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COPY

RAMONA
CHAMBER OF COMMERCE

RAMONA, CALIF.

April 3/22

Mr. E. W. Kramer:

At a meeting held at your request the Ramona Chamber of Commerce passed the following resolutions: After hearing a discussion by Mr. Fletcher of the proposed power project including the Black Canyon and Sutherland Reservoir site as covered by the application of Mr. Fletcher to the Federal Power Commission the following resolution was passed. That the protest filed with the Federal Power Commission be hereby withdrawn.

(Signed) H. I. Miles, Secy.

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Names of those present at
preliminary water hearing,
held in Ramona Library
Sat. P. M. April 1st. 1922

F. M. Dyke, and wife.

H. A. Miles " "

John P. Sutherland,

J. C. Ferguson,

W. A. Van Loon.

Also Engineer King of Volcan Water Co.

" " Kramer of San Francisco.

Vol #227 (A)

April 7, 1922

Mr. E. W. Kramer, Engineer,
Federal Power Commission,
Forest Service,
San Francisco, California.

My dear Mr. Kramer:

At a conference with Colonel Fletcher this morning it was decided not to accept a license for the Boulder Creek power project with a proviso dictated by the City Attorney of San Diego. I entirely agree with Colonel Fletcher's stand in this matter. It will be necessary, therefore, as I understand it, for the Power Commission to hold a public hearing in this case.

Inclosed herewith is the data you requested, namely, rainfall and runoff records at various stations in San Diego County. I have also written an outline of the water development in San Diego County with which Colonel Fletcher is identified and have included a brief sketch of Colonel Fletcher's connection with the development of San Diego County. Attached to this you will find a statement of safe yield studies on the various reservoirs, together with other hydrographic data pertaining thereto.

I hope you had a safe and pleasant journey back to San Francisco. We certainly had a fine wind-up to your visit in sunny Southern California by showing you what we really can do in the way of a hail storm. I was sorry I had not insisted on you keeping my old over coat as I am afraid you got wet and cold.

Yours very truly,

T. H. King.
Chief Engineer.

THK:ME

Outline of the Volcan Land & Water Company Project which includes the Sutherland-Black Canyon Power Project.

The Sutherland-Black Canyon project is a part of the development undertaken by the Volcan Land & Water Company. Originally this Company planned a dam at Warner's on the San Luis Rey River to impound 200,000 acre feet; a dam at Sutherland on the Santa Ysabel Creek with a capacity of 60,000 acre feet; a dam at Pamo also on the Santa Ysabel Creek to impound 60,000 acre feet; a dam at Carroll site now known as Hodges on the San Dieguito River which is a continuation of the Santa Ysabel Creek to impound 37,000 acre feet together with several secondary reservoirs which would be necessary as regulating basins. Of this project the only portion completed is the Hodges dam on the San Dieguito River which was completed in 1918 by the San Dieguito Mutual Water Company, thus divorcing it from the original project.

A large amount of work has been done at Warner's. Extensive surveys and investigations partly along the lines of water measurements have been carried on at all the above named points, namely, Warner's, Sutherland, and Pamo.

Some core drilling has been done to ascertain foundation conditions at both Pamo and Sutherland. Extensive core drillings have been carried on at Warner's. There has been over $50,000 expended in construction at Warner's damsite. This expenditure covers an outlet tunnel 1180 feet in length concrete lined, extensive concrete waste gate, and stilling basin construction, outlet weir, and a portion of concrete lined conduit, as

well as considerable amount of benching preparatory to the construction of the conduit. The cut-off wall has been put down to bed rock at the damsite.

The Sutherland-Black Canyon power project is incidental and supplementary to the irrigation project. There is a difference in elevation of over 1000 feet between the Sutherland Reservoir and the Pamo Reservoir. Black Canyon is a tributary to the upper reaches of the Santa Ysabel, the junction of the Black Canyon and Santa Ysabel being about one mile below the Sutherland damsite. Pending the ultimate development, the construction of a diverting dam at both Sutherland and Black Canyon is planned to utilize the natural stream flow for power purposes, returning the water to the Santa Ysabel Creek about three miles above the Pamo damsite.

