

F. M. LOCKWOOD
MANAGER OF OPERATION

A. C. FRANCIS
CHIEF CLERK

LOWER OTAY DAM CONSTRUCTION

OPERATING DEPARTMENT

CITY OF SAN DIEGO, CALIFORNIA
MAIN OFFICE CITY HALL

H. N. SAVAGE
HYDRAULIC ENGINEER

December 27, 1917.

Cuyamaca Water Company,

Attention Mr. Ed Fletcher, President,

San Diego, Calif.

Dear Mr. Fletcher:

In furtherance of your hospitable co-operation in initiating my acquaintance with the water resources of the several companies you are directing, and if consistent with your pleasure I can use to complete the tabulation that I am making, the following information regarding the Conejos

Reservoir site to which you called my attention:

<u>Poverty Gulch</u>	- Conejos -	4 18 2	
243-15-3E	Location--Section, township, range	{ 6-15-3E	WJM
8.2	Area of Watershed-- 15 Sq. Mi.	{ 31-14-3E	
2760'	Elevation of outlet-- 1520 ft.		
2860'	Elevation of spillway-- 1580 ft.		
120'	Height of dam above stream bed-- 80 ft.		
900'	Length of the top of dam-- 550'		
143ac	Area of reservoir-- 38 Ac.		
4630 Ac#	Capacity of reservoir-- 867 Ac. ft.		

Sincerely,

H. N. Savage
Hydraulic Engineer,

HNS/YWJ

84

13478
Scripps Blvd
Fred Burris

Mr. Ellis: Please see me in relation to this letter.

Ed Fletcher. F-S

January 3, 1918.

Mr. H. N. Savage,
Hydraulic Engineer,
San Diego, Calif.

My dear Mr. Savage:

On investigation, I find that I am "Mixed in my dates," as it were, on the South Fork of the San Diego River. Mr. Post's recommendation was to build the Poverty Gulch Dam. It is located in Sections 2 and 3, of Township 15 S., Range 3 E.

Area of watershed	- - - - -	8.3 sq. mi.
Elevation of outlet	- - - - -	2760.0 feet
Elevation of spillway	- - - - -	2860.0 feet
Height of dam above streambed	- - - - -	120.0 feet
Length of the top of dam	- - - - -	900.0 feet
Area of Reservoir	- - - - -	143.0 acres
Capacity of Reservoir	- - - - -	4630.0 acre feet.

Mr. Post's idea was to divert Boulder Creek at an elevation of around 3000 feet, into Poverty Gulch, the conduit line being several miles in length. This would furnish several square miles of water shed additional to Poverty Gulch - the best watershed that we have on the Cuyamaca system. The idea was to develop electrical energy and have a continuous flow of water winter and summer, dropping the water into South Fork with a power drop of over 1500-feet, I believe.

We lose something like 20 to 30% in the summertime transferring our water from Cuyamaca dam to the diverting dam. A material saving in evaporation and seepage losses could be made by bringing the water via Poverty Gulch, and the water would be delivered at South Fork inside of the Diverting Dam, 12 or 15 miles nearer

town. The above is just a suggestion for you to think of. We never got into the matter thoroughly.

The Conejos Reservoir was only a small diversion reservoir, in Section 6, T. 15 S., R. 3 E., and Section 31, T. 14 S., R. 3 E.

Area of water shed - - - - -	15 sq. mi.
Elevation of outlet - - - - -	1520 feet
Elevation of spillway - - - - -	1580 "
Height of dam above stream bed - - - - -	80 "
Length of top of dam - - - - -	550 "
Area of reservoir - - - - -	38 acres
Capacity of reservoir - - - - -	867 acre feet.

There was also another site, which was materially larger, but as yet I have not been able to find the survey. This Conejos Reservoir above mentioned is fully two or three miles above our present diversion on South Fork. We had a first-class concrete diversion in at South Fork, but the floods took it out,

and we have only maintained a temporary diversion since. We expect to rebuild this diversion in the spring.

Hoping the above is satisfactory,

Yours very truly,

F-S

C O P Y

CITY OF
SAN DIEGO, CALIFORNIA
Board of Water Commissioners

San Diego, California,
September 18, 1919.

Colonel Ed Fletcher,
920 Eighth Street,
San Diego, Calif.

Dear Mr. Fletcher:

Subject: El Capitan Reservoir Investigations.

In compliance with Ordinance No. 7673, dated March 24, 1919, it is the expectation that the core recovering drill investigating work at the Barrett Damsite will be completed in the immediate future, and the drill be available for explorations at the El Capitan Site.

If consistent with your policy, a letter is desired from you, confirming your many gracious offers of cooperation, with particular reference to the entering upon land in the vicinity of the projected El Capitan Damsite, ownership of which, I understand, is controlled by yourself and other officials of the Cuyamaca Water Company.

Respectfully,

(Signed) H. N. Savage

Hydraulic Engineer.

HNS:FHS

C O P Y

Sept. 23, 1919.

Hon. H. N. Savage,
Hydraulic Engineer,
Water Commission,
San Diego, Calif.

My dear Mr. Savage:

Answering your letter of September 18th will say permission is hereby given to the City to make explorations at the El Capitan Dam Site on our property, providing as soon as the work is completed you furnish us, free of charge, with a plate showing the location and cross section, also showing depth and log of any wells or cores which you may put on.

Yours very truly,

CUYAMACA WATER COMPANY

(Signed) Ed Fletcher
Mgr.

EF/VBS

HNS CHB 9-30-19.

Bulletin September 30, 1919.

City of San Diego, California.
Lower Otay Dam.

Original structure, rock embankment, sheet steel core, completed August, 1877. Height 130 feet, length on top 500 feet. Overtopped and destroyed January 27, 1916, by flood discharge estimated U. S. G. S. 32,000 cubic feet per second.

LOWER OTAY DAM CONSTRUCTION.

One hundred (100.00) percent completed.

Gravity Type, Arched Concrete Cyclopean Masonry.

Bond issue, \$682,000, total including accrued interest, \$715,000.
Construction contract with James Kennedy executed October 11, 1917.

Cement contract, California Portland Cement Company, Colton, California.
85,000-125,000 barrels, executed October 1, 1917.

Construction contract with James Kennedy for Lower Otay Dam, suspended August 30, 1918.

Construction with City Forces authorized September 20, 1918.

Height of new dam, above lowest elevation, 175 feet.
Height of new dam, above lowest pressure grouting, 200 feet.
Thickness at base, 150 feet.
Length on top, 750 feet.

Spillways combined discharge capacity, 50,000 cubic feet per second.

Capacity of reservoir to fixed lip of over the dam spillway, Sixteen Billion (16,000,000,000) gallons.

Capacity of reservoir with automatic positive acting flashboards in place, Nineteen Billion (19,000,000,000) gallons - 57,000 acre feet.

Dam contains 83,500 cubic yards of concrete cyclopean masonry.
Weight of masonry, about 175,000 tons.

Elevation of highest masonry in dam above sea level, 496 feet,
reservoir gauge 149 feet.

Reservoir gauge September 30, 1919, 46.5 feet. Water in storage in reservoir, Five Hundred and Fifty Five Million (555,000,000) gallons.

Total Freight hauling required for job, 25,000 tons.

Distance to Lower Otay Dam from Chula Vista Third Street Station,
13 miles.

Distance to Lower Otay Dam from San Diego, 21½ miles.

H. N. Savage,

Hydraulic Engineer.

El Capitan Damsite,
December 20, 1920.

Cuyamaca Water Company,
916 - 8th Street,
San Diego, Calif.

Gentlemen:

Subject: San Diego River. Cape Horn Gaging Station.
Gauge Readings.

Dec. 10,	A.M.	1'	P.M.	1'
" 11,	"	1'	"	1'
" 13,	"	1'	"	1'
" 13,	"	1'	"	1'
" 14,	"	1'	"	1'
" 15,	"	1'	"	1'
" 16,	"	1'	"	1'
" 17,	"	1'	"	1'
" 18,	"	1'	"	1'
" 19,	"	1'	"	1'01
" 20,	"	1'01	"	1'01

HNS:S.

Yours very truly,

(signed) H. N. Savage.

El Capitan Damsite,
December 31, 1920.

Cuyamaca Water Company,
916 - 8th St.,
San Diego, California.

Dear Sirs:

Subject: San Diego River. Cape Horn Gauging Station.
Gauge Readings.

Dec. 21,	A.M.	1.01,	P.M.	1.01
" 22,	"	1.02	"	1.01
" 23,	"	1.01	"	1.01
" 24,	"	1.01	"	1.01
" 25,	"	1.01	"	1.01
" 26,	"	1.02	"	1.02
" 27,	"	1.03	"	1.02
" 28,	"	1.03	"	1.03
" 29,	"	1.03	"	1.03
" 30,	"	1.03	"	1.03
" 31	"	1.04	"	1.03

HNS:S.

Yours very truly,

(signed) H. N. Savage.

January 20, 1921. XXX

From: The Hydraulic Engineer.

To: The Honorable, the Mayor, the Common Council, and the Board of Water Commissioners of the City of San Diego, California.

Subject: El Capitan Dam site, Sub-surface Investigations. Progress Statement.

1. Core recovering borings along the Hamilton Cross Section at the El Capitan Dam site, have been prosecuted continuously in accordance with the Common Council's Ordinance No. 7673.
2. Reports describing specifically and fully all of the work as it has progressed, and the results disclosed by each of the borings have been made and transmitted to the Common Council at intervals of ten days continuously since the work started.
3. The evidently approaching completion of boring No. 24 apparently warrants, for the first time since the work started, a general progress statement.
4. The holes have been bored with a Calix Core Recovering Drill and cores of hard gray granite rock 1-1/2 inches in diameter up to over 24 inches in length have been secured, and are being carefully preserved in core boxes for future reference and study.
5. The general location of the line of borings extends at right angles across the streambed and up both abutments to a height of about 200 feet above the elevation of the streambed. The holes along the cross section line are spaced about 80 feet apart. In addition, several holes were bored in the streambed, covering an area sufficient for the foundation base for a high dam.

6. The depth of the holes varies from about 60 feet to about 200 feet below the natural surface of the streambed and below the natural surface up along the abutments respectively.

7. A total of 21 vertical holes have been completed, each boring penetrating considerable distance into hard granite rock, evidently bed rock.

The penetration of the holes into hard granite rock averages about 25 feet. Hole No. 1 located in the center of the streambed was bored down into the solid granite bed rock 53 feet out of abundant caution.

8. Hard granite rock, evidently bed rock, was encountered in every one of the holes at relatively shallow depths below the surface of the streambed, and also at reasonable depths below the surface up the left or south abutment, to and including Hole No. 14 located adjacent to the Cuyamaca Water Company's flume.

Hard granite rock, evidently bed rock, was also encountered in every one of the holes up the right or north abutment, but at very considerable depths below the surface, and in several of the holes, at elevations considerably below the elevation of the granite rock encountered in the streambed section.

9. After Hole No. 24, which is now being bored, has penetrated some distance in the bed rock, it will be necessary to bore one or more additional holes higher up on the right or north abutment to determine the existence and location of foundation bed rock in the right abutment to insure its being at an elevation as high as the top of a projected dam.

10. The considerable depth of the bed rock under the right or north abutment is such as to make it imperative that a limited number of borings be put down at other cross sections of the canyon in the vicinity for the purpose of locating the bed rock cross section of the site which will require the minimum amount of masonry for the construction of a dam of the required height.

11. The importance attaching to the investigations of San Diego River's additional water resources and their conservation, and the great magnitude and cost of the necessary storage works, makes it imperative that the investigations be comprehensive and thorough, and the results accurate and full, before a reliable conclusion can properly be reached.

HNS:S.

H. N. Savage

[SAVAGE to EF]

LOUIS J. WILDE, Mayor
VIRGILIO BRUSCHI
FRED A. HEILBRON
JOHN A. HELD
DON M. STEWART
HARRY K. WEITZEL
COMMON COUNCIL
CHARLES E. SUMNER
HORACE B. DAY
HORACE AUGHE
BOARD OF WATER COMMISSIONERS
SHELLY J. HIGGINS, CITY ATTORNEY
E. D. WILLIAMS, PURCHASING AGENT

CITY OF SAN DIEGO, CALIFORNIA

WATER CONSERVATION:

BARRETT DAM
CONSTRUCTION
H. N. SAVAGE,
HYDRAULIC ENGINEER
W. A. STEBBINS,
A. E. PADDOCK,
CONSTRUCTION SUPERINTENDENTS
S. R. NELSON,
CHIEF CLERK

SAN DIEGO, CALIFORNIA, January 31, 1921. ~~1920~~

Hon. Ed Fletcher,
San Diego, California.

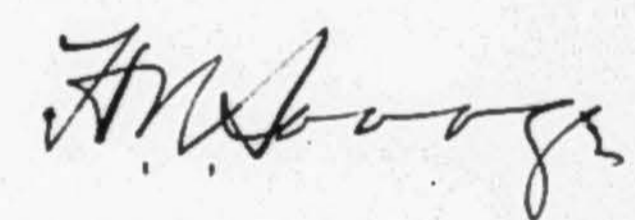
Dear Sir:

Receipt is acknowledged of your letter of January 17,
regarding El Capitan Damsite Investigations.

Enclosed is copy of Progress Report to the City Officials
dated January 20.

Pending the conclusion of investigations sufficient, com-
prehensive and thorough to disclose the requirements and factors
controlling the storage of water in the El Capitan Reservoir
Basin, it is deemed impracticable to base conclusions on the
limited disclosures which have been accomplished.

Respectfully,



HNS:S.

Enclosure: Report.

April 22, 1921.

Mr. H. N. Savage,
County Engineer,
City Hall,
San Diego, Calif.

My dear Mr. Savage:

Inclosed find profile of Mission Gorge Dam, sites
No. 2 and 3, No. 3 being the lowest site, No. 2 being
the post site.

I have received a definite bid from Bent Brothers
of ten dollars a yard for the Mission Gorge site No. 3,
the westerly site, based on the construction of a constant
angle arch dam, as per plans of Mr. Jorgerson, a copy of
which plan I submitted to you. This assures the completion
of a dam at site No. 3, the cost not to exceed \$800,000,
with a capacity of between ten to eleven billion gallons.

Yours very truly,

EF/AH

CITY OF SAN DIEGO, CALIFORNIA
BOARD OF WATER COMMISSIONERS

SAN DIEGO, April 27, 1921, 192

Col. Ed Fletcher,
San Diego,
California.

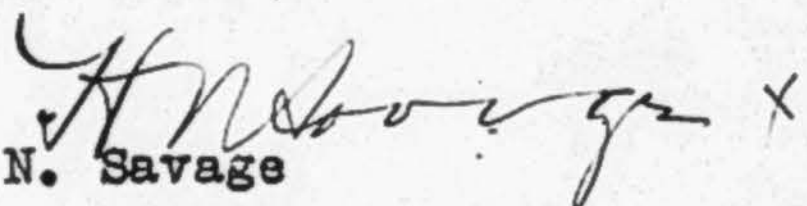
Subject: Mission Gorge. Damsites and Engineering Data.

Dear Sir:

You have my gratitude for profile of Mission Gorge Dam-sites numbers two and three.

You also have my gratitude for your statement regarding the feasibility of providing a water supply from the Mission Gorge site by gravity to the lower elevations of the City of San Diego and the economy of pumping from the same source by means of pumping plant already installed to the higher elevations.

Very respectfully,


H. N. Savage
Hydraulic Engineer.

HNS.L

June 17, 1921.

Mr. H. N. Savage,
City Hall,
San Diego, Calif.

My dear Mr. Savage:

I expect to put a core drill down in Mission Gorge, working early next week at the lower site, and will be glad to furnish you a record of our core drillings.

