughly, a net loss to Mr. Henshaw of \$20,000 in case the work at the upper dams site is abandoned.

In my opinion, there are a number of advantages in using the lower site; first, a concrete dam is much to be preferred to an earth fill dam, on general principles; second, I believe its sale value would be greater than an earth fill dam as the common layman would unquestionably be willing to pay more for a concrete structure than an earth structure; third, there would be approximately 8,000 acre feet additional storage capacity if the lower site is used; fourth, I am convinced that the cost of a multiple arch dam at the lower site will be materially less than the cost of hydraulic earth fill dam at the upper site.

For the above reasons, I believe that the abandoning of the work already done would be more than justified.

Yours respectfully,



T. H. King.

THK:ME

C-1921

San Diego, California
July 26, 1921.

Colonel Fletcher,

Dear Sir:

In answer to your inquiry relative to the cost of Mission Gorge dam built to a height of 210 feet. The cost of a single arch constant angle concrete dam will not exceed \$850,000 or \$900,000. A pipe line of sufficient size from Mission Gorge dam to Old Town connecting with the City mains can be built for, roughly, \$200,000.

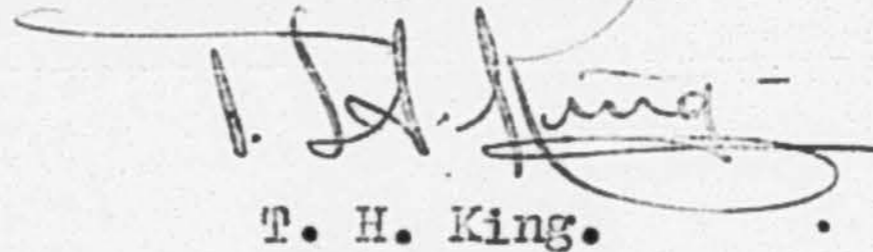
With Fletcher Dam built the net safe yield of Mission Gorge reservoir during the period of greatest drought on record from 1895-1905 shows a net safe yield of $4\frac{1}{2}$ million gallons daily. Assuming that a 210 foot dam and the pipe line mentioned above can be constructed and the reservoir lands acquired for \$1,500,000 which I believe is a very conservative estimate of the cost of the entire project. The cost of the water would be 6.4 ¢ per thousand gallons.

If Fletcher dam was not built the net safe yield would be increased to 6.7 million gallons daily and the cost per thousand gallons correspondingly reduced.

In years of normal or excessive rainfall there would, of course, be a considerable surplus of water in excess of the net safe yield figures given above.

In my opinion Mission Gorge is an ideal reservoir site and the cheapest water in the County can be developed at this point.

Yours respectfully,

A handwritten signature in dark ink, appearing to read 'T. H. King', with a long horizontal flourish extending to the right.

T. H. King.

THK:LEE

San Diego, California
July 28, 1921.

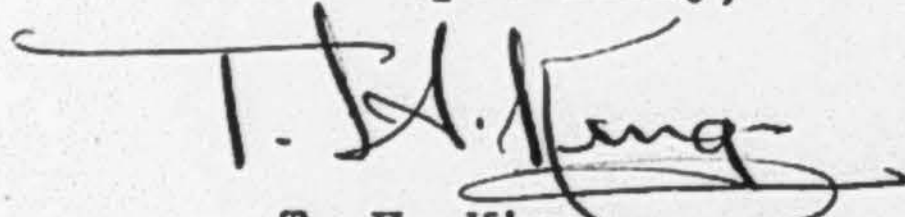
Colonel Fletcher,

Dear Sir:

Referring to the search of the San Luis Rey riparian lands made by the Southern Title Company I notice one parcel which is certainly riparian which they have omitted from their search, namely, on sheet three, about two miles above the Monserate Ranch, the Southwest quarter of the Northwest quarter of Section 33, Township 9 South, Range 2 West, S.B.M.

I asked the Title Company the status of this property and find that Charles Foreman acquired the riparian rights from Greenwalt and, of course, these rights were transferred by general deed from Foreman through Smith to Mr. Henshaw. The Title Company, however, state that there is no record of the patent ever having been issued on this land.

Yours respectfully,


T. H. King.

THK:ME

C-1921

San Diego, Aug. 18, 1921.

To The Honorable Board of Water Commissioners,
City of San Diego.

Gentlemen:

Col. Fletcher has requested me to reply to your letter of Aug. 6th in which you ask for available information on the Mission Gorge dam and reservoir project.