When the irrigation project is completed there will be a dam at the Sutherland site creating a reservoir which will impound 60,000 acre feet./ and will flood 832 acres This dam will be approximately 190 feet in height and about 1100 feet long; in all probability a multiple arch dam. The water from Sutherland and Black Canyon will be used to irrigate the lands of the Rancho San Bernardo and the immediately adjacent territory. Any surplus will be brought toward the City of San Diego and used either for municipal purposes or on lands immediately adjacent to the City of San Diego.

The Pamo dam will have a height of 197 feet above stream bed and a length of about 850 feet, will impound 60,000 acre feet and flood 1064 acres.

There has been slightly over $10,000 spent on investigation, surveys, and road construction on the Sutherland-Black Canyon project up to the present time.

Outline of San Dieguito Mutual Water Company Development.

The impounding reservoir of this development is known as Lake Hodges. Originally this was a part of the Volcan development and was then known as Carroll reservoir. Lake Hodges is formed by a multiple arch dam 133 feet in height above stream bed, impounds water to a depth of 115 feet. The dam is 750 feet in length including the spillway. Capacity 37,000 acre feet. Area flooded 1317 acres. Water from Lake Hodges is delivered through 4½ miles of concrete lined conduit with a capacity of 36 second feet to the San Dieguito Reservoir. This reservoir is formed by a multiple arch dam 50 feet in height above stream bed, 650 feet in length, having a capacity of 1128 acre feet, and flooding 75 acres. The San Dieguito Reservoir is situated at the Northeast corner of the Rancho San Dieguito. From San Dieguito Reservoir there is a concrete distribution main constructed to the coast. This main is about 9 miles in length and varies in size from 26" to 20" in diameter.

Just north of Del Mar about 7 miles from the San Dieguito Reservoir there is located a small equalizing basin from which a woodstave pipe line 18" in diameter extends to the City of San Diego a distance of 5 miles. The town of Del Mar is also supplied from this line. The San Dieguito Mutual Water Company contemplates building in the near future the San Elijo Reservoir which will act as a high service reservoir covering the same territory as is now served by

the present San Dieguito system. Plans are now being formed for the distribution of the San Dieguito Mutual Water Company's water on the coast lands between Del Mar and Carlsbad.

The contract with the City of San Diego calls for the delivery of 3 million gallons daily through the aforementioned woodstave pipe line.

Note: The line from the San Elijo reservoir will practically parallel the nine miles of 26" to 20" pipe line from San Dieguito but will reach the lands lying at a greater elevation.

OUTLINE OF CUYAMACA SYSTEM

The highest unit is Cuyamaca Lake, formed by an earth dam 675 feet in length, impounding water to a depth of 35 feet 5 inches, built in 1885-86. This lake has a storage capacity of 11,595 acre feet, and floods 978 acres. Cuyamaca Dam is situated on Boulder Creek about 12 miles from its junction with the San Diego River at an elevation of 4635 feet.

On the San Diego River just below the mouth of Boulder Creek there is a concrete diverting dam begun in 1889 and completed in 1915, having no storage. This diverting dam turns the water of the San Diego River into the Cuyamaca flume at elevation of 803 feet. The flume, which was constructed in 1888, is built in the main of redwood timbers. It is 70 inches wide, 20 inches deep, and 32 miles in length, and has a grade of 4.75 feet per mile. It has a theoretical capacity of 31 second feet. In addition to the main flume there is a feeder flume known as the South Fork Feeder, leading from a diverting dam on the South Fork of the San Diego River. There is a small concrete diverting dam having no storage on the South Fork. The feeder flume is one mile in length and has a capacity of 14 second feet.

Water is supplied to irrigation and domestic consumers enroute directly from the flume. The terminus of the flume is at Eucalyptus reservoir, which has a storage of about 25 acre feet. From this regulating basin the water is distributed to the high service consumers west of the El Cajon Valley, as well as to the storage reservoir known as Murray Reservoir. The outlet elevation of Eucalyptus reservoir is 620 feet above sea level.

Murray reservoir is formed by a concrete multiple arch dam 113 feet in height above stream bed and about 900 feet in length. This dam impounds water to a depth of 100 feet, has a capacity of 6,000 acre feet, and floods 192 acres. Outlet elevation 440 feet. Dam built in 1917.