We are putting down some test pits at the present time on either side of the canyon. We find that a dam at Mission Gorge, flooding 1050 acres at the lower site holds over thirteen billion gallons. The crest of the dam will be two hundred thirty feet above sea level.

Yours very truly,

BF:AH

19 August 1921.

Mr. H. N. Savage,
Hydraulic Engineer,
San Diego, California.

My dear Mr. Savage:

Enclosed find copy of Mr. O'Shaughnessy's report, as per your request.

I do not agree with him as to his cost per thousand gallons for water. The net safe yield of the Cuyamaca System, irrespective of any pumping rights, by the expenditure of \$1,000,000 or \$1,500,000, would be 6-1/2 million gallons daily, covering the ten dryest years, instead of 3.90 as mentioned in O'Shaughnessy's report, and the 6-1/2 million gallons daily does not include a tremendous amount of water that can be pumped from the El Monte gravels.

We own all the pumping rights below the El Monte pumping plant to, and below, Lakeside, for a considerable distance. I am satisfied we can pump 2 or 3 million gallons a day out of the El Monte gravels continuously, if necessary, and with an air lift.

On the Mission Gorge site, Mr. O'Shaughnessy figures the cost 12.80 cents a thousand gallons. That is based on the cost of 3 million gallons for Mission Gorge project. I know that a single arch dam can be built there for not to exceed \$1,000,000, 220 feet in height, and \$1,500,000 is nearer the value than \$3,000,000, in my opinion, which would very materially reduce the cost as compared to the city's water. I am still of the opinion that Mr. Earle was nearer right when, under oath, he testified that the cost of the city's gravity water is 22 cents per thousand gallons, before the State Railroad Commission, last June.

Yours very truly,

EF:KLM

December 3, 1921.

Mr. H. N. Savage,
Hydraulic Engineer,
San Diego, Calif.

My dear Mr. Savage:

At the suggestion of Mr. Herbert, this is to inform you that we own all of the riparian rights covering the several thousand acres of the Fitzherbert West Tract, known as the "Fortuna" Tract, including the riparian lands on the San Diego River in the Mission Gorge damsite. It is a matter of record, in the recorder's office, and I can give you a copy of the contract if you desire it.

Yours truly,

CUYAMACA WATER COMPANY,

By _____ Manager.

EF:KLM

December 3, 1921.

Mr. H. N. Savage,
Hyd

JOHN L. BACON, MAYOR
VIRGILIO BRUSCHI
FRED A. HEILBRON
JOHN A. HELD
DON M. STEWART
HARRY K. WEITZEL
COMMON COUNCIL
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CITY OF SAN DIEGO, CALIFORNIA

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ADDITIONAL WATER SUPPLY
INVESTIGATIONS
GEORGE CROMWELL
GEORGE R. HAYLER
ENGINEERS

SAN DIEGO, CALIFORNIA. December 5, 1921.

Hon. Ed. Fletcher,

Manager Cuyamaca Water Co.,

San Diego, Calif.

Subject: San Diego River, Fortuna Tract.
(William Fitzherbert-West)

Dear Sir:

Receipt is acknowledged of your letter of December 3, advising that the Cuyamaca Water Company owns all the riparian rights covering the Fitzherbert-West (Fortuna Tract) in the San Diego River Mission Gorge.

If consistent with your pleasure, it is deemed desirable to have a copy of the contract you refer to between the Cuyamaca Water Company and Mr. William Fitzherbert-West regarding riparian rights.

You have my appreciation for your valued constructive cooperation in bringing this water matter to attention.

Respectfully,

H. N. Savage
H. N. Savage.

HNS/EF

December 8, 1921.

Mr. H. N. Savage, Hydraulic Engineer,
City of San Diego,
San Diego, California.

My dear Mr. Savage:

In answer to your inquiry as to the price of the El Capitan damsite and riparian lands affected thereby, in the matter of the construction of El Capitan dam, so far as it affects the Cuyamaca System, will say I do not care to take the responsibility for making a price without consulting my associates. I feel sure, however, that the Cuyamaca Water Company will insist upon the following:

First: The right to construct a dam to impound and divert the waters of the San Diego River on the North Fork. The storage capacity of said dam to be not less than 4 or 5 billion gallons. Also another on the South Fork that will impound not less than 500 million to a billion gallons. -- All as per the sworn testimony of City Attorney Cosgrove on behalf of the City of San Diego, while in Washington on H. R. Bill No. 4037, Pages 74 and 75, wherein the City gave consent to the building of these dams, even if it diverted all of the water that originated east of our points of diversion.

Second: That owing to the fact that both South Fork and Chocolate siphons will be roughly 100 feet deep under water, it will be necessary for the city, at its own expense, to build a new conduit around South Fork for the benefit of the Cuyamaca Water Company, the distance being approximately 7500 feet. Also another conduit around Chocolate, the distance being approximately 14,500 feet, the capacity of said conduit to be mutually agreed upon in order to convey our waters from the San Diego River to Murray Dam.

Third: The construction of 8 or 10 miles of county highway along the mountain side, and outside the reservoir site, in order that we may reach our property above the proposed El Capitan dam and serve the public above, as well.

Fourth: That we enter into an agreement, mutually satisfactory protecting our water rights so far as the operation of the El Monte pumping plants is concerned, with an agreement for the city to furnish us water, in case we are damaged by the construction of El Capitan dam.

Fifth: That a proper adjustment be made as to damages covering our pumping rights within the El Capitan Indian Reservation.

Page Two

If the city is willing to agree to these conditions, we are then ready to make a price on El Capitan damsite and reservoir lands flooded, which we control, also make a price on the riparian rights which we control on the river below El Capitan.

Attached hereto is map from the diverting dam to the ocean, showing the lands that the Cuyamaca Water Company owns and the riparian rights that we control, also in green, the lands I own personally.

We have a letter from the Department of the Interior stating they have no objection to our building at Fletcher damsite, so far as it affects the El Capitan Indian Reservation.

The department of the Interior has also given us their permission to build a dam on the South Fork in the El Capitan Indian Reservation, the lands have been agreed upon and valuation of the lands has been made by the Department of the Interior, the money has been paid to the Department of the Interior, and so far as the Government is concerned their final consent has been secured to the construction of said dam above our intake on South Fork.

Before we proceed further with those negotiations it will be necessary to know the city's attitude relative to items one, two, three, four and five.

The Mission Gorge damsite and lands that I control personally at Mission Gorge are a separate matter and will be handled in a separate letter.

Yours very truly
CUYAMACA WATER COMPANY

By

EF:KIM

P. S. In addition I have a signed agreement giving permission to build our dams at our intakes, signed by the El Monte Ranch Company, also the F & W Thum Company property east of Scripps ranch, and I have every reason to believe that a contract will be signed at an early date with E. W. Scripps covering a similar agreement. The terms and conditions are that if there is any damage caused by the construction of our dams, the question of damage be left to the State Water Commission.

cc to G. J. H.
Mr. Brown
Mr. Murray
Mr. Farley

December 8, 1921.

Mr. H. N. Savage,
Hydraulic Engineer,
San Diego, Calif.

My dear Mr. Savage:

In answer to your inquiry as to the price of the El Capitan dam site and riparian lands affected thereby, in the matter of the construction of El Capitan dam, so far as it affects the Cuyamaca System, will say I do not care to take the responsibility for making a price without consulting my associates. I feel sure, however, that the Cuyamaca Water Company will insist upon the following:

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Second: That owing to the fact that both South Fork and Chocolate siphons will be roughly 100 feet deep under water, it will be necessary for the city, at its own expense, to build a new conduit around South Fork for the benefit of the Cuyamaca Water Company, the distance being approximately 7500 feet. Also another conduit around Chocolate, the distance being approximately 14,500 feet, the capacity of said conduit to be mutually agreed upon in order to convey our waters from the San Diego River to Murray dam.

Third: The construction of 8 or 10 miles of county highway along the mountain side, and outside the reservoir site, in order that we may reach our property above the proposed El Capitan dam and serve the public above, as well.

Fourth: That we enter into an agreement, mutually satisfactory protecting our water rights so far as the operation of the El Monte pumping plants is concerned, with an agreement for the city to furnish us water, in case we are damaged by the construction of El Capitan dam.

Fifth: That a proper adjustment be made as to damages covering our pumping rights within the El Capitan Indian Reservation.

JOHN L. BACON, MAYOR
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GEORGE R. HAYLER
ENGINEERS

SAN DIEGO, CALIFORNIA. Dec. 12, 1921.

Hon. Ed. Fletcher,

Manager Cuyamaca Water Co.,

San Diego, California.

Subject: Cuyamaca Water Company's map of San Diego River from Diverting Dam to Ocean showing Riparian Lands and Riparian Rights.

Dear Sir:

Receipt is acknowledged of your drawing #2726, your file #1-B, showing riparian lands and rights owned by the Cuyamaca Water Company and riparian lands owned by Ed. Fletcher.

You have my appreciation for this map.

Respectfully,

H. N. Savage
H. N. Savage.

HNS/EF

December
Twenty-four
1921

Mr. H. H. Savage, Hydraulic Engineer,
City of San Diego,
San Diego, California.

My dear Mr. Savage:

Agreeable to the request of Messrs. Herbert, Williams and yourself, on behalf of the city, for a price on the two lower Mission Gorge damsites, also the lands flooded, which I control, will say attached hereto is map showing the lands that I own in Lot 70 Ex Mission, marked in red.

As you are aware, I have spent several thousand dollars in core drilling, surveying, etc. in Mission Gorge within the last few months. A number of interested land owners have interested themselves in putting water on Linda Vista Mesa from Mission Gorge. It is the cheapest water that can be developed in San Diego County for that purpose.

No matter what price I might put on the damsites and lands flooded, which I control, I would be considered by many as holding up the city, therefore, ~~I do not feel like making a price to the city for my interests in Mission Gorge, but will make this suggestion - that if the city desires the Mission Gorge damsites and lands flooded, which I control, let the State Engineer of California determine the value, or the State Railroad Commission of California. If the above is not satisfactory, let each select an arbitrator and these two select a third, and let this board of arbitrators determine the value of the property. The city can have the award of either accept or reject the award of the board of arbitrators. Any valuation which the above may put on my property I am willing to sell on easy terms, long time payments, if the city desires, or accept 5 percent bonds of the city at par in payment.~~

If it is any accommodation to the city, I will be willing to accept \$5,000 down, as an evidence of good faith, deed the property to a title company, showing clear title, and wait a reasonable time for the payment of the balance of my money or bonds. The water supply of this city is such that San Diego should commence construction in Mission Gorge this spring and complete the dam next winter so as to impound the floods of the San Diego River at the earliest possible date. The question of valuation of my holdings in Mission

Page Two/

Gorge can be settled in a week's time by arbitration, so far as I am concerned, and the city, if desired, will be in a position to take immediate possession and commence construction.

The advantages of the Mission Gorge site are as follows:

First: It eliminates practically all litigation, and work can be commenced immediately.

Second: It stores the greatest amount of water for the least evaporation surface of any dam in the county.

Third: The public Health Service at Camp Kearny has, in writing approved a reservoir at this site, and stated that potable water can be delivered from this reservoir by proper chlorination and filtration.

Fourth: By the construction of an eight or nine mile pipe line, the water will flow by gravity into the lower city mains and it will not be necessary to pump any of this water.

Fifth: By building in the lower Mission Gorge site, you have 248 square miles of watershed below the Guyaneca System's intakes, making Mission Gorge site the largest watershed area of any in the county, while if the city built at El Capitan, it would lose the run-off of 208 square miles below the El Capitan, that would be caught in Mission Gorge.

Sixth: The Mission Gorge damsites, reservoir site, and the construction of the dam itself, and pipeline to the city can all be acquired for much less than half the cost of El Capitan, and is within the city's financial ability to build. It will also be the cheapest water per million gallons stored that has ever been developed in the county.

Seventh: The nearer to the point of use that water is developed, all engineers agree, the greater is its value. This has been proven in the matter of Murray Dam.

At the present time I own an undivided half interest in Lot "C", also all of Lot "B", the East Half of "A" and that portion of Lot "E" as shown on map hereto attached, all in Lot 70 Ex Mission Rancho, approximately 1300 acres.

The above offer holds good for 60 days from date, but I reserve the right to protect my interests, in the meantime, in any way to further my plan of putting water on the Linda Vista Mesa from the lower Mission Gorge damsites. If the city decides to accept the above offer, the city will acquire from me not alone the Mission Gorge damsites and reservoir lands which I control but also any water fillings at Mission Gorge now before the State

Water Commission, as well as any riparian rights within, or below, the Mission Gorge reservoir or damsite, the intention being to give the city everything that is necessary to build the Mission Gorge dam, so far as any interests I may control are concerned.

Yours very truly,

ED FLETCHER

MF:HDM

cc- Mr. Williams
Mr. Herbert

Ed Fletcher Company
FLETCHER BUILDING
940 EIGHTH ST.
SAN DIEGO, CALIFORNIA

AGENTS
PINE HILLS
DEL MAR
GROSSMONT

new mail
April 22, 1922.

Mr. H. N. Savage ✓
City Engineer,
San Diego, Calif.

My dear Mr. Savage:

I want to call your attention to the fact that the City of Los Angeles is constructing the biggest dam in the world in Pacoima Canyon. The new dam is a constant angle arch dam, 375 feet in height, has 143,000 cubic yards of plain concrete and 620 cubic yards of reinforced concrete. The cost of same is to be approximately one and one half million dollars. The engineer who designed the dam is Lars Jorgenson of San Francisco, the same man who designed our 230 foot dam at Mission Gorge Site No. 3.

I have plans and specifications of this type of dam for Site No. 3, and same are subject to your inspection at any time. There are 115,500 yards of concrete in it, and it can be built for approximately \$1,000,000. The capacity of this dam will be 15 billion gallons, flooding only 1424 acres in the canyon, with a net safe yield of seven and one tenth million gallons daily covering the ten driest years of drought, or a net safe yield of sixteen and one tenth million gallons daily since 1904.

I also now have, subject to your inspection, plans and specifications of a gravity arch type of dam, 230 feet in height, prepared by Mr. O'Shaughnessy, together with estimates of cost, his total estimate being \$2,429,800.

I have a telegram from Mr. O'Shaughnessy, reading as follows:

"Ed Fletcher:

Mission Gorge Site No. 3 is the most economical dam site on the San Diego river. There will be less loss of water from evaporation and less valuable lands destroyed by flooding. This site should be selected by the city for initial construction on the San Diego River

(Signed) M. M. O'SHAUGHNESSY
Consulting Engineer."

There are 272,600 yards of concrete in Mr. O'Shaughnessy's gravity arch type of dam. I will have in a few days plans and

specifications of a multiple radio arch type of dam for Site No. 3. It will cost if built to 230 feet in height, between seven and eight hundred thousand dollars. I will be glad to submit everything to you for your criticism at any time you may desire same. As the water in the dam when full is at an elevation of 350 feet above sea level, and 60% of all the water used in the city is below the 150 foot level above sea level, any water drawn out of the 220 foot level above sea level will easily take care of the lower levels of the city, particularly as 40% of all the water used is below the 100 foot level above sea level.

There are only 1,700,000,000 gallons of water in our reservoir below the 220 foot level.

As you know, Lower Otay has 2,300,000,000 gallons of water below the outlet and Barrett has 191,000,000 gallons of water below its outlet.

For all practical purposes all the water from Mission Gorge will run by gravity into the city for the lower levels, and the water from Otay will take care of the upper levels, and there will be no more pumping of water out of Mission Gorge than there will be out of Otay or Barrett.