Three possible dam sites have been considered; the upper site known as the La Mesa Irrigation District site, and two sites in the lower Mission Gorge.

Careful surveys have been made of each of the three sites. These surveys show conclusively that the lowest site is superior in every way.

1st: The opening to be stopped by the dam at the lowest site is materially smaller than either of the other two sites. This means that a dam at either of the two upper sites would require at least 50 per cent. more concrete yardage.

2nd: Core drillings in the stream bed at the lower site disclose solid bed-rock at the surface and test pits show that no excessive excavation would be required.

3rd: The reservoir formed by a dam at the lower site would expose less area to evaporation in proportion to the amount of water stored than any other reservoir in San Diego County.

The lowest site being the most feasible, is the only one considered further in this letter.

A contour survey of the reservoir site shows a capacity at various depths as follows:

A dam impounding water to a depth of 210 feet will store 25,101.2 acre feet, or 8.2 billion gallons, and will flood 574½ acres.

A dam impounding water to a depth of 220 feet will store 32,539.3 acre feet, or 10.6 billion gallons, and will flood 913 acres.

A dam impounding water to a depth of 230 feet will store 44,225 acre feet, or 14.4 billion gallons, and will flood 1424 acres.

I have made net safe yield study of a reservoir formed by a 210-foot dam and find that during the 10 dryest years on record the Mission Gorge reservoir, had it been built, would have delivered 4.5 million gallons daily.

This result is based on the assumption that the present Cuyamaca system is augmented by the construction of a dam at the Fletcher site which will store 12,000 acre feet or 4 billion gallons.

The above study is based on the 10 dryest years on record, namely, from the season of 1895-96 to 1904-05 inclusive. In the operation of the reservoir it would have been justifiable to draw much more water than this amount during the years of normal rainfall to prevent wasting an excess amount of water over the dam. I have extended the study from 1886-87 to 1919-20 and find that 9 million gallons daily could have been withdrawn from the reservoir during the entire period, excepting during the 10 dryest years referred to above.

If we consider a dam 220 feet in height, with the present Cuyamaca water system and with the Fletcher dam built, the net safe yield would be 5 million gallons daily; but 10.5 million gallons daily may be withdrawn except during the 10 years from 1895-96 to 1904-05.

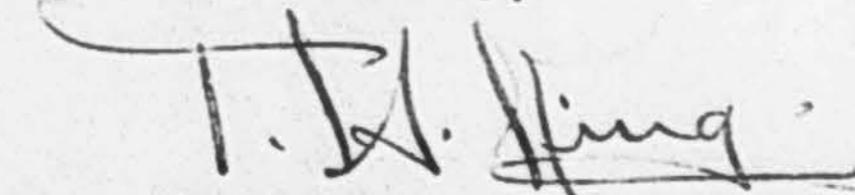
A 230 foot dam under the same conditions will deliver a net safe yield of 5.6 million gallons daily; but 11.5 million gallons daily may be withdrawn except during the 10 year period from 1895-96 to 1904-05.

I recommend a single arch, constant angle dam for this site. I understand that this type of dam has been approved by both Mr. Savage and Mr. O'Shaughnessy.

A 210 foot dam of this type can be built for approximately \$800,000. Bent Brothers of Los Angeles have agreed to build it for approximately this sum. There is no question whatever that the construction of a 210 foot dam, single arch, constant angle, plus the building of a pipe line to connect with the City's mains at Old Town, together with the cost of the dam site and reservoir mentioned, will cost not to exceed \$1,500,000.

I have a complete study of this development and with Colonel Fletcher's consent will be glad to confer with your engineers and go into greater detail.

Yours respectfully,



T. H. King, Chief Engineer

Ed Fletcher Company.

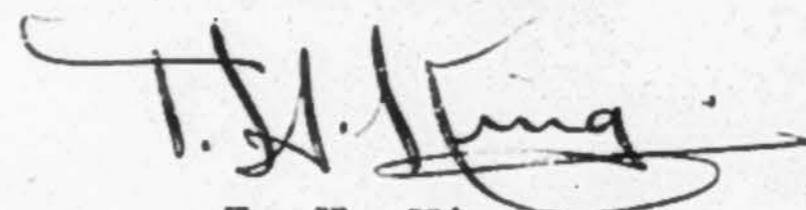
San Diego, California
August 30, 1921.