The Cuyamaca system furnishes irrigation water to approximately 4,000 acres of land. It is the only source of supply for the towns of El Cajon, La Mesa and East San Diego. In addition, it supplies the districts of Lemon Grove, Spring Valley, Normal Heights, Kensignton Park, and a number of other smaller communities.

The power project applied for consists of a diverting dam on Boulder Creek, a pipe line paralleling the stream, and a power house situated just above the mouth of Boulder Creek, the waters being returned to Boulder Creek before reaching the San Diego River.

There has been about $4,000 spent on investigations and surveys on the Boulder Creek power project up to the present time.

Mission Gorge Reservoir.

The damsite and a large portion of the reservoir lands are personally owned by Colonel Fletcher. Surveys have been made of the damsite and reservoir site looking toward the construction of a dam 230 feet in height, 750 feet in length to impound approximately 45,000 acre feet, area flooded will be 1424 acres. The type of dam has not been definitely selected but will either be a gravity arch concrete or a Jorgensen buttressed arch.

This damsite is located on the San Diego River about six miles from the boundary of the City of San Diego.

El Capitan Reservoir

El Capitan reservoir site also on the San Diego River about 9 miles below the diverting dam. This damsite and a portion of the reservoir lands is the property of the Cuyamaca Water Company. Investigations were made in 1915-16 by the Cuyamaca Water Company but owing to the broken formation the site was abandoned as not being feasible. During the past two years, however, the City of San Diego has expended a large sum of money on core drilling on this site, by permission of the Cuyamaca Water Company, looking toward the possible construction of a dam with a height of 200 feet at this point. In a report made to the Board of Water Commissioners by Mr. H. N. Savage, Hydraulic Engineer of the City of San Diego, in 1922 he stated that he would not recommend the construction of this dam as it would prove "prominently expensive". Capacity of this reservoir and area flooded are not available being property of the City of San Diego and they decline to give out this information.

General Remarks.

It may be well to outline the connection of Colonel Fletcher with the aforementioned developments. For the past 20 years or more Colonel Fletcher has been interested in the development of water in San Diego County. He interested Mr. William G. Henshaw, multi-millionaire of San Francisco, in this development and together with Mr. Henshaw has promoted the Volcan development upon which, up to this time, approximately $3,500,000 has been expended in the securing of reservoir sites and riparian rights, and in engineering activities which include surveys of reservoir sites, pipe lines, canals, and in the keeping of hydrographic records.

Colonel Fletcher succeeded in interesting the Santa Fe Railroad in a portion of this development and this resulted in the building of the Lake Hodges Dam, the San Dieguito Dam, and the conduit connecting them, as well as approximately 14 miles of distribution lines up to the present time. This project, now known as the San Dieguito Mutual Water Company, is at present delivering 3,000,000 gallons of water daily to the City of San Diego, and will ultimately irrigate 15,000 acres of coast land. Up to the present there has been expended on this project more than $2,000,000.00.

Colonel Fletcher interested the late James A. Murray, multi-millionaire of Butte, Montana, in the water development of San Diego and, together with Mr. Murray, purchased the Cuyamaca Water Company in 1910. Since that time many thousands of dollars have been spent in the development of the waters of the San Diego River. The capacity of the flume has been doubled, the Diverting

Dam has been increased in height, Cuyamaca Dam has been increased in height, the new Murray Dam, hereinbefore described, has been built, pumping plants have been installed and plans have been projected which, when completed, will double the present safe yield of the system. Approximately $1,000,000 have been put into new development since 1910. The plans include the construction of a major dam at or near the Diverting damsite, probably just above the latter at what is known as the Fletcher site. Core drilings have been made at this point as well as contour surveys of the reservoir site.

Colonel Fletcher is President and General Manager of the Cuyamaca Water Company, and of the San Dieguito Mutual Water Company, and is deeply interested in the so-called Volcan development. He is one of San Diego's most prominent citizens. He is a member of the County Highway Commission of San Diego County, and has done more to develop San Diego County than any other man in this locality not only in his endeavors to develop water but in his activities in procuring the construction of concrete paved highways throughout the County. Reference is hereby made to any bank or banker in San Diego as to his responsibility.