Assuring you of my cooperation in helping solve the problems of San Diego, if I can be of service,

Yours very truly,

EF:AH

6-2-22
PJK

Barrett dam, California,
June 1, 1922.

CITY OF SAN DIEGO, CALIFORNIA
BARRETT DAM CONSTRUCTION

Gravity Type, Arched Concrete Masonry.

Preliminary investigations started April 1919.

Preliminary construction started October 1919.

Bond Issue elections November 25, 1919, amount \$1,000,000; April 16, 1921 amount \$500,000.00. Appropriation by Council and Water Commission March 1922 - \$60,000.00.

Construction with Bond Funds started February 1, 1920.

Height of dam above lowest excavation, 213 feet, above lowest pressure grouting 225 feet; length on top 750 feet; thickness at base 160 feet, Elevation of highest masonry in dam, top of parapet wall, 1625, reservoir gauge 179; spillway section discharge capacity, maximum to height of top of parapet wall about 75,000 cu.ft. per second, reservoir capacity at gauge 161, height of overflow section crest, 36,274 acre feet or 1,820,000,000 gallons, Reservoir capacity at gauge 169, or height to which water can be impounded with a top plank, or automatic gates in overflow section, about 43,000, acre feet or about 14,000,000,000 gallons.

Dam and Outlet tower contains 140,417 cubic yards of concrete masonry, weight about 290,000 tons. First masonry placed July 15, 1920. Final masonry placed May 25, 1922. Cement used 112,700 barrells; contract for 25,000 bbls. executed May 1920, Riverside Portland Cement Co. at \$2.56 FOB Crestmore, Calif; contract for 25,000 bbls executed Nov 24, 1920, U S Potash Co. at \$2.15 FOB Monolith, Calif; 10,000 bbls Open Market, June, 1921, 5,000 bbls at \$2.50 FOB Colton, Calif; 5,000 bbls at \$2.17 FOB Victorville, Calif; October, 1921, 10,000 bbls \$2.10 FOB Riverside, Calif; 5,000 bbls \$2.08 FOB Colton, Calif; Nov 1921, 5000 bbls \$2.08 FOB Colton, Calif; February, March, April, May, 1922, 20,000 bbls at \$2.08 FOB Colton, Calif.

Rock and earth excavation required for foundations and abutments of dam 75,172 cubic yards.

Camp construction necessary for construction of dam: 6 Laborers Dormitories, 25 married employees cottages, engineers office, garage, school house, recreation building, warehouse, toilet, washhouse and bath, additions to mess house and office buildings, domestic water supply, fire pressure 300 feet, sanitary sewer system and septic tank.

Plant construction necessary for construction of dam; entire Lower Otay Dam construction plant acquired, dismantled, moved to Barrett Dam and installed; 3 cement stockhouses, capacity 9,000 bbls, blacksmith & machine shop, quarry 1,000 feet face opened, 2 concrete hoisting and distributing towers 160 and 192 feet high, rock crushing plant, aggregate bins, concrete mixing plant.

Road construction necessary for construction of dam: private road from Cottonwood, Imperial Valley Highway to Barrett Dam, 6 miles, widened and graded; cement hauling road, Barrett Siding to Barrett Dam, via Hauser Creek Summit, 14.7 miles constructed; private road connecting with Lyons Valley Highway, 12 miles, widened and graded.

Record amount of concrete masonry placed in single 8 hour shift, October 26, 1921, 467 cubic yards.

Work continuous day and night shifts; average force employed, 200 men.

Distance, San Diego to Barrett Dam, via Cottonwood & Dulzura, 43 miles;

Distance, San Diego to Barrett Siding on S D & A R R, 66.8 miles;

Distance, Barrett Siding to Barrett Dam, via Hauser Creek Summit, 14.7 mi.

Distance, Barrett Siding to Barrett Dam via Campo & Cottonwood, 24.5 mi.

Distance, San Diego to Barrett Dam, via Lyons Valley Highway, 36 miles.

H. N. Savage.

June 25, 1922.

Mr. H. N. Savage,
c/o Water Commission,
McNeece Building,
San Diego, California.

Dear Mr. Savage:

I hope, on your report of the San Diego River Water situation, that you will not neglect to give in full all figures and information necessary on site No. 3 as well as site No. 2.

You perhaps know that the situation in regard to site No. 2 and 3 in the Mission Gorge is one that may cause a great deal of trouble before it is settled, and the Water Commission and also the Council should have full facts and figures on these two dam sites in order to intelligently handle this problem.

Yours sincerely,

F. M. WHITE

FMW/MB

cc- Chas. T. Chandler

CITY OF SAN DIEGO, CALIFORNIA

A. Sprickels

San Diego, California. July 8, 1922.

Honorable Ed Fletcher,
920 Eighth St.,
San Diego, California.

Subject: Municipal Impounding Dams and Reservoirs.

Dear Mr. Fletcher:

1. Enclosed is bulletin of Lower Otay Dam Construction, September 30, 1919, at the completion of the work, together with photographs November, 1917, August 30, 1919.

2. Enclosed also is bulletin Barrett Dam Construction as of June 1, 1922, at which time the work was practically completed. Photographs January, 1919, before work was started; July, 1921, showing storage available for the average run off from the drainage, which condition continued practically as shown until December 25 at the beginning of the flood storm. Photograph December 30, 1921, the reservoir filled by the flood run off to a height of nine feet above the lowest masonry which had been placed in the dam. The impounding waters were kept from overtopping the masonry dam by coffer dams and by forms for concrete placing. The water in the reservoir from this time on until the work was completed was higher than some portions of the uncompleted masonry.

Very respectfully,

H. N. Savage.

HNS/EF
7 Encls.

Speckels System

(Letter of H. N. Savage to F. M. White of City Water Commission on Oct. 27, 1922, in reply to White asking for certain information regarding the City Water System.)

8-25-22 copy 10-27-22 EIF

CITY OF SAN DIEGO, CALIFORNIA

Inventory of Municipal Water System, Impounding and Carrying Features, Dams, Reservoirs, Conduits, Pumping Plant, Chlorination, Filter Plant, Pipe Lines.

August 1, 1922

	<u>Location</u>	<u>Amount</u>
Buildings - Including living quarters garages, store houses, water systems and other operating improvements at the various Reservoirs and auxiliary plants	Barrett	\$ 6,000.00
	Chollas	2,500.00
	L. Otay ¹	13,000.00
	Morena	6,000.00
	Dulz. Sum.	1,500.00
	Miss. Vy.	2,000.00
	Hauser	500.00
Barrett Dam Structure (built by city) Including roads & construction Plant	Barrett	1,750,000.00
Lower Otay Dam Structure (build by city)	L. Otay	850,000.00
Purchase of Barrett Water Rights, flow-age rights, Dulzura Conduit, Otays water rights, including Dulzura Creek right of way, Jamul Ranch water rights, Otay Reservoirs Basins, Upper Otay Dam, Lower Otay Dam, Lower Otay-San Diego Pipe Conduit, Chollas Heights filtration Plant, Chollas Heights Reservoir Basins and Dam		2,500,000.00
Morena Water Rights, Reservoir Basin & Dam		1,500,000.00
Dulzura Conduit Extension		200,000.00
Mission Valley Pumping Plant and Wells		100,000.00
Bonita Pipe Line		220,000.00
Water Stored in all Reservoirs August 1, 1922, about 41,500,000,000 gallons @ 10¢/1000		4,150,000.00
Filtration Plant at Lower Otay including 24 Filter Shells and Accessories, buildings, Chlorination Plant and Alum Coagulant Plant		100,000.00

Miscellaneous Equipment:

Automobiles: 1 Ford Runabout	Lower Otay	200.00
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INVENTORY Page 2

Miscellaneous Equipment: (Cont'd)

Automobiles: 1 Ford Truck	Dulz Sum	150.00
1 Ford Truck	Tel Can	150.00
1 Ford Truck	Lower Otay	200.00
1 Buick Business Car	Office	650.00
1 Moreland Truck 1½ ton	Office	500.00
Booster Pump	Chollas	5000.00
Transformers 2	Chollas	200.00
Boats 1	Chollas	10.00
1	Upper Otay	15.00
6	Lower Otay	180.00
30	Morena	900.00
Electric Motor, 2 H P	Tel Can	25.00
Stock 2 Mules	Lower Otay	250.00
1 Mule	Morena	75.00
2 Horses (1-\$60 & 1-\$40)	Morena	100.00
2 Horses	Tel Can	150.00
Harness (Tel Can, Lower Otay & Morena)		75.00
Wagons (Tel Can & Lower Otay)		125.00
Scrapers & Fresnos (Entire System)		40.00
Tools (Misc. Small Tools Entire System)		2500.00
Office Furniture & Equipment:		
Filing Cases		120.00
Monroe Calculator		200.00
Typewriters (2 in Office; 1 at Lower Otay)		180.00
Desks, 4 Flat Top		125.00
Tables		10.00
Chairs (2 desk and 10 common)		50.00
Stationery & Office equipment		80.00
Engineering Instruments		350.00
TOTAL		\$11,514,110.00

San Diego, California

East San Diego Water Committee,
East San Diego, Calif.

Gentlemen:

In answer to your inquiry, will say the reason the City of San Diego is not buying water from the Cuyamaca System at the present time is owing to the fact we have such an abundant supply in our reservoirs which will take care of San Diego's demands for a number of years.

As a natural source of supply the Cuyamaca System is equal to any in the county, and the City of East San Diego is fortunate in having the Cuyamaca System as its source of supply owing to the fact that the entire territory can be furnished with gravity water from Murray dam under pressure, which is not the case if East San Diego were securing its water from the city's system. A large part of East San Diego cannot be furnished with water from San Diego's system owing to the high elevation of East San Diego, the top contour of Chollas Heights reservoir being 385 feet and the top contour of Murray dam being 440 feet.

Respectfully submitted,

[no date
w/1922 corres-
CSM]

*Suggested letter
for Mr. Savage
10/26*

Oct. 26, 1922.

H. N. Savage,
Hydraulic Engineer,
McNeece Bldg.,
City.

Dear Sir:

Sometime about the first of the month there was an article in one of our papers on the inventories covering city water plants, rights and other property. I meant to have cut the article out, but did not do so. Wish you would please advise if this report of yours is on file with the City Council, and if so, whether I could get a copy of the same.

Thanking you for your attention to this matter, I remain

Yours truly,

H. N. Savage

FLAW-W

9 (Letter of H. N. Savage to F. M. White of City Water Commission on Oct. 27, 1922, in reply to White asking for certain information regarding the City Water System.)

8-25-22 copy 10-27-22 EIF
CITY OF SAN DIEGO, CALIFORNIA

Inventory of Municipal Water System, Impounding and Carrying Features, Dams, Reservoirs, Conduits, Pumping Plant, Chlorination, Filter Plant, Pipe Lines.

August 1, 1922

	<u>Location</u>	<u>Amount</u>
Buildings - Including living quarters, garages, store houses, water systems and other operating improvements at the various Reservoirs and auxiliary plants	Barrett Chollas L. Otay Morena Dulz. Sum. Miss. Vy. Hauser	\$ 6,000.00 2,500.00 13,000.00 6,000.00 1,500.00 2,000.00 500.00
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Dulzura Conduit Extension		200,000.00
Mission Valley Pumping Plant and Wells		100,000.00
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Water Stored in all Reservoirs August 1, 1922, about 41,500,000,000 gallons @ 10¢ 1000		4,150,000.00
Filtration Plant at Lower Otay including 24 Filter Shells and Accessories, buildings, Chlorination Plant and Alum Coagulant Plant		100,000.00
Miscellaneous Equipment:		
Automobiles: 1 Ford Runabout	Lower Otay	200.00

INVENTORY Page 2

Miscellaneous Equipment: (Cont'd)

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Stock 2 Mules	Lower Otay	250.00
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Wagons (Tel Can & Lower Otay)		125.00
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Tools (Misc. Small Tools Entire System)		2500.00
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Monroe Calculator		200.00
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Desks, 4 Flat Top		125.00
Tables		10.00
Chairs (2 desk and 10 common)		50.00
Stationery & Office equipment		80.00
Engineering Instruments		350.00
TOTAL		\$11,514,110.00

San Diego, California,
August 7th, 1928.

Mr. H. N. Savage

Page Three.

ground water storage that we have in the County.

I will be glad to be of any further service in this matter.

My advice would be to file a suit and condemn, but if I can be of any service in these negotiations to the City, it will be a pleasure to work with you.

Enclosed find small map showing the ownership of the San Ysidro, Morro, Encino and El Refugi Ranches, which a syndicate known as the "San Ysidro Ranch Company", including myself have owned for nearly 20 years, marked Exhibit "F".

I will send you in two or three days complete ownership of our properties on the San Diego River, also riparian right map, as per your request.

I see by the papers you have been before the Board of Supervisors and are insistant on building the Mission Gorge Site #2. It goes without saying that I will oppose you in every way possible, for I consider it an economical crime and shall in the near future put my reasons before the public. Where I can work with you and the City to solve the water problems, it will be a pleasure.

Yours very truly,

EF:GMF
Encls.

August seventh, 1928.

Mr. H. N. Savage

City Hall,
San Diego, California.

My dear Mr. Savage:

Answering your inquiry for information regarding raising Lake Hodges Dam to the 595 foot contour, will say I was not connected with the Henshaw interests when they sold the property to the City, and you will have to check up in relation thereto.

My understanding is that in Rancho Bernardo the City has already acquired everything to the 595 foot contour and I am enclosing map which shows the contour line to the 330 foot contour in Rancho Bernardo, also the lands to the damsite west of Rancho Bernardo marked in "X" which I control.

I have marked on this map, which I have called Exhibit "A" the word "Del Dios".

I am also enclosing Exhibit "B", which is a subdivision of the first six units of Del Dios.

I also enclose Exhibit "C", being a letter from Mr. Townsend, President of the Del Dios Syndicate, showing prices at which the property has been sold and price list of March, 1928, attached.

I have written "pavilion", "boat landing", "store" and "pump house", so you will be able to locate yourself on the ground. To the 395 foot contour it would take 2/3 of this property that has been already sold in house lots. Where the lots have been sold, the prices have been written in. Where it is marked red "X", it represents houses already built. I am also enclosing a small map of the Del Dios property, marked Exhibit "D".

Very truly,
H. N. Savage

H. N. Savage

August 7th, 1928
San Diego, California

San Diego, California,
August 7th, 1928.

Mr. H. N. Savage

Page Two.

Referring to Exhibit "A", if the City has not purchased everything to the 395 foot contour in the Bernardo Rancho, the Henshaw interests own everything around the lake in Rancho Bernardo, excepting about a half mile strip marked "B B" I do not know who owns same at the present time. Henshaw owns the property above the 395 foot contour marked "C C".

I am enclosing map showing 395 contour of Lake Hodges, made by our engineer. You will notice the east boundary line of Rancho Bernardo on the map marked "X" on the bottom and top. The City has everything up to 395 foot contour in the Bernardo Rancho directly east at a point marked "circle 1". The City has acquired the land to the 395 foot contour and has a deed to it at the present time.

The City is under contract to purchase the property marked "circle 2", also the property marked "circle 3".

Regarding the property marked "circle 4", the City should have acquired all of that property, but, in any event, they have it now to the 395 foot contour.

The City also has a deed to the Pratt property, "circle 5"; the Wood property, "circle 6"; the Harbell property, "circle 7"; and the City should have a deed to all of the property marked Henshaw, "circle 8"; but in any event they must have it to the 395 foot contour. The City should own all of the Roberts property, "circle 9"; and I understand they have an option to purchase all of #10, the Webb property, "circle 11" Meyers and Wood; and there is litigation with Fenton over #12.