Colonel Fletcher,

Dear Sir:

In answer to your question as to the cost of water per thousand gallons delivered from Mission Gorge reservoir. Based on the assumption that the development will cost \$1,500,000 and that the reservoir will deliver 4½ million gallons daily using 5% interest on the investment, 2% maintenance and operation and depreciation, the cost will be 6.4¢ per thousand gallons.

Yours respectfully,


T. H. King.

THK:ME

San Diego, California
September 22, 1921.

Colonel Fletcher,

Dear Sir:

Regarding point of diversion for the Boulder Creek power project.

In seeking a point of diversion on Boulder Creek above the point designated in the application for power made in your name to the State Water Commission and Federal Power Commission, I find that there are apparently two points above where a diverting dam could be located successfully but, of course, I can not say definitely that the points which I have selected from the topographic sheet would be feasible without first making a field investigation.

The investigation in the field would be necessary for two reasons. First, to determine if there is a suitable damsite; second, to determine the location of the damsite in relation to the section lines, for as you know, this is very rough country and while the topography is very nearly correct in formation, its location is not definite on the Government topographic sheet, that is, if the point of diversion is very near a section line it is impossible to say definitely in which section it is located.

The upper site which I have selected on a topographic sheet is apparently the better of the two, requiring in all

9/22/21

probability, a much shorter dam. The only advantage in the lower of the two new sites is that there is approximately 1.4 square miles greater tributary drainage area. This site is approximately one mile further up Boulder Creek than the site mentioned in the application and is about 100 feet higher in elevation. The upper site which I recommend is located approximately one and a half miles above the point of diversion in the application and is at about 350 feet greater elevation.

The drainage area tributary to the various sites is as follows:

Damsite in application equals 12 square miles.

Damsite 200 feet higher elevation and one mile up stream from point applied for equals 8 square miles. Damsite 350 feet higher elevation and one and a half miles up stream equals 6.6 square miles.

Both of the above sites are apparently on Government land.

Awaiting your instructions, I am,

Yours respectfully,


T. H. King.

THK:ME

Office Sept. 26, 1921

Mr. King:

Have a talk with Crouch. Is there any reason why we cannot, when we get in condition to do so, condemn a diversion point on the Boulder Creek Gold Mining and Milling Company and divert the gravity flow? We would not be flooding their mine as we would not build any dam at the present time, and we would not interfere with their water rights either, as we would take up the water below.

Let me know what you think of this and give me a report on it after talking it over with Crouch.

E.F.

BA

FLETCHER INVESTMENT COMPANY

FLETCHER INVESTMENT COMPANY

San Diego, California,
November 27, 1921.

C o p y

Colonel Fletcher,

Subject: Core Drilling at Pamo.

Dear Sir:

The following is a summary of the core drilling already accomplished at Pamo:

Hole No. 1 located in river bottom at toe of dam. The first 8' 6" passed through sand and small boulders, from that point on to 41' which is the total depth of the hole, the drilling was through hard granite yielding 100% core.

Hole No. 2 located in river bottom on center line of dam. This hole evidently just missed the ledge which the first hole struck as the first 24' passed through sand, gravel, and small boulders, from there on to a depth of 52' which is the total depth of the hole hard granite was encountered, yielding 100% core.

Hole No. 3 about half way up on the north abutment. First 3' was composed of earth and boulders, from that point to 28' 3" decomposed granite in place with occasional hard nodules was encountered, yielding about 60% core. Beyond this to a depth of 58' 3", the total depth of hole, hard granite was encountered, yielding 100% core.

Hole No. 4 on the top of the ridge on the north abutment beyond the angle point in the center line of the dam. First 2' of soil, from there on to a depth of 83' decomposed granite in place was encountered with occasional nodules of

Page Two /

of hard granite, yielding about 60% core. From 83' to 100' the total depth of hole, hard granite was encountered, yielding 100% core.

Note: In all probability if extreme care had been used in recovering the core on all these holes a much higher percentage of core would be shown as after passing through hard lumps or nodules the harder core was not always removed and the tendency in the operation of the drill is for a hard core to grind up softer core below.

Hole No. 5 located about half way up on the south abutment. For the first 22' soil and loose boulders were encountered. At this depth we encountered bedrock, which continued to the full depth of the hole, approximately 45 feet; from the time bedrock was encountered 100% core was recovered. Rock appeared to be without fracture.