S U P P L E M E N T.

Warner's Dam.

	Rainfall	Runoff	Year
Maximum	44.14 in.	182,000 ac.ft.	1915-16
Minimum	19.21 "	5,200 " "	1918-19
Mean Seasonal	28.97 "	25,561 " "	

Mean Gross Evaporation 61.98 in.

Safe Yield	28,000 ac. ft. annually - irrigation) 21,000 " " " municipal)	Longwell#
	28,000 " " " irrigation) 24,750 " " " domestic)	Board of Engineers ##

Sutherland.

	Rainfall	Runoff	Year
Maximum	39.39 in.	95,116 ac. ft.	1915-16
Minimum	17.93 "	3,211 " "	1918-19
Mean Seasonal	25.86 "	12,925 " "	

Mean Gross Evaporation 48.79 in.

Safe Yield	9,500 ac. ft. annually - irrigation) 8,300 " " " domestic)	Longwell#
	12,900 " " " irrigation) 11,200 " " " domestic)	Board of Engineers ##

Pamo.

	Rainfall	Runoff	Year.
Maximum	33.89 in.	149,443 ac. ft.	1915-16
Minimum	12.42 "	4,013 " "	1917-18
Mean Seasonal	18.60 "	20,858 " "	

Mean Gross Evaporation 59.41 in.

Safe Yield	12,500 ac. ft. annually - irrigation) 10,900 " " " domestic)	Longwell
	7,950 " " " irrigation) 7,000 " " " domestic)	Board of Engineers

Longwell= U.S. Reclamation Service.
Board of Engineers = J.B. Lippincott, H. Hawgood, Francis L. Sellew and W. S. Post.

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San Diego, California.
April 14, 1922

Mr. E. W. Kramer,
Engineer, Federal Power Commission,
San Francisco, Calif.

My dear Mr. Kramer:

Under separate cover I am sending you the third sheet of the set of maps for the Sutherland-Black Canon filing.

On this map I have shown the top contour of the ultimate development.

If there is any alteration which you deem necessary, I will be glad to follow up your suggestion.

Yours very truly,

T. H. King.

THK/bm

#227

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
DISTRICT 5
FERRY BUILDING, SAN FRANCISCO, CALIFORNIA

ADDRESS REPLY TO
DISTRICT FORESTER
AND REFER TO

EW
Cleveland
Fletcher, Ed.
No. 217
- - -
Fletcher, Ed.
No. 252

May 3, 1922

Mr. T. H. King, Civil Engr.,
Care Ed Fletcher Co.,
San Diego, Cal.

Dear Mr. King:

I have received the data in regard to the Cuyamaca and the Volcan Water Company, and also your letter in regard to the paragraph which the City Attorney desires included in the permit. Mr. Fowler will probably write you in a few days in regard to this paragraph.

I would be very glad if you could get the following information for me in brief form.

Name of Company generating steam power in
San Diego.
Installed capacity in kilowatts
Average load
Maximum load
Kind of fuel used

I would also be glad to get some information in regard to the amount of power furnished San Diego by the Southern California Edison Company. I understand that power is furnished by this Company through a cycle changing unit.

I am unable to locate the cost figures you gave me in regard to the Murray Dam. I would like very much to get the total yards of concrete and the total cost of the dam, and would regard any information of this kind as strictly confidential.

#227

T. H. King - 2.

Please inform me of the height above stream bed and type of the proposed dam at the Fletcher site on the San Diego River above the mouth of Boulder Creek, and of the probable storage capacity, also length of dam.

I want to thank you for the information already sent.

Very sincerely yours,

E. W. Kramer

Hydro-Electrical Engineer.

P. S. What is the connection between the Volcan Water Co & the San Dieguito Water Co? What company is interested in the Warner site? How many acres could be considered irrigable in vicinity of Ramona? about 15,000

I would be glad of you can inform me of the names of the constructed and unconstructed reservoirs of the San Diego City system shown on the colored map you gave me. Give my regards to Mrs. King and to Mr. Fletcher. Best wishes for yourself. EWK

11500
3
34500

#227

EW
Cleveland
Fletcher, Ed.
No. 217
- - -
Fletcher, Ed.
No. 252

May 17, 1922

Mr. E. W. Kramer,
District Forester,
Ferry Building,
San Francisco, Calif.