I purchased and transferred to the Henshaws, the following properties: "all of the lands in the Bernardo Rancho to and above the 395 foot contour, excepting "B B" in Exhibit "A"; also all of Exhibit "E" I purchased for the Henshaws all of the following properties #1, 4, 5, 6, 7, 8, 9; and it is my understand, the City was to get a deed to all of these properties.

Properties # 2 and 3 in red, Exhibit "E" are both riparian. This riparian map was made in 1911 by Mr. Post under my instructions.

The 1913 flood threw the river over all of parcel 2 in red the entire distance for 3/4 of a mile, tearing out an embankment 6 feet high that Mr. Fenton had built, near the south line. The City, as I understand, has paid 20% down and have contracted to buy both of these properties "2 and 3". I consider these San Pasqual the most valuable under-

San Diego, California,
August 7th, 1928.

Mr. H. N. Savage

Page Three.

ground water storage that we have in the County. I will be glad to be of any further service in this matter.

My advice would be to file a suit and condemn, but if you can be of any service in these negotiations to the City, it will be a pleasure to work with you.

Enclosed find small map showing the ownership of the San Pasqual River, including the "San Pasqual" and "San Pasqual" ranches, which are owned by the "San Pasqual" ranch company, including myself have owned for nearly 30 years, marked "circle 1".

I will send you in two or three days complete ownership of our properties on the San Diego River, also riparian right map, as per your request.

I see by the papers you have been before the Board of Supervisors and are insistent on building the Mission George Site #2. It goes without saying that I will oppose you in every way possible, for I consider it an economical crime and shall in the near future put my reasons before the public. Where I can work with you and the City to solve the water problems, it will be a pleasure.

Yours very truly,

W. H. Post

August seventh, 1928.

Mr. H. H. Savage
City Hall,
San Diego, California.

My dear Mr. Savage:

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San Diego, California,
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Mr. H. H. Savage

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EF:GMP
Encls.

San Diego, California,
August 7th, 1928.

Mr. H. H. Savage

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CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

DIVISIONS
INVESTIGATIONS
SURVEYING
DESIGNING
CONSTRUCTION
MAINTENANCE
AND OPERATION
ACCOUNTING AND
OFFICE WORK
RIGHTS OF WAY
AND LANDS
TESTING
IMPOUNDING

BUREAU OF WATER DEVELOPMENT
OPERATING DEPARTMENT

J. W. WILLIAMS, ASST. MANAGER OF OPERATION
IN CHARGE OF WATER DEVELOPMENT
G. B. ARCHIBALD, ASST. ENGINEER

August 8, 1928

Colonel Ed Fletcher
Box 1412
San Diego, California

Subject: Hodges Reservoir Additional
Flowage Lands.

My dear Mr. Fletcher:

You have my appreciation for your valued co-operation in obtaining and furnishing comprehensive statement and drawings regarding property ownership of lands controlled by you and others, adjacent to the flood flow contour of the City of San Diego's present Hodges Reservoir.

Your further constructive co-operation in this and allied matters involving the public interest will be appreciated.

Very truly yours,

H. H. Savage
H. H. Savage,
Engineer in Charge.

HNS:E

Miss May:

Put this in water

history.

EF

1-24-28

Correction Sheet No. 5105
 April 13, 1928

FIFTH STREET—WEST SIDE—Continued
 San Diego, Cal. P-41

No. of Rating	LOCATION	Class	OCCUPATION	Bldg. Conds.	Rating Take Effect
1	Nutmeg and Olive—Sheet 316, Block 307				
2	2706, NW c Nutmeg	D	Grocery (3)	155 155	June 21-27
3	2762-64, SW c Olive	C	One-sty. Hol. Tile (3)	135 188	
4			Grocery	153	
5	Olive and Palm—Sheet 316, Block 327				
6	2830	D	Apartments	55 55	Feb. 8-22
7	Palm and Quince—Sheet 316, Block 330				
8	2942	D	Grocery (3)	100 100	April 20-24
9	Quince and Redwood—Sheet 318, Block 354				
10	3000-10, NW c Quince	D	Various (3)	195 195	Nov. 16-27
11	Redwood and Spruce—Sheet 318, Block 357				
12	3140-72, SW c Spence	C	One-sty. Hol. Tile (3)	93 124	Sept. 14-26
13			Drugs & Beauty Shop	114	Sept. 14-26
14			Clothing Stock	140	Sept. 14-26
15			Millinery Stock	199	Sept. 14-26
16	Sheet 318, Block 357				



Review

CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

DIVISIONS
INVESTIGATIONS
SURVEYING
DESIGNING
CONSTRUCTION
MAINTENANCE
AND OPERATION
ACCOUNTING AND
OFFICE WORK
RIGHTS OF WAY
AND LANDS
TESTING
IMPOUNDING

BUREAU OF WATER DEVELOPMENT
OPERATING DEPARTMENT

J. W. WILLIAMS, ASST. MANAGER OF OPERATION
IN CHARGE OF WATER DEVELOPMENT
G. B. ARCHIBALD, ASST. ENGINEER

August 8, 1928

Colonel Ed Fletcher
Box 1412
San Diego, California

Subject: San Ysidro Ranch Company,
Lower California.

Mr Dear Mr. Fletcher:

You have my appreciation for your valued co-operation in obtaining and furnishing a drawing showing the location of the San Ysidro Ranch Company's lands in Lower California, located between the Tia Juana River in Lower California, and the Cottonwood River in the United States.

Your further constructive co-operation in this and allied matters involving the public interest will be appreciated.

Yours very truly,

H. N. Savage,
Engineer in Charge.

HNS:E



CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

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BUREAU OF WATER DEVELOPMENT
OPERATING DEPARTMENT

J. W. WILLIAMS, ASST. MANAGER OF OPERATION
IN CHARGE OF WATER DEVELOPMENT
G. B. ARCHIBALD, ASST. ENGINEER

August 10, 1928

Colonel Ed Fletcher
Box 1412
San Diego, California

Subject: San Diego River. Water Rights and
Land Control.

My dear Mr. Fletcher:

You have my appreciation for a drawing upon which you have indicated water right appropriations and lands controlled by the various organizations with which you control, or are associated with.

I shall presume to retain the drawing until such time as you are pleased to indicate a desire to recover it.

I am gratified to have your co-operation in this, as I shall be in subsequent allied matters in connection with the public interest.

Very respectfully yours,

H. N. Savage,
Engineer in Charge.

HNS:E

memo

for water history

August 10th, 1928.

Mr. H. N. Savage
City Hall,
San Diego, California.

My dear Mr. Savage:

I enclose map of the San Diego River.

Circle "A" represents the lands that Mr. Stern and I own, and we also reserve the right to build a small dam on the San Diego River, Fletcher Dam, for pleasure purposes, in case the District does not build same within certain period, or until the District decides to build one themselves.

From the diverting dam down to the Indian reservation are shown the rights of the District to pump water acquired from the Department of the Interior by permit.

Circle "B" shows the lands that we own around El Capitan Damsite and below.

Circle "C" are lands that we own excepting an undivided one-half interest on the lands north of the river.

The riparian rights on the river have never been divorced in any way from the lands that we own. The District owns the water filings and the right to build the dam under the laws of California at El Capitan. Stern and I have same at site #3.

With the paramount rights case decided in our favor, we will, under the laws of California have for all practical purposes, the rights to the San Diego River as the State of California has extended our time for building El Capitan and Mission #3 as time is not running against us as long as litigation lasts.

I hope you can see your way clear to recommend the compromise with the La Mesa District. The District has an option for five years, which has about 2 1/2 years yet to run, to purchase our Mission Gorge Damsite #3, our water filings and all the riparian rights that we have, as well as lands we own within the reservoir site and 10 feet above, I believe. The price is \$150,000. The deed is in escrow with the Bank of La Mesa at the present time.

I will be glad to cooperate with you in every way I possibly can.

I enclose herewith a map of the La Mesa Irrigation District. Kindly return this map at your convenience. We have gone to a great deal of trouble to get it up for you at this time and hope it will be of some service to you.

If I can give you any other assistance, do not hesitate to call on me.

If you are in doubt about the feasibility of taking over the La Mesa Irrigation District system, I will be glad to write you a letter stating the reasons why I feel the city should take it over and furnish same to you at an early date.

Yours very truly,

ED FLETCHER

EF:GMF
ENCL.

I enclose herewith a map of the San Diego River. Will be glad to sell our holdings on the San Diego River on easy terms, a 20 year contract, in the form of a lease so the city would not have to issue any bonds. One-half interest on the lands north of the bridge. On the lands that we own excepting an undivided

part of the San Diego River. The city should take it over and furnish same to you at an early date.

I enclose herewith a map of the San Diego River. Will be glad to sell our holdings on the San Diego River on easy terms, a 20 year contract, in the form of a lease so the city would not have to issue any bonds. One-half interest on the lands north of the bridge. On the lands that we own excepting an undivided

part of the San Diego River. The city should take it over and furnish same to you at an early date.

I enclose herewith a map of the San Diego River.

W. H. H. H. H.

San Diego, California.
City Hall
W. H. H. H. H.

SAYS HODGES UNSAFE; WANTS PROTECTION NECESSARY

Tells Council He Will Disclose Scheme Later to Provide Funds Legally for Work to Start Soon on Strengthening Dam; Asserts Structure May Go Out Any Time.

Hodges dam is unsafe and may go out at any time, and it is unwise for the city to defer provision against its failure in consequence of flood runoffs which are inevitable, according to a report by H. N. Savage, hydraulic engineer, which was read before the city council yesterday afternoon.

"It is my impression," said Savage, "that it may be legally possible for the city to provide sufficient funds to start work soon making the Hodges dam safe and serviceable." Savage did not disclose his plan of providing funds, but said that he would do so later. He said that he recognized the city's responsibility and need for additional water to protect itself against floods. While there is no probability of heavy floods for several years, he said that floods even greater than those of the past may come.

ENGINEER'S REPORT

Savage's report is as follows:
"To the Honorable Mayor and Common Council:

"The city of San Diego has for several years been receiving water from the Hodges reservoir under a leasehold to maintain and use the constructed impounding and carrying water system, and holds a binding contract to purchase all the water rights of the San Dieguito river drainage basin, including the Hodges dam and reservoir, subject only to certain limited prior commitments of a portion of the water to three adjacent small irrigation districts.

"The city of San Diego is, in consequence of its leasehold and purchase contract, also legally, financially, and morally responsible to the public for maintaining and operating all of the structures including the Hodges dam, and appurtenant works, in a safe and dependable condition.

"Also for taking from the Hodges reservoir and carrying to the city's distribution system, the up to 3,000,000 gallons of water per day provided for in the contract; and also for carrying water from the Hodges reservoir to the San Dieguito reservoir, for the use of three adjacent small irrigation districts.

"The city is carrying its up to 3,000,000 gallons of water per day through a somewhat depleted wooden stave pipe conduit, and utilizing booster pumps where required. The city also is delivering water to many consumers throughout the length of the wooden pipe conduit.

The distance between the Hodges reservoir and the city's University Heights reservoir is about 25 miles.

The stability and dependability of the Hodges multiple arch dam of the Eastwood type has been the subject of speculation and adverse criticism throughout its existence, covering many years prior to, and since the city's contract to lease and purchase the San Dieguito river basin water supply system.

"The board of examining engineers, L. C. Hill, A. J. Wiley, C. R. Olberg and D. P. Tolman, convened by the city of San Diego after the St. Francis dam failure, formally brought the safety and dependability of the Hodges dam publicity into question, and recommended, (1) "That a complete examination of Hodges dam be made immediately, with special refer-

ence to the cracks in the buttresses"; and (2) "That a complete analysis of all stresses be made immediately by some one especially qualified."

"I have had an analysis made of the stresses in the Hodges dam by a technical engineer.

DAM DANGEROUS

"I have discussed the safety of the Hodges dam with many engineers, several of whom are ranking international authorities on hydraulic structures, and not one of whom has expressed to me the belief that the Hodges dam is a safe and dependable structure nor a structure which will prove durable in long service under the duty to which it is exposed.

"I have personally been familiar with the Hodges dam from its inception, and have observed its construction, and its performance in service at intervals throughout its existence.

"It is my firm belief that the city of San Diego should take the steps necessary to insure the permanency of the San Dieguito water supply works and to protect the public and safeguard itself physically, financially, morally, and in the law against the dam's failure, which might happen at any time, and particularly in consequence of flood runoffs which are inevitable.

"A court decision just handed down by Judge Clair S. Tappan of Los Angeles is as follows: 'The mere claim of the city (Los Angeles) and the department of water and power that the Mulholland dam (in Weed canyon, Hollywood) is safe will not be accepted at face value. The city and its department will have to go into court and prove conclusively the safety of the structure.'

"The building up and maintaining of heretofore projected additional impounding height in conjunction with the spillway of the present Hodges reservoir dam would be unwise and unsafe.

"The development of additional water supply by the city of San Diego is absolutely necessary and at the earliest financially possible date. The administrative, and engineering determination of the plans to accomplish such development should take into full consideration the entire status of the Hodges dam and the city's responsibilities for its safe and dependable operation.

"It is entirely practicable and feasible to develop a greatly increased water supply of about 15,000,000 gallons of water per day, by enlarging the present Hodges reservoir's storage capacity, either in conjunction with, and utilizing the present Hodges dam as a portion of a higher and dependable dam, or by the construction of a dependable dam to be located a little higher up in the reservoir basin where there is another well known damsite.

"Investigations, surveys, designs and estimates already have been commenced by me to determine the requirements and the relative controlling factors of developing an additional water supply for the city of San Diego from the San Dieguito drainage basin resources, while at the same time safeguarding the city from possible failure of the Hodges dam."

INTERVIEW OF COLONEL ED FLETCHER, PRESIDENT

OF THE

SAN DIEGUITO MUTUAL WATER COMPANY

WHICH BUILT LAKE HODGES DAM

The statement of Mr. Savage that Lake Hodges Dam in unsafe is ridiculous.

Mr. Savage has a personal prejudice against all multiple arch dams as evidenced by his statements in the San Diego papers several years ago.

The plans of Lake Hodges Dam were first approved by our engineer, then approved by the chief engineer of the Santa Fe Railroad and finally approved by the State engineer of California as well as all state authorities.

Lake Hodges Dam was built under the personal supervision of the State engineer, W. S. McClure and a bronze tablet accepting the dam in the name of the State of California can be seen at the dam today.

The multiple arch type of dam is a new principle with higher factors of safety.

Mr. Savage has never built a multiple arch dam. He pins his faith to gravity arch principle. The St. Francis Dam was a gravity arch.

Mr. Savage built Otay Dam - a gravity arch at a cost of a million dollars; Barrett dam, a gravity arch, at a cost of \$1,750,000. We built Lake Hodges Dam at a cost of less than \$400,000. It has stood the test.

The greatest discharge of water, officially measured, in San Diego County passed Lake Hodges Dam two years ago - over 80,000 second feet, or one-third the flood discharge of the Colorado River.

If Mr. Savage and the City of San Diego wants to throw away \$150,000 and reenforce the buttresses this can be done but it is wholly unnecessary.

Rudolph W. Van Norden of San Francisco, considered the greatest authority in the country on

Fletcher

after a personal inspection multiple arch dams stated in writing that Lake Hodges Dam is not in a dangerous condition, is stable and cannot be questioned.

It is unfortunate, but most of the engineers of the old school who have had their life experience in gravity dams are naturally suspicious of any new principle.

The multiple arch type is beyond the experimental stage.

Over 20 of these dams have been built on the Pacific coast the last ten years. Three of them higher by twenty to forty feet than the Lake Hodges Dam.

It is most unfortunate for San Diego County that Mr. Savage, representing the City, should make this sensational statement. It does untold injury to thousands of innocent people, casts a cloud on the entire country from Del Mar to Oceanside and does no good.