From the record of these core drillings, it is apparent that suitable foundation for a concrete dam is available without excessive excavation.

Hole No. 5 was completed Saturday night, and Monday the plant will be dismantled and by Wednesday we will be moving to Sutherland damsite and will proceed with the core drillings at that point at once. All of these test hole cores will be brought to San Diego when the rig is moved in.

Yours respectfully,

T. H. KING

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San Diego, California
April 25, 1921.

Colonel Fletcher,

Dear Sir:

The application #567 to the State Water Commission for the use of the Santa Ysabel Creek at Sutherland and Black Canyon Diversion is for power purposes only.

I can find no correspondence with the Indian Service in connection with this project.

Yours respectfully,

T. H. King.

THK:ME

206

San Diego, California
April 25, 1921.

Colonel Fletcher,

Dear Sir:

By moving the point of diversion on Black Canyon Creek off the Indian Reservation we necessarily change that portion of the map pertaining to the Black Canyon Diversion which we filed with the State Water Commission. It will be necessary, therefore, to locate a new point of diversion and furnish the State Water Commission a copy of the revised map showing the line from this point of diversion to the point where it ties in with the line from Sutherland.

A copy of this map will also have to be filed with the U. S. Forestry Service before the State Water Commission will issue their permit. To do this work will require about three days field work.

It is very advisable that I go to Sutherland for a day this week as this is the last week that Mr. DuBois will be on the job and I am anxious to see how the new man is taking hold. I can at this time locate a new point of diversion and get the party started on the relocation of this line.

Yours respectfully,

T. H. King.

THK:ME

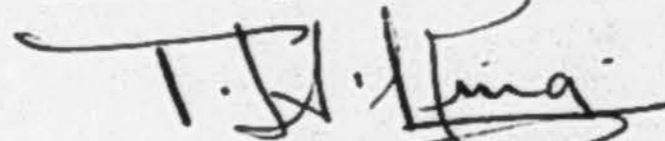
San Diego, California
December 7, 1921.

Colonel Fletcher,

Dear Sir:

Attached hereto is a copy of letter sent to
Mr. Crouch, of land you wish to petition out of the old
Cardiff Irrigation District.

Yours respectfully,


T. H. King.

THK:ME

Dec. 12, 1921.

Colonel Fletcher,

Office.

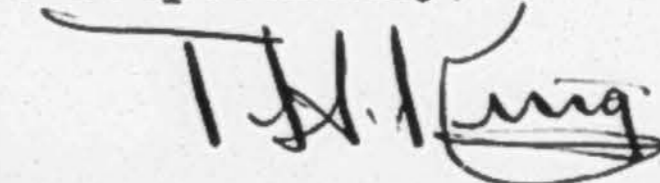
Dear Sir:

Subject: Road through Henshaw property Lake Hodges.

Mr. Miller of the County Surveyor's Office, informs me
that the center line of the new county highway has been completed
through Mr. Henshaw's property where the Escondido camp grounds are
located at Lake Hodges.

There seems to be some doubt as to the width of the right
of way. Their maps show a 50-foot right of way, but they tell me that
has not been agreed to by you. As soon as this is determined the
work of constructing the fence could be done.

Yours respectfully,



T. H. King.

11-25-21
C-6-21/12-11-21
-1

San Diego, California
December 17, 1921.

Colonel Fletcher:

You wrote me a letter asking on what water filings we are standing on South Fork stating that you had no recollection that we had any water filing on South Fork. There are two filings which seem to cover the waters of South Fork both of which were made by the San Diego Flume Company. The first was posted June 29th, 1886 and recorded June the 2nd, 1886. The San Diego Flume Company appropriates all the waters of the South Fork of the San Diego River to the extent of 4000 miners inches at the following point. At the South Fork of the San Diego River at a point about one mile above the junction with the main river. The notice of appropriation is recorded in Book One, Page 152 of Water Claims.

The second was posted July 18th, 1894 and recorded July 27th, 1894 in which the San Diego Flume Company appropriates all the waters of South Fork of the San Diego River to the extent of 3000 miners inches at the following point. The rocky gorge at the junction at the north and south branches of the South Fork of the San Diego River near the Conejos settlement. The notice is recorded in Book Two, Page 441 of Water Claims.

In view of the foregoing notices of appropriation do you still think it wise to file an additional notice of appropriation on South Fork?