My dear Mr. Kramer:

Inclosed herewith you will find a copy of the cost figures on Murray Dam in accordance with your letter of May the 3rd. I trust you will treat this information as entirely confidential.

There have been two different height dams proposed for the Fletcher site, namely, 150 ft. storing 17,106 acre feet, and 130 ft. storing 12,264 acre feet, however the height mentioned in the application to the State Water Commission was 130 feet above stream bed. The type of dam which will be used will unquestionably be some form of the multiple arch, in all probability an Eastwood design. The 130 foot dam will be about 990 feet in length. The 150 foot dam will be about 1200 feet in length.

There is no connection between the Volcan Land & Water Company and the San Dieguito Mutual Water Company at present. Hodges Reservoir which is the impounding reservoir of the San Dieguito system and which is built on the San Dieguito River was originally a part of the Volcan project. The dam, however, was constructed and financed by the Santa Fe Land Improvement Company which is really the Santa Fe Railroad. Mr. Henshaw who financed the Volcan project retained an interest in the San Dieguito project until a few weeks ago when his interest was taken over by the Santa Fe Railroad. This deal has not quite been consummated yet but is in process of going through at the present time.

The Warner's project is entirely Mr. Henshaw's project and is a portion of the so-called Volcan Land & Water Company's project although I understand that they are incorporating a company for the purpose of building Warner Dam and that will probably have another name as the name Warner Reservoir has been changed to Henshaw Reservoir, I understand, although I have no official notice of this.

Following is a list of the reservoirs which have been constructed in San Diego County.

CITY SYSTEM.

Morena Reservoir

Barrett Reservoir - completed to impound approximately 34,500 acre feet although originally it was intended to impound 45,000 acre feet, but the City is not able to finance it beyond the present point.

Lower Otay Reservoir - completed about two years ago.

Upper Otay Reservoir

Chollas Reservoir

SWEETWATER SYSTEM

The Sweetwater system has one reservoir completed and none other under contemplation so far as I know, namely the Sweetwater Reservoir.

CUYAMACA SYSTEM

Cuyamaca Reservoir

Murray Reservoir

Eucalyptus "

Grossmont "

There is also a Diverting Dam which you remember visiting at the head of the flume and a concrete diverting dam also on the South Fork.

SAN DIEGUITO SYSTEM

Lake Hodges Reservoir - completed

San Dieguito " "

ESCONDIDO MUTUAL WATER COMPANY

Escondido Reservoir

RESERVOIRS CONTEMPLATED

VOLCAN SYSTEM

Warner's Reservoir (or Henshaw's Reservoir)

VOLCAN SYSTEM (Continued)

Sutherland Reservoir

Pamo Reservoir

San Clemente Reservoir

Merriam Reservoir - shows on your map but I doubt that it will ever be constructed.

SAN DIEGUITO SYSTEM

San Elijo Reservoir - Will probably shortly be constructed.

On the San Diego River the construction of the Fletcher Dam and of the Mission Gorge Reservoir will undoubtedly proceed as soon as the litigation between the City and the Cuyamaca Water Company can be brought to a satisfactory conclusion.

It has been stated that there is probably 15,000 acres of irrigable lands in the Ramona Valley, however, I am convinced that 10,000 is nearer the true area on which irrigation would be at all justified.

I have endeavored to get the information from the local Gas and Electric Company but they decline to give it except direct to your office, and suggest that you send them a questionaire which they will fill out. The name of the concern is the "Consolidated Gas & Electric Company of San Diego". They are in process of greatly enlarging their capacity at the present time and I have no means of checking up what their present capacity is or what their average or maximum load may be. Their present fuel is oil although they burn in some of their furnaces the carbon by-product from the oil gas generators.

I understand the arrangement with the Southern California Edison Company is sort of a give and take proposition and that the current is just as frequent traveling from San Diego toward the north as from the Southern California Edison towards San Diego.