If he sincerely believes the buttresses need reinforcing it was simply a matter to get an appropriation in the matter of repairs and do the work without pulling off this sensational and damaging stunt.

Subcommittee
9/10/26

THE EVENING

LAKE HODGES DAM SAFE, FLETCHER'S CONTENTION: SCORES SAVAGE REPORT

A sweeping denial of all charges regarding Lake Hodges dam in a statement issued yesterday by Engineer H. N. Savage to the city council was made today by Col. Ed Fletcher, one of the builders of the dam. Col. Fletcher's statement follows:

"The statement of H. N. Savage that Lake Hodges dam is unsafe is ridiculous.

"Savage has a personal prejudice against all multiple arch dams, as evidenced by his statements in San Diego papers several years ago.

"The plans of Lake Hodges dam were first approved by our engineer, then approved by the chief engineer of the Santa Fe railroad and, finally approved by the state engineer of California, as well as all state authorities.

"Lake Hodges dam was built under personal supervision of the state engineer, W. S. McClure, and a bronze tablet accepting the dam in the name of the state of California can be seen at the dam today.

"The multiple arch type of dam is a new principle with higher factors of safety.

"Savage has never built a multiple arch dam. He pins his faith to gravity arch principle. The St. Francis dam was a gravity arch.

"Savage built Otay dam, a gravity arch, at a cost of \$1,000,000; Barrett dam, a gravity arch, at a cost of \$1,750,000. We built Lake Hodges dam at a cost of less than \$400,000. It has stood the test.

"The greatest discharge of water,

officially measured, in San Diego county passed Lake Hodges dam two years ago; more than 80,000 second feet, or one-third the flood discharge of the Colorado river.

"If Savage and the city of San Diego wants to throw away \$150,000 and reinforce the buttresses this can be done, but it is wholly unnecessary.

"Rudolph W. Van Norden of San Francisco, considered the greatest authority in the country on multiple arch dams, stated in writing, after a personal inspection that Lake Hodges dam is not in a dangerous condition, is stable and cannot be questioned.

"It is unfortunate, but most engineers of the old school who have had their life experience in gravity dams are naturally suspicious of any new principle. The multiple arch type is beyond the experimental stage.

"More than 20 of these dams have been built on the Pacific coast the last 10 years, three of them higher by 20 to 40 feet than the Lake Hodges dam.

"It is unfortunate for San Diego county that Savage, representing the city, should make this sensational statement. It does untold injury to thousands of innocent people, casts a cloud on the entire country from Del Mar to Oceanside and does no good.

"If he sincerely believes the buttresses need reinforcing it was a simple matter to get an appropriation in the matter of repairs and do the work without pulling off this sensational and damaging stunt."



CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

BUREAU OF WATER SUPPLY
OPERATION, MAINTENANCE,
DEVELOPMENT

HIRAM NEWTON SAVAGE
Engineer in Charge

November 30, 1928.

R. C. WUESTE, Supervisor
Impounding and Carrying Systems
and Purification

J. W. WILLIAMS, Engineer
Additional Water Supply

F. M. STANLEY, Accountant

Colonel Ed Fletcher,
920 Eighth Street,
San Diego, California.

Subject: Municipal Requirements, Increased
Water Supply, Cooperation.

My dear Colonel Fletcher:

I am gratified to have your letter of November 28, transmitting clipping disclosing your policy and cooperation announced by you November 27; feeling that you could be depended upon to discover and respond to opportunities for advancing the interests of the Municipality and its environs toward the four cardinal points.

I was gratified to know of your appreciation and publicly announced cooperation, which came to my attention on the morning of its appearance in the Press.

The statistics of drainage basin runoff you have requested are being compiled and will be transmitted when assembled.

Very cordially yours,

H. N. Savage
H. N. Savage,
Engineer in Charge.

HNS/f

*File
History*

12/4/28 -
M. J. L. L. L.
SPECIAL BOARD
TO INSPECT
HODGES DAM

Inspection of the Lake Hodges dam will be made by a special board of engineers on Thursday, Dec. 6, it was announced today by H. N. Savage, engineer in charge of water development.

A telegram from State Engineer Edward Hyatt announces the following engineers to comprise the board: P. C. Herrmann, A. B. Etcheverry and A. Kempkey.

Mayor Harry S. Clark and some of the councilmen may accompany the engineers on the inspection trip, it was stated at the city hall today.

NECESSARY IMMEDIATE CONSTRUCTION

Otay Reservoir - San Diego Second Main Pipe Line

7. A second main pipe line of increased capacity, nineteen miles long from Otay Reservoir to the City's University Heights Reservoir is urgently needed.

- (a) To draw an increased supply from Morena, Barrett and Otay Reservoirs, until additional independent water supply can be developed.
- (b) Thereupon the new pipe line will succeed to the routine carrying service of the entire safe duty of Morena, Barrett and Otay Reservoirs. The present wooden stave Pipe line, about worn out and very expensive to maintain, can then be abandoned.

8. The new pipe line is being designed large enough to carry an additional five million gallons per day, which can be developed by raising Barrett Dam seventy-five feet, raising the reservoir storage capacity from 42,900 acre feet to 150,000 acre feet. This was contemplated and provided for when I designed and constructed Barrett Dam to its present height.

9. On account of the worn out and precarious condition of the present wooden stave pipe line and the subsequent hazard of constructing the second main pipe line parallel and adjacent thereto, and unavoidably on the same rights of way, it is of importance that the second main pipeline be completed before the rainy weather of the winter of 1929-30.

10. The estimated cost of the projected Otay Reservoir-San Diego pipeline is \$1,500,000.

CHOLLAS HEIGHTS RESERVOIR

11. This balancing reservoir is of insufficient capacity to assure the City's present population against interruption by floods or earthquakes to the water carrying systems from the impounding reservoirs. Its present capacity provided about thirty days supply when the City's population was about 17,000. The capacity of this balancing reservoir should be materially enlarged:

- (a) To save the cost of an increased size of the new Otay Reservoir-San Diego pipeline to the capacity required for summer's peak use, and
- (b) To assure a dependable water supply adjacent to the City limits for domestic use and fire protection and for summer's peak use.

12. The required enlargement of this reservoir was anticipated and provided for by me in 1899-1900 when I purchased for the Southern California Mountain Water Company substantially all the necessary additional flowage land, which land is now owned by the City.

January 9, 1929

To the Honorable,
the Mayor and Common Council,
of the City of San Diego, California.

Gentlemen:

1. Complying with your inquiries in Official Conference December 14, 1928, I submit the following:

ESTIMATED WATER REQUIREMENTS FOR 1929
AND SOURCES FROM WHICH OBTAINABLE.

2. The City's estimated average daily use during the Calendar Year 1929, will be eighteen million gallons. During the summer peak season the estimated daily use will be thirty million gallons.

3. The safe duty draft from the City's interconnected reservoirs, Morena, Barrett and Otay, is not to exceed twelve million gallons daily.

4. From Hodges Reservoir under contracts approved January 26, 1920, and October 5, 1925, the City has been drawing an average of about two million gallons daily, and this quantity may reasonably be relied on for 1929.

5. The City obtained during a part of 1928, the equivalent of about one-half million gallons daily from the La Mesa, Lemon Grove and Spring Valley Irrigation District's Murray Reservoir. Conditional upon the 1928-1929 runoff catchment, and the District's willingness, the same quantity of water may be procurable from this source during the 1929 maximum summer peak use.

6. The remainder of water necessary for City use during the Calendar Year 1929 must be pumped from the San Diego River sub-surface sands. It is estimated that from this source it will be necessary to obtain in Calendar Year 1929 about double the amount pumped in 1928.

13. The estimated cost of enlarging the projected Chollas Heights Reservoir from its present capacity about ninety million gallons, to a capacity of about five hundred million gallons is\$530,000.

Morena Reservoir Dam, Spillway and Reservoir Enlargement

14. In 1923, I recommended and put under construction this highly important work. It was stopped soon after I left. It has since been recommended by the City's Board of Examining Engineers, Messrs. A. J. Wiley, L. C. Hill, C. R. Oldberg and C. F. Tolman, in their report dated May 21, 1928.

15. In addition to safeguarding the Dam and materially increasing the Spillway capacity, the storage capacity of the Reservoir would be increased to the extent of an added safe duty of over one million gallons per day.

16. The estimated cost of this development is \$70,000.00

RECAPITULATION OF PRINCIPAL FEATURES REQUIRING BOND FUNDS

17. Estimated cost Otay Reservoir-San Diego main pipeline, 19 miles long to University Heights Reservoir with branch to Chollas Heights balancing reservoir.....	\$1,500,000.00
Chollas Heights Dam and Reservoir Enlargement	530,000.00
Morena Reservoir Dam and Spill way and Safe Duty Enlargements	70,000.00
Total	<u>\$2,100,000.00</u>

18. It is recommended that funds for the above work be provided and allocated interchangeably, in order that any adjustments in cost of construction occasioned by unbalanced bids be made to secure the completion of each of the features with the total funds provided.

ADDITIONAL WATER SUPPLY

19. The City of San Diego has provided itself with no additional available water supply since I completed the Barrett Dam, dedicated in 1922, over six years ago, and this notwithstanding my pronounced declaration of urgency and emphatic recommendation and insistence that additional reservoir storage works be accomplished and provided before the flood cycle year of about 1927.

20. The City has acquired for additional water supply development valuable water rights and rights of way for reservoirs, dams and conduits in connection with Morena Reservoir Basin, Barrett Reservoir Basin, Marron Reservoir Basin and San Dieguito Reservoir Basin. It has also applied for and is maintaining its right to take water from the Tia Juana River valley subsurface sand and gravels and from the Colorado River Project.

21. The appropriation of water rights in California, and application for rights of way from the United States Land Office, for Morena, Barrett and Marron Reservoir Basins were all initiated by me before I left San Diego in 1923, and I have revived them all since my return to the City's service and they are all advanced to good standing and without material expense to the City.

PROPOSED INVESTIGATIONS AND REQUIREMENTS

22. Comprehensive surveys and research of engineering, legal and international problems will have to be carried on continuously to protect and advance the City's increasing needs for additional water supply.

23. Following are some of the requirements and investigations which are fundamental to the development of additional water supply for the City of San Diego:

24. San Diego River Pumping System: Pumping from the San Diego River Valley subsurface sands to increase the 1928 season production by about 100% will necessitate material additional development of wells, pumping equipment and pipelines and rights of way for pumping plants. It is estimated that funds for this feature should be provided to the extent of \$75,000.00

25. The supply of water in the San Diego River Valley sands is limited and dependent upon adequate annual flood runoff to replace the water pumped previously therefrom.

26. Filtration and Purification Plants: A number of the filter units of each Otay, Torrey Pines and University Heights Plants have never been completed and must be completed before next season's requirements materialize. Estimated funds required\$15,000.00

27. Marron Reservoir Development: A portion of the water rights and of the rights of way for the projected Marron Storage reservoir are in Mexico; also the site unanimously considered physically and economically desirable for the dam is divided by the International Boundary line. An international adjustment and agreement between the United States and Mexico requiring the allocation of International water rights in connection with the Tia Juana River, Te cate River, Colorado River and Rio Grande River between the United States and Mexico, which is now under consideration by the International water Commission, United States and Mexico, is fundamental to the determination and establishment of the water rights of the two high contracting parties and doubtless will require long negotiations to be consummated by International Treaty.

28. The International Water Commission reports that another joint meeting is to be held and have promised to give the City of San Diego official notice in advance indicating the date and place. It is obviously necessary that the City of San Diego be represented and strongly supported in its efforts to secure its appropriate equitable rights in the allocation of the International waters.

29. Core drill recovering borings will have to be made to disclose the topography and geological character of the subsurface bed rock for the impounding reservoir dam at the Marrog site which will necessarily be relatively high since the reservoir should have a capacity of about 150,000 acre feet. Estimated funds required \$20,000.00

30. Barrett Dam Heightening: Additional core drill recovering borings will have to be made at the Barrett dam site to disclose the topography and geological character of the subsurface foundation bed rock. A tentative design for the increased heightening of Barrett Dam to increase the storage capacity of the reservoir from 44,538 acre feet to 150,000 acre feet was developed and provided for when I designed and constructed the present Barrett Dam first development. Estimated funds required.....\$15,000.00

31. Morena and Barrett Reservoir Rights of Way and Surveys: In order to comply with the regulations of the Department of the Interior, it will be necessary to do considerable surveying for the two reservoirs. It will also be necessary to secure additional rights of way for Barrett Reservoir before the dam can be constructed to an increased height. Estimated funds required.....\$25,000.00

32. San Diego River: Comprehensive investigations, surveys and designs were made by me for the conservation of all the runoff from the San Diego River drainage basin, including core recovering drill borings at alternate dam sites together with the classification and appraisal of all reservoir rights of way were accomplished by me before I left the City in 1923. Continuation of investigation. estimated funds required.....\$20,000.00

33. San Dieguito River Water Supply Investigations: The City of San Diego's Board of Examining Engineers, A. J. Willey, L. C. Hill, H. C. Oldberg and C. F. Tolman, in their report dated May 21, 1928, discussed the dependability of the present Hodges Reservoir Dam.

34. Preliminary investigations, consideration, analysis and study has been given to the physical and hydraulic conditions as they exist in connection with the present Hodges Reservoir dam, also appropriate consideration has been given to an alternate dam site located about 3 miles up the reservoir; also to the City of San Diego's lease rights, leasehold-contract to purchase also the City's commitments of water to the Irrigation Districts under the contract. My report dated September 19, 1928, to the Honorable, the Mayor and Common Council recommended that only upon satisfactory settlement of riparian rights and water rights and rights of way could the City properly consider increasing the storage capacity of the Hodges Reservoir.

35. Surveys, engineering, hydraulic and legal investigations are under way. It is logical to expect that the State Engineer will request the City to safeguard Hodges dam at least to the extent of materially increasing the width of the present spillway approach pending definite and final conclusions on the part of the City in the matter of its policies in connection with the leasehold-contract to purchase the water rights and properties of the San Dieguito Water Company.

36. Comprehensive core drill recovering borings will have to be made to disclose the topography and geological character of the subsurface foundation bed rock. Estimated funds required \$25,000.00

37. Hodges Reservoir Rights of Way: The City holds option on lands that will be required before additional storage can be provided at Hodges Reservoir. The options are due in June and July 1929 and will require funds to the extent of\$400,000.00

38. Minor Rights of Way and Options: It is prominently essential that funds be provided for the purchase of minor rights of way in connection with each of the several projected additional water development projects and at least sufficient funds to procure options until the City's policies, order of work and rate of work can be determined upon. Funds should be provided for this purpose to the extent of\$50,000.00

39. RECAPITULATION OF PROPOSED WORK AND INVESTIGATIONS REQUIRING BOND FUNDS

San Diego River Valley pumping, increase required in wells, pumping equipment, pipelines and rights of way for well to meet 1929 requirements, estimated cost.....	\$75,000.00
Otay, Torrey Pines and University Heights filtration plants, increase in capacity to meet 1929 requirements, estimated cost	15,000.00
Tia Juana River pumping and Marron Reservoir investigations surveys, engineering, hydraulic and legal problems and international relations.....	25,000.00
Barrett Dam surveys, core drill recovering, borings, design, estimated cost	15,000.00
Morena and Barrett Reservoir rights of way and surveys/.....	25,000.00
San Diego River investigations, research, surveys, engineering, hydraulic and legal problems, estimated cost.....	20,000.00
San Dieguito River, investigations, research, surveys, engineering, hydraulic and legal problems, estimated cost.....	25,000.00
Hodges Reservoir, options on lands required due June and July 1929.....	400,000.00
Purchase of minor rights of way and options.....	50,000.00

Sub total \$650,000.00

40. Funds for the above work should be provided and allocated interchangeably in order that any adjustment in cost may be used to secure the completion of each and all features with the total funds provided.