Awaiting your instructions, I am,
Yours respectfully,

THK:ME

I. H. King

Enc. 243 - 1

Office Dec. 19, 1921.

Mr. King:

Huber has the Mission Gorge water filing application and I have ordered him to file it today and put under my name the following words: "Trustee for Linda Vista Mutual Water Company", so please add it to your copy so that we may have the official record.

E. F.

280-8

San Diego, California
Dec. 29, 1921.

Colonel Fletcher,
Office.

Dear Sir:

You have asked Mr. Harritt and myself to make a report to you on the expense to which the Pacific Tank & Pipe Company's delay in the completion of their contract put the Henshaw-Fletcher Company.

According to their contract the work should have been completed July 1, 1920. As a matter of fact their contract was not completed until March, 1921. Therefore, all of the overhead on the construction of this pipe line since July 1, 1920, is expense to which the Pacific Tank & Pipe Company put the Henshaw-Fletcher Company. The tabulated overhead does not apply to work on the reservoir or items other than those connected with the installation of the pipe line, nor does it apply to the secondary contract which the Pacific Tank & Pipe Company had for pipe to replace the concrete pipe.

A tabulation of this expense is hereto attached.

You tell me that the Pacific Tank & Pipe Company have brought in a large bill for extras in connection with the replacement of that portion of their line entering La Jolla which failed.

I fail to see any justification for extras in connection with this work. Certainly none were authorized by either Mr. Harritt or myself, or anyone else, so far as I know. As a matter of fact, the Henshaw-Fletcher Company did not have a representative on the ground when the portion of the pipe line that

E. F. #2

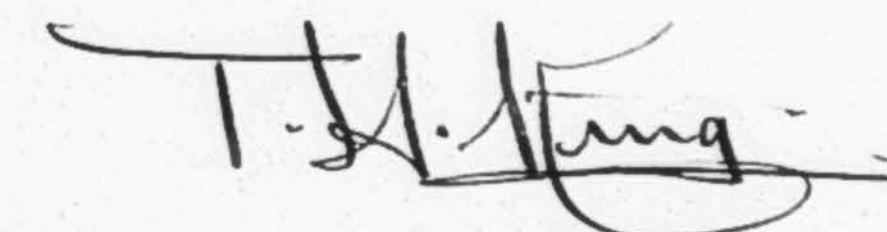
12/29/21

failed was relaid, and therefore we could not have authorized any extras in the field.

The Pacific Tank & Pipe Company entered into a contract to put a pipe line into La Jolla on specifications approved by themselves which were more rigid than their standard specifications, and they guaranteed the pipe to fulfill the duty for which it was intended. Since this pipe failed to perform this duty, it is certainly up to the Pacific Tank & Pipe Company to lay a pipe which will perform the work required without any extra charges whatever.

In addition to the overhead which is chargeable to the Pacific Tank & Pipe Company's delay it seems to me there should be a charge for losses of revenue by the Henshaw-Fletcher Company through their inability to deliver water to the City by reason of the non-completion and failure of the pipe line.

Yours respectfully,



T. H. King.

Statement of expense on construction of Henshaw-Fletcher pipe line charge-
able to delay in completion of contract by Pacific Tank & Pipe Co.

	Prior to July, 1, 1920	: Since July 1, 1920
Office Pay Roll	\$560.45	\$555.20
Field Pay Roll	397.20	236.50
Engineer's Office Expense	21.37	16.00
Harritt's Auto	57.00	260.00
Nelson's Auto	0	350.00
Lanterns Purchased	127.92	198.30
Lanterns M & O	172.50	731.50
Oil for Lanterns	3.00	130.14
Oil & Gas	0.	92.34
Phone Tolls	18.15	26.15
Totals .	\$1,357.59	\$2,596.13
Total prior to July 1st - - - - -		<u>1,357.59</u>
		\$3,953.72

Explanatory Note:

Total length of line laid, including supplementary contract	35,192 feet
Length of supplementary contract	10,713 feet
Total expense chargeable to pipe line (See above tabulation total)	\$3,953.72
By proportion the amount chargeable to supplementary contract	\$1,203.57
Leaving a balance chargeable to original contract	\$2,750.15
Of which there occurred prior to July 1, 1920 (See above tabulation)	\$1,357.59
Balance, due to delay in completion of contract	\$1,392.56

Ed Fletcher Papers

1870-1955

MSS.81

Box: 15 Folder: 5

General Correspondence - King, Thomas H - 1917 - 1921



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