I am very sorry to have delayed replying to your letter so long, but I have been out of town most of the time since your letter arrived. This is the first day I have really had the opportunity to be in the office to take care of my correspondence and had your letter laid out for reply before your wire arrived. There have been a number of changes here that have kept me extremely busy. The work of the Volcan Company has been taken over by J. B. Lippincott as far as the building of the Warner's dam is concerned. I am continuing the work here on my own. I am handling all of Colonel Fletcher's engineering in the same way as I did

before except that I am not on a salary basis. I have access to all the records and can furnish you any information you may desire, and should you need any further data I shall be very glad if you will call on me for it.

The Sutherland Power Application, while a part of the Volcan system, has not been taken over as yet and I am still handling that end of it, and any communications regarding the Power Application should be addressed to me.

I trust my delay has not seriously inconvenienced you and hope that I may have the pleasure of seeing you in this neighborhood again, and have the opportunity of going around on another trip with you.

Yours very truly,

T. H. King.
Chief Engineer.

THK:ME

#227

May 17, 1922

Mr. E. W. Kramer,
District Forester,
Forest Service,
Ferry Building,
San Francisco, Calif.

My dear Mr. Kramer:

I sent you a roll of maps in connection with the Sutherland Power Project by registered mail. It has just been brought to my attention today that the return receipt for this package has never reached this office, and I was wondering if the maps were ever received by you. If not, I will have to get busy quickly and make additional tracing of the map of the top contour of Sutherland Reservoir as this original tracing was sent you in that package.

Kindly let me hear from you as soon as possible.

Yours very truly,

T. H. King.
Chief Engineer.

THK:ME

227

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
DISTRICT 5
FERRY BUILDING, SAN FRANCISCO, CALIFORNIA

ADDRESS REPLY TO
DISTRICT FORESTER
AND REFER TO

EW
Cleveland
Fletcher, Ed
No. 252

May 25, 1922

Mr. T. H. King, Chief Engr.,
Ed Fletcher Company,
920 Eighth St.,
San Diego, Cal.

Dear Mr. King:

Your letter of May 17 is received.

The tracing you refer to showing the top contour of the Sutherland Reservoir is in this office. It is very probable, therefore, that the roll of tracings that you refer to has been received.

I want to thank you very much for sending me the data in regard to the projects of the City of San Diego.

Very sincerely yours,

E W Kramer

Hydro-Electrical Engineer.

#22

June 1, 1922

EW
Cleveland
Fletcher, Ed
No. 252

Mr. E. W. Kramer;
Hydro-Electrical Engineer,
Federal Power Commission,
Ferry Building,
San Francisco, California.

Dear Mr. Kramer:

When you were in San Diego you told me that you thought it would only be a month or six weeks, as I understood it, before we would be able to get the preliminary permit on the Sutherland Pamo Power Application. Colonel Fletcher has just received a letter from the Department of Public Works, Division of Water Rights, saying that they are ready and have been ready for some months to grant the permit, as far as they are concerned, but areawaiting the completion of the application before the Federal Power Commission.

I am very anxious to get this matter closed up and have the preliminary permit enabling us to go forward with this work as soon as possible. Is there anything that you can do to further this matter, and is there anything further that I should do at this end to comply with requirements?

Thanking you for your kindness in this matter, I am,

Yours very truly,

T. H. King.

THK:ME

110-3

August 4, 1922

Mr. E. W. Kramer,
Hydro-electrical Engineer,
Federal Power Commission,
Ferry Building,
San Francisco, Calif.

My dear Mr. Kramer:

Enclosed herewith is a copy of a letter Colonel Fletcher received from the Indian Service; also copy of a letter dictated by me in reply.

I am quite sure that my memory serves me correctly and that you told me that the Federal Power Commission handled the application for the use of water and the use of Government lands in connection therewith even though Indian lands were involved. In other words, it was my impression that we would not have any application to make nor anything to do with the Indian Service directly---it all being handled through the channel of the Federal Power Commission, and that all records, maps, etc., filed with the Federal Power Commission were available for the Indian Service.

You will note that I am sending copy of Federal Power Commission application and maps to the Indian Service. I trust this is the proper procedure. I shall appreciate it very much if you will write me and give me your advice on this situation.

Yours very truly,

THK/B

T. H. KING

Ed Fletcher Papers

1870-1955

MSS.81

Box: 15 Folder: 18

General Correspondence - Kramer, E.W.