PROPOSED BETTERMENT WORK AND OPERATION
1929 OUTSIDE OF BOND FUNDS

41. Otay Reservoir-San Diego Present Main Pipeline: To operate and maintain the City of San Diego's present Otay Reservoir-San Diego main wood stave pipe line will necessitate extensive and expensive strengthening of same with additional steel bands. This work will have to be carried on as long as it may be necessary to keep the present pipeline in service. Estimated funds required for work on steel bands outside of budget provisions..... \$50,000.00

42. Filtration and Purification Plants: A number of the filter units at Otay and Torrey Pines filter plants are not in dependable working condition and must be rehabilitated before maximum demands of next season materialize. Estimated funds required outside of budget provisions.....\$6,000.00

43. San Diego River Pumping System: After additional development of wells, pumping equipment and pipelines have been provided, there will be a large increase in the power bill for operating same. Estimated funds required outside of budget provisions \$50,000.00

RECAPITULATION OF EMERGENCY BETTERMENT
AND OPERATION WORK 1929

Otay Reservoir-San Diego present main pipeline Installation of additional bands, estimated cost	\$50,000.00
Filtration and purification plants Rehabilitation of filter units at Otay and Torrey Pines, estimated cost	6,000.00
San Diego River Pumping System Additional power for operating same, Estimated cost	50,000.00
Total	\$106,000.00

PROVIDING FUND FOR ADDITIONAL DEVELOPMENT

44. Previous to the recent consolidation of the assessment work of the City of San Diego with the County of San Diego, the City's legal bonding limit under the State law was 15% of the assessed valuation or about \$31,000,000 for all purposes. The voters of the City had only authorized about \$17,000,000, of which only about \$13,000,000 had been sold.

45. The first assessed valuation under the consolidation plan was very low with the result that no more bonds can be voted or sold, this removing all possibility of water development and seriously restricting all other progress requiring bond funds.

46. The City and County of San Francisco by amending its charter so that restrictions imposed by the State laws limiting bonding issues to 15% of the assessed valuation, were removed insofar as bonds for water development were concerned, made it possible for that City to undertake a plan of development commensurate with its present and future needs. The method has been thoroughly tested, as they have now voted over \$120,000,000 for water development alone.

47. Following this example, the voters of San Diego can by two-thirds vote, provide funds quickly for meeting this water development emergency requirements.

RECOMMENDATIONS.

48. It is recommended that the voters of the City of San Diego be given an opportunity at the earliest practicable date to

(a) Amend the City Charter so as to remove the present State law restrictions as to amount of bonds that may be voted for water supply development.

(b) Vote bonds to the extent of \$2,750,000 to provide funds for construction of a second main pipeline from Lower Otay Reservoir to the City; for construction of new Chollas Reservoir, for increasing the safety and capacity of Morena Reservoir, and to provide for additional emergency investigations and other requirements, all of which are vitally necessary for the protection and development of a dependable water supply.

49. It is further recommended that provisions be made as soon as practicable for providing \$106,000 for emergency betterment work and for increased power cost due to increase in pumping from San Diego River Valley.

Respectfully,

H. N. Savage,
Engineer in Charge.

PHONE CONVERSATION BETWEEN H. N. SAVAGE AND ED FLETCHER

3 o'clock April 30, 1929.

Col. Fletcher: This is Fletcher speaking. Mr. Marchus is in the other room and he has informed me this afternoon that this man Trussell has jumped the traces and unless the money is paid tonight that he is going to cancel his option.

Mr. Savage: Yes.

Col. Fletcher: Is that true?

Mr. Savage: Yes. - I do not know - Mr. Trussell has been invited to extend that option until the cities new trustees can renew - can get acquainted - whether he will do it or not I do not know.

Col. Fletcher: What Marchus is trying to do is to get me or some one else to buy out the equity and pay cash today. I do not like to get mixed into anything like that. Trussell is above the 395 foot contour.

Mr. Savage: No, it is not serious at all, and since you are good enough to call up I think I should advise you that Mr. Marchus has stated publicly that the entire options on those lands, eight tracts outside of the overflow can be obtained for one-half the price set heretofore in a contract.

Col. Fletcher. I am in another room and I wanted to get the straight of it. He came in this afternoon, and he is in my office now and I am next door. I wanted to get the straight of it.

Mr. Savage: If the city should pay Mr. Trussell \$38,600 they owe him that would set a precedent for the whole thing.

Col. Fletcher: You are absolutely right.

Mr. Savage: It appears to me that the only thing I can do is to sit tight and keep my mouth shut.

Mr. Fletcher: He has called in 5 or 6 prominent men. I can see what is behind his motives.

Transcribed by K. L. May

History

May 1st, 1929.

Mr. H. N. Savage,
City Hall,
San Diego, California.

My dear Mr. Savage:

On my return to San Diego today I got a telephone call from Mr. Marchus for a conference in my office with a number of citizens, at 2:30 o'clock. There were several prominent citizens ready to do something for the city if it were considered necessary in the matter of advancing money for the payment of the Trussell purchase, \$38,600.00.

It seems that this option expires tonight. The city has already paid 40 percent, or \$25,000 or \$26,000 and the city absolutely loses this amount, so Mr. Marchus says if the option is not exercised today. He told us he had seen the city council and they were willing to assign the Trussell option, three of them at least, and do it today, with Judge Cary to hold the assignment from the city.

How true the above is I do not know, only this was the representation made to me by Mr. Marchus. While they were in my private office I telephoned you from my engineering office and appreciate the information that you gave me - so nothing was done and the option expires tonight. I think it good strategy in the interest of the city to handle it the way you are doing.

I got hold of Marchus alone after the meeting and found out the following which I am sure will be of interest to you:

The city has paid 20 percent or more of the purchase price on Jorgensen's land, the three Judson's, Webb, White, Dyer, Doyle, Marchus and E. Pete.

Marchus led me to believe that the following settlement could be made: The \$21,000 indebtedness due Jorgensen can be purchased for \$50,000 and that the following will probably discount

what the city owes them approximately 20 percent:

Mrs. Fred Judson
Webb
Wright
Dyer
Doyle
Johnson
H. Judson
E. Pete

This alone would save approximately \$150,000 to the city. Marchus says that the price of \$60,000 at which he sold his land is ridiculously low compared to the others and he does not feel like discounting same, but in my opinion he would probably take \$5,000 discount. Then there are other properties up the valley which you have not yet optioned. I. E. Harris who is asking \$23,000. He will probably take \$15,000. Rockwood and E. Jorgensen and others that you have not optioned will probably sell at much cheaper prices than have been made you.

I told Marchus that I would probably take this matter up with General Kuhn and asked him to find out from the city officials if it would not be advisable for Marchus to quietly get in writing an expression from all these different people as to whether or not, if they knew the property was sold, they would make this discount, or how much discount they would make. Marchus has no knowledge that I am taking this matter up direct with you. I am satisfied that if you should condemn Trussell he would never get as much as he is asking for.

I have no desire to make a nickel out of this proposition. I have not been interested from the beginning, but I think I can be of service if the city desires to eventually acquire these properties, and thru Marchus I am satisfied I can save the city \$150,000 to \$200,000 at least. I will be glad to serve the city in this way if it is thought desirable, so kindly let me know what the city's pleasure is.

If interested I think it would be wise to have General Kuhn come in personal contact with Marchus and handle it in this way, letting Marchus get written authority from these different individuals without the city committing itself in any way, and have it done in the very near future before these agreements between the city and the different individuals expire, which I understand is in June and July. I am referring particularly to those to whom 20 percent or more has been paid by the city, all of whom are above the 595 foot contour.

In closing I want to say that I am of the opinion that the San Pasqual Valley has the greatest underground supply of water and is being bought at the cheapest cost that the city will ever get. These prices are not at all out of line. Los Angeles is paying more per acre 275 miles away in the Owens Valley and they can never be condemned at the figures that the city is paying. I believe that by making a small payment down, say of 20 percent and entering into a contract of purchase spreading over a period of years, with 5 or 6 percent interest, everyone will be willing to sell if a definite contract is made binding the city to buy at some stated period.

I am sending a copy of this letter to General Kuhn and ask that it be treated confidential.

Yours very truly,

(signed) E. J. Fletcher

EF:KLM



CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

BUREAU OF WATER DEVELOPMENT

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

Offices: 524 F Street

May 2, 1929.

FRED D. PYLE, Engineer
J. W. WILLIAMS, Engineer
R. C. WUESTE, Supervisor
F. M. STANLEY, Accountant

Honorable Ed Fletcher,
1020 Ninth Street,
San Diego, California.

Subject: City of San Diego Acquisition of
Projected Flowage and of Water Bearing
Lands in the San Pasqual Valley.

My dear Colonel Fletcher:

Your letter of May 1 has been received.

You have my appreciation for your initiated cooperation by telephone yesterday afternoon regarding the City of San Diego's acquisition of projected flowage lands and of water bearing lands in San Pasqual Valley.

Your corroboration of the policies I deemed for the best interests of the City of San Diego and your initiated cooperative support thereof are each gratifying.

The further cooperation indicated in your letter is recognized and valued.

Very cordially yours,

H. N. Savage,
Hydraulic Engineer in Charge.

HNS/f

*2001
4/24/01*

Conversation over the telephone
between Ed Fletcher and H. N. Savage
May 3d, 1929

Col. Fletcher: This is Fletcher. I got your letter and I thank you for your promptness. I did not gather from the letter that there was anything I could do, or that you wanted me to do.

Mr. Savage: Not at this time. I am thinking of it very much and it will develop in time, that whole thing.

Col. Fletcher: I thought you would like to get the information because it shows that the plan is a good one to work out and money saved to the city. You do not think I had better stir the animals up now?

Mr. Savage: I think it will be wise to let them rest a little while. Think it over. Thank you very much colonel.

Mr. Fletcher: Goodby.

January Ninth,
1 9 3 0

Mr. H. N. Savage,
City Hall,
San Diego, California.

My dear Mr. Savage:

Enclosed find copy of letter dated January fourth from Wausau received from Mr. White today which is explanatory. Please do not give this letter any publicity.

It would seem to me that the city is over-looking a big bet if it don't make some arrangement to acquire Mr. White's properties.

The city owns all the lands for a mile above and for seven or eight miles below, in the proposed super Lake Hodges reservoir site. These lands are needed both for their riparian rights as well as their reservoir purposes.

By having the city attorney look into the records you will find that in the Sawday-Jacoby litigation with the San Pasqual riparian owners thirty odd years ago when Sawday and Jacoby tried to divert water from the Santa Ysabel river above Sutherland into the San Diego water shed and actually completed a tunnel over 1500 feet in length. After its completion they commenced the diversion of the Santa Ysabel water into the San Diego river water shed at Witch Creek, the water to be used to develop the placer mines.

The San Pasqual riparian owners brought suit and got a permanent injunction against the diversion of the water after the case was carried to the Supreme court of the state on the grounds that the water could not be taken out of the water shed.

Some day the city is going to take water from the Sutherland, and/or from the gravels of the San Pasqual above the White properties. You will never be able to buy these properties again at the

2 Mr. H. N. Savage

1/8/30

price you can buy them today and on which you have already paid 20% of their purchase price.

These two pieces of property will be flooded if only the water level is raised ten or fifteen feet higher at Lake Hodges, at least all the valley lands, to say nothing of flooding a large portion of the property after the dam is built, if it is built to the additional height of 65 feet.

The acquisition of these lands would give the city an unbroken stretch of the San Pasqual lands for nearly ten miles from the west line of Webb to Lake Hodges Dam.

I have no interest in this matter directly or indirectly but if you have any suggestion or any proposition to make Mr. White re the acquisition of same I will be glad to be of any assistance I can in bringing the city and Mr. White together.

I don't think Mr. White cares for the money and would consider a small payment down and a payment each year for five or eight years with 6% interest, if desired.

If you are interested at all in this matter I would be glad to take it up with Mr. White on his return the twentieth of January.

Yours very truly,

EF:AK

January Eighth,
1 9 3 0

Mr. H. N. Savage,
City Hall,
San Diego, California.

My dear Mr. Savage:

Enclosed find copy of letter dated January fourth from Wansau received from Mr. White today which is explanatory.

Please do not give this letter any publicity.

It would seem to me that the city is over-looking a big bet if it don't make some arrangement to acquire Mr. White's properties.

The city owns all the lands for a mile above and for 7 or 8 miles below, in the proposed super Lake Hodges reservoir site. These lands are needed both for their riparian rights as well as their reservoir purposes.

By having the city attorney look into the records you will find that in the Sawday-Jacoby litigation with the San Pasqual riparian owners thirty odd years ago when Sawday and Jacoby tried to divert water from the Santa Ysabel river above Sutherland into the San Diego water shed and actually completed a tunnel over 1500 feet in length and commenced the diversion in the Witch Creek country for the development of the plaster mines and the San Pasqual riparian owners got a permanent injunction after the case was carried to the Supreme court of the State stopping Sawday and Jacoby from taking any water out of the San Pasqual water shed.

Some day the city is going to take water from the Sutherland, and/or from the gravels of the San Pasqual above the White properties. You will never be able to buy these properties again at the

copy

October Thirty-first,
1 9 3 0

Messrs. H. N. Savage,
John L. Bacon,
Paul Edwards, and
Gen. Joseph Kuhn,
San Diego, California.

Gentlemen:

It is possible that an arrangement can be made whereby the city, free of charge, is deeded, with a clear title, the following properties.

First: Mission Gorge dam site No. 3, together with all surveys and lands which the Cuyamaca Water Company own to the 330 foot contour to be delivered by the district.

Second: The 400 or 350 acres of land within the Mission Gorge reservoir site owned by the La Mesa Irrigation District, the price to be the average of similar lands.

Third: The El Monte pumping Plant owned by the district.

Fourth: The four or five hundred acres of water bearing gravels above and below El Monte Pumping plant owned by the district.

Fifth: El Capitan dam site and all lands owned by the district within the reservoir site and adjacent thereto, such rights as the district owns.

Sixth: The Fletcher dam site and all reservoir lands deeded, owned by the district, such rights as they have.
Seventh: Cuyamaca dam and reservoir, 1100 acres of land which the district owns together with any other rights it may have.

Eighth: Diverting dam, rights of way, entire flume line, including Sand Creek, South Fork, Chocolate, Tunnel Hill, steel and concrete siphons, permanent construction, also flume line and tunnel line, all distribution lines, Murray Hill, Eucalyptus and Mt. Helix reservoirs together with complete distribution system, owned by the district, all of the above, free of cost.

Ninth: Murray Dam and lands flooded and floddage rights which the district owns and controls to be had for the consideration of \$150,000.

Tenth: The La Mesa District to pay all outstanding bonds, both principal and interest.

Eleventh: The city to enter into an agreement with the district to furnish water to the district consumers under the present conditions, regulations and rates which are as follows: 15¢ for 100 cubic feet per month for first 1000 feet; 10¢ for 100 cubic feet for the next 2000 feet per month and 6¢ per 100 cubic feet for all over and above 3000 cubic feet per month.

These rates under present conditions will yield the city above all operating expenses, a profit of approximately \$40,000 or \$50,000 per year, this profit to be devoted to the reconstruction and replacement of facilities within the district and spent by the district, or the city can take the responsibility of maintaining the facilities of the district and keep the profit.

If the district is paid the profit the city would be relieved of any obligations to install, replace or build new pipe lines in the district.

When the time comes to rebuild the main flume, the cost of reconstruction in permanent form is to be paid for by the city and the irrigation district in proportion to its use each year by the city and the district, the reconstruction of the flume to be financed by the city of San Diego.

To illustrate, if it cost \$800,000 the amount of water delivered to the district by the city thru the flume line will be accurately kept and the district and the city will each year apportion the cost of the reconstruction of the flume based on the cost, interest, sinking fund, operation and maintenance each year.

Last year the entire consumption of the Guyanaca system was an average of approximately 3,800,000 gallons a day. This year it will be less.

The reconstruction of the flume will save at least a million gallons a day net safe yield of water which is now lost thru leakage.

Should the lands in the La Mesa district be annexed to the city of San Diego they would automatically pay city rates thereafter, and the district's right to water reduced in proportion.

I suggest that if it is desirable, a maximum amount of irrigation water per year to be supplied the district shall not exceed four million gallons daily on the average.

The advantages to the city are, if you settle with the district by paying \$150,000 you get immediate possession of Murray Dam now connected with the city with pipe lines and with practically a full reservoir or two billion gallons of water.

In addition to supplying all the needs of the district, the present flume line and Murray dam will immediately add to the city's supply of water a minimum of three million gallons daily.

As the city of San Diego's water cost at least twenty-one cents a thousand gallons delivered at the city limits the amount of water delivered and the revenue from the sale of that water to the city from Murray dam in one year at twenty-one cents a thousand gallons would amount to approximately \$110,000 a year so that the city would get its money back in two years.

The city would be under no expense in operating the system as it is more than paying with a nice profit above operating expense.

The only thing the city would be doing five years hence say would be loaning its credit in the reconstruction of the flume line but in that event the city would get an additional million gallons a day of water now going to waste by leakage in the flume and the city would only be paying for its proportion of the cost with the district, according to the use of water in the reconstruction of the flume.

Assuming that the city would be getting for nothing, land within Mission Gorge Dam No. 2 site that is easily worth \$100,000 to \$120,000, El Capitan dam site and reservoir lands that are worth anywhere from \$100,000 to \$600,000, Fletcher dam site and reservoir lands anywhere from \$25,000 to \$100,000 and water bearing gravels up and down the San Diego River worth anywhere from \$100,000 to \$200,000, Murray dam and reservoir could not be duplicated today for \$500,000.

The water from Murray dam being at an elevation of 500 to 550 feet will eliminate annually the pumping cost of \$50,000 to \$100,000 now being spent by the city to pump the water to the higher levels.

The above is a suggestion for your consideration of a settlement which - as willing to work for between the district and the city and put up to a vote of the people for their ratification.

Yours very truly,

EP:JMK

October Thirty-first,
1 9 3 0

Messrs. H. N. Savage,
John L. Bacon,
Paul Edwards, and
Gen. Joseph Kuhn,
San Diego, California.

Gentlemen:

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Sixth: The Fletcher dam site and all reservoir lands deeded, owned by the district, such rights as they have.

Seventh: Cuyamaca dam and reservoir, 1100 acres of land which the district owns together with any other rights it may have.

Eighth: Diverting dam, rights of way, entire flume line, including Sand Creek, South Fork, Chocolate, Tunnel Hill, steel and concrete syphons, permanent construction, also flume line and tunnel line, all distribution lines, Murray Hill, Eucalyptus and Mt. Helix reservoirs together with complete distribution system, owned by the district, all of the above, free of cost.

Ninth: Murray Dam and lands flooded and floddage rights which the district owns and controls to be had for the consideration of \$150,000.

Tenth: The La Mesa District to pay all outstanding bonds, both principal and interest.

Eleventh: The city to enter into an agreement with the district to furnish water to the district, ^{consumer} under the present conditions, regulations and rates which are as follows: 15¢ for 100 cubic feet per month for first 1000 feet; 10¢ for 100 cubic feet for the next 2000 feet per month and 6¢ per 100 cubic feet for all over and above 3000 cubic feet per month.

These rates under present conditions will yield the city above all operating expenses, a profit of approximately \$40,000 or \$50,000 per year, this profit to be devoted to the reconstruction and replacement of facilities within the district and spent by the district, or the city can take the responsibility of maintaining the facilities of the district and keep the profit.

If the district is paid the profit the city would be relieved of any obligations to install, replace or build new pipe lines in the district.

When the time comes to rebuild the main flume, the cost of reconstruction in permanent form is to be paid for by the city and the irrigation district in proportion to its use each year by the city and the district, the reconstruction of the flume to be financed by the city of San Diego.

To illustrate, if it cost \$800,000 the amount of water delivered to the district by the city thru the flume line will be accurately kept and the district and the city will each year apportion the cost of the reconstruction of the flume based on the cost, interest, sinking fund, operation and maintainence each year.

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The reconstruction of the flume will save at least a million gallons a day net safe yield of ater which is now lost thru leakage.

Should the lands in the La Mesa district be annexed to the city of San Diego they would automatically pay city rates thereafter, the district's right to water reduced in proportion.

I suggest that if it is desirable, a maximum amount of irrigation water per year to be supplied the district shall not exceed four million gallons daily on the average.

The advantages to the city are, if you settle with the district by paying \$150,000 you get immediate possession of Murray Dam now connected with the city with pipe lines and with practically a full reservoir or two billion gallons of water.

In addition to supplying all the needs of the district, the present flume line and Murray dam will immediately add to the city's supply of water a minimum of three million gallons daily.

As the city of San Diego's water cost at least twenty-one cents a thousand gallons delivered at the city limits the amount of water delivered and the revenue from the sale of that water to the city from Murray dam in one year at twenty-one cents a thousand gallons would amount to approximately \$110,000 a year so that the city would get its money back in two years.

The city would be under no expense in operating the system as it is more than paying with a nice profit above operating expense.

The only thing the city would be doing five years hence say would be loaning its credit in the reconstruction of the flume line but in that event the city would get an additional million gallons a day of water now going to waste by leakage in the flume and the city would only be paying for its proportion of the cost with the district, according to the use of water in the reconstruction of the flume.

Assuming that the city would be getting for nothing, land within Mission Gorge Dam No. 3 site that is easily worth \$100,000 to \$120,000, El Capitan dam site and reservoir lands that are worth any where from \$100,000 to \$600,000, Fletcher dam site and reservoir lands any where from \$25,000 to \$100,000 and water bearing gravels up and down the San Diego River worth any where from \$100,000 to \$200,000, Murray dam and reservoir could not be duplicated today for \$500,000.

The water from Murray dam being at an elevation of 500 to 550 feet will eliminate annually the pumping cost of \$50,000 to \$100,000 now being spent by the city to pump the water to the higher levels.

The above is a suggestion for your consideration of a settlement which I am willing to work for between the district and the city and put up to a vote of the people for their ratification.

Yours very truly,

EP:ASK



CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

WATER DEVELOPMENT DEPARTMENT

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

Offices: 524 F Street

November 3, 1930.

FRED D. PYLE, Engineer
J. W. WILLIAMS, Engineer
R. C. WUESTE, Supervisor
F. M. STANLEY, Accountant

Honorable Ed Fletcher,
1020 Ninth Street,
San Diego, California.

Subject: San Diego River Project Water
Resources, Allocation.

My dear Colonel Fletcher:

Receipt is acknowledged of your letter dated October 31, transmitting a copy of the letter you read to Messrs. Joseph E. Kuhn, Editor Paul Edwards, sometime Mayor John L. Bacon and myself, incident to the very splendid hospitality you and Mrs. Fletcher extended to us in your home October 29.

The subject of your letter will receive my thoughtful consideration.

Very cordially yours,

H. N. Savage
H. N. Savage,
Hydraulic Engineer.

HNS/f

201

Should the lands in the La Mesa district be annexed to the city of San Diego they would automatically pay city rates thereafter.

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January Thirtieth,
1 9 5 1

Mr. H. N. Savage,
City Hall,
San Diego, Calif.

Dear Mr. Savage:

My understanding is that the stream bed level of Mission Gorge #2 is 244 feet; that you propose to impound water to the 400 foot level in which case I assume that the spill way level will be 400 feet above sea level and that you will raise your dam to 410 or 15 feet in order not to spill over the top of the dam.

If the above is true, in determining the acreage necessary, is it not advisable to acquire the land to the 410 foot contour for in case of extreme flood such as 1916 the lands will be covered with water at least to the 410 or 408 foot contour.

Would you kindly give me the information as to how many acres would be flooded to the 400 foot contour and 410? This would be appreciated.

Very sincerely yours,

EF:ACK



CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

WATER DEVELOPMENT DEPARTMENT

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

Offices: 524 F Street

February 2, 1931.

FRED D. PYLE, Engineer
J. W. WILLIAMS, Engineer
R. C. WUESTE, Supervisor
F. M. STANLEY, Accountant

Honorable Ed Fletcher,
1020 Ninth Street,
San Diego, California.

Subject: San Diego River Project, Mission
Reservoir Feature, Study.

My dear Colonel Fletcher:

Receipt is acknowledged of your letter dated January thirtieth, regarding Mission reservoir basin and dam site elevations.

The elevation of the streambed at the San Diego River, Mission reservoir gorge dam site No. 2, is elevation 244.

In order to control practically the entire maximum flood discharge of the San Diego River drainage basin it would be necessary to impound water in the Mission reservoir basin up to about elevation 400, reservoir contour 156.

The studies heretofore made contemplate fitting the top of the dam with automatic positive acting flood flash gates with the expectation that it would not be necessary to impound water in the reservoir to more than elevation 400, reservoir contour 156.

It has not been my expectation that it would be required or advisable to at first construct a dam to impound water to a greater elevation than 360, reservoir contour 116, which would not necessitate the immediate moving of either the San Diego & Arizona railroad line or the public paved highway parallel thereto.

The next development of the reservoir might and probably would not be to a greater height than elevation 390, reservoir contour 146.

The topographic surveys indicate that if the reservoir be developed to elevation 400, reservoir contour 156, the area flooded

Honorable Ed Fletcher

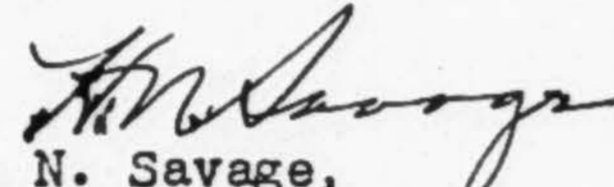
--2

2/2/31

would be a little over 7,000 acres.

In so far as I know, no contours have been run out at elevation 410.

Very truly yours,


H. N. Savage,
Hydraulic Engineer.

HNS/f



CITY OF SAN DIEGO

SAN DIEGO, CALIFORNIA

WATER DEVELOPMENT DEPARTMENT

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

Offices: 524 F Street

February 11, 1931.

FRED D. PYLE, Engineer
J. W. WILLIAMS, Engineer
R. C. WUESTE, Supervisor
F. M. STANLEY, Accountant

Colonel Ed Fletcher,
1020 Ninth Street,
San Diego, California.

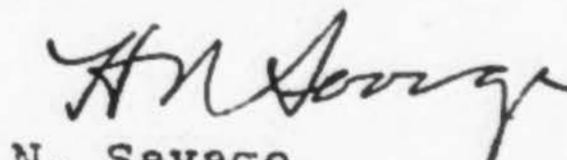
Subject: Municipal Bureau of Water Development,
San Diego River Wells, Lakeside,
Riverview, Mission Valley, Statistics.

My dear Colonel Fletcher:

Complying with the purport of your telephone inquiry this morning for statistics of wells, it is thought that the enclosed report from the Inspector may serve your purpose.

In case you have additional requirements you may transmit them either by telephone or letter to this office for my most effective attention.

Very truly yours,


H. N. Savage,
Hydraulic Engineer.

HNS/f
Encl.
Inspector's Report
San Diego River Wells - 2/11/31

February 11, 1931.

From : Inspector, J. W. Correll
To : Hydraulic Engineer
Subject : San Diego River wells.

There are now 30 wells owned and operated by the City of San Diego in the San Diego River located as follows:

8 at Lakeside,
10 at Riverview,
12 in Mission Valley.

The average depth of sand at each pumping field is as follows:

Lakeside	90 feet
Riverview	80 "
Mission Valley	60 "

During the pumping season of 1930, the water plane was lowered at each pumping field as follows:

Lakeside	18 feet 3 inches
Riverview	20 "
Mission Valley	5 " 5 "

Since very little pumping was done in the Mission Valley field by the City, most of this draw down was occasioned by about twelve dairies and truck farms pumping for irrigation purposes.

J. W. Correll.

Handwritten initials and date
JWC/m 2/11/31

March Sixteenth,
1 9 3 1

Messrs. Savage, Cromwell & Harritt,
San Diego
California.

Gentlemen:

In determining the cost of water in the development of the San Diego River, I feel that the development of water in Mission Gorge No. 3 is vital and a factor that should be taken in to serious consideration in making your report to the San Diego City Council.

Mr. Savage will not recommend a single arch type of dam at Mission Gorge No. 3, although it will save the City of San Diego over two million dollars and give us a dam with higher factors of safety than the gravity arch type.

By building at Mission Gorge No. 3, San Vicente and El Capitan, it will add six million gallons a day, net safe yield, to the river or enough water for 60,000 people as compared to building Mission Gorge No. 3, Mr. Savage's plan.

Even Mr. Freeman recommended a dam in Mission Gorge No. 3 to 225 feet in height and that was years ago. Since Freeman's report, at least twenty single arch type of dams have been built in the West. One of them, the highest in the world, the Pacoima Dam.

The most noted engineers in the country have approved Mission Gorge Dam No. 3 as an ideal damsite, including Messrs. O'Shaughnessy, Weymouth, Foude, Post, King, Colonel Leads and Major Olberg.

Mr. Stanley Bent of the Bent Brothers, writes his opinion and definite cost of construction of Mission Gorge Dam #3 under date of March 12th, 1931 as follows:

"In 1921 writer made estimate of cost of two types of dams at Mission Gorge No. 3, known as the lower site. I have personally investigated this site today again and after examining the surveys, cross sections, core drillin records, etc., I am convinced that Mission Gorge No. 3 is the ideal site for a single arch type of dam similar to the Pacoima Dam, the highest dam in the world and built by our firm.

There is now under construction the same type of dam, 443 feet in height on the Drag River in Switzerland.

We have re-checked our estimates on the basis of today's cost of materials and we are willing to take a contract to build Mission Gorge No. 3 dam as follows:

115,000 yards of concrete in place @ \$7.50 a yard	\$862,500.00
20,000 yards of excavation @ \$2.85 a yard	57,000.00
	<u>\$919,500.00</u>

We estimate the cost of spillway, independent of dam on southside, -	<u>\$250,000.00</u>
----------------------------------------------------------------------	---------------------

TOTAL COST	\$1,169,500.00
------------	----------------

This covers the cost of a dam in Mission Gorge No. 3, 250 feet in height and an estimated cost for spillway entirely independent of the dam, adequate to carry major floods. Should a siphon spillway be preferable, the \$250,000.00 allowance for gravity spillway would be applicable for constructing the siphons.

I have never seen a more ideal site for the location of a dam of this type. The core drillings show splendid bed rock and all conditions, from a construction standpoint are the best.

Yours very truly,

BENT BROTHERS INC.

SF

By H. STANLEY BENT (signed)"

Bent Brothers, as you know, are famous dam builders and have built some of the largest and highest dams in the world. Not alone the Pacoima Dam which they mention but they built the Ex Chequar Dam, 320 feet in height, the

Bull Run Dam, 200 feet in height, also the Henshaw Dam, at Warner's Ranch, in all 18 dams is their record. Their judgment as to cost, type of dam and site on which a dam should be built and which they call "ideal" should be given serious consideration.

It is common knowledge that a dam has extra factors of safety where its spillway is independent of the dam itself. This is not so as regards Mission Gorge No. 2 but we have an ideal, independent spillway site, 600 feet away for Mission No. 3, to the south.

If a siphon spillway is allowed at Mission Gorge No. 3 the expense can be cut down easily \$170,000, or a million dollars, *total cost of the dam.*

A dam built 250 feet high in Mission Gorge No. 3 costing a million dollars will hold 45,000 acre feet or 15 billion gallons comparable with Morona, Barrett and Otay Dams, and will flood only 1424 acres. It will give a net safe yield under present conditions of nearly eight million gallons daily and the water will not cost to exceed five or six cents a thousand gallons.

If it is thought advisable to raise Mission Gorge No. 3 to 250 or 260 feet in height it is absolutely practical. It will hold approximately 100,000 acre feet of water or more than the combined storage of Barrett and Morona and will only flood a small portion of the lands of El Cajon Valley, will save the towns of Santee, Lakeside and eliminate the necessity of interfering with the paved highway or the San Diego Arizona Railroad, although I still contend that the economical height remain 230 feet and the control of the river be secured by the building of San Vicente and El Capitan as conditions warrant it.

Mr. Lars Jorgenson is the designer of the constant angle arch type of dam, plan F-405 now on file in the City Hall, San Diego, together with the negative is available for your examination.

I made an error in determining the excavation for Mission Gorge No. 3. Mr. Eastwood's estimate was 4000 yards but it was for a multiple arch type.

Mr. Jorgenson's estimate of yardage is 11,000 yards for the single arch type while Mr. Bent has, as an extra factor of safety, increased it to 20,000 yards, all as per his letter of March 12th, 1931.

-4- Messrs Savage, Cromwell & Harritt March 16th, 1931.

With a settlement with the District, the city will control Mission Gorge No. 3, El Capitan and all the other adverse interests on the river both of the La Mesa Irrigation District and the Cuyamaca Water Company.

For a million and a half dollars the damsite, the balance of the reservoir lands and the dam can be built including all costs.

I again repeat Mission Gorge No. 3 should be taken under serious consideration in determining the definite cost of water from the different prospective dams on the San Diego River.

Very sincerely yours,

EF:ASK

-4- Messrs. Savage, Cromwell & Harritt March 16th, 1931.

With a settlement with the District, the city will control Mission Gorge No. 3, El Capitan, and all the other adverse interests on the river both of the La Mesa Irrigation District and the Cuyamaca Water Company.

Mr. Savage has estimated roughly the average cost of lands flooded in Mission Gorge No. 2 to be \$250 an acre. Assume they cost \$350 an acre on the average, the fact remains that for a million and a half dollars the dam at Mission No. 3 and the balance of the reservoir lands can be acquired and built, including all costs.

There is no re-enforcing, excepting in the super structure, in the Pacoima Dam or any of the single arch types. This is not expensive and if thought best for \$25,000 or \$35,000 Mission Gorge No. 3 could easily be re-enforced with steel.

I again repeat, Mission Gorge No. 3 should be taken under serious consideration in determining the definite cost of water from the different prospective dams on the San Diego River.

Very sincerely yours,

EF:ASK

January Fifteenth
1 9 3 2

Mr. H. N. Savage
City Hall
San Diego, Calif.

My dear Mr. Savage:

I take it for granted that before cutting any trees or trespassing on our property at El Capitan you will take the matter up with us by letter so that I can take the matter up with Mr. Stern.

This is just a suggestion so as not to cause any feeling in the matter.

You can rest assured of my cooperation.

Yours very truly,

CUYAMACA WATER COMPANY

By _____
President

EF:ASK

March Sixteenth
1 9 3 3

Mr. H. N. Savage
San Diego
California

Dear Mr. Savage:

Confirming your telephone inquiry as to how much money the state put in the different dams in Los Angeles County will say the Pacoima dam, 350 feet high, one of the highest dams in the world, cost \$2,524,013. Los Angeles county put in \$1,720,000, the balance, \$8,040.13 was put in by the State of California.

The Santa Anita Dam, 220 feet high, cost \$1,208,429, Los Angeles count by a bond issue put in \$586,000 with the result the state paid the balance, ie, \$622,429.

In 1920 the state allocated to the Los Angeles Flood Control 3 million dollars. It was paid in annual installments of \$300,000 per year for 10 years. When this ran out in 1930 the board of supervisors were successful in getting a \$600,000 allocation for the year 1931-32, \$500,000 each year so Los Angeles the last 12 years has received \$5,600,000 in direct appropriations for the construction of dams while San Diego never asked for a dollar.

The money put into the Pacoima and Santa Anita dams by the state should be deducted from the \$3,600,000 appropriation. The rest of the money was used for surveys for flood control, and the construction of small check dams for the spreading of water. The above figures are authentic and given to me by the Los Angeles Flood Control recently.

Twenty-two counties have been directly benefitted and over 40 million spent the last 15 or 20 years for flood control in the State of California. A large portion of this in the Sacramento Valley counties by San Bernardino, San Luis Obispo, Monterey, Orange County and up in the Feather River country and on the American River - all have had their benefits.

San Diego has been asleep at the switch.

Yours very truly,

EF:ASK

Cc-



Offices: 524 F Street

CITY OF SAN DIEGO

WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION

SAN DIEGO, CALIFORNIA

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

August 5, 1933

Mr. Ed Fletcher
1020 Ninth Avenue
San Diego, California.

Subject: San Dieguito River Project, Riparian
Lands, Subsurface water bearing lands,
Hodges reservoir rights of way.

Dear Mr. Fletcher:

In furtherance of your interesting and instructive disclosures to General Kuhn and myself yesterday regarding the options you have secured from riparian owners and Hodges Reservoir site owners in the San Dieguito River drainage basin, and recalling your proffered statistics of the option prices you have secured from individual land owners, provided it is entirely agreeably convenient for you to do so, I will be pleased to have in duplicate a tabulated list of the individual owners, land areas and cost of the options you have secured for further consideration by General Kuhn and myself as the proposition develops.

Very truly yours,

H. N. Savage,
Hydraulic Engineer.

HNS/f



Offices: 524 F Street

CITY OF SAN DIEGO

WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION

SAN DIEGO, CALIFORNIA

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

August 9, 1933

Mr. Ed Fletcher
1020 Ninth Avenue
San Diego, California.

Subject: San Dieguito River Project,
Hodges Reservoir Dam.

Dear Mr. Fletcher:

Complying with your inquiry and requisition dated August 8, 1933, there has been indicated with brown pencil on the Cloverdale Farms drawing transmitted by you, elevation 395 foot Hodges reservoir contour, together with the acreage below this contour in the Cloverdale Farms tract.

Returned herewith is the Cloverdale Farms drawing.

Very truly yours,

H. N. Savage,
Hydraulic Engineer.

HNS/f
Encl.



Offices: 524 F Street

CITY OF SAN DIEGO

WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION
SAN DIEGO, CALIFORNIA

HIRAM NEWTON SAVAGE
Hydraulic Engineer in Charge

August 17, 1933

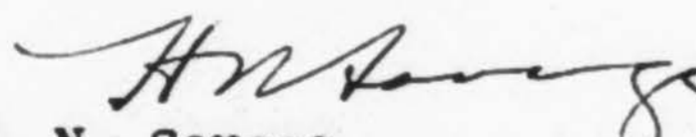
Mr. Ed Fletcher
1020 Ninth Avenue
San Diego, California.

Subject: San Dieguito River Project, Hodges
Reservoir Dam, rights of way and
water rights.

Dear Mr. Fletcher:

In compliance with your request dated August 16,
1933, enclosed is copy of statement dictated by you in
my office August 4, 1933 in the presence of Major General
Joseph E. Kuhn and myself regarding San Dieguito River
Project, Hodges Reservoir Dam, rights of way and water
rights.

Very truly yours,


H. N. Savage
Hydraulic Engineer.

F/f
Encl.
Rough draft - 8/4/33

rough draft
EF/p

August 4, 1933

COPY

Major General Joseph E. Kuhn and
Hydraulic Engineer H. N. Savage

Subject: San Dieguito River Project, Hodges
Reservoir Dam, rights of way and
water rights

Gentlemen:

Referring to the acquisition of riparian lands, floodage
rights and pumping rights, the first property we will discuss
is Webb.

It will cost too much money to buy this ranch and I am
in a position to sell the floodage rights to the 395 foot con-
tour, the riparian lands and the pumping rights at a figure
so low that it should be accepted at this time.

I can also furnish the floodage rights, riparian rights
abd pumping rights to the Louisa Dyer piece, the Fred Dyer
piece and the Webb Ward estate property which is a very vital
piece of 552 acres.

We will have to buy the Fenton ranch. I have the price
down to \$125,000 on the entire Fenton ranch. Over one-half
of it is in the 395 foot contour and all of it is riparian
to the Santa Maria Creek and to the San Pasqual River. I have
a letter from Mr. Ward stating to me that whenever Mr. Fenton
operates his pumps it lowers the water level of Mr. Ward's
pumping plant north of the river and part of Mr. Fenton's
land is practically in the river bed. Mr. Fenton has several
hundred acres in alfalfa and if he never had any riparian
rights on the San Pasqual river those he has acquired same by
prescription. I have been informed that 400 acres of this
Fenton ranch are now in alfalfa.

The Berger place, which I believe was contracted for at \$55,000, can now be bought for \$25,000.

The Jennings 20 acres I have a contract for for \$3,500.

The Menvielle property - ⁶⁰120 acres of which about ~~80~~ ⁴⁵acres ^{below} ^{Highway} is below the 395 foot contour, can be bought cheap. I have ^{25 A} a verbal pledge in connection with it.

35 A
Below
Road

I have a verbal pledge of Mrs. Wood on her property. She will not sell her water rights. We will have to buy her out either by condemnation or purchase. She only owns 40 acres.

The Bradbury property wanted \$75,000. I have an option to purchase at \$25,000. 60 acres. I believe the City brought suit to condemn.

The Gloverdale Farm people have 772 acres according to my recollection. They have made ma a price on the whole tract of \$125,000. A large part of it is improved. I think I can get it possibly for \$100,000 cash but it might be advisable to condemn later on the floodage rights as they are not riparian to the stream.

While I have no option on the Rose King piece, I have been promised it at a low figure if desired. The piece is not riparian to the stream and will only be needed in case of flooding to the 395 foot contour.

The Storey piece is riparian and consists, according to my recollection, of 112 acres. It runs down to the center of the stream. The contract price is about \$6,000 according to my recollection. Over half of the land is mountainside.

The Yawkey property, formerly known as the F. M. White property, was under contract to the City - one piece at about \$25,000 and another piece at \$125,000 to Prentice. Prentice was

paid \$25,000 and was to be paid \$100,000 more for 255 acres lying west of the river. Prentice sold for \$100,000 option on contract to the City to White for \$70,000 cash. White borrowed the money from Mr. Yawkey and Mr. White eventually died and Yawkey retained the ownership of 255 acres lying from the river west. That lying from the center of the river east and north was a separate transaction amounting to about \$25,000 and controls about one-half to three quarters mile of the river frontage. A certain amount was paid by the City under agreement with Mr. White and then cancelled. This also is now in the name of Mr. Yawkey but was an entirely separate deal.

Last week Mr. Prentice informed me that he was selling the rest of his ranch to some Los Angeles people and would Mr. Yawkey sell the 255 acres back to the Los Angeles people?

In selling the Prentice 255 acres to the City certain reservations for water for the balance of Mr. Prentice's tract was made by Prentice and approved by the City.

Mr. Yawkey can only furnish what he acquired from Mr. Prentice originally.

I am taking this matter up at this time for the particular reason that I will have next week an offer which I must submit to Mr. Yawkey for the 255 acres originally owned by Prentice.

There is a splendid water system, also big pumping plant on the Prentice property. The motor has been taken out and stored but they have pumped 250 inches of water out of the Prentice property in the San Pasqual Valley planning to irrigate the whole 1500 acres which Prentice owned from the pumping plant and I think that is the reason they want to acquire this property

back again as the Los Angeles people do not feel they are secure in their water supply for the 1500 acres between Escondido and Lake Hodges bridge without acquiring this pumping plant and the water rights that go with it on the 255 acres of the Prentice property.

Henry Fenton agreed to get the Don Moore property for me.

If you would like to have me give you an estimate of cost of just these properties mentioned it would be a pleasure to compile them and submit you something definite.

Ed Fletcher

EF/p

August 18, 1933.

Mr. H. H. Savage, Hydraulic Engineer,
City of San Diego
California

My dear Mr. Savage:

Answering your inquiry of August 5th, and in accordance with our understanding at a previous conversation with General Kuhn, you and myself, I am enclosing tentative prices at which can be bought the riparian rights, pumping rights, floodage rights or ownership of the property, as mentioned in each particular case.

- Prentice option taken by City — 295 acres
 - Price of property under original option, \$125,000.
 - Purchase price today \$60,000
- White option just east of Prentice — 157 acres
 - original purchase price by city \$4,300, now 15,000
- The above two properties to be sold as one piece.
- Storey property adjoining White on the North and the city and Prentice on the East line — 35 acres 6,000
- Bradbury property, approximately 64 acres, former price \$75,000, today's price 26,500
- Menville property, 60 acres, asking price 12,000
Believe it can be furnished for \$10,000.
- Jennings property — 20 acres 4,500
- Boyle property, approximately 93 acres 26,500
- Stearns-Bach property to the 395 foot contour. 100,000
It is possible the city might prefer to condemn this property, it being a matter of policy.
- Fenton property, approximately 680 acres, former price \$350,000. It can be bought today for 125,000
I may get this reduced to \$110,000, possibly \$100,000 when ready to talk business.

All of the above mentioned properties are for outright sale

-2-

and practically all of the property is below the 395-foot contour. It does not include the following properties:

- Wood property, for which they are asking \$50,000, but which I believe can be condemned for \$25,000.
- Rosa M. King property, 40 acres, which can be bought for around \$6,000 or \$7,000.
- Moore property, 20 acres, which should be bought for about \$100.00 an acre.

The only other properties remaining are controlled by Mr. Webb. First is the Mara Estate property, known as the Roberts property, 562 acres, shown in yellow on the map, almost all of which, excepting approximately 125 acres, is below the 395 foot contour. Mr. Webb will not sell the land outright, but is willing to sell the riparian, pumping rights, also floodage rights, below the 395-foot contour, for the sum of \$60,000, Mr. Webb reserving the right, when the water is available, to divert by gravity or pumping water for use upon the lands included in this option, not to exceed normal use for domestic and irrigation purposes. The city, however, to have the first right.

In addition Webb controls 792 acres North of Fenton and East of the Dyer property, all of which is riparian to the stream. For \$65,000 he will transfer all riparian and pumping rights, also floodage rights below the 395 foot contour, with the same reservation to use the water, when available, as heretofore mentioned.

Fred A. Dyer owns 160 acres which crosses the river and is all riparian. The price will be \$10,000 for the riparian rights, the pumping rights and the right to flood to the 395 foot contour.

I have written this letter hastily, but it will give you an approximate idea of what it will cost to acquire the same, to the 395 foot contour. A large sum of money can be saved if it is only a matter of acquiring the riparian rights and pumping rights, and eliminating the floodage rights to the 395 foot contour. If you care to have me give you a figure on that basis, as well as the cost of the riparian rights on the river above the 395 foot contour, I will do so.

I will be out of town for a week, and will be glad to have a conference with you at any time on my return. Please keep these figures confidential.

Yours very truly,

EF:KL

P. S. I am returning map in relation thereto. I may get some slight reductions in the figures given.

Ed Fletcher Papers

1870-1955

MSS.81

Box: 24 Folder: 22

General Correspondence - Savage, Hiram N.



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